Nortel Communication Server 1000

Nortel Communication Server 1000 Release 4.5

Communication Server 1000M and Meridian 1

Large System Upgrade Procedures (Book 3 of 3)

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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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List of Procedures

Finding the latest updates on the Nortel web site

The content of this documentation was current at the time the product was released. To check for updates to the latest documentation and software for CS 1000 Release 4.5, click one of the links below.

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

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.

About this document

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

Subject

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

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

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

Note on legacy products and releases

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

www.nortel.com/

Applicable systems

This document applies to the following systems:

- Communication Server 1000M Half Group (CS 1000M HG)

- Communication Server 1000M Single Group (CS 1000M SG)

- Communication Server 1000M Multi Group (CS 1000M MG)

- Meridian 1 PBX 51C

- Meridian 1 PBX 61C

- Meridian 1 PBX 81

- Meridian 1 PBX 81C

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

System migration

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

Table 1
Meridian 1 systems to CS 1000M systems

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

Upgrade paths

This document contains information on the following Large System upgrades:

- Meridian 1 Options 51, 61, 71, 51C, 61C, 81C, CS 1000M SG, and CS 1000M MG

- upgrades to FNF

- software upgrades

- network additions

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

Intended audience

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

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

Conventions

Terminology

The following systems are referred to generically as "Large System":

- Communication Server 1000M Half Group (CS 1000M HG)

- Communication Server 1000M Single Group (CS 1000M SG)

- Communication Server 1000M Multi Group (CS 1000M MG)

- Meridian 1 PBX 51C

- Meridian 1 PBX 61C

- Meridian 1 PBX 81

- Meridian 1 PBX 81C

NTP feedback

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

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

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

Related information

CAUTION — Data Loss

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

Read the applicable procedures carefully before beginning any the conversion.

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

CAUTION WITH ESDS DEVICES

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

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

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

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

> **CAUTION — Data Loss**
>
> Read "General software conversion information" in Book 1 before performing any operations.
>
> It contains information vital to the conversion process.

NTPs

The following NTPs are referenced in this document:

- *Product Compatibility* (553-3001-156)

- *Converging the Data Network with VoIP* (553-3001-160)

- *Circuit Card: Description and Installation* (553-3001-211)

- *Signaling Server: Installation and Configuration* (553-3001-212)

- *IP Peer Networking: Installation and Configuration* (553-3001-213)

- *Features and Services* (553-3001-306)

- *Software Input/Output: Administration* (553-3001-311)

- *Element Manager: System Administration* (553-3001-332)

- *IP Trunk: Description, Installation, and Operation* (553-3001-363)

- *IP Line: Description, Installation, and Operation* (553-3001-365)

- *ISDN Basic Rate Interface: Features* (553-3001-380)

- *Software Input/Output: Maintenance* (553-3001-511)

- *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)

- *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210)

- *Communication Server 1000M and Meridian 1: Large System Maintenance* (553-3021-500)

- *Communication Server 1000S: Overview* (553-3031-010)

- *Communication Server 1000S: Installation and Configuration* (553-3031-210)

- *Communication Server 1000S: Upgrade Procedures* (553-3031-258)

Online

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

www.nortel.com

CD-ROM

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

Technical support

For technical support contact information, see "Technical Assistance service" on page 1171.

Using the Keycode Retrieval Utility

Contents

This section contains information on the following topics:

Introduction

The Keycode Retrieval Utility is a Nortel Customer Support service feature available to registered customers. The Keycode Retrieval Utility provides a full suite of online tools, services, resources and interactive capabilities.

The Keycode Retrieval Utility provides a tool for distributors to browse and retrieve keycodes. A distributor is considered to "own" a keycode once it has been manufactured and its associated order invoiced.

If you cannot access the Keycode Retrieval System (KRS) web site, you must register for access and wait approximately 5 business days for the account to be activated before accessing the "Downloading keycodes" procedure.

Register for the KRS web site

If you cannot access the KRS web site, use the following procedure to register.

Procedure 1
Registering for the KRS web site

1   Open your web browser software.

2   Enter the URL **www.nortel.com** in the Address or Net Site bar and press **Return** or **Enter**.

3   Under Support, click on the Keycode Retrieval link. You are now on the Keycode Retrieval page. See Figure 2 on page 50.

4   Click on the Online Registation link, then follow the instructions provided.

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

Access the KRS web site

Follow the steps in this procedure only after completing the registration procedure above.

Procedure 2
Accessing the Keycode Retrieval System

1   Open your web browser.

2   Enter the URL "**http://www.nortel.com**" in the Address or Net Site bar and press **Return** or **Enter**.

3   Under Support, click on the Keycode Retrieval link. See Figure 1 on page 49. You are now on the Keycode Retrieval page. See Figure 2 on page 50.

4   In Step 1, select a login location. See Figure 3 on page 51.

5   In Step 2, select the product family for the keycode access.

6   Click **Go.** The Keycode Retrieval System window opens. See Figure 5 on page 53.

Figure 1
Nortel home page.
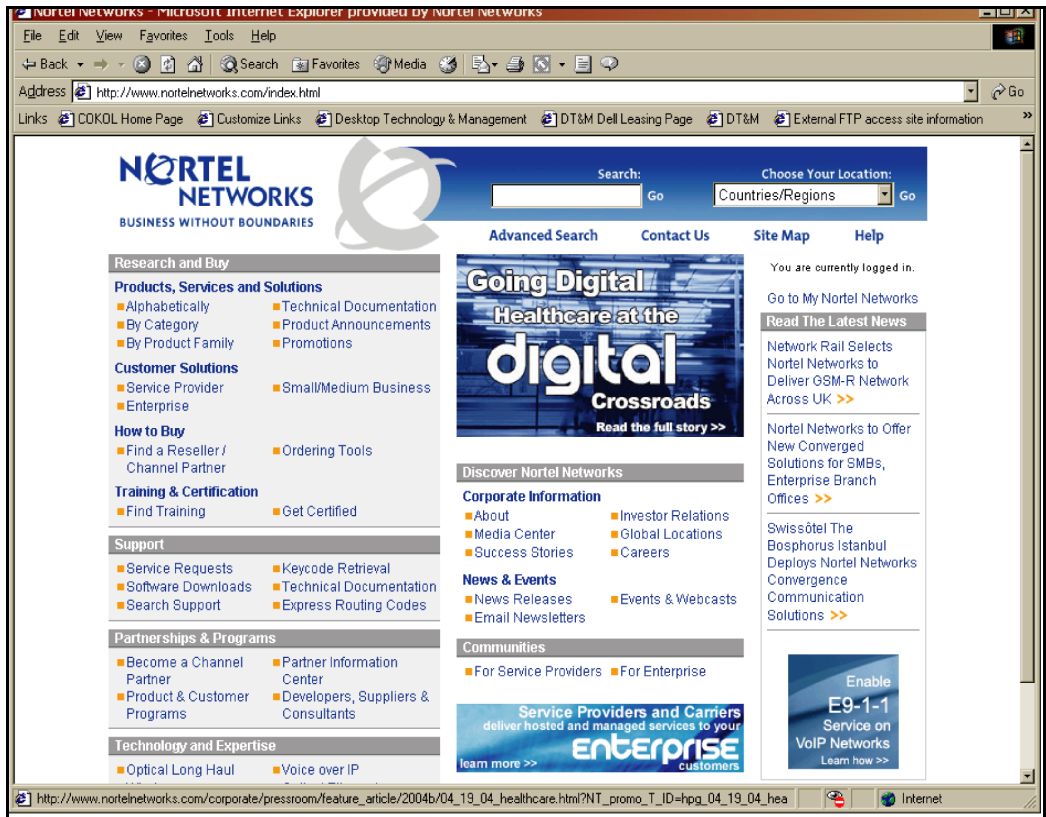
Figure 2
Keycode Retrieval page
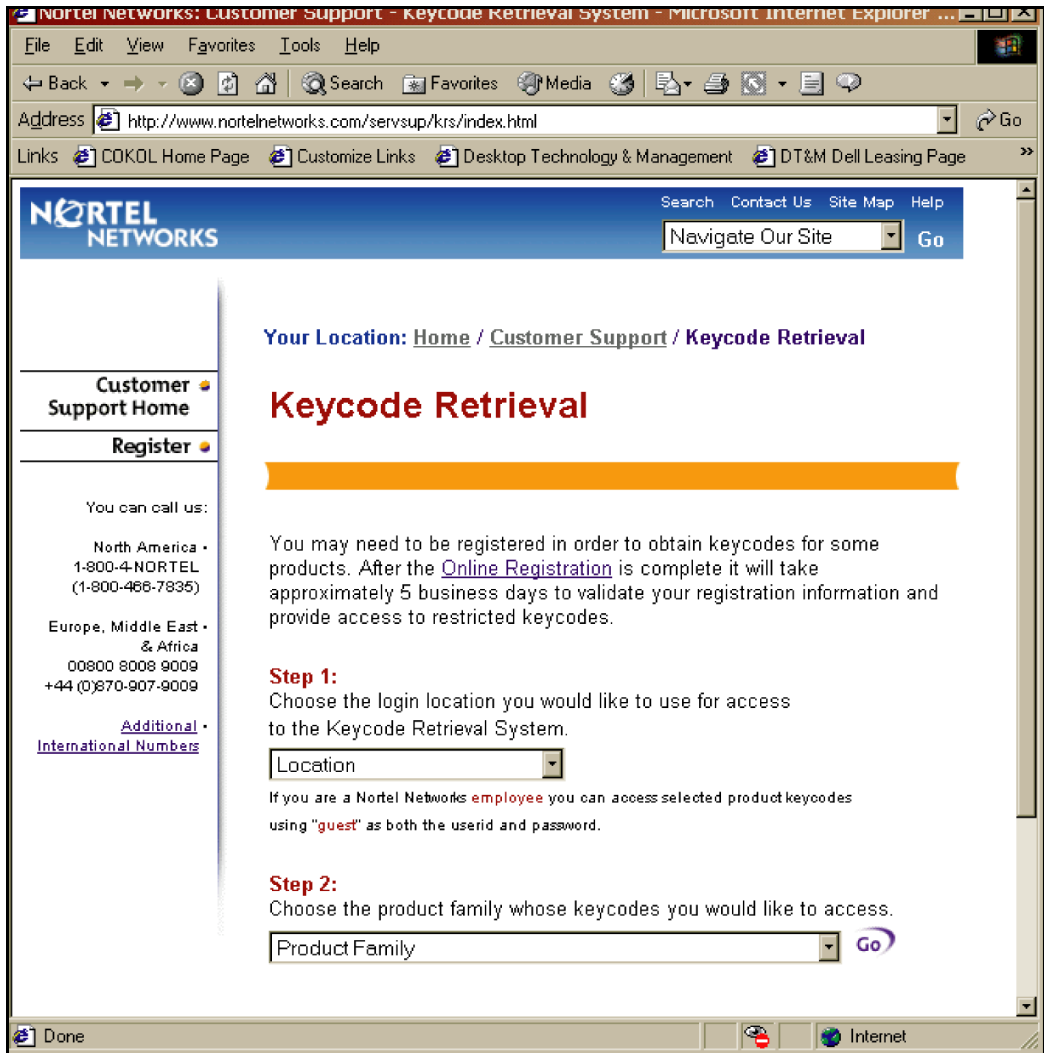
Figure 3
Login location selection(step 1)
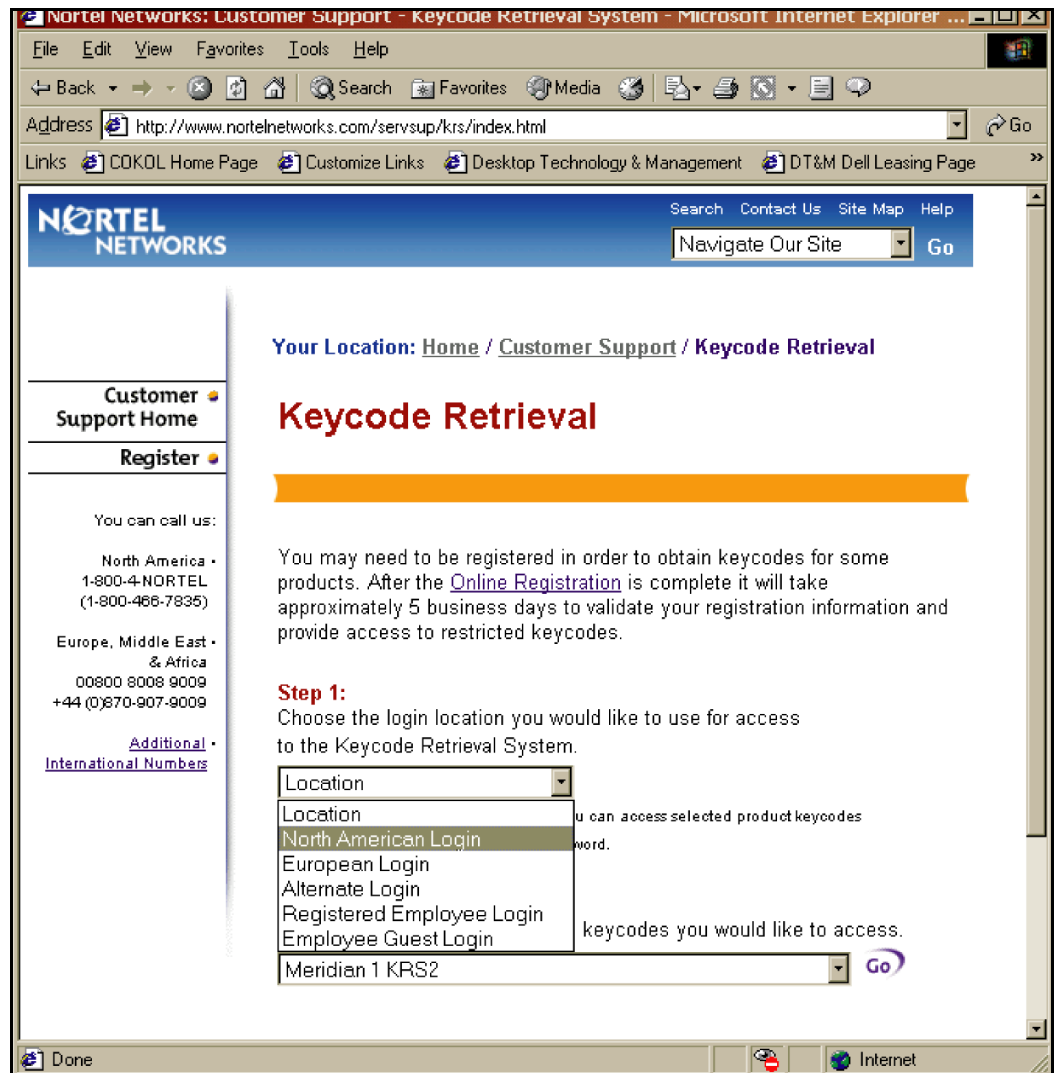
Figure 4
Product family selection (step 2)
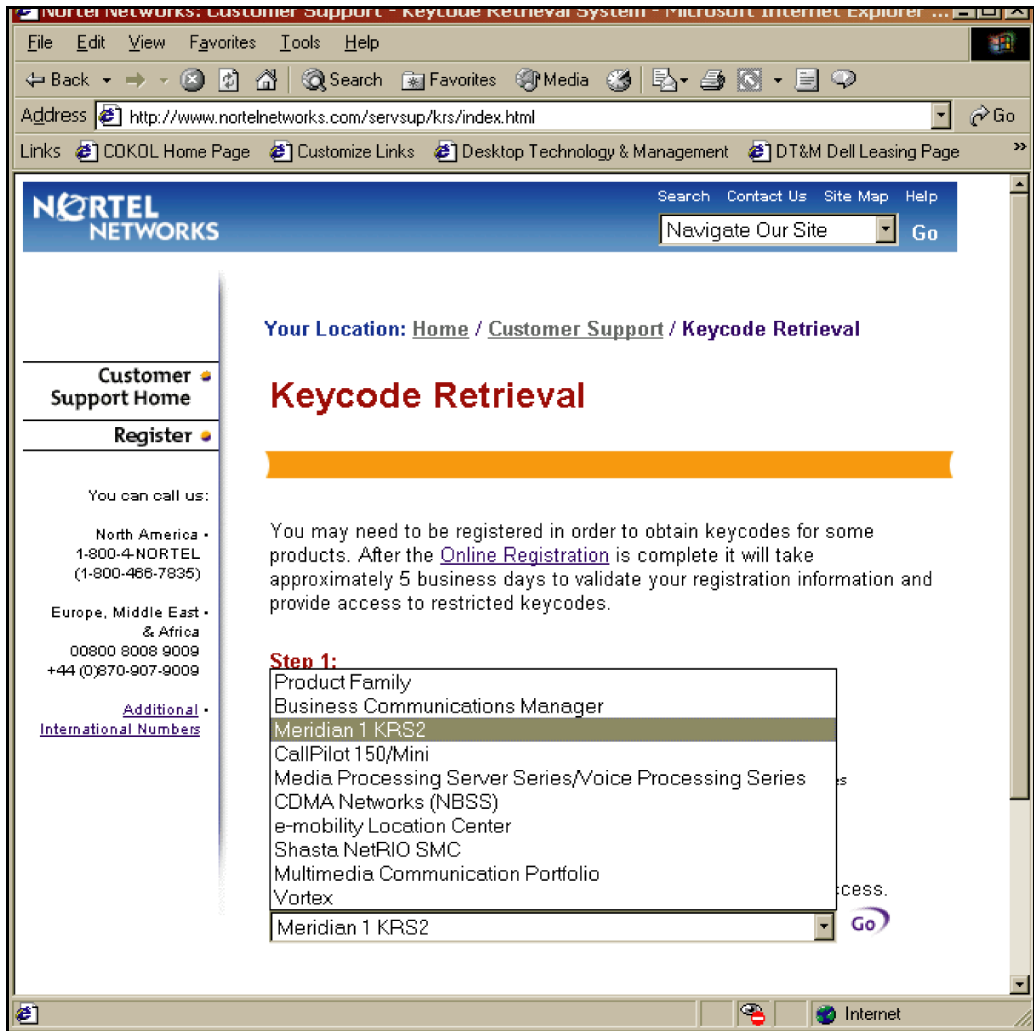
Figure 5
Keycode Retrieval System

Meridian 1 Keycode Retrieval System

Use the Keycode Retrieval System window to access the keycode application for the Meridian product line.

> *Note:* A registered user has access to all keycode applications for the various product lines displayed.

The following is a list of the Quick Links on the left of the Keycode Retrieval System window screen:

- **Retrieve by Site**. To specify a site ID and retrieve all keycodes for products associated with the entered site ID.

- **Retrieve by Product**. To view Site I.D.'s sorted by product type.

- **Retrieve by Date**. To retrieve all historic (previously produced) keycodes for a particular site ID.

- **Retrieve by Custom Set**. To retrieve previously "grouped" keycodes by a custom label created by the customer.

- **Edit Custom Set**. To edit (add or delete) the contents of a custom set of keycodes.

- **Compare**. To compare two keycodes of the same product type.

- **Terms and Conditions**. Legal disclaimers

- **Download KMT**. Links to a site where the latest version of the KMT can be downloaded to a PC desktop to manage keycodes. This client side application is only necessary for viewing downloaded keycodes when not connected to the web site.

- **Support**. Provides the phone numbers or e-mail address for support.

- **Related Links**. Links to additional Nortel keycode related sites.

- **Feedback**. Pops up an e-mail reply to provide comments and suggestions back to the business owners of the KRS web site.

- FAQ and What's New.

Replace NT4N46 CP PII Core/Net with NT4N40

Contents

This section contains information on the following topics:

Prepare for upgrade

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

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

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

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 2.

Table 2
Prepare for upgrade steps

Procedure Step	Page
Plan upgrade	57
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Check the Core ID switches	60
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Plan upgrade

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure sufficient power for new columns/modules or applications.

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.

- Prepare a contingency plan for backing out of the upgrade.

DANGER OF ELECTRIC SHOCK

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

Upgrade Checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter on 1159. Engineers may print this section in order to facilitate the upgrade.

Prepare

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

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

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

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and key code.

- Secure the target software and key code.

- Verify the new key code using the DKA program.

- Print site data.

Identifying the proper procedure

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

> **IMPORTANT!**
>
> Database backup information should be preserved for a minimum of 5 days.

Connect a terminal

Procedure 3
Connecting a terminal

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

1   Connect a terminal to the J25 port on the I/0 panel in the *inactive* Core or Core/Net module.

2   The settings for the terminal are:

   a.   9600 Baud

   b.   8 data

   c.   parity none

   d.   1 stop bit

   e.   full duplex

   f.   XOFF

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

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

Check the Core ID switches

Procedure 4
Checking the Core ID switches

Each CP PII NT4N40 Core/Net card cage or module is identified as "Core 0" or "Core 1". This setting is made by a set of option switches on the System Utility card. The Core ID switches are set in the factory. Confirm that these settings match the identification labels for the module into which they will be installed.

> **CAUTION — Service Interruption**
>
> **System Failure**
>
> The CP PII Core/Net card cages MUST be installed in the correct Core 0 or Core 1 module.

1   Pull the System Utility card (NT4N48) far enough out of its slot so you can see the ID switch settings.

2   Check and confirm the switch settings according to Table 3.

3   Reinstall the System Utility card.

   a.   Gently slide the card into the slot until it makes contact with the backplane. Never force a card into the slot.

   b.   Push in the top and bottom latches on the card to lock it in place.

——————— **End of Procedure** ———————

Table 3
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

Figure 6
Core card placement in the NT4N40 Core/Net card cage (front)
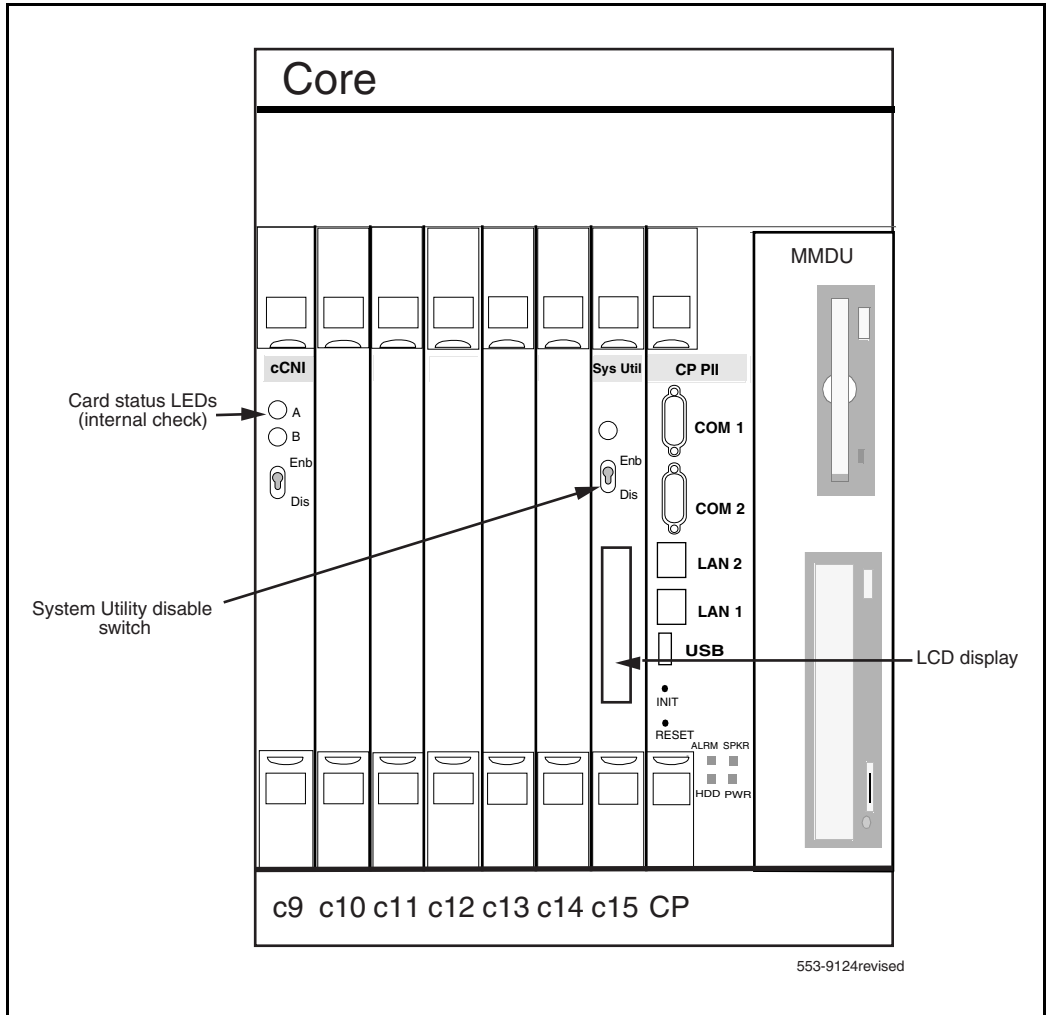
Figure 7
Core Module ID switch
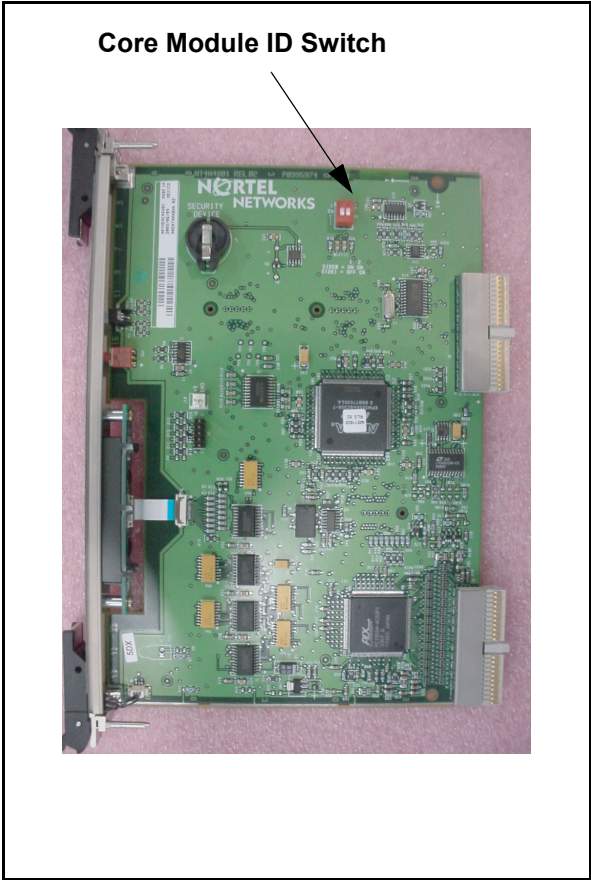
Print site data

Print site data to preserve a record of the system configuration (Table 4). 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 4
Print site data (Part 1 of 3)

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

Table 4
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	
		IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>

Table 4
Print site data (Part 3 of 3)

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

Perform a template audit

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

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

CAUTION — Service Interruption

Loss of Data

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**
TEMPLATE 0003 NO USERS FOUND	

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

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

1 Perform a data dump to save all system memory to the hard disk.

2 Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 5
Performing a data dump

1 Log into the system.

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

    LD 43   Load program

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

    EDD   Begin the data dump

⚠️ **CAUTION — Service Interruption**

Loss of Data

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

---

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

    ****   Exit program

—————— **End of Procedure** ——————

Procedure 6
Performing an ABKO (save the database to floppies)

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

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

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

        LD 143   Load program

3   Run the ABKO backup (LD 143).

        ABKO   Run the backup

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

4   If there are validation errors, repeat the procedure.

⚠️ **CAUTION — Service Interruption**

Loss of Data

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

---

5   Once the backup is complete, type:

        ****   Exit program

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

Procedure 7
Converting to 2 MByte database media

> **IMPORTANT!**
>
> Database conversion for Meridian 1 Options STE, NT, XT, 21E, 51, 61, 71, must be completed by Nortel Software Conversion Lab. Consult the current Nortel price book for cost and contact information.
>
> If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility.
>
> If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MByte floppy.
>
> All systems can be converted by Nortel in the software conversion lab.

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

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

1   Split the Cores and transfer call processing to Core 0.

2   Install the Database Transfer Utility diskette into the floppy drive on the IOP or CMDU in Core 1.

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

> **CAUTION — Service Interruption**
>
> **System Failure**
>
> Select only options:
>
> - <t> Tools Menu from the Install menu, and
>
> - <s> To archive existing database from the Tools menu.
>
> DO NOT select any other options. Other options can result in operating system corruption.

4   From the installation menu select:

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

5   The message displays "Database backup complete!" and the Tool menu appears again after the backup completes correctly.

6   Remove the 2 Mbyte diskette with the customer database from the floppy drive of the IOP or CMDU. Keep the diskette for use after you convert Core 1 to NT4N40 Core/Net 1. Do not reboot the system at this point.

——————— **End of Procedure** ———————

Identify two unique IP addresses

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

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

- Contact your systems administrator to identify two unique IP addresses before the upgrade.

- For instructions to configure these IP numbers, see "Configuring IP Addresses" in Book 1.

Check requirements for cCNI to 3PE cables (NTND14)

Existing NTND14 CNI to 3PE cables on Meridian 1 81 and 81C platforms using NT5D21 and/or NTND60 shelves can be reused if they meet the following conditions:

IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.

- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.

- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

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

Equipment requirements

This section describes the minimum equipment required to replace the CPP II Core/Net module. Some cards and cables are shipped in separate packages to prevent damage to the equipment. The required hardware must be ordered by piece and not by assemble. For order codes, see Table 5 on page 72.

Before you begin to replace equipment, check that the equipment listed on the order form is also listed on the packing slip. If any items are missing, contact your supplier for replacements before you begin the replacement.

> **WARNING**
>
> If any required equipment is missing, DO NOT proceed with equipment replacement. Instead, contact your supplier for replacements.

Table 5 describes the minimum hardware required to replace an NT4N46 CoreNet shelf with an NT4N40 Core/Net shelf.

Table 5
Required hardware

Order number	Description	Quantity per Core/Net Shelf
NT4N40AA	CP PII Core/Network Card Cage AC/DC	1*
NT4N48	CP PII System Utility Card	1*
NTND14	cCNI to 3PE cables	2**
MMDU NT4N43CA		1***
CPU NT4N64		1***
cCNI NT4N65AB		1-4***
Note 1: *Assumes customer is replacing ONE Core/Network Card cage but not both.		
Note 2: ** Two NTND14 cables are required for each Network shelf to connect to NT4N40AA card cage. If more than 2 groups are configured, more NTND14 cables are required.		
Note 3: ***Reuse from existing NT4N46 shelf.		

Check personnel requirements

Nortel recommends that no fewer than two people perform a card cage replacement.

⚡	**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.

Install Core 1 hardware

In this section, the customer is assumed to be replacing a Core/Net 1 NT4N46 card cage. If you are replacing a Core/Net 0, care should be taken to change Core/Net 0 to Core/Net 1. For information on customer supplied hardware in the NT4N46 Core/Net shelf, see Table 5 on .

Procedure 8
Checking main Core card installation

1 If not already installed, install a P0605337 CP PII Card Slot Filler Panel in each slot. (Slots c13 and c14 are left empty.)

2 Check side ID switch settings for SU card in Core/Net 1 according to Table 6 below. (NT4N48 System Utility card is located in slot c15.)

Table 6
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

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

Check factory-installed cables

Table 7 lists factory-installed cables.

Table 7
Factory-installed cables

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

Disable and remove equipment from Core 1

See Table 5 on page 72 for minimum equipment requirements to replace the CPP II Core/Net module.

Procedure 9
Checking that Core 0 is active and split the cores

1   Verify that Core 0 is the active side performing call processing.

    LD 135   Load program

    STAT CPU   Get the status of the CPUs

2   If Core 1 is active, make Core 0 active.

    SCPU   Switch to Core 0

    ****   Exit program

3   Split the cores.

    LD 135   Load program

    SPLIT CPU   Split call processing from Core 0 to Core 1

    ****   Exit program

Result: The system is now in split mode, with call processing on Core 0.

─── **End of Procedure** ───

Check 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	If necessary, switch to Clock Controller 0
DIS CC 1	Disable Clock Controller 1
****	Exit program

3   Faceplate disable Clock Controller 1.

─── **End of Procedure** ───

Check that Ring 0 is active

1   Check the status of Ring 0.

LD 39	Load program
STAT RING 0	Get the status of Ring 0 (Ring state should be HALF/HALF)

2   Disable Ring auto recovery.

LD 39	Load program
ARCV ON/ OFF	Set or reset auto-recovery operation for ring

3   Swap to Ring 0.

   LD 39   Load program

   SWRG 0   Switch call processing to ring 0

4   Disable Ring 1.

   LD 39   Load program

   DIS RING 1   Disables all FIJI cards on side 1

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

Software disable Network cards in Core/Net 1

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> At this point, the upgrade interrupts service.

Procedure 10
Software disabling cards in network slots of Core/Net 1

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 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 ENET, where X = loop number of 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 port on SDI card, 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 the DTI card, where x = the loop number of the DTI port
****	Exit program

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

LD 96	Load program
DIS DCH x	Disable DCH, where x = associated D-Channel
****	Exit program
LD 60	Load program
DISL x	Disable PRI card, where x = the loop number PRI port
****	Exit program

f.   In Core/Net 1 only, disable MSDL cards.

LD 48	Load program
DIS MSDL x	Disable the 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 the 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 the QPC43 card. See Table 8 for Peripheral
                  Signaling Card numbers

****   Exit program

Table 8
Peripheral Signaling Card numbers

Group/ shelf	Peripheral Signaling Card	Loops disabled/enabled
0 / 0	0	0–15
0 / 1	1	16–31

3   In Core/Net 1 only, faceplate disable the fiji, 3PE, PS and all network
cards.

———— **End of Procedure** ————

Procedure 11
Removing the system monitors from Core 1

Note: This procedure applies to both AC and DC systems.

1   In Core 1, software disable the master system monitor (NT8D22).

LD 37   Load program

DIS TTY #   Disable the master system monitor TTY interface

2   Remove J3 and J4 cables on Core 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 1.

CAUTION — Service Interruption

Service Interruption

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

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

Service Interruption

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

In AC-powered systems, set the MPDU circuit breaker located at the left end of the module to OFF (top position).

In DC-powered systems, set the breaker for the Core 1 module in the back of the column pedestal to OFF (down position).

Procedure 12
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 and its contents.

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 to use with the CP PII card cage.

> **CAUTION — Service Interruption**
>
> Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

8   Remove the front trim panels on both sides of the card cage.

9   Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Keep the screws for use with the CP 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; do not drop the nut or lock washer into the pedestal. See Figure 8 below for DC power connectors; Figure 9 on page 83 for AC power connectors.

13   Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.

Figure 8
DC power connectors on the Core module backplane

Do *not* disconnect

System monitor connectors

J2
J1

Logic ground bolt

Frame ground bolt

Floating power connector (reused in Core/Net Module)

DC-power: module power connectors (see Note)

Frame ground post

Do *not* disconnect

Note: With AC power, the module power connectors plug into J1 and J2 on the MPDU. (With DC power, they connect to each other and hang loose.)

553-9582
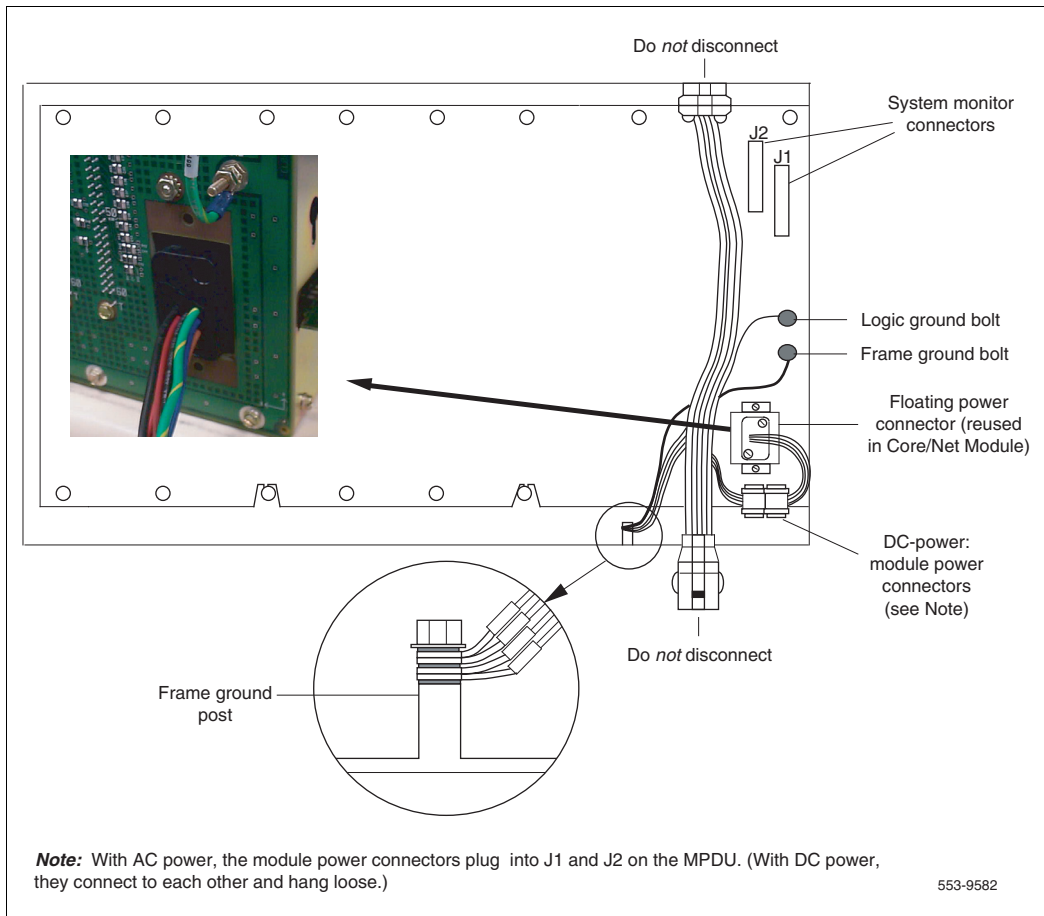
14   Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.

15   Label and disconnect the system monitor ribbon cables to J1 and J2.

16   Remove the Core card cage from the module.

Figure 9
AC power connectors on the Core module backplane

Note: AC-powered system shown. With DC power, module power connectors connect to each other.

553-9583
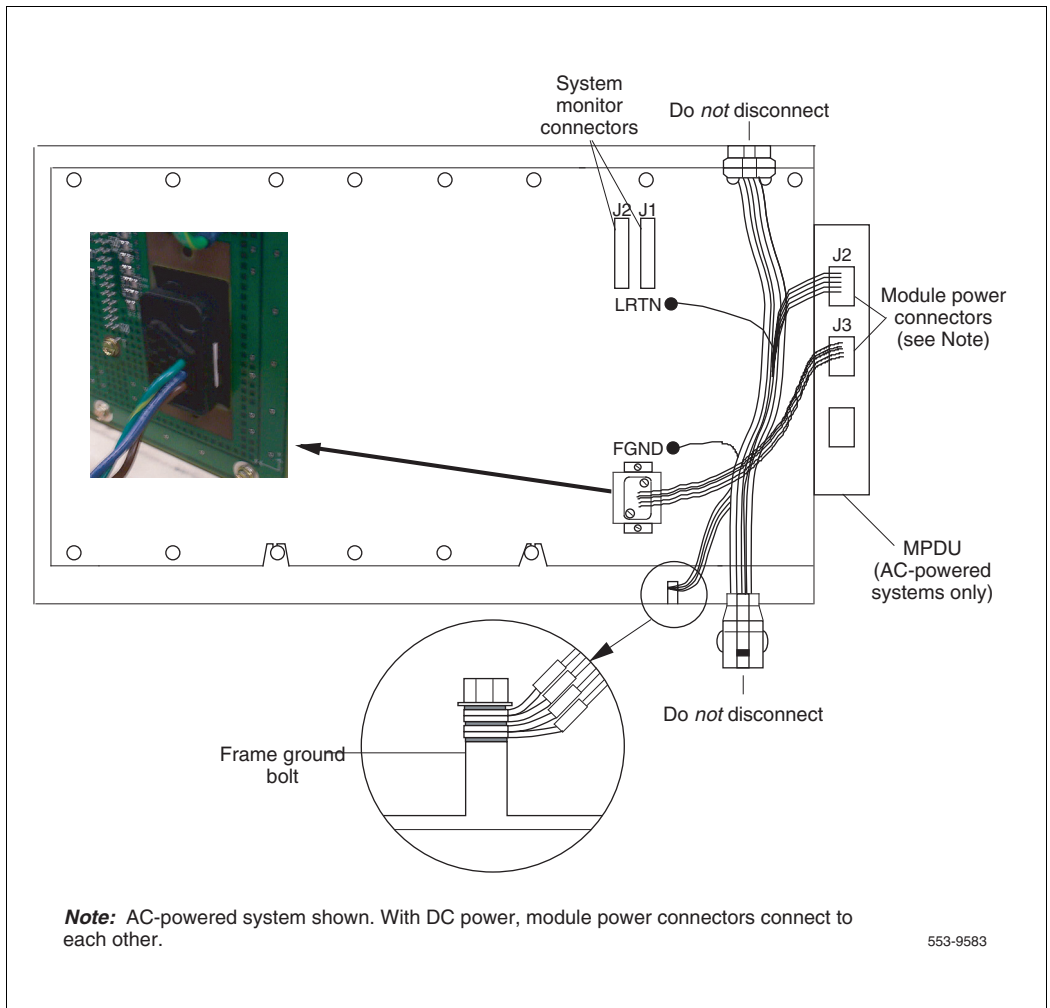
17   Remove the power harness and reserve it for reinstallation when you install the new NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.

  •   For AC systems, relocate power harness NT8D80AM.

  •   For DC systems, relocate power harness NT7D11.

18   Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.

WARNING

If you do not tape the EMI shield in position, you cannot install the card cage correctly.

---

19   In AC-power systems only, plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU. The MPDU is attached to the side of the card cage.

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

CAUTION — Service Interruption

Damage to Equipment

Remove any debris (such as screws) that fell into the base of the UEM module.

Install the CP PII card cage in Core 1

Procedure 13
Installing the CP PII card cage in Core 1

1   Check that the card cage is configured as Core 1. See "Check the Core ID switches" on for instructions.

2   For AC-powered systems only, after the card cage is out of the module, do the following:

   a.   Remove the MPDU.

   b.   Reinstall the MPDU on the CP PII card cage.

   c.   Attach the new MPDU (part of the CP PII Upgrade kit) to the side of the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot, as shown in Figure 10 on .

   d.   Pre-thread two bottom mounting screws at the back of the Core/Net shelf.

Figure 10
Location of the screws for the MPDU
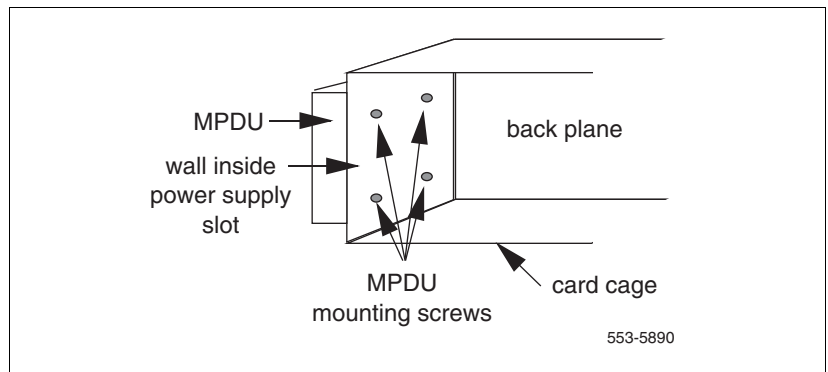
3   Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP PII card cage.

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 — Service Interruption**

Damage to Equipment

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

---

b. In DC-powered systems, connect the module power connectors to each other. Then attach the system monitor ribbon cables. Connect the ribbon cable that goes down the column to connector J1 on the backplane. Connect the ribbon cable that goes up the column to J2 on the backplane.

c. Use a 11/32" socket wrench is used 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 and then tighten down the nut.

Note: For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave one lock washer at the bottom of the bolt, leave a second lock washer at the top of the bolt, and a third lock washer between the second and third, or third and fourth, wire terminals.

d. 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 completely 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 Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA before you secure the card cage. (See Figure 12 on .)

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.)

9   Route cable NT4N90BA from LAN 1 on the CP PII faceplate to J31 (top) of the I/O panel.

10   Connect NTRC17BA crossover Cat5 Ethernet cable.

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

Install the Security Device

The Security Device fits into the System Utility card (see Figure 11 on page 89). To install the Security Device, do the following.

1   Remove the original Security dongle from the Security Device holder on the System Utility Transition Card.

2   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.

3   Check that the Security Device is securely in place.

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

Figure 11
Security Device
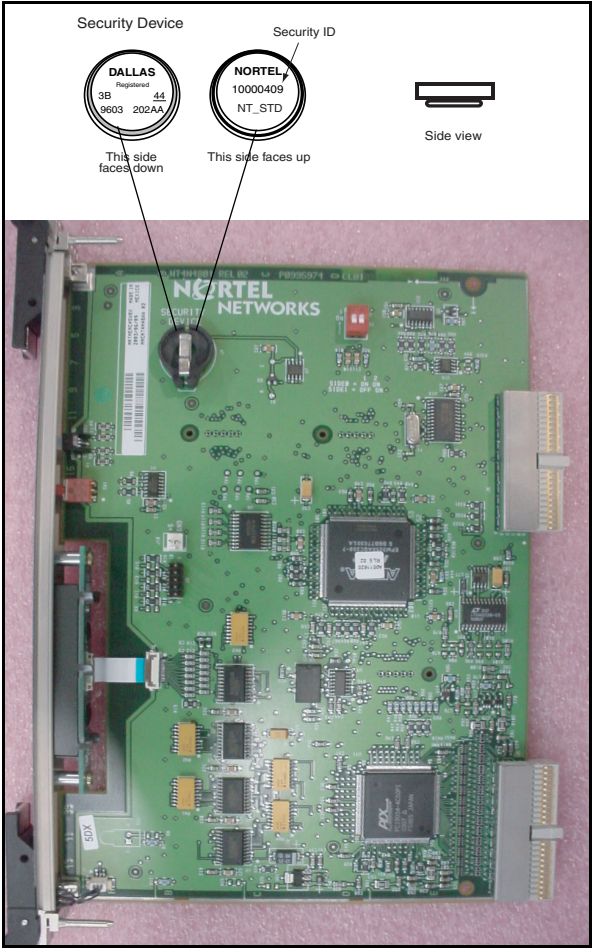
Relocate Core and Network cards to CoreNet 1

Procedure 14
Relocating Core and Network cards to CoreNet 1

1   Move all Core cards from the NT4N46 card cage to the NT4N40 card cage.

2   Move all remaining Network cards from the NT4N46AA card cage to the NT4N40 card cage.

3   Connect the tagged cables to the relocated cards.

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

Cable Core 1

In Core 1, inspect factory installed cables

New NT4N29 cables must be installed for existing Network group 0. If the system has XSDI cards, reinstall the cards and attach the cables. Then inspect the system monitor cables (NT4N89).

Installing intermodule cables

Procedure 15
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 13 on page 92).

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 14 on page 93).

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

Figure 12
COM and LAN connections to the Core/Net I/O panel
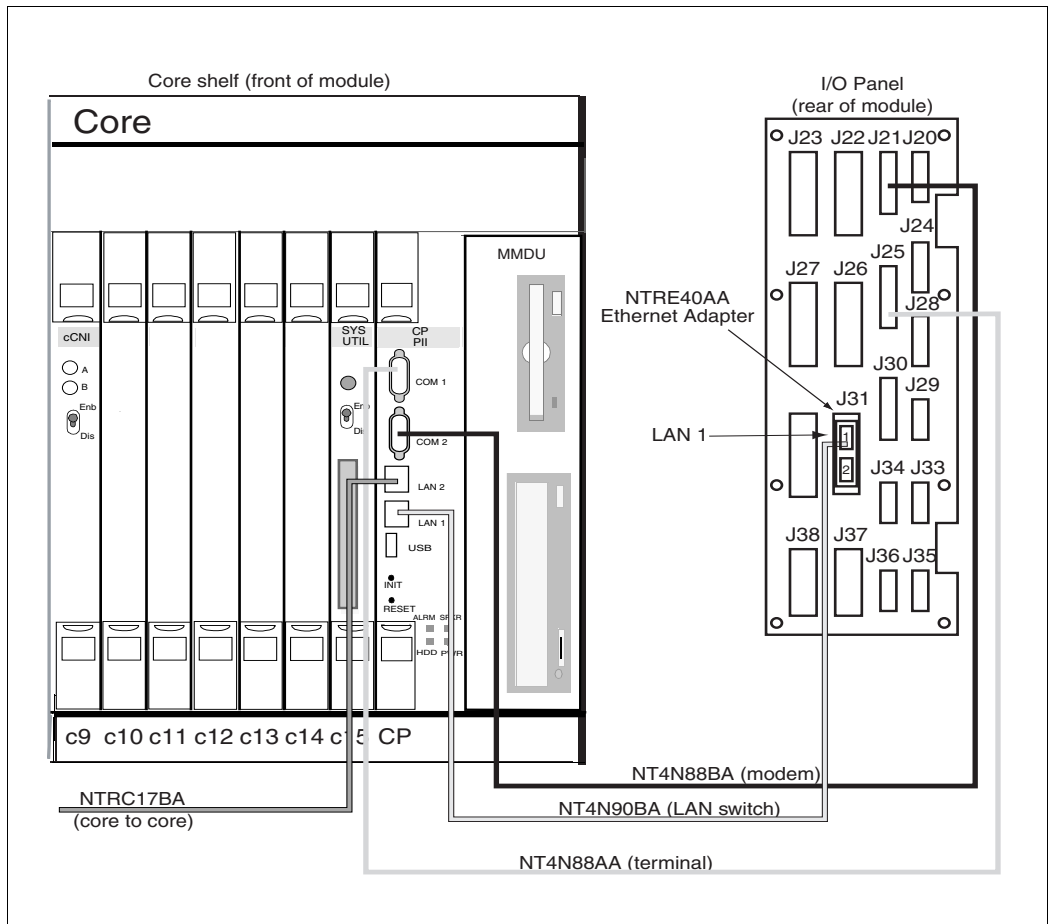
Figure 13
Fanout Panel connections on the CP PII Core/Net backplane
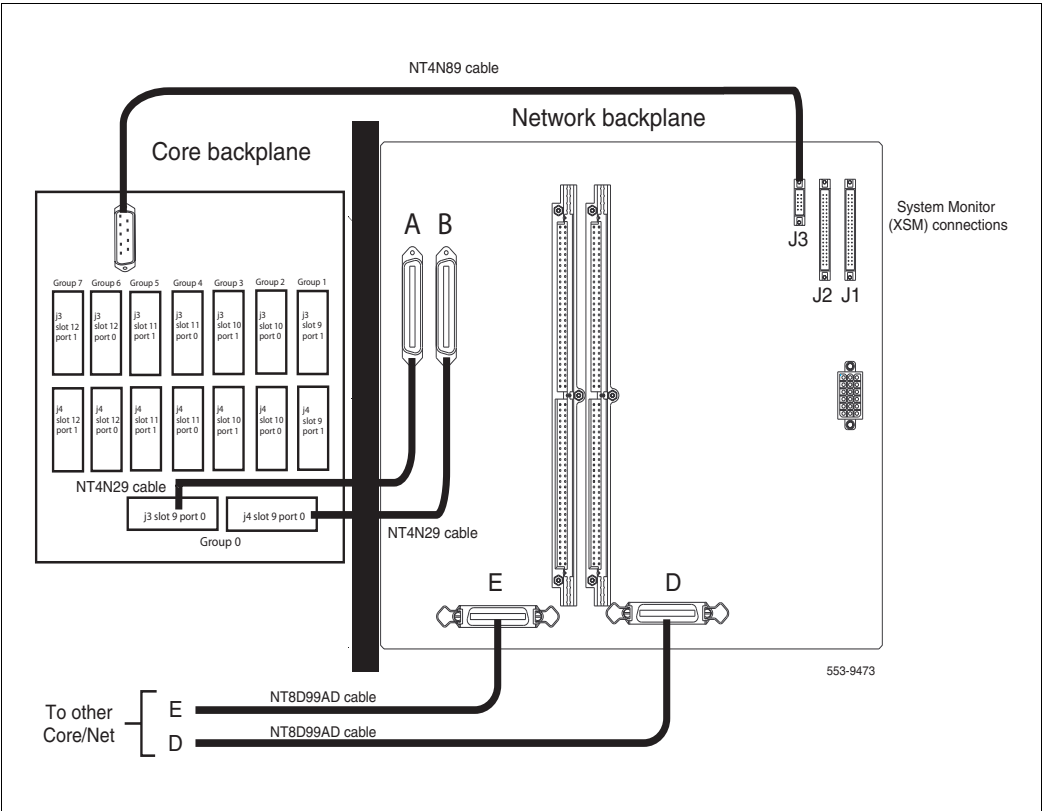
Figure 14
3PE card connections
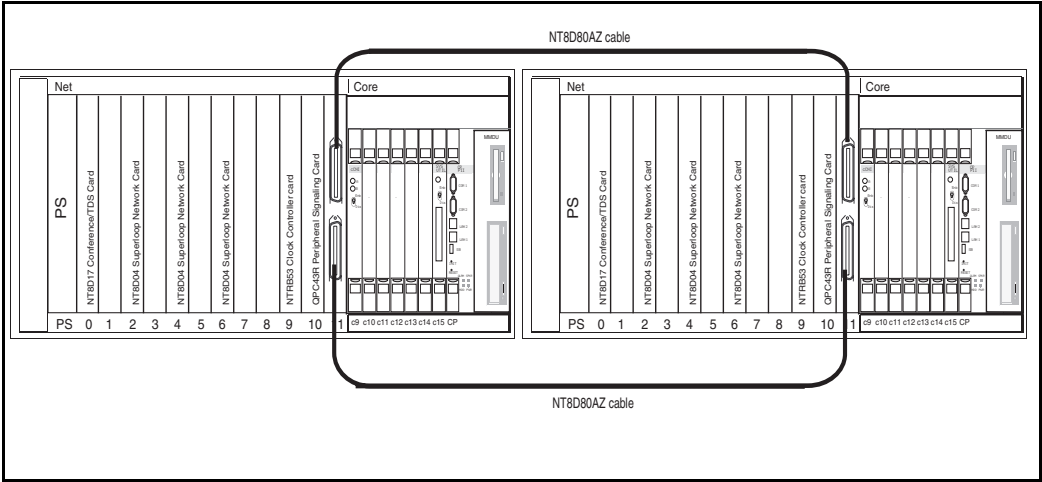
Figure 15
Connectors for CNI-3PE cables to the Fanout panel

Group 7	Group 6	Group 5	Group 4	Group 3	Group 2	Group 1
j3 slot 12 port 1	j3 slot 12 port 0	j3 slot 11 port 1	j3 slot 11 port 0	j3 slot 10 port 1	j3 slot 10 port 0	j3 slot 9 port 1
j4 slot 12 port 1	j4 slot 12 port 0	j4 slot 11 port 1	j4 slot 11 port 0	j4 slot 10 port 1	j4 slot 10 port 0	j4 slot 9 port 1

j3 slot 9 port 0   j4 slot 9 port 0

Group 0
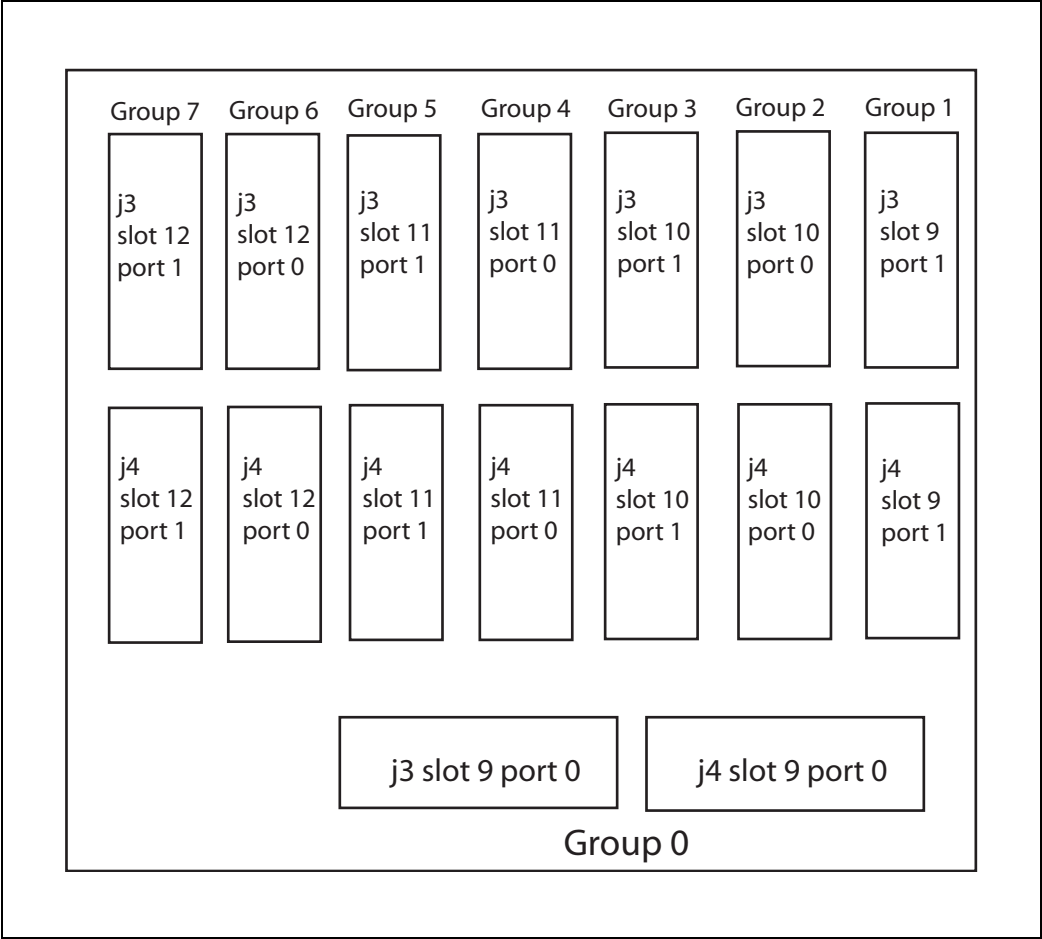
In Core 1, route and connect the cCNI to 3PE (NTND14) cables

Each (NT8D35)Network shelf requires 2 NTND14 cables (for cCNI to 3PE connection) to a Core/Net Card cage. Cables are routed to a module beside the Core/Net module to allow for equipment removal. Once the NT4N46 card cage has been replaced with a new NT4N40 card cage, you can install the cables in the new Core/Net card cage.

1 Remove the existing NT8D76 cCNI to 3PE cables.

2 Label each cable at both ends with:

- Network group number

- Shelf 1 of the Network group

- J3 or J4 (of the 3PE card)

3 Route the NT4N14 cCNI to 3PE cables from the Side 1 3PE cards to a module above or adjacent to Core/Net 1.

Table 9
Fanout Panel to 3PE card connectors (Part 1 of 2)

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

Note: Group 0/shelf 1 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1.(see Figure 15 on page 94. Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 16 on page 97).

Table 9
Fanout Panel to 3PE card connectors (Part 2 of 2)

Group Number	Fanout Panel connector	3PE card connector
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: Group 0/shelf 1 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1.(see Figure 15 on page 94. Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 16 on page 97).

———— **End of Procedure** ————

Power up Core 1

Procedure 16
Preparing for power up

1   Check that a terminal is connected to the J25 I/O panel connector on Core/Net 1.

   Note: A maintenance terminal is required to access the Core/Net modules during the upgrade.

Figure 16
3PE Fanout Panel connections

553-9492
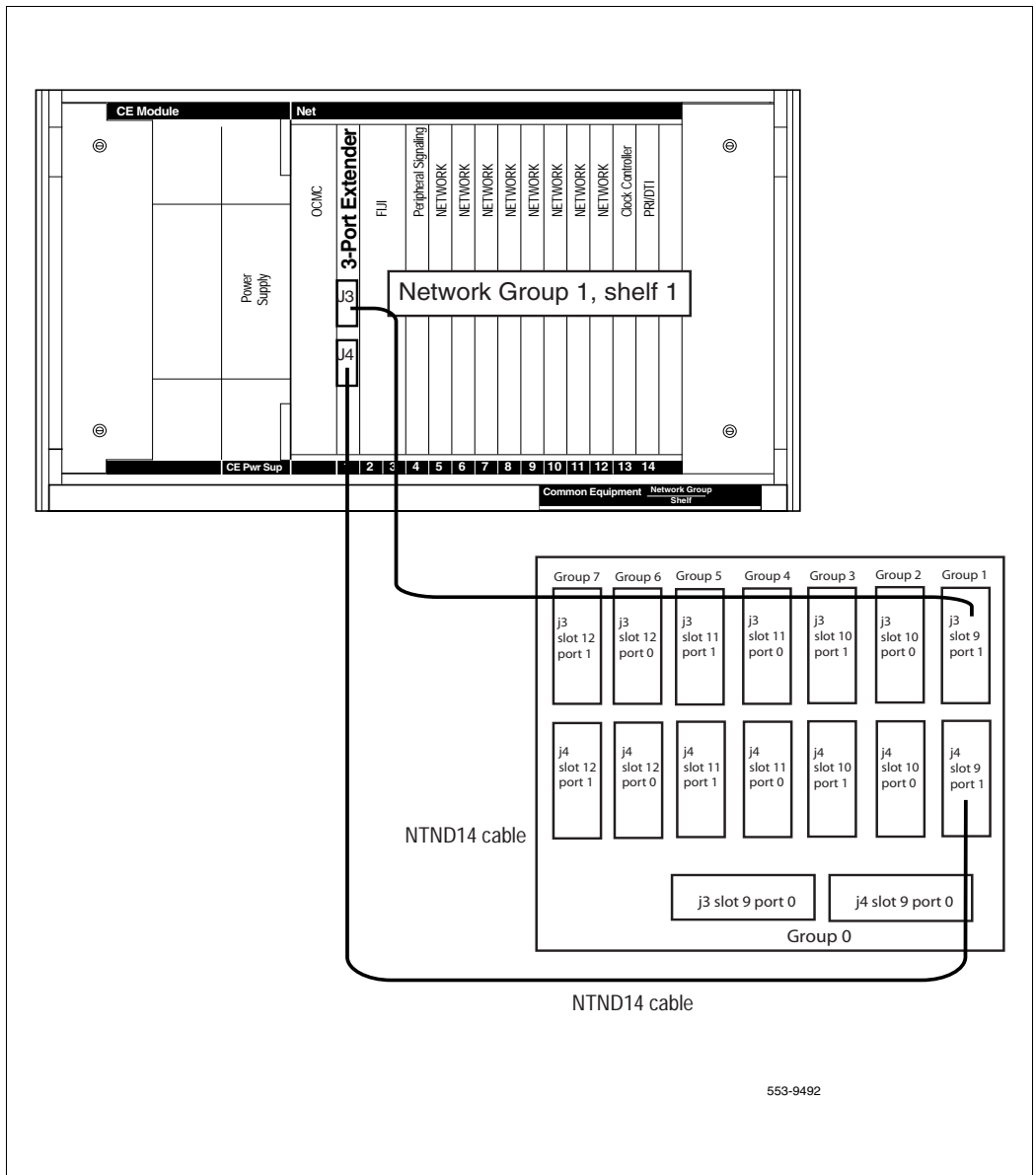
2   Connect a terminal to the J25 port on the I/0 panel in Core 1.

3   Check the terminal settings as follows:

   a.   9600 Baud

   b.   8 data

   c.   parity none

   d.   1 stop bit

   e.   full duplex

   f.   XOFF

   Note: If only one terminal is used for both Cores, that terminal must be switched from side to side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

4   Faceplate *enable* the cCNI cards in Core 1.

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

Procedure 17
Powering up Core 1

1   Power up the Core/Net Module.

2   Wait for the system to load/initialize.

3   Check that the Network and I/O cards have working power.

   Result: CoreNet 1 should now come up with CoreNet 0 as Active Call processor.

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

Re-enable all network cards in CoreNet 1 from CoreNet 0

Re-enable all network cards in CoreNet 1 from CoreNet 0 so full call processing can resume.

Procedure 18
Software enabling cards in network slots of Core/Net 1

1   In Core/Net 1 only, faceplate enable fiji, 3PE, PS and all network cards.

2   In Core/Net 1 only, software enable the QPC43 Peripheral Signaling
       Card:

   LD 32   Load program

   ENPS x   Enable the QPC43 card. See Table 10 below for
                      Peripheral Signaling Card numbers

   ****   Exit program

Table 10
Peripheral Signaling Card numbers

Group/ shelf	Peripheral Signaling Card	Loops disabled/enabled		
0 / 0	0	0	–	15
0 / 1	1	16	–	31

3   In Core/Net 1 only, software enable all network and I/O cards such as
       XNET, TTY, Conf/TDS and ISDN cards:

   a.   In Core/Net 1 only, enable XNET.

   LD 32   Load program

   ENLL sl   Enable XNET, where sl = the superloop number
                      of the XNET card

   ****   Exit program

   b.   In Core/Net 1 only, enable ENET.

   LD 37   Load program

   ENLL x   Enable ENET, where x = the loop number

   ****   Exit program

    c. In Core/Net 1 only, software enable each port on the SDI cards:

LD 37	Load program
ENL TTY x	Enable each SDI port, where x = number of the interface devices attached to a port
****	Exit program

    d. In Core/Net 1 only**,** enable DTI cards.

LD 60	Load program
ENLL x	Enable DTI card, where x = loop number
****	Exit program

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

LD 60	Load program
ENLL x	Enable PRI card, where x = loop number
****	Exit program

    f. In Core/Net 1 only, enable MSDL cards.

LD 48	Load program
ENL MSDL x	Enable MSDL card, where x = MSDL card number. System will respond with group X
****	Exit program

    g. In Core/Net 1 only, enable XCT cards.

LD 34	Load program
ENLX x	Enable XCT card, where x = the loop number of the XCT card
****	Exit program

—————— **End of Procedure** ——————

Enable Ring 1

Procedure 19
Software enabling Ring 1

1   Software enable ring 1:

LD 39	Load program
ENL RING 1	Enable all FIJI cards on ring (x = 0 or 1)
STAT RING x	Get status of ring on side x (x = 0 or 1)
RSET	Reset threshold for switchover functionality
RSTR	Restore ring
ARCV ON	Enable auto-recovery operation for ring

2   Confirm ring is enabled and in Half/Half state:

LD 39	Load the program
STAT RING x	Get status of ring on side x (x = 0 or 1)
STAT ALRM x y FULL	Query status of all alarms (active and inactive) for FIJI card in group x, side y
****	Exit

3   Verify status of system clocks:

LD 60	Load the program
SSCK x	Get status of system clock (x = 0 or 1)
****	Exit

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

Make the system redundant

Procedure 20
Making the system redundant

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

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

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

Complete the CP PII replacement

Test Core/Net 1

From Core/Net 1, perform the following 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

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

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 Install the two system monitors. Test that the system monitors are working.

    LD 37   Load program

    ENL TTY x   Enable the TTY, 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 the displays on the cores

    CMAJ   Clear major alarms

    CMIN ALL   Clear minor alarms

7   Test the clocks.

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

LD 60	Load program
SSCK *x*	To get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1
SWCK	Switch the Clock if necessary
****	Exit program

   b.   Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock
SWCK	Switch the Clock again

8   Test the Fiber Rings

   See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

   a.   Check that the Fiber Rings operate correctly.

LD 39	Load program
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

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

Switch call processing

Procedure 21
Switching call processing

      LD 135   Load program

      SCPU   Switch call processing from CoreNet 0 to CoreNet 1

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

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

This concludes replacement of the NT4N46 Card Cage for Core/Net 1.

Verify that all system applications are active and functional (such as CallPilot and Symposium).

If the Core/Net 0 shelf is being replaced, repeat the procedures in this chapter for Core/Net 0.

Adding a Network Group (NT4N40)

Contents

This section contains information on the following topics:

Add a Core Network Group to Option 81C CP PII with FNF

Introduction

Complete the following procedures to add a Network Group to the Core/Net module of a Meridian 1 Option 81C/FNF equipped with an NT4N40 Core/Net shelf.

The NT4N40 Core/Net shelf is factory configured with Network group 0 in the Core. Upgrades from Meridian Option 71 or Meridian Option 81 to Meridian Option 81C CP PII do not require Group 0 to be moved to the Core.

The Meridian 1 Option 81C CP PII CNI port to group number cannot be changed in software configuration. The NT4N29 cables must be connected to the proper group.

The Meridian 1 Option 81C/FNF equipped with an NT4N40 Core/Net shelf must meet the requirements of Product Bulletins P-2002-1658-NA and PAA-2003-0199-NA for firmware 19. Highlights of the bulletins include:

- NTRB53AA Clock Controller is required.

- The shortest fiber cable should always be used.

- The cables from group 0-1 must be the same length.

- The difference between the lengths of each fiber ring from group 0 to group 1 must not exceed 50 ft.

IMPORTANT!

Always use the shortest NTRC48 fiber cable.

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 difference between the lengths of each fiber ring from group 0 to any other group must not exceed 50 ft. 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.

To add a Network Group to a Meridian 1 Option 81C/FNF equipped with an NT4N40 Core/Net shelf:

- Clock Controller cards must be NTRB53AA.

- NTRB33 Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.

- NT4N65AC CNI card.

> **IMPORTANT!**
>
> When configuring NTND14 cables, observe the following rules:
>
> - Always use the shortest NTND14 cable.
>
> - A network group requires fourNTND14 cables, two to each half group. Both cables to each half group must be the same length.
>
> - Check the existing NTND14 cables. Replace any cables that do not meet the above requirement.
>
> *Note:* The NTND14 BX 50 ft. cables are manufacture discontinued.

Prepare for upgrade

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

Each chapter features checkboxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section is written to maintain dial tone where possible and to limit service interruptions.

Each section assumes any NT8D35 Network module installation is complete. For NT8D35 installation information see the *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

Before attempting any software or hardware upgrade field personnel must complete the steps in Table 11.

Table 11
Prepare for upgrade steps

Step	Page
Plan the upgrade	111
Upgrade checklists	112
Prepare	112
Identify the proper procedure	113
Connect a terminal	113
Print site data	114
Perform a template audit	117
Back up the database (data dump)	119

Plan the upgrade

Planning for an upgrade includes the following details:

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure Sufficient power for new columns/modules or applications.

- Identify all applications such as CallPilot, SCCS, IP, or Meridian Mail that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel Networks.

- Prepare a contingency plan if you abort the upgrade.

DANGER OF ELECTRIC SHOCK

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of the *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258). Engineers can print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Verify that current patch or Dep lists are installed at the source platform.

- Verify that the required patch or Dep lists are installed at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and keycode.

- Print site data.

Identify 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 can cause longer service interruptions.

IMPORTANT!

Preserve database backup information for a minimum of five days.

Connect a terminal

Procedure 22
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/0 panel in the *inactive* Core or Core/Net module.

The settings for the terminal are:

a.   9600 Baud

b.   8 data

c.   parity none

d.   1 stop bit

e.   full duplex

f.   XOFF

2   If only one terminal is used for both Core or Core/Net modules, connect the terminal from side to side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

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

Print site data

Print site data to preserve a record of the system configuration (see Table 12). Verify that all information is correct. Make corrections as necessary.

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

Table 12
Print site data (Part 1 of 3)

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

Table 12
Print site data (Part 2 of 3)

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

Table 12
Print site data (Part 3 of 3)

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

Perform a template audit

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

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

	CAUTION — Service Interruption
⚠	**Loss of Data**
	Do not abort this LD until the audit is complete. If the LD is interrupted, data can be corrupted.

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**
TEMPLATE 0003 NO USERS FOUND	

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

-

-

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

Procedure 23
Performing a data dump

1   On the Meridian 1 Option 81C, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43 from the source (current) media. At the prompt, enter:

   LD 43   Load the program.

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

   EDD   Begin the data dump.

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

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

   ****   Exit the program.

> **IMPORTANT!**
>
> Preserve database backup information for a minimum of five days.

End of Procedure

Perform the upgrade

Introduction

Complete the procedure in this section to add a Core Network Group to the Meridian 1 Option 81C/FNF equipped with an NT4N40 shelf.

Figure 17 on page 120 shows a Meridian 1 Option 81C/FNF (NT4N40).

Figure 17
CP PII NT4N40 Core/Net shelf

Review upgrade requirements

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**
>
> **Service Interruption**
>
> Do not proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

Check vintage requirements for existing hardware

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 QPC43 Peripheral Signaling cards must be minimum vintage R.

- The NT4N65AC CNI card.

If equipment does not meet the requirements, replace it before you begin the upgrade.

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> Equipment that does not meet the minimum vintage requirements can cause system malfunctions and loss of call processing.

Check required hardware

Table 13 describes the *minimum* equipment required to add a Core Network Group to a Meridian 1 Option 81C/FNF equipped with an NT4N40 shelf. Additional equipment for increased Network capacity must be ordered separately.

Table 13
Minimum equipment required to add a Core Network Group to an Option 81C/FNF equipped with an NT4N40 shelf

Order Number	Description	Quantity per system
NT8D80BZ	Cable, CPU Interface, 5 ft.	2
NT8D99AD	Cable, Network to Network, 6 ft.	2
NTRB33AC/AD	Card, Fibre Junctor Interface (FIJI)	2
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	Pack, Conference, Tone and Digit Switch (CT)	2
NT4N65AC	CNI card	(see Note)
NTRC48	FIJI fiber cable	4
NTRC47	FIJI to FIJI cable	1
Note: The quantity of CNI cards required is dependent on the system configuration.		

Tools

Table 14 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 14
List of recommended tools

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

Route FIJI to FIJI cables

Pre-route an NTRC47AA cable between the FIJI cards in shelf 0 and shelf 1 of each added Network Group. See Figure 18 on .

To minimize system downtime during the upgrade, all FIJI cables must be in place before the Network Groups are installed.

Note: Do not disconnect the existing Fiber cables.

Procedure 24
Label and route the shelf 0 fiber-optic cables (ascending)

Route the NTRC48 cables between the FIJI cards in each added Network shelf 0 in *ascending* order (Figure 18 on).

⚠️ **CAUTION**
Damage to Equipment
Do not excessively bend or cinch the Fiber Ring cables. These cables are easily damaged. Use the Optical Cable Management Card (OCMC) to manage and protect the Fiber Ring cables.

---

1   Start with shelf 0 in the current highest Network Group.

2   Label each cable on both sides with the appropriate connection information from Table 15 on .

3   Route a NTRC48 FIJI Fiber Ring cable of the appropriate length from the FIJI card in shelf 0 of the current highest Network Group, to the FIJI card in shelf 0 of the added Network Group.

4   If more than one Network Group is to be added, route a second NTRC48 cable of the appropriate length to shelf 0 of the second added group.

5   Continue to route NTRC48 cable of the appropriate length in *ascending* order between shelf 0 of each added Network Group.

6   To complete the Ring, route a final cable from the highest number group back to Group 0, shelf 0.

Table 15
FIJI Ring 0 connections

Groups X - 0 are cabled in ascending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/0	P1	Tx - J1
1/0	P2	Rx - J2
1/0	P1	Tx - J1
2/0	P2	Rx - J2
2/0	P1	Tx - J1
3/0	P2	Rx - J2
3/0	P1	Tx - J1
4/0	P2	Rx - J2
4/0	P1	Tx - J1
5/0	P2	Rx - J2
5/0	P1	Tx - J1
6/0	P2	Rx - J2
6/0	P1	Tx - J1
7/0	P2	Rx - J2
7/0	P1	Tx - J1
0/0	P2	Rx - J2

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

Procedure 25
Label and route the shelf 1 fiber optic cables (descending)

Route the NTRC48 cables between the FIJI cards in each Network shelf 1 in *descending* order (Figure 18 on page 127).

	CAUTION
⚠	**Damage to Equipment**
	Do not excessively bend or cinch the Fiber Ring cables. These cables are easily damaged. Use the Optical Cable Management Card (OCMC) to manage and protect the Fiber Ring cables.

Note 1: Do not disconnect FIJI cable.

Note 2: Each end of the NTRC48 cable is labeled "Tx" or Rx" in the factory.

1   Start with Group 0, shelf 1.

2   Label each cable on both sides with the appropriate connection information from Table 16 on page 128.

3   Route a NTRC48 FIJI Fiber Ring cable of the appropriate length from shelf 1 of the FIJI card in Group 0, to the FIJI card in the added highest Network Group, shelf 1.

4   Route a NTRC48 cable from the FIJI card in the added highest Network Group, shelf 1 to the FIJI card in the second highest Network Group, shelf 1.

5   Continue to route NTRC48 FIJI Fiber Ring cables of the appropriate lengths between shelf 1 of each added Network Group. Route these cables in *descending* order of Network Groups.

6   Route a final cable to the current highest Network Group, shelf 1.

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

Figure 18
Shelf 1 descending fiber-optic Ring (example)
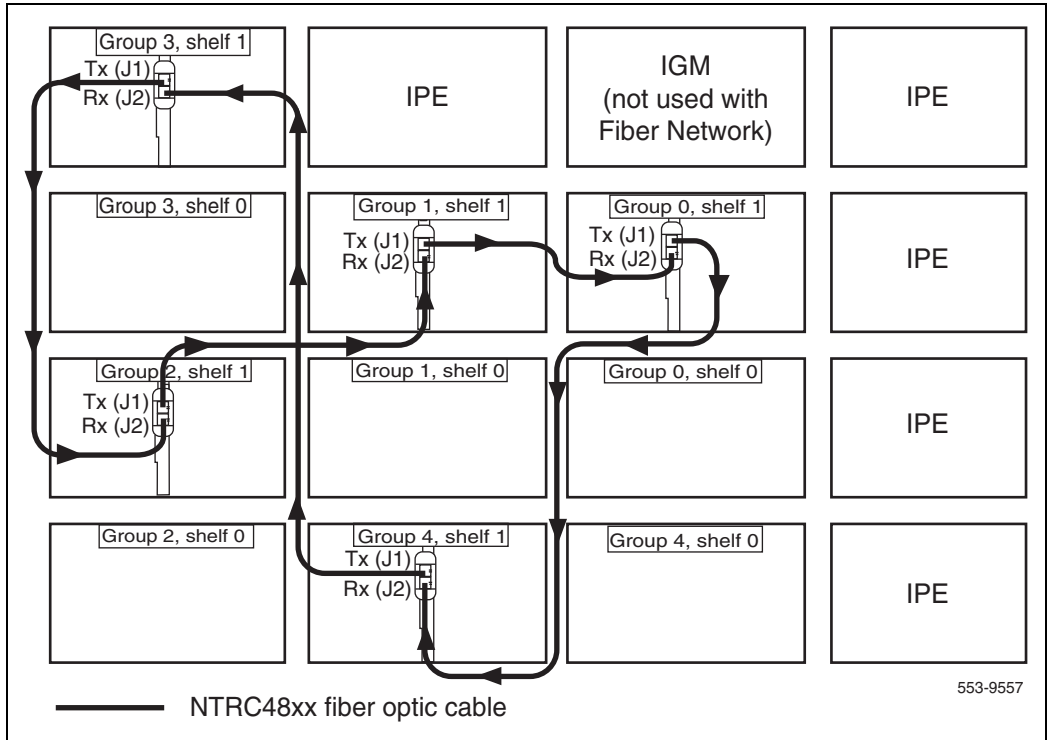
Table 16
FIJI Ring 1 connections

Groups 0 - X are cabled in descending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/1	P1	Tx - J1
7/1	P2	Rx - J2
7/1	P1	Tx - J1
6/1	P2	Rx - J2
6/1	P1	Tx - J1
5/1	P2	Rx - J2
5/1	P1	Tx - J1
4/1	P2	Rx - J2
4/1	P1	Tx - J1
3/1	P2	Rx - J2
3/1	P1	Tx - J1
2/1	P2	Rx - J2
2/1	P1	Tx - J1
1/1	P2	Rx - J2
1/1	P1	Tx - J1
0/1	P2	Rx - J2

Interconnect the Core/Net modules

Procedure 26
Interconnecting the Core/Net modules

On the back of each Core/Net module backplanes are two connectors labeled D and E.

1   Connect the NT8D99AD cable from the D connector in shelf 0, to the D connector in shelf 1 of the NT4N40 Core/Net Module.

2   Connect the NT8D99AD cable from the E connector in shelf 0, to the E connector in shelf 1 of the NT4N40 Core/Net Module.

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

Figure 19
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)
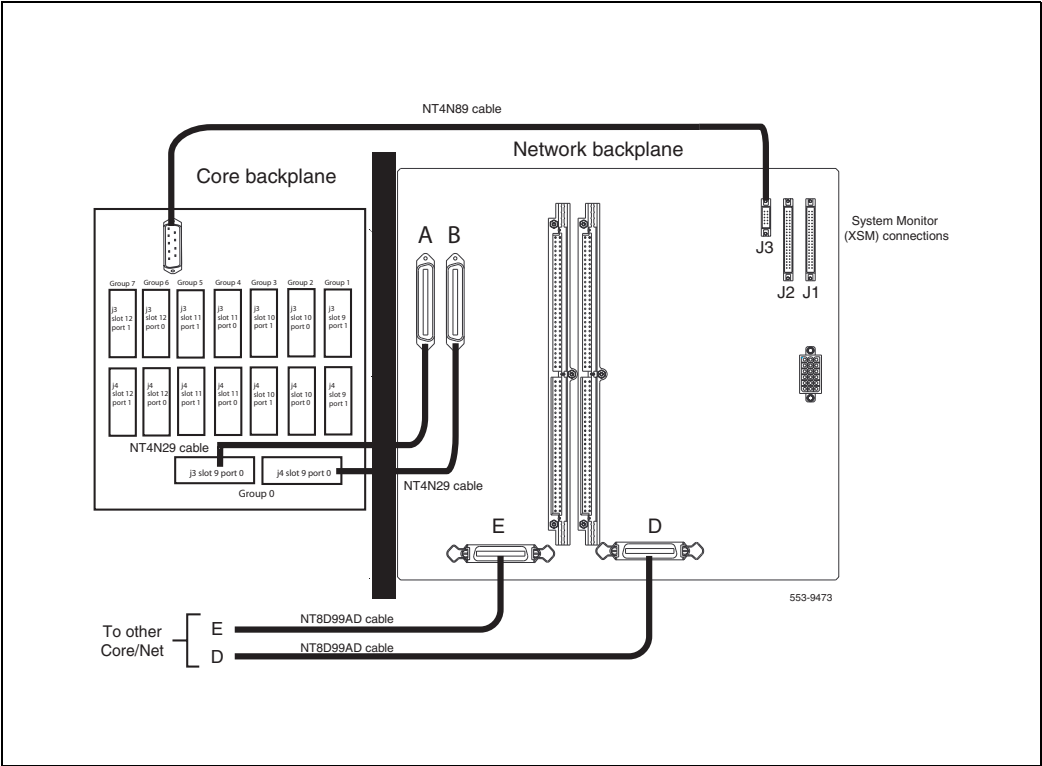
Add CNI cards if necessary

Procedure 27
Adding CNI cards

If additional CNI cards are required, add to each Core Module as required (see Figure 20 on).

1   Faceplate disable CNI card.

2   Insert the card into Core/Net module, but do not seat the card into backplane at this time.

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

Figure 20
NT4N40 Core/Net card cage
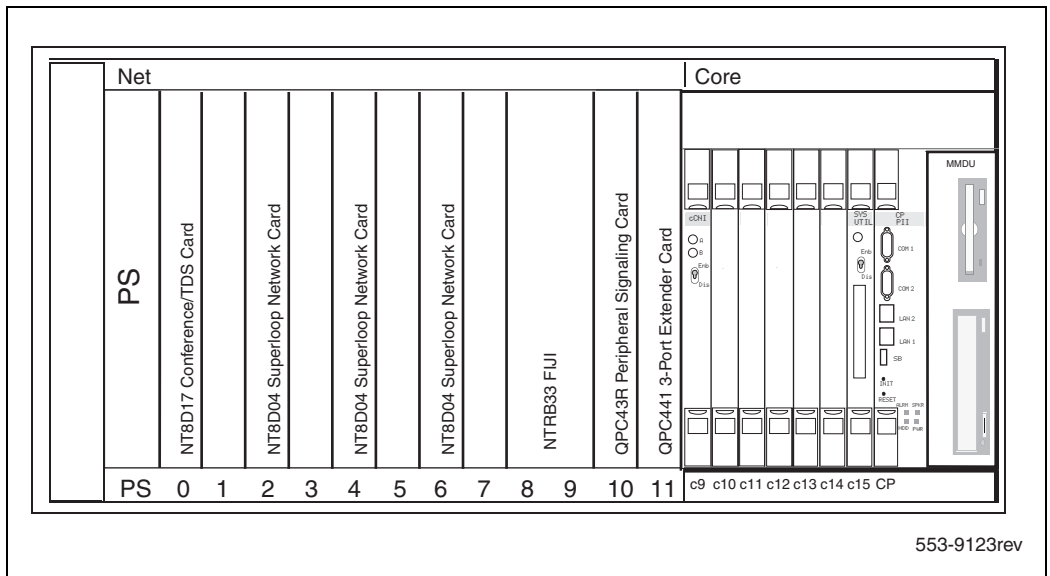
553-9123rev

Connect the 3PE to CNI cables

The CNI slot and port connections are labeled on the 3PE Fanout Panel. Each 3PE card is connected from J3 and J4 of each 3PE faceplate to the 3PE Fanout Panel.

If Network Group 0 will not be in the Core/Net module, reconfiguring of the processor module is required.

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 the cables to the appropriate group. For connector replacement, see Figure 21 on page 134 and Table 17 on page 133.

Table 17
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 21 on page 134).

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 21 on page 134).

Figure 21
3PE Fanout Panel (Core/Net module)
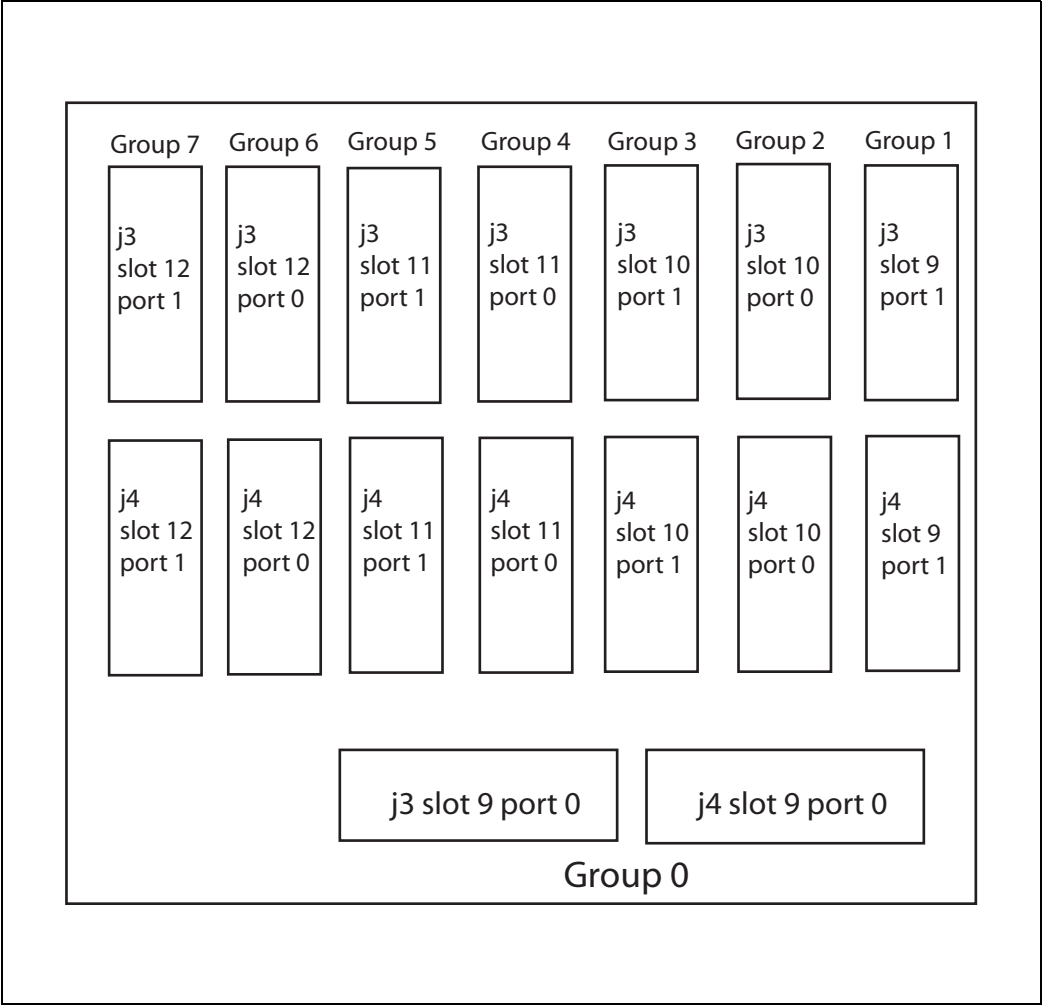
Group 7	Group 6	Group 5	Group 4	Group 3	Group 2	Group 1
j3 slot 12 port 1	j3 slot 12 port 0	j3 slot 11 port 1	j3 slot 11 port 0	j3 slot 10 port 1	j3 slot 10 port 0	j3 slot 9 port 1
j4 slot 12 port 1	j4 slot 12 port 0	j4 slot 11 port 1	j4 slot 11 port 0	j4 slot 10 port 1	j4 slot 10 port 0	j4 slot 9 port 1

j3 slot 9 port 0   j4 slot 9 port 0

Group 0

Install cards in the network modules

Network cards must be installed in the added Network modules as described below. Each card must be installed and enabled or disabled as indicated.

Install and enable the QPC441 3PE cards

Procedure 28
Installing the QPC441F 3PE cards.

1   Verify the 3PE card settings.

Switch settings on the 3PE card determine the group and shelf number of each Network module. Use the information in Table 18 on page 136 to verify that the 3PE cards in the added Network modules have the correct switch and jumper settings.

The FIJI card displays group and shelf setting.

2   Install a 3PE card in slot 11 of each added Network module.

3   Seat the 3PE card and ensure it is faceplate disabled.

4   Attach the NT8D80BZ cables to the 3PE faceplates:

   a.   Attach the NT8D80BZ cable to the QPC441 3PE card J2 connector in shelf 0 to the QPC441 card J2 connector in shelf 1.

   b.   Attach the NT8D80BZ cable to the QPC441 3PE card J3 connector in shelf 0 to the QPC441 card J3 connector in shelf 1.

Table 18
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

Note: Settings for the 3PE can be found in *Circuit card installation and testing* (553-3001-211).

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

Procedure 29
Installing and enabling the Peripheral Signaling (Per Sig) cards

1   Install a QPC43R Per Sig card into slot 10 of each Core/Net module. Push the latches forward to lock the card in place.

2   Faceplate *enable* the cards.

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

Procedure 30
Disabling and inserting the FIJI cards

1   Faceplate *disable* the NTRB33AC/AD FIJI cards.

2   Insert the NTRB33AC/AD FIJI cards into slots 8 and 9 of each added Network module.

Do not plug the card into the backplane.

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

Procedure 31
Disabling and inserting the NT8D17 Conf/TDS cards

If the NT8D17 Conf/TDS cards are used in the system, follow the procedures below.

1   Faceplate *disable* the NT8D17 Conf/TDS cards.

2   Insert a NT8D17 Conf/TDS card into each added Network module.

3   Seat the card and faceplate enable.

   Note: The NT8D17 Conference/TDS card is typically installed in slot 0 of the Core/Net module.

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

Procedure 32
Installing new CNI cards if required

1   Faceplate *disable* new NT4N65AC CNI cards.

2   Insert a NT4N65AC CNI card on both cores.

Do not plug the card into the backplane.

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

Adding the CNI cards or ports

Note: CNI cards can be enabled and connected on the *inactive* Core only.

Core 0 is active, clock 0 is active, FIJI is half/half.

Follow these procedures to activate the added CNI ports.

Verifying Core/Net 0 is active.

1   Get the status of the CPUs. Verify that all common equipment is enabled.

   LD 135   Load program.

   STAT CPU   Get the status of both Core/Nets.

2   Ensure Core/Net 0 is active.

   If Core/Net 1 is active, switch Core/Nets.

   STAT CPU   Get the status of the Core/Nets.

   SCPU   Switch to Core/Net 0.

   ****   Exit program.

3   Ensure Clock Controller 0 is active and tracking.

LD 60   Load program.

SSCK 0   Get the status of Clock 0.

SSCK 1   Get the status of Clock 1.

SWCK   Switch to Clock 0 (if necessary).

CP 0 is active, clock 0 is active, FIJI is half/half.

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

Split the Cores

Procedure 33
Splitting the Cores

From Core 0 side, split the Cores.

LD 135   Load the program.

SPLIT   Split the Cores.

****   Exit the program.

Add new group in software on the inactive core

Procedure 34
Adding new group

1   In Core 1, define the XCT and extenders in the added group.

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
\<cr\>	Continue to the last prompt.
****	Exit the program.
LD 43	Load the program.
EDD	Invoke the data dump program.
****	Exit the program.

Table 19 on specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 19
CNI Network group designations

CNI card slot	CNI card port	3PE Fanout Panel label	Connected to Network group
c9	0	Port 9-0	0
c9	1	Port 9-1	1
c10	0	Port 10-0	2
c10	1	Port 10-1	3
c11	0	Port 11-0	4
c11	1	Port 11-1	5
c12	0	Port 12-0	6
c12	1	Port 12-1	7

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

Procedure 35
Checking that Ring 0 is active in Core 0

1 Check the status of Ring 0.

> **LD 39**   Load program.
>
> **STAT RING 0** Get the status of Ring 0
> (Ring state should be half/half).

2 Disable Ring auto recovery.

> **LD 39**   Load program.
>
> **ARCV OFF**   Set or reset auto-recovery operation for ring.

3   Swap to Ring 0.

> **LD 39**   Load program.

> **SWRG 0**   Swing traffic to ring 0.

4   Disable Ring 1.

> **LD 39**   Load program.

> **DIS RING 1** Disable all FIJI cards on side 1.

⚠️ **WARNING**

Cable Ring 1 to new network shelf only.

---

5   Seat the remaining cards (3PE, PER SIG, XCT, FIJI) in both network modules.

Note: Cards must be faceplate disabled before seating.

6   Faceplate enable all cards in both network modules (3PE, PER SIG, XCT and FIJI).

7   Break Ring 1 and cable the added FIJI cards. Ring 1 is descending. Transmit from the lower Group FIJI card to Receive of next higher Group FIJI card. Transmit of the highest Group FIJI card cables to the Receive of Group FIJI card.

8   **In Core 1 only**, seat the new CNI card and faceplate enable.

⚠️ **IMPORTANT!**

Power down all applications such as Meridian Mail, Call Pilot, and Symposium.

> **CAUTION**
>
> **Service Interruption**
>
> Call processing is interrupted for approximately 10 minutes while the INI is completed.

9   In LD 135 switch Cores.

   LD 135   Load the program.

   CUTOVR   Switch Cores.

> **WARNING**
> All call processing may be interrupted.

> **IMPORTANT!**
>
> Power up all applications such as Meridian Mail, Call Pilot, and Symposium.

> Core 1 is active, Clock 0 is active, FIJI ring 1 is full, FIJI ring 0 is none.

Note 1: 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 does not affect service. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

Note 2: Wait for new ring state change message to appear before proceeding:

```
New State Ring 0 None
          Ring 1 Full
```

10   Switch the clock controllers, if necessary:

LD 60	Load the program.
SSCK n	Get status of clock n where: n = 0 for clock controller 0 1 for clock controller 1
SWCK	Switch system clock from active to standby. *Note:* Make clock controller 1 the active clock.
****	Exit the program.

11   Disable Ring 0.

LD 39	Load the program.
DIS RING 0	Disables all FIJI cards on side 0.
****	Exit the program.

12   Break Ring 0 and cable the added FIJI cards. Ring 0 is ascending. Transmit from the lower Group FIJI card to Receive of next higher Group FIJI card. Transmit of the highest Group FIJI card cables to the Receive of Group FIJI card.

13 In LD 39, enable and stat Ring 0.

LD 39	Load the program.
ENL Ring 0	Enable Ring 0.
Stat Ring 0	Status of Ring x.
****	Exit the program.

> ✓ The system is in split mode with Core 1 active, Clock 1 active, and FIJI half and half.

14 **In Core 0 only,** define the XCT and Extenders to the added group.

Note: See Table 19 on .

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)

      \<cr\>   Continue to the last prompt.

      ****   Exit the program.

15 Data dump the software changes.

      LD 43   Load the program.

      EDD   Invoke the data dump program.

      ****   Exit the program.

16 Seat the CNI card in Core 0 and faceplate enable it.

17 In Core 1, Stat the CNIs.

      LD 135   Load the program.

      STAT CNI   Get status of CNI card.

                   Note: If any CNIs are disabled they must be enabled.

      JOIN   Synchronize the memory and drives.

      ****   Exit the program.

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

Test the Cores

Procedure 36
Testing Core/Net 1

From Core/Net 1, perform these tests.

1   Perform a redundancy sanity test.

  LD 135   Load the 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 the program.

  TEST LCDs   Test LCDs.

  DSPL ALL

3   Test the System Utility cards and the CNI cards.

  LD 135   Load the program.

  STAT CNI c s   Get status of CNI cards (core, slot).

  TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

  LD 137   Load the 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 the program.
>
> **ENL TTY x**   Enable the XMS, where x = system XMS.
>
> **STAT XSM**   Check the system monitors.
>
> ****   Exit the program.

6   Clear the display and minor alarms on both Cores.

> **LD 135**   Load the program.
>
> **CDSP**   Clear the displays on the cores.
>
> **CMAJ**   Clear major alarms.
>
> **CMIN ALL**   Clear minor alarms.

7   Test the clocks.

   a.   Verify that the clock controller is assigned to the *active* Core:

> **LD 60**   Load the program.
>
> **SSCK *x***   Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1).
>
> **SWCK**   Switch the Clock if necessary.

   b.   Verify that the Clock Controllers are switching correctly.

> **SWCK**   Switch the Clock.
>
> **SWCK**   Switch the Clock again.

8 Test the Fiber Rings.

See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

   a. Check that the Fiber Rings operate correctly.

   LD 39   Load the 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, Symposium, and Meridian Mail.

11 Check for dial tone.

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

Switch call processing

1 Seat new CNI cards, faceplate enable.

2 Check that all new cards are seated and faceplate enabled (CNI, FIJI, PS and XCT).

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

Procedure 37
Testing Core/Net 0

From Core/Net 0, perform these tests.

1   Perform a redundancy sanity test.

   LD 135   Load the program.

   STAT CPU   Get the 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 the program.

   TEST LCDs   Test LCDs.

   DSPL ALL   Display all.

3   Test the System Utility cards and the CNI cards.

   LD 135   Load the program.

   STAT CNI c s   Get status of CNI cards (core, slot).

   TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

   LD 137   Load the program.

   TEST RDUN   Test redundancy.

   DATA RDUN

   TEST CMDU   Test the MMDU card.

5   Test that the system monitors are working.

   LD 37   Load the program.

STAT XSM	Check the system monitors.
****	Exit the program.

6   Clear the display and minor alarms on both Cores.

LD 135	
CDSP	Clear the displays on the cores.
CMAJ	Clear major alarms.
CMIN ALL	Clear minor alarms.

7   Test the clocks.

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

LD 60	Load the program.
SSCK *x*	Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.
SWCK	Switch the Clock if necessary.

b.   Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8   Test the Fiber Rings.

See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

      a.   Check that the Fiber Rings operate correctly.

LD 39	Load the 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 for dial tone.

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

Post-conversion steps must now be performed. See the "Post-conversion procedure" on .

Add an NT8D35 Network Group to Option 81C CP PII with FNF

Introduction

Complete the following procedure to add an NT8D35 Network Group to the Core/Net module of a Meridian 1 Option 81C/FNF equipped with an NT4N40 Core/Net shelf.

The NT4N40 Core/Net shelf is factory configured with Network group 0 in the Core. Upgrades from Meridian Option 71 or Meridian Option 81 to Meridian Option 81C CP PII do not require Group 0 to be moved to the Core.

The Meridian 1 Option 81C CP PII CNI port to group number cannot be changed in software configuration. The NT4N29 cables must be connected to the proper group.

The Meridian 1 Option 81C/FNF equipped with an NT4N40 Core/Net shelf must meet the requirements of Product Bulletins P-2002-1658-NA and PAA-2003-0199-NA for firmware 19. Highlights of the bulletins include:

- NTRB53AA Clock Controller is required.

- The shortest fiber cable should always be used.

- The cables from group 0-1 must be the same length.

- The difference between the lengths of each fiber ring from group 0 to group 1 must not exceed 50 ft.

IMPORTANT!

The shortest fiber cable must always be used (NTRC48).

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 difference between the lengths of each fiber ring from group 0 to any other group must not exceed 50 ft. 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.

To add a Network Group to a Meridian 1 Option 81C/FNF equipped with an NT4N40 Core/Net shelf:

- The Clock Controller cards must be NTRB53AA.

- The NTRB33 Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.

- NT4N65AC CNI card.

> **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 ft. cables are manufacture discontinued.

Prepare for upgrade

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

Each chapter features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section is written to maintain dial tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade, field personnel must complete the steps in Table 20.

Table 20
Prepare for upgrade steps

Step	Page
Plan the upgrade	156
Upgrade checklists	157
Prepare	157
Identifying the proper procedure	158
Connect a terminal	158
Print site data	159
Perform a template audit	161
Back up the database (data dump)	164

Plan the upgrade

Planning for an upgrade includes the following details:

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure Sufficient power for new columns/modules or applications.

- Identify all applications such as CallPilot, SCCS, IP, or Meridian Mail that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Prepare a contingency plan if you abort the upgrade.

DANGER OF ELECTRIC SHOCK

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of the *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258). Engineers can print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform. See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Verify that the current patch or Dep lists are installed at the source platform.

- Verify that the required patch or Dep lists are installed at the target platform.

- Determine and communicate the required maintenance window, contingency plan, and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and keycode.

- 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 38
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/0 panel in the *inactive* Core or Core/Net module.

The settings for the terminal are:

a.   9600 Baud

b.   8 data

c.   parity none

d.   1 stop bit

e.   full duplex

f.   XOFF

2   If only one terminal is used for both Core or Core/Net modules, connect the terminal from side to side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

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

Print site data

Print site data to preserve a record of the system configuration (see Table 21). 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 21
Print site data (Part 1 of 3)

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

Table 21
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ TYPE	PRT CFN
*Software packages	LD 22	
	REQ TYPE	PRT PKG
*Software issue and tape ID	LD 22	
	REQ REQ	ISS TID
* Peripheral software versions	LD 22	
	REQ TYPE	PRT PSWV
ACD data block for all customers	LD 23	
	REQ TYPE CUST ACDN	PRT ACD Customer Number ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27 REQ TYPE LOOP APPL PH	PRT MISP loop number (0-158) <cr> <cr>

Table 21
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)

Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Perform a template audit

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

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

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> Do not abort this LD until the audit is complete. If the LD is interrupted, data will be corrupted.

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**
TEMPLATE 0003 NO USERS FOUND	

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

Procedure 39
Performing a data dump

1   On the Meridian 1 Option 81C, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43
     from the source (current) media. At the prompt, enter:

   LD 43   Load the program.

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

   EDD   Begin the data dump.

	CAUTION — Service Interruption
⚠	**Loss of Data**
	If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

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

****   Exit the program.

———— **End of Procedure** ————

	IMPORTANT!
⚠️	Preserve database backup information for a minimum of five days.

Perform the upgrade

Introduction

Complete the procedure in this section to add a Core Network Group to the Meridian 1 Option 81C/FNF equipped with an NT4N40 shelf.

Figure 22 shows a Meridian 1 Option 81C/FNF (NT4N40).

Figure 22
CP PII NT4N40 Core/Net shelf

553-9123rev

Review upgrade requirements

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**
>
> **Service Interruption**
>
> Do not proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

Check vintage requirements for existing hardware

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 QPC43 Peripheral Signaling cards must be minimum vintage R.

*   NT4N65AC CNI card Vintage AC.

If equipment does not meet the requirements, replace it before you begin the upgrade.

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> Equipment that does not meet the minimum vintage requirements can cause system malfunctions and loss of call processing.

Check required hardware

Table 22 describes the *minimum* equipment required to add a Core Network Group to a Meridian 1 Option 81C/FNF equipped with an NT4N40 shelf. Additional equipment for increased Network capacity must be ordered separately.

Table 22
Minimum equipment required to add a Core Network Group to an Option 81C/FNF equipped with an NT4N40 shelf

Order Number	Description	Quantity per system
NT8D99AB	Cable, Network to Network, 2 ft.	2
NTRB33AC/AD	Card, Fibre Junctor Interface (FIJI)	2
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	Pack, Conference, Tone and Digit Switch (CT)	2
NTRC48	FIJI fiber cable	4
NTRC47	FIJI to FIJI Cable	1
NT8D35	Network Module	5
NTND14	CNI to 3PE cable	4
NT4N65AC	CNI card	(see Note)
Note: The quantity of CNI cards required is dependent on the system configuration.		

Tools

Table 23 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 23
List of recommended tools

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

Route FIJI to FIJI cables

Pre-route an NTRC47AA cable between the FIJI cards in shelf 0 and shelf 1 of each added Network Group. See Figure 22 on .

To minimize system downtime during the upgrade, all FIJI cables must be in place before the Network Groups are installed.

Note: Do not disconnect the existing Fiber cables.

Procedure 40
Labeling and routing the shelf 0 fiber optic cables (ascending)

Route the NTRC48 cables between the FIJI cards in each added Network shelf 0 in *ascending* order (Figure 23 on).

> **CAUTION**
> **Damage to Equipment**
> Do not excessively bend or cinch the Fiber Ring cables. These cables are easily damaged. Use the Optical Cable Management Card (OCMC) to manage and protect the Fiber Ring cables.

1   Start with shelf 0 in the current highest Network Group.

2   Label each cable on both sides with the appropriate connection information from Table 24 on .

3   Route an NTRC48 FIJI Fiber Ring cable of the appropriate length from the FIJI card in shelf 0 of the current highest Network Group, to the FIJI card in shelf 0 of the added Network Group.

4   If more than one Network Group is to be added, route a second NTRC48 cable of the appropriate length to shelf 0 of the second added group.

5   Continue to route the NTRC48 cable of the appropriate length in *ascending* order between shelf 0 of each added Network Group.

6   To complete the Ring, route a final cable from the highest number group back to Group 0, shelf 0.

Table 24
FIJI Ring 0 connections

Groups X - 0 are cabled in ascending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/0	P1	Tx - J1
1/0	P2	Rx - J2
1/0	P1	Tx - J1
2/0	P2	Rx - J2
2/0	P1	Tx - J1
3/0	P2	Rx - J2
3/0	P1	Tx - J1
4/0	P2	Rx - J2
4/0	P1	Tx - J1
5/0	P2	Rx - J2
5/0	P1	Tx - J1
6/0	P2	Rx - J2
6/0	P1	Tx - J1
7/0	P2	Rx - J2
7/0	P1	Tx - J1
0/0	P2	Rx - J2

—————— **End of Procedure** ——————

Procedure 41
Labeling and routing the shelf 1 fiber optic cables (descending)

Route the NTRC48 cables between the FIJI cards in each Network shelf 1 in *descending* order (Figure 23 on page 173).

⚠	**CAUTION** **Damage to Equipment** Do not excessively bend or cinch the Fiber Ring cables. These cables are easily damaged. Use the Optical Cable Management Card (OCMC) to manage and protect the Fiber Ring cables.

Note: Each end of the NTRC48 cable is labeled "Tx" or Rx" in the factory.

1   Start with Group 0, shelf 1.

2   Label each cable on both sides with the appropriate connection information from Table 25 on page 174.

3   Route a NTRC48 FIJI Fiber Ring cable of the appropriate length from shelf 1 of the FIJI card in Group 0, to the FIJI card in the added highest Network Group, shelf 1.

4   Route a NTRC48 cable from the FIJI card in the added highest Network Group, shelf 1 to the FIJI card in the second highest Network Group, shelf 1.

5   Continue to route NTRC48 FIJI Fiber Ring cables of the appropriate lengths between shelf 1 of each added Network Group. Route these cables in *descending* order of Network Groups.

6   Route a final cable to the current highest Network Group, shelf 1.

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

Figure 23
Shelf 1 descending fiber-optic Ring (example)

Table 25
FIJI Ring 1 connections

Groups 0 - X are cabled in descending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/1	P1	Tx - J1
7/1	P2	Rx - J2
7/1	P1	Tx - J1
6/1	P2	Rx - J2
6/1	P1	Tx - J1
5/1	P2	Rx - J2
5/1	P1	Tx - J1
4/1	P2	Rx - J2
4/1	P1	Tx - J1
3/1	P2	Rx - J2
3/1	P1	Tx - J1
2/1	P2	Rx - J2
2/1	P1	Tx - J1
1/1	P2	Rx - J2
1/1	P1	Tx - J1
0/1	P2	Rx - J2

Procedure 42
Interconnecting the network modules

> *Note:* The back of each network module backplane has five connectors: A, B, C, D and E. See Figure 24 on . The shelf 0 connectors in Network groups 1 through 7 must be connected to the shelf 1 connectors of the Network groups 1 through 7. For example, for Network group 1, the shelf 0 connector must be connected to the shelf 1 connector.k group. To add modules to a system, see *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

1 Connect an NT8D99AB cable from the A connector in shelf 0 of Network group 1 to the A connector in shelf 1 Network group 1.

2 Connect the B connector in shelf 0 to the B connector in shelf 1.

3 Connect the C connector in shelf 0 to the C connector in shelf 1.

4 Connect the D connector in shelf 0 to the D connector in shelf 1.

5 Connect the E connector in shelf 0 to the E connector in shelf 1.

6 Connect the A, B, C, D, and E connectors between shelf 0 and shelf 1 for all other Network groups in the system (except group 0).

> *Note:* All connections are made with an NT8D99AB cable.

——————— **End of Procedure** ———————

Figure 24
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)

Network backplane:
shelf 1

Network backplane:
shelf 0

NT8D99AB cable

553-9584
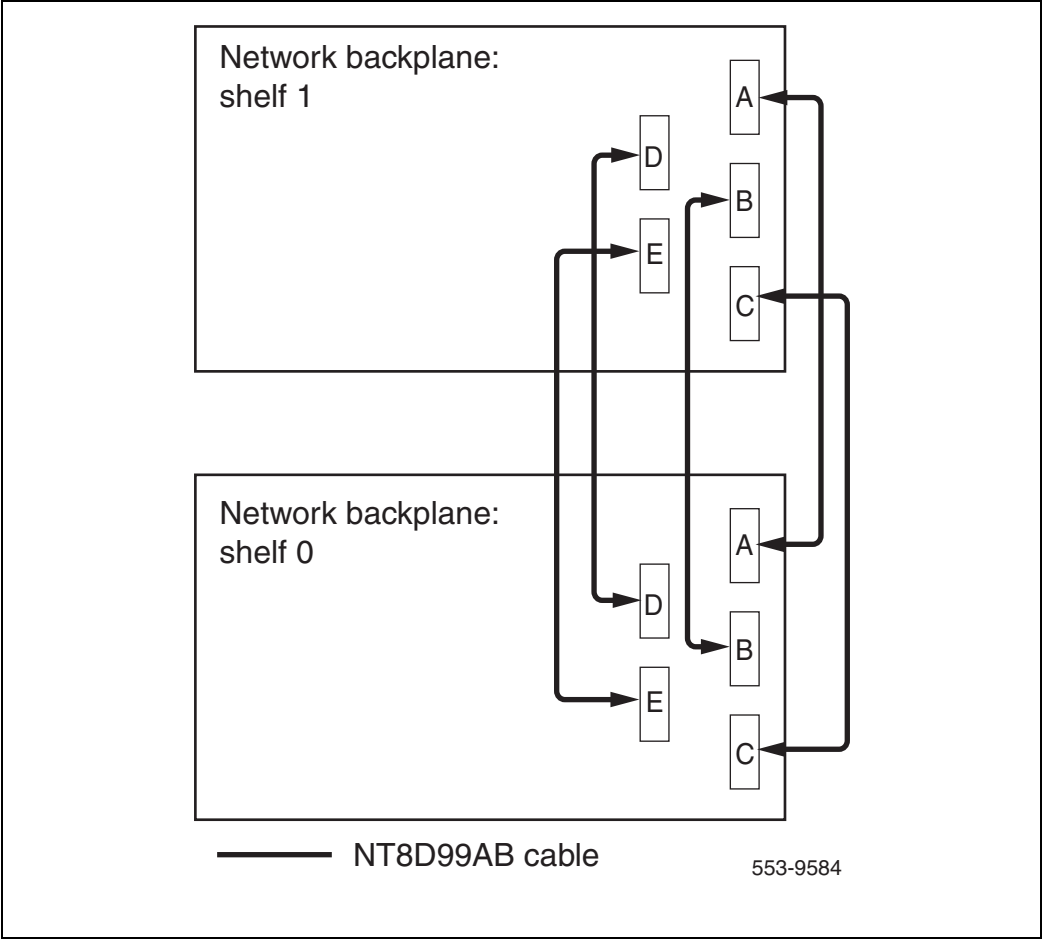
Add CNI cards if necessary

Procedure 43
Adding CNI cards if necessary

1   Faceplate *disable* the CNI card.

2   Place the card in the proper slot location but do not seat the cards.

If additional CNI cards are required, add to each Core Module as required (see Figure 25).

Figure 25
NT4N40 Core/Net card cage

553-9123rev
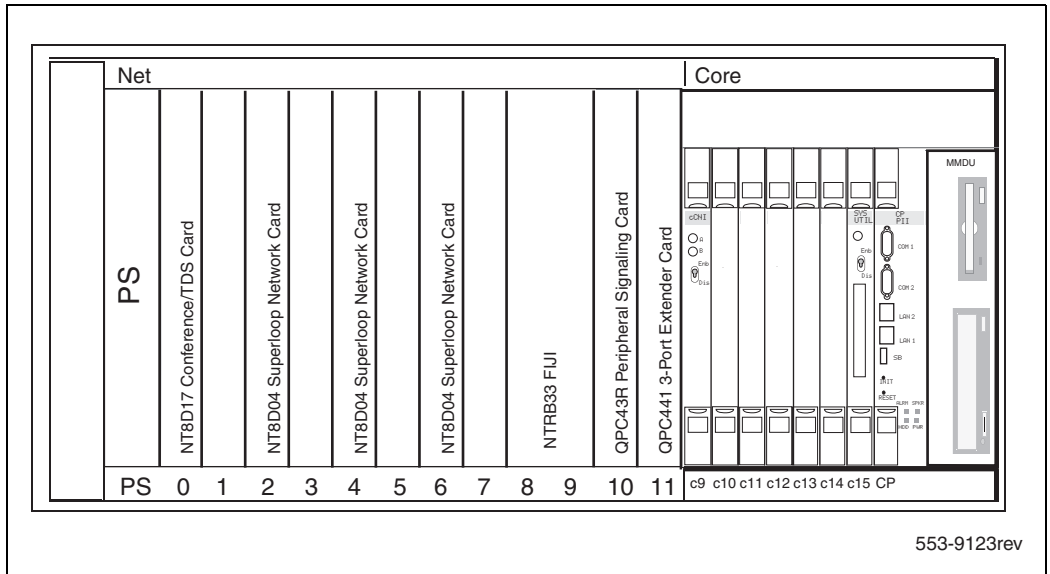
Procedure 44
Connecting the 3PE to CNI cables

The CNI slot and port connections are labeled on the 3PE Fanout Panel. Each
3PE card is connected from J3 and J4 of each 3PE faceplate to the 3PE
Fanout Panel.

> *Note:* See Table 26, Figure 26 on page 180, and Figure 27 on page 181
> for NT4N14 cable connections.

1   Connect the NTND14 cables to J3 and J4 of the 3PE cards.

2   Connect the NTND14 cables to the Fanout Panel in the Core/Net.

Table 26
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 21 on page 134.

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the
faceplate of the 3PE cards of Group 1. See Figure 21 on page 134.

> **IMPORTANT!**
>
> When configuring the NTND14 cables, observe the following rules:
>
> • Always use the shortest NTND14 cable.
>
> • A network group requires four NTND14 cables, two to each half group. Both cables to each half group must be the same length.
>
> • Check the existing NTND14 cables. Replace any cables that do not meet the above requirement.
>
> *Note:* The NTND14 BX 50 ft. cables are manufacture discontinued.

———— **End of Procedure** ————

Figure 26
3PE faceplate to 3PE Fanout Panel connection

553-9492
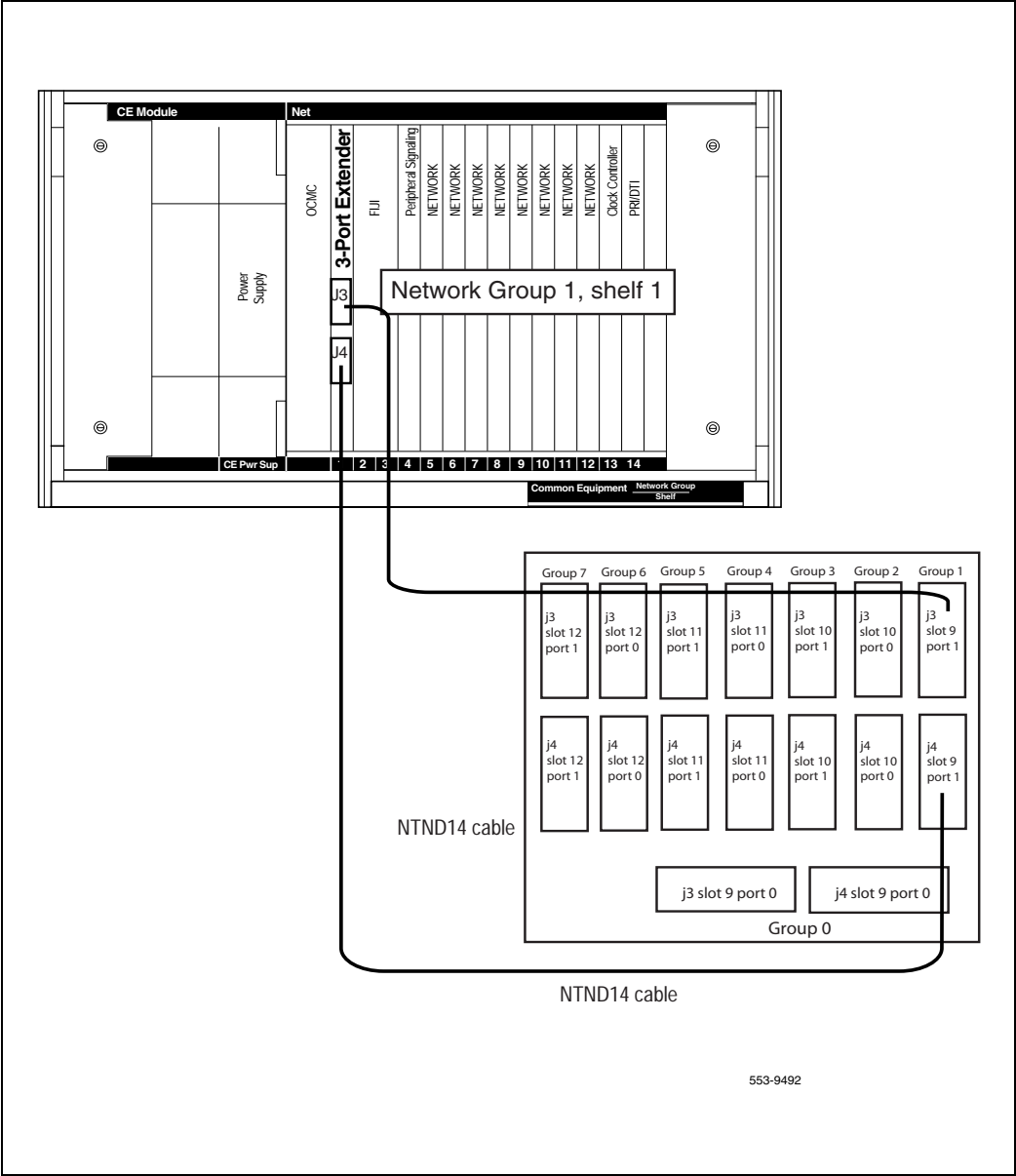
Figure 27
3PE Fanout Panel (Core/Net module)
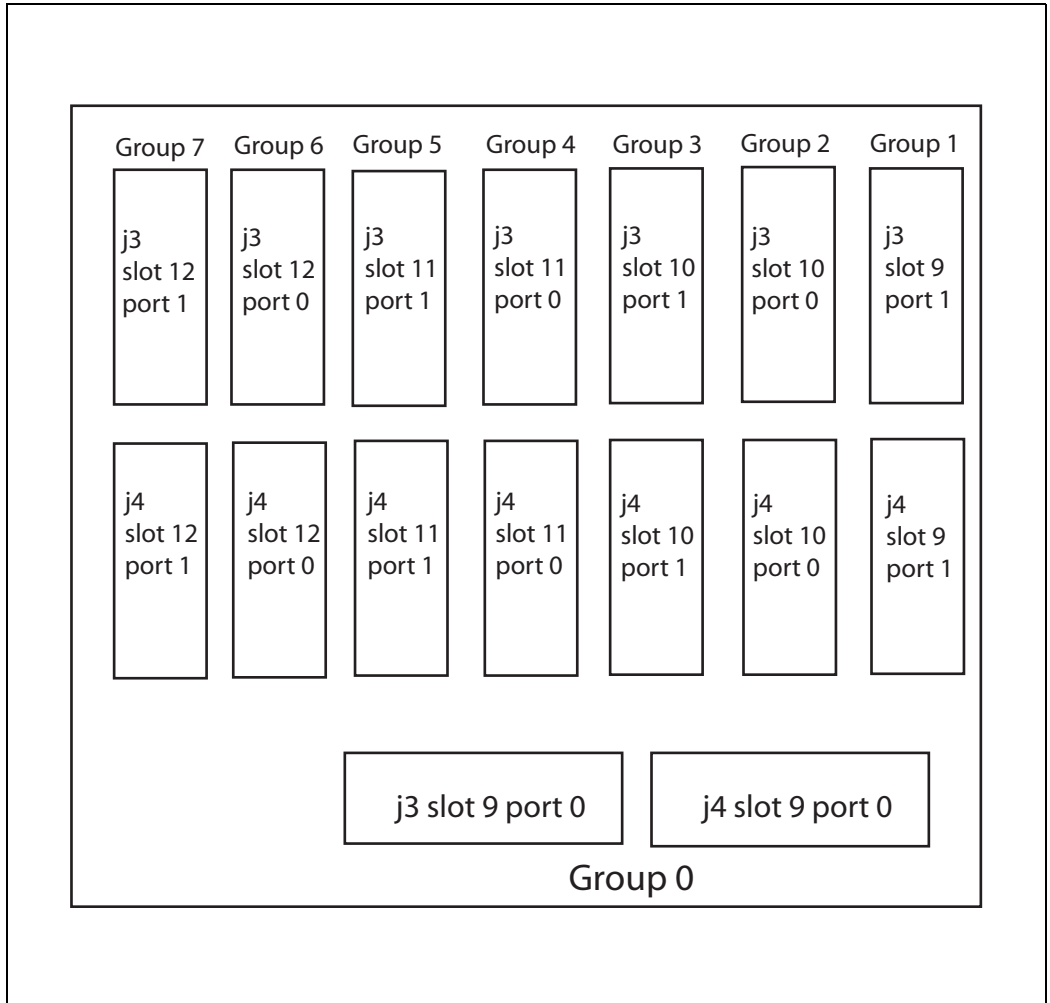
Group 7	Group 6	Group 5	Group 4	Group 3	Group 2	Group 1
j3 slot 12 port 1	j3 slot 12 port 0	j3 slot 11 port 1	j3 slot 11 port 0	j3 slot 10 port 1	j3 slot 10 port 0	j3 slot 9 port 1
j4 slot 12 port 1	j4 slot 12 port 0	j4 slot 11 port 1	j4 slot 11 port 0	j4 slot 10 port 1	j4 slot 10 port 0	j4 slot 9 port 1

j3 slot 9 port 0   j4 slot 9 port 0

Group 0

Install cards in the network modules

Network cards must be installed in the added Network modules as described below. Each card must be installed and enabled or disabled as indicated.

Procedure 45
Installing and enabling the QPC441 3PE cards

1   Verify the QPC 441F 3PE card settings.

 Switch settings on the 3PE card determine the group and shelf number of each Network module. Use the information in Table 27 on to verify that the 3PE cards in the added Network modules have the correct switch and jumper settings.

 The FIJI card displays group and shelf setting.

2   Install a QPC 441F 3PE card in slot 1 of each added Network module.

3 Faceplate disable the QPC 441F 3PE cards and seat them in the proper network shelf location.

Table 27
3PE card settings for the NT8D35 Module

Jumper Settings								
Set Jumper RN27 at E35 to "A".								
Switch Settings								
D20 switch position:		**1**	**2**	**3**	**4**			
81, 81C (Note)		off	on	on	on			
Shelf	Group	**D20 switch position:**				**5**	**6**	**7**	**8**
0 (3PE cards connected to the a CNI in Core or Core/Net 0)	0					on	on	on	on
	1					on	on	off	on
	2					on	off	on	on
	3					on	off	off	on
	4					off	on	on	on
	5					off	on	off	on
	6					off	off	on	on
	7					off	off	off	on
1 (3PE cards connected to the a CNI in Core or Core/Net 1)	0					on	on	on	off
	1					on	on	off	off
	2					on	off	on	off
	3					on	off	off	off
	4					off	on	on	off
	5					off	on	off	off
	6					off	off	on	off
	7					off	off	off	off
Note: For option 81C systems, QPC441 vintage F or later must be used in all modules.								

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

Procedure 46
Installing and enabling the Peripheral Signaling (Per Sig) cards

1   Install a QPC43R Per Sig card into slot 4 of each added Network module. Push the latches forward to lock the card in place.

2   Faceplate *enable* the cards.

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

Procedure 47
Disabling and inserting the FIJI cards

1   Faceplate *disable* the NTRB33AC/AD FIJI cards.

2   Insert the NTRB33AC/AD FIJI cards into slots 2 and 3 of each added Network module.

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

Procedure 48
Disabling and inserting the NT8D17 Conf/TDS cards

If the NT8D17 Conf/TDS cards are used in the system, complete the following steps.

1   Faceplate *disable* the NT8D17 Conf/TDS cards.

2   Insert a NT8D17 Conf/TDS card into each added Network module.

Do not plug the card into the backplane.

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

Enable the Network Group

Note: If you are adding more than one Network Group, add one group at a time in software. Follow all the remaining procedures in this chapter to enable one group before enabling another group.

Procedure 49
Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call processing.

1   Verify that Core 0 is active.

     LD 135   Load program.

     STAT CPU   Get the status of the CPUs.

2   If Core 1 is active, make Core 0 active.

     SCPU   Switch to Core 0 (if necessary).

     ****   Exit program.

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

Procedure 50
Checking that Clock Controller 0 is active

1   Check the status of the Clock Controllers.

     LD 60   Load program.

     SSCK 0   Get the status of Clock Controller 0.

     SSCK 1   Get the status of Clock Controller 1.

2   If Clock Controller 1 is active, switch to Clock Controller 0.

     SWCK   Switch to Clock Controller 0 (if necessary).

     DIS CC 1   Disable Clock Controller 1.

     ****   Exit program.

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

Add the CNI cards or ports

Procedure 51
Adding the CNI cards or ports

> *Note:* CNI cards can be enabled and connected on the *inactive* Core only.

1   In LD 135 split the Cores.

LD 135	Load the program.
SPLIT	Split the Cores.
****	Exit the program.

Follow these steps to activate the added CNI ports. Wait until the INI is complete on Core 1.

2   On Core 1 only, define the XCT and extenders to the added group.

> *Note:* See Table 27 on .

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)

<cr>   Continue to the last prompt.

****   Exit the program.

Table 28 specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 28
CNI Network group designations

CNI card slot	CNI card port	3PE Fanout Panel label	Connected to Network group
c9	0	Port 9-0	0
c9	1	Port 9-1	1
c10	0	Port 10-0	2
c10	1	Port 10-1	3
c11	0	Port 11-0	4
c11	1	Port 11-1	5
c12	0	Port 12-0	6
c12	1	Port 12-1	7

3   Perform a data dump.

LD 43   Load the program.

EDD   Invoke the data dump program.

****   Exit the program.

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

Procedure 52
Checking that Ring 0 is active in Core 0

1   Check the status of Ring 0.

   LD 39   Load program.

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

2   Disable Ring auto recovery.

   LD 39   Load program.

   ARCV OFF   Set or reset auto-recovery operation for ring.

3   Swap to Ring 0.

   LD 39   Load program.

   SWRG 0   Swing Traffic to Ring x.

4   Disable Ring 1.

   LD 39   Load program.

   DIS RING 1   Disable all FIJI cards on side 1.

> **WARNING**
>
> Cable Ring 1 to new network shelf only.

---

5   Seat the remaining cards (3PE, PER SIG, XCT, FIJI) in both network
    modules.

   Note: Cards must be faceplate disabled before seating.

6   Faceplate enable all cards in both network modules (3PE, PER SIG, XCT
    and FIJI).

7   Break Ring 1 and cable the added FIJI cards. See Figure 18 on . Ring 1 is descending. Transmit from the lower Group FIJI card to Receive of next higher Group FIJI card. Transmit of the highest Group FIJI card cables to the Receive of Group FIJI card.

8   **In Core 1 only**, seat the new CNI card and faceplate enable.

IMPORTANT!

Power down all applications such as Meridian Mail, CallPilot, and Symposium.

CAUTION

Service Interruption

Call processing is interrupted for approximately 10 minutes while the INI is completed.

---

9   In LD 135 switch Cores.

LD 135   Load the program.

CUTOVR   Switch Cores.

WARNING
All call processing may be interrupted.

IMPORTANT!

Power up all applications such as Meridian Mail, Call Pilot, and Symposium.

✔ Core 1 is active, Clock 0 is active, FIJI ring 1 is full, FIJI ring 0 is none.

⚠ **CAUTION**

Service Interruption

Allow the system to recover from all downloads after the INI completes.

Note 1: 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 does not affect service. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

Note 2: Wait for new ring state change message to appear before proceeding:

```
New State Ring 0 None
          Ring 1 Full
```

10 Switch the clock controllers, if necessary:

LD 60   Load the program.

SSCK n   Get the status of clock n where:
                  n = 0 for clock controller 0
                  1 for clock controller 1

SWCK	Switch system clock from active to standby.
	Note: Make clock controller 1 the active clock.
****	Exit the program.

11 Disable Ring 0:

LD 39	Load the program.
DIS RING 0	Disable Ring 0.
****	Exit the program.

12 Break Ring 0 and cable the added FIJI cards. Ring 0 is ascending. Transmit from the lower Group FIJI card to Receive of next higher Group FIJI card. Transmit of the highest Group FIJI card cables to the Receive of Group FIJI card.

13 In LD 39, enable and stat Ring 0:

LD 39	Load the program.
ENL Ring 0	Enable Ring 0.
Stat Ring 0	Status of Ring x.
****	Exit the program.

The system is in split mode with Core 1 active. Clock 1 active and FIJI half and half.

14 **In Core 0 only,** define the XCT and Extenders to the added group.

Note: See Table 28 on page 187:

LD 17	Load the program.
REQ	CHG
TYPE	CEQU

XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
<cr>	Continue to the last prompt.
****	Exit the program.

15 Data dump the software changes.

LD 43	Load the program.
EDD	Invoke the data dump program.
****	Exit the program.

16 Seat the CNI card in Core 0 and faceplate enable it.

17 In Core 1, Stat the CNIs:

LD 135	Load the program.
STAT CNI	Get the status of CNI card.
	Note: If any CNIs are disabled they must be enabled.
JOIN	Synchronize the memory and drives.
****	Exit the program.

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

Test the Cores

Procedure 53
Testing Core/Net 1

From Core/Net 1, perform these tests.

1 Perform a redundancy sanity test.

LD 135	Load the program.
STAT CPU	Get the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	

3   Test the System Utility cards and the CNI cards.

LD 135   Load the program.

STAT CNI c s   Get the status of CNI cards (core, slot).

TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

LD 137   Load the 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 the program.

ENL TTY x   Enable the XMS, where x = system XMS.

STAT XSM   Check the system monitors.

****   Exit the program.

6   Clear the display and minor alarms on both Cores.

LD 135   Load the program.

CDSP   Clear the displays on the cores.

CMAJ   Clear major alarms.

CMIN ALL   Clear minor alarms.

7   Test the clocks.

    a.   Verify that the clock controller is assigned to the *active* Core:

LD 60	Load the program.
SSCK *x*	Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.
SWCK	Switch the Clock if necessary.

    b.   Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8   Test the Fiber Rings.

See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

    a.   Check that the Fiber Rings operate correctly.

LD 39	Load the 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, Symposium, and Meridian Mail.

11 Check for dial tone.

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

Procedure 54
Switching call processing

> **LD 135**   Load the 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.

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

Procedure 55
Testing Core/Net 0

From Core/Net 0, perform these tests.

1 Perform a redundancy sanity test.

> **LD 135**   Load the program.
>
> **STAT CPU**   Get the 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 the program.
>
> **TEST LCDs**   Test LCDs.
>
> **DSPL ALL**   Display all.

3   Test the System Utility cards and the CNI cards.

    LD 135   Load the program.

    STAT CNI c s   Get the status of CNI cards (core, slot).

    TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

    LD 137   Load the program.

    TEST RDUN   Test redundancy.

    DATA RDUN

    TEST CMDU   Test the MMDU card.

5   Test that the system monitors are working.

    LD 37   Load the program.

    STAT XSM   Check the system monitors.

    ****   Exit the program.

6   Clear the display and minor alarms on both Cores.

    LD 135

    CDSP   Clear the displays on the cores.

    CMAJ   Clear major alarms.

    CMIN ALL   Clear minor alarms.

7 Test the clocks.

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

      LD 60   Load the program.

      SSCK *x*   Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.

      SWCK   Switch the Clock if necessary.

    b. Verify that the Clock Controllers are switching correctly.

      SWCK   Switch the Clock.

      SWCK   Switch the Clock again.

8 Test the Fiber Rings.

    Note: See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

    a. Check that the Fiber Rings operate correctly.

      LD 39   Load the 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 for dial tone.

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

Post-conversion steps must now be performed. See the "Post-conversion procedure" on page 270.

Add a Core Network Group to Option 81C/IGS CP PII

Introduction

Complete the following procedures to add a Network Group to the Core/Net module of a Meridian 1 Option 81C/IGS equipped with an NT4N40 Core/Net shelf.

The NT4N40 Core/Net shelf is factory configured with Network group 0 in the Core. Upgrades from Meridian Option 71 or Meridian Option 81 to Meridian Option 81C CP PII do not require Group 0 to be moved to the Core.

The Meridian 1 Option 81C CP PII CNI port-to-group number cannot be changed in software configuration. The NT4N29 cables must be connected to the proper group.

> **IMPORTANT!**
>
> When configuring NTND14 cables, observe the following rules:
>
> • Always use the shortest NTND14 cable.
>
> • A network group requires four NTND14 cables, two to each half group. Both cables to each half group must be the same length.
>
> • Check the existing NTND14 cables. Replace any cables that do not meet the above requirement.
>
> ***Note:*** The NTND14 BX 50 ft. cables are manufacture discontinued.

Prepare for upgrade

Introduction

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

Each chapter features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section is written to maintain dial tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should complete the steps in Table 29.

Table 29
Prepare for upgrade steps

Step	Page
Plan the upgrade	201
Upgrade checklists	202
Prepare	202
Identifying the proper procedure	203
Connect a terminal	203
Print site data	204
Perform a template audit	207

Plan the upgrade

Planning for an upgrade includes the following details:

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure Sufficient power for new columns/modules or applications.

- Identify all applications such as CallPilot, SCCS, IP, or Meridian Mail that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Prepare a contingency plan if you abort the upgrade.

DANGER OF ELECTRIC SHOCK

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of the *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258). Engineers can print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform. See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Verify that the current patch or Dep lists are installed at the source platform.

- Determine and communicate the required maintenance window, contingency plan, and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and keycode.

- Print site data.

Identifying the proper procedure

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

IMPORTANT!

Preserve database backup information for a minimum of five days.

Connect a terminal

Procedure 56
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/0 panel in the *inactive* Core or Core/Net module.

The settings for the terminal are:

a.   9600 Baud

b.   8 data

c.   parity none

d.   1 stop bit

e.   full duplex

f.   XOFF

2 If only one terminal is used for both Core or Core/Net modules, connect the terminal from side to side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

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

Print site data

Print site data to preserve a record of the system configuration (see Table 30). 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 30
Print site data (Part 1 of 3)

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

Table 30
Print site data (Part 2 of 3)

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

Table 30
Print site data (Part 3 of 3)

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

Perform a template audit

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

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

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> Do not abort this LD until the audit is complete. If the LD is interrupted, data will be corrupted.

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

-
-

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

Procedure 57
Performing a data dump

1   On the Meridian 1 Option 81C, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43 from the source (current) media. At the prompt, enter:

   LD 43   Load the program.

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

   EDD   Begin the data dump.

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

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

   ****   Exit the program.

> **IMPORTANT!**
>
> Preserve database backup information for a minimum of five days.

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

Perform the upgrade

Introduction

	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.

Complete the procedure in this section to add a Core Network Group to the Meridian 1 Option 81C/IGS (NT4N40).

Figure 28
CP PII NT4N40 Core/Net shelf

Review upgrade requirements

This section describes the *minimum* equipment required for CP PII with IGS. 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** **Service Interruption** Do not proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

Check vintage requirements for existing hardware

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 QPC43 Peripheral Signaling cards must be minimum vintage R.

- NT4N65AC CNI card.

If equipment does not meet the requirements, replace it before you begin the upgrade.

⚠	**CAUTION — Service Interruption** **Service Interruption** Equipment that does not meet the minimum vintage requirements can cause system malfunctions and loss of call processing.

Check required hardware

Table 31 describes the *minimum* equipment required to add a Network Group to Meridian 1 Option 81C/IGS CP PII (NT4N40). Additional equipment for increased Network capacity must be ordered separately.

Table 31
Minimum equipment required to add a Core Network Group to an Option 81C/IGS equipped with an NT4N40 shelf

Order Number	Description	Quantity per system
NT8D80BZ	Cable, CPU Interface, 5 ft.	2
NT8D99AD	Cable, Network to Network, 6 ft.	2
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	Pack, Conference, Tone and Digit Switch (CT)	2
NT5D30AA	Dual IGS	2
NT8D76	IGS to IGM Cable 6'	4
NT4N64AC	CNI card	(see Note)
Note: The quantity of CNI cards required is dependent on the system configuration.		

Tools

Table 32 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 32
List of recommended tools

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

Add CNI cards if necessary

If additional CNI cards are required, add to each Core Module as required (see Figure 29 on).

Figure 29
NT4N40 Core/Net card cage

553-9123rev

Procedure 58
Connecting the 3PE to CNI cables

The CNI slot and port connections are labeled on the 3PE Fanout Panel. Each 3PE card is connected from J3 and J4 of each 3PE faceplate to the 3PE cables to the appropriate group. For connector replacement see Table 33 on page 215 and Figure 30 on .

Note: If Network Group 0 will not be in the Core/Net module, reconfiguring of the processor module is required. 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.

1   Connect the NT4N29 cables to A and B of the Core/Net backplane.

2   Connect the NT4N29 cables to the Fanout Panel of the Core/Net.

Table 33
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 21 on page 134).

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 21 on page 134).

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

Figure 30
3PE Fanout Panel (Core/Net module)
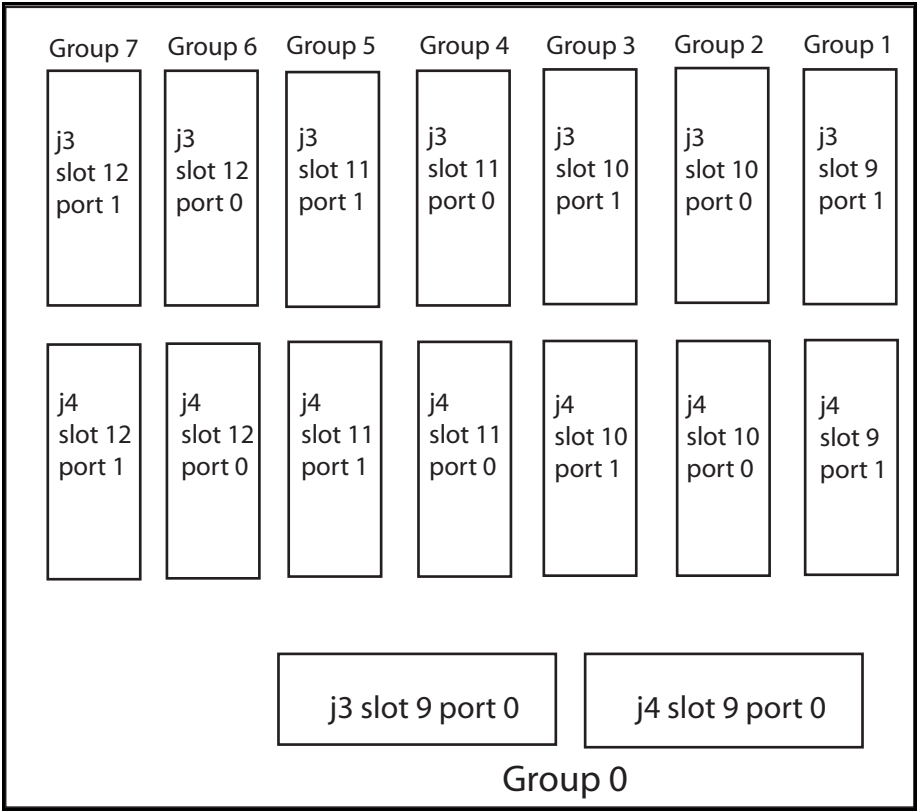
Group 7	Group 6	Group 5	Group 4	Group 3	Group 2	Group 1
j3 slot 12 port 1	j3 slot 12 port 0	j3 slot 11 port 1	j3 slot 11 port 0	j3 slot 10 port 1	j3 slot 10 port 0	j3 slot 9 port 1
j4 slot 12 port 1	j4 slot 12 port 0	j4 slot 11 port 1	j4 slot 11 port 0	j4 slot 10 port 1	j4 slot 10 port 0	j4 slot 9 port 1

j3 slot 9 port 0   j4 slot 9 port 0

Group 0

Install cards in the network modules

Network cards must be installed in the added Network modules as described below. Each card must be installed and enabled or disabled as indicated.

Procedure 59
Installing and enable the QPC441 3PE cards

1   Verify the QPC 441F 3PE card settings.

Switch settings on the 3PE card determine the group and shelf number of each Network module. Use the information in Table 34 on page 218 to verify that the 3PE cards in the added Network modules have the correct switch and jumper settings.

The FIJI card displays group and shelf setting.

2   Install a QPC 441F 3PE card in slot 1 of each added Network module. Do not seat the cards yet.

3   Attach the NT8D80BZ cables to the QPC 441F 3PE faceplates.

   a.   Connect 1 NT8D80BZ cable from QPC441F J3 of Core/Net 0 to QPC441F J3 of Core/Net 1.

   b.   Connect 1 NT8D80BZ cable from QPC441F J4 of Core/Net 0 to QPC 441F J4 of Core/Net 1.

Table 34
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 60
Installing and enabling the Peripheral Signaling (Per Sig) cards

1   Install a QPC43R Per Sig card into slot 4 of each added Network module. Push the latches forward to lock the card in place.

2   Faceplate *enable* the cards.

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

Procedure 61
Disabling and inserting the NT8D17 Conf/TDS cards

If the NT8D17 Conf/TDS cards are used in the system, complete the following steps.

1   Faceplate *disable* the NT8D17 Conf/TDS cards.

2   Insert a NT8D17 Conf/TDS card into each added Network module.

3   Seat and Faceplate Enable cards.

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

Enable the Network Group

Note: If you are adding more than one Network Group, add one group at a time in software. Follow all the remaining procedures in this chapter to enable one group before enabling another group.

Procedure 62
Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call processing.

1   Verify that Core 0 is active:

LD 135   Load program.

STAT CPU   Get the status of the CPUs.

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

SCPU   Switch to Core 0 (if necessary).

****   Exit program.

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

Procedure 63
Checking that Clock Controller 0 is active

1   Check the status of the Clock Controllers.

LD 60   Load program.

SSCK 0   Get the status of Clock Controller 0.

SSCK 1   Get the status of Clock Controller 1.

2   If Clock Controller 1 is active, switch to Clock Controller 0.

SWCK   Switch to Clock Controller 0 (if necessary).

DIS CC 1   Disable Clock Controller 1.

****   Exit program.

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

Add the CNI cards or ports

Procedure 64
Adding the CNI cards or ports

> *Note:* CNI cards can be enabled and connected on the *inactive* Core only.

1   In LD 135 split the Cores.

LD 135	Load the program.
SPLIT	Split the Cores.
****	Exit the program.

Follow these steps to activate the added CNI ports. Wait until the INI is complete on Core 1.

2   On Core 1 only, define the XCT and extenders to the added group.

> *Note:* See Table 34 on .

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)

<cr>	Continue to the last prompt.	
****	Exit the program.	

3   Perform a data dump.

LD 43	Load the program.
EDD	Invoke the data dump program.
****	Exit the program.

Table 35 specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 35
CNI Network group designations

CNI card slot	CNI card port	3PE Fanout Panel label	Connected to Network group
c9	0	Port 9-0	0
c9	1	Port 9-1	1
c10	0	Port 10-0	2
c10	1	Port 10-1	3
c11	0	Port 11-0	4
c11	1	Port 11-1	5
c12	0	Port 12-0	6
c12	1	Port 12-1	7

———— **End of Procedure** ————

Procedure 65
Seating the remaining cards

1 Seat the remaining cards (3PE, PER SIG, XCT, DIGS) in both network
modules. See Table 36 on page 223 and Figure 31 on page 224.

Note: Cards must be faceplate *disabled* before seating.

2 Faceplate *enable* all cards in both network modules (3PE, PER SIG, XCT
and DIGS).

3 Cable the added NT5D30 DIGS cards.

Table 36
IGS to InterGroup cable assignment — use NT8D76 cables (Part 1 of 2)

From				To
Network Group	Network Shelf	Slot	IGS Connector J1	InterGroup Connector
0	0 (Core/Net 0)	8	0	J1
0	0 (Core/Net 0)	9	1	J6
0	1 (Core/Net 1)	9	1	J17
0	1 (Core/Net 1)	8	0	J22
1	0	3	0	J2
1	0	2	1	J7
1	1	2	1	J16
1	1	3	0	J21
2	0	3	0	J3
2	0	2	1	J8
2	1	2	1	J15
2	1	3	0	J20
3	0	3	0	J4
3	0	2	1	J9
3	1	2	1	J14
3	1	3	0	J19

Table 36
IGS to InterGroup cable assignment — use NT8D76 cables (Part 2 of 2)

From				To
Network Group	Network Shelf	Slot	IGS Connector J1	InterGroup Connector
4	0	3	0	J5
4	0	2	1	J10
4	1	2	1	J13
4	1	3	0	J18

Note: The NT5D30 DIGS card is located in slot 9 of the Core/Net and slot 2 of the NT8D35 Network shelf.

Figure 31
NT8D36 Inter-group module connections for IGS cards

4   **In Core 1 only**, seat the new CNI card and faceplate enable.

IMPORTANT!

Power down all applications such as Meridian Mail, CallPilot, and Symposium.

> **CAUTION**
>
> **Service Interruption**
>
> Call processing is interrupted for approximately 10 minutes while the INI is completed.

5 In LD 135 switch Cores.

LD 135	Load the program.
CUTOVR	Switch Cores.

> **WARNING**
> All call processing may be interrupted.

> **IMPORTANT!**
>
> Power up all applications such as Meridian Mail, Call Pilot, and Symposium.

> ✔ Core 1 is active, Clock 0 is active.

6 Switch the clock controllers, if necessary.

LD 60	Load the program.
SSCK n	Get status of clock n where: n = 0 for clock controller 0 1 for clock controller 1

SWCK	Switch system clock from active to standby.
	Note: Make clock controller 1 the active clock.
****	Exit the program.

The system is in split mode with Core 1 active. Clock 1 is active.

7   **In Core 0 only,** define the XCT and extenders to the added group.

Note: See Table 35 on .

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
\<cr\>	Continue to the last prompt.
****	Exit the program.

8 Data dump the software changes:

LD 43	Load the program.
EDD	Invoke the data dump program.
****	Exit the program.

9 Seat the CNI card in Core 0 and faceplate enable it.

10 In Core 1, Stat the CNIs.

LD 135	Load the program.
STAT CNI	Get status of CNI card.
	Note: If any CNIs are disabled they must be enabled.
JOIN	Synchronize the memory and drives.
****	Exit the program.

——————— **End of Procedure** ———————

Test the Cores

Procedure 66
Testing Core/Net 1

From Core/Net 1, perform these tests.

1   Perform a redundancy sanity test:

   LD 135   Load the 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 the program.

   TEST LCDs   Test LCDs.

   DSPL ALL

3   Test the System Utility cards and the CNI cards.

   LD 135   Load the program.

   STAT CNI c s   Get status of CNI cards (core, slot).

   TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

   LD 137   Load the 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 the program.
>
> **ENL TTY x**   Enable the XMS, where x = system XMS.
>
> **STAT XSM**   Check the system monitors.
>
> ********   Exit the program.

6   Clear the display and minor alarms on both Cores.

> **LD 135**   Load the program.
>
> **CDSP**   Clear the displays on the cores.
>
> **CMAJ**   Clear major alarms.
>
> **CMIN ALL**   Clear minor alarms.

7   Test the clocks.

> a.   Verify that the clock controller is assigned to the *active* Core.
>
> **LD 60**   Load the program.
>
> **SSCK x**   Get the status of the clock controllers (*x* is "0" or
>   "1" for Clock 0 or Clock 1.
>
> **SWCK**   Switch the Clock if necessary.
>
> b.   Verify that the Clock Controllers are switching correctly.
>
> **SWCK**   Switch the Clock.
>
> **SWCK**   Switch the Clock again.

8   Check the IGS status.

> **LD 39**   Load the program.
>
> **STAT IGS X**   Check the status of IGS (X = IGS/DIGS card
>   number.) See Table 37.
>
> ********   Exit program.

Table 37
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
0	0	IGS/DIGS 0 & 2
1	0	IGS/DIGS 4 & 6
2	0	IGS/DIGS 8 & 10
3	0	IGS/DIGS 12 & 14
4	0	IGS/DIGS 16 & 18
0	1	IGS/DIGS 1 & 3
1	1	IGS/DIGS 5& 7
2	1	IGS/DIGS 9 & 11
3	1	IGS/DIGS 13 & 15
4	1	IGS/DIGS 17 & 19

Note: The DIGS card should be located in slot 9 of the Core/Net shelf and slot 2 of the NT8D35 network shelf.

9   Check applications such as CallPilot, Symposium, and Meridian Mail.

10   Check for dial tone.

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

Switch call processing

Procedure 67
Switching call processing

LD 135   Load the 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 68
Testing Core/Net 0

From Core/Net 0, perform these tests.

1   Perform a redundancy sanity test.

> **LD 135**   Load the 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 the program.
>
> **TEST LCDs**   Test LCDs.
>
> **DSPL ALL**   Display all.

3   Test the System Utility cards and the CNI cards.

> **LD 135**   Load the program.
>
> **STAT CNI c s** Get status of CNI cards (core, slot).
>
> **TEST CNI c s** Test CNI (core, slot).

4   Test system redundancy.

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

5   Test that the system monitors are working.

> **LD 37**   Load the program.

      STAT XSM   Check the system monitors.

      ****   Exit the program.

6   Clear the display and minor alarms on both Cores.

      LD 135

      CDSP   Clear the displays on the cores.

      CMAJ   Clear major alarms.

      CMIN ALL   Clear minor alarms.

7   Test the clocks.

    a.   Verify that the clock controller is assigned to the *active* Core:

      LD 60   Load the program.

      SSCK *x*   Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.

      SWCK   Switch the Clock if necessary.

    b.   Verify that the Clock Controllers are switching correctly.

      SWCK   Switch the Clock.

      SWCK   Switch the Clock again.

8   Check the IGS status.

      LD 39   Load the program.

      STAT IGS X   Check the status of IGS (X = IGS/DIGS card number. See Table 38).

      ****   Exit program.

Table 38
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
0	0	IGS/DIGS 0 & 2
1	0	IGS/DIGS 4 & 6
2	0	IGS/DIGS 8 & 10
3	0	IGS/DIGS 12 & 14
4	0	IGS/DIGS 16 & 18
0	1	IGS/DIGS 1 & 3
1	1	IGS/DIGS 5& 7
2	1	IGS/DIGS 9 & 11
3	1	IGS/DIGS 13 & 15
4	1	IGS/DIGS 17 & 19

Note: The DIGS card should be located in slot 9 of the Core/Net shelf and slot 2 of the NT8D35 network shelf.

9   Check applications such as CallPilot and Symposium.

10   Check for dial tone.

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

Post-conversion steps must now be performed. See the "Post-conversion procedure" on .

Add an NT8D35 Network Group to Option 81C/IGS CP PII

Prepare for upgrade

Introduction

Complete this procedures to add an NT8D35 Network group to an Option 81C/IGS CP PII system equipped with an NT4N40 Core/Net shelf.

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

Each chapter features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action. Each section is written to maintain dial tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel must complete the steps in Table 39.

Table 39
Prepare for upgrade steps

Step	Page
Plan the upgrade	235
Upgrade checklists	235
Prepare	235
Identifying the proper procedure	236
Connect a terminal	237
Print site data	237
Perform a template audit	240
Back up the database (data dump)	243

Plan the upgrade

Planning for an upgrade includes the following details:

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure Sufficient power for new columns/modules or applications.

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Prepare a contingency plan if you abort the upgrade.

DANGER OF ELECTRIC SHOCK

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of the *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform. See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Verify that the current patch or Dep lists are installed at the source platform.

- Verify that the required patch or Dep lists are installed at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and keycode.

- 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.

<table>
<tr><td>⚠️</td><td>IMPORTANT!
Preserve database backup information for a minimum of five days.</td></tr>
</table>

Connect a terminal

Procedure 69
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/0 panel in the *inactive* Core or Core/Net module.

The settings for the terminal are:

a.   9600 Baud

b.   8 data

c.   parity none

d.   1 stop bit

e.   full duplex

f.   XOFF

2   If only one terminal is used for both Core or Core/Net modules, connect the terminal from side to side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

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

Print site data

Print site data to preserve a record of the system configuration (see Table 40 on). Verify that all information is correct. Make corrections as necessary.

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

Table 40
Print site data (Part 1 of 3)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN

Table 40
Print site data (Part 2 of 3)

Site data	Print command	
*Software packages	LD 22	
	REQ TYPE	PRT PKG
*Software issue and tape ID	LD 22	
	REQ REQ	ISS TID
* Peripheral software versions	LD 22	
	REQ TYPE	PRT PSWV
ACD data block for all customers	LD 23	
	REQ TYPE CUST ACDN	PRT ACD Customer Number ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ TYPE LOOP APPL PH	PRT MISP loop number (0-158) <cr> <cr>
DTI/PRI data block for all customers	LD 73	
	REQ TYPE	PRT DDB

Table 40
Print site data (Part 3 of 3)

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

Perform a template audit

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

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

	CAUTION — Service Interruption
⚠	**Loss of Data**
	Do not abort this LD until the audit is complete. If the LD is interrupted, data will be corrupted.

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

Procedure 70
Performing a data dump

1   On the Meridian 1 Option 81C, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43 from the source (current) media. At the prompt, enter:

 LD 43   Load the program.

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

 EDD   Begin the data dump.

CAUTION — Service Interruption

Loss of Data

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

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

 ****   Exit the program.

IMPORTANT!

Preserve database backup information for a minimum of five days.

Perform the upgrade

Introduction

> ⚡ **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.

Complete the procedure in this section to add an NT8D35 Network Group to the Meridian 1 Option 81C/IGS (NT4N40).

Figure 32
CP PII NT4N40 Core/Net shelf

Review upgrade requirements

This section describes the *minimum* equipment required for CP PII.
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**
>
> **Service Interruption**
>
> Do not proceed with the upgrade if any of the required
> equipment is missing. All equipment must be received to
> complete the upgrade.

Check vintage requirements for existing hardware

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 QPC43 Peripheral Signaling cards must be minimum vintage R.

- The NT4N65AC CNI card.

If equipment does not meet the requirements, replace it before you begin the
upgrade.

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> Equipment that does not meet the minimum vintage
> requirements can cause system malfunctions and loss of
> call processing.

Check required hardware

Table 41 describes the *minimum* equipment required to add an NT8D35 Network Group to a Meridian 1 Option 81C/IGS (NT4N40). Table 41 and Table 42 on page 247 and Table 43 on page 247 list the DC and AC power equipment requirements. Additional equipment for increased Network capacity must be ordered separately.

Table 41
Minimum equipment required to add an NT8D35 Network Group to an Option 81C/IGS equipped with an NT4N40 shelf

Order Number	Description	Quantity per system
NT8D99AB	Cable, Network to Network, 2 ft.	5
NT8D35	Network Module AC/DC	2
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	XCT/CONF/TDS/MFS	2
NT8D76	Intergroup Switch to Intergroup Module cables	4
NT4N65AC	CNI cards	(see Note)
NTND14	3PE CNI cables	4
NT5D30	Dual IGS card	2
Note: The quantity of CNI cards required is dependent on the system configuration.		

Check required power equipment

Table 42
DC power requirements for Meridian 1 Option 81C CP PII/IGS upgrades

Order number	Description	Quantity per system
NT6D41	Common Equipment	2

Table 43
AC power requirements for Meridian 1 Option 81C CP PII/IGS upgrades

Order number	Description	Quantity per system
NT8D29	Common Equipment	2

Tools

Table 44 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 44
List of recommended tools

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

Check personnel requirements

Nortel recommends that a minimum of two people perform the upgrade.

Procedure 71
Interconnecting the network modules

The back of each network module backplane has five connectors: A, B, C, D and E. See Figure 33 on . The shelf 0 connectors in Network groups 1 through 7 must be connected to the shelf 1 connectors of the Network groups 1 through 7. For example, for Network group 1, the shelf 0 connector must be connected to the shelf 1 connector.k group.

1   Connect an NT8D99AB cable from the A connector in shelf 0 of Network group 1 to the A connector in shelf 1 Network group 1.

2   Connect the B connector in shelf 0 to the B connector in shelf 1.

3   Connect the C connector in shelf 0 to the C connector in shelf 1.

4   Connect the D connector in shelf 0 to the D connector in shelf 1.

5   Connect the E connector in shelf 0 to the E connector in shelf 1.

6   Connect the A, B, C, D, and E connectors between shelf 0 and shelf 1 for all other Network groups in the system (except group 0).

   Note: All connections are made with an NT8D99AB cable.

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

Figure 33
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)
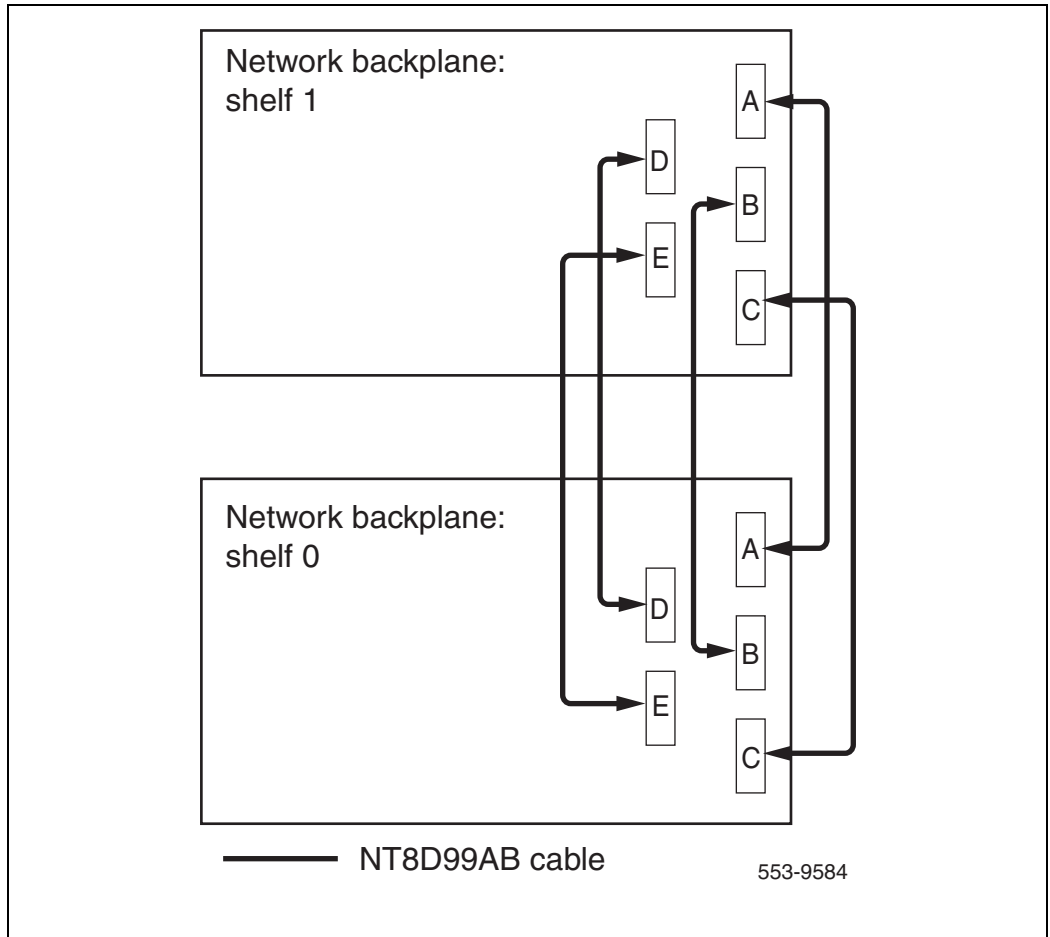
Connect the network to the Core/Net module

Add CNI cards if necessary

If additional CNI cards are required, see Figure 34 on page 250, add to each
Core Module as required.

Figure 34
Core/Net card cage

553-9123rev
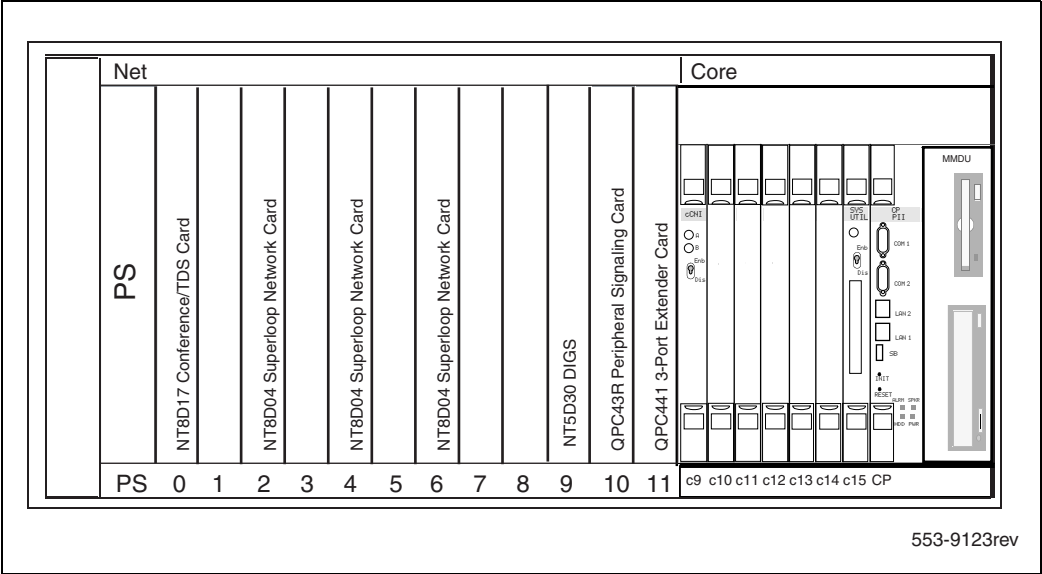
Procedure 72
Connecting the 3PE to CNI cables

The CNI slot and port connections are labeled on the 3PE Fanout Panel. Each 3PE card is connected from J3 and J4 of each 3PE faceplate to the 3PE Fanout Panel.

1 Connect the NTND14 cables to J3 and J4 of the 3PE cards.

2 Connect the new NTND14 cables to the Fanout Panel in the Core/Net.

——————— **End of Procedure** ———————

Table 45
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 21 on .

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1. See Figure 21 on .

Figure 35
Example of 3PE faceplate to 3PE Fanout Panel connection

553-9492rev
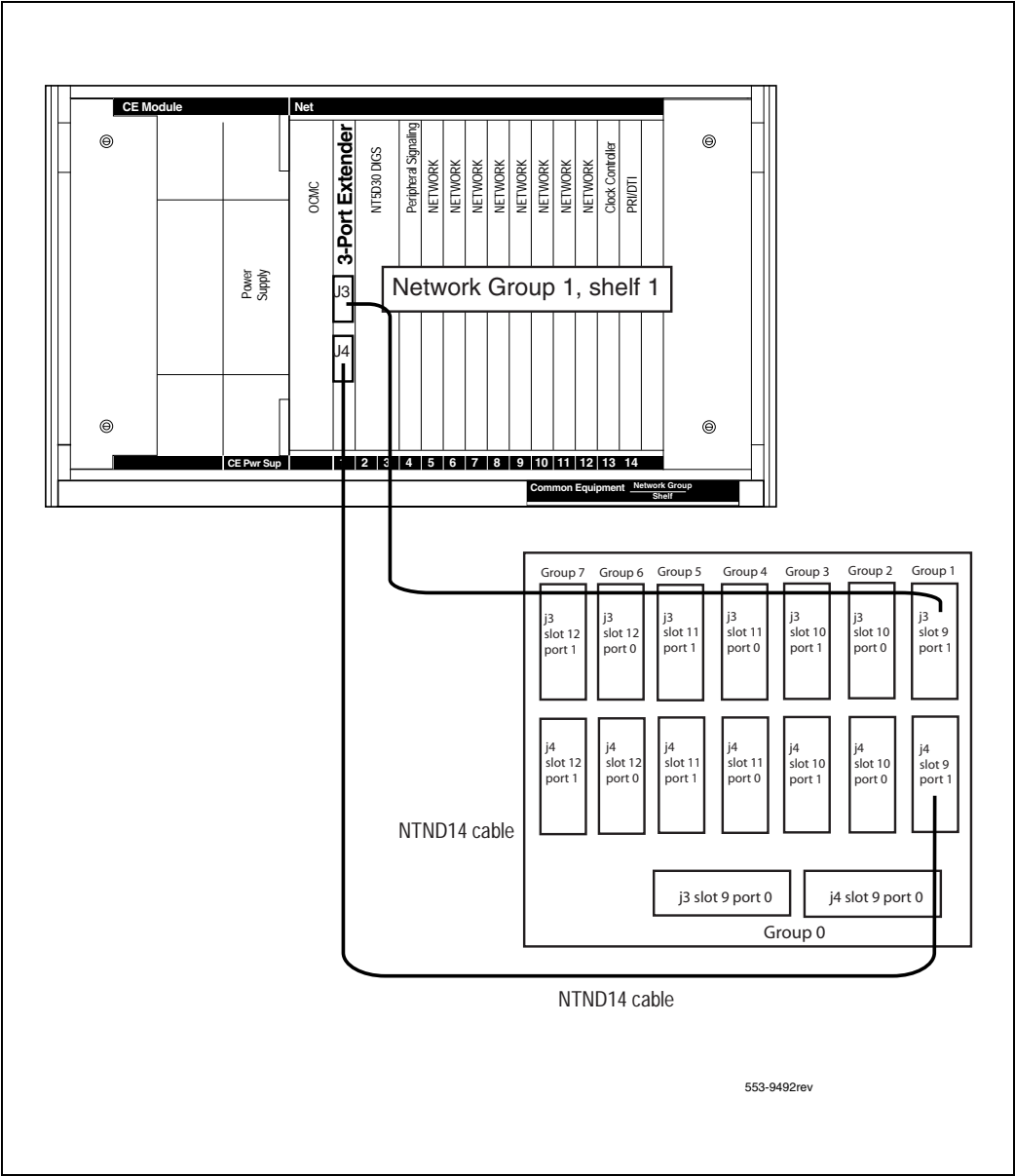
Figure 36
3PE Fanout Panel (Core/Net module)
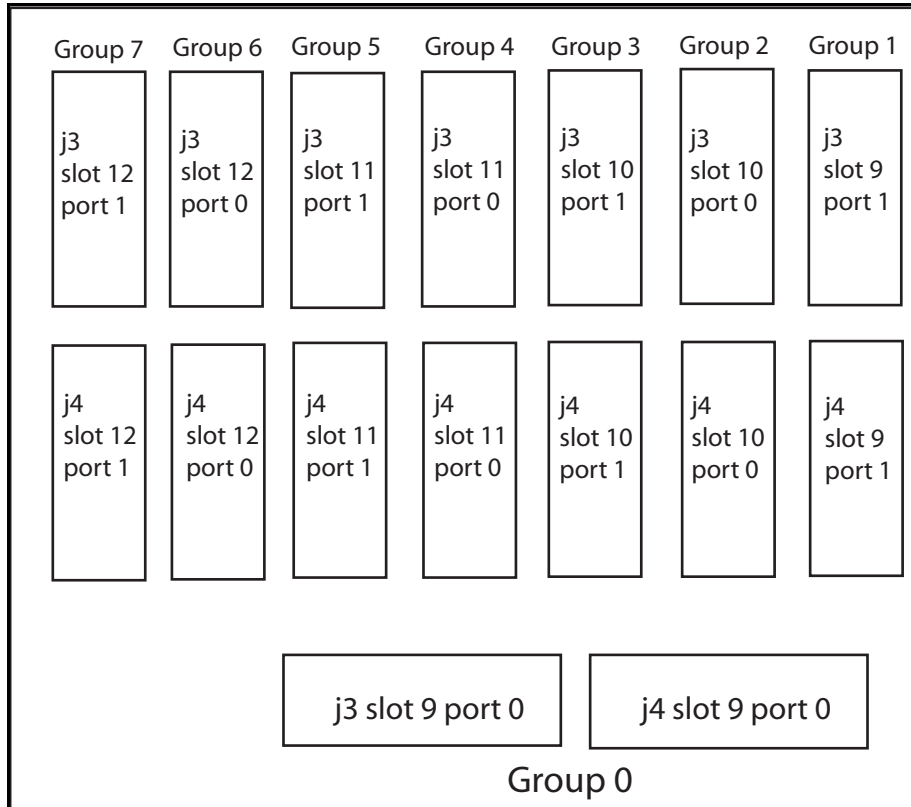
Group 7	Group 6	Group 5	Group 4	Group 3	Group 2	Group 1
j3 slot 12 port 1	j3 slot 12 port 0	j3 slot 11 port 1	j3 slot 11 port 0	j3 slot 10 port 1	j3 slot 10 port 0	j3 slot 9 port 1
j4 slot 12 port 1	j4 slot 12 port 0	j4 slot 11 port 1	j4 slot 11 port 0	j4 slot 10 port 1	j4 slot 10 port 0	j4 slot 9 port 1

j3 slot 9 port 0   j4 slot 9 port 0

Group 0

Install cards in the network modules

Network cards must be installed in the added Network modules as described below. Each card must be installed and enabled or disabled as indicated.

Procedure 73
Installing and enabling the QPC441 3PE cards

Three steps are required to install the QPC441F 3PE cards.

1   Verify the QPC 441F 3PE card settings.

Switch settings on the 3PE card determine the group and shelf number of each Network module. Use the information in Table 46 on to verify that the 3PE cards in the added Network modules have the correct switch and jumper settings.

The FIJI card displays group and shelf setting.

2   Install a QPC 441F 3PE card in slot 1 of each added Network module. Do not seat the cards yet.

3   Attach the NT8D80BZ cables to the QPC 441F 3PE faceplates.

   a.   Connect 1 NT8D80BZ cable from QPC441F J3 of Core/Net 0 to QPC441F J3 of Core/Net 1.

   b.   Connect 1 NT8D80BZ cable from QPC441F J4 of Core/Net 0 to QPC441F J4 of Core/Net 1.

Table 46
3PE card settings for the NT8D35 Module

Jumper Settings								
Set Jumper RN27 at E35 to "A".								
Switch Settings								
D20 switch position:		**1**	**2**	**3**	**4**			
81, 81C (Note)		off	on	on	on			
Shelf	Group	D20 switch position:				**5**	**6**	**7**	**8**
0 (3PE cards connected to the a CNI in Core or Core/Net 0)	0					on	on	on	on
	1					on	on	off	on
	2					on	off	on	on
	3					on	off	off	on
	4					off	on	on	on
	5					off	on	off	on
	6					off	off	on	on
	7					off	off	off	on
1 (3PE cards connected to the a CNI in Core or Core/Net 1)	0					on	on	on	off
	1					on	on	off	off
	2					on	off	on	off
	3					on	off	off	off
	4					off	on	on	off
	5					off	on	off	off
	6					off	off	on	off
	7					off	off	off	off
Note: For option 81C systems, QPC441 vintage F or later must be used in all modules.								

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

Procedure 74
Installing and enabling the Peripheral Signaling (Per Sig) cards

1   Install a QPC 43R Per Sig card into slot 4 of each added Network module. Push the latches forward to lock the card in place.

2   Faceplate *enable* the cards.

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

Procedure 75
Disabling and inserting NT5D30 DIGS cards

1   Faceplate *disable* IGS.

2   Insert the NT5D30 DIGS card into slot x.

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

Procedure 76
Disabling and inserting the NT8D17 Conf/TDS cards

Note: If the NT8D17 Conf/TDS cards are used in the system, follow the procedures below.

1   Faceplate *disable* the NT8D17 Conf/TDS cards.

2   Insert a NT8D17 Conf/TDS card into each added Network module.

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

Enable the Network Group

Note: To add more than one Network Group, add one group at a time in software. Follow all the remaining procedures in this chapter to enable one group before enabling another group.

Procedure 77
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 78
Checking that Clock Controller 0 is active

1   Check the status of the Clock Controllers.

   LD 60   Load program.

   SSCK 0   Get the status of Clock Controller 0.

   SSCK 1   Get the status of Clock Controller 1.

2   If Clock Controller 1 is active, switch to Clock Controller 0.

   SWCK   Switch to Clock Controller 0 (if necessary).

   DIS CC 1   Disable Clock Controller 1.

   ****   Exit program.

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

Add the CNI cards or ports

Procedure 79
Adding the CNI cards or ports

> *Note:* CNI cards can be enabled and connected on the *inactive* Core only.

1   In LD 135 split the Cores.

LD 135	Load the program.
SPLIT	Split the Cores.
****	Exit the program.

Follow these steps to activate the added CNI ports. Wait until the INI is complete on Core 1.

2   On Core 1 only, define the XCT and extenders to the added group.

> *Note:* See Table 46 on .

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)

<cr>	Continue to the last prompt.
****	Exit the program.

3 Perform a data dump.

LD 43	Load the program.
EDD	Invoke the data dump program.
****	Exit the program.

Table 47 specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 47
CNI Network group designations

CNI card slot	CNI card port	3PE Fanout Panel label	Connected to Network group
c9	0	Port 9-0	0
c9	1	Port 9-1	1
c10	0	Port 10-0	2
c10	1	Port 10-1	3
c11	0	Port 11-0	4
c11	1	Port 11-1	5
c12	0	Port 12-0	6
c12	1	Port 12-1	7

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

Procedure 80
Seating remaining cards

1   Seat the remaining cards (3PE, PER SIG, XCT, DIGS) in both network modules.

    Note: Cards must be faceplate disabled before seating.

2   Faceplate enable all cards in both network modules (3PE, PER SIG, XCT and DIGS).

3   Cable the NT5D30 DIGS cards.

Table 48
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
0	0	IGS/DIGS 0 & 2
1	0	IGS/DIGS 4 & 6
2	0	IGS/DIGS 8 & 10
3	0	IGS/DIGS 12 & 14
4	0	IGS/DIGS 16 & 18
0	1	IGS/DIGS 1 & 3
1	1	IGS/DIGS 5& 7
2	1	IGS/DIGS 9 & 11
3	1	IGS/DIGS 13 & 15
4	1	IGS/DIGS 17 & 19

Note: The DIGS card should be located in slot 9 of the Core/Net shelf and slot 2 of the NT8D35 network shelf.

4   In Core 1 only, seat the new CNI card and faceplate enable.

IMPORTANT!

Power down all applications such as Meridian Mail, CallPilot, and Symposium.

CAUTION

Service Interruption

Call processing is interrupted for approximately 10 minutes while the INI is completed.

---

5   In LD 135 switch Cores.

LD 135   Load the program.

CUTOVR   Switch Cores.

WARNING
All call processing may be interrupted.

IMPORTANT!

Power up all applications such as Meridian Mail, CallPilot, and Symposium.

Core 1 is active, Clock 0 is active.

---

6   Switch the clock controllers, if necessary:

LD 60	Load the program.
SSCK n	Get status of clock n, where n = 0 for clock controller 0 1 for clock controller 1
SWCK	Switch system clock from active to standby. ***Note:*** Make clock controller 1 the active clock.
****	Exit the program.

> The system is in split mode with Core 1 active. Clock 1 is active.

7   **In Core 0 only,** define the XCT and extenders to the added group.

Note: See Table 48 on page 260.

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)

EXT1 3PE

CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
\<cr\>	Continue to the last prompt.
****	Exit the program.

8   Data dump the software changes.

LD 43	Load the program.
EDD	Invoke the data dump program.
****	Exit the program.

9   Seat the CNI card in Core 0 and faceplate enable it.

10   In Core 1, Stat the CNIs.

LD 135	Load the program.
STAT CNI	Get status of CNI card.
	Note: If any CNIs are disabled they must be enabled.
JOIN	Synchronize the memory and drives.
****	Exit the program.

———— **End of Procedure** ————

Test the Cores

Procedure 81
Testing Core/Net 1

From Core/Net 1, perform these tests.

1   Perform a redundancy sanity test.

LD 135	Load the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	

3   Test the System Utility cards and the CNI cards.

LD 135	Load the program.
STAT CNI c s	Get status of CNI cards (core, slot).
TEST CNI c s	Test CNI (core, slot).

4   Test system redundancy.

LD 137	Load the 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 the program.
ENL TTY x	Enable the XMS, where x = system XMS.
STAT XSM	Check the system monitors.
****	Exit the program.

6   Clear the display and minor alarms on both Cores.

LD 135	Load the program.
CDSP	Clear the displays on the cores.
CMAJ	Clear major alarms.
CMIN ALL	Clear minor alarms.

7   Test the clocks.

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

LD 60	Load the program.
SSCK *x*	Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1).
SWCK	Switch the Clock if necessary.

b.   Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8   Check the IGS status.

LD 39	Load the program.
STAT IGS X	Check the status of IGS (X = IGS/DIGS card number. See Table 49).
****	Exit program.

Table 49
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
0	0	IGS/DIGS 0 & 2
1	0	IGS/DIGS 4 & 6
2	0	IGS/DIGS 8 & 10
3	0	IGS/DIGS 12 & 14
4	0	IGS/DIGS 16 & 18
0	1	IGS/DIGS 1 & 3
1	1	IGS/DIGS 5& 7
2	1	IGS/DIGS 9 & 11
3	1	IGS/DIGS 13 & 15
4	1	IGS/DIGS 17 & 19

Note: The DIGS card should be located in slot 9 of the Core/Net shelf and slot 2 of the NT8D35 network shelf.

9   Check applications such as CallPilot, Symposium, and Meridian Mail.

10   Check for dial tone.

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

Procedure 82
Switching call processing

    LD 135   Load the 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.

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

Procedure 83
Testing Core/Net 0

From Core/Net 0, perform these tests.

1   Perform a redundancy sanity test.

> **LD 135**   Load the program.
>
> **STAT CPU**   Get the 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 the program.
>
> **TEST LCDs**   Test LCDs.
>
> **DSPL ALL**   Display all.

3   Test the System Utility cards and the CNI cards.

> **LD 135**   Load the program.
>
> **STAT CNI c s**   Get status of CNI cards (core, slot).
>
> **TEST CNI c s**   Test CNI (core, slot).

4   Test system redundancy.

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

5   Test that the system monitors are working.

    LD 37   Load the program.

    STAT XSM   Check the system monitors.

    ****   Exit the program.

6   Clear the display and minor alarms on both Cores.

    LD 135

    CDSP   Clear the displays on the cores.

    CMAJ   Clear major alarms.

    CMIN ALL   Clear minor alarms.

7   Test the clocks.

    a.   Verify that the clock controller is assigned to the *active* Core:

    LD 60   Load the program.

    SSCK *x*   Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.

    SWCK   Switch the Clock if necessary.

    b.   Verify that the Clock Controllers are switching correctly.

    SWCK   Switch the Clock.

    SWCK   Switch the Clock again.

8   Check the IGS status.

    LD 39   Load the program.

    STAT IGS X   Check the status of IGS (X = IGS/DIGS card number.) See Table 50.

    ****   Exit program.

Table 50
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
0	0	IGS/DIGS 0 & 2
1	0	IGS/DIGS 4 & 6
2	0	IGS/DIGS 8 & 10
3	0	IGS/DIGS 12 & 14
4	0	IGS/DIGS 16 & 18
0	1	IGS/DIGS 1 & 3
1	1	IGS/DIGS 5& 7
2	1	IGS/DIGS 9 & 11
3	1	IGS/DIGS 13 & 15
4	1	IGS/DIGS 17 & 19

Note: The DIGS card should be located in slot 9 of the Core/Net shelf and slot 2 of the NT8D35 network shelf.

9 Check applications such as CallPilot and Symposium.

10 Check for dial tone.

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

Post-conversion procedure

Introduction

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

The site data should be printed before and after conversion. See Table 52 on page 276. If the data has changed, make the necessary updates on the **Target** release, and datadump to the new system media. Print out the items marked with an asterisk (*) to be sure everything converted properly. All other items on Table 52 on page 276 are provided to be printed if desired.

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

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

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

Post-conversion steps

Follow the steps in Procedure 84 to perform the post-conversion procedure.

Procedure 84
Performing the post-conversion procedure

1 Print system data listed in Table 52 on . Verify that all information matches the printouts created before conversions. Make changes if necessary.

2 From any unrestricted telephone, dial the access code for an outside line (usually 9), and dial the listed Directory Number (DN) for the customer. Verify that the correct Incoming Call Indicator (ICI) lights at the attendant console.

3 If the customer is equipped with more than one console, transfer the call to another console.

4 Extend the call to a telephone, and release the call from the console.

5 From the called telephone, transfer the call back to the attendant.

6 Answer and release the call.

7 From any telephone dial the DN for the attendant. Verify that the correct ICI lights at the console, then release the call.

8 Busy-out one trunk group using a Trunk Group Busy (TGB) key on the console.

9 From any telephone with TGAR 0-7, dial the access code of the busied-out trunk group, to verify that the call is intercepted to the console and receives either overflow tone or a recorded announcement.

10 Restore the trunk group to the in-service state using the Trunk Group Busy (TGB) key on the console.

11 During the conversion procedure the Central Office might have busied-out the DID trunks. If DID trunks are equipped, from any unrestricted telephone, dial the access code for an outside line, and dial a DID number into the system.

12 If a private network is used, from any unrestricted telephone, dial the network access code and place a CDP, ESN, BARS/NARS, or ISDN call as applicable to the system.

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

LD 02

STAD dd mm yyyy hh mm ss

>   dd = day (for example, 05 for the fifth)
>
>   mm = month (for example, 09 for September)
>
>   yyyy = year (last 2 or all four digits, for example, 92 or 1992)
>
>   hh = hour (in 24-hour time, for example, 13:00 for 1:00 pm)
>
>   mm = minute (for example, 25)
>
>   ss = seconds (for example, 00)

Note: Test all applications and call handling.

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

15 Keep one copy of the **Source** software, as it was backed up in the pre-conversion procedure, in case it becomes necessary to reconvert. After the **Target** software has been running well for a few weeks, return the original software to Nortel through the usual distribution channel.

16 Load LD 135 to test and switch CPUs. (Omit this step for Option 51C.)

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

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

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

Note: Check MMDU in CP PII machines.

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

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

Note: Back up additional 2 MByte floppy disks.

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

LD 02

STAD dd mm yyyy hh mm ss

> dd = day (for example, 05 for the fifth)
>
> mm = month (for example, 09 for September)
>
> yyyy = year (last 2 or all four digits, for example, 92 or 1992)
>
> hh = hour (in 24-hour time, for example, 13:00 for 1:00 pm)
>
> mm = minute (for example, 25)
>
> ss = seconds (for example, 00)

**** Exit LD.

Note: If equipped with FNF, perform steps 21-24. If equipped with IGS, perform step 20.

20 Test the IGS

Note: See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

LD 39	Load the program.
STAT IGS X	Check the status of IGS (X = IGS/DIGS card number.) See Table 51.
****	Exit program.

Table 51
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
0	0	IGS/DIGS 0 & 2
1	0	IGS/DIGS 4 & 6
2	0	IGS/DIGS 8 & 10
3	0	IGS/DIGS 12 & 14
4	0	IGS/DIGS 16 & 18
0	1	IGS/DIGS 1 & 3
1	1	IGS/DIGS 5& 7
2	1	IGS/DIGS 9 & 11
3	1	IGS/DIGS 13 & 15
4	1	IGS/DIGS 17 & 19

Note: The DIGS card should be located in slot 9 of the Core/Net shelf and slot 2 of the NT8D35 network shelf.

21 Check that Fiber Ring 1 operates correctly.

　　LD 39　　　　　Load the program

　　STAT RING 1　　to check the status of Ring 1

22 Reset the Rings.

　　RSET　　　　　to reset the Rings and prepare them for redundancy

　　RSTR　　　　　to restore both Rings to HALF state

23 Check that the Rings operate correctly.

　　STAT RING 0　　to check the status of Ring 0 (HALF/HALF)

　　STAT RING 1　　to check the status of Ring 1 (HALF/HALF)

24 If any Ring problems occur, correct them now.

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

25 Verify that call processing operates correctly. This includes, but is not limited to the following:

- Check for dial tone.

- Make internal, external, and network calls.

- Check attendant console activity.

- Check DID trunks.

- Check any auxiliary processors.

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

27 Keep one copy of the **Source** software, as it was backed up in the pre-conversion procedure, in case it becomes necessary to reconvert. After the **Target** software has been running well for a few weeks, return the original software to Nortel through the usual distribution channel.

Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Table 52
Print site data (Part 1 of 3)

Site data	Print command	
Terminal Blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer Data Block for all customers	LD 21	
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route Data Block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>

Table 52
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software Packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software Issues, Patches, ROM and Tape ID	LD 22	
	REQ	ISSP
	REQ	ROM
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version	LD 32	
(peripheral controller, superloop network and controller cards)	.	IDC loop

Table 52
Print site data (Part 3 of 3)

Site data	Print command	
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0–158)
	APPL	<cr>
	PH	<cr>
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

     28   Obtain status of CNI cards.

LD 135	Load the program.
STAT CNI	Get the status of CNI cards.
****	Exit the program.

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

Adding a Network Group (NT4N46)

Contents

This section contains information on the following topics:

Add a Core Network Group to Option 81C/FNF CP PII

Introduction

Complete the following procedure to add a Network Group to the Core/Net Module of a Meridian 1 Option 81C with FNF equipped with an NT4N46 Core/Net shelf.

The NT4N46 Core/Net shelf is factory configured with Network Group 0 in the Core. Upgrades from Meridian Option 71 or Meridian Option 81 to Meridian Option 81C CP PII do not require Group 0 to be moved to the Core.

The Meridian 1 Option 81C CP PII CNI port to group number cannot be changed in software configuration. In order to configure a group other than group 0, an NT4N72 kit must be ordered and installed.

The Meridian 1 Option 81C with FNF equipped with an NT4N46 Core/Net shelf must meet the requirements of Product Bulletins P-2002-1658-NA and PAA-2003-0199-NA for firmware 19. Highlights of the bulletins include:

- PB requires NTRB53AA Clock Controller.

- Shortest fiber cable should be used.

- Cables from group 0 - 1 must be same length.

- Distance between each ring from group 0 - group 1 must not exceed 50 ft.

IMPORTANT!

The shortest fiber cable must always be used (NTRC48).

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 ft. 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.

To add a Network Group to a Meridian 1 Option 81C/FNF equipped with an NT4N46 Core/Net shelf:

- Clock Controller cards must be NTRB53AA.

- NTRB33 Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.

IMPORTANT!

When configuring NT8D76 cables, observe the following rules:

- The shortest NT8D76 Cable should always be used.

- A network group requires four NT8D76 cables, two to each half group. Both cables to each half group must be the same length.

- Check the existing NT8D76 cables. Replace any cables that do not meet the above requirement.

In a Meridian 1 Option 81C CP PII, the Core/Net shelf is factory configured to house Network Group 0. For new installations, this is satisfactory, as it promotes a standard layout for Meridian 1 Option 81C installations and eases maintenance.

However, when upgrading a system with earlier processors, this configuration is not always ideal. In particular, Meridian 1 Option 71, Meridian 1 Option 81 systems, or Meridian 1 Option 81C systems that have previously been upgraded from these earlier Options frequently have Network Group 0 configured in regular Network modules.

Due to the amount of customer data and hardware reconfiguration required, customers with these configurations do not want to place group 0 in the Core/Net. Instead, the Core/Net is used to house a higher numbered group (e.g. Network group 4).

The layout of the CP PII NT4N46 Core/Net shelf does not currently lend itself to easily doing this. It is also not possible to reconfigure the CNI to Network map in software as with CP3 and CP4 processors.

This has led to non-standard cabling arrangements behind the CP PII Core, and to cases where the Network portion of the Core/Net has had to be left empty.

Nortel recommends modifying the NT4N46 shelf. These modifications can be retrofitted to existing CP PII systems equipped with the NT4N46 shelf.

Two new pieces of hardware are being introduced:

- P0942500 3PE Termination Panel, 8 group

- NT4N72AA A0860193 CNI to Core/Net Cable (19 inch.)

3PE Termination Panel

Note: Check the current termination panel to determine if it is currently a P0942599 3PE termination panel. If the panel is the older 7 group version (P0908658), it must be changed.

The 3PE Termination Panel is mounted behind the CP PII Core shelf, and is used to mount the connectors from the CNI Transition Cards. The previous panel (P0908658) has sufficient cutouts to mount the connectors for 7 groups, those corresponding to groups 1 to 7. The connectors from CNI in slot 9, port 0 typically pass through a slot in the panel and are directly connected to the

Network portion of the Core/Net backplane. Thus this panel has 14 connector cutouts. This is supplied as part of the CP PII processor complex, and does not need to be ordered separately or installed on site.

The new 3PE termination panel P0942500 differs in that it has cutouts for 16 connectors, thus allowing CNI terminations for all 8 groups to be terminated. In new systems and hardware upgrades as supplied from the factory, only 14 connectors (those corresponding to groups 1 – 7) are terminated, with the two remaining cutouts left empty.

The CNI cables corresponding to Network group 0 still pass through a slot in this panel to terminate directly on the Network backplane, and this is how new systems continue to be delivered. However, it is possible to disconnect these Group 0 connectors from the Network backplane and mount them into the panel, which facilitates connecting 3PE cables connected to a remote Network group 0.

These new panels are included as standard on all CP PII NT4N46 shelf systems manufactured after February 18th 2002. The panels are also included with hardware upgrades, beginning approximately with the introduction of X11/25.40 software in early 2002. The panels are also available as merchandise to retrofit into any CP PII system installed prior to then.

NT4N72AA cable

This short (19 inch – 48 cm.) cable is designed to interconnect the connectors mounted in the 3PE Termination Panel discussed above to the 3PE Network connectors on the Network portion of the Core/Net backplane. Any Network group CNI cards are easily connected to the Network backplane, allowing any Network group to be placed in the Core/Net.

Two cables are required in each CP PII module, and 4 are required in a complete Meridian 1 Option 81C CP PII system. These cables are not required when Network group 0 is installed in the Core/Net shelf, since the CNI Transition Card cables for group 0 pass directly through the 3PE Termination Panel and terminate on the Network backplane (the standard factory configuration). These cables are delivered as part of any marketing packages, and have to be ordered as merchandise when needed.

Note: It is still required that the two Core/Net shelves only contain a single Network group. For example, it is not possible to place one half of Group 1 in a Core/Net shelf and the other half in a Network shelf, and then proceed to split up Group 2 in the same way using the other Core/ Net shelf.

Prepare for upgrade

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

Each chapter features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section is written to maintain dial tone where possible and limit service interruptions. Each section assumes any NT8D35 Network module

installation is complete. For NT8D35 installation information see the *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

Before attempting any software or hardware upgrade, field personnel should follow the steps in Table 53.

Table 53
Prepare for upgrade steps

Procedure Step	Page
Plan the upgrade	284
Upgrade checklists	285
Prepare	285
Identifying the proper procedure	286
Connect a terminal	286
Print site data	287
Perform a template audit	289
Back up the database (data dump)	292

Plan the upgrade

Planning for an upgrade includes the following details:

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure Sufficient power for new columns/modules or applications.

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Network Alerts that impact the site.

- Determine a contingency plan for backing out of the upgrade.

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of the *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform. See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Install Current patch or Dep lists at the source platform.

- Install Current patch or Dep lists at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and keycode.

- 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 85
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/0 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, connect the terminal from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

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

Print site data

Print site data to preserve a record of the system configuration (see Table 54).
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 54
Print site data (Part 1 of 3)

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

Table 54
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ TYPE	PRT CFN
*Software packages	LD 22	
	REQ TYPE	PRT PKG
*Software issue and tape ID	LD 22	
	REQ REQ	ISS TID
* Peripheral software versions	LD 22	
	REQ TYPE	PRT PSWV
ACD data block for all customers	LD 23	
	REQ TYPE CUST ACDN	PRT ACD Customer Number ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ TYPE LOOP APPL PH	PRT MISP loop number (0-158) <cr> <cr>

Table 54
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)

Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Perform a template audit

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

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

CAUTION — Service Interruption

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**
TEMPLATE 0003 NO USERS FOUND	

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

> ⚠️ **IMPORTANT!**
>
> Preserve database backup information for a minimum of 5 days.

To backup existing data, perform the following procedure:

Procedure 86
Performing a data dump

1   On the Meridian 1 Option 81C, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43 from the source (current) media. At the prompt, enter:

   LD 43   Load the program.

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

   EDD   Begin the data dump.

> ⚠️ **CAUTION — Service Interruption**
>
> If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

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

   ****   Exit the program.

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

Perform the upgrade

Introduction

Complete the procedure in this section to add a Core Network Group to the
Meridian 1 Option 81C/FNF equipped with an NT4N46 shelf.

Figure 37 shows a Meridian 1 Option 81C/FNF (NT4N46).

Figure 37
Meridian 1 Option 81C/FNF (NT4N46)
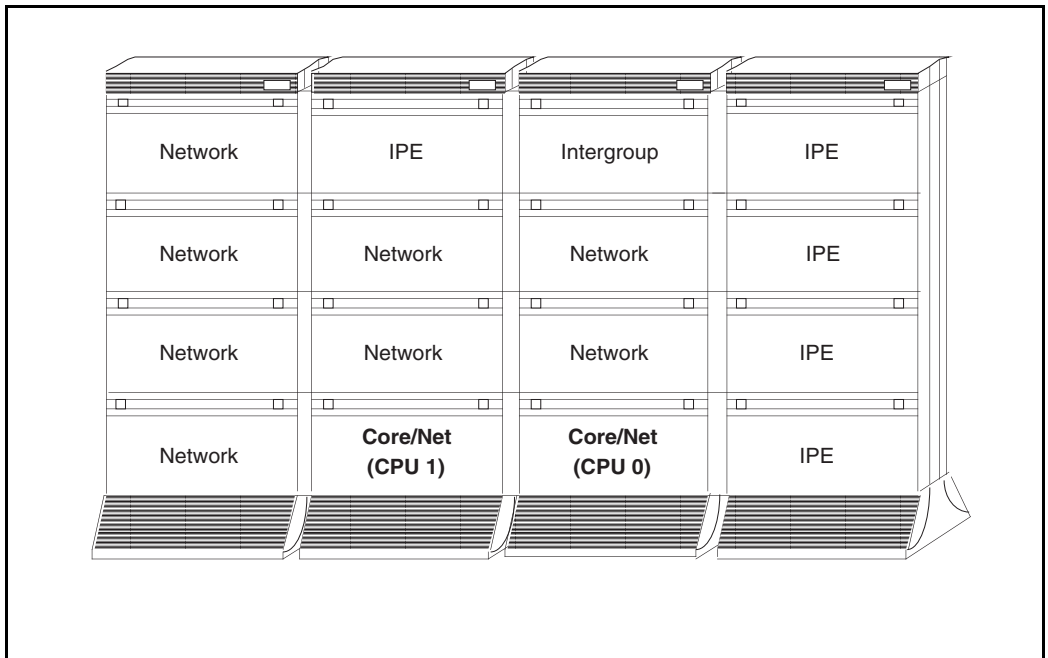
Network	IPE	Intergroup	IPE
Network	Network	Network	IPE
Network	Network	Network	IPE
Network	**Core/Net (CPU 1)**	**Core/Net (CPU 0)**	IPE

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.

Complete the procedure in this section to add a Core Network Group to the Meridian 1 Option 81C/FNF (NT4N46).

Figure 38 shows the NT4N46 Core/Net shelf.

Figure 38
NT4N46 Core/Net shelf

553-9123b

Review upgrade requirements

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 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 QPC43 Peripheral Signaling cards must be minimum vintage R.
- NTRB53AA Clock Controller
- NTRB33 AC or AD FIJI

If equipment does not meet the requirements, replace it before you begin the upgrade.

> **CAUTION — Service Interruption**
>
> Equipment that does not meet the minimum vintage requirements can cause system malfunctions and loss of call processing.

Check required hardware

Table 55 describes the *minimum* equipment required to add a Core Network Group to a Meridian 1 Option 81C/FNF equipped with an NT4N46 shelf. Additional equipment for increased Network capacity must be ordered separately.

Table 55
Minimum equipment required to add a Core Network Group to an Option 81C/FNF equipped with an NT4N46 shelf

Order Number	Description	Quantity per system
NT8D80BZ	Cable, CPU Interface, 5 ft.	2
NT8D99AD	Cable, Network to Network, 6 ft.	2
NTRB33AC/AD	Card, Fibre Junctor Interface (FIJI)	2
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	Pack, Conference, Tone and Digit Switch (CT)	2
NTRC47	FIJI to FIJI Cable	1
NT4N72	CNI to Core/Net Cable	4
PO942500	16-connector cutout 3PE Termination Panel	2
NTRC48	fiber-optic cables	2

Tools

Table 56 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 56
List of recommended tools

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

Placing a Group other then Group 0 in the core

Procedure 87
Placing a Group other then Group 0 in the core

If it is desired to modify a system that is already installed, or is currently being installed, so that a group other than Group 0 is in the Core/Net, some reconfiguration of the factory arrangement will be required.

Complete the following steps on *both* Core/Net modules.

1   Power down the Core/Net shelf (after transferring call processing to the other Core if required).

2   Ensure that the 16-connector cutout 3PE Termination Panel P0942500 is equipped. This can be retrofitted into systems initially equipped with the 14-connector cutout Panel P0908658 by removing all the cable connectors and then the 4 screws that attach the panel to its frame.

3   Remove the connections from the Network backplane connectors that originate from CNI card 9, port 0. This may involve removing the screws that hold in the panel, so that the connectors can be moved through the slot.

4   Connect all eight pairs of cables from the CNI Transition Cards to this panel.

5   Using two cables NT4N72AA, connect the appropriate pair of connectors on the 3PE Termination Panel corresponding to the desired Group to the two connectors on the Network backplane.

6   Use standard NT8D76 cables to connect all other groups, including Group 0, to the 3PE cards in the respective Network modules.

7   Restore power to the Core/Net shelf, transfer call processing if required, and proceed to upgrade the other Core/Net shelf.

―――――――――――――――――――― **End of Procedure** ――――――――――――

Route FIJI to FIJI cables

Pre-route an NTRC47AA cable between the FIJI cards in shelf 0 and shelf 1 of each added Network Group.

To minimize system downtime during the upgrade, all FIJI cables must be in place before the Network Groups are installed.

Note: Do not disconnect the existing Fiber cables.

Procedure 88
Labeling and routing the shelf 0 fiber-optic cables (ascending)

Route the NTRC48 cables between the FIJI cards in each added Network shelf 0 in *ascending* order.

> **CAUTION**
> **Damage to Equipment**
> Do not excessively bend or cinch the Fiber Ring cables. These cables are easily damaged. Use the Optical Cable Management Card (OCMC) to manage and protect the Fiber Ring cables.

1   Start with shelf 0 in the current highest Network Group.

2   Label each cable on both sides with the appropriate connection information from Table 57 on .

3   Route a NTRC48 FIJI Fiber Ring cable of the appropriate length from the FIJI card in shelf 0 of the current highest Network Group, to the FIJI card in shelf 0 of the added Network Group.

4   If more than one Network Group is to be added, route a second NTRC48 cable of the appropriate length to shelf 0 of the second added group.

5   Continue to route the NTRC48 cable of the appropriate length in *ascending* order between shelf 0 of each added Network Group.

> **IMPORTANT!**
>
> The shortest Fiber Cable must always be used (NTRC48).
>
> 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.

6 To complete the Ring, route a final cable from the highest number group back to Group 0, shelf 0.

Table 57
FIJI Ring 0 connections

Groups X - 0 are cabled in ascending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/0	P1	Tx - J1
1/0	P2	Rx - J2
1/0	P1	Tx - J1
2/0	P2	Rx - J2
2/0	P1	Tx - J1
3/0	P2	Rx - J2
3/0	P1	Tx - J1
4/0	P2	Rx - J2
4/0	P1	Tx - J1
5/0	P2	Rx - J2
5/0	P1	Tx - J1
6/0	P2	Rx - J2
6/0	P1	Tx - J1
7/0	P2	Rx - J2
7/0	P1	Tx - J1
0/0	P2	Rx - J2

—————— **End of Procedure** ——————

Procedure 89
Labeling and routing the shelf 1 fiber-optic cables (descending)

Route the NTRC48 cables between the FIJI cards in each Network shelf 1 in *descending* order (Figure 39 on page 302).

<table>
<tr>
<td>

⚠️

</td>
<td>

CAUTION
Damage to Equipment
Do not excessively bend or cinch the Fiber Ring cables. These cables are easily damaged. Use the Optical Cable Management Card (OCMC) to manage and protect the Fiber Ring cables.

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

Note 1: Do not disconnect existing Fiber cables

Note 2: Each end of the NTRC48 cable is labeled "Tx" or Rx" in the factory.

1   Start with Group 0, shelf 1.

2   Label each cable on both sides with the appropriate connection information from Table 58 on page 303.

3   Route a NTRC48 FIJI Fiber Ring cable of the appropriate length from shelf 1 of the FIJI card in Group 0, to the FIJI card in the added highest Network Group, shelf 1.

4   Route a NTRC48 cable from the FIJI card in the added highest Network Group, shelf 1 to the FIJI card in the second highest Network Group, shelf 1.

5   Continue to route NTRC48 FIJI Fiber Ring cables of the appropriate lengths between shelf 1 of each added Network Group. Route these cables in *descending* order of Network Groups.

6   Route a final cable to the current highest Network Group, shelf 1.

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

Figure 39
Shelf 1 descending fiber-optic Ring (example)
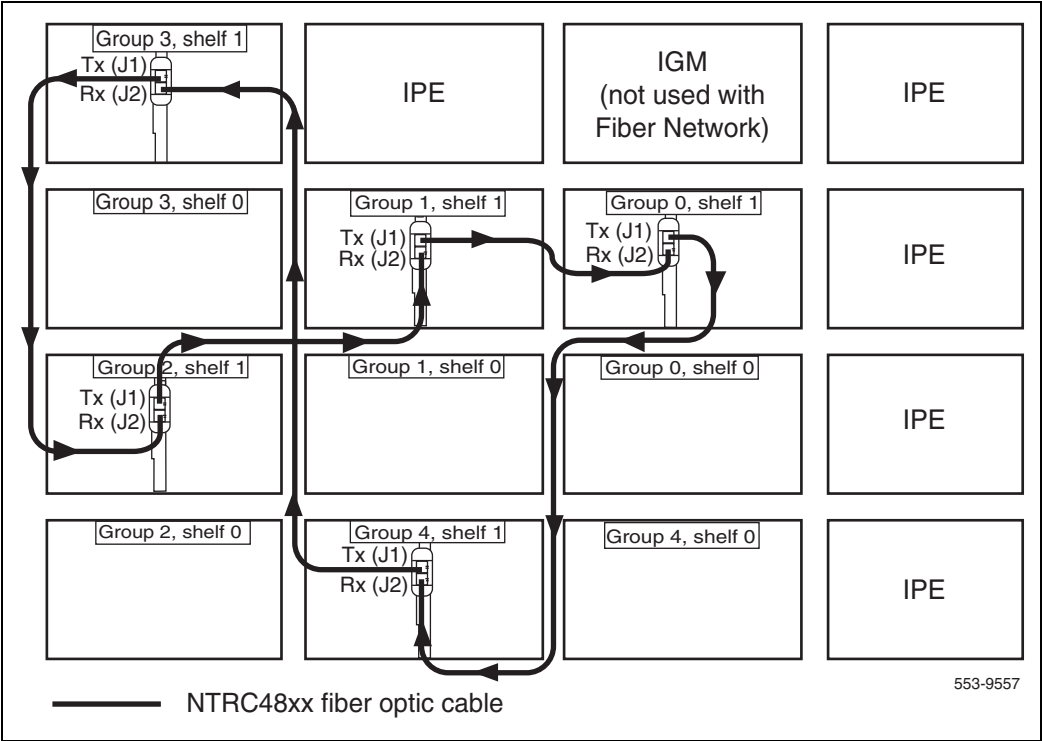
Table 58
FIJI Ring 1 connections

Groups 0 - X are cabled in descending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/1	P1	Tx - J1
7/1	P2	Rx - J2
7/1	P1	Tx - J1
6/1	P2	Rx - J2
6/1	P1	Tx - J1
5/1	P2	Rx - J2
5/1	P1	Tx - J1
4/1	P2	Rx - J2
4/1	P1	Tx - J1
3/1	P2	Rx - J2
3/1	P1	Tx - J1
2/1	P2	Rx - J2
2/1	P1	Tx - J1
1/1	P2	Rx - J2
1/1	P1	Tx - J1
0/1	P2	Rx - J2

Interconnect the network modules

On the back of each Core/Net module backplanes are two connectors labeled
D and E.

Procedure 90
Interconnecting the network modules

1   Connect the NT8D99AD cable from the D connector in shelf 0 to the D
    connector in shelf 1 of the NT4N46 Core/Net Module.

2   Connect the NT8D99AD cable from the E connector in shelf 0 to the E
    connector in shelf 1 of the NT4N46 Core/Net Module.

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

Figure 40
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)
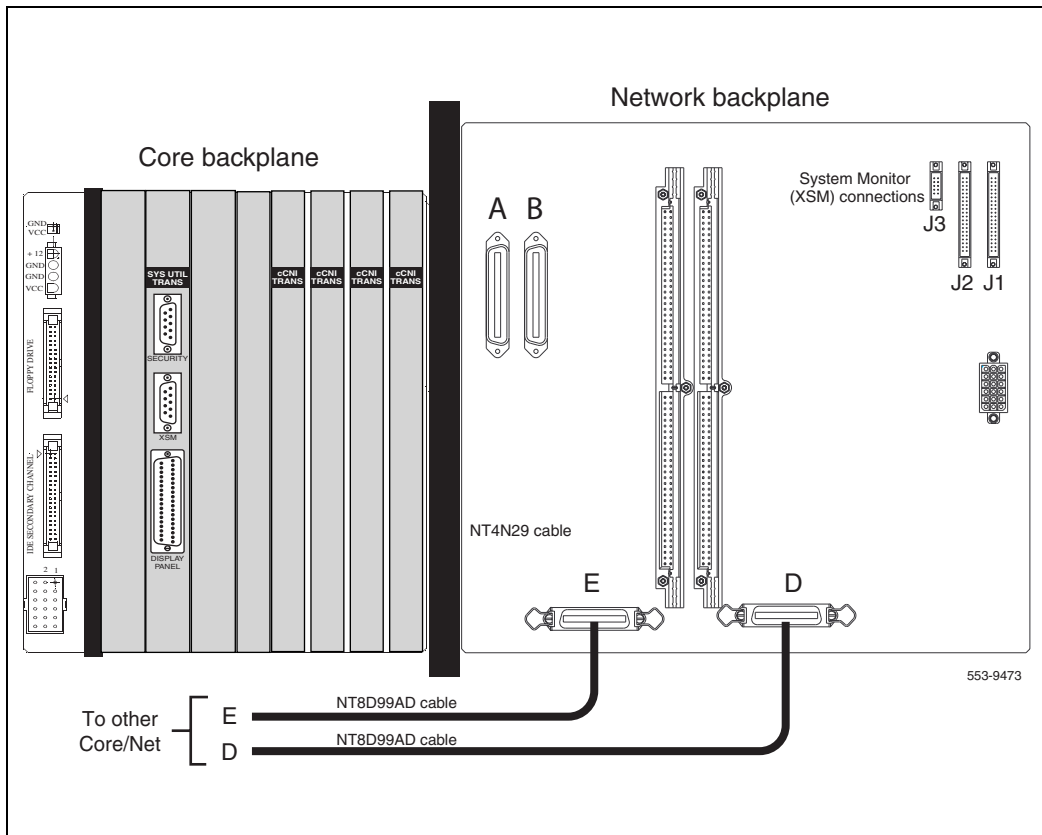
Add CNI cards if necessary

If additional CNI cards are required, add to each Core Module as required. See Figure 41.

Procedure 91
Adding CNI cards

1   Face plate disable CNI card.

2   Insert card into Core/Net module, but do not seat card into backplane at this time.

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

Figure 41
Core/Net card cage

553-9123b
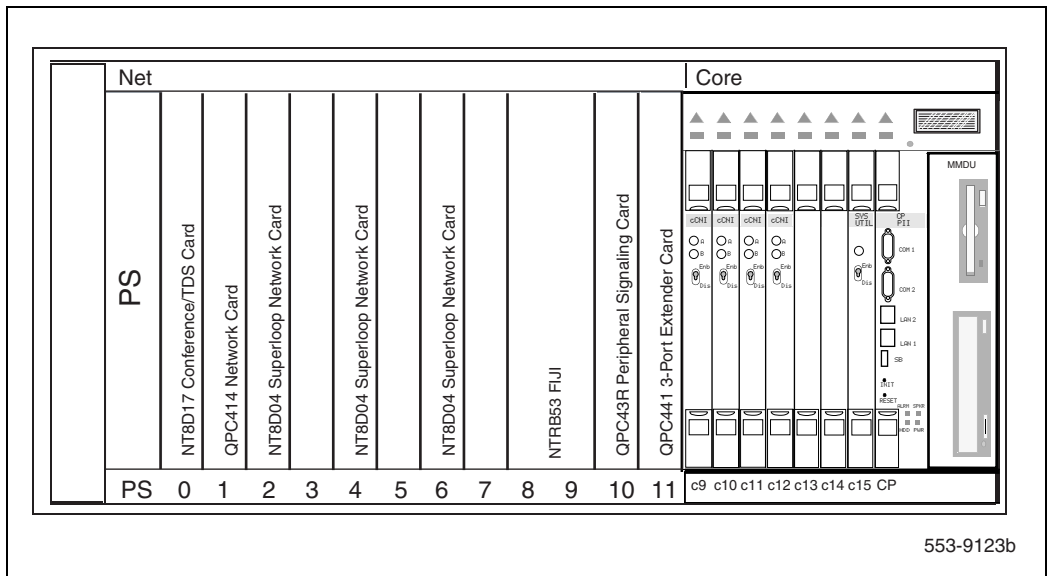
Procedure 92
Connecting the 3PE to CNI cables

Using two NT4N72AA cables, connect the appropriate pair of connectors on the 3PE Termination Panel corresponding to the desired Group to the two connectors on the Network backplane.

The CNI slot and port connections are labeled on the 3PE Fanout Panel. See Table 59, and Figure 42 on for NT8D72 cable connections.

1   Connect the NT4N72 cables to Core/Net backplane of the 3PE cards.

2   Connect the new NT4N72 cables to the Fanout Panel in the Core/Net.

Table 59
Fanout Panel to 3PE card connectors

Group Number	Connects from the Fanout Panel connector	To the 3PE card connector
0	9-0, J3	J3
0	9-0, J4	J4
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: Group 0 cables connect from the CNI Transition card directly to the backplane of Core/Net 0 **or**
to the NT8D76 cable (depending on your CNI group configuration). If the Core/Net module contains a Network Group other than group 0, use NT4N72AA cables to connect the Fanout panel to the network portion of the Core/Net backplane.

3   Connect NT8D80BZ cable from J3 of the 3PE card in Core 0 to the J3 of 3PE card in Core 1.

4   Connect NT8D80BZ cable from J4 of the 3PE card in Core 0 to the J4 of 3PE card in Core 1.

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

Figure 42
3PE Termination Panel (Core/Net module)

Notch for
Slot 9-0, J3 and J4:
direct connections
to the Core/Net
backplane
(factory installed)

553-9490A
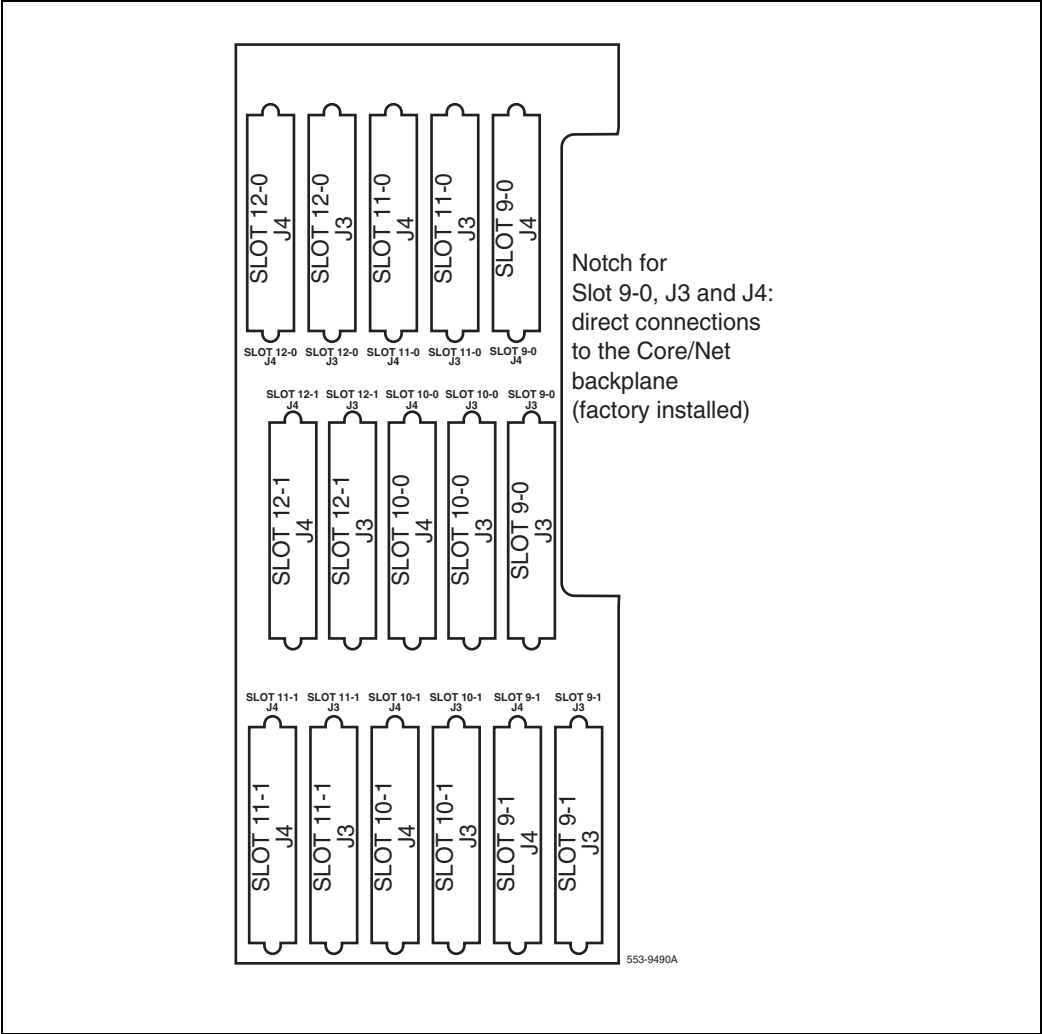
Install cards in the network modules

Network cards must be installed in the Core/Net modules as described below. Each card must be installed and enabled or disabled as indicated.

Install and enable the QPC441 3PE cards

Procedure 93
Installing and enable the QPC441 3PE cards

Three steps are required to install the QPC441 3PE cards.

1   Verify the QPC441 3PE card settings.

The group and shelf number of each Network module is determined by the switch settings on the QPC441 3PE card. Use the information in Table 60 on page 310 to verify that the QPC441 3PE cards in the added Network modules have the correct switch and jumper settings.

The FIJI card displays group and shelf setting.

2   Install a QPC441 3PE card in slot 1 of each added Network module. Do not seat the cards yet.

3 Attach the cables to the QPC441 3PE faceplates.

Table 60
QPC441 3PE Card installed in the NT4N46 Module

Jumper settings. Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
NT4N46 (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

Install and enable the QPC43R Peripheral Signaling (Per Sig) cards

Procedure 94
Installing and enable the Peripheral Signaling (Per Sig) cards

1   Install a Per Sig card into slot 4 of each added Network module. Push the latches forward to lock the card in place.

2   Faceplate *enable* the cards.

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

Disable and insert the NTRB33AC FIJI cards

Procedure 95
Disabling and inserting the FIJI cards

1   Faceplate *disable* the FIJI cards.

2   Insert the FIJI cards into slots 2 and 3 of each added Network module.

3   Do not plug the card into the backplane.

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

Disable and insert the NT8D17 Conf/TDS cards

Procedure 96
Disabling and inserting the Conf/TDS cards

If Conf/TDS cards are used in the system, complete the steps below.

1   Faceplate *disable* the Conf/TDS cards.

2   Insert a Conf/TDS card into each added Network module.

3   Do not plug the card into the backplane.

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

Enable the Network Group

Note: If you are adding more than one Network Group, add one group at a time in software. Follow all the remaining procedures in this chapter to enable one group before enabling another group.

Procedure 97
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 98
Checking that Clock Controller 0 is active

1   Check the status of the Clock Controllers:

LD 60	Load program
SSCK 0	Get the status of Clock Controller 0
SSCK 1	Get the status of Clock Controller 1

2   If Clock Controller 1 is active, switch to Clock Controller 0.

SWCK	Switch to Clock Controller 0 (if necessary)
DIS CC 1	Disable Clock Controller 1
****	Exit program

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

Add the CNI cards or ports

Procedure 99
Adding the CNI cards or ports

> ***Note:*** CNI cards can be enabled and connected on the *inactive* Core
> only.

1   In OVL 135 split the Cores.

LD 135	To load the program.
SPLIT	Split the Cores.
****	To exit the program.

Follow these steps to activate the added CNI ports. Wait until the INI is
complete on Core 1:

2 On Core 1 only, define the XCT and extenders to the added group.

Note: See Table 69 on .

LD 17	To load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
<cr>	Continue to the last prompt.
****	To exit the program.

3 Perform a data dump

LD 43	To load the program.
EDD	Invoke data dump program.
****	To exit the program.

Table 61 specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 61
Fanout Panel to 3PE card connectors

Group Number	Connects from the Fanout Panel connector	To the 3PE card connector
0	9-0, J3	J3
0	9-0, J4	J4
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: Group 0 cables connect from the CNI Transition card directly to the backplane of Core/Net 0 **or**
to the NT8D76 cable (depending on your CNI group configuration). If the Core/Net module contains a Network Group other than group 0, use NT4N72AA cables to connect the Fanout panel to the network portion of the Core/Net backplane.

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

Procedure 100
Checking that Ring 0 is active in Core 0

1   Check the status of Ring 0.

    LD 39   Load program

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

2   Disable Ring auto recovery.

    LD 39   Load program

    ARCV OFF   Set or reset auto-recovery operation for ring

3   Swap to Ring 0.

    LD 39   Load program

    SWRG 0   Swing Traffic to Ring x.

4   Disable Ring 1.

    LD 39   Load program

    DIS RING 1   Disable all FIJI cards on side 1

> ⚠️ **WARNING**
>
> Cable Ring 1 to new network shelf only.

---

5   Seat the remaining cards (3PE, PER SIG, XCT, FIJI) in both network modules.

    Note: Cards must be faceplate disabled before seating.

6   Faceplate enable all cards in both network modules (3PE, PER SIG, XCT and FIJI).

7   Break Ring 1 and cable the added FIJI cards. Ring 1 is descending. Transmit from the lower Group FIJI card to Receive of next higher Group FIJI card. Transmit of the highest Group FIJI card cables to the Receive of Group FIJI card.

8   **In Core 1 only**, seat the new CNI card and faceplate enable.

IMPORTANT!

Power down all applications such as Meridian Mail, CallPilot, and Symposium.

CAUTION

Service Interruption

Call processing is interrupted for approximately 10 minutes while the INI is completed.

9   In LD 135 switch Cores.

LD 135	To load the program.
CUTOVR	Switch Cores.

WARNING
All call processing may be interrupted.

IMPORTANT!

Power up all applications such as Meridian Mail, CallPilot, and Symposium.

✔ Core 1 is active, Clock 0 is active, FIJI ring 1 is full, FIJI ring 0 is none.

Note 1: 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 does not affect service. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

Note 2: Wait for new ring state change message to appear before proceeding:

```
New State Ring 0 None
           Ring 1 Full
```

10 Switch the clock controllers, if necessary:

    LD 60   To load the program.

    SSCK n   Get status of clock n where
                      n = 0 for clock controller 0
                      1 for clock controller 1

    SWCK   Switch system clock from active to standby.

                      Note: Make clock controller 1 the active clock.

    ****   To exit the program.

11 Disable Ring 0.

    LD 39   To load the program.

DIS RING 0   Disables all FIJI cards on side 0.

****   To exit the program.

12 Break Ring 0 and cable the added FIJI cards. Ring 0 is ascending.
    Transmit from the lower Group FIJI card to Receive of next higher Group
    FIJI card. Transmit of the highest Group FIJI card cables to the Receive
    of Group FIJI card.

> ✔ The system is in split mode with Core 1 active. Clock 1
> active and FIJI half and half.

13 In LD 39, enable and stat Ring 0:

LD 39   To load the program.

ENL Ring 0   Enable Ring 0.

Stat Ring 0   Status of Ring x.

****   To exit the program.

14 **In Core 0 only,** define the XCT and Extenders to the added group.

  Note: See Table 69 on page 357:

LD 17   To load the program.

REQ   CHG

TYPE   CEQU

XCT X   X = the extended conference/TDS/MFS

EXT0 3PE

CNI s p g   Core to Network Interface card location
                    where:
                    s = slot (9 to 12)
                    p = port number (0 to 1)
                    g = group number (0 to 7)

EXT1 3PE

CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
\<cr\>	Continue to the last prompt.
****	To exit the program.

15 Data dump the software changes.

LD 43	To load the program.
EDD	Invoke data dump program.
****	To exit the program.

16 Seat the CNI card in Core 0 and faceplate enable it.

17 In Core 1, Stat the CNIs:

LD 135	Load the program.
STAT CNI	Get status of CNI card.
	Note: If any CNIs are disabled they must be enabled.
JOIN	Synchronize the memory and drives.
****	To exit the program.

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

Test the Cores

Procedure 101
Testing Core/Net 1

From Core/Net 1, perform these tests.

1   Perform a redundancy sanity test:

LD 135	Load the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	

3   Test the System Utility cards and the CNI cards.

LD 135	Load the 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 CNI cards (core, slot).
TEST CNI c s	Test CNI (core, slot).

4   Test system redundancy.

LD 137	Load the 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 the program.

ENL TTY x   Enable the XMS, where x= system XMS.

STAT XSM   Check the system monitors.

****   Exit the program.

6   Clear the display and minor alarms on both Cores.

LD 135   Load the program.

CDSP   Clear the displays on the cores.

CMAJ   Clear major alarms.

CMIN ALL   Clear minor alarms.

7   Test the clocks.

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

LD 60   Load the program.

SSCK *x*   To get the status of the clock controllers (*x* is "0" or
                     "1" for Clock 0 or Clock 1.

SWCK   Switch the Clock if necessary.

    b.   Verify that the Clock Controllers are switching correctly.

SWCK   Switch the Clock.

SWCK   Switch the Clock again.

8   Test the Fiber Rings

See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

a.   Check that the Fiber Rings operate correctly.

LD 39	Load the 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, Symposium, and Meridian Mail..

11   Check for dial tone.

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

Procedure 102
Switching call processing

> **LD 135**   Load the 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.

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

Procedure 103
Testing Core/Net 0

From Core/Net 0, perform these tests.

1   Perform a redundancy sanity test:

> **LD 135**   Load the 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 the program.
>
> **TEST LCDs**   Test LCDs.
>
> **DSPL ALL**   Display all.

3   Test the System Utility cards and the CNI cards.

> **LD 135**   Load the 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 CNI cards (core, slot).

TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

LD 137   Load the program.

TEST RDUN   Test redundancy.

DATA RDUN

TEST CMDU   Test the MMDU card.

5   Test that the system monitors are working.

LD 37   Load the program.

STAT XSM   Check the system monitors.

****   Exit the program.

6   Clear the display and minor alarms on both Cores.

LD 135

CDSP   Clear the displays on the cores.

CMAJ   Clear major alarms.

CMIN ALL   Clear minor alarms.

7   Test the clocks.

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

      LD 60   Load the program.

      SSCK *x*   Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.

      SWCK   Switch the Clock if necessary.

    b.   Verify that the Clock Controllers are switching correctly.

      SWCK   Switch the Clock.

      SWCK   Switch the Clock again.

8   Test the Fiber Rings

Note: See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

    a.   Check that the Fiber Rings operate correctly.

      LD 39   Load the 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 for dial tone.

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

Post-conversion steps must now be performed. See the "Post-conversion procedure" on .

Add an NT8D35 Network Group to Option 81C/FNF CP PII

Introduction

The target platform, the Meridian 1 Option 81C/FNF (NT4N46) must meet the requirements of Product Bulletins P-2002-1658-NA and PAA-2003-0199-NA for firmware 19. Highlights of the bulletins include:

• PB requires NTRB53AA Clock Controller.

• shortest fiber cable should be used.

• cables from group 0 - 1 must be same length.

• Distance between each ring from group 0 - group 1 must not exceed 50 ft.

> **IMPORTANT!**
>
> The shortest Fiber Cable must always be used (NTRC48).
>
> 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.

To add an NT8D35 Network Group to a Meridian 1 Option 81C/FNF (NT4N46) system:

• Clock Controller cards must be NTRB53AA.

NTRB33 AC/AD Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.

> **IMPORTANT!**
>
> When configuring NT8D76 cables, observe the following rules:
>
> • The shortest NT8D76 Cable should always be used.
>
> • A network group requires 4 NT8D76 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 NT8D76 cables. Replace any cables that do not meet the above requirement.

Prepare for upgrade

Introduction

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

Each chapter features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section is written to maintain dial tone where possible and limit service interruptions.

Each section assumes any NT8D35 Network module installation is complete. For NT8D35 installation information see the *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

Before attempting any software or hardware upgrade field personnel should complete the steps in Table 62.

Table 62
Prepare for upgrade steps

Procedure Step	Page
Plan the upgrade	330
Upgrade checklists	331
Prepare	331
Identifying the proper procedure	332
Connect a terminal	332
Print site data	333
Perform a template audit	335
Back up the database (data dump)	338

Plan the upgrade

Planning for an upgrade includes the following details:

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure Sufficient power for new columns/modules or applications

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- A contingency plan for backing out of the upgrade.

DANGER OF ELECTRIC SHOCK

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform. See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Current patch or Dep lists installed at the source platform.

- Required patch or Dep lists at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Print site data.

Identifying the proper procedure

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

> **IMPORTANT!**
>
> Preserve database backup information for a minimum of 5 days.

Connect a terminal

Procedure 104
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/0 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, connect the terminal from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

——————— **End of Procedure** ———————

Print site data

Print site data to preserve a record of the system configuration (see Table 63). 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 63
Print site data (Part 1 of 3)

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

Table 63
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	
		IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>

Table 63
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)

Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Perform a template audit

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

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

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> Do not abort this LD until the audit is complete. If the LD is interrupted, data will be corrupted.

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**
TEMPLATE 0003 NO USERS FOUND	

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

Procedure 105
Performing a data dump

1   On the Meridian 1 Option 81C, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43
     from the source (current) media. At the prompt, enter:

     LD 43   Load the program.

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

     EDD   Begin the data dump.

> ⚠ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump does not succeed, do not continue.
> Contact your technical support organization. You must
> correct a data dump problem before the system can be
> upgraded.

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

     ****   Exit the program.

> ⚠ **IMPORTANT!**
>
> Preserve database backup information for a minimum of
> 5 days.

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

Perform the upgrade

Introduction

Figure 43 shows a Meridian 1 Option 81C/FNF (NT4N46).

Figure 43
Meridian 1 Option 81C/FNF (NT4N46)
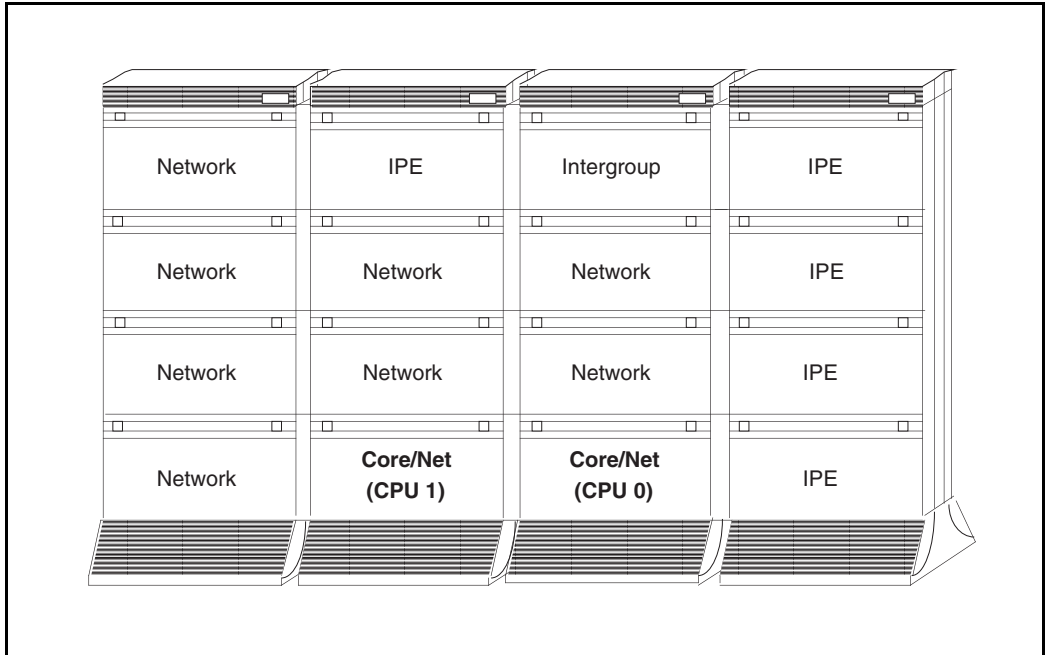
Network	IPE	Intergroup	IPE
Network	Network	Network	IPE
Network	Network	Network	IPE
Network	Core/Net (CPU 1)	Core/Net (CPU 0)	IPE

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.

Complete the procedure in this section to add an NT8D35 Network Group to the Meridian 1 Option 81C/FNF (NT4N46).

Figure 44
NT4N46 Core/Net shelf

553-9123b

Review upgrade requirements

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
⚠️	**Service Interruption** DO NOT proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

Check vintage requirements for existing hardware

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 QPC43 Peripheral Signaling cards must be minimum vintage R.

- NTRB53AA Clock Controller

- NTRB33AC/AD FIJI

If equipment does not meet the requirements, replace it before you begin the upgrade.

	CAUTION — Service Interruption
⚠️	**Service Interruption** Equipment that does not meet the minimum vintage requirements can cause system malfunctions and loss of call processing.

Check required hardware

Table 64 describes the *minimum* equipment required to upgrade a system. Additional equipment for increased Network capacity must be ordered separately.Check required power equipment

Table 64
Minimum equipment required to add an NT8D35 Network Group to an Option 81C/FNF equipped with an NT4N46 shelf

Order Number	Description	Quantity per system
NT8D99AB	Cable, Network to Network, 6 ft.	5
NTRB33AC/AD	Card, Fibre Junctor Interface (FIJI)	2
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	Pack, Conference, Tone and Digit Switch (CT)	2
NTRC47	FIJI to FIJI Cable	1
NT8D76	CNI to 3PE Cables	4
NT8D35	Network Shelves	2
NTRC48	Fiber-Optic cables	2

Tools

Table 65 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 65
List of recommended tools

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

Check personnel requirements

Nortel recommends that a minimum of two people perform the upgrade.

Route FIJI to FIJI cables

Pre-route an NTRC47AA cable between the FIJI cards in shelf 0 and shelf 1 of each added Network Group. See Figure 45 on .

To minimize system downtime during the upgrade, all FIJI cables must be in place before the Network Groups are installed.

Note: Do not disconnect the existing Fiber cables.

Figure 45
FIJI to FIJI cables (Option 81C example)

NTRC47AA FIJI to FIJI cables

553-9555
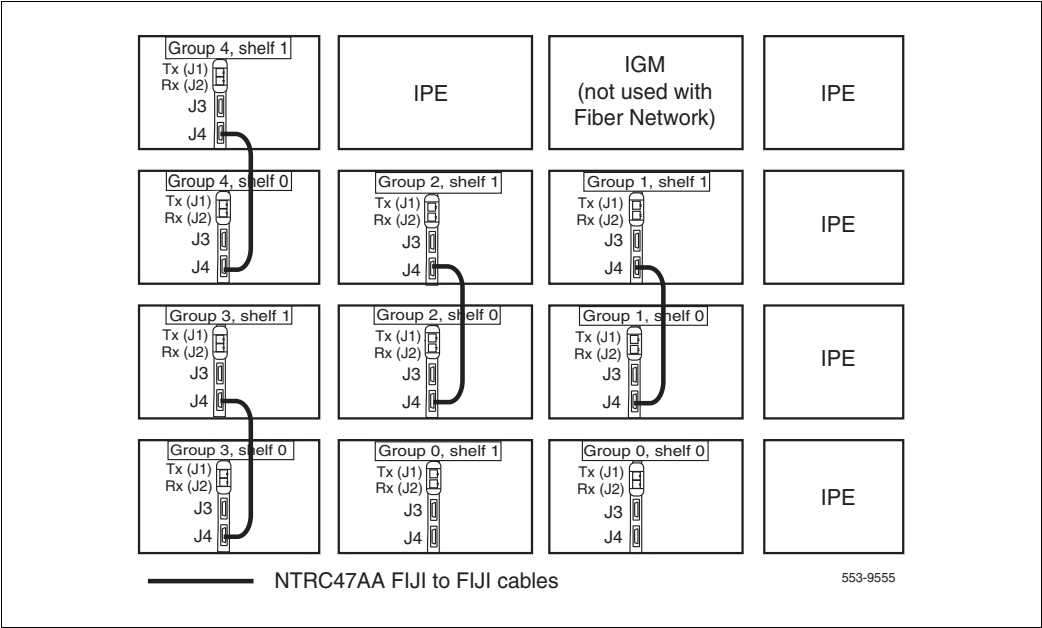
Procedure 106
Labeling and routing the shelf 0 fiber-optic cables (ascending)

Route the NTRC48 cables between the FIJI cards in each added Network shelf 0 in *ascending* order (Table 57 on page 300):

> **CAUTION**
> **Damage to Equipment**
> Do not excessively bend or cinch the Fiber Ring cables. These cables are easily damaged. Use the Optical Cable Management Card (OCMC) to manage and protect the Fiber Ring cables.

1   Start with shelf 0 in the current highest Network Group.

2   Label each cable on both sides with the appropriate connection information from Table 66 on page 346.

3   Route a NTRC48 FIJI Fiber Ring cable of the appropriate length from the FIJI card in shelf 0 of the current highest Network Group, to the FIJI card in shelf 0 of the added Network Group.

4   If more than one Network Group is to be added, route a second NTRC48 cable of the appropriate length to shelf 0 of the second added group.

5   Continue to route NTRC48 cable of the appropriate length in *ascending* order between shelf 0 of each added Network Group.

6   To complete the Ring, route a final cable from the highest number group back to Group 0, shelf 0.

Table 66
FIJI Ring 0 connections

Groups X - 0 are cabled in ascending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/0	P1	Tx - J1
1/0	P2	Rx - J2
1/0	P1	Tx - J1
2/0	P2	Rx - J2
2/0	P1	Tx - J1
3/0	P2	Rx - J2
3/0	P1	Tx - J1
4/0	P2	Rx - J2
4/0	P1	Tx - J1
5/0	P2	Rx - J2
5/0	P1	Tx - J1
6/0	P2	Rx - J2
6/0	P1	Tx - J1
7/0	P2	Rx - J2
7/0	P1	Tx - J1
0/0	P2	Rx - J2

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

Procedure 107
Labeling and routing the shelf 1 fiber-optic cables (descending)

Route the NTRC48 cables between the FIJI cards in each Network shelf 1 in
descending order (Figure 46 on page 348).

⚠	**CAUTION** **Damage to Equipment** Do not excessively bend or cinch the Fiber Ring cables. These cables are easily damaged. Use the Optical Cable Management Card (OCMC) to manage and protect the Fiber Ring cables.

Note: Each end of the NTRC48 cable is labeled "Tx" or "Rx" in the factory.

1   Start with Group 0, shelf 1.

2   Label each cable on both sides with the appropriate connection
information from Table 67 on page 349.

3   Route an NTRC48 FIJI Fiber Ring cable of the appropriate length from
shelf 1 of the FIJI card in Group 0, to the FIJI card in the added highest
Network Group, shelf 1.

4   Route a NTRC48 cable from the FIJI card in the added highest Network
Group, shelf 1 to the FIJI card in the second highest Network Group, shelf
1.

5   Continue to route NTRC48 FIJI Fiber Ring cables of the appropriate
lengths between shelf 1 of each added Network Group. Route these
cables in *descending* order of Network Groups.

6   Route a final cable to the current highest Network Group, shelf 1.

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

Figure 46
Shelf 1 descending fiber-optic Ring (example

NTRC48xx fiber optic cable

553-9557

)
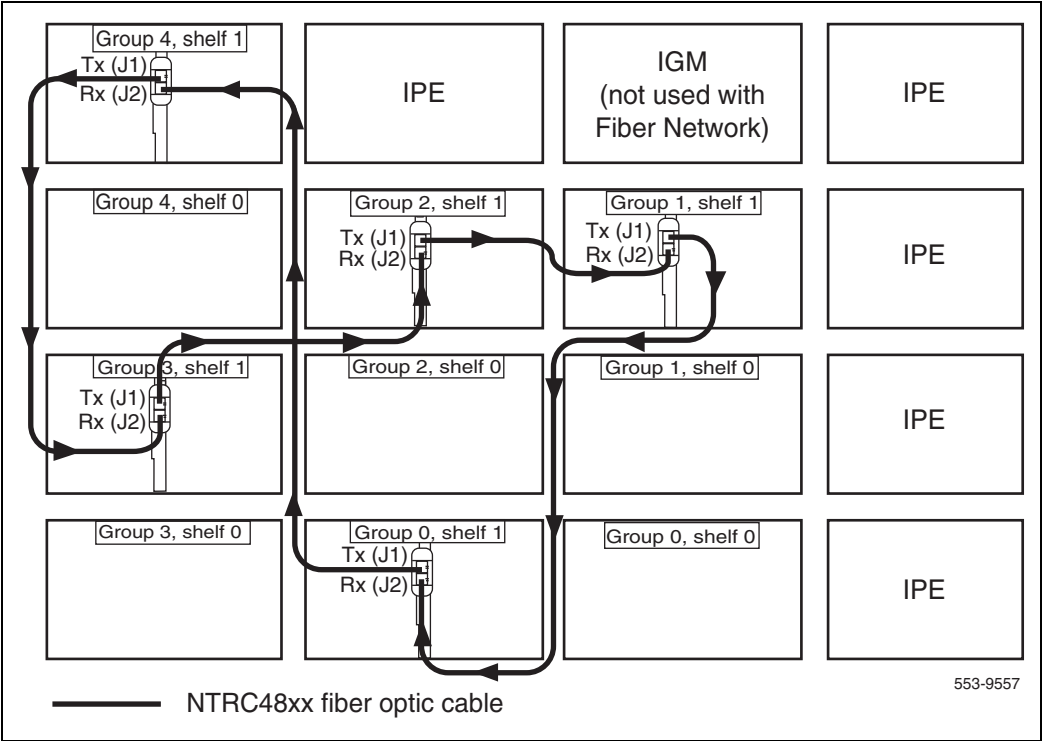
Table 67
FIJI Ring 1 connections

Groups 0 - X are cabled in descending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/1	P1	Tx - J1
7/1	P2	Rx - J2
7/1	P1	Tx - J1
6/1	P2	Rx - J2
6/1	P1	Tx - J1
5/1	P2	Rx - J2
5/1	P1	Tx - J1
4/1	P2	Rx - J2
4/1	P1	Tx - J1
3/1	P2	Rx - J2
3/1	P1	Tx - J1
2/1	P2	Rx - J2
2/1	P1	Tx - J1
1/1	P2	Rx - J2
1/1	P1	Tx - J1
0/1	P2	Rx - J2

Procedure 108
Interconnecting the network modules

The back of each network module backplane has five connectors: A, B, C, D and E. See Figure 47 on The shelf 0 connectors in Network groups 1 through 7 must be connected to the shelf 1 connectors of the Network groups 1 through 7. For example, for Network group 1, the shelf 0 connector must be connected to the shelf 1 connector.k group.

1   Connect an NT8D99AB cable from the A connector in shelf 0 of Network group 1 to the A connector in shelf 1 Network group 1.

2   Connect the B connector in shelf 0 to the B connector in shelf 1.

3   Connect the C connector in shelf 0 to the C connector in shelf 1.

4   Connect the D connector in shelf 0 to the D connector in shelf 1.

5   Connect the E connector in shelf 0 to the E connector in shelf 1.

6   Connect the A, B, C, D, and E connectors between shelf 0 and shelf 1 for all other Network groups in the system (except group 0).

Note: All connections are made with an NT8D99AB cable.

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

Figure 47
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)
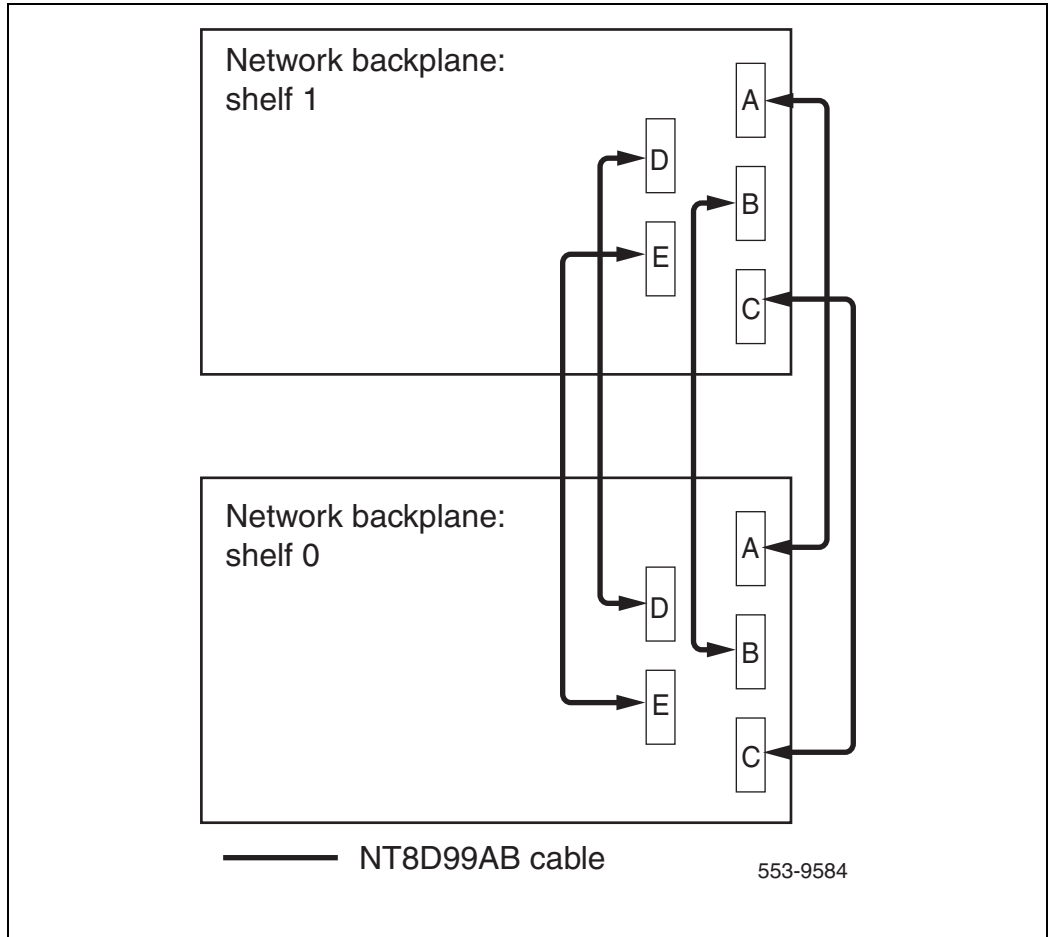
Network backplane: shelf 1

Network backplane: shelf 0

NT8D99AB cable

553-9584

Add CNI cards if necessary

If additional CNI cards are required, add to each Core Module as required.
See Figure 48.

Procedure 109
Adding CNI cards

1   Faceplate disable CNI card.

2   Insert card into Core/Net module, but do not seat card into backplane at this time.

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

Figure 48
NT4N46 Core/Net card cage

553-9123b
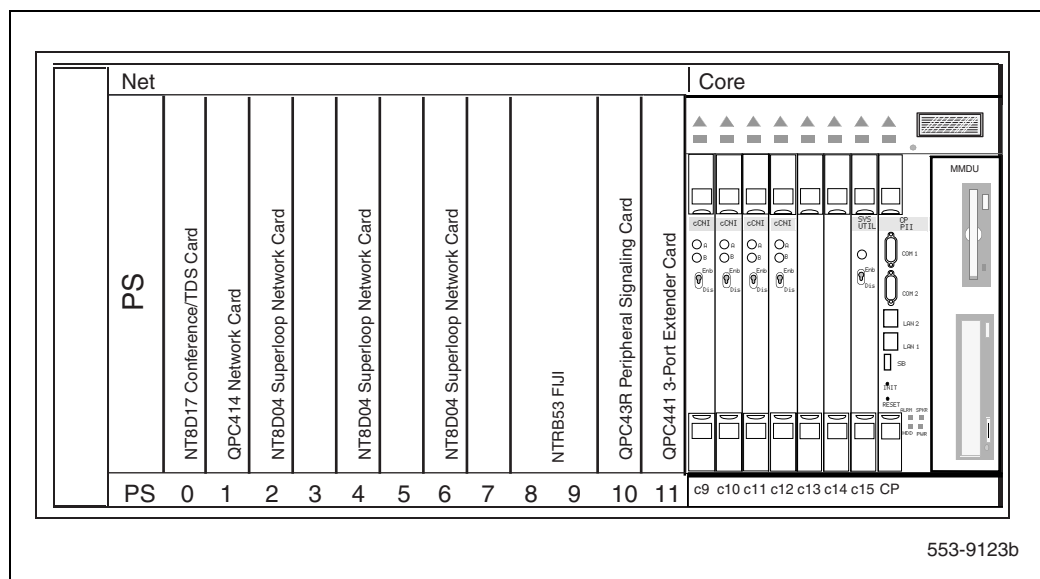
Procedure 110
Connecting the 3PE to CNI cables

The CNI slot and port connections are labeled on the 3PE Fanout Panel. Each 3PE card is connected from J3 and J4 of each 3PE faceplate to the 3PE Fanout Panel.

> *Note:* See Table 68, Figure 49 on , and Figure 50 on for NT8D76 cable connections.

1   Connect the NT8D76 cables to J3 and J4 of the 3PE cards.

2   Connect the new NT8D76 cables to the Fanout Panel in the Core/Net.

Table 68
Fanout Panel to 3PE card connectors

Group Number	Connects from the Fanout Panel connector	To the 3PE card connector
0	9-0, J3	J3
0	9-0, J4	J4
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: Group 0 cables connect from the CNI Transition card directly to the backplane of Core/Net 0 **OR** to the NT8D76 cable (depending on your CNI group configuration). If the Core/Net module contains a Network Group other than group 0, use NT4N72AA cables to connect the Fanout panel to the network portion of the Core/Net backplane.

———— **End of Procedure** ————

Figure 49
Example of 3PE faceplate to 3PE Fanout Panel connection

Network Group 1, shelf 0

Termination Panel
Core/Net 0

NT8D76xx cable

NT8D76xx cable

553-9492A
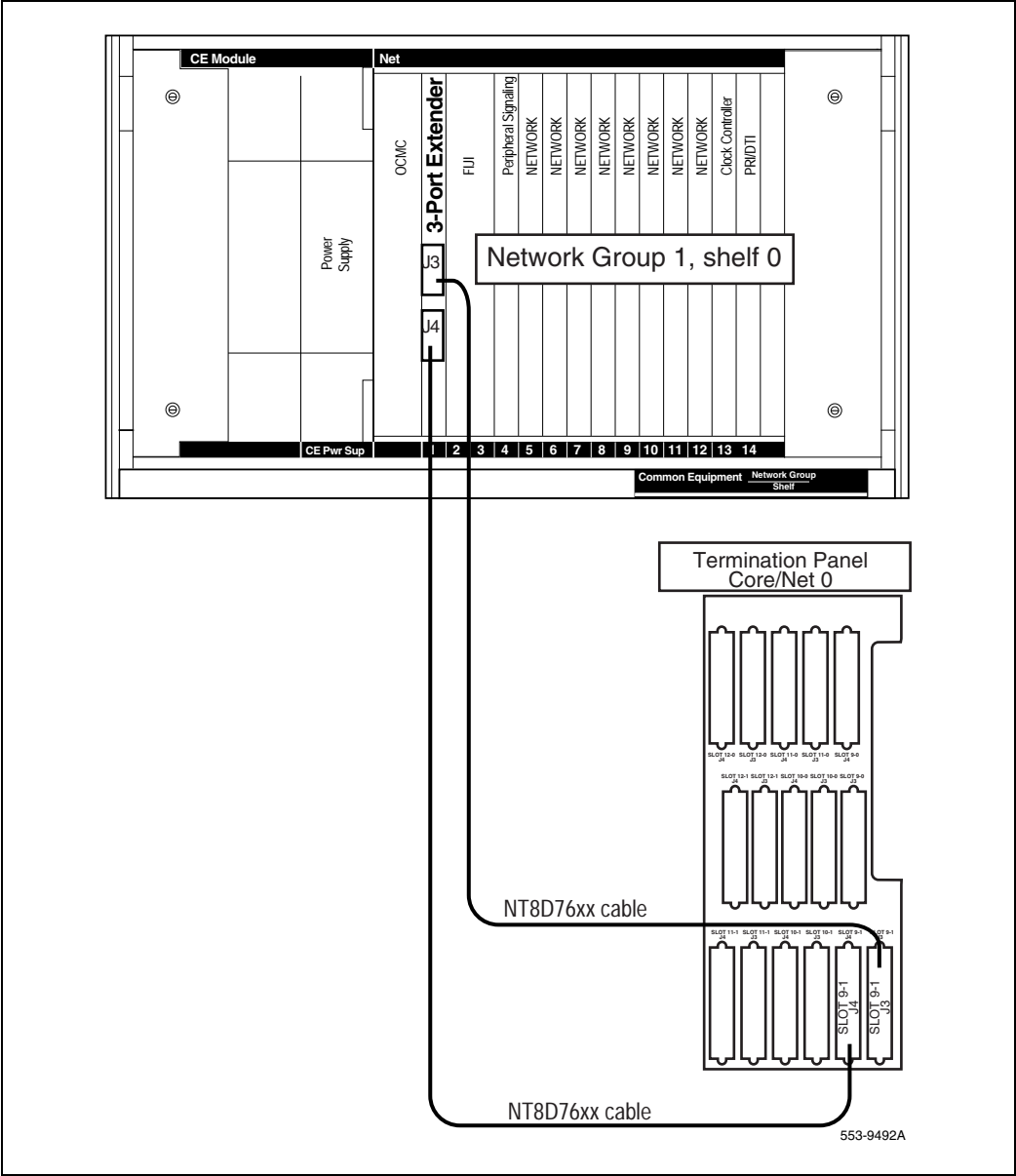
Figure 50
3PE Fanout Panel (Core/Net module)
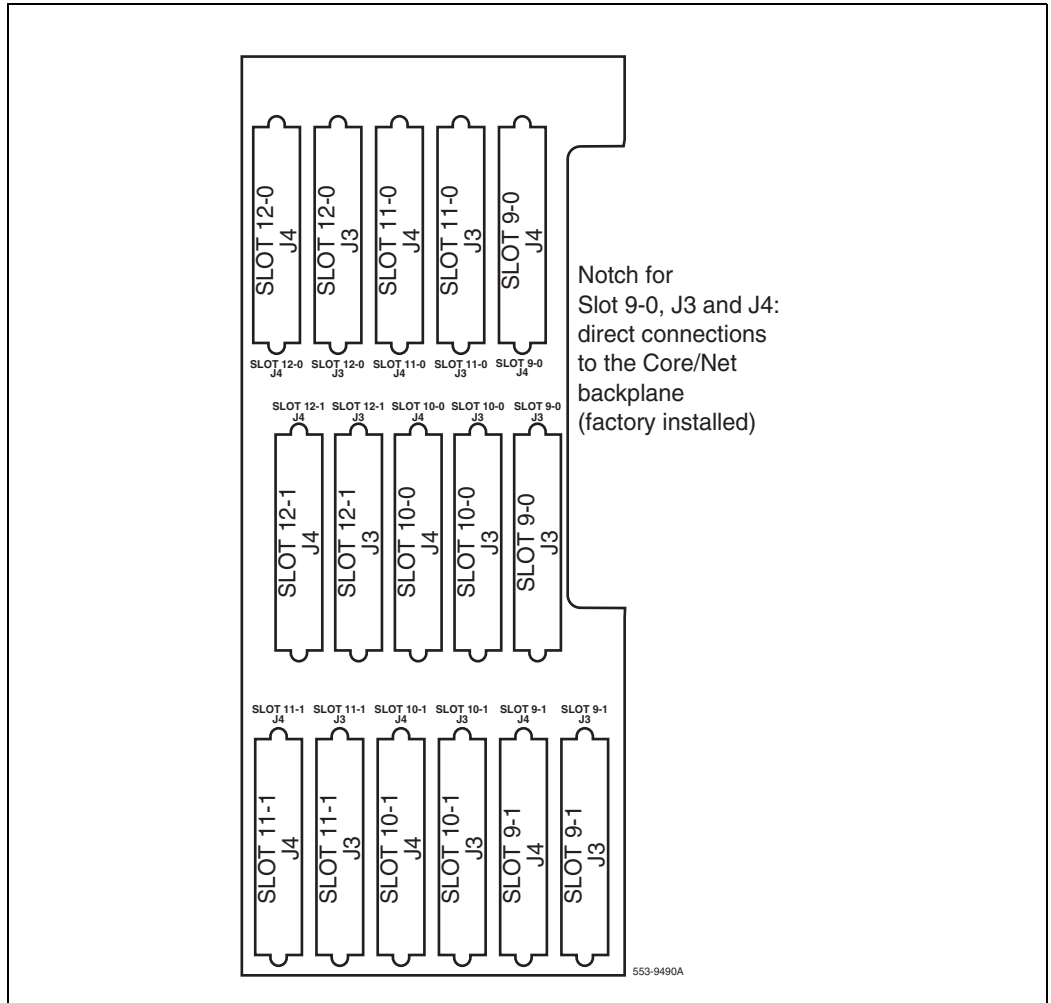
Install cards in the network modules

Network cards must be installed in the added Network modules as described below. Each card must be installed and enabled or disabled as indicated.

Procedure 111
Installing and enabling the 3PE cards

1   Verify the 3PE card settings.

   Switch settings on the 3PE card determine the group and shelf number of each Network module. Use the information in Table 69 on page 357 to verify that the 3PE cards in the added Network modules have the correct switch and jumper settings.

   The FIJI card displays group and shelf setting.

2   Install a 3PE card in slot 1 of each added Network module. Do not seat the cards yet.

3   Attach the cables to the 3PE faceplates.

Table 69
3PE card settings for the NT8D35 Module

Jumper Settings								
Set Jumper RN27 at E35 to "A".								
Switch Settings								
D20 switch position:		**1**	**2**	**3**	**4**			
81, 81C (Note)		off	on	on	on			
Shelf	Group	**D20 switch position:**				**5**	**6**	**7**	**8**
0 (3PE cards connected to the a CNI in Core or Core/Net 0)	0					on	on	on	on
	1					on	on	off	on
	2					on	off	on	on
	3					on	off	off	on
	4					off	on	on	on
	5					off	on	off	on
	6					off	off	on	on
	7					off	off	off	on
1 (3PE cards connected to the a CNI in Core or Core/Net 1)	0					on	on	on	off
	1					on	on	off	off
	2					on	off	on	off
	3					on	off	off	off
	4					off	on	on	off
	5					off	on	off	off
	6					off	off	on	off
	7					off	off	off	off

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

Procedure 112
Installing and enabling the QPC43R Peripheral Signaling cards

1   Install a Per Sig card into slot 4 of each added Network module. Push the latches forward to lock the card in place.

2   Faceplate *enable* the cards.

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

Procedure 113
Disabling and inserting the NTRB33AC FIJI cards

1   Faceplate *disable* the FIJI cards.

2   Insert the FIJI cards into slots 2 and 3 of each added Network module.

3   Do not plug the card into the backplane.

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

Procedure 114
Disabling and inserting the NT8D17 Conf/TDS cards

If Conf/TDS cards are used in the system, follow the procedures below.

1   Faceplate *disable* the Conf/TDS cards.

2   Insert a Conf/TDS card into each added Network module.

3   Do not plug the card into the backplane.

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

Enable the Network Group

> *Note:* If you are adding more than one Network Group, add one group at a time in software. Follow all the remaining procedures in this chapter to enable one group before enabling another group.

Procedure 115
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 116
Checking that Clock Controller 0 is active

1   Check the status of the Clock Controllers:

LD 60	Load program
SSCK 0	Get the status of Clock Controller 0
SSCK 1	Get the status of Clock Controller 1

2   If Clock Controller 1 is active, switch to Clock Controller 0.

SWCK	Switch to Clock Controller 0 (if necessary)
DIS CC 1	Disable Clock Controller 1
****	Exit program

———— **End of Procedure** ————

Add the CNI cards or ports

Procedure 117
Adding the CNI cards or ports

> *Note:* CNI cards can be enabled and connected on the *inactive* Core
> only.

1   In OVL 135 split the Cores.

LD 135	To load the program.
SPLIT	Split the Cores.
****	To exit the program.

Follow these steps to activate the added CNI ports. Wait until the INI is
complete on Core 1:

2   On Core 1 only, define the XCT and extenders to the added group.

Note: See Table 69 on :

LD 17	To load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
<cr>	Continue to the last prompt.
****	To exit the program.

Table 70 specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 70
Fanout Panel to 3PE card connectors

Group Number	connects from	Fanout Panel connector	to	3PE card connector
0		9-0, J3		J3
0		9-0, J4		J4
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: Group 0 cables connect from the CNI Transition card directly to the backplane of Core/Net 0 **or**
to the NT8D76 cable (depending on your CNI group configuration). If the Core/Net module contains a Network Group other than group 0, use NT4N72AA cables to connect the Fanout panel to the network portion of the Core/Net backplane.

3   Perform a data dump:

    LD 43   To load the program.

    EDD   Invoke data dump program.

    ****   To exit the program.

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

Procedure 118
Checking that Ring 0 is active in Core 0

1   Check the status of Ring 0.

LD 39	Load program
STAT RING 0	Get the status of Ring 0 (Ring state should be HALF/HALF)

2   Disable Ring auto recovery.

LD 39	Load program
ARCV OFF	Set or reset auto-recovery operation for ring

3   Swap to Ring 0.

LD 39	Load program
SWRG 0	Swing Traffic to Ring x.

4   Disable Ring 1.

LD 39	Load program
DIS RING 1	Disable all FIJI cards on side 1

> ⚠️ **WARNING**
>
> Cable Ring 1 to new network shelf only.

---

5   Seat the remaining cards (3PE, PER SIG, XCT, FIJI) in both network modules.

Note: Cards must be faceplate disabled before seating.

6   Faceplate enable all cards in both network modules (3PE, PER SIG, XCT and FIJI).

7 Break Ring 1 and cable the added FIJI cards. See Figure 39 on .
Ring 1 is descending. Transmit from the lower Group FIJI card to Receive
of next higher Group FIJI card. Transmit of the highest Group FIJI card
cables to the Receive of Group FIJI card.

8 **In Core 1 only**, seat the new CNI card and faceplate enable.

	IMPORTANT!
⚠️	Power down all applications such as Meridian Mail, CallPilot, and Symposium.

	CAUTION
⚠️	**Service Interruption**
	Call processing is interrupted for approximately 10 minutes while the INI is completed.

9 In LD 135 switch Cores.

LD 135   To load the program.

CUTOVR   Switch Cores

	WARNING
⚠️	All call processing may be interrupted.

	IMPORTANT!
⚠️	Power up all applications such as Meridian Mail, CallPilot, and Symposium.

✔ Core 1 is active, Clock 0 is active, FIJI ring 1 is full, FIJI ring 0 is none.

CAUTION

Service Interruption

Allow the system to recover from all downloads after the INI completes.

Note 1: 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 does not affect service. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

Note 2: Wait for new ring state change message to appear before proceeding:

```
New State Ring 0 None
          Ring 1 Full
```

10 Switch the clock controllers, if necessary:

LD 60	To load the program.
SSCK n	Get status of clock n where
	n = 0 for clock controller 0
	1 for clock controller 1

SWCK	Switch system clock from active to standby.
	Note: Make clock controller 1 the active clock.
****	To exit the program.

11 Disable Ring 0.

LD 39	To load the program.
DIS RING 0	Disable Ring 0.
****	To exit the program.

12 Break Ring 0 and cable the added FIJI cards. Ring 0 is ascending. Transmit from the lower Group FIJI card to Receive of next higher Group FIJI card. Transmit of the highest Group FIJI card cables to the Receive of Group FIJI card.

> ✔ The system is in split mode with Core 1 active. Clock 1 active and FIJI half and half.

13 In LD 39, enable and stat Ring 0:.

LD 39	To load the program.
ENL Ring 0	Enable Ring 0.
Stat Ring 0	Status of Ring x.
****	To exit the program.

14 **In Core 0 only,** define the XCT and Extenders to the added group.

Note: See Table 69 on :

LD 17	To load the program.
REQ	CHG
TYPE	CEQU

XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
\<cr\>	Continue to the last prompt.
****	To exit the program.

15 Data dump the software changes.

LD 43	To load the program.
EDD	Invoke data dump program.
****	To exit the program.

16 Seat the CNI card in Core 0 and faceplate enable it.

17 In Core 1, Stat the CNIs:

LD 135	Load the program.
STAT CNI	Get status of CNI card.
	Note: If any CNIs are disabled they must be enabled.
JOIN	Synchronize the memory and drives.
****	To exit the program.

——————— **End of Procedure** ———————

Test the Cores

Procedure 119
Testing Core/Net 1

From Core/Net 1, perform these tests.

1 Perform a redundancy sanity test:

LD 135	Load the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	

3   Test the System Utility cards and the CNI cards.

    LD 135   Load the 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 CNI cards (core, slot).

    TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

    LD 137   Load the 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 the program.

    ENL TTY x   Enable the XMS, where x= system XMS.

    STAT XSM   Check the system monitors.

    ****   Exit the program.

6   Clear the display and minor alarms on both Cores.

    LD 135   Load the program.

    CDSP   Clear the displays on the cores.

    CMAJ   Clear major alarms.

    CMIN ALL   Clear minor alarms.

7   Test the clocks.

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

LD 60	Load the program.
SSCK *x*	To get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.
SWCK	Switch the Clock if necessary.

    b.   Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8   Test the Fiber Rings

See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

    a.   Check that the Fiber Rings operate correctly.

LD 39	Load the 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, Symposium, and Meridian Mail..

11 Check for dial tone.

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

Procedure 120
Switching call processing

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

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

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

Procedure 121
Testing Core/Net 0

From Core/Net 0, perform these tests.

1 Perform a redundancy sanity test:

LD 135	Load the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	Display all.

3   Test the System Utility cards and the CNI cards.

    LD 135   Load the 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 CNI cards (core, slot).

    TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

    LD 137   Load the program.

    TEST RDUN   Test redundancy.

    DATA RDUN

    TEST CMDU   Test the MMDU card.

5   Test that the system monitors are working.

    LD 37   Load the program.

    STAT XSM   Check the system monitors

    ****   Exit the program.

6   Clear the display and minor alarms on both Cores.

    LD 135

    CDSP   Clear the displays on the cores.

    CMAJ   Clear major alarms.

    CMIN ALL   Clear minor alarms.

7   Test the clocks.

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

LD 60	Load the program.
SSCK *x*	Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.
SWCK	Switch the Clock if necessary.

    b.   Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8   Test the Fiber Rings

Note: See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

    a.   Check that the Fiber Rings operate correctly.

LD 39	Load the 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 for dial tone.

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

Post-conversion steps must now be performed. See the "Post-conversion procedure" on .

Add a Core Network Group to Option 81C/IGS CP PII

Prepare for upgrade

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

Each chapter features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section is written to maintain dial tone where possible and limit service interruptions.

Each section assumes any NT8D35 Network module installation is complete. For NT8D35 installation information see the *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

3PE Termination Panel

Note: Check the current termination panel to determine if it is currently a P0942599 3PE termination panel. If the panel is the older 7 group version (P0908658), it must be changed.

The 3PE Termination Panel is mounted behind the CP PII Core shelf, and is used to mount the connectors from the CNI Transition Cards. The previous panel (P0908658) has sufficient cutouts to mount the connectors for 7 groups, those corresponding to groups 1 to 7. The connectors from CNI in slot 9, port 0 typically pass through a slot in the panel and are directly connected to the

Network portion of the Core/Net backplane. Thus this panel has 14 connector cutouts. This is supplied as part of the CP PII processor complex, and does not need to be ordered separately or installed on site.

The new 3PE termination panel P0942500 differs in that it has cutouts for 16 connectors, thus allowing CNI terminations for all 8 groups to be terminated. In new systems and hardware upgrades as supplied from the factory, only 14 connectors (those corresponding to groups 1 – 7) are terminated, with the two remaining cutouts left empty.

The CNI cables corresponding to Network group 0 still pass through a slot in this panel to terminate directly on the Network backplane, and this is how new systems continue to be delivered. However, it is possible to disconnect these Group 0 connectors from the Network backplane and mount them into the panel, which facilitates connecting 3PE cables connected to a remote Network group 0.

These new panels are included as standard on all CP PII NT4N46 shelf systems manufactured after February 18th 2002. The panels are also included with hardware upgrades, beginning approximately with the introduction of X11/25.40 software in early 2002. The panels are also available as merchandise to retrofit into any CP PII system installed prior to then.

NT4N72AA cable

This short (19 inch – 48 cm.) cable is designed to interconnect the connectors mounted in the 3PE Termination Panel discussed above to the 3PE Network connectors on the Network portion of the Core/Net backplane. Any Network group CNI cards are easily connected to the Network backplane, allowing any Network group to be placed in the Core/Net.

Two cables are required in each CP PII module, and 4 are required in a complete Meridian 1 Option 81C CP PII system. These cables are not required when Network group 0 is installed in the Core/Net shelf, since the CNI Transition Card cables for group 0 pass directly through the 3PE Termination Panel and terminate on the Network backplane (the standard factory configuration). These cables are delivered as part of any marketing packages, and have to be ordered as merchandise when needed.

> *Note:* It is still required that the two Core/Net shelves only contain a single Network group. For example, it is not possible to place one half of Group 1 in a Core/Net shelf and the other half in a Network shelf, and then proceed to split up Group 2 in the same way using the other Core/Net shelf.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 71.

Table 71
Prepare for upgrade steps

Procedure Step	Page
Plan the upgrade	377
Upgrade checklists	378
Prepare	378
Identifying the proper procedure	379
Connect a terminal	379
Print site data	379
Perform a template audit	382
Back up the database (data dump)	384

Plan the upgrade

Planning for an upgrade includes the following details:

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure Sufficient power for new columns/modules or applications

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- A contingency plan for backing out of the upgrade.

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of the *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform. See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Current patch or Dep lists installed at the source platform.

- Required patch or Dep lists at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and keycode.

- 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 122
Connecting a terminal

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

- Connect a terminal to the J25 port on the I/0 panel in the *inactive* Core or Core/Net module.

- The settings for the terminal are:

a. 9600 Baud

b. 8 data

c. parity none

d. 1 stop bit

e. full duplex

f. XOFF

If only one terminal is used for both Core or Core/Net modules, connect the terminal from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

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

Print site data

Print site data to preserve a record of the system configuration (see Table 63). 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 72
Print site data (Part 1 of 3)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN

Table 72
Print site data (Part 2 of 3)

Site data	Print command	
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	
		IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB

Table 72
Print site data (Part 3 of 3)

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

Perform a template audit

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

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

CAUTION — Service Interruption

Loss of Data

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**
TEMPLATE 0003 NO USERS FOUND	

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

-
-

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

Procedure 123
Performing a data dump

1   On the Meridian 1 Option 81C, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43 from the source (current) media. At the prompt, enter:

   LD 43   Load the program.

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

   EDD   Begin the data dump.

> ⚠️ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

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

   ****   Exit the program.

> ⚠️ **IMPORTANT!**
>
> Preserve database backup information for a minimum of 5 days.

────── **End of Procedure** ──────

Perform the upgrade

Introduction

> ⚡ **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.

Complete the procedure in this section to add a Core Network Group to the Meridian 1 Option 81C/IGS (NT4N46).

Figure 51 shows the NT4N46 Core/Net shelf.

Figure 51
CP PII NT4N46 Core/Net shelf

553-9123a

Review upgrade requirements

This section describes the *minimum* equipment required for CP PII with IGS. 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

Service Interruption

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

Check vintage requirements for existing hardware

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 QPC43 Peripheral Signaling cards must be minimum vintage R.

If equipment does not meet the requirements, replace it before you begin the upgrade.

CAUTION — Service Interruption

Service Interruption

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

Check required hardware

Table 73 describes the *minimum* equipment required to add a Network Group to Meridian 1 Option 81C/IGS CP PII (NT4N46). Additional equipment for increased Network capacity must be ordered separately.

Table 73
Minimum equipment required to add a Core Network Group to an Option 81C/IGS equipped with an NT4N46 shelf

Order Number	Description	Quantity per system
NT8D80BZ	Cable, CPU Interface, 5 ft.	2
NT8D99AD	Cable, Network to Network, 6 ft.	2
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	Pack, Conference, Tone and Digit Switch (CT)	2
NT8D76	IGS to IGM DIGS cards cable	4
NT4N72	CNI Core/Net Cable	4
PO942500	16-connector cutout 3PE Termination Panel	2
NT5D30	Dual IGS card	2
NT4N65AC	CNI card	4

Tools

Table 56 lists the tools required to upgrade a Nortel system. Special tools
required in a procedure are listed in that procedure.

Table 74
List of recommended tools

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

Placing a Group other than Group 0 in the core

Procedure 124
Placing a Group other than Group 0 in the core

If it is desired to modify a system that is already installed, or is currently being
installed, so that a group other than Group 0 is in the Core/Net, some
reconfiguration of the factory arrangement will be required.

Figure 52
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)

Complete the following steps on *both* Core/Net modules.

1   Power down the Core/Net shelf (after transferring call processing to the other Core if required).

2   Ensure that the 16-connector cutout 3PE Termination Panel P0942500 is equipped. This can be retrofitted into systems initially equipped with the 14-connector cutout Panel P0908658 by removing all the cable connectors and then the 4 screws that attach the panel to its frame.

3   Remove the connections from the Network backplane connectors that originate from CNI card 9, port 0. This may involve removing the screws that hold in the panel, so that the connectors can be moved through the slot.

4   Connect all eight pairs of cables from the CNI Transition Cards to this panel.

5   Using two cables NT4N72AA, connect the appropriate pair of connectors on the 3PE Termination Panel corresponding to the desired Group to the two connectors on the Network backplane.

6   Use standard NT8D76 cables to connect all other groups, including Group 0, to the 3PE cards in the respective Network modules.

7   Restore power to the Core/Net shelf, transfer call processing if required, and proceed to upgrade the other Core/Net shelf.

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

Interconnect the network modules

On the back of each Core/Net module backplanes are 2 connectors labeled D and E.

Procedure 125
Interconnecting the network modules

1   Connect the NT8d99AD cable from the D connector in shelf 0 to the D connector in shelf 1 of the NT4N40 Core/Net Module.

2   Connect the NT8d99AD cable from the E connector in shelf 0 to the E connector in shelf 1 of the NT4N40 Core/Net Module.

Add CNI cards if necessary

If additional CNI cards are required, add to each Core Module as required. See Figure 41.

Procedure 126
Adding CNI cards

1   Face plate disable CNI card.

2   Insert card into Core/Net module, but do not seat card into backplane at this time.

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

Figure 53
NT4N46 Core/Net card cage
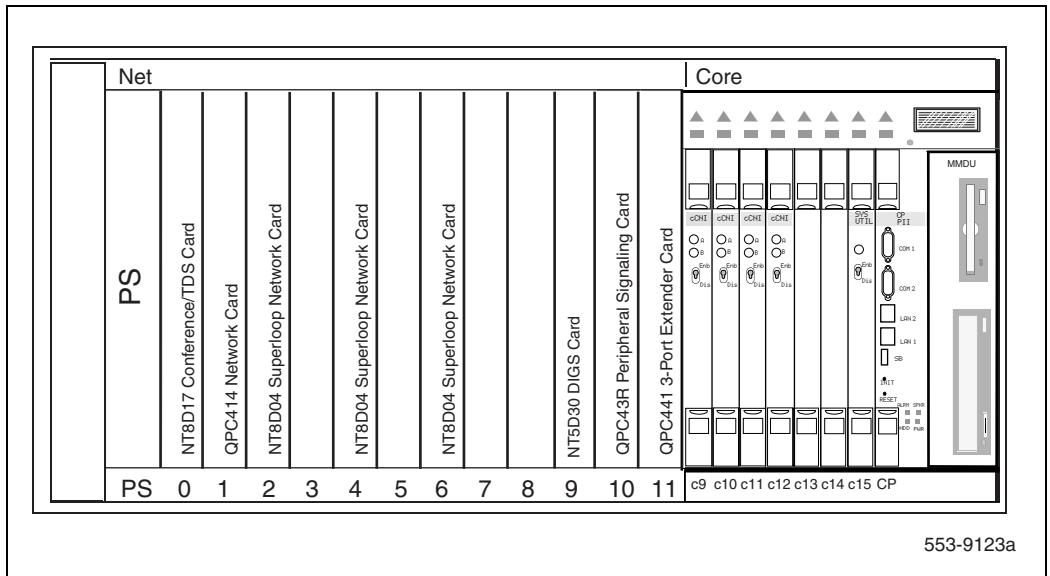
553-9123a

Connect the 3PE to CNI cables

Procedure 127
Connecting the 3PE to CNI cables

The CNI slot and port connections are labeled on the 3PE Fanout Panel.

See Table 75 on and Figure 54 on for NT4N72 cable connections.

1   Connect NT4N72 cable from the Fanout Panel J3 to the Backplane Connector marked "A".

2   Connect NT4N72 cable from the Fanout Panel J4 to the Backplane Connector marked "B"

3   Connect NT8D80BZ cable from J3 of the 3PE card in Core 0 to the J3 of 3PE card in Core 1.

4   Connect NT8D80BZ cable from J4 of the 3PE card in Core 0 to the J4 of 3PE card in Core 1.

Figure 54
3PE Fanout Panel (Core/Net module

SLOT 12-0 J4
SLOT 12-0 J3
SLOT 11-0 J4
SLOT 11-0 J3
SLOT 9-0 J4

SLOT 12-0 J4   SLOT 12-0 J3   SLOT 11-0 J4   SLOT 11-0 J3   SLOT 9-0 J4

Notch for
Slot 9-0, J3 and J4:
direct connections
to the Core/Net
backplane
(factory installed)

SLOT 12-1 J4   SLOT 12-1 J3   SLOT 10-0 J4   SLOT 10-0 J3   SLOT 9-0 J3

SLOT 12-1 J4
SLOT 12-1 J3
SLOT 10-0 J4
SLOT 10-0 J3
SLOT 9-0 J3

SLOT 11-1 J4   SLOT 11-1 J3   SLOT 10-1 J4   SLOT 10-1 J3   SLOT 9-1 J4   SLOT 9-1 J3

SLOT 11-1 J4
SLOT 11-1 J3
SLOT 10-1 J4
SLOT 10-1 J3
SLOT 9-1 J4
SLOT 9-1 J3

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Table 75
Termination Panel to 3PE card connectors

Group Number	connects from	Fanout Panel connector	to	3PE card connector
0		9-0, J3		J3
0		9-0, J4		J4
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: Group 0 cables connect from the CNI Transition card directly to the backplane of Core/Net 0 **OR**
to the NT8D76 cable (depending on your CNI group configuration). If the Core/Net module contains a Network Group other than group 0, use NT4N72AA cables to connect the Fanout panel to the network portion of the Core/Net backplane.

Install cards in the network modules

Network cards must be installed in the added Network modules as described below. Each card must be installed and enabled or disabled as indicated.

Procedure 128
Installing and enabling the 3PE cards

1   Verify the 3PE card settings.

Switch settings on the 3PE card determine the group and shelf number of each Network module. Use the information in Table 76 and Table 77 on page 396 to verify that the 3PE cards in the added Network modules have the correct switch and jumper settings.

The FIJI card displays group and shelf setting.

2   Install a 3PE card in slot 1 of each added Network module. Do not seat the cards yet.

3   Attach the cables to the 3PE faceplates.

Table 76
Settings for switch D20 on QPC441 3PE card in Option 81C network shelf 1 modules

Group	Switch position							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0	off	on	on	off	on	on	on	off
1	off	on	on	off	on	on	off	off
2	off	on	on	off	on	off	on	off
3	off	on	on	off	on	off	off	off
4	off	on	on	off	off	on	on	off
Note: Jumper RN27 at location E35: set to A								

Table 77
Settings for switch D20 on QPC441 3PE card in Option 81C network shelf 0 modules

Group	Switch position							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0	off	on	on	off	on	on	on	on
1	off	on	on	off	on	on	off	on
2	off	on	on	off	on	off	on	on
3	off	on	on	off	on	off	off	on
4	off	on	on	off	off	on	on	on
Note: Jumper RN27 at location E35: set to A								

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

Procedure 129
Installing and enabling the QPC43R Peripheral Signaling cards

1   Install a Per Sig card into slot 4 of each added Network module. Push the latches forward to lock the card in place.

2   Faceplate *enable* the cards.

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

Procedure 130
Disabling and inserting the NT5D30 DIGS cards

1   Faceplate *disable* the DIGS cards.

2   Insert DIGS card into slot 9 of each Core/Net Module.

Do not plug the cards into the backplane.

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

Procedure 131
Disabling and inserting the NT8D17 Conf/TDS cards

If Conf/TDS cards are used in the system, complete the following steps.

1   Faceplate *disable* the Conf/TDS cards.

2   Insert a Conf/TDS card into each added Network module.

Do not plug the card into the backplane.

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

Enable the Network Group

Note: If you are adding more than one Network Group, add one group at a time in software. Follow all the remaining procedures in this chapter to enable one group before enabling another group.

Procedure 132
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 133
Checking that Clock Controller 0 is active

1 Check the status of the Clock Controllers:

>   **LD 60**   Load program

>   **SSCK 0**   Get the status of Clock Controller 0

>   **SSCK 1**   Get the status of Clock Controller 1

2 If Clock Controller 1 is active, switch to Clock Controller 0.

>   **SWCK**   Switch to Clock Controller 0 (if necessary)

>   **DIS CC 1**   Disable Clock Controller 1

>   ********   Exit program

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

Add the CNI cards or ports

Procedure 134
Adding the CNI cards or ports

> *Note:* CNI cards can be enabled and connected on the *inactive* Core only.

1   In OVL 135 split the Cores.

LD 135	To load the program.
SPLIT	Split the Cores.
****	To exit the program.

Follow these steps to activate the added CNI ports. Wait until the INI is complete on Core 1:

2   On Core 1 only, define the XCT and extenders to the added group.

> *Note:* See Table 75 on :

LD 17	To load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)

        <cr>   Continue to the last prompt.

        ****   To exit the program.

3   Perform a data dump

        LD 43   To load the program.

        EDD   Invoke data dump program.

        ****   To exit the program.

Table 78 specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software

Table 78
Fanout Panel to 3PE card connectors

Group Number	connects from	Fanout Panel connector	to	3PE card connector
0		9-0, J3		J3
0		9-0, J4		J4
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: Group 0 cables connect from the CNI Transition card directly to the backplane of Core/ Net 0 **or**
to the NT8D76 cable (depending on your CNI group configuration). If the Core/Net module contains a Network Group other than group 0, use NT4N72AA cables to connect the Fanout panel to the network portion of the Core/Net backplane.

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

Procedure 135
Seating remaining cards

1   Seat the remaining cards (3PE, PER SIG, XCT, DIGS) in both network modules.

Note: Cards must be faceplate disabled before seating.

> 2   Faceplate enable all cards in both network modules (3PE, PER SIG, XCT and DIGS).
>
> 3   Cable the added DIGS cards. See Table 79 and Figure 55 on .

Table 79
IGS to InterGroup cable assignment—use NT8D76 cables

From				To
Network Group	Network Shelf	Slot	IGS Connector J1	InterGroup Connector
0	0 (Core/Net 0)	8	0	J1
0	0 (Core/Net 0)	9	1	J6
0	1 (Core/Net 1)	9	1	J17
0	1 (Core/Net 1)	8	0	J22
1	0	3	0	J2
1	0	2	1	J7
1	1	2	1	J16
1	1	3	0	J21
2	0	3	0	J3
2	0	2	1	J8
2	1	2	1	J15
2	1	3	0	J20
3	0	3	0	J4
3	0	2	1	J9
3	1	2	1	J14
3	1	3	0	J19
4	0	3	0	J5
4	0	2	1	J10
4	1	2	1	J13
4	1	3	0	J18

Note: The NT5D30 DIGS card is located in slot 9 of the Core/Net and slot 2 of the NT8D35 Network shelf.

Figure 55
NT8D36 Inter-group module connections for IGS cards

4   In Core 1 only, seat the new CNI card and faceplate enable.

IMPORTANT!

Power down all applications such as Meridian Mail, CallPilot, and Symposium.

CAUTION

Service Interruption

Call processing is interrupted for approximately 10 minutes while the INI is completed.

---

5   In LD 135 switch Cores.

LD 135   To load the program.

CUTOVR   Switch Cores

> **WARNING**
> All call processing may be interrupted.

> **IMPORTANT!**
>
> Power up all applications such as Meridian Mail, CallPilot, and Symposium.

> ✔ Core 1 is active, Clock 0 is active.

6   Switch the clock controllers, if necessary:

LD 60	To load the program.
SSCK n	Get status of clock n where n = 0 for clock controller 0 1 for clock controller 1
SWCK	Switch system clock from active to standby. *Note:* Make clock controller 1 the active clock.
****	To exit the program.

> ✔ The system is in split mode with Core 1 active. Clock 1 is active.

7   **In Core 0 only,** define the XCT and extenders to the added group.

Note: See Table 69 on page 357:

LD 17	To load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
<cr>	Continue to the last prompt.
****	To exit the program.

8   Data dump the software changes.

LD 43	To load the program.
EDD	Invoke data dump program.
****	To exit the program.

9   Seat the CNI card in Core 0 and faceplate enable it.

10 In Core 1, Stat the CNIs:

LD 135	Load the program.
STAT CNI	Get status of CNI card.
	Note: If any CNIs are disabled they must be enabled.
JOIN	Synchronize the memory and drives.
****	To exit the program.

——————— **End of Procedure** ———————

Test the Cores

Procedure 136
Testing Core/Net 1

From Core/Net 1, perform these tests.

1 Perform a redundancy sanity test:

LD 135	Load the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	

3   Test the System Utility cards and the CNI cards.

    LD 135   Load the 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 CNI cards (core, slot).

    TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

    LD 137   Load the 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 the program.

    ENL TTY x   Enable the XMS, where x= system XMS.

    STAT XSM   Check the system monitors.

    ****   Exit the program.

6   Clear the display and minor alarms on both Cores.

    LD 135   Load the program.

    CDSP   Clear the displays on the cores.

    CMAJ   Clear major alarms.

    CMIN ALL   Clear minor alarms.

7   Test the clocks.

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

LD 60	Load the program.
SSCK *x*	To get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.
SWCK	Switch the Clock if necessary.

    b.   Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8   Check the IGS status.

LD 39	Load the program.
STAT IGS X	Check the status of IGS (X = IGS/DIGS card number. See Table 80).
****	Exit program.

Table 80
Shelf 0 and 1 IGS/DIGS card locations (Part 1 of 2)

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
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

Table 80
Shelf 0 and 1 IGS/DIGS card locations (Part 2 of 2)

Network Group	Shelf	IGS/DIGS card locations
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

9   Check applications such as CallPilot, Symposium, and Meridian Mail..

10   Check for dial tone.

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

Procedure 137
Switching call processing

> **LD 135**   Load the program.
>
> **SCPU**   Switch call processing from Core/Net 1 to Core/Net 0.

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

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

Procedure 138
Testing Core/Net 0

From Core/Net 0, perform these tests.

1   Perform a redundancy sanity test:

> **LD 135**   Load the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	Display all.

3   Test the System Utility cards and the CNI cards.

LD 135	Load the 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 CNI cards (core, slot).
TEST CNI c s	Test CNI (core, slot).

4   Test system redundancy.

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

5   Test that the system monitors are working.

LD 37	Load the program.
STAT XSM	Check the system monitors.
****	Exit the program.

6   Clear the display and minor alarms on both Cores.

LD 135	
CDSP	Clear the displays on the cores.

CMAJ		Clear major alarms.
CMIN ALL		Clear minor alarms.

7   Test the clocks.

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

LD 60	Load the program.
SSCK *x*	Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.
SWCK	Switch the Clock if necessary.

b.   Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8   Check the IGS status.

LD 39	Load the program.
STAT IGS X	Check the status of IGS (X = IGS/DIGS card number. See Table 81).
****	Exit program.

Table 81
Shelf 0 and 1 IGS/DIGS card locations (Part 1 of 2)

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
Network Group 0	Shelf 1	IGS/DIGS 1 & 3

Table 81
Shelf 0 and 1 IGS/DIGS card locations (Part 2 of 2)

Network Group	Shelf	IGS/DIGS card locations
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.		

9   Check applications (such as CallPilot and Symposium).

10   Check for dial tone.

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

Post-conversion steps must now be performed. See the "Post-conversion procedure" on page 451.

Add an NT8D35 Network Group to Option 81C/IGS CP PII

Prepare for upgrade

Introduction

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

Each chapter features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section is written to maintain dial tone where possible and limit service interruptions. Each section assumes any NT8D35 Network module installation is complete. For NT8D35 installation information see the *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 82:

Table 82
Prepare for upgrade steps (Part 1 of 2)

Procedure Step	Page
Plan the upgrade	414
Upgrade checklists	414
Prepare	415
Identifying the proper procedure	415
Connect a terminal	415
Print site data	416

Table 82
Prepare for upgrade steps (Part 2 of 2)

Procedure Step	Page
Perform a template audit	419
Back up the database (data dump)	420

Plan the upgrade

Planning for an upgrade includes the following details:

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure Sufficient power for new columns/modules or applications

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

DANGER OF ELECTRIC SHOCK

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of the *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform. See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Current patch or Dep lists installed at the source platform.

- Required patch or Dep lists at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and keycode.

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 139
Connecting a terminal

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

- Connect a terminal to the J25 port on the I/0 panel in the *inactive* Core or Core/Net module.

- The settings for the terminal are:

a. 9600 Baud

b. 8 data

c. parity none

d. 1 stop bit

e. full duplex

f. XOFF

If only one terminal is used for both Core or Core/Net modules, connect the terminal from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

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

Print site data

Print site data to preserve a record of the system configuration (Table 83). 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 83
Print site data (Part 1 of 4)

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

Table 83
Print site data (Part 2 of 4)

Site data	Print command	
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV

Table 83
Print site data (Part 3 of 4)

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

Table 83
Print site data (Part 4 of 4)

Site data	Print command	
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)

Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Perform a template audit

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

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

CAUTION — Service Interruption

Loss of Data

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

-
-

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

Procedure 140
Performing a data dump

1   On the Meridian 1 Option 81C, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43 from the source (current) media. At the prompt, enter:

    LD 43   Load the program.

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

EDD   Begin the data dump.

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

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

****   Exit the program.

> **IMPORTANT!**
>
> Preserve database backup information for a minimum of 5 days.

Perform the upgrade

Introduction

Complete the procedure in this section to add an NT8D35 Network Group to the Meridian 1 Option 81C/IGS (NT4N46).

Figure 56
NT8D35 Network Shelf
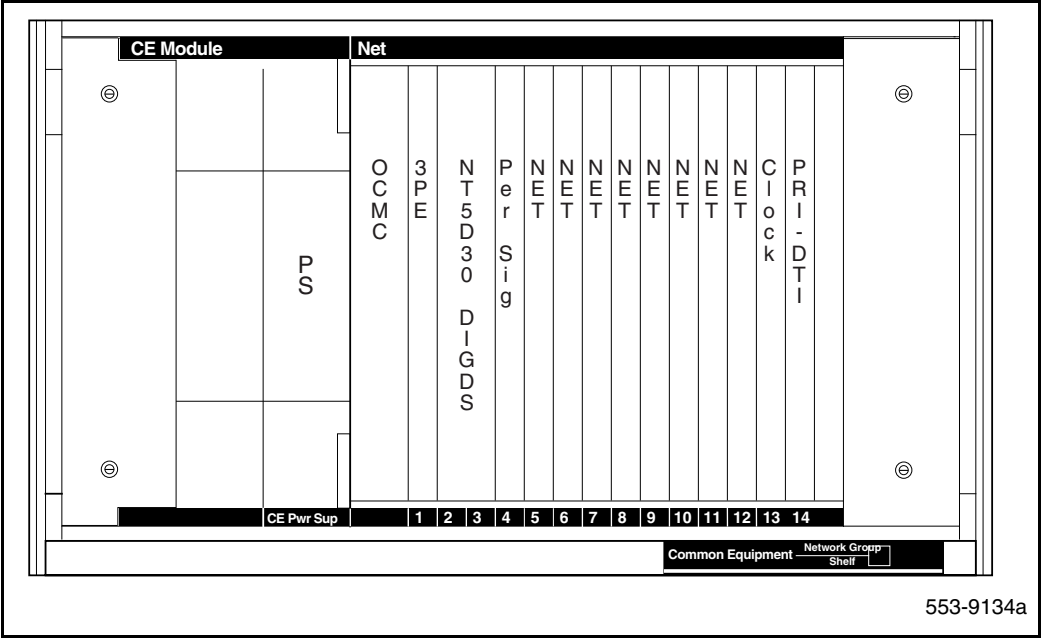
Note: An IGS QPC-412 card uses slots 2 & 3. An NT5D30 DIGS card uses slot 2.

Figure 57
CP PII NT4N46 Core/Net shelf

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Review upgrade requirements

This section describes the *minimum* equipment required for CP PII. 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**
>
> **Service Interruption**
>
> DO NOT proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

Check vintage requirements for existing hardware

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 QPC43 Peripheral Signaling cards must be minimum vintage R.

If equipment does not meet the requirements, replace it before you begin the upgrade.

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> Equipment that does not meet the minimum vintage requirements can cause system malfunctions and loss of call processing.

Check required hardware

Table 84 describes the *minimum* equipment required to add an NT8D35 Network Group to a Meridian 1 Option 81C/IGS (NT4N46). Table 85 on page 426 and Table 86 on page 426 list the DC and AC power equipment requirements. Additional equipment for increased Network capacity must be ordered separately.

Table 84
Minimum equipment required to add an NT8D35 Network Group to an Option 81C/IGS equipped with an NT4N46 shelf

Order Number	Description	Quantity per system
NT8D99AB	Cable, Network to Network, 2 ft.	5
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	Pack, Conference, Tone and Digit Switch (CT)	2
NT8D76	IGS to IGM DIGS cards cable **Note:** There are a total of 8 cables required for installation; 4 for IGS to IGM, and 4 for 3PE to CNI.	8
NT5D30	Dual IGS card	2
NT8D35	Network Shelf	2
NT4N65AC	CNI card	4

Check required power equipment

Table 85 lists the equipment required for AC-powered systems. Table 86 lists the equipment required for DC-powered systems.

Table 85
Ac power requirements for Meridian 1 Option 81C CP PII/IGS upgrades

Order number	Description	Quantity per system
Peripheral Equipment Power Supply AC	NT8D06AA	1
Common Equipment Power Supply AC	NT8D29AB	2

Table 86
Dc power requirements for Meridian 1 Option 81C CP PII/IGS upgrades

Order number	Description	Quantity per system
Peripheral Equipment Power Supply DC	NT6D40AB	1
Common Equipment Power Supply DC	NT6D41AB	2

Tools

Table 56 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 87
List of recommended tools

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

Check personnel requirements

Nortel recommends that a minimum of two people perform the upgrade.

Procedure 141
Interconnecting the network modules

The back of each network module backplane has five connectors: A, B, C, D and E. See Figure 58 on . The shelf 0 connectors in Network groups 1 through 7 must be connected to the shelf 1 connectors of the Network groups 1 through 7. For example, for Network group 1, the shelf 0 connector must be connected to the shelf 1 connector.k group.

1   Connect an NT8D99AB cable from the A connector in shelf 0 of Network group 1 to the A connector in shelf 1 Network group 1.

2   Connect the B connector in shelf 0 to the B connector in shelf 1.

3   Connect the C connector in shelf 0 to the C connector in shelf 1.

4   Connect the D connector in shelf 0 to the D connector in shelf 1.

5   Connect the E connector in shelf 0 to the E connector in shelf 1.

6   Connect the A, B, C, D, and E connectors between shelf 0 and shelf 1 for all other Network groups in the system (except group 0).

Note: All connections are made with an NT8D99AB cable.

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

Figure 58
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)
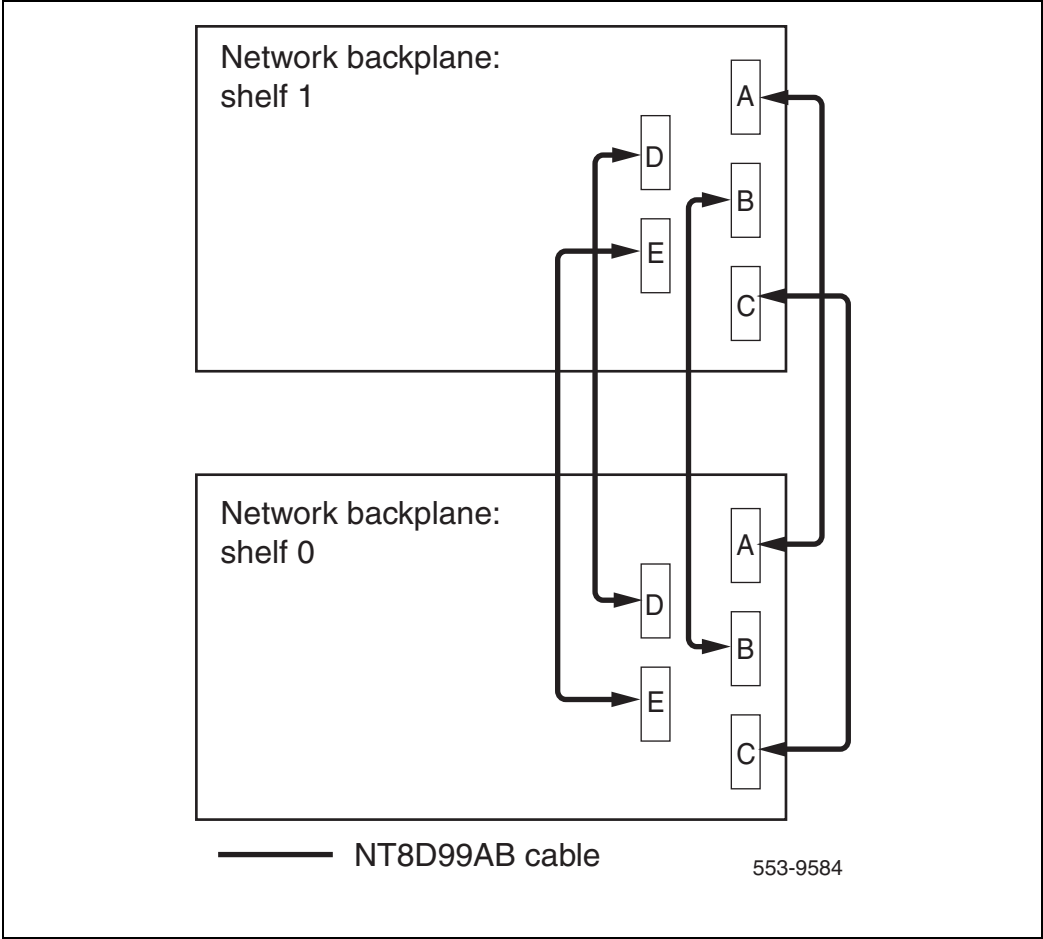
Add CNI cards if necessary

If additional CNI cards are required, add to each Core Module as required. See Figure 59 on .

Procedure 142
Adding CNI cards

1   Face plate disable CNI card.

2   Insert card into Core/Net module, but do not seat card into backplane at this time.

———— **End of Procedure** ————

Figure 59
NT4N46 Core/Net card cage
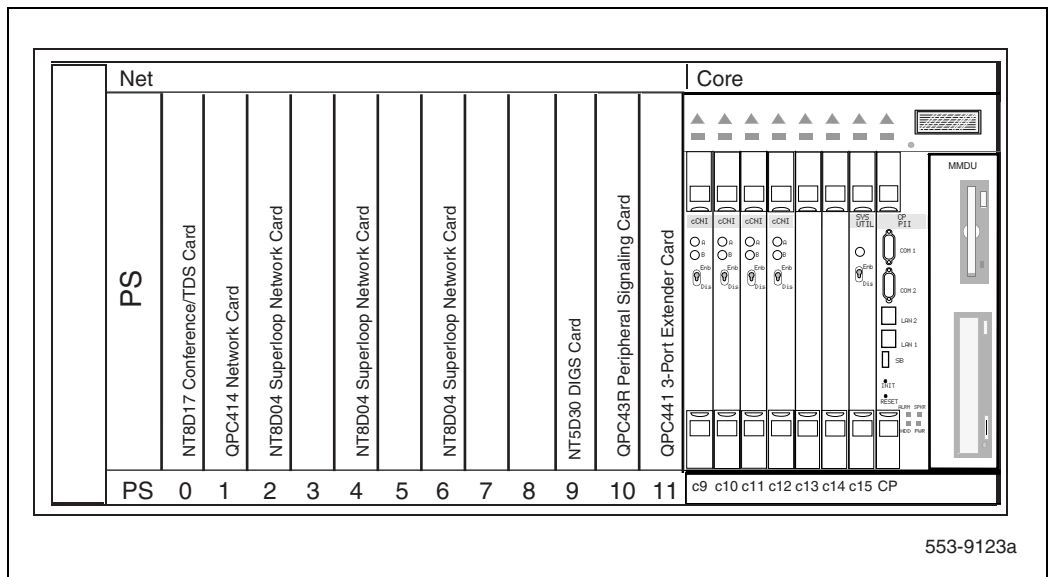
553-9123a

Install cards in the network modules

Network cards must be installed in the added Network modules as described below. Each card must be installed and enabled or disabled as indicated.

Install and enable the QPC441 3PE cards

Procedure 143
Installing and enable the QPC441 3PE cards

Three steps are required to install the QPC441 3PE cards.

1   Verify the QPC441 3PE card settings.

   The group and shelf number of each Network module is determined by the switch settings on the QPC441 3PE card. Use the information in Table 88 on page 431 to verify that the QPC441 3PE cards in the added Network modules have the correct switch and jumper settings.

   The FIJI card displays group and shelf setting.

2   Install a QPC441 3PE card in slot 1 of each added Network module. Do not seat the cards yet.

3 Attach the cables to the QPC441 3PE faceplates.

Table 88
QPC441 3PE Card installed in the NT4N46 Module

Jumper settings. Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
NT4N46 (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 144
Connecting the 3PE to CNI cables

The CNI slot and port connections are labeled on the 3PE Fanout Panel. Each 3PE card is connected from J3 and J4 of each 3PE faceplate to the 3PE Fanout Panel.

> *Note:* See Table 89, Figure 60 on , and Figure 61 on for NT8D76 cable connections.

1   Connect the NT8D76 cables to J3 and J4 of the 3PE cards.

2   Connect the new NT8D76 cables to the Fanout Panel in the Core/Net.

Table 89
Fanout Panel to 3PE card connectors

Group Number	connects from	Fanout Panel connector	to	3PE card connector
0		9-0, J3		J3
0		9-0, J4		J4
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: Group 0 cables connect from the CNI Transition card directly to the backplane of Core/Net 0 **or** to the NT8D76 cable (depending on your CNI group configuration). If the Core/Net module contains a Network Group other than group 0, use NT4N72AA cables to connect the Fanout panel to the network portion of the Core/Net backplane.

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

Figure 60
Example of 3PE faceplate to 3PE Fanout Panel connection
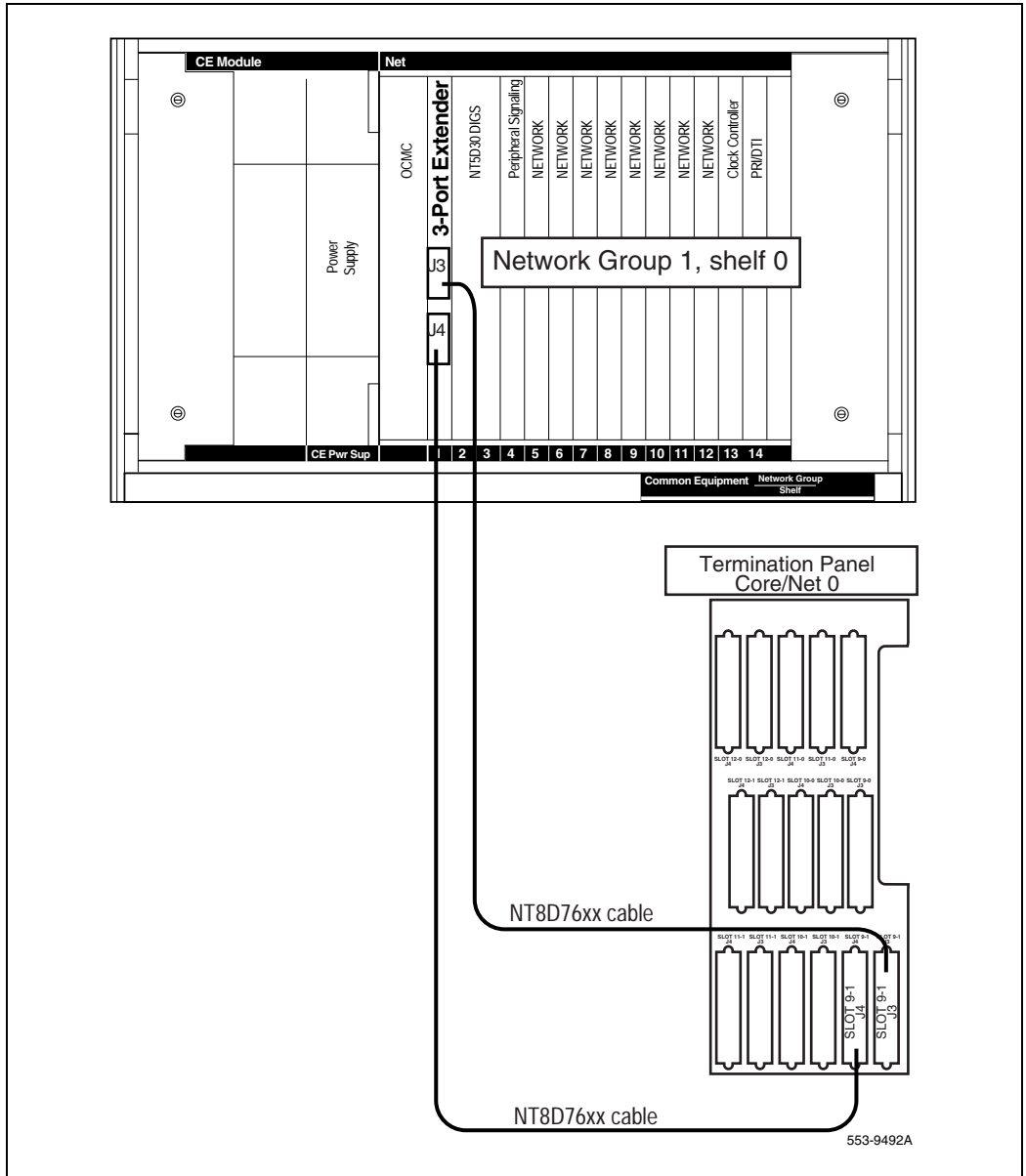
Figure 61
3PE Fanout Panel (Core/Net module)

Notch for
Slot 9-0, J3 and J4:
direct connections
to the Core/Net
backplane
(factory installed)
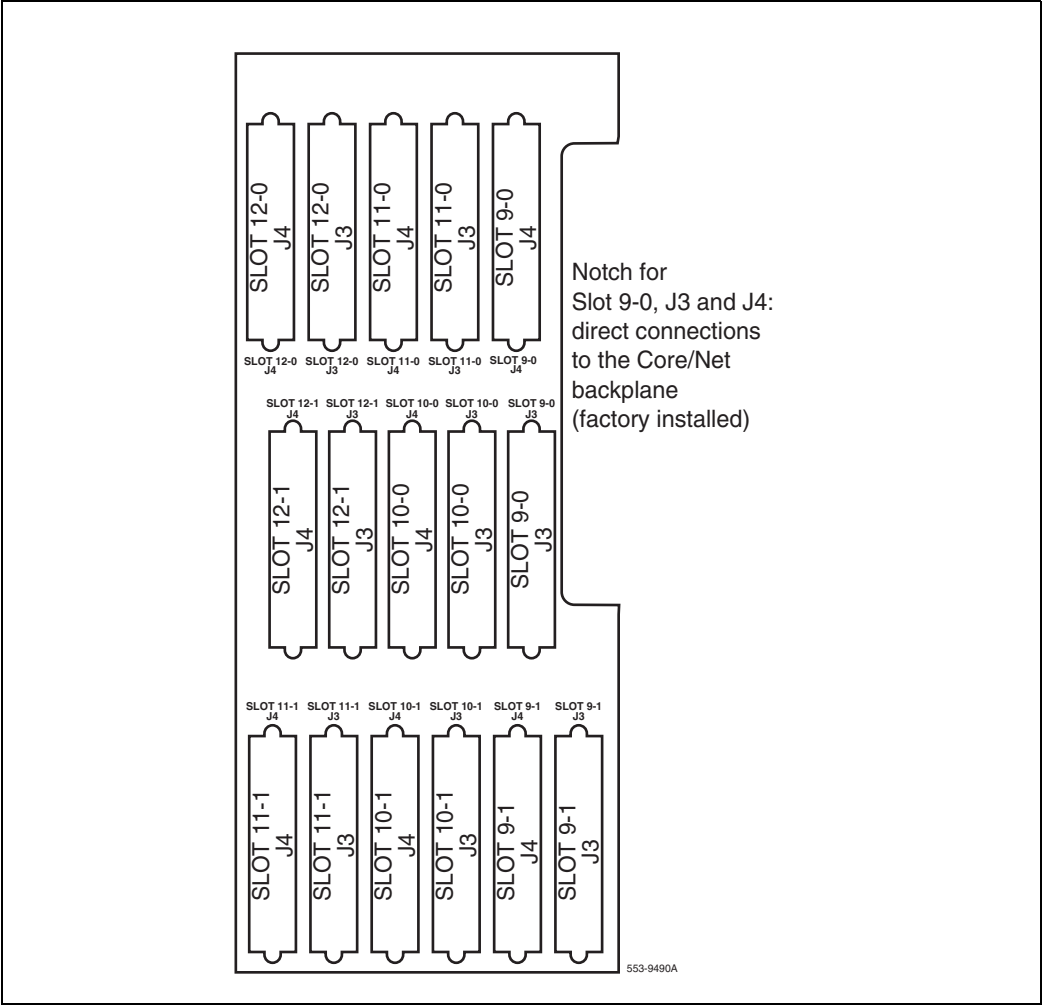
Table 90
3PE card settings for the NT8D35 Module

Jumper Settings								
Set Jumper RN27 at E35 to "A".								
Switch Settings								
D20 switch position:		**1**	**2**	**3**	**4**			
81, 81C (Note)		off	on	on	on			
Shelf	Group	**D20 switch position:**				**5**	**6**	**7**	**8**
0 (3PE cards connected to the a CNI in Core or Core/Net 0)	0					on	on	on	on
	1					on	on	off	on
	2					on	off	on	on
	3					on	off	off	on
	4					off	on	on	on
	5					off	on	off	on
	6					off	off	on	on
	7					off	off	off	on
1 (3PE cards connected to the a CNI in Core or Core/Net 1)	0					on	on	on	off
	1					on	on	off	off
	2					on	off	on	off
	3					on	off	off	off
	4					off	on	on	off
	5					off	on	off	off
	6					off	off	on	off
	7					off	off	off	off
Note: For option 81C systems, QPC441 vintage F or later must be used in all modules.								

Procedure 145
Installing and enabling the QPC43R Peripheral Signaling cards

1   Install a Per Sig card into slot 4 of each added Network module. Push the latches forward to lock the card in place.

2   Faceplate *enable* the cards.

3   Insert NT5D30 card into slot 2 of each added Network group

4   Cable DIGS cards with NT8D76 IGS to IGM cable.

Table 91
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

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

Disable and insert the NT8D17 Conf/TDS cards

Procedure 146
Disabling and inserting the Conf/TDS cards

If Conf/TDS cards are used in the system, complete the following steps.

1 Faceplate disable the Conf/TDS cards.

2 Insert a Conf/TDS card into each added Network module.

3 Seat the Con/TDS card and faceplate Enable.

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

Enable the Network Group

> *Note:* If you are adding more than one Network Group, add one group at a time in software. Follow all the remaining procedures in this chapter to enable one group before enabling another group.

Procedure 147
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 148
Checking that Clock Controller 0 is active

1   Check the status of the Clock Controllers:

LD 60	Load program
SSCK 0	Get the status of Clock Controller 0
SSCK 1	Get the status of Clock Controller 1

2   If Clock Controller 1 is active, switch to Clock Controller 0.

SWCK	Switch to Clock Controller 0 (if necessary)
DIS CC 1	Disable Clock Controller 1
****	Exit program

——————— **End of Procedure** ———————

Add the CNI cards or ports

Procedure 149
Adding the CNI cards or ports

>   *Note:* CNI cards can be enabled and connected on the *inactive* Core
>   only.

1   In OVL 135 split the Cores.

LD 135	To load the program.
SPLIT	Split the Cores.
****	To exit the program.

Follow these steps to activate the added CNI ports. Wait until the INI is
complete on Core 1:

2   On Core 1 only, define the XCT and extenders to the added group.

Note: See Table 89 on :

LD 17	To load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
<cr>	Continue to the last prompt.
****	To exit the program.

3   Perform a data dump

LD 43	To load the program.
EDD	Invoke data dump program.
****	To exit the program.

Table 92 specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 92
CNI Network group designations

CNI card slot	CNI card port	3PE Fanout Panel label	Connected to Network group
c9	0	Port 9-0	0
c9	1	Port 9-1	1
c10	0	Port 10-0	2
c10	1	Port 10-1	3
c11	0	Port 11-0	4
c11	1	Port 11-1	5
c12	0	Port 12-0	6
c12	1	Port 12-1	7

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

Procedure 150
Seating remaining cards

1   Seat the remaining cards (3PE, PER SIG, XCT, DIGS) in both network modules.

Note: Cards must be faceplate disabled before seating.

2 Faceplate enable all cards in both network modules (3PE, PER SIG, XCT and DIGS).

Table 93
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

3 **In Core 1 only**, seat the new CNI card and faceplate enable.

IMPORTANT!

Power down all applications such as Meridian Mail, CallPilot, and Symposium.

CAUTION

Service Interruption

Call processing is interrupted for approximately 10 minutes while the INI is completed.

---

4   In LD 135 switch Cores.

   LD 135   To load the program.

   CUTOVR   Switch cores.

WARNING
All call processing may be interrupted.

IMPORTANT!

Power up all applications such as Meridian Mail,
CallPilot, and Symposium.

Core 1 is active, Clock 0 is active.

---

5   Switch the clock controllers, if necessary:

   LD 60   To load the program.

   SSCK n   Get status of clock n where
                          n = 0 for clock controller 0
                          1 for clock controller 1

   SWCK   Switch system clock from active to standby.

                          Note: Make clock controller 1 the active
                          clock.

   ****   To exit the program.

> ✔ The system is in split mode with Core 1 active. Clock 1 is active.

6   **In Core 0 only,** define the XCT and extenders to the added group.

Note: See Table 89 on page 432:

LD 17	To load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
<cr>	Continue to the last prompt.
****	To exit the program.

7   Data dump the software changes.

LD 43	To load the program.
EDD	Invoke data dump program.
****	To exit the program.

8   Seat the CNI card in Core 0 and faceplate enable it.

9   In Core 1, Stat the CNIs:

LD 135	Load the program.
STAT CNI	Get status of CNI card.
	Note: If any CNIs are disabled they must be enabled.
JOIN	Synchronize the memory and drives.
****	To exit the program.

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

Test the Cores

Procedure 151
Testing Core/Net 1

From Core/Net 1, perform these tests.

1   Perform a redundancy sanity test:

LD 135	Load the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	

3   Test the System Utility cards and the CNI cards.

LD 135	Load the 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 CNI cards (core, slot).
TEST CNI c s	Test CNI (core, slot).

4   Test system redundancy.

LD 137	Load the 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 the program.
ENL TTY x	Enable the XMS, where x= system XMS.
STAT XSM	Check the system monitors
****	Exit the program.

6   Clear the display and minor alarms on both Cores.

LD 135	Load the program.
CDSP	Clear the displays on the cores.
CMAJ	Clear major alarms.
CMIN ALL	Clear minor alarms.

7   Test the clocks.

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

       LD 60   Load the program.

       SSCK *x*   To get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.

       SWCK   Switch the Clock if necessary.

    b.   Verify that the Clock Controllers are switching correctly.

       SWCK   Switch the Clock.

       SWCK   Switch the Clock again.

8   Check the IGS status.

       LD 39   Load the program.

       STAT IGS X   Check the status of IGS (X = IGS/DIGS card number. See Table 94).

       ****   Exit program.

Table 94
Shelf 0 and 1 IGS/DIGS card locations (Part 1 of 2)

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
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

Table 94
Shelf 0 and 1 IGS/DIGS card locations (Part 2 of 2)

Network Group	Shelf	IGS/DIGS card locations
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

9   Check applications such as CallPilot, Symposium, and Meridian Mail..

10   Check for dial tone.

——————— **End of Procedure** ———————

Procedure 152
Switching call processing

LD 135	Load the 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.

——————— **End of Procedure** ———————

Procedure 153
Testing Core/Net 0

From Core/Net 0, perform these tests.

1   Perform a redundancy sanity test:

LD 135	Load the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	Display all.

3 Test the System Utility cards and the CNI cards.

LD 135	Load the 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 CNI cards (core, slot).
TEST CNI c s	Test CNI (core, slot).

4 Test system redundancy.

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

5 Test that the system monitors are working.

LD 37	Load the program.
STAT XSM	Check the system monitors
****	Exit the program.

6 Clear the display and minor alarms on both Cores.

LD 135	
CDSP	Clear the displays on the cores.

CMAJ	Clear major alarms.

| **CMIN ALL** | Clear minor alarms. |

7   Test the clocks.

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

    LD 60   Load the program.

    SSCK *x*   Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.

    SWCK   Switch the Clock if necessary.

    b.   Verify that the Clock Controllers are switching correctly.

    SWCK   Switch the Clock.

    SWCK   Switch the Clock again.

8   Check the IGS status.

    LD 39   Load the program.

    STAT IGS X   Check the status of IGS (X = IGS/DIGS card number. See Table 95).

    ****   Exit program.

Table 95
Shelf 0 and 1 IGS/DIGS card locations (Part 1 of 2)

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
Network Group 0	Shelf 1	IGS/DIGS 1 & 3

Table 95
Shelf 0 and 1 IGS/DIGS card locations (Part 2 of 2)

Network Group	Shelf	IGS/DIGS card locations
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

    9   Check applications (such as CallPilot and Symposium).

    10   Check for dial tone.

―――――――――――   **End of Procedure**   ―――――――――――

Post-conversion procedure

Introduction

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

The site data should be printed before and after conversion. See Table 97 on page 456. If the data has changed, make the necessary updates on the **Target** release, and datadump to the new system media. Print out the items marked with an asterisk (*) to be sure everything converted properly. All other items on Table 97 on page 456 are provided to be printed if desired.

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

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

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

Post-conversion steps

Follow the steps in Procedure 154 to perform the post-conversion procedure.

Procedure 154
Performing the post-conversion procedure

1   Print system data. Verify that all information matches the printouts created before conversions. Make changes if necessary.

2   From any unrestricted telephone, dial the access code for an outside line (usually 9), and dial the listed Directory Number (DN) for the customer. Verify that the correct Incoming Call Indicator (ICI) lights at the attendant console.

3   If the customer is equipped with more than one console, transfer the call to another console.

4   Extend the call to a telephone, and release the call from the console.

5   From the called telephone, transfer the call back to the attendant.

6   Answer and release the call.

7   From any telephone dial the DN for the attendant. Verify that the correct ICI lights at the console, then release the call.

8   Busy-out one trunk group using a Trunk Group Busy (TGB) key on the console.

9   From any telephone with TGAR 0-7, dial the access code of the busied-out trunk group, to verify that the call is intercepted to the console and receives either overflow tone or a recorded announcement.

10 Restore the trunk group to the in-service state using the Trunk Group Busy (TGB) key on the console.

11 During the conversion procedure the Central Office might have busied-out the DID trunks. If DID trunks are equipped, from any unrestricted telephone, dial the access code for an outside line, and dial a DID number into the system.

12 If a private network is used, from any unrestricted telephone, dial the network access code and place a CDP, ESN, BARS/NARS, or ISDN call as applicable to the system.

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

LD 02

STAD dd mm yyyy hh mm ss

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

mm = month (for example, 09 for September)

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

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

mm = minute (for example, 25)

ss = seconds (for example, 00)

Note: Test all applications and call handling

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

15 Keep one copy of the **Source** software, as it was backed up in the pre-conversion procedure, in case it becomes necessary to reconvert. After the **Target** software has been running well for a few weeks, return the original software to Nortel through the usual distribution channel.

16 Load LD 135 to test and switch CPUs. (Omit this step for Option 51C.)

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

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

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

Note: Check MMDU in CP PII machines.

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

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

Note: Back up additional 2 MByte floppy disks.

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

LD 02

STAD dd mm yyyy hh mm ss

> dd = day (for example, 05 for the fifth)
>
> mm = month (for example, 09 for September)
>
> yyyy = year (last 2 or all four digits, for example, 92 or 1992)
>
> hh = hour (in 24-hour time, for example, 13:00 for 1:00 pm)
>
> mm = minute (for example, 25)
>
> ss = seconds (for example, 00)

****   Exit LD.

Note: If equipped with FNF, perform steps 21-24. If equipped with IGS, perform step 20.

20 Test the IGS

Note: See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

LD 39	Load the program.
STAT IGS X	Check the status of IGS (X = IGS/DIGS card number. See Table 96).
****	Exit program.

Table 96
Shelf 0 and 1 IGS/DIGS card locations (Part 1 of 2)

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18

Table 96
Shelf 0 and 1 IGS/DIGS card locations (Part 2 of 2)

Network Group	Shelf	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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

21 Check that Fiber Ring 1 operates correctly.

LD 39   to load the program

STAT RING 1   to check the status of Ring 1

22 Reset the Rings:

RSET   to reset the Rings and prepare them for redundancy

RSTR   to restore both Rings to HALF state

23 Check that the Rings operate correctly.

STAT RING 0   to check the status of Ring 0 (HALF/HALF)

STAT RING 1   to check the status of Ring 1 (HALF/HALF)

24 If any Ring problems occur, correct them now.

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

Note: if equipped with IGS, you must STAT IGS.

25 Verify that call processing operates correctly. this includes, but is not limited to the following:

- Check for dial tone.

- Make internal, external, and network calls.

- Check attendant console activity.

- Check DID trunks.

- Check any auxiliary processors.

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

27 Keep one copy of the **Source** software, as it was backed up in the pre-conversion procedure, in case it becomes necessary to reconvert. After the **Target** software has been running well for a few weeks, return the original software to Nortel through the usual distribution channel.

Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Table 97
Print site data (Part 1 of 4)

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

Table 97
Print site data (Part 2 of 4)

Site data	Print command	
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID

Table 97
Print site data (Part 3 of 4)

Site data	Print command	
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)

Table 97
Print site data (Part 4 of 4)

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

    28 Obtain status of CNI cards.

LD 135	To load the program.
STAT CNI	Get the status of CNI cards.
****	To exit the program.

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

Adding an NT8D35 Network Group to Option 81 (NT5D60)

Contents

This section contains information on the following topics::

Add an NT8D35 Network Group to Option 81 with FNF

Introduction

Complete the following procedure to add an NT8D35 Network Group to the Meridian 1 Option 81/FNF equipped with an NT5D60 Core/Net shelf.

The Meridian 1 Option 81/FNF equipped with an NT5D60 Core/Net shelf must meet the requirements of Product Bulletins P-2002-1658-NA and PAA-2003-0199-NA for firmware 19. Highlights of the bulletins include:

- PB requires NTRB53AA Clock Controller.

- shortest fiber cable should be used.

- cables from group 0 - 1 must be same length.

- Distance between each ring from group 0 - group 1 must not exceed 50 ft.

IMPORTANT!

The shortest Fiber Cable must always be used (NTRC48).

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 ft. 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.

To add a Network Group to a Meridian 1 Option 81/FNF equipped with an NT5D60 Core/Net shelf:

• Clock Controller cards must be NTRB53AA.

• NTRB33AC/AD Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.

IMPORTANT!

When configuring NTND14 cables, observe the following rules:

• Always use the shortest NTND14 cable.

• A network group requires four NTND14 cables, two to each half group. Both cables to each half group must be the same length.

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

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

Prepare for upgrade

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

Each chapter features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section is written to maintain dial tone where possible and limit service interruptions.

Each section assumes any NT8D35 Network module installation is complete. For NT8D35 installation information see the *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 98 below:

Table 98
Prepare for upgrade steps

Procedure Step	Page
Plan the upgrade	464
Upgrade checklists	465
Prepare	465
Identifying the proper procedure	466
Connect a terminal	466
Print site data	467
Perform a template audit	470
Back up the database (data dump)	471

Plan the upgrade

To plan for an upgrade, complete the following tasks:

• Conduct a site inspection to determine proper power and grounding.

• Review the site profile to determine proper foot space if adding new columns or modules.

• Ensure Sufficient power for new columns/modules or applications

• Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

• Identify and correct outstanding service problems.

• Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Prepare a contingency plan if you abort the upgrade.

DANGER OF ELECTRIC SHOCK

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of the *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform. See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Verify that the current patch or Dep lists are installed at the source platform.

- Verify that the required patch or Dep lists are installed at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and keycode.

- Print site data.

Identifying the proper procedure

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

> ⚠️ **IMPORTANT!**
>
> Preserve database backup information for a minimum of five days.

Connect a terminal

**Procedure 155
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/0 panel in the *inactive* Core or Core/Net module.

The settings for the terminal are:

a. 9600 Baud

b. 8 data

c. parity none

d. 1 stop bit

e. full duplex

f. XOFF

2 If only one terminal is used for both Core or Core/Net modules, connect the terminal from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

———— **End of Procedure** ————

Print site data

Print site data to preserve a record of the system configuration (Table 99). 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 99
Print site data (Part 1 of 3)

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

Table 99
Print site data (Part 2 of 3)

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

Table 99
Print site data (Part 3 of 3)

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

Perform a template audit

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

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

⚠️ **CAUTION — Service Interruption**

Loss of Data

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**
TEMPLATE 0003 NO USERS FOUND	

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

-
-

TEMPLATE 0120 USER COUNT OK   CHECKSUM OK

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

To backup existing data, perform the following procedure:

Procedure 156
Performing a data dump

1   On the Meridian 1 Option 81, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43 from the source (current) media. At the prompt, enter:

   LD 43   Load the program.

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

   EDD   Begin the data dump.

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

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

    ****   Exit the program.

IMPORTANT!

Preserve database backup information for a minimum of five days.

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

Perform the upgrade

Introduction

Complete the procedure in this section to add a Core Network Group to the Meridian 1 Option 81/FNF equipped with an NT5D60 shelf.

Figure 62 shows a Meridian 1 Option 81/FNF (NT5D60).

Figure 62
NT5D60 Core/Net shelf
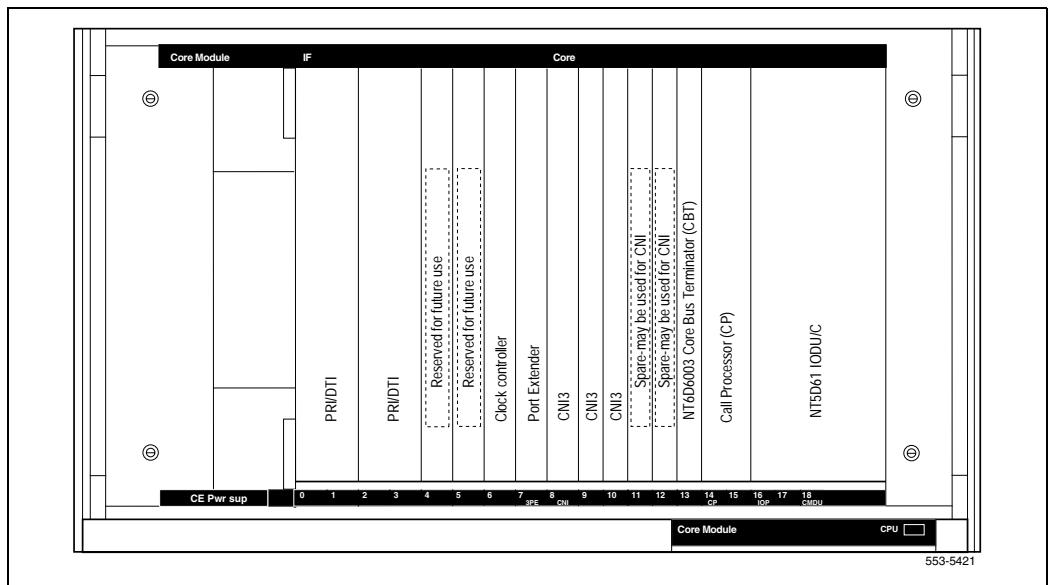
Review upgrade requirements

This section describes the *minimum* equipment required to add an NT8D35 Network Group to a Meridian 1 Option 81 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.

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> Do not proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

Check vintage requirements for existing hardware

Check the list below to make sure that existing hardware meets the minimum vintage requirements:

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.

- The QPC43 Peripheral Signaling cards must be minimum vintage R.

- NTRB33 AC/AD

- NTRB54AA Global Clock Controller

> **IMPORTANT!**
>
> When configuring NTND14 cables, observe the following rules:
>
> - Always use the shortest NTND14 cable.
>
> - A network group requires four NTND14 cables, two to each half group. Both cables to each half group must be the same length.
>
> - Check the existing NTND14 cables. Replace any cables that do not meet the above requirement.

If equipment does not meet the requirements, replace it before you begin the upgrade.

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> Equipment that does not meet the minimum vintage requirements can cause system malfunctions and loss of call processing.

Check required hardware

Table 100 below describes the *minimum* equipment required to add a Core Network Group to a Meridian 1 Option 81/FNF equipped with an NT5D60 shelf. Additional equipment for increased Network capacity must be ordered separately.

Table 100
Minimum equipment required to add a Core Network Group to an Option 81C/FNF equipped with an NT5D21 shelf (Part 1 of 2)

Order Number	Description	Quantity per system
NT8D80BZ	Cable, CPU Interface, 5 ft.	2
NT8D99AD	Cable, Network to Network, 6 ft.	2
NTRB33AC/AD	Card, Fibre Junctor Interface (FIJI)	2
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	Pack, Conference, Tone and Digit Switch (CT)	2
NTRC47	Cable FIJI to FIJI	1
NTRC48	Cable FIJI to FIJI	1

Table 100
Minimum equipment required to add a Core Network Group to an Option 81C/FNF equipped with an NT5D21 shelf (Part 2 of 2)

Order Number	Description	Quantity per system
NTRB34	3 port CNI **Note:** A vacant CNI port must available, otherwise 2 new 3-port CNIs must be added.	4
NTND14	CNI to 3PE cable	4
NT9D89	Faceplate CNI to 3PE cable	4
Note: The type of cabling is determined by available port assignment (4). Two for each Core of the same type is required.		

Tools

Table 101 below lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 101
List of recommended tools

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

Route FIJI to FIJI cables

Pre-route an NTRC47AA cable between the FIJI cards in shelf 0 and shelf 1 of each added Network Group.

Note: Do not disconnect existing cables at this time.

Procedure 157
Label and route the shelf 0 fiber-optic cables (ascending)

Pre-route the NTRC48 cables between the FIJI cards in each added Network shelf 0 in *ascending* order.

> **CAUTION**
> **Damage to Equipment**
> Do not excessively bend or cinch the Fiber Ring cables. These cables are easily damaged. Use the Optical Cable Management Card (OCMC) to manage and protect the Fiber Ring cables.

1   Start with shelf 0 in the current highest Network Group.

2   Label each cable on both sides with the appropriate connection information from Figure 63 on .

3   Route an NTRC48 FIJI Fiber Ring cable of the appropriate length from the FIJI card in shelf 0 of the current highest Network Group, to the FIJI card in shelf 0 of the added Network Group.

4   If more than one Network Group is to be added, route a second NTRC48 cable of the appropriate length to shelf 0 of the second added group.

5   Continue to route NTRC48 cable of the appropriate length in *ascending* order between shelf 0 of each added Network Group.

> **6** To complete the Ring, route a final cable from the highest number group back to Group 0, shelf 0.

Table 102
FIJI Ring 0 connections

Groups X - 0 are cabled in ascending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/0	P1	Tx - J1
1/0	P2	Rx - J2
1/0	P1	Tx - J1
2/0	P2	Rx - J2
2/0	P1	Tx - J1
3/0	P2	Rx - J2
3/0	P1	Tx - J1
4/0	P2	Rx - J2
4/0	P1	Tx - J1
5/0	P2	Rx - J2
5/0	P1	Tx - J1
6/0	P2	Rx - J2
6/0	P1	Tx - J1
7/0	P2	Rx - J2
7/0	P1	Tx - J1
0/0	P2	Rx - J2

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

Figure 63
Shelf 0 ascending fiber-optic Ring

Figure 63 content labels:

Group 4, shelf 1 — Tx (J1), Rx (J2)

IPE

IGM (not used with Fiber Network)

IPE

Group 4, shelf 0 — Tx (J1), Rx (J2)

Group 2, shelf 1 — Tx (J1), Rx (J2)

Group 1, shelf 1 — Tx (J1), Rx (J2)

IPE

Group 3, shelf 1 — Tx (J1), Rx (J2)

Group 2, shelf 0 — Tx (J1), Rx (J2)

Group 1, shelf 0 — Tx (J1), Rx (J2)

IPE

Group 3, shelf 0 — Tx (J1), Rx (J2)

Group 0, shelf 1 — Tx (J1), Rx (J2)

Group 0, shelf 0 — Tx (J1), Rx (J2)

IPE

———— NTRC48xx fiber optic cable

553-9553
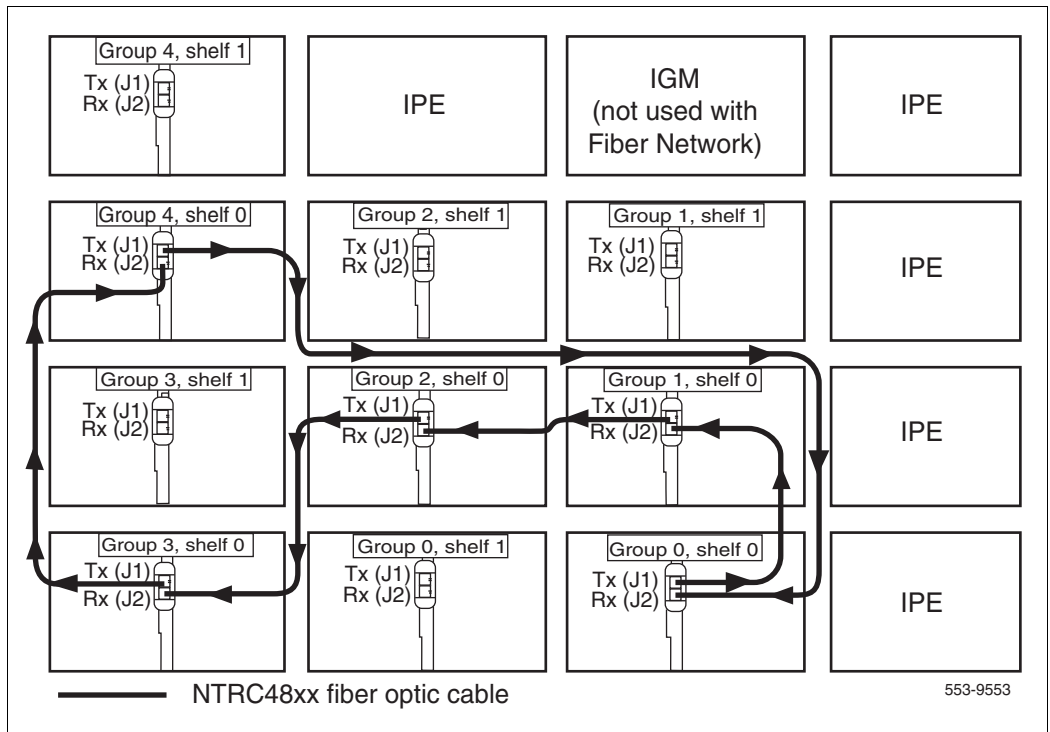
Figure 64
FIJI to FIJI cables

Group 4, shelf 1 Tx (J1) Rx (J2) J3 J4	**IPE**	**IGM** (not used with Fiber Network)	**IPE**
Group 4, shelf 0 Tx (J1) Rx (J2) J3 J4	**Group 2, shelf 1** Tx (J1) Rx (J2) J3 J4	**Group 1, shelf 1** Tx (J1) Rx (J2) J3 J4	**IPE**
Group 3, shelf 1 Tx (J1) Rx (J2) J3 J4	**Group 2, shelf 0** Tx (J1) Rx (J2) J3 J4	**Group 1, shelf 0** Tx (J1) Rx (J2) J3 J4	**IPE**
Group 3, shelf 0 Tx (J1) Rx (J2) J3 J4	**Group 0, shelf 1** Tx (J1) Rx (J2) J3 J4	**Group 0, shelf 0** Tx (J1) Rx (J2) J3 J4	**IPE**

NTRC47AA FIJI to FIJI cables

553-9556

Procedure 158
Label and route the shelf 1 fiber-optic cables (descending)

Route the NTRC48 cables between the FIJI cards in each Network shelf 1 in *descending* order (Figure 65 on page 482.).

> *Note:* Do not disconnect existing cables at this time.

> ⚠️ **CAUTION**
> **Damage to Equipment**
> Do not excessively bend or cinch the Fiber Ring cables. These cables are easily damaged. Use the Optical Cable Management Card (OCMC) to manage and protect the Fiber Ring cables.

> *Note:* Each end of the NTRC48 cable is labeled "Tx" or Rx" in the factory.

1 Start with Group 0, shelf 1.

2 Label each cable on both sides with the appropriate connection information from Figure 65 on page 482.

3 Route an NTRC48 FIJI Fiber Ring cable of the appropriate length from shelf 1 of the FIJI card in Group 0, to the FIJI card in the added highest Network Group, shelf 1.

4 Route an NTRC48 cable from the FIJI card in the added highest Network Group, shelf 1 to the FIJI card in the second highest Network Group, shelf 1.

5 Continue to route NTRC48 FIJI Fiber Ring cables of the appropriate lengths between shelf 1 of each added Network Group. Route these cables in *descending* order of Network Groups.

6 Route a final cable to the current highest Network Group, shelf 1.

End of Procedure

Figure 65
Shelf 1 descending fiber-optic Ring

Table 103
FIJI Ring 1 connections (Part 1 of 2)

Groups 0 - X are cabled in descending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/1	P1	Tx - J1
7/1	P2	Rx - J2
7/1	P1	Tx - J1
6/1	P2	Rx - J2

Table 103
FIJI Ring 1 connections (Part 2 of 2)

Groups 0 - X are cabled in descending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
6/1	P1	Tx - J1
5/1	P2	Rx - J2
5/1	P1	Tx - J1
4/1	P2	Rx - J2
4/1	P1	Tx - J1
3/1	P2	Rx - J2
3/1	P1	Tx - J1
2/1	P2	Rx - J2
2/1	P1	Tx - J1
1/1	P2	Rx - J2
1/1	P1	Tx - J1
0/1	P2	Rx - J2

Interconnect the network modules

Procedure 159
Interconnect the network modules

The back of each network module backplane has five connectors: A, B, C, D and E. See Figure 66 on . The shelf 0 connectors in Network groups 1 through 7 must be connected to the shelf 1 connectors of the Network groups 1 through 7. For example, for Network group 1, the shelf 0 connector must be connected to the shelf 1 connector. To add modules to a system, see *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

1   Connect an NT8D99AB cable from the A connector in shelf 0 of Network group 1 to the A connector in shelf 1 Network group 1.

2   Connect the B connector in shelf 0 to the B connector in shelf 1.

3   Connect the C connector in shelf 0 to the C connector in shelf 1.

4   Connect the D connector in shelf 0 to the D connector in shelf 1.

5   Connect the E connector in shelf 0 to the E connector in shelf 1.

6   Connect the A, B, C, D, and E connectors between shelf 0 and shelf 1 for all other Network groups in the system (except group 0).

Note: All connections are made with an NT8D99AB cable.

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

Figure 66
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)

Add CNI cards if necessary

If additional CNI cards are required, add to each Core Module as required.
See Figure 67 on .

Figure 67
NT5D60 Core/Net shelf

553-5421
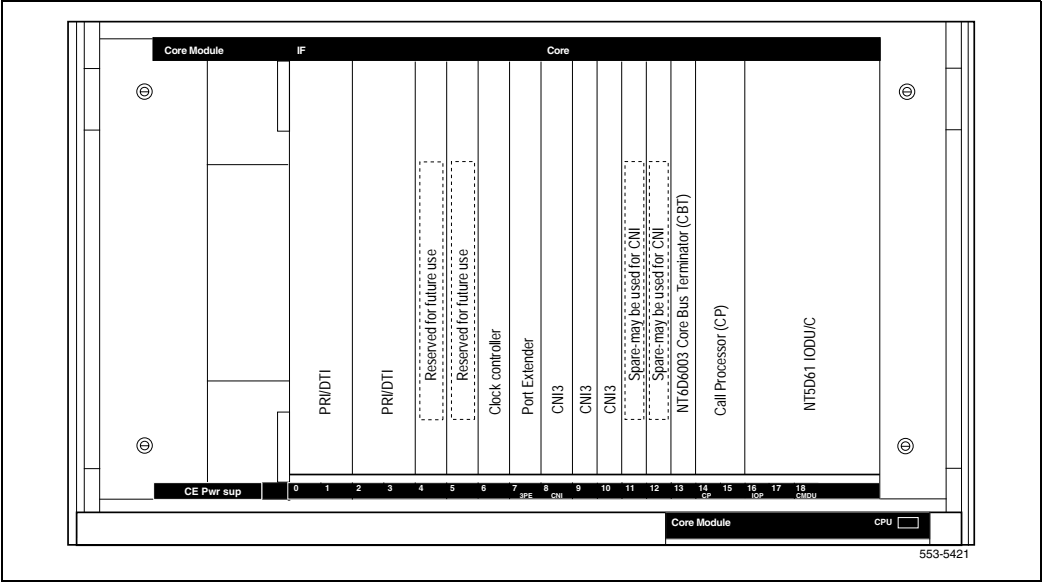
Connect the 3PE to CNI cables

Procedure 160
Connecting the 3PE to CNI cables

The CNI slot and port connections are labeled on the 3PE Fanout Panel. Each 3PE card is connected from J3 and J4 of each 3PE faceplate to the 3PE Fanout Panel.

> *Note:* See Table 104 on page 488, Figure 68 on page 490 and Figure 69 on page 491 for NT4N14 cable connections.

1   Connect the NTND14 cables to J3 and J4 of the 3PE cards.

2 Connect the NTND14 cables to the Fanout Panel in the Core/Net.

Table 104
CNI to 3PE connections

Group Number	connects from	CNI to 3PE connector	to	3PE card connector
0		8D		J3
0		8F		J4
1		9A		J3
1		9C		J4
2		9D		J3
2		9F		J4
3		10A		J3
3		10C		J4
4		10D		J3
4		10F		J4
5		8, J1		J3
5		8, J2		J4
6		9, J1		J3
6		9, J4		J4
7		10, J1		J3
7		10, J4		J4

Note 1: The default assignments in this table can be reconfigured with LD 17 if necessary. Any CNI port can support any available network group. This table reflects the default factory settings.

Note 2: Groups 5, 6 and 7 require NTRB34 3-port CNI cards and NT9D89 CNI to 3-port cables.

Note 3: Groups 5, 6 and 7 are only available on systems equipped with FNF.

IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- Always use the shortest NTND14 cable.

- A network group requires four NTND14 cables, two to each half group. Both cables to each half group must be the same length.

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

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

End of Procedure

Figure 68
3PE faceplate to 3PE Termination connection

553-9492C
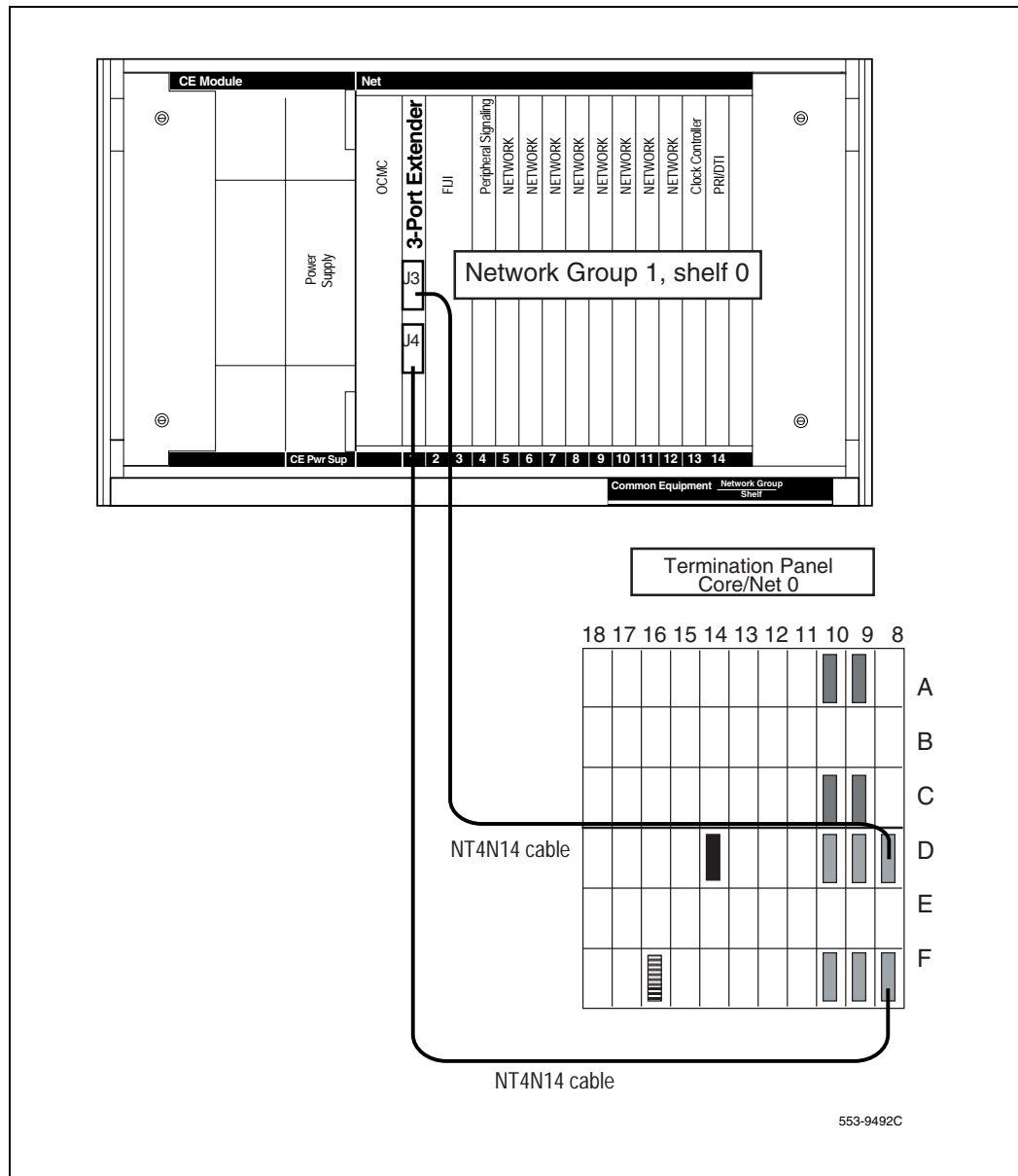
Figure 69
3PE Termination Panel (Core/Net module)
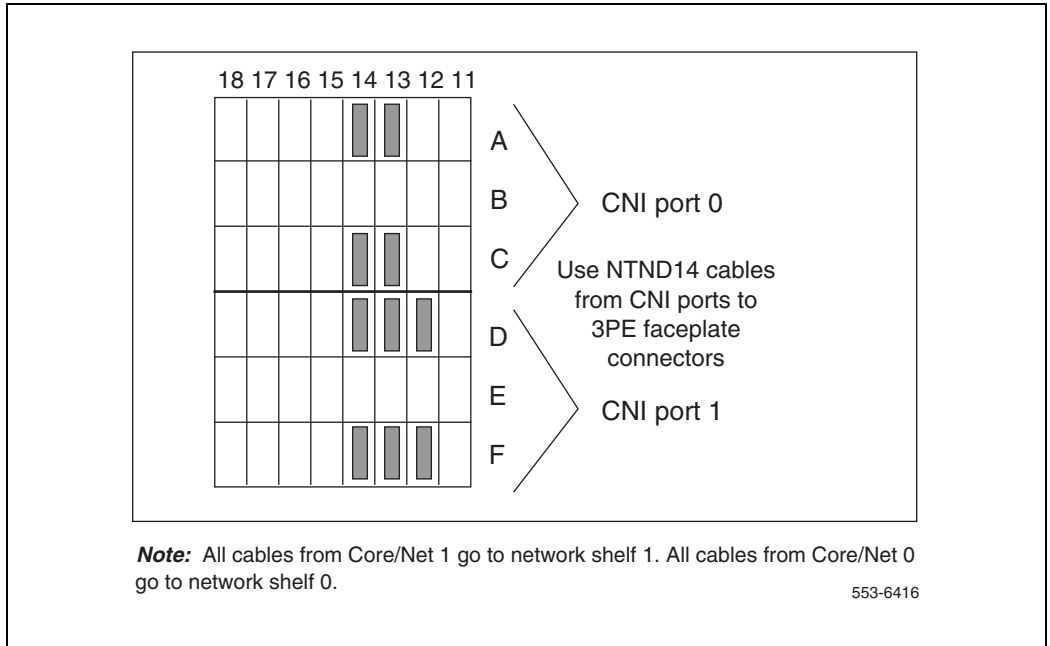
Note: All cables from Core/Net 1 go to network shelf 1. All cables from Core/Net 0 go to network shelf 0.

553-6416

Install cards in the network modules

Network cards must be installed in the added Network modules as described below. Each card must be installed and enabled or disabled as indicated.

Install and enable the QPC441 3PE cards

Procedure 161
Installing and enable the QPC441 3PE cards

1   Verify the QPC441F 3PE card settings.

Switch settings on the 3PE card determine the group and shelf number of each Network module. Use the information in Table 105 on . to verify that the 3PE cards in the added Network modules have the correct switch and jumper settings.

The FIJI card displays group and shelf setting.

> **2** Install a QPC441F 3PE card in slot 1 of each added Network module. Do not seat the cards yet.
>
> **3** Attach the cables to the QPC441F 3PE faceplates.

Table 105
3PE card settings for the NT8D35 Module

Jumper Settings								
Set Jumper RN27 at E35 to "A".								
Switch Settings								
D20 switch position:		**1**	**2**	**3**	**4**			
81, 81 (Note)		off	on	on	on			
Shelf	Group	**D20 switch position:**				**5**	**6**	**7**	**8**
0 (3PE cards connected to the a CNI in Core or Core/Net 0)	0					on	on	on	on
	1					on	on	off	on
	2					on	off	on	on
	3					on	off	off	on
	4					off	on	on	on
	5					off	on	off	on
	6					off	off	on	on
	7					off	off	off	on
1 (3PE cards connected to the a CNI in Core or Core/Net 1)	0					on	on	on	off
	1					on	on	off	off
	2					on	off	on	off
	3					on	off	off	off
	4					off	on	on	off
	5					off	on	off	off
	6					off	off	on	off
	7					off	off	off	off
Note: For option 81 systems, QPC441 vintage F or later must be used in all modules.								

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

Install and enable the Peripheral Signaling (Per Sig) cards

Procedure 162
Installing and enabling the Peripheral Signaling (Per Sig) cards

1 Install a QPC43R Per Sig card into slot 4 of each added Network module. Push the latches forward to lock the card in place.

2 Faceplate *enable* the cards.

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

Disable and insert the FIJI cards

Procedure 163
Disabling and inserting the FIJI cards

1 Faceplate *disable* the NTRB33AC FIJI cards.

2 Insert the NTRB33AC FIJI cards into slots 2 and 3 of each added Network module.

Do not plug the card into the backplane.

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

Disable and insert the Conf/TDS cards

Procedure 164
Disabling and inserting the Conf/TDS cards

If the NT8D17 Conf/TDS cards are used in the system, follow the procedures below.

1 Faceplate *disable* the NT8D17 Conf/TDS cards.

2 Insert a NT8D17 Conf/TDS card into each added Network module.

Do not plug the card into the backplane.

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

Enable the Network Group

> *Note:* If you are adding more than one Network Group, add one group at a time in software. Follow all the remaining procedures in this chapter to enable one group before enabling another group.

Adding the CNI cards or ports

> *Note:* CNI cards can be enabled and connected on the *inactive* Core only.

Procedure 165
Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call processing.

1   Verify that Core 0 is active.

LD 135	Load program.
STAT CPU	Get the status of the CPUs.

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

SCPU	Switch to Core 0 (if necessary).
****	Exit program.

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

Procedure 166
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.

Core 0 is active, Clock 0 is active and FIJI is in half/half mode.

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

Procedure 167
Place CP 1 into parallel mode

1   Set the CP card in Core 0 into maintenance.

2   Set the CNI cards in Core 1 to disable.

3   Place the CP card in Core 1 into maintenance.

4   Wait until CP 1 completes the INI before continuing.

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

Procedure 168
Defining the XCT and extenders to the added group

1   On Core 1 only, define the XCT and extenders to the added group.

Note: See Table 105 on .

LD 17	Load the program.
REQ	CHG
TYPE	CEQU

XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
<cr>	Continue to the last prompt.
****	To exit the program.

2   Perform a data dump.

LD 43	Load the program.
EDD	Invoke the data dump program.
****	To exit the program.

Table 106 on page 497 below specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 106
CNI to 3PE connections

Group Number	connects from	CNI to 3PE connector	to	3PE card connector
0		8D		J3
0		8F		J4
1		9A		J3
1		9C		J4
2		9D		J3
2		9F		J4
3		10A		J3
3		10C		J4
4		10D		J3
4		10F		J4
5		8, J1		J3
5		8, J2		J4
6		9, J1		J3
6		9, J4		J4
7		10, J1		J3
7		10, J4		J4

Note 1: The default assignments in this table can be reconfigured with LD 17 if necessary. Any CNI port can support any available network group. This table reflects the default factory settings.

Note 2: Groups 5, 6 and 7 require NTRB34 3-port CNI cards and NT9D89 CNI to 3-port cables.

Note 3: Groups 5, 6 and 7 are only available on systems equipped with FNF.

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

Procedure 169
Checking that Ring 0 is active in Core 0

1   Check the status of Ring 0.

LD 39	Load program.
STAT RING 0	Get the status of Ring 0 (Ring state should be HALF/HALF).

2   Disable Ring auto recovery.

LD 39	Load program.
ARCV OFF	Set or reset auto-recovery operation for ring.

3   Swap to Ring 0.

LD 39	Load program.
SWRG 0	Switch Traffic to Ring x.

4   Disable Ring 1.

LD 39	Load program.
DIS RING 1	Disable all FIJI cards on side 1.

WARNING

Cable Ring 1 to new network shelf only.

---

5   Seat the remaining cards (3PE, PER SIG, XCT, FIJI) in both network modules.

Note: Cards must be faceplate disabled before seating.

6   Faceplate enable all cards in both network modules (3PE, PER SIG, XCT and FIJI).

7   Break Ring 1 and cable the added FIJI cards. Ring 1 is descending. Transmit from the lower Group FIJI card to Receive of next higher Group FIJI card. Transmit of the highest Group FIJI card cables to the Receive of Group FIJI card.

8   **In Core 1 only**, seat the new CNI card and faceplate enable.

IMPORTANT!

Power down all applications such as Meridian Mail, CallPilot, and Symposium.

CAUTION

Service Interruption

Call processing is interrupted for approximately 10 minutes while the INI is completed.

In LD 135, switch call processing to Core 1:

9   In Core/Net 0, disable the CNI cards by setting the ENL/DIS faceplate switches to DIS.

10 In Core/Net 0, set the DIS/ENL faceplate switch on the IODU/C card to DIS and unseat it.

11 In Core/Net 1, enable the CNI cards by setting the ENL/DIS faceplate to ENL.

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

WARNING
All call processing may be interrupted.

IMPORTANT!

Power up all applications such as Meridian Mail, CallPilot, and Symposium.

> ✔ Core 1 is active, Clock 0 is active, FIJI ring 1 is full, FIJI ring 0 is none.

Note 1: 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 does not affect service. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

Note 2: Wait for new ring state change message to appear before proceeding:

```
New State Ring 0 None
          Ring 1 Full
```

13 Switch the clock controllers, if necessary.

LD 60	Load the program.
SSCK n	Get the status of clock n where: n = 0 for clock controller 0 1 for clock controller 1
SWCK	Switch system clock from active to standby. *Note:* Make clock controller 1 the active clock.
****	To exit the program.

14 Disable Ring 0.

LD 39	Load the program.

DIS RING 0	Disables all FIJI cards on side 0.
****	To exit the program.

15 Break Ring 0 and cable the added FIJI cards. Ring 0 is ascending. Transmit from the lower Group FIJI card to Receive of next higher Group FIJI card. Transmit of the highest Group FIJI card cables to the Receive of Group FIJI card.

16 In LD 39, enable and stat Ring 0:

LD 39	Load the program.
ENL Ring 0	Enable Ring 0.
Stat Ring 0	Status of Ring x.
****	To exit the program.

> ✔ The system is in split mode with Core 1 active. Clock 1 active and FIJI half and half.

17 **In Core 0 only,** define the XCT and Extenders to the added group.

Note: See Table 106 on page 497.

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)

EXT1 3PE

CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
\<cr\>	Continue to the last prompt.
****	To exit the program.

18 Data dump the software changes.

LD 43	Load the program.
EDD	Invoke data dump program.
****	To exit the program.

19 Seat the CNI card in Core 0 and faceplate enable it.

20 In Core 1, Stat the CNIs:

LD 135	Load the program.
STAT CNI	Get the status of CNI card.
	Note: If any CNIs are disabled they must be enabled.
****	To exit the program.

21 Enable the CNI cards by setting the ENL/DIS faceplate switch to ENL in Core/Net 0.

22 Perform the following in uninterrupted sequence:

- Press and release the MAN RST button in Core/Net 0.

- When SYS700 messages appears on the LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

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

RUNNING ROM OS

ENTERING CP VOTE

An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

23 In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

24 Synchronize the hard drives:

LD 137	Load the program.
SYNC	Synchronize the hard drives.
****	Exit the program.

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

Test the Cores

Procedure 170
Testing Core/Net 1

From Core/Net 1, perform these tests.

1 Perform a redundancy sanity test:

LD 135	Load the program.
STAT CPU	Get the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	

3   Test the CNI cards.

LD 135	Load the program.
STAT CNI c s	Get the status of CNI cards (core, slot).
TEST CNI c s	Test CNI (core, slot).

4   Test system redundancy.

LD 137	Load the 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 the program.
ENL TTY x	Enable the XMS, where x = system XMS.
STAT XSM	Check the system monitors.
****	Exit the program.

6   Clear the display and minor alarms on both Cores.

LD 135	Load the program.
CDSP	Clear the displays on the cores.

CMAJ	Clear major alarms.	
CMIN ALL	Clear minor alarms.	

7   Test the clocks.

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

LD 60	Load the program.
SSCK *x*	To get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.
SWCK	Switch the Clock if necessary.

b.   Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8   Test the Fiber Rings

See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

a.   Check that the Fiber Rings operate correctly.

LD 39	Load the 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 the program.

10 Check applications such as CallPilot, Symposium, and Meridian Mail..

11 Check for dial tone.

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

Procedure 171
Switching call processing

      LD 135   Load the program.

      SCPU   Switch call processing from Core/Net 1 to Core/Net 0.

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

Procedure 172
Testing Core/Net 0

From Core/Net 0, perform these tests.

1 Perform a redundancy sanity test:

      LD 135   Load the 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 the program.

        TEST LCDs   Test LCDs.

        DSPL ALL   Display all.

3   Test the CNI cards.

        LD 135   Load the program.

        STAT CNI c s   Get status of CNI cards (core, slot).

        TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

        LD 137   Load the program.

        TEST RDUN   Test redundancy.

        DATA RDUN

        TEST CMDU   Test the MMDU card.

5   Test that the system monitors are working.

        LD 37   Load the program.

        STAT XSM   Check the system monitors.

        ****   Exit the program.

6   Clear the display and minor alarms on both Cores.

        LD 135

        CDSP   Clear the displays on the cores.

        CMAJ   Clear major alarms.

        CMIN ALL   Clear minor alarms.

7   Test the clocks.

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

LD 60	Load the program.
SSCK *x*	Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.
SWCK	Switch the Clock if necessary.

    b.   Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8   Test the Fiber Rings.

Note: See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

    a.   Check that the Fiber Rings operate correctly.

LD 39	Load the 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 for dial tone.

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

Post-conversion steps must now be performed. See the "Post-conversion procedure" on .

Add an NT8D35 Network Group to Option 81/IGS

Prepare for upgrade

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

Each chapter features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section is written to maintain dial tone where possible and limit service interruptions.

Each section assumes any NT8D35 Network module installation is complete. For NT8D35 installation information see the *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

Before you begin any software or hardware upgrade, field personnel must complete the steps in Table 10.

Table 107
Prepare for upgrade steps (Part 1 of 2)

Procedure Step	Page
Plan the upgrade	511
Upgrade checklists	511
Prepare	512
Identifying the proper procedure	512
Connect a terminal	513
Print site data	513

Table 107
Prepare for upgrade steps (Part 2 of 2)

Procedure Step	Page
Perform a template audit	516
Back up the database (data dump)	518

Plan the upgrade

Planning for an upgrade includes the following details:

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure Sufficient power for new columns/modules or applications.

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Prepare a contingency plan if you abort the upgrade.

DANGER OF ELECTRIC SHOCK

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of the *Communication Server 1000M and Meridian 1: Large System Upgrade*

Procedures (553-3021-258). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform. See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Verify that the current patch or Dep lists are installed at the source platform.

- Verify that the required patch or Dep lists are installed at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and keycode.

- Verify the new keycode using the DKA program.

- Print site data.

Identifying the proper procedure

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

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

> ### IMPORTANT!
>
> Preserve database backup information for a minimum of five days.

Connect a terminal

Procedure 173
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/0 panel in the *inactive* Core or Core/Net module.

The settings for the terminal are:

a. 9600 Baud

b. 8 data

c. parity none

d. 1 stop bit

e. full duplex

f. XOFF

2 If only one terminal is used for both Core or Core/Net modules, connect the terminal from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

———— **End of Procedure** ————

Print site data

Print site data to preserve a record of the system configuration (Table 108). 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 108
Print site data (Part 1 of 3)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN

Table 108
Print site data (Part 2 of 3)

Site data	Print command	
*Software packages	LD 22	
	REQ TYPE	PRT PKG
*Software issue and tape ID	LD 22	
	REQ REQ	ISS TID
* Peripheral software versions	LD 22	
	REQ TYPE	PRT PSWV
ACD data block for all customers	LD 23	
	REQ TYPE CUST ACDN	PRT ACD Customer Number ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ TYPE LOOP APPL PH	PRT MISP loop number (0-158) <cr> <cr>
DTI/PRI data block for all customers	LD 73	
	REQ TYPE	PRT DDB

Table 108
Print site data (Part 3 of 3)

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

Perform a template audit

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

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

CAUTION — Service Interruption

Loss of Data

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**
TEMPLATE 0003 NO USERS FOUND	

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

Procedure 174
Performing a data dump

1   On the Meridian 1 Option 81, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43
     from the source (current) media. At the prompt, enter:

   LD 43   Load the program.

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

   EDD   Begin the data dump.

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

   ****   Exit the program.

> ⚠️ **IMPORTANT!**
>
> Preserve database backup information for a minimum of
> five days.

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

Perform the upgrade

Introduction

	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.

Complete the procedure in this section to add an NT8D35 Network Group to the Meridian 1 Option 81/IGS (NT5D60).

Figure 70
NT5D60 Core/Net shelf
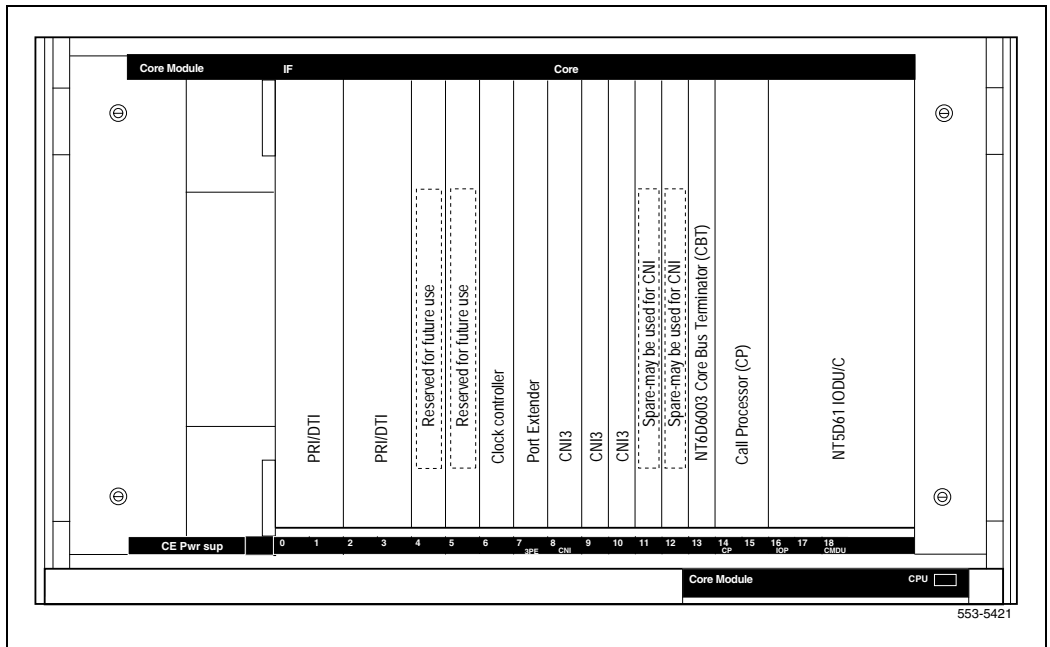
Review upgrade requirements

This section describes the *minimum* equipment required. 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

Service Interruption

Do not proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

Check vintage requirements for existing hardware

Check the list below to make sure that existing hardware meets the minimum vintage requirements:

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The QPC43 Peripheral Signaling cards must be minimum vintage R.

IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- Always use the shortest NTND14 cable.

- A network group requires four NTND14 cables, two to each half group. Both cables to each half group must be the same length.

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

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

If equipment does not meet the requirements, replace it before you begin the upgrade.

CAUTION — Service Interruption

Service Interruption

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

Check required hardware

Table 109 on page 522 describes the *minimum* equipment required to add an NT8D35 Network Group to a Meridian 1 Option 81/IGS (NT5D60).

Additional equipment for increased Network capacity must be ordered separately.

Table 109
Minimum equipment required to add an NT8D35 Network Group to an Option 81/IGS equipped with an NT5D60 shelf

Order Number	Description	Quantity per system
NT8D99AB	Cable, Network to Network, 2 ft.	5
NT8D35	Module, Network AC/DC	2
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	Pack, Conference, Tone and Digit Switch (CT)	2
NT8D76	Intergroup Switch to Intergroup Module cables	4
NTRB34	3 Port CNI ***Note:*** A vacant CNI port must available, otherwise 2 new 3-port CNIs must be added.	
NTND14	CNI to 3PE cable	4

Tools

Table 110 below lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 110
List of recommended tools

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

Check personnel requirements

Nortel recommends that a minimum of two people perform the upgrade.

Interconnect the network modules

Procedure 175
Interconnecting the network modules

The back of each network module backplane has five connectors: A, B, C, D and E. See Figure 71 on . The shelf 0 connectors in Network groups 1 through 7 must be connected to the shelf 1 connectors of the Network groups 1 through 7. For example, for Network group 1, the shelf 0 connector must be connected to the shelf 1 connector.k group.

1 Connect an NT8D99AB cable from the A connector in shelf 0 of Network group 1 to the A connector in shelf 1 Network group 1.

2 Connect the B connector in shelf 0 to the B connector in shelf 1.

3 Connect the C connector in shelf 0 to the C connector in shelf 1.

4   Connect the D connector in shelf 0 to the D connector in shelf 1.

5   Connect the E connector in shelf 0 to the E connector in shelf 1.

6   Connect the A, B, C, D, and E connectors between shelf 0 and shelf 1 for all other Network groups in the system (except group 0)

Note: All connections are made with an NT8D99AB cable.

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

Figure 71
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)

Add CNI cards if necessary

If additional CNI cards are required, add to each Core Module as required.
See Figure 72 on below.

Figure 72
NT5D60 Core/Net shelf
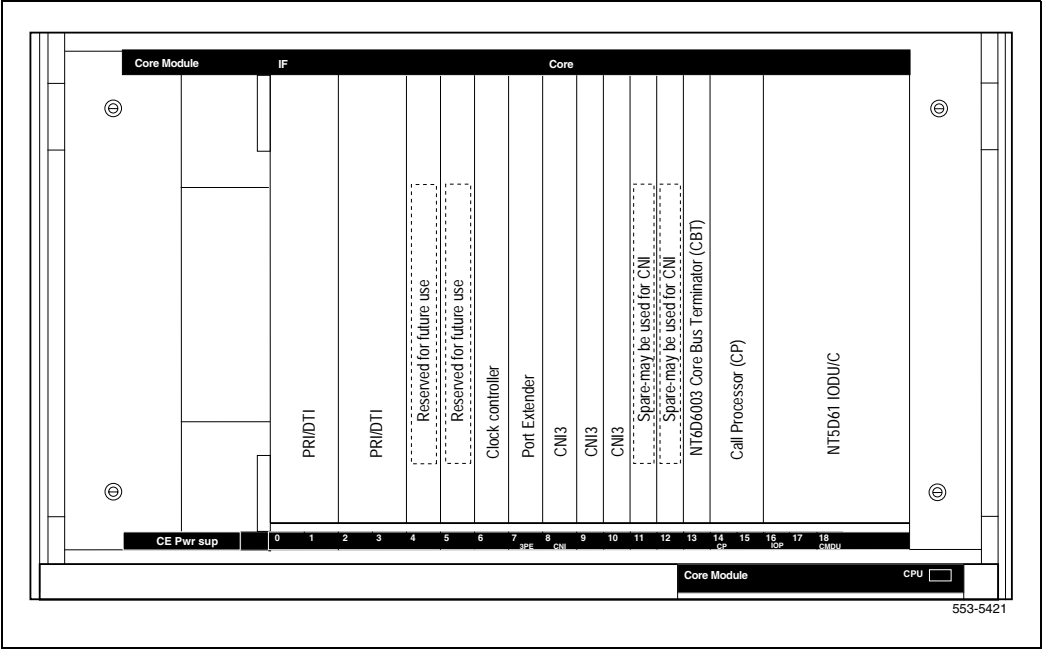
Core Module — IF — Core

PRI/DTI — PRI/DTI — Reserved for future use — Reserved for future use — Clock controller — Port Extender — CNI3 — CNI3 — CNI3 — Spare-may be used for CNI — Spare-may be used for CNI — NT6D6003 Core Bus Terminator (CBT) — Call Processor (CP) — NT5D61 IODU/C

CE Pwr sup

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
3PE CNI CP IOP CMDU

Core Module   CPU

553-5421

Connect the 3PE to CNI cables

The CNI slot and port connections are labeled on the 3PE Fanout Panel. Each 3PE card is connected from J3 and J4 of each 3PE faceplate to the 3PE Fanout Panel.

> **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.

Note: See for b, Figure 73 on page 529 and Figure 74 on page 530 for NTND14 cable connections.

Connect the NTND14 cables to J3 and J4 of the 3PE cards.

Table 111
CNI backplane connector positions—NTND14 cables

Backplane Connection	Group
8D	0
8F	0
9A	1
9C	1
9D	2
9F	2
10A	3
10C	3
10D	4
10F	4
Note: Backplane shroud designations are 18 through 8 from left to right and A through F from top to bottom.	

Figure 73
Example of 3PE faceplate to 3PE Termination Panel
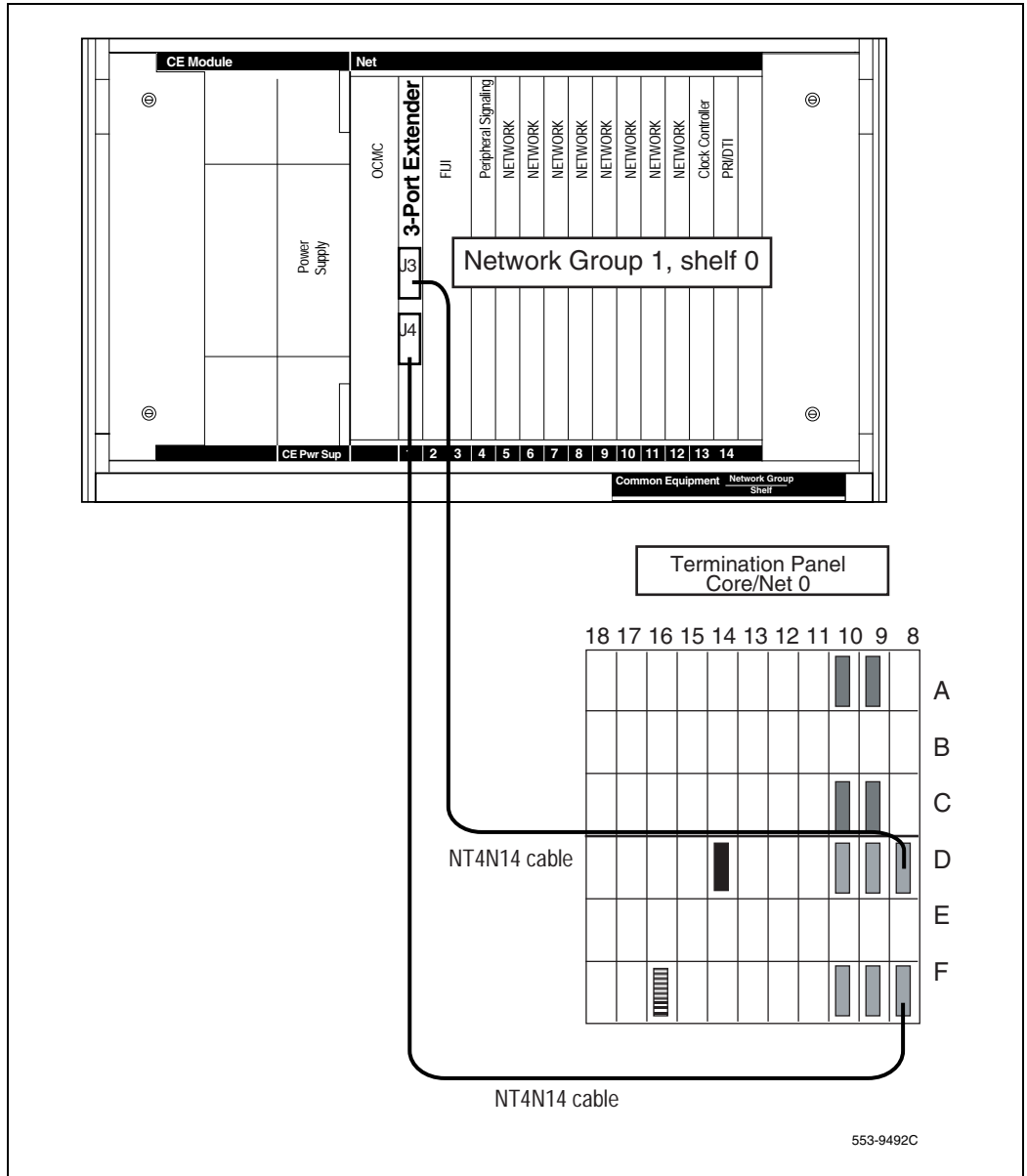
Figure 74
3PE Termination Panel (Core/Net module)
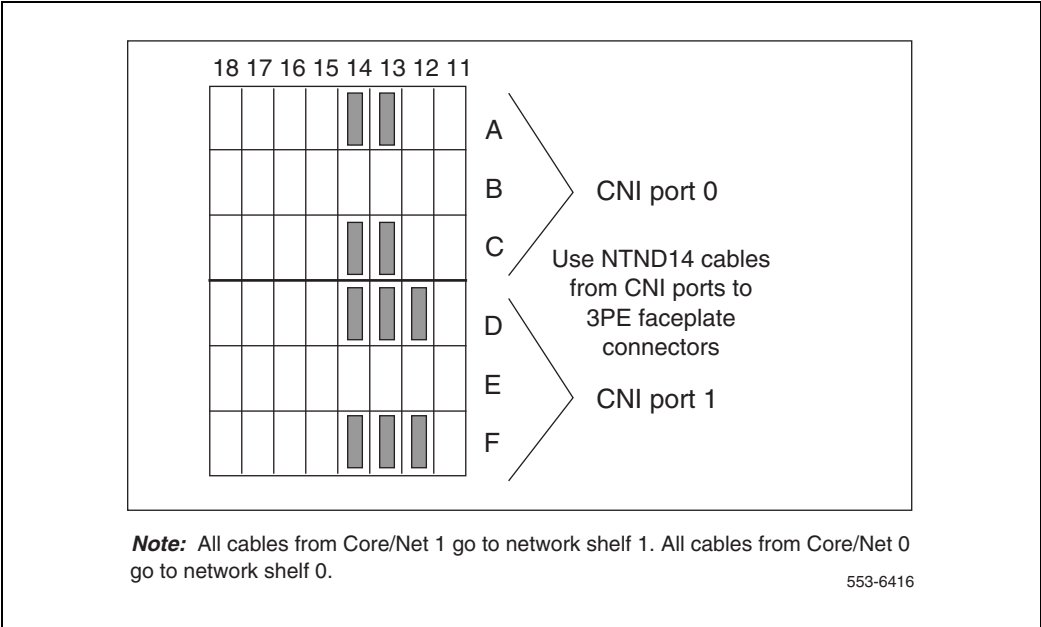
18 17 16 15 14 13 12 11

A

B   CNI port 0

C   Use NTND14 cables
       from CNI ports to
       3PE faceplate
D   connectors

E   CNI port 1

F

Note: All cables from Core/Net 1 go to network shelf 1. All cables from Core/Net 0 go to network shelf 0.

553-6416

Install cards in the network modules

Network cards must be installed in the added Network modules as described below. Each card must be installed and enabled or disabled as indicated.

Install and enable the QPC441 3PE cards

Procedure 176
Installing and enabling the QPC441 3PE cards

1   Verify the QPC441F 3PE card settings.

Switch settings on the 3PE card determine the group and shelf number of each Network module. Use the information in Table 112 on page 531 to verify that the 3PE cards in the added Network modules have the correct switch and jumper settings.

The FIJI card displays group and shelf setting.

    2   Install a QPC441F 3PE card in slot 1 of each added Network module. Do not seat the cards yet.

    3   Attach the cables to the QPC441F 3PE faceplates.

Table 112
3PE card settings for the NT8D35 Module

Jumper Settings								
Set Jumper RN27 at E35 to "A".								
Switch Settings								
D20 switch position:		**1**	**2**	**3**	**4**			
81, 81 (Note)		off	on	on	on			
Shelf	Group	**D20 switch position:**				**5**	**6**	**7**	**8**
0 (3PE cards connected to the a CNI in Core or Core/Net 0)	0					on	on	on	on
	1					on	on	off	on
	2					on	off	on	on
	3					on	off	off	on
	4					off	on	on	on
	5					off	on	off	on
	6					off	off	on	on
	7					off	off	off	on
1 (3PE cards connected to the a CNI in Core or Core/Net 1)	0					on	on	on	off
	1					on	on	off	off
	2					on	off	on	off
	3					on	off	off	off
	4					off	on	on	off
	5					off	on	off	off
	6					off	off	on	off
	7					off	off	off	off
Note: For option 81 systems, QPC441 vintage F or later must be used in all modules.								

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

Install and enable the Peripheral Signaling (Per Sig) cards

Procedure 177
Installing and enabling the Peripheral Signaling (Per Sig) cards

1   Install a QPC43R Per Sig card into slot 4 of each added Network module.
     Push the latches forward to lock the card in place.

2   Faceplate *enable* the cards.

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

Disable and insert DIGS cards

Procedure 178
Disabling and inserting DIGS cards

1   Faceplate *disable* NT5D30 IGS.

2   Insert DIGS card into slot 2.

3   Add NT8D76 IGS cables.

Table 113
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

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

Disable and insert the Conf/TDS cards

Procedure 179
Disabling and inserting the Conf/TDS cards

If the NT8D17 Conf/TDS cards are used in the system, follow the procedures below.

1   Faceplate *disable* the NT8D17 Conf/TDS cards.

2   Insert a NT8D17 Conf/TDS card into each added Network module.

3   Faceplate *enable* the NT8D17 Conf/TDS cards.

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

Enable the Network Group

> *Note:* If you are adding more than one Network Group, add one group
> at a time in software. Complete the remaining procedures in this chapter
> to enable one group before enabling another group.

Adding the CNI cards or ports

> *Note:* CNI cards can be enabled and connected on the *inactive* Core
> only.

Follow these procedures to activate the added CNI ports:

Procedure 180
Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call
processing.

1   Verify that Core 0 is active.

    LD 135   Load program.

    STAT CPU   Get the status of the CPUs.

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

    SCPU   Switch to Core 0 (if necessary).

    ****   Exit program.

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

Procedure 181
Checking that Clock Controller 0 is active

1   Check the status of the Clock Controllers:

LD 60   Load program.

SSCK 0   Get the status of Clock Controller 0.

SSCK 1   Get the status of Clock Controller 1.

Core 0 is active, Clock 0 is active and FIJI is in half/half mode.

Procedure 182
Place CP 1 into parallel mode

1   Set the CP card in Core 0 into maintenance.

2   Set the CNI cards in Core 1 to disable.

3   Place the CP card in Core 1 into maintenance.

4   Wait until CP 1 completes the INI before continuing.

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

Procedure 183
Defining the XCT and extenders to the added group

1   On Core 1 only, define the XCT and extenders to the added group.

Note: See Table 113 on page 533.

LD 17   Load the program.

REQ   CHG

TYPE   CEQU

XCT X   X = the extended conference/TDS/MFS

EXT0 3PE

CNI s p g   Core to Network Interface card location
                         where:
                         s = slot (9 to 12)
                         p = port number (0 to 1)
                         g = group number (0 to 7)

EXT1 3PE

CNI s p g   Core to Network Interface card location
                         where:
                         s = slot (9 to 12)
                         p = port number (0 to 1)
                         g = group number (0 to 7)

<cr>   Continue to the last prompt.

****   To exit the program.

2   Perform a data dump

LD 43   Load the program.

EDD   Invoke the data dump program.

****   To exit the program.

Table 114. below specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 114
CNI backplane connector positions—NTND14 cables

Backplane Connection	Group
8D	0
8F	0
9A	1
9C	1
9D	2
9F	2
10A	3
10C	3
10D	4
10F	4

Note: Backplane shroud designations are 18 through 8 from left to right and A through F from top to bottom.

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

Procedure 184
Seating the remaining cards

1   Seat the remaining cards (3PE, PER SIG, XCT, DIGS) in both network modules.

   Note: Cards must be faceplate disabled before seating.

2   Faceplate enable all cards in both network modules (3PE, PER SIG, XCT, DIGS).

3 Seat the remaining cards (3PE, PER SIG, XCT, DIGS) in both network modules.

Note: Cards must be faceplate disabled before seating.

Table 115
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

4   **In Core 1 only**, seat the new CNI card and faceplate enable.

> **IMPORTANT!**
>
> Power down all applications such as Meridian Mail, CallPilot, and Symposium.

> **CAUTION**
>
> **Service Interruption**
>
> Call processing is interrupted for approximately 10 minutes while the INI is completed.

———— **End of Procedure** ————

Switch call processing to Core 1

Procedure 185
Switching call processing to Core 1

1   In Core/Net 0, disable the CNI cards by setting the ENL/DIS faceplate switches to DIS.

2   In Core/Net 0, set the DIS/ENL faceplate switch on the IODU/C card to DIS and unseat it.

3   In Core/Net 1, enable the CNI cards by setting the ENL/DIS faceplate to ENL.

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

> **WARNING**
> All call processing may be interrupted.

IMPORTANT!

Power up all applications such as Meridian Mail, CallPilot, and Symposium.

Core 1 is active, Clock 0 is active.

5   Switch the clock controllers, if necessary.

LD 60	Load the program.
SSCK n	Get status of clock n where n = 0 for clock controller 0 1 for clock controller 1
SWCK	Switch system clock from active to standby. *Note:* Make clock controller 1 the active clock.
****	To exit the program.

6   **In Core 0 only,** define the XCT and Extenders to the added group.

Note: See Table 115 on page 538.

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	

CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
<cr>	Continue to the last prompt.
****	To exit the program.

7 Data dump the software changes.

LD 43	Load the program.
EDD	Invoke data dump program.
****	To exit the program.

8 Seat the CNI card in Core 0 and faceplate enable it.

9 In Core 1, Stat the CNIs:

LD 135	Load the program.
STAT CNI	Get status of CNI card.
	Note: If any CNIs are disabled they must be enabled.
****	To exit the program.

10 Enable the CNI cards by setting the ENL/DIS faceplate switch to ENL in Core/Net 0.

11 Perform the following in uninterrupted sequence:

- Press and release the MAN RST button in Core/Net 0.

- When SYS700 messages appears on the LCD display on Core/
  Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

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

   RUNNING ROM OS

   ENTERING CP VOTE

An HWI534 message indicates the start of memory synchronization. In 10
minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal
indicates the memory synchronization is complete.

12 In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

13 Synchronize the hard drives:

LD 137	Load the program.
SYNC	Synchronize the hard drives.
****	Exit the program.

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

Test the Cores

Procedure 186
Testing Core/Net 1

From Core/Net 1, perform these tests.

1   Perform a redundancy sanity test:

    LD 135   Load the program.

    STAT CPU   Get the 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 the program.

    TEST LCDs   Test LCDs.

    DSPL ALL   Display LCDs

3   Test the CNI cards.

    LD 135   Load the program.

    STAT CNI c s   Get status of CNI cards (core, slot).

    TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

    LD 137   Load the 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 the program.

    ENL TTY x   Enable the XMS, where x= system XMS.

    STAT XSM   Check the system monitors

    ****   Exit the program.

6   Clear the display and minor alarms on both Cores.

    LD 135   Load the program.

    CDSP   Clear the displays on the cores.

    CMAJ   Clear major alarms.

    CMIN ALL   Clear minor alarms.

7   Test the clocks.

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

    LD 60   Load the program.

    SSCK x   To get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.

    SWCK   Switch the Clock if necessary.

    ****   Exit program.

    b.   Verify that the Clock Controllers are switching correctly.

    SWCK   Switch the Clock.

    SWCK   Switch the Clock again.

8   Check the IGS status.

    LD 39   Load the program.

STAT IGS X		Check the status of IGS (X = IGS/DIGS card number. See Table 116 below).
****		Exit program.

Table 116
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

9   Check applications such as CallPilot, Symposium, and Meridian Mail..

10   Check for dial tone.

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

Procedure 187
Switching call processing

  LD 135   Load the program.

  SCPU   Switch call processing from Core/Net 1 to Core/Net 0.

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

Procedure 188
Testing Core/Net 0

From Core/Net 0, perform these tests.

1 Perform a redundancy sanity test:

  LD 135   Load the 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 the program.

  TEST LCDs   Test LCDs.

  DSPL ALL   Display all.

3 Test the CNI cards.

  LD 135   Load the program.

  STAT CNI c s Get status of CNI cards (core, slot).

  TEST CNI c s Test CNI (core, slot).

4   Test system redundancy.

    LD 137   Load the program.

    TEST RDUN   Test redundancy.

    DATA RDUN

    TEST CMDU   Test the MMDU card.

5   Test that the system monitors are working.

    LD 37   Load the program.

    STAT XSM   Check the system monitors

    ****   Exit the program.

6   Clear the display and minor alarms on both Cores.

    LD 135

    CDSP   Clear the displays on the cores.

    CMAJ   Clear major alarms.

    CMIN ALL   Clear minor alarms.

7   Test the clocks.

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

    LD 60   Load the program.

    SSCK *x*   Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.

    SWCK   Switch the Clock if necessary.

    ****   Exit the program.

    b.   Verify that the Clock Controllers are switching correctly.

    SWCK   Switch the Clock.

    SWCK   Switch the Clock again.

8   Check the IGS status.

LD 39	Load the program.
STAT IGS X	Check the status of IGS (X = IGS/DIGS card number. See Table 117 below).
****	Exit program.

Table 117
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

9   Check applications (such as CallPilot and Symposium).

10 Check for dial tone.

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

Post-conversion procedure

Introduction

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

The site data should be printed before and after conversion. See Table 119 on page 554. If the data has changed, make the necessary updates on the **Target** release, and datadump to the new system media. Print out the items marked with an asterisk (*) to be sure everything converted properly. All other items in g are provided to be printed if desired.

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

CAUTION — Service Interruption

Service Interruption

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

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

Post-conversion steps

Follow the steps in Procedure 189 on page 550. to perform the post-conversion procedure.

Procedure 189
Performing the post-conversion procedure

1   Print system data listed in Table 119 on page 554. Verify that all
    information matches the printouts created before conversions. Make
    changes if necessary.

2   From any unrestricted telephone, dial the access code for an outside line
    (usually 9), and dial the listed Directory Number (DN) for the customer.
    Verify that the correct Incoming Call Indicator (ICI) lights at the attendant
    console.

3   If the customer is equipped with more than one console, transfer the call
    to another console.

4   Extend the call to a telephone, and release the call from the console.

5   From the called telephone, transfer the call back to the attendant.

6   Answer and release the call.

7   From any telephone dial the DN for the attendant. Verify that the correct
    ICI lights at the console, then release the call.

8   Busy-out one trunk group using a Trunk Group Busy (TGB) key on the
    console.

9   From any telephone with TGAR 0-7, dial the access code of the busied-
    out trunk group, to verify that the call is intercepted to the console and
    receives either overflow tone or a recorded announcement.

10 Restore the trunk group to the in-service state using the Trunk Group
    Busy (TGB) key on the console.

11 During the conversion procedure the Central Office might have busied-
    out the DID trunks. If DID trunks are equipped, from any unrestricted
    telephone, dial the access code for an outside line, and dial a DID number
    into the system.

12 If a private network is used, from any unrestricted telephone, dial the
    network access code and place a CDP, ESN, BARS/NARS, or ISDN call
    as applicable to the system.

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

LD 02

STAD dd mm yyyy hh mm ss

> dd = day (for example, 05 for the fifth)
>
> mm = month (for example, 09 for September)
>
> yyyy = year (last 2 or all four digits, for example, 92 or 1992)
>
> hh = hour (in 24-hour time, for example, 13:00 for 1:00 pm)
>
> mm = minute (for example, 25)
>
> ss = seconds (for example, 00)

Note: Test all applications and call handling

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

15 Keep one copy of the **Source** software, (it was backed up in the pre-conversion procedure), in case you must reconvert. After the **Target** software runs well for a few weeks, return the original software to Nortel through the usual distribution channel.

16 Load LD 135 to test and switch CPUs.

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

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

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

Note: Check MMDU in CP PII machines.

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

   LD 43   Load the program.

   BKO   Back up to the backup disks and the active CMDU.

   Note: Back up additional 2 MByte floppy disks.

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

   LD 02

   STAD dd mm yyyy hh mm ss

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

            mm = month (for example, 09 for September)

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

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

            mm = minute (for example, 25)

            ss = seconds (for example, 00)

   ****   Exit LD.

   Note: If equipped with FNF, perform steps 21-24. If equipped with IGS, perform step 20 below.

20   Test the IGS

   Note: See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

   LD 39   Load the program.

   STAT IGS X   Check the status of IGS (X = IGS/DIGS card
                          number. See Table 118 on below).

   ****   Exit program.

Table 118
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

21 Check that Fiber Ring 1 operates correctly.

LD 39	Load the program.
STAT RING 1	Check the status of Ring 1.

22 Reset the Rings:

RSET	Reset the Rings and prepare them for redundancy.
RSTR	Restore both Rings to HALF state .

23 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).

24 If any Ring problems occur, correct them now.

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

Note: If equipped with IGS, you must STAT IGS.

25 Verify that call processing operates correctly. this includes, but is not
limited to the following:

• Check for dial tone.

• Make internal, external, and network calls.

• Check attendant console activity.

• Check DID trunks.

• Check any auxiliary processors.

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

27 Keep one copy of the **Source** software, (it was backed up in the pre-
conversion procedure), in case you must reconvert. After the **Target**
software runs well for a few weeks, return the original software to Nortel
through the usual distribution channel.

Items marked with asterisks (*) are required printout for conversion. Other
items are recommended for a total system status.

Table 119
Print site data (Part 1 of 4)

Site data	Print command
Terminal Blocks for all TNs	LD 20
	REQ PRT
	TYPE TNB
	CUST <cr>

Table 119
Print site data (Part 2 of 4)

Site data	Print command	
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer Data Block for all customers	LD 21	
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route Data Block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN

Table 119
Print site data (Part 3 of 4)

Site data	Print command	
*Software Packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software Issues, Patches, ROM and Tape ID	LD 22	
	REQ	ISSP
	REQ	ROM
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version	LD 32	
(peripheral controller, superloop network and controller cards)	.	IDC loop

Table 119
Print site data (Part 4 of 4)

Site data	Print command	
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0–158)
	APPL	<cr>
	PH	<cr>
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

    28 Obtain status of CNI cards.

LD 135	Load the program.
STAT CNI	Get the status of CNI cards.
****	To exit the program.

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

Adding a Network Group to Option 81C CP3, CP4 (NT5D21)

Contents

This section contains information on the following topics:

Add a Core Network Group to Option 81C CP3, CP4 with FNF

Introduction

Complete the following procedure to add a Network Group to the Core/Net module of a Meridian 1 Option 81C/FNF equipped with an NT5D21 Core/Net shelf.

Upgrades from Meridian Option 71 or Meridian Option 81 to Meridian Option 81C CP3, CP4 do not require Group 0 to be moved to the Core.

The Meridian 1 Option 81C/FNF equipped with an NT5D21 Core/Net shelf must meet the requirements of Product Bulletins P-2002-1658-NA and PAA-2003-0199-NA for firmware 19. Highlights of the bulletins include:

- NTRB53AA Clock Controller required.

- The shortest fiber cable should always be used.

- The cables from group 0-1 must be the same length.

- The difference between the lengths of each fiber ring from group 0 to group 1 must not exceed 50 ft.

IMPORTANT!

The shortest Fiber Cable must always be used (NTRC48).

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 difference between the lengths of each fiber ring from group 0 to any other group must not exceed 50 ft. 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.

To add a Network Group to a Meridian 1 Option 81C/FNF equipped with an NT5D21 Core/Net shelf:

• Clock Controller cards must be NTRB53AA.

• NTRB33AC Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.

IMPORTANT!

When configuring NTND14 cables, observe the following rules:

• Always use the shortest NTND14 cable.

• A network group requires four NTND14 cables, two to each half group. Both cables to each half group must be the same length.

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

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

Prepare for upgrade

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

Each section features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section assumes any NT8D35 Network module installation is complete. For NT8D35 installation information see the *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

Each section is written to maintain dial tone where possible and limit service interruptions.

Before field personnel attempt any software or hardware upgrade, they must complete the steps listed in Table 1.

Table 120
Prepare for upgrade steps

Step	Page
Plan the upgrade	562
Upgrade checklists	563
Prepare	563
Identifying the proper procedure	564
Connect a terminal	564
Print site data	565
Perform a template audit	567
Back up the database (data dump)	569

Plan the upgrade

Planning for an upgrade includes the following details:

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure Sufficient power for new columns/modules or applications.

- Identify all applications such as CallPilot, SCCS, IP, or Meridian Mail that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Prepare a contingency plan if you abort the upgrade.

DANGER OF ELECTRIC SHOCK

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of the *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258). Engineers can print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform. See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Verify that the current patch or Dep lists are installed at the source platform.

- Verify that the required patch or Dep lists are installed at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and keycode.

- 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 190
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/0 panel in the *inactive* Core or Core/Net module.

The settings for the terminal are:

a.   9600 Baud

b.   8 data

c.   parity none

d.   1 stop bit

e.   full duplex

f.   XOFF

2   If only one terminal is used for both Core or Core/Net modules, connect the terminal from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

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

Print site data

Print site data to preserve a record of the system configuration (Table 121). 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 121
Print site data (Part 1 of 3)

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

Table 121
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	
		IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>

Table 121
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)

Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Perform a template audit

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

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

> ⚠️ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> Do not abort this LD until the audit is complete. If the LD is interrupted, data will be corrupted.

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

-
-

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

Procedure 191
Performing a data dump

1   On the Meridian 1 Option 81C, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43
     from the source (current) media. At the prompt, enter:

   LD 43   Load the program.

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

   EDD   Begin the data dump.

	CAUTION — Service Interruption
⚠️	**Loss of Data**
	If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

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

   ****   Exit the program.

	IMPORTANT!
⚠️	Preserve database backup information for a minimum of five days.

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

Perform the upgrade

Introduction

Figure 75 on page 571 shows a Meridian 1 Option 81C CP3, CP4 with FNF (NT5D21).

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.

Complete the procedure in this section to add a Core Network Group to the Meridian 1 Option 81C CP3, CP4 with FNF (NT5D21).

Each section assumes any NT8D35 Network module installation is complete. For NT8D35 installation information see the *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

Figure 75
NT5D21 Core/Net shelf

553-6383A
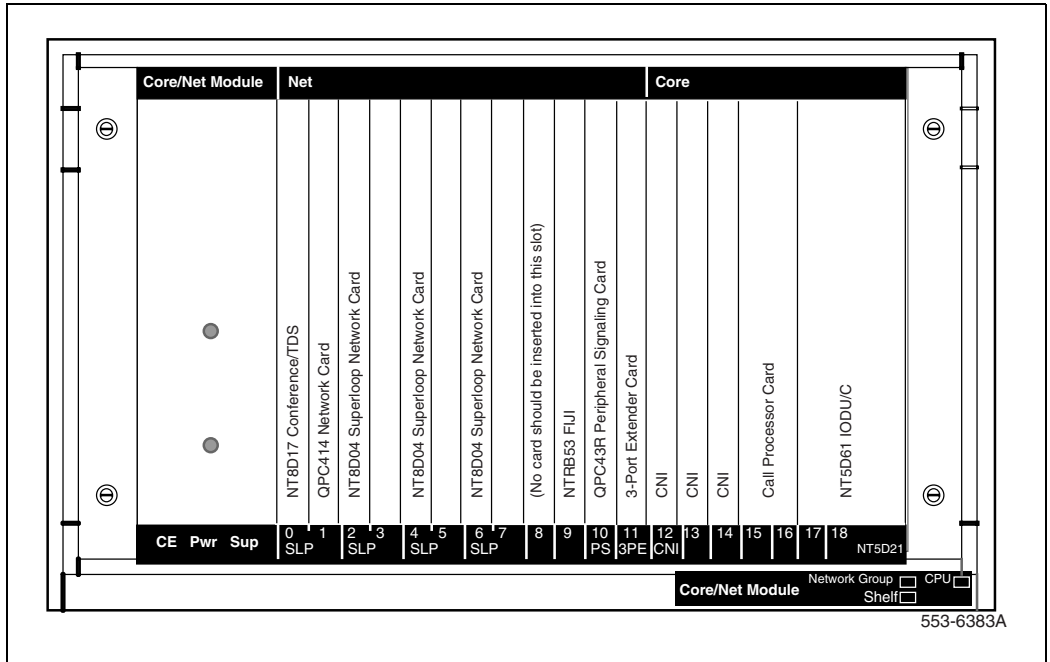
Review upgrade requirements

This section describes the *minimum* equipment required for the NT5D21 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**
>
> **Service Interruption**
>
> Do not proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

Check vintage requirements for existing hardware

Check the list below to make sure that existing hardware meets the minimum vintage requirements for CP3, CP4.

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.

- The QPC43 Peripheral Signaling cards must be minimum vintage R.

- The NTRB33AC/AD Fiber Junctor Interface (FIJI) card.

- The NTRB53AA Clock Controller.

If equipment does not meet the requirements, replace it before you begin the upgrade.

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> Equipment that does not meet the minimum vintage requirements can cause system malfunctions and loss of call processing.

Check required hardware

Table 122 below describes the *minimum* equipment required to add a Core Network Group to a Meridian 1 Option 81C CP3, CP4 with FNF (NT5D21). Additional equipment for increased Network capacity must be ordered separately.

Table 122
Minimum equipment required to add a Core Network Group to an Option 81C/FNF equipped with an NT5D21 shelf

Order Number	Description	Quantity per system
NT8D80BZ	Cable, CPU Interface, 5 ft.	2
NT8D99AD	Cable, Network to Network, 6 ft.	2
NTRB33AC/AD	Card, Fibre Junctor Interface (FIJI)	2
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	Pack, Conference, Tone and Digit Switch (CT)	2
NTRC47	Cable FIJI to FIJI	1
NTRC48	Cable FIJI to FIJI	1
NTRB34	3 port CNI *Note:* A vacant CNI port must be available, otherwise two new 3-port CNIs must be added.	
NTND14	CNI to 3PE cable	
NT9D89	Faceplate CNI to 3PE cable	
Note: The type of cabling is determined by available port assignment (4). Two for each Core of the same type is required.		

Tools

Table 123 below lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 123
List of recommended tools

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

Route FIJI to FIJI cables

Pre-route an NTRC47AA cable between the FIJI cards in shelf 0 and shelf 1 of each added Network Group. See Figure 76 on .

To minimize system downtime during the upgrade, all FIJI cables must be in place before the Network Groups are installed.

Note: Do not disconnect the existing Fiber cables.

IMPORTANT!

The shortest fiber cable must always be used (NTRC48).

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 difference between the lengths of each fiber ring from group 0 to any other group must not exceed 50 ft. 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.

Figure 76
FIJI to FIJI cables (Option 81C example)

NTRC47AA FIJI to FIJI cables

553-9556
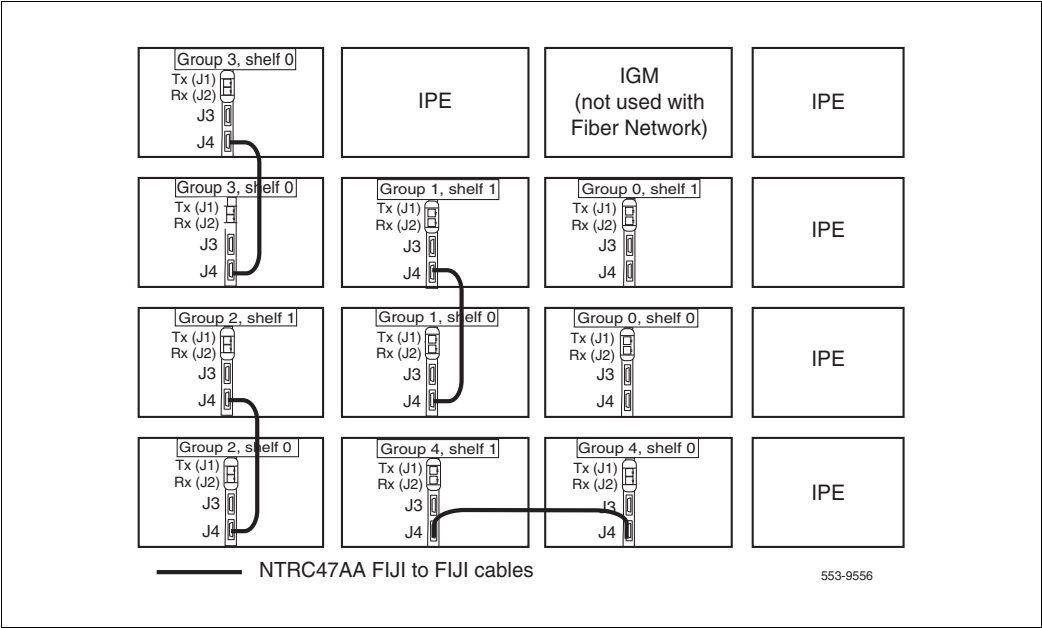
Procedure 192
Labeling and routing the shelf 0 fiber-optic cables (ascending)

Route the NTRC48 cables between the FIJI cards in each added Network
shelf 0 in *ascending* order (Figure 77 on page 580).

> **CAUTION**
> **Damage to Equipment**
> Do not excessively bend or cinch the fiber ring
> cables. These cables are easily damaged. Use the
> Optical Cable Management Card (OCMC) to manage
> and protect the fiber ring cables.

1 Start with shelf 0 in the current highest Network Group.

2 Label each cable on both sides with the appropriate connection
information from Table 124 on page 578.

3   Pre-route a NTRC48 FIJI Fiber Ring cable of the appropriate length from the FIJI card in shelf 0 of the current highest Network Group, to the FIJI card in shelf 0 of the added Network Group.

4   If more than one Network Group is to be added, route a second NTRC48 cable of the appropriate length to shelf 0 of the second added group.

5   Continue to route NTRC48 cable of the appropriate length in *ascending* order between shelf 0 of each added Network Group.

6   To complete the Ring, route a final cable from the highest number group back to Group 0, shelf 0.

Table 124
FIJI Ring 0 connections

Groups X - 0 are cabled in ascending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/0	P1	Tx - J1
1/0	P2	Rx - J2
1/0	P1	Tx - J1
2/0	P2	Rx - J2
2/0	P1	Tx - J1
3/0	P2	Rx - J2
3/0	P1	Tx - J1
4/0	P2	Rx - J2
4/0	P1	Tx - J1
5/0	P2	Rx - J2
5/0	P1	Tx - J1
6/0	P2	Rx - J2
6/0	P1	Tx - J1
7/0	P2	Rx - J2
7/0	P1	Tx - J1
0/0	P2	Rx - J2

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

Procedure 193
Labeling and routing the shelf 1 fiber-optic cables (descending)

Pre-route the NTRC48 cables between the FIJI cards in each Network shelf 1 in *descending* order (Figure 77 on).

> ⚠ **CAUTION**
> **Damage to Equipment**
> Do not excessively bend or cinch the Fiber Ring cables. These cables are easily damaged. Use the Optical Cable Management Card (OCMC) to manage and protect the Fiber Ring cables.

Note 1: Do not disconnect FIJI cables.

Note 2: Each end of the NTRC48 cable is labeled "Tx" or Rx" in the factory.

1   Start with Group 0, shelf 1.

2   Label each cable on both sides with the appropriate connection information from Table 125 on .

3   Route a NTRC48 FIJI Fiber Ring cable of the appropriate length from shelf 1 of the FIJI card in Group 0, to the FIJI card in the added highest Network Group, shelf 1.

4   Route a NTRC48 cable from the FIJI card in the added highest Network Group, shelf 1 to the FIJI card in the second highest Network Group, shelf 1.

5   Continue to route NTRC48 FIJI Fiber Ring cables of the appropriate lengths between shelf 1 of each added Network Group. Route these cables in *descending* order of Network Groups.

6   Route a final cable to the current highest Network Group, shelf 1.

Figure 77
Shelf 1 descending fiber-optic Ring (example)

553-9557

—— NTRC48xx fiber optic cable

Table 125
FIJI Ring 1 connections (Part 1 of 2)

Groups 0 - X are cabled in descending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/1	P1	Tx - J1
7/1	P2	Rx - J2
7/1	P1	Tx - J1
6/1	P2	Rx - J2

Table 125
FIJI Ring 1 connections (Part 2 of 2)

Groups 0 - X are cabled in descending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
6/1	P1	Tx - J1
5/1	P2	Rx - J2
5/1	P1	Tx - J1
4/1	P2	Rx - J2
4/1	P1	Tx - J1
3/1	P2	Rx - J2
3/1	P1	Tx - J1
2/1	P2	Rx - J2
2/1	P1	Tx - J1
1/1	P2	Rx - J2
1/1	P1	Tx - J1
0/1	P2	Rx - J2

Figure 78
NT5D21 Core/Net card cage
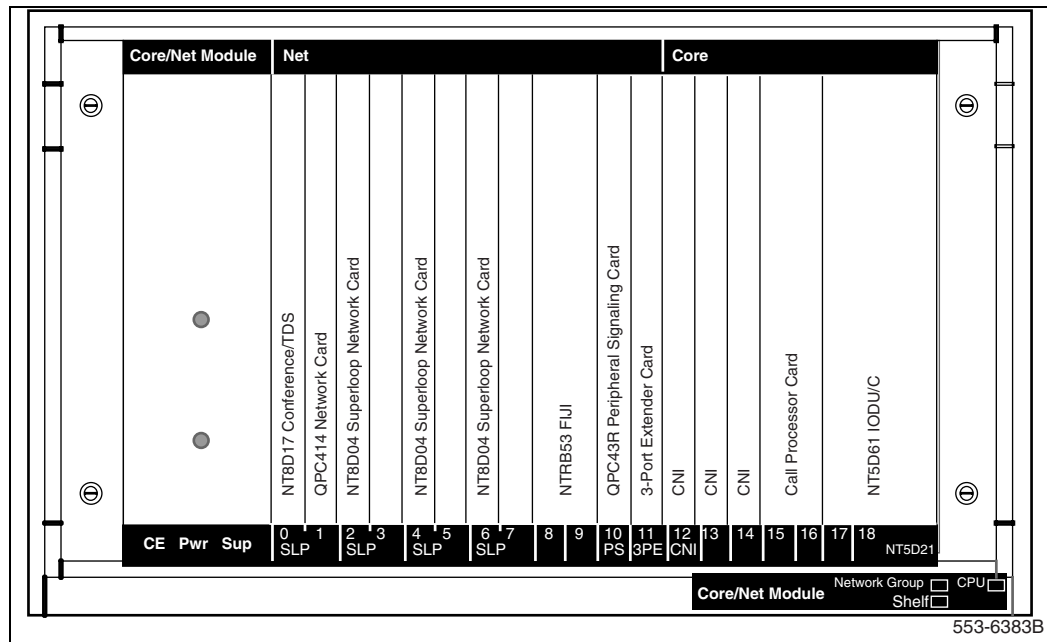
Note 3: CNI 8 port 0 is hardwired through the Core/Net backplane. No cable is required.

———— **End of Procedure** ————

Install cards in the network modules

Network cards must be installed in the added Network modules as described below. Each card must be installed and enabled or disabled as indicated.

Install and enable the QPC441 3PE cards

Procedure 194
Installing and enable the QPC441 3PE cards

1   Verify the 3PE card settings.

    Switch settings on the 3PE card determine the group and shelf number of each Network module. Use the information in Table 126 on to verify that the 3PE cards in the added Network modules have the correct switch and jumper settings.

    The FIJI card displays group and shelf setting.

2   Install a 3PE card in slot 11 of each added Network module.

3   Attach the cables to the 3PE faceplates.

4   Seat the cards.

5   Run 1 NT8D80BZ cable from the faceplate jack J4 of the QPC441 in Core 0 to the face plate jack of the QPC441 J4 connector.

6   Run 1 NT8D80BZ cable from the faceplate jack J3 of the QPC441 in
Core 0 to the faceplate jack J3 of the QPC441 in Core 1.

Table 126
3PE card settings for the NT5D21 Module

Jumper Settings								
Set Jumper RN27 at E35 to "A".								
Switch Settings								
D20 switch position:		**1**	**2**	**3**	**4**			
81, 81C (Note)		off	on	on	off			
Shelf	Group	**D20 switch position:**				**5**	**6**	**7**	**8**
0 (3PE cards connected to the a CNI in Core or Core/Net 0)	0					on	on	on	on
	1					on	on	off	on
	2					on	off	on	on
	3					on	off	off	on
	4					off	on	on	on
	5					off	on	off	on
	6					off	off	on	on
	7					off	off	off	on
1 (3PE cards connected to the a CNI in Core or Core/Net 1)	0					on	on	on	off
	1					on	on	off	off
	2					on	off	on	off
	3					on	off	off	off
	4					off	on	on	off
	5					off	on	off	off
	6					off	off	on	off
	7					off	off	off	off
Note: For option 81C systems, QPC441 vintage F or later must be used in all modules.								

Note: Settings for the 3PE installed in the NT5D21 Module can be found
in *Circuit card installation and testing* (553-3001-211).

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

Interconnect the network modules

On the back of each Core/Net module backplanes are 2 connectors labeled D and E.

Procedure 195
Interconnecting the network modules

1   Connect the NT8D99AD cable from the D connector in shelf 0 to the D connector in shelf 1 of the NT5D21 Core/Net Module.

2   Connect the NT8D99AD cable from the E connector in shelf 0 to the E connector in shelf 1 of the NT5D21 Core/Net Module.

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

Figure 79
NT5D21 Core/Network Module (rear view)—location of D and E connectors
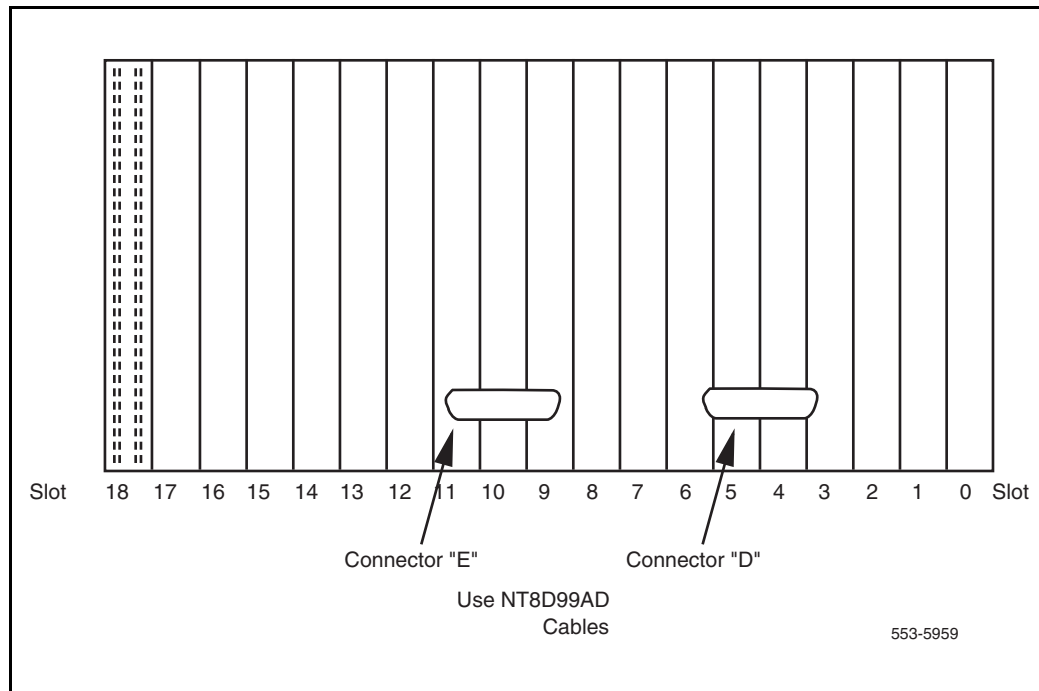
Install and enable the QPC43R Peripheral Signaling (Per Sig) cards

Procedure 196
Installing and enabling the Peripheral Signaling (Per Sig) cards

1   Install a QPC43R Per Sig card into slot 10 of each added Network module. Push the latches forward to lock the card in place.

2   Faceplate *enable* the cards.

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

Disable and insert the NTRB33AC/AD FIJI cards

Procedure 197
Disabling and inserting the NTRB33AC/AD FIJI cards

1   Faceplate *disable* the NTRB33AC FIJI cards.

2   Insert the NTRB33AC FIJI cards into slots 8 and 9 of each added Network module.

3   Seat the card and faceplate *enable* it.

     Do not cable the card at this time.

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

Disable and insert the NT8D17 Conf/TDS cards

Procedure 198
Disabling and inserting the NT8D17 Conf/TDS cards

If NT8D17 Conf/TDS cards are used in the system, follow the procedures below.

1   Faceplate *disable* the NT8D17 Conf/TDS cards.

2   Insert a NT8D17 Conf/TDS card into each added Network module.

     Do not plug the card into the backplane.

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

Enable the Network Group

Note: If you are adding more than one Network Group, add one group at a time in software. Follow all the remaining procedures in this chapter to enable one group before enabling another group.

Adding the CNI cards or ports

Note: CNI cards can be enabled and connected on the *inactive* Core only.

Follow these procedures to activate the added CNI ports:

Procedure 199
Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call processing.

1   Verify that Core 0 is active.

LD 135	Load program.
STAT CPU	Get the status of the CPUs.

2   If Core 1 is active, make Core 0 active.

SCPU	Switch to Core 0 (if necessary).
****	Exit program.

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

Procedure 200
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.

Core 0 is active, Clock 0 is active and FIJI is in half/half mode.

Procedure 201
Place CP 1 into parallel mode

1   Set the CP card in Core 0 into maintenance.

2   Set the CNI cards in Core 1 to disable.

3   Place the CP card in Core 1 into maintenance.

4   Wait until CP 1 completes the INI before continuing.

——————— **End of Procedure** ———————

Procedure 202
Defining the XCT and extenders to the added group

1   **On Core 1 only**, define the XCT and extenders to the added group.

Note: See Table 126 on :

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
<cr>	Continue to the last prompt.
****	Exit the program.

2   Perform a data dump.

LD 43	Load the program.

EDD   Invoke data dump program.

****   Exit the program.

Table 127 below specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 127
Default CNI group assignments

Group	CNI Slot Connections	3PE Faceplate Connection	Cable
0	Group 0 is hard-wired through the Core/Net module backplane: no cable is required.		
1	12D (Core/Net backplane)	J3	NTND14
1	12F (Core/Net backplane)	J4	NTND14
2	13A (Core/Net backplane)	J3	NTND14
2	13C (Core/Net backplane)	J4	NTND14
3	13D (Core/Net backplane)	J3	NTND14
3	13F (Core/Net backplane)	J4	NTND14
4	14A (Core/Net backplane)	J3	NTND14
4	14C (Core/Net backplane)	J4	NTND14
5*	14D (Core/Net backplane)	J3	NTND14
5*	14F (Core/Net backplane)	J4	NTND14
6*	13 J1 (CNI-3 faceplate)	J3	NT9D89
6*	13 J2 (CNI-3 faceplate)	J4	NT9D89
7*	14 J1 (CNI-3 faceplate)	J3	NT9D89
7*	14 J2 (CNI-3 faceplate)	J4	NT9D89

Note 1: The default assignments in this table can be reconfigured with LD 17 if necessary. Any CNI port can support any available Network group. This table reflects the default factory settings.

Note 2: *Fiber Network systems only.

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

Procedure 203
Checking that Ring 0 is active in Core 0

1 Check the status of Ring 0.

    LD 39   Load program.

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

2 Disable Ring auto recovery.

    LD 39   Load program.

    ARCV OFF   Set or reset auto-recovery operation for ring.

3 Swap to Ring 0.

    LD 39   Load program.

    SWRG 0   Switch traffic to Ring x.

4 Disable Ring 1.

    LD 39   Load program.

    DIS RING 1   Disable all FIJI cards on side 1.

> ⚠️ **WARNING**
>
> Cable Ring 1 to new network shelf only.

5 Seat the remaining cards (3PE, PER SIG, XCT, FIJI) in both network modules.

    Note: Cards must be faceplate disabled before seating.

6 Faceplate enable all cards in both network modules (3PE, PER SIG, XCT and FIJI).

7   Break Ring 1 and cable the added FIJI cards. Ring 1 is descending. Transmit from the lower Group FIJI card to Receive of next higher Group FIJI card. Transmit of the highest Group FIJI card cables to the Receive of Group FIJI card.

8   **In Core 1 only**, seat the new CNI card and faceplate enable.

> **IMPORTANT!**
>
> Power down all applications such as Meridian Mail, CallPilot, and Symposium.

> **CAUTION**
>
> **Service Interruption**
>
> Call processing is interrupted for approximately 10 minutes while the INI is completed.

In LD 135, switch call processing to Core 1:

9   In Core/Net 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

10   In Core/Net 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS and unseat it.

11   In Core/Net 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

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

> **WARNING**
> All call processing may be interrupted.

> **IMPORTANT!**
>
> Power up all applications such as Meridian Mail, CallPilot, and Symposium.

✔ Core 1 is active, Clock 0 is active, FIJI ring 1 is full, FIJI ring 0 is none.

Note 1: 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 does not affect service. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

Note 2: Wait for new ring state change message to appear before proceeding.

```
New State Ring 0 None
          Ring 1 Full
```

13 Switch the clock controllers, if necessary.

LD 60	Load the program.
SSCK n	Get the status of clock n where: n = 0 for clock controller 0 1 for clock controller 1
SWCK	Switch system clock from active to standby. *Note:* Make clock controller 1 the active clock.
****	Exit the program.

14 Disable Ring 0.

LD 39	Load the program.

| **DIS RING 0** | Disables all FIJI cards on side 0. |
| ******** | Exit the program. |

15 Break Ring 0 and cable the added FIJI cards. Ring 0 is ascending. Transmit from the lower Group FIJI card to Receive of next higher Group FIJI card. Transmit of the highest Group FIJI card cables to the Receive of Group FIJI card.

16 In LD 39, enable and stat Ring 0:

LD 39	Load the program.
ENL Ring 0	Enable Ring 0.
Stat Ring 0	Status of Ring x.
****	Exit the program.

> ✔ The system is in split mode with Core 1 active. Clock 1 active and FIJI half and half.

17 **In Core 0 only,** define the XCT and Extenders to the added group.

Note: See Table 127 on page 591.

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)

        EXT1 3PE

CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
\<cr\>	Continue to the last prompt.
****	Exit the program.

18 Data dump the software changes.

LD 43	Load the program.
EDD	Invoke data dump program.
****	Exit the program.

19 Seat the CNI card in Core 0 and faceplate enable it.

20 In Core 1, Stat the CNIs:

LD 135	Load the program.
STAT CNI	Get status of CNI card.
	Note: If any CNIs are disabled they must be enabled.
****	Exit the program.

21 Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.

22 Perform the following in uninterrupted sequence:

- Press and release the MAN RST button in Core/Net 0.

- When SYS700 messages appears on the LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

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

RUNNING ROM OS

ENTERING CP VOTE

An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

23 In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

24 Synchronize the hard drives:

      LD 137   Load the program.

      SYNC   Synchronize the hard drives.

      ****   Exit the program.

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

Test the Cores

Procedure 204
Testing Core/Net 1

From Core/Net 1, perform these tests.

1 Perform a redundancy sanity test:

      LD 135   Load the 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 the program.

      TEST LCDs   Test LCDs.

      DSPL ALL

3   Test the CNI cards.

      LD 135   Load the program.

      STAT CNI c s   Get status of CNI cards (core, slot).

      TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

      LD 137   Load the 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 the program.

      ENL TTY x   Enable the XMS, where x = system XMS.

      STAT XSM   Check the system monitors.

      ****   Exit the program.

6   Clear the display and minor alarms on both Cores.

      LD 135   Load the program.

      CDSP   Clear the displays on the cores.

CMAJ	Clear major alarms.
CMIN ALL	Clear minor alarms.

7 Test the clocks.

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

LD 60	Load the program.
SSCK *x*	Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.
SWCK	Switch the Clock if necessary.

b. Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8 Test the Fiber Rings

See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

a. Check that the Fiber Rings operate correctly.

LD 39	Load the 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, Symposium, and Meridian Mail..

11   Check for dial tone.

–––––––––––––––––––––– **End of Procedure** ––––––––––

Procedure 205
Switching call processing

1   In LD 135, enter the SCPU command:

    LD 135   Load the 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.

–––––––––––––––––––––– **End of Procedure** ––––––––––

Procedure 206
Testing Core/Net 0

From Core/Net 0, perform these tests.

1   Perform a redundancy sanity test:

    LD 135   Load the program.

    STAT CPU   Get the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	Display all.

3 Test the CNI cards.

LD 135	Load the program.
STAT CNI c s	Get status of CNI cards (core, slot).
TEST CNI c s	Test CNI (core, slot).

4 Test system redundancy.

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

5 Test that the system monitors are working.

LD 37	Load the program.
STAT XSM	Check the system monitors.
****	Exit the program.

6 Clear the display and minor alarms on both Cores.

LD 135	
CDSP	Clear the displays on the cores.
CMAJ	Clear major alarms.
CMIN ALL	Clear minor alarms.

7   Test the clocks.

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

        LD 60   Load the program.

        SSCK *x*   Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.

        SWCK   Switch the Clock if necessary.

    b.   Verify that the Clock Controllers are switching correctly.

        SWCK   Switch the Clock.

        SWCK   Switch the Clock again.

8   Test the Fiber Rings.

    Note: See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

    a.   Check that the Fiber Rings operate correctly.

        LD 39   Load the 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 for dial tone.

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

Post-conversion steps must now be performed. See "Post-conversion procedure" on .

Add an NT8D35 Network Group to Option 81C CP3, CP4 with FNF

Introduction

Complete the following procedure to add an NT8D35 Group to a Meridian 1 Option 81C/FNF equipped with an NT5D21 Core/Net shelf.

The Meridian 1 Option 81C/FNF equipped with an NT5D21 Core/Net shelf must meet the requirements of Product Bulletins P-2002-1658-NA and PAA-2003-0199-NA for firmware 19. Highlights of the bulletins include:

- NTRB53AA Clock Controller required.

- The shortest fiber cable must always be used.

- The cables from group 0-1 must be the same length.

- The difference between the lengths of each fiber ring from group 0 to group 1 must not exceed 50 ft.

IMPORTANT!

The shortest fiber cable must always be used (NTRC48).

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 difference between the lengths of each fiber ring from group 0 to any other group must not exceed 50 ft. 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.

To add an NT8D35 Network Group to a Meridian 1 Option 81C/FNF equipped with an NT5D21 Core/Net shelf:

• Clock Controller cards must be NTRB53AA.

• NTRB33AC Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.

> **IMPORTANT!**
>
> When configuring NTND14 cables, observe the following rules:
>
> • Always use the shortest NTND14 cable.
>
> • A network group requires four NTND14 cables, two to each half group. Both cables to each half group must be the same length.
>
> • Check the existing NTND14 cables. Replace any cables that do not meet the above requirement.
>
> *Note:* The NTND14 BX 50 ft. cables are manufacture discontinued.

Prepare for upgrade

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

Each chapter features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section is written to maintain dial tone where possible and limit service interruptions.

Each section assumes any NT8D35 Network module installation is complete. For NT8D35 installation information see the *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 128 below.

Table 128
Prepare for upgrade steps

Step	Page
Plan the upgrade	606
Upgrade checklists	607
Prepare	607
Identifying the proper procedure	608
Connect a terminal	608
Print site data	609
Perform a template audit	612
Back up the database (data dump)	613

Plan the upgrade

Planning for an upgrade includes the following details:

• Conduct a site inspection to determine proper power and grounding.

• Review the site profile to determine proper foot space if adding new columns or modules.

• Ensure Sufficient power for new columns/modules or applications.

• Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

• Identify and correct outstanding service problems.

• Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- A contingency plan for backing out of the upgrade.

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of the *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform. See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Verify that the current patch or Dep lists are installed at the source platform.

- Verify that the required patch or Dep lists are installed at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and keycode.

- Print site data.

Identifying the proper procedure

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

> **IMPORTANT!**
>
> Preserve database backup information for a minimum of five days.

Connect a terminal

Procedure 207
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/0 panel in the *inactive* Core or Core/Net module.

    The settings for the terminal are:

    a.   9600 Baud

    b.   8 data

    c.   parity none

    d.   1 stop bit

    e.   full duplex

    f.   XOFF

2   If only one terminal is used for both Core or Core/Net modules, connect the terminal from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

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

Print site data

Print site data to preserve a record of the system configuration (Table 129). 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 129
Print site data (Part 1 of 3)

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

Table 129
Print site data (Part 2 of 3)

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

Table 129
Print site data (Part 3 of 3)

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

Perform a template audit

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

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

CAUTION — Service Interruption

Loss of Data

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**
TEMPLATE 0003 NO USERS FOUND	

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK   CHECKSUM OK

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

Procedure 208
Performing a data dump

1   On the Meridian 1 Option 81C, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43 from the source (current) media. At the prompt, enter:

   LD 43   Load the program.

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

   EDD   Begin the data dump.

> ⚠ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

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

****   Exit the program.

> ### IMPORTANT!
>
> Preserve database backup information for a minimum of five days.

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

Perform the upgrade

Introduction

Figure 80 on page 615 shows a Meridian 1 Option 81C CP3, CP4 (NT5D21) with FNF.

> ### 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.

Complete the procedure in this section to add a NT8D35 Network Group to the Meridian 1 Option 81C CP3, CP4 (NT5D21) with FNF.

Figure 80
NT5D21 Core/Net shelf
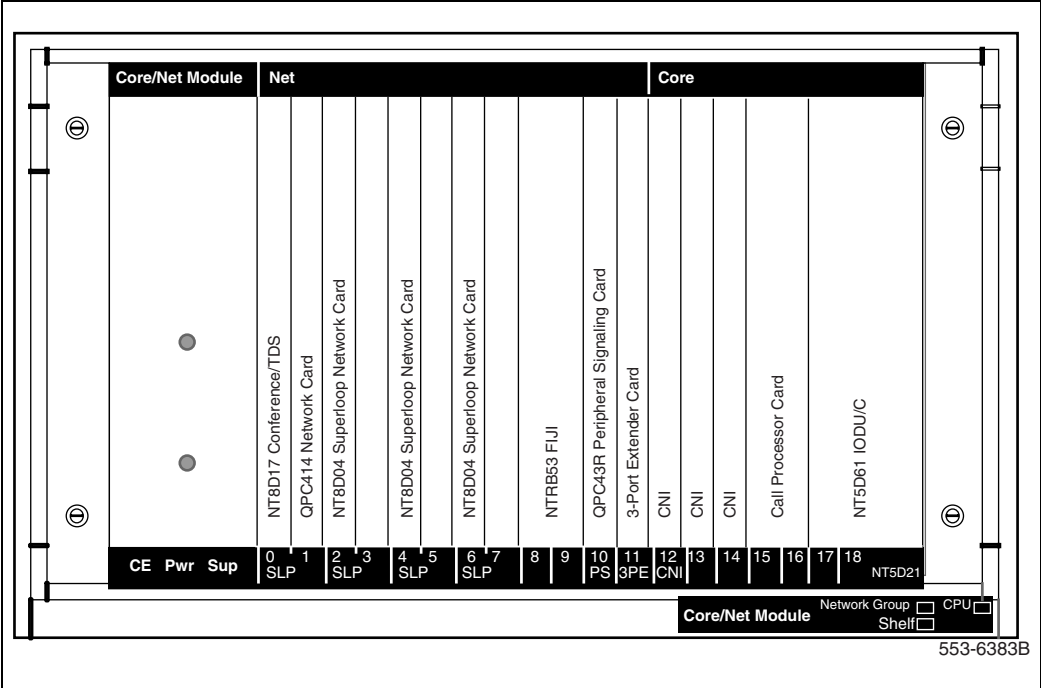
553-6383B

Review upgrade requirements

This section describes the *minimum* equipment required for CP3, CP4 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

Service Interruption

Do not proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

Check vintage requirements for existing hardware

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 QPC43 Peripheral Signaling cards must be minimum vintage R.

- The NTRB33AC/AD FIber Junctor Interface (FIJI) card.

- The NTRB53AA Clock Controller.

If equipment does not meet the requirements, replace it before you begin the upgrade.

CAUTION — Service Interruption

Service Interruption

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

Check required hardware

Table 130 describes the *minimum* equipment required to add an NT8D35 Network Group to a Meridian 1 Option 81C CP3, CP4 (NT5D21) with FNF. Additional equipment for increased Network capacity must be ordered separately.

Table 130
Minimum equipment required to add an NT8D35 Network Group to an Option 81C/FNF equipped with an NT5D21 shelf

Order Number	Description	Quantity per system
NT8D99AB	Cable, Network to Network, 2 ft.	5
NTRB33AC/AD	Card, Fibre Junctor Interface (FIJI)	2
NTND14	CNI to 3PE cables	4
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	Pack, Conference, Tone and Digit Switch (CT)	2
NTRC47	Cable FIJI to FIJI	1
NT8D35	Module, Network AC/DC	2
NTRC48	Cable FIJI to FIJI	4
NTRB34	3 port CNI **Note:** A vacant CNI port must available, otherwise 2 new 3-port CNIs must be added.	
NT9D89	Faceplate CNI to 3PE cable	
Note: The type of cabling is determined by available port assignment (4). Two for each Core of the same type is required.		

Tools

Table 131 below lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 131
List of recommended tools

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

Route FIJI to FIJI cables

Pre-route an NTRC47AA cable between the FIJI cards in shelf 0 and shelf 1 of each added Network Group. See Figure 81 on .

To minimize system downtime during the upgrade, all FIJI cables must be in place before the Network Groups are installed.

Note: Do not disconnect existing cables.

IMPORTANT!

The shortest fiber cable must always be used (NTRC48).

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 difference between the lengths of each fiber ring from group 0 to any other group must not exceed 50 ft. 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.

Figure 81
FIJI to FIJI cables (Option 81C example)

NTRC47AA FIJI to FIJI cables

553-9556
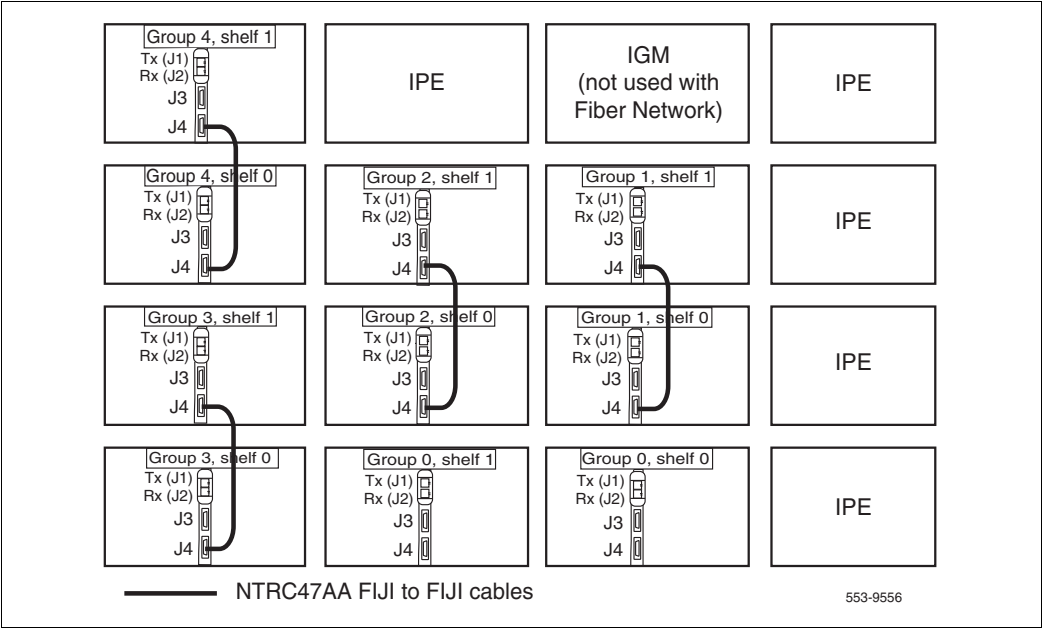
Procedure 209
Labeling and routing the shelf 0 fiber-optic cables (ascending)

Pre-route the NTRC48 cables between the FIJI cards in each added Network shelf 0 in *ascending* order (Figure 83 on page 627).

> **CAUTION**
> **Damage to Equipment**
> Do not excessively bend or cinch the Fiber Ring cables. These cables are easily damaged. Use the Optical Cable Management Card (OCMC) to manage and protect the Fiber Ring cables.

1 Start with shelf 0 in the current highest Network Group.

2 Label each cable on both sides with the appropriate connection information from Table 132 on page 622.

3   Route a NTRC48 FIJI Fiber Ring cable of the appropriate length from the FIJI card in shelf 0 of the current highest Network Group, to the FIJI card in shelf 0 of the added Network Group.

4   If more than one Network Group is to be added, route a second NTRC48 cable of the appropriate length to shelf 0 of the second added group.

5   Continue to route NTRC48 cable of the appropriate length in *ascending* order between shelf 0 of each added Network Group.

6 To complete the Ring, route a final cable from the highest number group back to Group 0, shelf 0.

Table 132
FIJI Ring 0 connections

Groups X - 0 are cabled in ascending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/0	P1	Tx - J1
1/0	P2	Rx - J2
1/0	P1	Tx - J1
2/0	P2	Rx - J2
2/0	P1	Tx - J1
3/0	P2	Rx - J2
3/0	P1	Tx - J1
4/0	P2	Rx - J2
4/0	P1	Tx - J1
5/0	P2	Rx - J2
5/0	P1	Tx - J1
6/0	P2	Rx - J2
6/0	P1	Tx - J1
7/0	P2	Rx - J2
7/0	P1	Tx - J1
0/0	P2	Rx - J2

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

Procedure 210
Labeling and routing the shelf 1 fiber-optic cables (descending)

Pre-route the NTRC48 cables between the FIJI cards in each Network shelf 1 in *descending* order (Figure 82 on).

> **CAUTION**
> **Damage to Equipment**
> Do not excessively bend or cinch the Fiber Ring cables. These cables are easily damaged. Use the Optical Cable Management Card (OCMC) to manage and protect the Fiber Ring cables.

> *Note:* Each end of the NTRC48 cable is labeled "Tx" or Rx" in the factory.

1   Start with Group 0, shelf 1.

2   Label each cable on both sides with the appropriate connection information from Table 133 on .

3   Route a NTRC48 FIJI Fiber Ring cable of the appropriate length from shelf 1 of the FIJI card in Group 0, to the FIJI card in the added highest Network Group, shelf 1.

4   Route a NTRC48 cable from the FIJI card in the added highest Network Group, shelf 1 to the FIJI card in the second highest Network Group, shelf 1.

5   Continue to route NTRC48 FIJI Fiber Ring cables of the appropriate lengths between shelf 1 of each added Network Group. Route these cables in *descending* order of Network Groups.

6   Route a final cable to the current highest Network Group, shelf 1.

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

Figure 82
Shelf 1 descending fiber-optic Ring (example)

553-9557
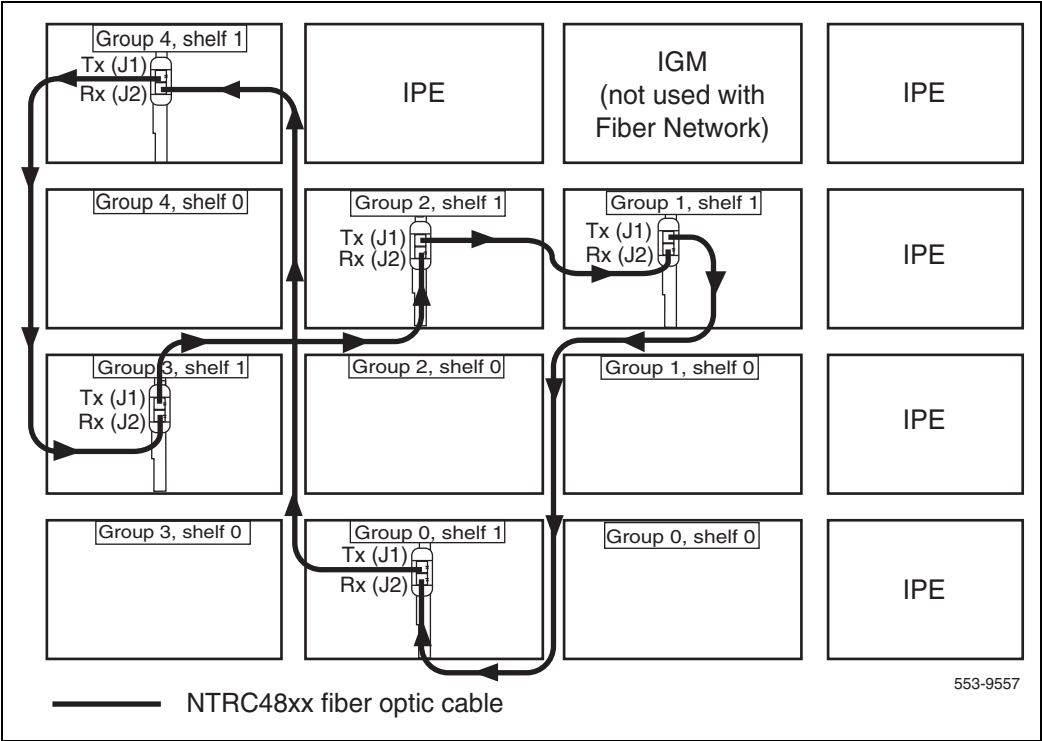
Table 133
FIJI Ring 0 connections (Part 1 of 2)

Groups X - 0 are cabled in ascending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/0	P1	Tx - J1
1/0	P2	Rx - J2
1/0	P1	Tx - J1
2/0	P2	Rx - J2

Table 133
FIJI Ring 0 connections (Part 2 of 2)

Groups X - 0 are cabled in ascending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
2/0	P1	Tx - J1
3/0	P2	Rx - J2
3/0	P1	Tx - J1
4/0	P2	Rx - J2
4/0	P1	Tx - J1
5/0	P2	Rx - J2
5/0	P1	Tx - J1
6/0	P2	Rx - J2
6/0	P1	Tx - J1
7/0	P2	Rx - J2
7/0	P1	Tx - J1
0/0	P2	Rx - J2

Interconnect the network modules

Procedure 211
Interconnecting the network modules

The back of each network module backplane has five connectors: A, B, C, D and E. See Figure 83 on page 627. The shelf 0 connectors in Network groups 1 through 7 must be connected to the shelf 1 connectors of the Network groups 1 through 7. For example, for Network group 1, the shelf 0 connector must be connected to the shelf 1 connector.

1   Connect an NT8D99AB cable from the A connector in shelf 0 of Network group 1 to the A connector in shelf 1 Network group 1.

2   Connect the B connector in shelf 0 to the B connector in shelf 1.

3   Connect the C connector in shelf 0 to the C connector in shelf 1.

4   Connect the D connector in shelf 0 to the D connector in shelf 1.

5   Connect the E connector in shelf 0 to the E connector in shelf 1.

6   Connect the A, B, C, D, and E connectors between shelf 0 and shelf 1 for all other Network groups in the system (except group 0)

Note: All connections are made with an NT8D99AB cable.

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

Figure 83
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)

Network backplane:
shelf 1

Network backplane:
shelf 0

NT8D99AB cable

553-9584
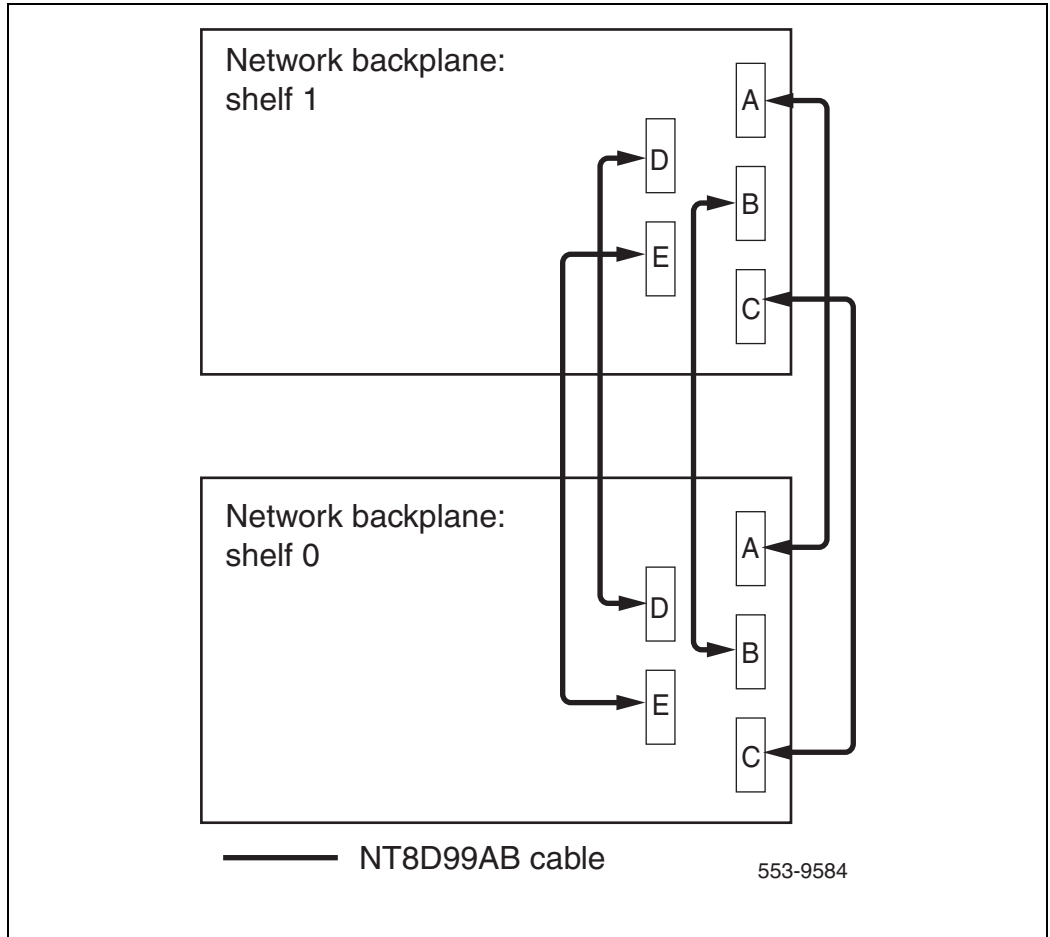
Add CNI cards if necessary

If additional CNI cards are required, see Figure 84 on , add to each
Core Module as required.

Figure 84
NT5D21 Core/Net card cage

553-6383B
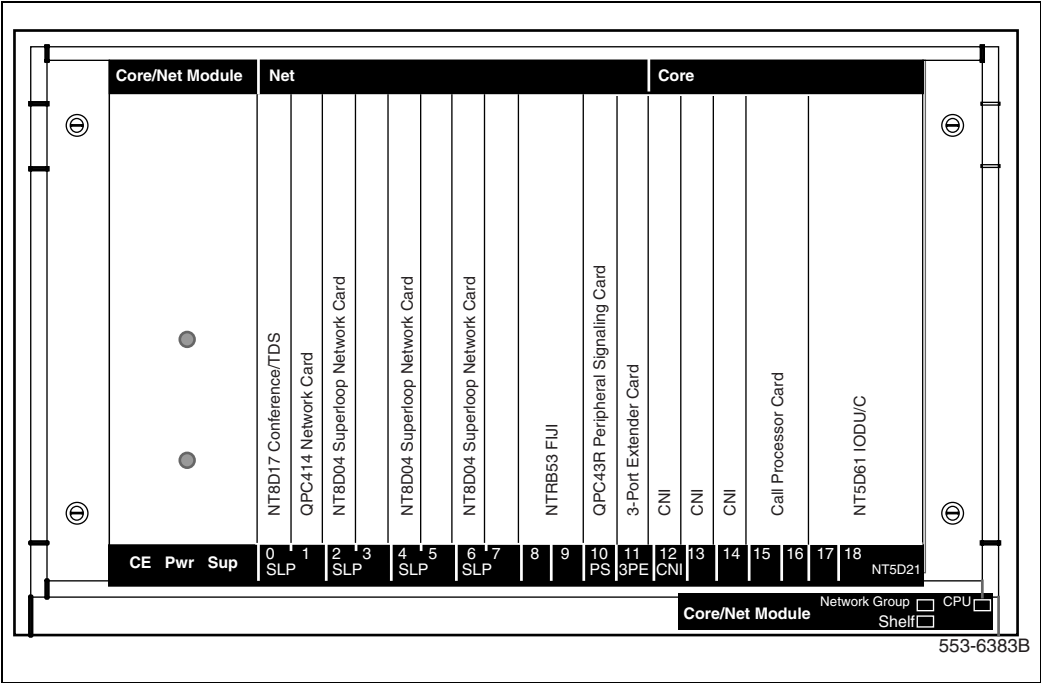
Connect the 3PE to CNI cables

Procedure 212
Connecting the 3PE to CNI cables

The CNI slot and port connections are labeled on the 3PE Fanout Panel. Each 3PE card is connected from J3 and J4 of each 3PE faceplate to the 3PE Fanout Panel.

> *Note:* See Table 134 on , Figure 85 on , and Figure 86 on for NT8D76 cable connections.

1   Connect the NTND14 or NT9D89 cables to J3 and J4 of the 3PE cards.

2   Connect the new NTND14 or NT9D89 cables to the Fanout Panel in the Core/Net.

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

Table 134
Default CNI group assignments

Group	CNI Slot Connections	3PE Faceplate Connection	Cable
0	*Note:* Group 0 is hard-wired through the Core/Net module backplane: no cable is required.		
1	12D (Core/Net backplane)	J3	NTND14
1	12F (Core/Net backplane)	J4	NTND14
2	13A (Core/Net backplane)	J3	NTND14
2	13C (Core/Net backplane)	J4	NTND14
3	13D (Core/Net backplane)	J3	NTND14
3	13F (Core/Net backplane)	J4	NTND14
4	14A (Core/Net backplane)	J3	NTND14
4	14C (Core/Net backplane)	J4	NTND14
5*	14D (Core/Net backplane)	J3	NTND14
5*	14F (Core/Net backplane)	J4	NTND14
6*	13 J1 (CNI-3 faceplate)	J3	NT9D89
6*	13 J2 (CNI-3 faceplate)	J4	NT9D89
7*	14 J1 (CNI-3 faceplate)	J3	NT9D89
7*	14 J2 (CNI-3 faceplate)	J4	NT9D89

Note 1: The default assignments in this table can be reconfigured with LD 17 (LD 17) if necessary. Any CNI port can support any available Network group. This table reflects the default factory settings.

Note 2: *Fiber Network systems only.

Figure 85
3PE backplane termination
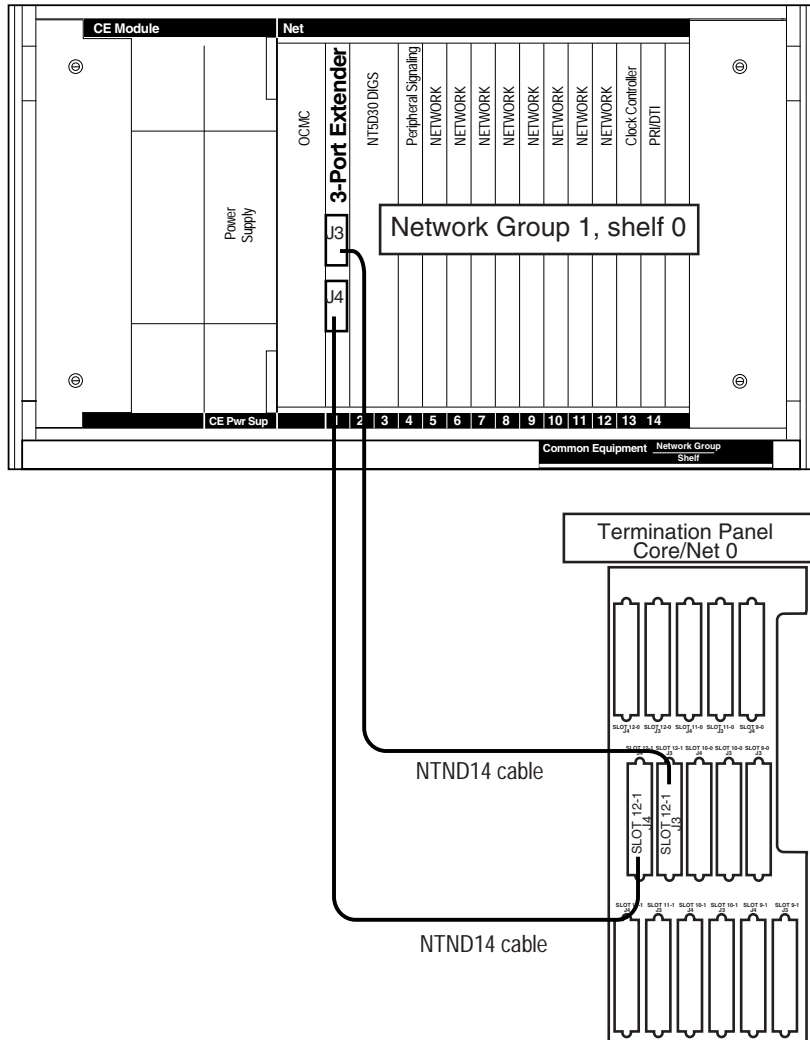
553-9492D

Figure 86
3PE backplane termination
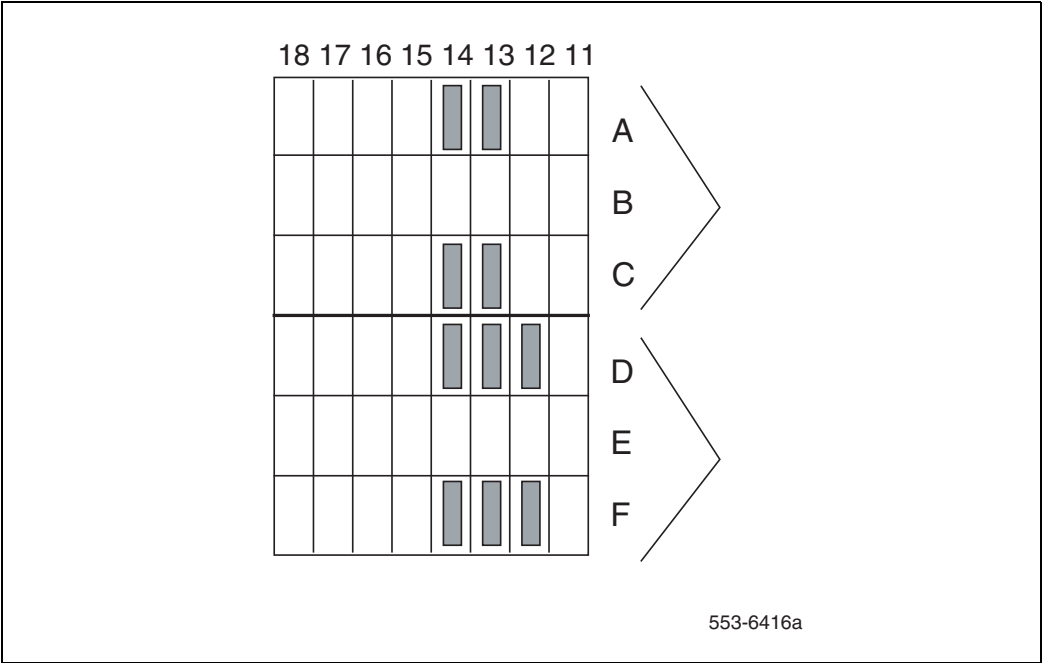
553-6416a

Install cards in the network modules

Network cards must be installed in the added Network modules as described below. Each card must be installed and enabled or disabled as indicated.

Install and enable the QPC441 3PE cards

Procedure 213
Installing and enable the QPC441 3PE cards

1   Verify the QPC441F 3PE card settings.

Switch settings on the 3PE card determine the group and shelf number of each Network module. Use the information in Table 135 on to verify that the 3PE cards in the added Network modules have the correct switch and jumper settings.

The FIJI card displays group and shelf setting.

2   Install a QPC441F 3PE card in slot 1 of each added Network module. Do not seat the cards yet.

> **3**   Attach the cables to the QPC441F 3PE faceplates.

Table 135
3PE card settings for the NT8D35 Module

Jumper Settings								
Set Jumper RN27 at E35 to "A".								
Switch Settings								
D20 switch position:		**1**	**2**	**3**	**4**			
81, 81C (Note)		off	on	on	on			
Shelf	Group	**D20 switch position:**				**5**	**6**	**7**	**8**
0 (3PE cards connected to the a CNI in Core or Core/Net 0)	0					on	on	on	on
	1					on	on	off	on
	2					on	off	on	on
	3					on	off	off	on
	4					off	on	on	on
	5					off	on	off	on
	6					off	off	on	on
	7					off	off	off	on
1 (3PE cards connected to the a CNI in Core or Core/Net 1)	0					on	on	on	off
	1					on	on	off	off
	2					on	off	on	off
	3					on	off	off	off
	4					off	on	on	off
	5					off	on	off	off
	6					off	off	on	off
	7					off	off	off	off
Note: For option 81C systems, QPC441 vintage F or later must be used in all modules.								

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

Procedure 214
Installing and enabling the Peripheral Signaling (Per Sig) cards

1   Install a QPC43R Per Sig card into slot 4 of each added Network module. Push the latches forward to lock the card in place.

2   Faceplate *enable* the cards.

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

Procedure 215
Disabling and inserting the NTRB33AC FIJI cards

1   Faceplate *disable* the NTRB33AC FIJI cards.

2   Insert the NTRB33AC FIJI cards into slots 2 and 3 of each added Network module.

Do not plug the card into the backplane.

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

Procedure 216
Disabling and inserting the NT8D17 Conf/TDS cards

If NT8D17 Conf/TDS cards are used in the system, follow the procedures below.

1   Faceplate *disable* the NT8D17 Conf/TDS cards.

2   Insert an NT8D17 Conf/TDS card into each added Network module.

Do not plug the card into the backplane.

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

Enable the Network Group

Note: If you are adding more than one Network Group, add one group at a time in software. Follow all the remaining procedures in this chapter to enable one group before enabling another group.

Adding the CNI cards or ports

Note: CNI cards can be enabled and connected on the *inactive* Core only.

Follow these procedures to activate the added CNI ports:

Procedure 217
Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call processing.

1   Verify that Core 0 is active.

    LD 135   Load program.

    STAT CPU   Get the status of the CPUs.

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

    SCPU   Switch to Core 0 (if necessary).

    ****   Exit program.

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

Procedure 218
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.

> ✔ Core 0 is active, Clock 0 is active and FIJI is in half/half mode.

———— **End of Procedure** ————

Procedure 219
Place CP 1 into parallel mode

1   Set the CP card in Core 0 into maintenance.

2   Set the CNI cards in Core 1 to disable.

3   Place the CP card in Core 1 into maintenance.

4   Wait until CP 1 completes the INI before continuing.

———— **End of Procedure** ————

Procedure 220
Defining the XCT and extenders to the added group

1   On Core 1 only, define the XCT and extenders to the added group.

> *Note:* See Table 135 on page 634.

> **LD 17**   Load the program.
>
> **REQ**   CHG
>
> **TYPE**   CEQU

XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
\<cr\>	Continue to the last prompt.
****	Exit the program.

2   Perform a data dump.

LD 43	Load the program.
EDD	Invoke the data dump program.
****	Exit the program.

Note: Table 136 on page 639 specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software

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

Table 136
Option 81C CNI group assignments

Group	CNI Slot Connections	3PE Faceplate Connection	Cable
1 1	12D (Core/Net backplane) 12F (Core/Net backplane)	J3 J4	NTND14 NTND14
2 2	12 J1 (CNI-3 faceplate) 12 J2 (CNI-3 faceplate)	J3 J4	NT9D89 NT9D89
3 3	13A (Core/Net backplane) 13C (Core/Net backplane)	J3 J4	NTND14 NTND14
4 4	13D (Core/Net backplane) 13F (Core/Net backplane)	J3 J4	NTND14 NTND14
5 5	13 J1 (CNI-3 faceplate) 13 J2 (CNI-3 faceplate)	J3 J4	NT9D89 NT9D89
6 6	14A (Core/Net backplane) 14C (Core/Net backplane)	J3 J4	NTND14 NTND14
7 7	14D (Core/Net backplane) 14F (Core/Net backplane)	J3 J4	NTND14 NTND14

Note 1: Group 0 is hard-wired through the Core/Net module backplane; no cable is required.

Note 2: The default assignments in this table can be reconfigured with LD 17 (LD 17) if necessary.

Procedure 221
Checking that Ring 0 is active in Core 0

1   Check the status of Ring 0.

    LD 39   Load program.

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

2   Disable Ring auto recovery.

    LD 39   Load program.

    ARCV OFF   Set or reset auto-recovery operation for ring.

3   Swap to Ring 0.

    LD 39   Load program.

    SWRG 0   Switch traffic to Ring x.

4   Disable Ring 1.

    LD 39   Load program.

    DIS RING 1   Disable all FIJI cards on side 1.

⚠️ **WARNING**

Cable Ring 1 to new network shelf only.

---

5   Seat the remaining cards (3PE, PER SIG, XCT, FIJI) in both network modules.

    Note: Cards must be faceplate disabled before seating.

6   Faceplate enable all cards in both network modules (3PE, PER SIG, XCT and FIJI).

7   Break Ring 1 and cable the added FIJI cards. Ring 1 is descending. Transmit from the lower Group FIJI card to Receive of next higher Group FIJI card. Transmit of the highest Group FIJI card cables to the Receive of Group FIJI card.

8   **In Core 1 only**, seat the new CNI card and faceplate enable.

	IMPORTANT!
⚠️	Power down all applications such as Meridian Mail, CallPilot, and Symposium.

	CAUTION
⚠️	**Service Interruption**
	Call processing is interrupted for approximately 10 minutes while the INI is completed.

In LD 135, switch call processing to Core 1:

9   In Core/Net 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

10   In Core/Net 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS and unseat it.

11   In Core/Net 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

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

	WARNING
⚠️	All call processing may be interrupted.

	IMPORTANT!
⚠️	Power up all applications such as Meridian Mail, CallPilot, and Symposium.

✔ Core 1 is active, Clock 0 is active, FIJI ring 1 is full, FIJI ring 0 is none.

Note 1: 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 does not affect service. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

Note 2: Wait for new ring state change message to appear before proceeding:

```
New State Ring 0 None
           Ring 1 Full
```

13 Switch the clock controllers, if necessary.

LD 60	Load the program.
SSCK n	Get the status of clock n where: n = 0 for clock controller 0 1 for clock controller 1
SWCK	Switch system clock from active to standby. *Note:* Make clock controller 1 the active clock.
****	Exit the program.

14 Disable Ring 0.

LD 39	Load the program.

DIS RING 0	Disables all FIJI cards on side 0.
****	Exit the program.

15   Break Ring 0 and cable the added FIJI cards. Ring 0 is ascending.
Transmit from the lower Group FIJI card to Receive of next higher Group
FIJI card. Transmit of the highest Group FIJI card cables to the Receive
of Group FIJI card.

16   In LD 39, enable and stat Ring 0:

LD 39	Load the program.
ENL Ring 0	Enable Ring 0.
Stat Ring 0	Status of Ring x.
****	Exit the program.

> ✔ The system is in split mode with Core 1 active. Clock 1
> active and FIJI half and half.

17   **In Core 0 only,** define the XCT and Extenders to the added group.

Note: See Table 136 on page 639.

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)

EXT1 3PE

CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
\<cr\>	Continue to the last prompt.
****	Exit the program.

18 Data dump the software changes.

LD 43	Load the program.
EDD	Invoke the data dump program.
****	Exit the program.

19 Seat the CNI card in Core 0 and faceplate enable it.

20 In Core 1, Stat the CNIs:

LD 135	Load the program.
STAT CNI	Get the status of CNI card.
	Note: If any CNIs are disabled they must be enabled.
****	Exit the program.

21 Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.

22 Perform the following in uninterrupted sequence:

- Press and release the MAN RST button in Core/Net 0.

- When SYS700 messages appears on the LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

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

RUNNING ROM OS

ENTERING CP VOTE

An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

23 In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

24 Synchronize the hard drives:

LD 137	Load the program.
SYNC	Synchronize the hard drives.
****	Exit the program.

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

Test the Cores

Procedure 222
Testing Core/Net 1

From Core/Net 1, perform these tests.

1   Perform a redundancy sanity test:

LD 135	Load the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	

3   Test the CNI cards.

LD 135	Load the program.
STAT CNI c s	Get the status of CNI cards (core, slot).
TEST CNI c s	Test CNI (core, slot).

4   Test system redundancy.

LD 137	Load the 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 the program.
>
> **ENL TTY x**   Enable the XMS, where x = system XMS.
>
> **STAT XSM**   Check the system monitors.
>
> ********   Exit the program.

6   Clear the display and minor alarms on both Cores.

> **LD 135**   Load the program.
>
> **CDSP**   Clear the displays on the cores.
>
> **CMAJ**   Clear major alarms.
>
> **CMIN ALL**   Clear minor alarms.

7   Test the clocks.

> a.   Verify that the clock controller is assigned to the *active* Core.
>
> **LD 60**   Load the program.
>
> **SSCK x**   Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.
>
> **SWCK**   Switch the Clock if necessary.
>
> b.   Verify that the Clock Controllers are switching correctly.
>
> **SWCK**   Switch the Clock.
>
> **SWCK**   Switch the Clock again.

8   Test the Fiber Rings

See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

    a.   Check that the Fiber Rings operate correctly.

      LD 39   Load the 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, Symposium, and Meridian Mail..

11 Check for dial tone.

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

Procedure 223
Switching call processing

      LD 135   Load the program.

      SCPU   Switch call processing from Core/Net 1 to Core/Net 0.

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

Procedure 224
Testing Core/Net 0

From Core/Net 0, perform these tests.

1   Perform a redundancy sanity test:

     LD 135   Load the program.

     STAT CPU   Get the 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 the program.

     TEST LCDs   Test LCDs.

     DSPL ALL   Display all.

3   Test the CNI cards.

     LD 135   Load the program.

     STAT CNI c s   Get status of CNI cards (core, slot).

     TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

     LD 137   Load the program.

     TEST RDUN   Test redundancy.

     DATA RDUN

     TEST CMDU   Test the MMDU card.

5   Test that the system monitors are working.

     LD 37   Load the program.

STAT XSM	Check the system monitors.
****	Exit the program.

6   Clear the display and minor alarms on both Cores.

LD 135

CDSP	Clear the displays on the cores.
CMAJ	Clear major alarms.
CMIN ALL	Clear minor alarms.

7   Test the clocks.

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

LD 60	Load the program.
SSCK *x*	Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.
SWCK	Switch the Clock if necessary.

b.   Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8   Test the Fiber Rings

Note: See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

    a.   Check that the Fiber Rings operate correctly.

     LD 39   Load the 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 for dial tone.

———— **End of Procedure** ————

Post-conversion steps must now be performed. See "Post-conversion procedure" on .

Add a Core Network Group to Option 81C/IGS CP3, CP4

Prepare for upgrade

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

Each chapter features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section is written to maintain dial tone where possible and limit service interruptions.

Each section assumes any NT8D35 Network module installation is complete. For NT8D35 installation information see the *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 137 below.

Table 137
Prepare for upgrade steps (Part 1 of 2)

Step	Page
Plan the upgrade	653
Upgrade checklists	653
Prepare	654
Identifying the proper procedure	654
Connect a terminal	655
Print site data	655

Table 137
Prepare for upgrade steps (Part 2 of 2)

Step	Page
Perform a template audit	658
Back up the database (data dump)	660

Plan the upgrade

Planning for an upgrade includes the following details:

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure Sufficient power for new columns/modules or applications.

- Identify all applications such as CallPilot, SCCS, IP, or Meridian Mail 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 if you abort the upgrade.

DANGER OF ELECTRIC SHOCK

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of the *Communication Server 1000M and Meridian 1: Large System Upgrade*

Procedures (553-3021-258). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform. See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Verify that the current patch or Dep lists are installed at the source platform.

- Verify that the required patch or Dep lists are installed at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and keycode.

- Print site data.

Identifying the proper procedure

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

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

> **IMPORTANT!**
>
> Preserve database backup information for a minimum of five days.

Connect a terminal

Procedure 225
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/0 panel in the *inactive* Core or Core/Net module.

   The settings for the terminal are:

   a. 9600 Baud

   b. 8 data

   c. parity none

   d. 1 stop bit

   e. full duplex

   f. XOFF

2 If only one terminal is used for both Core or Core/Net modules, connect the terminal from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

——————— **End of Procedure** ———————

Print site data

Print site data to preserve a record of the system configuration. See Table 138. 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 138
Print site data (Part 1 of 3)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN

Table 138
Print site data (Part 2 of 3)

Site data	Print command	
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB

Table 138
Print site data (Part 3 of 3)

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

Perform a template audit

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

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

> **CAUTION**
> **Loss of Data**
> Do not abort this LD until the audit is complete. If the LD is interrupted, data will be corrupted.

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**
TEMPLATE 0003 NO USERS FOUND	

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**
•	
•	
TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

Procedure 226
Performing a data dump

1   On the Meridian 1 Option 81C, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43 from the source (current) media. At the prompt, enter:

   LD 43   Load the 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.

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

   ****   Exit the program.

⚠	**IMPORTANT!** Preserve database backup information for a minimum of five days.

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

Perform the upgrade

Introduction

Figure 87 on shows a Meridian 1 Option 81C/IGS CP3, CP4 (NT5D21).

> **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.

Complete the procedure in this section to add a Core Network Group to the Meridian 1 Option 81C/IGS CP3, CP4 (NT5D21).

Figure 87
NT5D21 Core/Net shelf
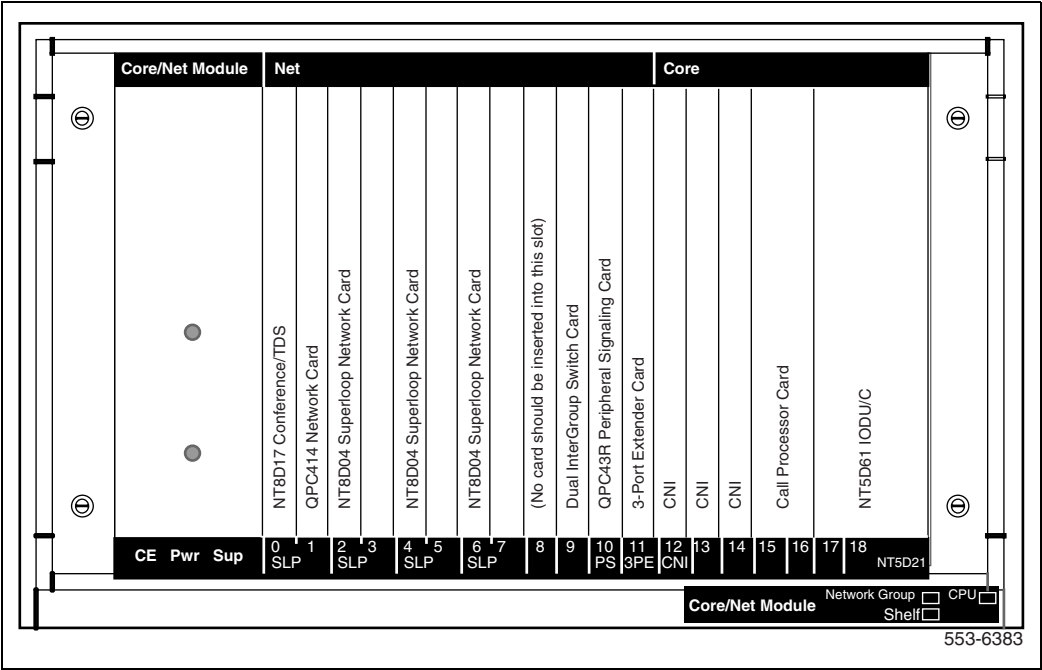
553-6383

Review upgrade requirements

This section describes the *minimum* equipment required for CP3, CP4 with IGS. 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 vintage requirements for existing hardware

Check the list below to make sure that existing hardware meets the minimum vintage requirements for CP3, CP4.

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.

- The QPC43 Peripheral Signaling cards must be minimum vintage R.

If equipment does not meet the requirements, replace it before you begin the upgrade.

> **CAUTION — Service Interruption**
>
> Equipment that does not meet the minimum vintage requirements can cause system malfunctions and loss of call processing.

Check required hardware

Table 92 below describes the *minimum* equipment required to add a Core Network Group to Meridian 1 Option 81C/IGS CP3, CP4 (NT5D21).

Additional equipment for increased Network capacity must be ordered separately.

Table 139
Minimum equipment required to add a Core Network Group to an Option 81C/FNF equipped with an NT5D21 shelf

Order Number	Description	Quantity per system
NT8D80BZ	Cable, CPU Interface, 5 ft.	2
NT8D99AD	Cable, Network to Network, 6 ft.	2
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	Pack, Conference, Tone and Digit Switch (CT)	2
NT5D30	Dual IGS card	2
NT8D76	IGS to IGM cable	4

Tools

Table 140 below lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 140
List of recommended tools

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

Interconnect the network modules

On the back of each Core/Net module backplanes are 2 connectors labeled D and E.

Procedure 227
Interconnecting the network modules

1   Connect the NT8D99AD cable from the D connector in shelf 0 to the D connector in shelf 1 of the NT5D21 Core/Net Module.

2   Connect the NT8D99AD cable from the E connector in shelf 0 to the E connector in shelf 1 of the NT5D21 Core/Net Module.

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

Figure 88
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)
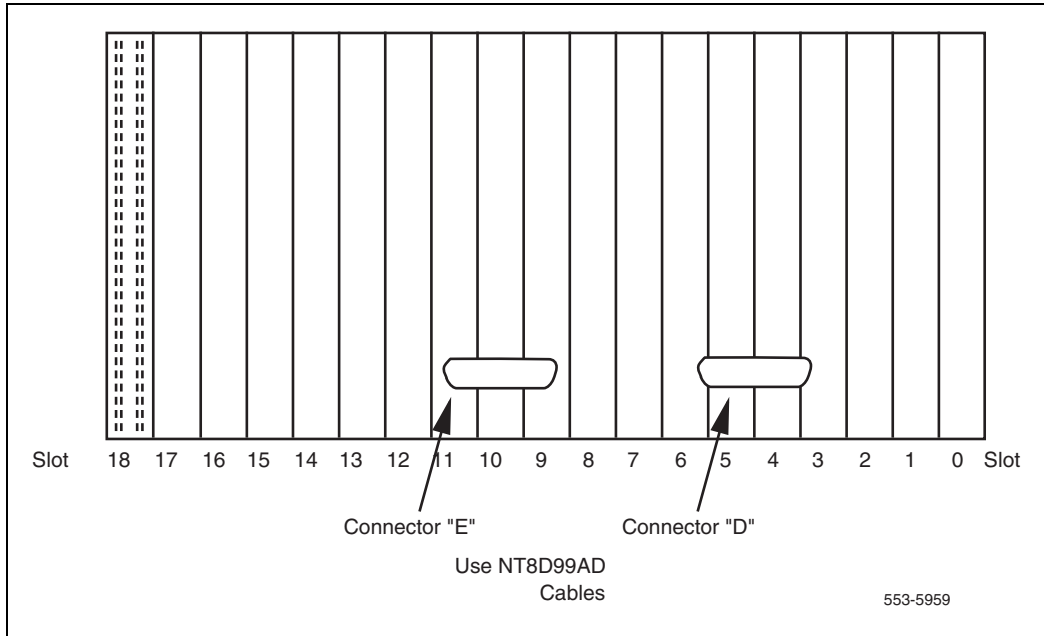
Add CNI cards if necessary

Procedure 228
Adding CNI cards

If additional CNI cards are required, see Figure 89 on .

1   Faceplate *disable* CNI card.

2   Insert card into Core/Net module. Do not seat card into backplane at this time.

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

Figure 89
NT5D21 Core/Net card cage

553-6383
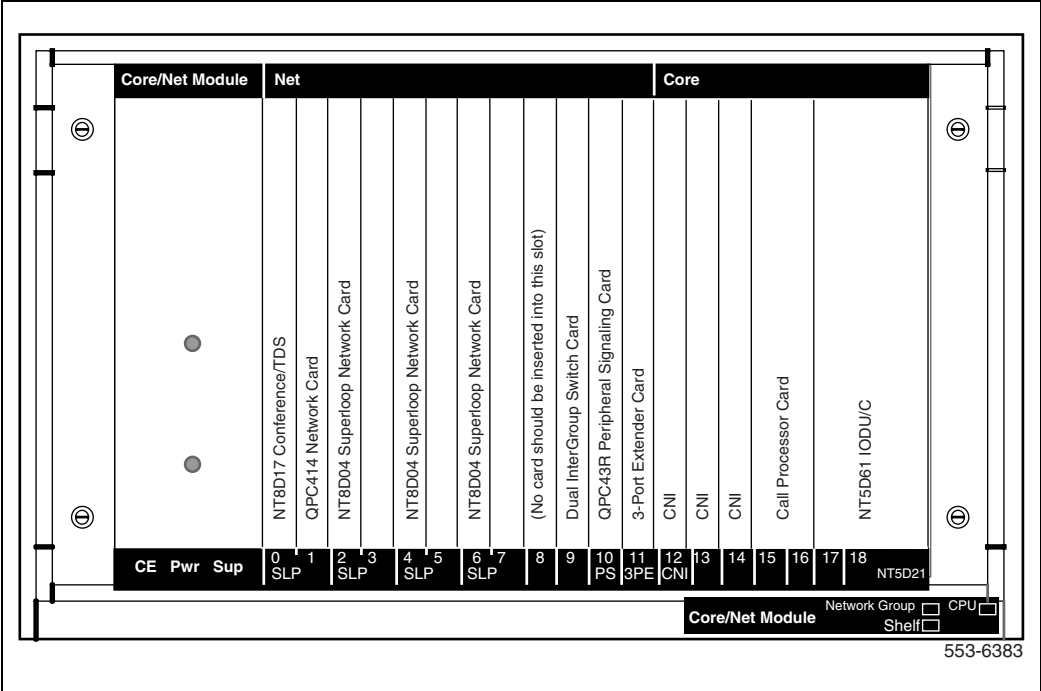
Install cards in the network modules

Network cards must be installed in the added Core/Net module as described below. Each card must be installed and enabled or disabled as indicated.

Install and enable the QPC441 3PE cards

Procedure 229
Installing and enable the QPC441 3PE cards.

1   Verify the QPC441F 3PE card settings.

The group and shelf number of each Core/Net module is determined by the switch settings on the 3PE card. Use the information in Table 141 on to verify that the 3PE cards in the added Network modules have the correct switch and jumper settings.

The FIJI card displays group and shelf setting.

2   Install a QPC441F 3PE card in slot 11 of each added Core/Net Module. Do not seat the cards yet.

3   Attach the NT8D80BZ cables to the 3PE faceplates. Run 1 NT8D80BZ cable from the faceplate jack J4 of the QPC441 in Core 0 to the face plate jack of the QPC441 J4 connector.

4   Run 1 NT8D80BZ cable from the faceplate jack J3 of the QPC441 in Core 0 to the faceplate jack J3 of the QPC441 in Core.

Table 141
3PE card settings for the NT5D21 Module

Jumper Settings									
Set Jumper RN27 at E35 to "A".									
Switch Settings									
D20 switch position:		**1**	**2**	**3**	**4**				
81, 81C (Note)		off	on	on	off				
Shelf	Group	**D20 switch position:**				**5**	**6**	**7**	**8**
0 (3PE cards connected to the a CNI in Core or Core/Net 0)	0					on	on	on	on
	1					on	on	off	on
	2					on	off	on	on
	3					on	off	off	on
	4					off	on	on	on
	5					off	on	off	on
	6					off	off	on	on
	7					off	off	off	on
1 (3PE cards connected to the a CNI in Core or Core/Net 1)	0					on	on	on	off
	1					on	on	off	off
	2					on	off	on	off
	3					on	off	off	off
	4					off	on	on	off
	5					off	on	off	off
	6					off	off	on	off
	7					off	off	off	off
Note: For option 81C systems, QPC441 vintage F or later must be used in all modules.									

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

Procedure 230
Installing and enabling the Peripheral Signaling (Per Sig) cards

1   Install a QPC43R Per Sig card into slot 4 of each added Core/Net module. Push the latches forward to lock the card in place.

2   Faceplate *enable* the cards.

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

Procedure 231
Disabling and inserting the NT8D17 Conf/TDS cards

If the NT8D17 Conf/TDS cards are used in the system, follow the procedures below.

1   Faceplate *disable* the NT8D17Conf/TDS cards.

2   Insert an NT8D17 Conf/TDS card into each added Core/Net module.

3   Seat and faceplate *enable*. Do not plug the card into the backplane.

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

Enable the Network Group

Note: If you are adding more than one Network Group, add one group at a time in software. Follow all the remaining procedures in this chapter to enable one group before enabling another group.

Adding the CNI cards or ports

Note: CNI cards can be enabled and connected on the *inactive* Core only.

Follow these procedures to activate the added CNI ports:

Procedure 232
Disabling and insert the NT5D30 DIGS cards

1   Faceplate *disable* the NT5D30 DIGS cards.

2   Insert the NT5D30 DIGS cards into slot 9 of each Core/Net Module.

3 Do not plug the cards into the backplane.

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

Procedure 233
Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call processing.

1 Verify that Core 0 is active.

LD 135	Load program.
STAT CPU	Get the status of the CPUs.

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

SCPU	Switch to Core 0 (if necessary).
****	Exit program.

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

Procedure 234
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.

Core 0 is active, Clock 0 is active.

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

Procedure 235
Placing CP 1 into parallel mode

1   Set the CP card in Core 0 into maintenance.

2   Set the CNI cards in Core 1 to disable.

3   Place the CP card in Core 1 into maintenance.

4   Wait until CP 1 completes the INI before continuing.

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

Procedure 236
Defining the XCT and extenders to the added group

1   On Core 1 only, define the XCT and extenders to the added group.

Note: See Table 141 on .

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)

<cr>	Continue to the last prompt.
****	Exit the program.

2   Perform a data dump.

LD 43	Load the program.
EDD	Invoke the data dump program.
****	Exit the program.

Table 142 below specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 142
Default CNI group assignments

Group	CNI Slot Connections	3PE Faceplate Connection	cable
0	*Note:* Group 0 is hard-wired through the Core/Net module backplane: no cable is required.		
1	12D (Core/Net backplane)	J3	NTND14
1	12F (Core/Net backplane)	J4	NTND14
2	13A (Core/Net backplane)	J3	NTND14
2	13C (Core/Net backplane)	J4	NTND14
3	13D (Core/Net backplane)	J3	NTND14
3	13F (Core/Net backplane)	J4	NTND14
4	14A (Core/Net backplane)	J3	NTND14
4	14C (Core/Net backplane)	J4	NTND14
5*	14D (Core/Net backplane)	J3	NTND14
5*	14F (Core/Net backplane)	J4	NTND14
6*	13 J1 (CNI-3 faceplate)	J3	NT9D89
6*	13 J2 (CNI-3 faceplate)	J4	NT9D89
7*	14 J1 (CNI-3 faceplate)	J3	NT9D89
7*	14 J2 (CNI-3 faceplate)	J4	NT9D89

Note 1: The default assignments in this table can be reconfigured with LD 17 if necessary. Any CNI port can support any available Network group. This table reflects the default factory settings.

Note 2: *Fiber Network systems only.

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

Procedure 237
Seating the remaining cards

1   Seat the remaining cards (3PE, PER SIG, XCT, DIGS) in both network modules.

Note: Cards must be faceplate disabled before seating.

2   Faceplate *enable* all cards in both network modules (3PE, PER SIG, XCT and DIGS).

3   Cable the added NT5D30 DIGS cards.

Figure 90
NT8D36 Inter-group module connections for IGS cards
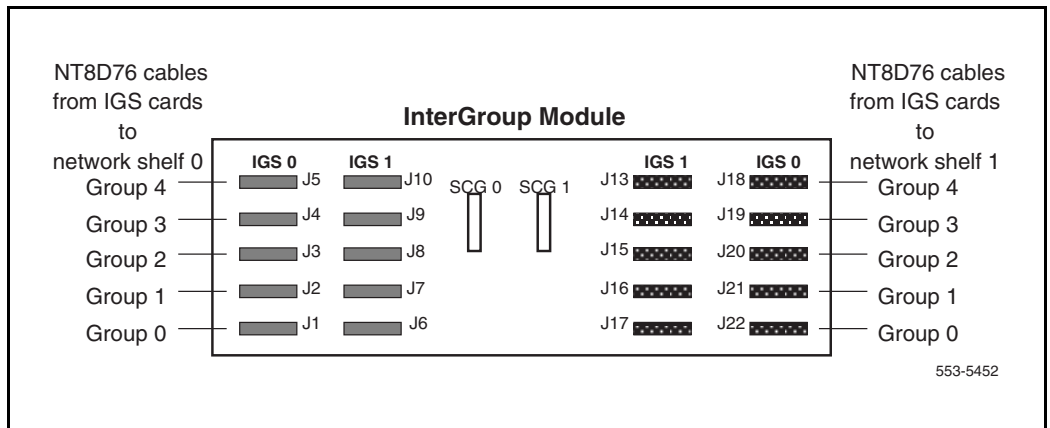
Table 143
Default CNI group assignments

Group	CNI Slot Connections	3PE Faceplate Connection	Cable
0	*Note:* Group 0 is hard-wired through the Core/Net module backplane: no cable is required.		
1	12D (Core/Net backplane)	J3	NTND14
1	12F (Core/Net backplane)	J4	NTND14
2	13A (Core/Net backplane)	J3	NTND14
2	13C (Core/Net backplane)	J4	NTND14
3	13D (Core/Net backplane)	J3	NTND14
3	13F (Core/Net backplane)	J4	NTND14
4	14A (Core/Net backplane)	J3	NTND14
4	14C (Core/Net backplane)	J4	NTND14
5*	14D (Core/Net backplane)	J3	NTND14
5*	14F (Core/Net backplane)	J4	NTND14
6*	13 J1 (CNI-3 faceplate)	J3	NT9D89
6*	13 J2 (CNI-3 faceplate)	J4	NT9D89
7*	14 J1 (CNI-3 faceplate)	J3	NT9D89
7*	14 J2 (CNI-3 faceplate)	J4	NT9D89

Note 1: The default assignments in this table can be reconfigured with LD 17 if necessary. Any CNI port can support any available Network group. This table reflects the default factory settings.

Note 2: *Fiber Network systems only.

4   **In Core 1 only**, seat the new CNI card and faceplate *enable*.

> **IMPORTANT!**
>
> Power down all applications such as Meridian Mail, CallPilot, and Symposium.

> **CAUTION**
>
> **Service Interruption**
>
> Call processing is interrupted for approximately 10 minutes while the INI is completed.

In LD 135, switch call processing to Core 1:

5   In Core/Net 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

6   In Core/Net 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS and unseat it.

7   In Core/Net 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

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

> **WARNING**
>
> All call processing may be interrupted.

> **IMPORTANT!**
>
> Power up all applications such as Meridian Mail, CallPilot, and Symposium.

✔ Core 1 is active, Clock 0 is active.

9 Switch the clock controllers, if necessary.

LD 60	Load the program.
SSCK n	Get status of clock n where: n = 0 for clock controller 0 1 for clock controller 1
SWCK	Switch system clock from active to standby. *Note:* Make clock controller 1 the active clock.
****	Exit the program.

10 **In Core 0 only,** define the XCT and Extenders to the added group.

Note: See Table 143 on page 676.

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	

CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
\<cr\>	Continue to the last prompt.
****	Exit the program.

11 Data dump the software changes.

LD 43	Load the program.
EDD	Invoke data dump program.
****	Exit the program.

12 Seat the CNI card in Core 0 and faceplate enable it.

13 In Core 1, Stat the CNIs:

LD 135	Load the program.
STAT CNI	Get the status of CNI card.
	Note: If any CNIs are disabled they must be enabled.
****	Exit the program.

14 Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.

15 Perform the following in uninterrupted sequence:

- Press and release the MAN RST button in Core/Net 0.

- When SYS700 messages appears on the LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

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

RUNNING ROM OS

ENTERING CP VOTE

An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

16 In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

17 Synchronize the hard drives:

LD 137	Load the program.
SYNC	Synchronize the hard drives.
****	Exit the program.

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

Test the Cores

Procedure 238
Testing Core/Net 1

From Core/Net 1, perform the following tests.

1 Perform a redundancy sanity test:

LD 135	Load the program.
STAT CPU	Get the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	

3 Test the CNI cards.

LD 135	Load the program.
STAT CNI c s	Get status of CNI cards (core, slot).
TEST CNI c s	Test CNI (core, slot).

4 Test system redundancy.

LD 137	Load the 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 the program.
ENL TTY x	Enable the XMS, where x = system XMS.
STAT XSM	Check the system monitors.
****	Exit the program.

6 Clear the display and minor alarms on both Cores.

LD 135	Load the program.
CDSP	Clear the displays on the cores.

CMAJ	Clear major alarms.
CMIN ALL	Clear minor alarms.

7   Test the clocks.

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

LD 60	Load the program.
SSCK *x*	Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.
SWCK	Switch the Clock if necessary.

   b.   Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8   Check the IGS status.

LD 39	Load the program.
STAT IGS X	Check the status of IGS (X = IGS/DIGS card number. See Table 144).
****	Exit program.

Table 144
Shelf 0 and 1 IGS/DIGS card locations (Part 1 of 2)

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
Network Group 0	Shelf 1	IGS/DIGS 1 & 3

Table 144
Shelf 0 and 1 IGS/DIGS card locations (Part 2 of 2)

Network Group	Shelf	IGS/DIGS card locations
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

9   Check applications such as CallPilot, Symposium, and Meridian Mail.

10   Check for dial tone.

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

Procedure 239
Switching call processing

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

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

Procedure 240
Testing Core/Net 0

From Core/Net 0, perform these tests.

1   Perform a redundancy sanity test:

LD 135	Load the program.
STAT CPU	Get the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	Display all.

3   Test the CNI cards.

LD 135	Load the program.
STAT CNI c s	Get the status of CNI cards (core, slot).
TEST CNI c s	Test CNI (core, slot).

4   Test system redundancy.

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

5   Test that the system monitors are working.

LD 37	Load the program.
STAT XSM	Check the system monitors.
****	Exit the program.

6   Clear the display and minor alarms on both Cores.

LD 135	
CDSP	Clear the displays on the cores.
CMAJ	Clear major alarms.
CMIN ALL	Clear minor alarms.

7   Test the clocks.

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

   LD 60   Load the program.

   SSCK *x*   Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1.

   SWCK   Switch the Clock if necessary.

   b.   Verify that the Clock Controllers are switching correctly.

   SWCK   Switch the Clock.

   SWCK   Switch the Clock again.

8   Check the IGS status.

   LD 39   Load the program.

   STAT IGS X   Check the status of IGS (X = IGS/DIGS card number. See Table 145).

   ****   Exit program.

Table 145
Shelf 0 and 1 IGS/DIGS card locations (Part 1 of 2)

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
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

Table 145
Shelf 0 and 1 IGS/DIGS card locations (Part 2 of 2)

Network Group	Shelf	IGS/DIGS card locations
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

9 Check applications (such as CallPilot and Symposium).

10 Check for dial tone.

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

Post-conversion steps must now be performed. See "Post-conversion procedure" on .

Add an NT8D35 Network Group to Option 81C/IGS CP3, CP4

Prepare for upgrade

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

Each chapter features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section is written to maintain dial tone where possible and limit service interruptions. Each section assumes any NT8D35 Network module installation is complete. For NT8D35 installation information see the *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210).

Table 146
Prepare for upgrade steps

Step	Page
Plan the upgrade	688
Upgrade checklists	688
Prepare	688
Identifying the proper procedure	689
Connect a terminal	690
Print site data	690
Perform a template audit	693
Back up the database (data dump)	695

Plan the upgrade

Planning for an upgrade includes the following details:

• Conduct a site inspection to determine proper power and grounding.

• Review the site profile to determine proper foot space if adding new columns or modules.

• Ensure Sufficient power for new columns/modules or applications.

• Identify all applications such as CallPilot, SCCS, IP, or Meridian Mail 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.

• Prepare a contingency plan if you abort the upgrade.

DANGER OF ELECTRIC SHOCK

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

Upgrade checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter of the *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258). Engineers may print this section for reference during the upgrade.

Prepare

Preparing for an upgrade includes the following details:

• Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform. See the "General software conversion information" chapter in *Communication Server 1000M and Meridian 1: Large System Upgrade Procedures* (553-3021-258).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Verify the current patch or Dep lists are installed at the source platform.

- Verify the required patch or Dep lists are installed at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and keycode.

- Secure the target software and keycode.

- Verify the new keycode using the DKA program.

- Print site data.

Identifying the proper procedure

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

> **IMPORTANT!**
>
> Preserve database backup information for a minimum of five days.

Connect a terminal

Procedure 241
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/0 panel in the *inactive* Core or Core/Net module.

The settings for the terminal are:

a.   9600 Baud

b.   8 data

c.   parity none

d.   1 stop bit

e.   full duplex

f.   XOFF

2   If only one terminal is used for both Core or Core/Net modules, connect the terminal from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

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

Print site data

Print site data to preserve a record of the system configuration (Table 147). 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 147
Print site data (Part 1 of 3)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN

Table 147
Print site data (Part 2 of 3)

Site data	Print command	
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	
		IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB

Table 147
Print site data (Part 3 of 3)

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

Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted templates are repaired and duplicated templates are removed. 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 LD until the audit is complete. If the LD is interrupted, data will be corrupted.

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump)

Procedure 242
Performing a data dump

1   On the Meridian 1 Option 81C, log in to the system.

2   Load the Equipment Data Dump Program (LD 43). Always enter LD 43
    from the source (current) media. At the prompt, enter:

   LD 43   Load the program.

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

   EDD   Begin the data dump.

⚠	**CAUTION — Service Interruption** **Loss of Data** If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

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

   ****   Exit the program.

⚠	**IMPORTANT!** Preserve database backup information for a minimum of five days.

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

Perform the upgrade

Introduction

Figure 91 on page 697 shows a Meridian 1 Option 81C/IGS CP3, CP4 (NT5D21).

<table>
<tr>
<td>⚡</td>
<td>

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.

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

Complete the procedure in this section to add an NT8D35 Network Group to the Meridian 1 Option 81C/IGS CP3, CP4 (NT5D21).

Figure 91
NT5D21 Core/Net shelf
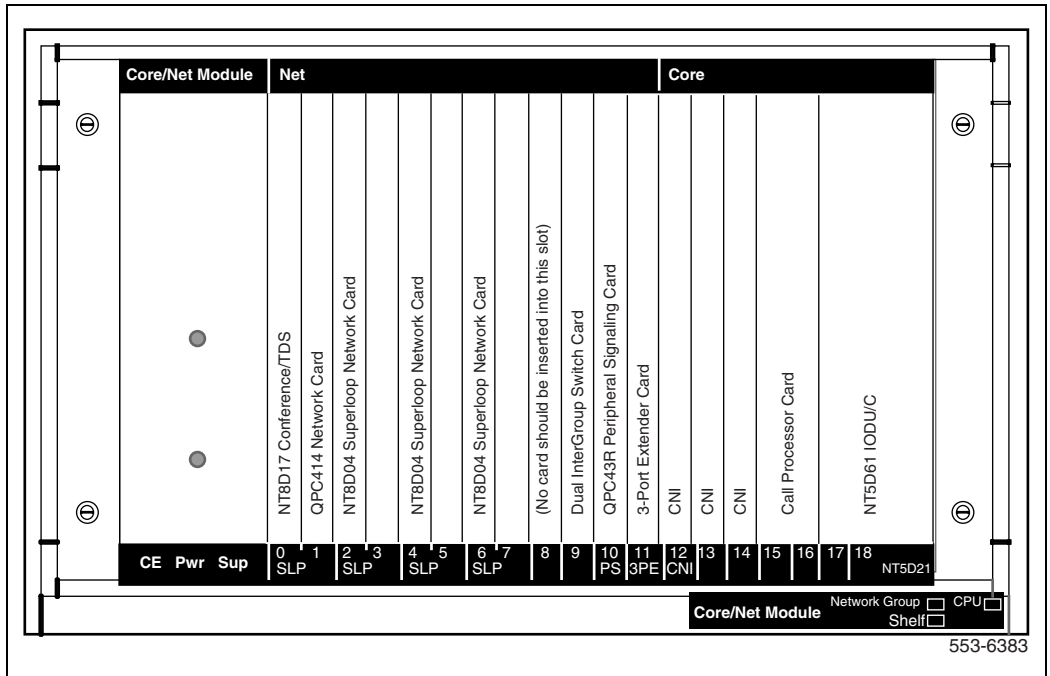
553-6383

Review upgrade requirements

This section describes the *minimum* equipment required for CP3, CP4. 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.

<table>
<tr><td>⚠️</td><td>

CAUTION — Service Interruption

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.

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

Check vintage requirements for existing hardware

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

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.

- The QPC43 Peripheral Signaling cards must be minimum vintage R.

If equipment does not meet the requirements, replace it before you begin the upgrade.

<table>
<tr><td>⚠️</td><td>

CAUTION — Service Interruption

Service Interruption

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

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

Check required hardware

Table 148 below describes the *minimum* equipment required to add an NT8D35 Network Group to a Meridian 1 Option 81C/IGS CP3, CP4 (NT5D21). Additional equipment for increased Network capacity must be ordered separately.

Table 148
Minimum equipment required to add an NT8D35 Network Group to an Option 81C/FNF equipped with an NT5D21 shelf

Order Number	Description	Quantity per system
NT8D99AB	Cable, Network to Network, 2 ft.	5
NTND14	CNI to 3PE cables	4
QPC43R	Pack, Peripheral Signaling (PS)	2
QPC441F	Pack, 3 Port Extender (3PE)	2
NT8D17	Pack, Conference, Tone and Digit Switch (CT)	2
NT8D35	Module, Network AC/DC	2
NTRB34	3 port CNI **Note:** A vacant CNI port must available, otherwise 2 new 3-port CNIs must be added.	
NT9D89	Faceplate CNI to 3PE cable	
NT5D30	Dual IGS card	2
NT8D76	IGS to IGM cable	4
Note: The type of cabling is determined by available port assignment (4). Two for each Core of the same type is required.		

Tools

Table 149 lists the tools required to upgrade a Nortel system. Special tools required in the procedure are listed.

Table 149
List of recommended tools

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

Check personnel requirements

Nortel recommends that a minimum of two people perform the upgrade.

Connect the Power and System Monitor

Follow the instructions in *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210) to connect the power, System Monitor or modules. The system must be in True Redundant mode.

Interconnect the network modules

Procedure 243
Interconnecting the network modules

The back of each network module backplane has five connectors: A, B, C, D and E. See Figure 92 on . The shelf 0 connectors in Network groups 1 through 7 must be connected to the shelf 1 connectors of the Network groups 1 through 7. For example, for Network group 1, the shelf 0 connector must be connected to the shelf 1 connector.k group.

1   Connect an NT8D99AB cable from the A connector in shelf 0 of Network group 1 to the A connector in shelf 1 Network group 1.

2   Connect the B connector in shelf 0 to the B connector in shelf 1.

3   Connect the C connector in shelf 0 to the C connector in shelf 1.

4   Connect the D connector in shelf 0 to the D connector in shelf 1.

5   Connect the E connector in shelf 0 to the E connector in shelf 1.

6   Connect the A, B, C, D, and E connectors between shelf 0 and shelf 1 for all other Network groups in the system (except group 0)

Note: All connections are made with an NT8D99AB cable.

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

Figure 92
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)

NT8D99AB cable

553-9584
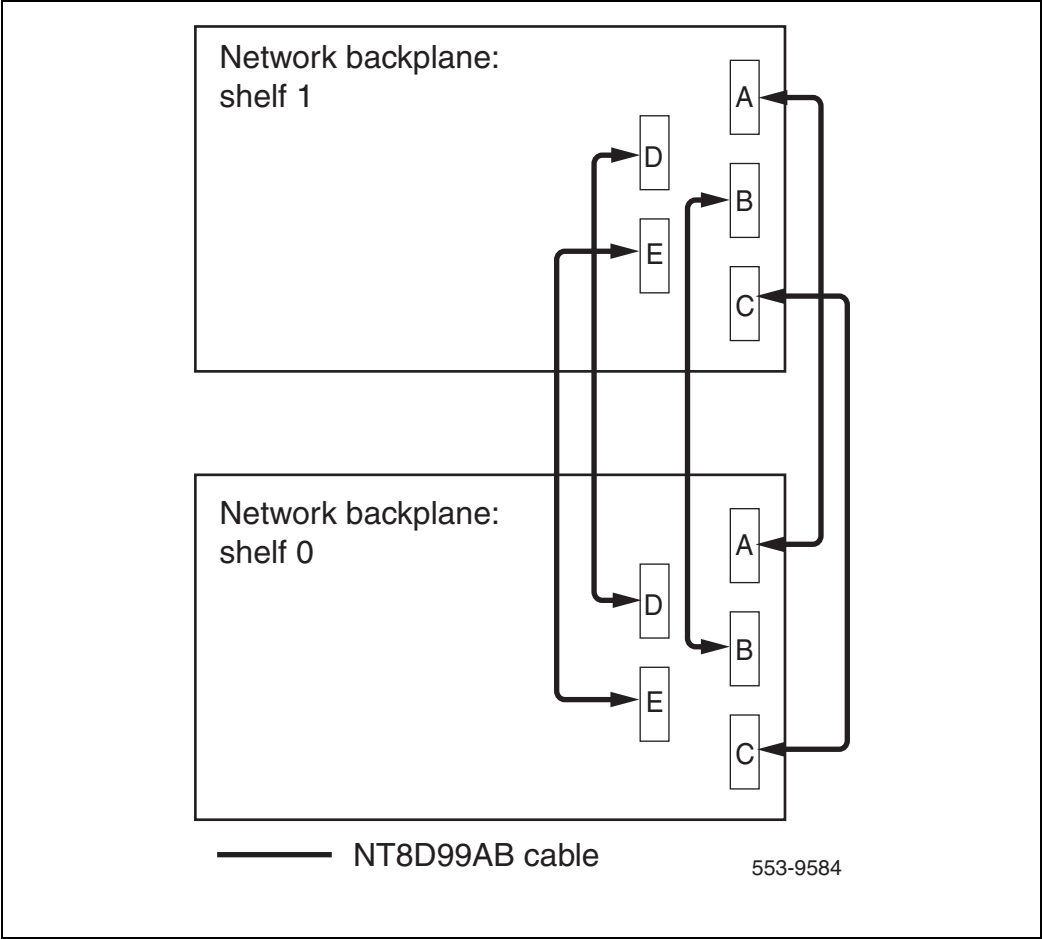
Add CNI cards if necessary

**Procedure 244
Adding an NTRB34 CNI cards**

If additional NTRB34 CNI cards are required, see Figure 93.

1   Faceplate *disable* the NTRB34 CNI card.

2   Insert card into Core/Net module. Do not seat card into backplane at this time.

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

**Figure 93
NT5D21 Core/Net card cage**

553-6383
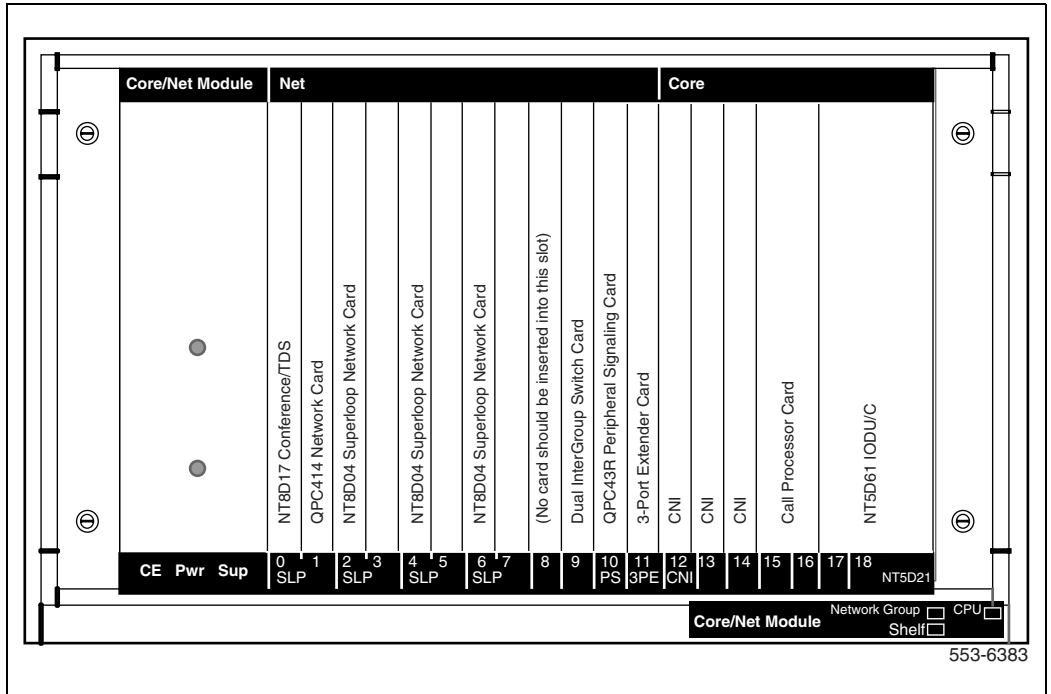
Connect the 3PE to CNI cables

Procedure 245
Connecting the 3PE to CNI cables

The CNI slot and port connections are labeled on the 3PE backplane. Each 3PE card is connected from J3 and J4 of each 3PE faceplate to the 3PE backplane.

> *Note:* See Table 150 on for NT4N14 and NT9D89 cable connections.

1   Connect the NT4N14 or NT9D89 cables to J3 and J4 of the 3PE cards.

2   Connect the NT4N14 and NT9D89 cables to the Fanout Panel in the Core/Net or to the Faceplate connection in the Core/Net Module.

IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- Always use the shortest NTND14 cable.

- A network group requires four NTND14 cables, two to each half group. Both cables to each half group must be the same length.

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

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

---

3   Table 150 on page 705 specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 150
3PE card settings for the NT8D35 Module

Jumper Settings								
Set Jumper RN27 at E35 to "A".								
Switch Settings								
D20 switch position:		**1**	**2**	**3**	**4**			
81, 81C (Note)		off	on	on	on			
Shelf	Group	**D20 switch position:**				**5**	**6**	**7**	**8**
0 (3PE cards connected to the a CNI in Core or Core/Net 0)	0					on	on	on	on
	1					on	on	off	on
	2					on	off	on	on
	3					on	off	off	on
	4					off	on	on	on
	5					off	on	off	on
	6					off	off	on	on
	7					off	off	off	on
1 (3PE cards connected to the a CNI in Core or Core/Net 1)	0					on	on	on	off
	1					on	on	off	off
	2					on	off	on	off
	3					on	off	off	off
	4					off	on	on	off
	5					off	on	off	off
	6					off	off	on	off
	7					off	off	off	off
Note: For option 81C systems, QPC441 vintage F or later must be used in all modules.								

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

Install cards in the network modules

Network cards must be installed in the added Network modules as described below. Each card must be installed and enabled or disabled as indicated.

Install and enable the QPC441 3PE cards

Procedure 246
Installing and enable the QPC441 3PE cards.

1   Verify the QPC441F 3PE card settings.

Switch settings on the 3PE card determine the group and shelf number of each Network module. Use the information in Table 151 on page 708 to verify that the 3PE cards in the added Network modules have the correct switch and jumper settings.

The FIJI card displays group and shelf setting.

2   Install a QPC441F 3PE card in slot 1 of each added Network module. Do not seat the cards yet.

3   Attach the cables to the QPC441F 3PE faceplates.

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

Install and enable the QPC43R Peripheral Signaling (Per Sig) cards

Procedure 247
Installing and enabling the Peripheral Signaling (Per Sig) cards

1   Install a QPC43R Per Sig card into slot 4 of each added Network module. Push the latches forward to lock the card in place.

2   Faceplate *enable* the cards.

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

Disable and insert the NT8D17 Conf/TDS cards

Procedure 248
Disabling and inserting the NT8D17 Conf/TDS cards

1   Faceplate *disable* the NT8D17 Conf/TDS cards.

2   Insert a NT8D17 Conf/TDS card into each added Network module.

3   Seat and Faceplate *enable*.

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

Enable the Network Group

Procedure 249
Disabling and inserting the NT5D30 DIGS cards

1   Faceplate *disable* the NT5D30 DIGS cards.

2   Insert the NT5D30 DIGS card into slot 2 of each NT8D35 network module.

3   Do not plug the cards into the backplane.

Note: If you are adding more than one Network Group, add one group at a time in software. Follow all the remaining procedures in this chapter to enable one group before enabling another group.

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

Table 151
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

Adding the CNI cards or ports

Note: CNI cards can be enabled and connected on the *inactive* Core only.

Follow these procedures to activate the added CNI ports.

Procedure 250
Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call processing.

1   Verify that Core 0 is active.

    LD 135   Load program.

    STAT CPU   Get the status of the CPUs.

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

    SCPU   Switch to Core 0 (if necessary).

    ****   Exit program.

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

Procedure 251
Checking that Clock Controller 0 is active

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.

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

Core 0 is active, Clock 0 is active.

Procedure 252
Place CP 1 into parallel mode

1   Set the CP card in Core 0 into maintenance.

2   Set the CNI cards in Core 1 to disable.

3   Place the CP card in Core 1 into maintenance.

4   Wait until CP 1 completes the INI before continuing.

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

Procedure 253
Defining the XCT and extenders to the added group

1   On Core 1 only, define the XCT and extenders to the added group.

   Note: See Table 152 on .

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS

EXT0 3PE

CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)

EXT1 3PE

CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)

\<cr\>	Continue to the last prompt.
****	Exit the program.

2 Perform a data dump

LD 43	Load the program.
EDD	Invoke the data dump program.
****	Exit the program.

Table 152 on page 712 specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 152
Default CNI group assignments

Group	CNI Slot Connections	3PE Faceplate Connection	Cable
0	*Note:* Group 0 is hard-wired through the Core/Net module backplane: no cable is required.		
1	12D (Core/Net backplane)	**J3**	NTND14
1	12F (Core/Net backplane)	**J4**	NTND14
2	13A (Core/Net backplane)	**J3**	NTND14
2	13C (Core/Net backplane)	**J4**	NTND14
3	13D (Core/Net backplane)	**J3**	NTND14
3	13F (Core/Net backplane)	**J4**	NTND14
4	14A (Core/Net backplane)	**J3**	NTND14
4	14C (Core/Net backplane)	**J4**	NTND14
5*	14D (Core/Net backplane)	**J3**	NTND14
5*	14F (Core/Net backplane)	**J4**	NTND14
6*	13 J1 (CNI-3 faceplate)	**J3**	NT9D89
6*	13 J2 (CNI-3 faceplate)	**J4**	NT9D89
7*	14 J1 (CNI-3 faceplate)	**J3**	NT9D89
7*	14 J2 (CNI-3 faceplate)	**J4**	NT9D89

Note 1: The default assignments in this table can be reconfigured with LD 17 if necessary. Any CNI port can support any available Network group. This table reflects the default factory settings.

Note 2: *Fiber Network systems only.

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

Procedure 254
Seating the remaining cards

1   Seat the remaining cards (3PE, PER SIG, XCT, DIGS) in both network modules.

   Note: Cards must be faceplate *disabled* before seating.

2   Faceplate *enable* all cards in both network modules (3PE, PER SIG, XCT, DIGS).

3   Seat the remaining cards (3PE, PER SIG, XCT, DIGS) in both network modules.

   Note: Cards must be faceplate disabled before seating.

Table 153
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

4   **In Core 1 only**, seat the new CNI card and faceplate enable.

> ⚠️ **IMPORTANT!**
>
> Power down all applications such as Meridian Mail, CallPilot, and Symposium.

> ⚠️ **CAUTION**
>
> **Service Interruption**
>
> Call processing is interrupted for approximately 10 minutes while the INI is completed.

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

Switch call processing to Core 1

Procedure 255
Switching call processing to Core 1

1   In Core/Net 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

2   In Core/Net 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS and unseat it.

3   In Core/Net 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

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

> ⚠️ **WARNING**
>
> All call processing may be interrupted.

> **IMPORTANT!**
>
> Power up all applications such as Meridian Mail, CallPilot, and Symposium.

> Core 1 is active, Clock 0 is active.

5   Switch the clock controllers, if necessary.

LD 60	Load the program.
SSCK n	Get the status of clock n where: n = 0 for clock controller 0 1 for clock controller 1
SWCK	Switch system clock from active to standby. ***Note:*** Make clock controller 1 the active clock.
****	Exit the program.

6   **In Core 0 only,** define the XCT and Extenders to the added group.

Note: See Table 150 on .

LD 17	Load the program.
REQ	CHG
TYPE	CEQU
XCT X	X = the extended conference/TDS/MFS
EXT0 3PE	

CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
EXT1 3PE	
CNI s p g	Core to Network Interface card location where: s = slot (9 to 12) p = port number (0 to 1) g = group number (0 to 7)
\<cr\>	Continue to the last prompt.
****	Exit the program.

7   Data dump the software changes.

LD 43	Load the program.
EDD	Invoke the data dump program.
****	Exit the program.

8   Seat the CNI card in Core 0 and faceplate enable it.

9   In Core 1, Stat the CNIs:

LD 135	Load the program.
STAT CNI	Get the status of CNI card.
	Note: If any CNIs are disabled they must be enabled.
****	Exit the program.

10   Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.

11 Perform the following in uninterrupted sequence:

- Press and release the MAN RST button in Core/Net 0.

- When SYS700 messages appears on the LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

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

RUNNING ROM OS

ENTERING CP VOTE

An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

12 In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

13 Synchronize the hard drives.

LD 137	Load the program.
SYNC	Synchronize the hard drives.
****	Exit the program.

——————— **End of Procedure** ———————

Test the Cores

Procedure 256
Testing Core/Net 1

From Core/Net 1, perform these tests.

1 Perform a redundancy sanity test.

LD 135	Load the 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 the program.

     TEST LCDs   Test LCDs.

     DSPL ALL

3   Test the CNI cards.

     LD 135   Load the program.

     STAT CNI c s   Get the status of CNI cards (core, slot).

     TEST CNI c s   Test CNI (core, slot).

4   Test system redundancy.

     LD 137   Load the 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 the program.

     ENL TTY x   Enable the XMS, where x = system XMS.

     STAT XSM   Check the system monitors.

     ****   Exit the program.

6   Clear the display and minor alarms on both Cores.

     LD 135   Load the program.

     CDSP   Clear the displays on the cores.

CMAJ	Clear major alarms.
CMIN ALL	Clear minor alarms.

7 Test the clocks.

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

LD 60	Load the program.
SSCK *x*	Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1).
SWCK	Switch the Clock if necessary.

    b. Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8 Check the IGS status.

LD 39	Load the program.
STAT IGS X	Check the status of IGS (X = IGS/DIGS card number. See Table 154).
****	Exit program.

Table 154
Shelf 0 and 1 IGS/DIGS card locations (Part 1 of 2)

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
Network Group 0	Shelf 1	IGS/DIGS 1 & 3

Table 154
Shelf 0 and 1 IGS/DIGS card locations (Part 2 of 2)

Network Group	Shelf	IGS/DIGS card locations
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

9   Check applications such as CallPilot, Symposium, and Meridian Mail..

10   Check for dial tone.

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

Procedure 257
Switching call processing

   LD 135   Load the program.

   SCPU   Switch call processing from Core/Net 1 to Core/Net 0.

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

Procedure 258
Testing Core/Net 0

From Core/Net 0, perform these tests.

1   Perform a redundancy sanity test.

   LD 135   Load the 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 the program.

   TEST LCDs   Test LCDs.

   DSPL ALL   Display all.

3   Test the CNI cards.

   LD 135   Load the program.

   STAT CNI c s Get the status of CNI cards (core, slot).

   TEST CNI c s Test CNI (core, slot).

4   Test system redundancy.

   LD 137   Load the program.

   TEST RDUN   Test redundancy.

   DATA RDUN

   TEST CMDU   Test the MMDU card.

5   Test that the system monitors are working.

   LD 37   Load the program.

STAT XSM	Check the system monitors.
****	Exit the program.

6   Clear the display and minor alarms on both Cores.

LD 135

CDSP	Clear the displays on the cores.
CMAJ	Clear major alarms.
CMIN ALL	Clear minor alarms.

7   Test the clocks.

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

LD 60	Load the program.
SSCK *x*	Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1).
SWCK	Switch the Clock if necessary.

   b. Verify that the Clock Controllers are switching correctly.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8   Check the IGS status.

LD 39	Load the program.
STAT IGS X	Check the status of IGS (X = IGS/DIGS card number.) See Table 155 on page 723.
****	Exit program.

Table 155
Shelf 0 and 1 IGS/DIGS card locations

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18
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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

9   Check applications (such as CallPilot and Symposium).

10   Check for dial tone.

——————— **End of Procedure** ———————

Post-conversion procedure

Introduction

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

The site data should be printed before and after conversion. See Table 157 on page 729. If the data has changed, make the necessary updates on the **Target** release, and datadump to the new system media. Print out the items marked with an asterisk (*) to be sure everything converted properly. All other items on Table 157 on page 729 are provided to be printed if desired.

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

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

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

Post-conversion steps

Follow the steps in Procedure 259 to perform the post-conversion procedure.

Procedure 259
Performing the post-conversion procedure

1   Print system data listed in Table 157 on page 729. Verify that all information matches the printouts created before conversions. Make changes if necessary.

2   From any unrestricted telephone, dial the access code for an outside line (usually 9), and dial the listed Directory Number (DN) for the customer. Verify that the correct Incoming Call Indicator (ICI) lights at the attendant console.

3   If the customer is equipped with more than one console, transfer the call to another console.

4   Extend the call to a telephone, and release the call from the console.

5   From the called telephone, transfer the call back to the attendant.

6   Answer and release the call.

7   From any telephone dial the DN for the attendant. Verify that the correct ICI lights at the console, then release the call.

8   Busy-out one trunk group using a Trunk Group Busy (TGB) key on the console.

9   From any telephone with TGAR 0-7, dial the access code of the busied-out trunk group, to verify that the call is intercepted to the console and receives either overflow tone or a recorded announcement.

10 Restore the trunk group to the in-service state using the Trunk Group Busy (TGB) key on the console.

11 During the conversion procedure the Central Office might have busied-out the DID trunks. If DID trunks are equipped, from any unrestricted telephone, dial the access code for an outside line, and dial a DID number into the system.

12 If a private network is used, from any unrestricted telephone, dial the network access code and place a CDP, ESN, BARS/NARS, or ISDN call as applicable to the system.

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

LD 02

STAD dd mm yyyy hh mm ss

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

mm = month (for example, 09 for September)

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

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

mm = minute (for example, 25)

ss = seconds (for example, 00)

Note: Test all applications and call handling

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

15 Keep one copy of the **Source** software, (it was backed up in the pre-conversion procedure), in case you must reconvert. After the **Target** software runs well for a few weeks, return the original software to Nortel through the usual distribution channel.

16 Load LD 135 to test and switch CPUs.

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

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

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

Note: Check MMDU in CP PII machines.

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

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

Note: Back up additional 2 MByte floppy disks.

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

LD 02

STAD dd mm yyyy hh mm ss

> dd = day (for example, 05 for the fifth)
>
> mm = month (for example, 09 for September)
>
> yyyy = year (last 2 or all four digits, for example, 92 or 1992)
>
> hh = hour (in 24-hour time, for example, 13:00 for 1:00 pm)
>
> mm = minute (for example, 25)
>
> ss = seconds (for example, 00)

**** Exit LD.

Note: If equipped with FNF, perform steps 21-24. If equipped with IGS, perform step 20 below.

20 Test the IGS

Note: See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

LD 39	Load the program.
STAT IGS X	Check the status of IGS (X = IGS/DIGS card number. See Table 156 below).
****	Exit program.

Table 156
Shelf 0 and 1 IGS/DIGS card locations (Part 1 of 2)

Network Group	Shelf	IGS/DIGS card locations
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
Network Group 4	Shelf 0	IGS/DIGS 16 & 18

Table 156
Shelf 0 and 1 IGS/DIGS card locations (Part 2 of 2)

Network Group	Shelf	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 Core/Net shelf and slot 2 of the NT8D35 network shelf.

    21 Check that Fiber Ring 1 operates correctly.

        LD 39   Load the program.

        STAT RING 1   Check the status of Ring 1.

    22 Reset the Rings:

        RSET   Reset the Rings and prepare them for redundancy.

        RSTR   Restore both Rings to HALF state.

    23 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)

24 If any Ring problems occur, correct them now.

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

Note: If equipped with IGS, you must STAT IGS.

25 Verify that call processing operates correctly. this includes, but is not limited to the following:

- Check for dial tone.

- Make internal, external, and network calls.

- Check attendant console activity.

- Check DID trunks.

- Check any auxiliary processors.

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

27 Keep one copy of the **Source** software, (it was backed up in the pre-conversion procedure), in case you must reconvert. After the **Target** software runs well for a few weeks, return the original software to Nortel through the usual distribution channel.

Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Table 157
Print site data (Part 1 of 4)

Site data	Print command	
Terminal Blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>

Table 157
Print site data (Part 2 of 4)

Site data	Print command	
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer Data Block for all customers	LD 21	
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route Data Block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN

Table 157
Print site data (Part 3 of 4)

Site data	Print command	
*Software Packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software Issues, Patches, ROM and Tape ID	LD 22	
	REQ	ISSP
	REQ	ROM
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version	LD 32	
(peripheral controller, superloop network and controller cards)	.	IDC loop

Table 157
Print site data (Part 4 of 4)

Site data	Print command	
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0–158)
	APPL	<cr>
	PH	<cr>
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

28   Obtain status of CNI cards.

LD 135	Load the program.
STAT CNI	Get the status of CNI cards.
****	Exit the program.

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

Installing IODU/C cards, CP cards, CP memory

Contents

This section contains information on the following topics:

Installing memory on Meridian 1 Options 61C CP PII, 81C CP PII

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

The NT4N43 CP PII Multi-Media Disk Unit (CP PII MMDU) is located in the extreme right hand slot next to the CP PII card. The CP PII MMDU contains the hard drive, floppy drive and CD-ROM drive.

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

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

Prepare for installation

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

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

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

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 158 below:

Table 158
Prepare for upgrade steps

Procedure Step	Page
Planning	735
Upgrade Checklists	736
Preparing	736
Identifying the proper procedure	737
Connect a terminal	737
Print Site Data	738
Perform a template audit	740
Back up the database (data dump and ABKO)	742
Identify two unique IP addresses	744

Planning

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure sufficient power for new columns/modules or applications.

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.

- Prepare a contingency plan for backing out of the upgrade.

Upgrade Checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter on 1159. Engineers may print this section in order to facilitate 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* (553-3021-120)).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

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

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

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and key code.

- Secure the target software and key code.

- Verify the new key code using the DKA program.

- Print site data.

Identifying the proper procedure

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

⚠️	**IMPORTANT!** Database backup information should be preserved for a minimum of 5 days.

Connect a terminal

Procedure 260
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/0 panel in the *inactive* Core or Core/Net module.

2 The settings for the terminal are:

    a. 9600 Baud

    b. 8 data

    c. parity none

    d. 1 stop bit

    e. full duplex

    f. XOFF

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

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

Print Site Data

Print site data to preserve a record of the system configuration (see Table 159). 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 159
Print site data (Part 1 of 3)

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

Table 159
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	
		IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>

Table 159
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ TYPE	PRT DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ TYPE SUPL	CHG SUPL Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop. xxx = 0-252 in multiples of four for MG 1000E xxx = 96-112 in multiples of four for MG 1000T (See Table 29)

Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Perform a template audit

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

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

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> Do not abort this overlay until the audit is complete. If the overlay is interrupted, data will be corrupted.

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

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

1 Perform a data dump to save all system memory to the hard disk.

2 Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 261
Performing a data dump

1 Log into the system.

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

   LD 43   Load program

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

   EDD   Begin data dump

⚠ **CAUTION — Service Interruption**

Loss of Data

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

---

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

   ****   Exit program

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

Procedure 262
Performing an ABKO (save the database to floppies)

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

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

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

   LD 143   Load program

3   Run the ABKO backup (LD 143).

   ABKO   Run the backup

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

4   If there are validation errors, repeat the procedure.

CAUTION — Service Interruption

Loss of Data

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

---

5   Once the backup is complete, type:

   ****   Exit program

End of Procedure

Procedure 263
Converting to 2 MByte database media

<table>
<tr>
<td>⚠️</td>
<td>

IMPORTANT!

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

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.

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

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

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

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.

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

Identify two unique IP addresses

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

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

- Contact your systems administrator to identify two unique IP addresses before the upgrade.

- For instructions to configure these IP numbers, see "Configuring IP Addresses" in Book 1.

Perform installation

Verify memory

Determine whether the system requires additional memory.

CS 1000 Release 4.5

Table 160 lists the memory requirements of CS 1000 Release 4.5.

Table 160
CS 1000 Release 4.5 memory requirements

System type	Flash memory requirement	DRAM memory requirement	Total memory requirement
Meridian 1 Options 51C/61C with CP3 (68060) or CP4 (68060E)	64 MByte	64 MByte	128 MByte
Meridian 1 Options 81/81C with or without Fibre Network Fabric	64 MByte	96 MByte	160 MByte
Meridian 1 Option 61C CP PII	NA	256 MByte	256 MByte
Meridian 1 Option 81C CP PII with or without Fibre Network Fabric	NA	256 MByte	256 MByte
Meridian 1 Option 61C CP PIV	NA	512 MBytes	512 Mbytes
Meridian 1 Option 81C CP PIV with or without Fibre Network Fabric	NA	512 MBytes	512 Mbytes

Note 1: CP1 (68030) and CP 2 (68040) Call Processors are not supported.

Note 2: All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PII systems are equipped with 256 MByte.

Note 3: All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PIV systems are equipped with 512 Mbytes.

Perform data dump

Procedure 264
Backing up the current data

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

   LD 43   Load program

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

> **EDD**   Begin data dump

3   Check total memory allocation before the upgrade.

> **LD 10**   Load program

When the header for LD 10 is displayed, note the value associated with Total Memory. After the upgrade, compare Total Memory before and after the upgrade. Total Memory should be greater after the upgrade.

4   Exit the program:

> ********   Exit program

> ⚠ **IMPORTANT!**
>
> Database backup information should be preserved for a minimum of 5 days.

> ⚠ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump is not successful, do not continue. Contact the technical support organization. Correct any data dump problem before continuing.

End of Procedure

Check the status of the hardware

Follow the steps in Procedure 265 to determine the status of the hardware.

Procedure 265
Determining hardware status

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

> **LD 137**   Load program
>
> **STAT**   Get the status of the hard disks
>
> **TEST CMDU**   Perform hard and floppy disk test

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

> **LD 135**   Load program
>
> **STAT CPU**   Get the status of both CPs and memory
>
> **STAT CNI**   Get the status of all configured CNIs

─────── **End of Procedure** ───────

Check that Core 0 is active

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

> **LD 135**   Load program
>
> **STAT CPU**   Get the status of the CPUs
>
> **SCPU**   Switch to Core 0 (if necessary)

Split the Cores

From the active side, split the cores:

LD 135   Load program

SPLIT   Enter Split on the active core.

****   Exit program

> ✔ System is in split mode, CP 0 is active, clock 0 is active, all network cards in shelf 1 are software disabled.

Memory upgrade

Follow the steps in Procedure 266 to upgrade the memory.

Procedure 266
Upgrade memory

1   Remove all cables connected to the faceplate of the standby Call Processor card on Core 1.

2   Hot unplug the card and place with the DIMM side-up on a flat, clean surface.

3   Hold the latches of the DIMM socket. See Figure 94.

Figure 94
Latches
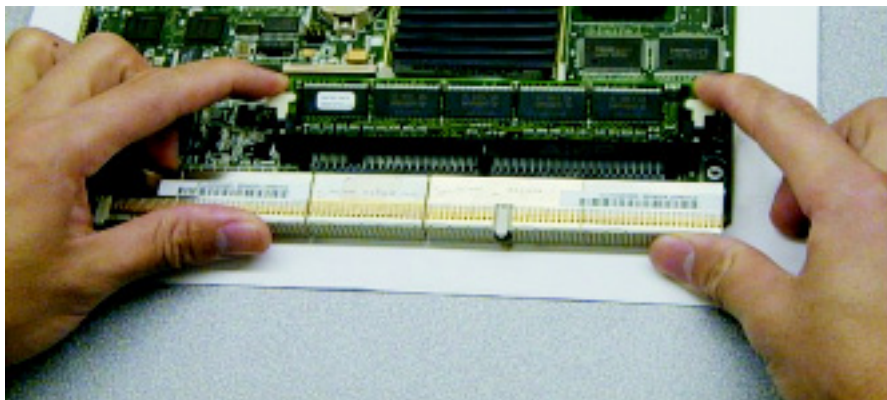
4   Press and rotate the latches from inside to outside carefully. See
Figure 95 on page 751.

Figure 95
Rotate latches
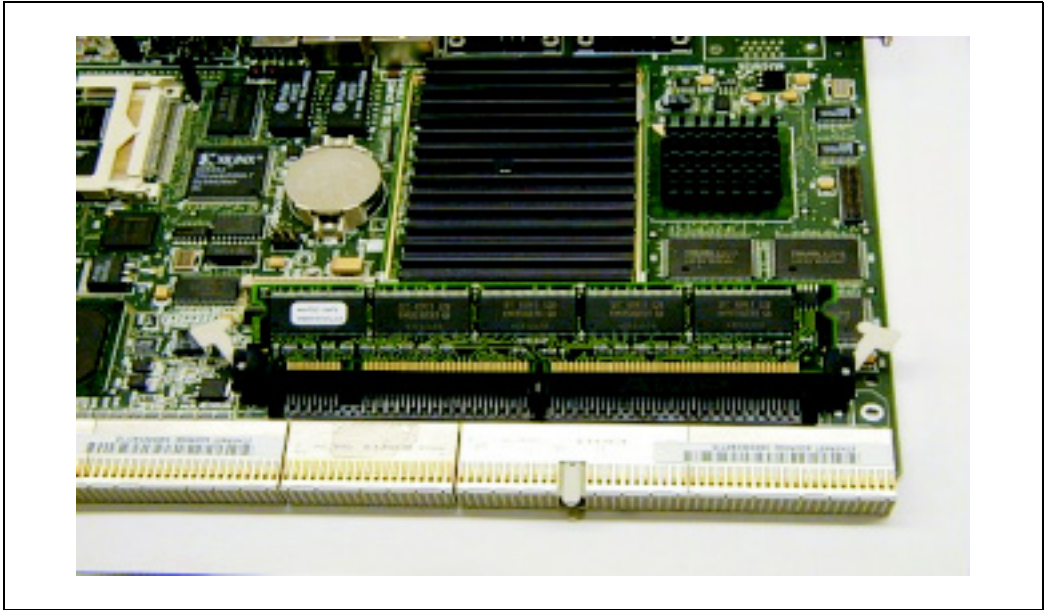
5   Remove the 128 MByte memory module.

6   Keep the latches open and insert the 256MB module into the DIMM socket. Align the two notches on the module with the two keys in the DIMM socket. See Figure 98 on .

Figure 96
Insert 256MB module
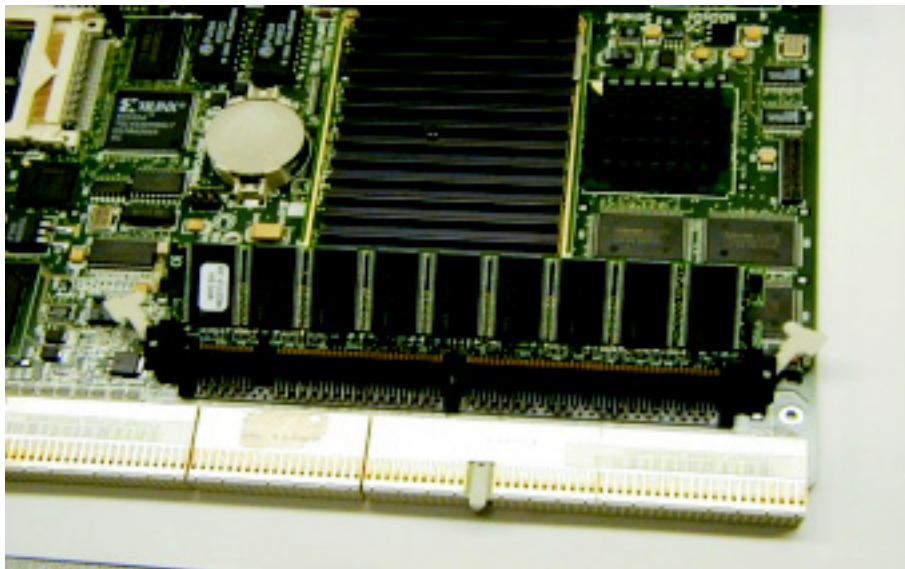
7   Hold the memory module as shown in Figure 97.

Figure 97
Hold memory module
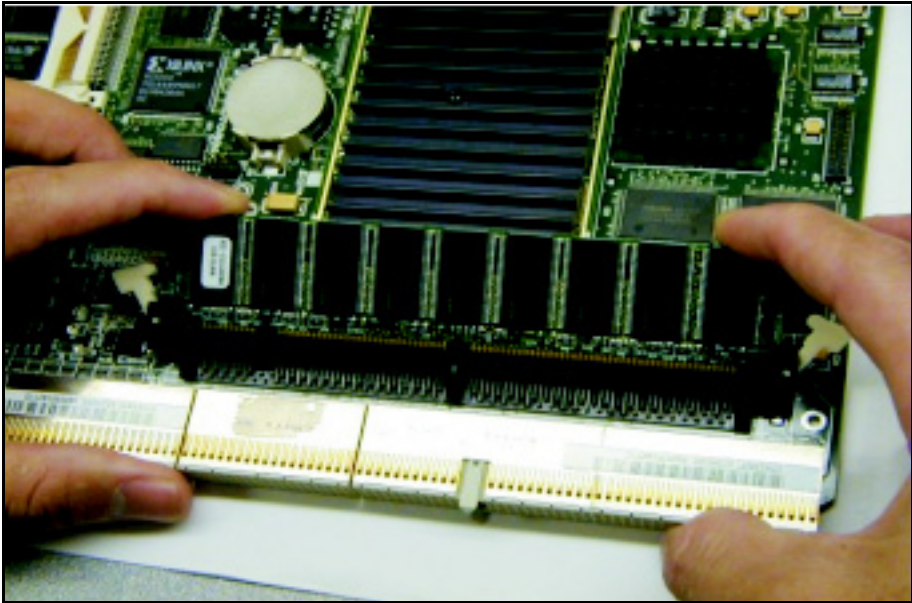
8   Push the module into the DIMM socket until it is locked by the latches. See Figure 98.

Figure 98
Lock latches
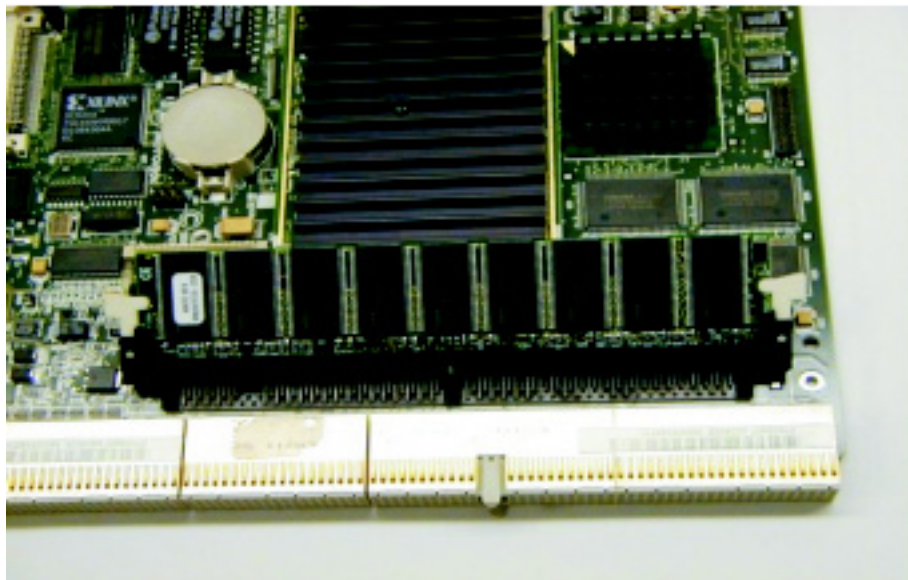
9 Put the faceplate label on the faceplate of the card. See Figure 99.

Figure 99
Faceplate label
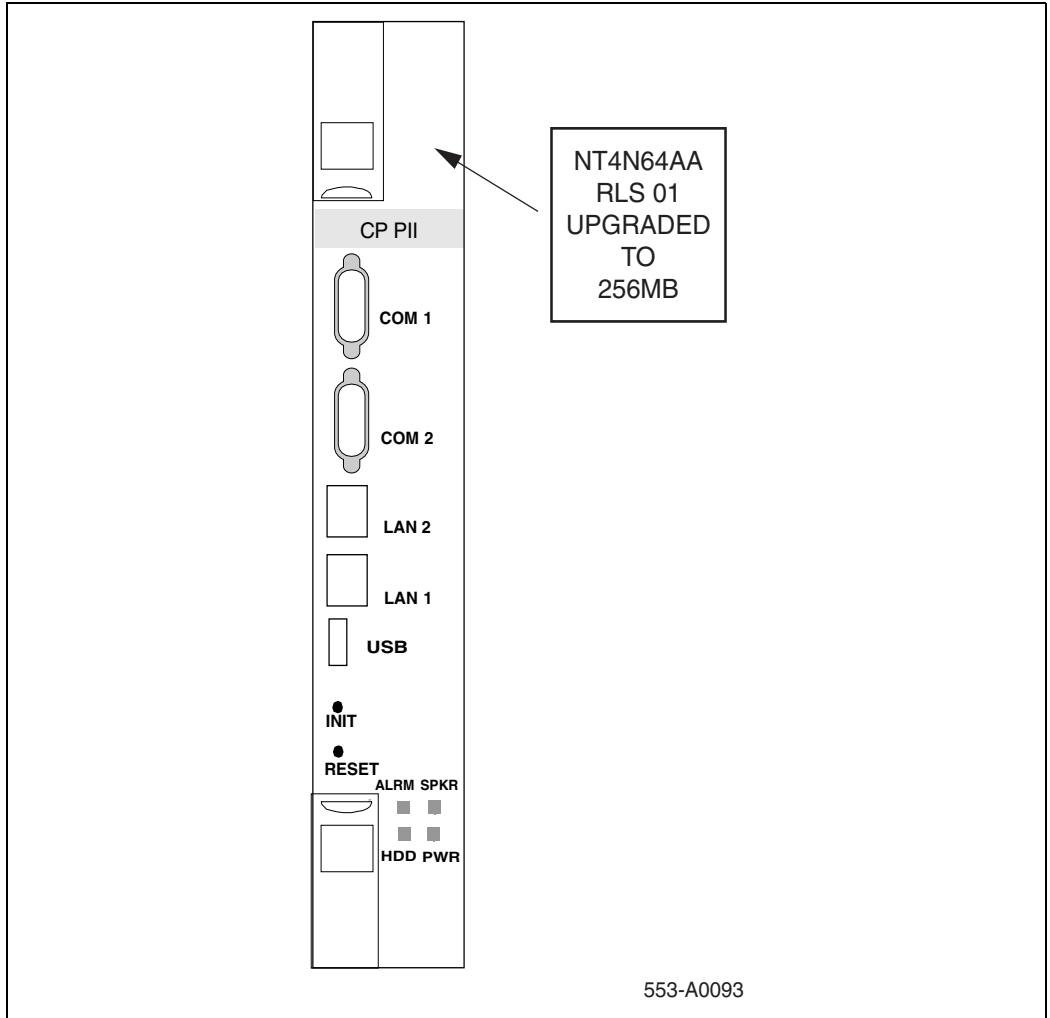
553-A0093

10 Return the card to its slot and reconnect all original cables.

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

Install the software on Core/Net 1

Follow the steps in Procedure 267 to install the software on Core/Net 1.

Procedure 267
Installing the software on Core/Net 1

1   Install the CD-ROM into the CD-ROM drive in the CP PII MMDU:

   a.   Press the button on the CD-ROM drive to open the CD-ROM disk holder.

   b.   Place the CD-ROM disk into the holder with the disk label facing up. Use the four tabs to secure the CD-ROM drive.

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

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

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

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

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

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

```
Testing partition 0

     0 percent done...1 percent done......99
     percent done....100 percent done

Testing partition 1

     0 percent done...1 percent done......99
     percent done....100 percent done

Testing partition 2

     0 percent done...1 percent done......99
     percent done....100 percent completed!
```

```
Disk physical checking is completed!
```

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

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

```
Disk partitions and sectors checking is
completed!
```

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

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

ver: X.X FCS

Disk Check In Progress...

       total disk space (bytes) : XX

       bytes in each allocation unit: XX

       total allocation units on disk: XX

       bad allocation units: XX

       available bytes on disk: XX

       available clusters on disk: XX

       maximum available contiguous chain (bytes):
       XX

       available space fragmentation (%): XX

       clusters allocated: XX

       Done Checking Disk.

               checks for PART_X OK!

               pmDosFsCheck is completed!
```

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

```
System Date and Time now is:

        Day-Month-Year, Hour:Min:Sec

        Succession Enterprise Software/Database/
BOOTROM CDROM INSTALL Tool

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

        Please enter:

<CR> -> <n> - No

        <y> - Yes

        Enter Choice>
```

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

```
            M A I N    M E N U

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

        Please enter:

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

        <t> - To Tools menu.

        <q> - Quit.

        Enter Choice> <CR>

>Validating Keycode

 The provided keycode authorizes the install of
XXXXXXX software

  (all subissues) for machine type XXXX

  (XXX processor on XXXX System)
```

IMPORTANT!

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

---

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

```
 Please confirm that this keycode matches the
CDROM Release

        Please enter:

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

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

        Enter Choice> <CR>

    >Obtain database file names
```

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

```
 I N S T A L L   M E N U

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

        Please enter:

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

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

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

             For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> b
```

8   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 XXXXXXX_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.

9 Choosing Yes for the Dependency Lists installation.

```
 Do you want to install Dependency Lists?

        Please enter:

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

      <n> - No, Continue without Dependency Lists
installation

        Enter choice>

The default choice is YES as shown in the prompt.

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
```

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 ISSP command in LD 22. If there are NO DepLists available on the installation CD the summary should appear as shown below:

```
             ---------------------------------------------

             INSTALLATION STATUS SUMMARY

             ---------------------------------------------

 Option          Choice    Status         Comment

SW: CD to disk   yes       ok     from 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
```

Installation of DepList through software installation

The DepList should be installed during the software installation if it is present with the install software.

```
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
```

10 Confirm all options before installing the software.

```
>Processing the Install Control file

    >Installing release XXXXX

              INSTALLATION STATUS SUMMARY

-------------------------------------------

    =============+========+========+=============

|    Option     |   Choice    | Status |  Comment      |

================+========+========+=========

| SW: CD to disk |    yes     |        | install for rel XXXXX|

    =============+========+========+=============

|    Option     |   Choice    | Status |  Comment      |

================+========+========+=========

|  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
XXXXX
```

11 After a number of files are copied over, select a PSDL file to install. The
PSDL file contains the loadware for all downloadable cards in the system
and loadware for M3900 series sets.

Select one of the six PSDL files

<1>   Global 10 Languages

<2>   Western Europe 10 Languages

<3>   Eastern Europe 10 Languages

<4>   North America 6 Languages

<5>   Spare Group A

<6>   Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.

- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.

- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.

- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.

- 5 – Spare Group A.

- 6 – Spare Group B.

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

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

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

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

15 Enter **q** to quit.

```
            I N S T A L L    M E N U

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

        Please enter:

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

        <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
```

16 The system then prompts you to confirm and reboot.

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

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

Remove all disks from the system before rebooting.


        -----------------------------

        DO NOT REBOOT USING BUTTON!!!


        -----------------------------


        Please enter:

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

        <m> - Return to the Main menu.

        Enter Choice> <CR>

    >Removing (temporary files)




        >Rebooting system ...
```

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

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

Check for peripheral software download

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

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

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

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

CAUTION — Service Interruption

Service Interruption

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

WARNING

System initialization may take up to 15 minutes or longer.

Follow the steps in Procedure 268 on to transfer call processing from Core/Net 0 to Core/Net 1.

IMPORTANT!

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

Procedure 268
Transferring call processing from Core/Net 0 to Core/Net 1

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

LD 135   Load program

CUTOVR   The inactive CP become active

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

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

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, download up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all Fiji's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

> Core 1 is active, Clock Controller 1 is active with Core 0 in split mode.

Test Core/Net 1

Follow the steps in Procedure 269 to test call processing on Core/Net 1.

Procedure 269
Testing call processing on Core/Net 1

1   Check for dial tone.

2   Make internal, external, and network calls.

3   Check attendant console activity.

4   Check DID trunks.

5   Check any auxiliary processors.

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

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

Upgrade hardware on Core/Net 1

Memory upgrade

Follow the steps in Procedure 270 to upgrade the memory.

Procedure 270
Upgrade memory

1   Remove all cables connected to the faceplate of the standby Call Processor card on Core 1.

2   Hot unplug the card and place with the DIMM side-up on a flat, clean surface.

3   Hold the latches of the DIMM socket. See Figure 100.

Figure 100
Latches
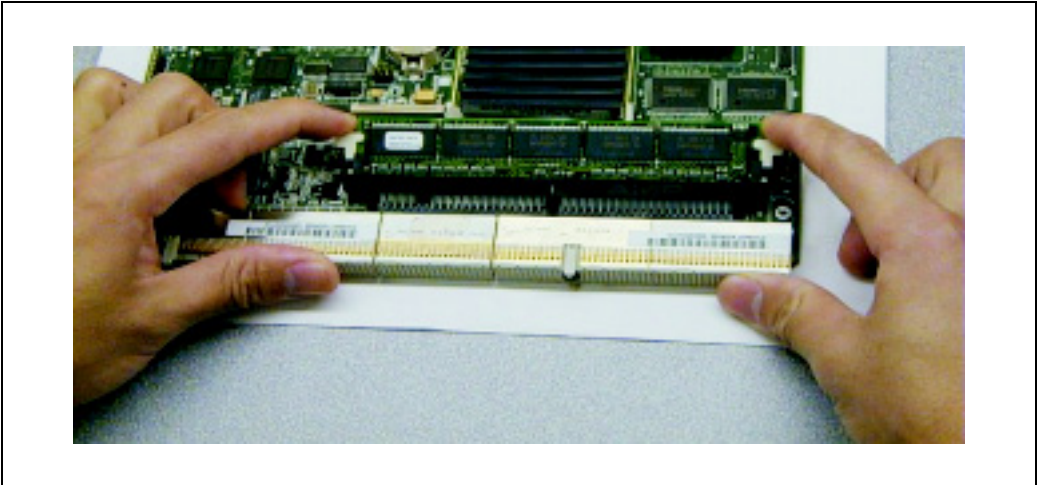
4   Press and rotate the latches from inside to outside carefully. See
     Figure 101 on .

Figure 101
Rotate latches
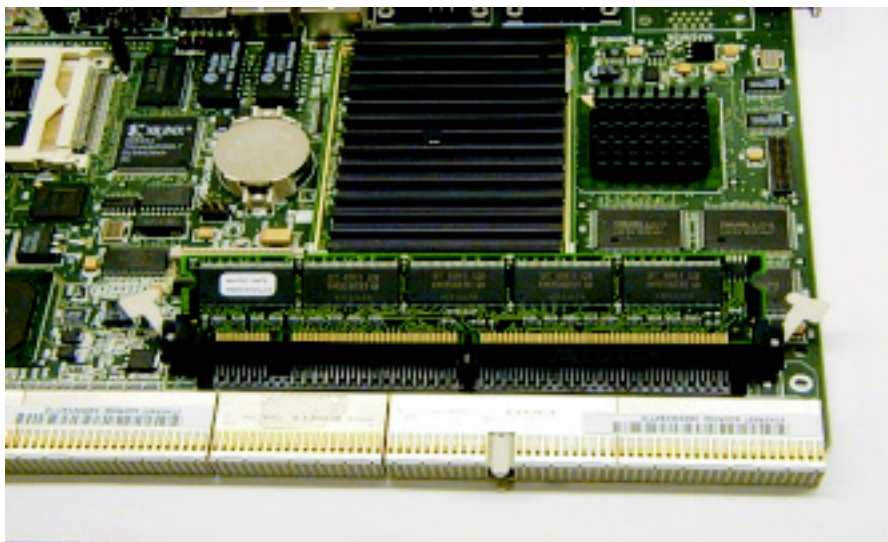
5   Remove the 128 MByte memory module.

6   Keep the latches open and insert the 256MB module into the DIMM socket. Align the two notches on the module with the two keys in the DIMM socket. See Figure 104 on .

Figure 102
Insert 256MB module
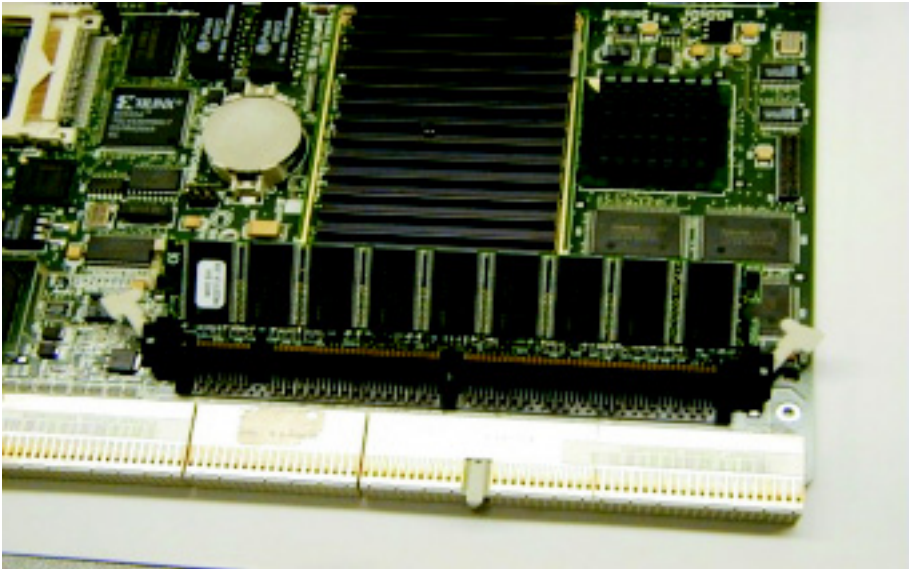
7   Hold the memory module as shown in Figure 103.

Figure 103
Hold memory module
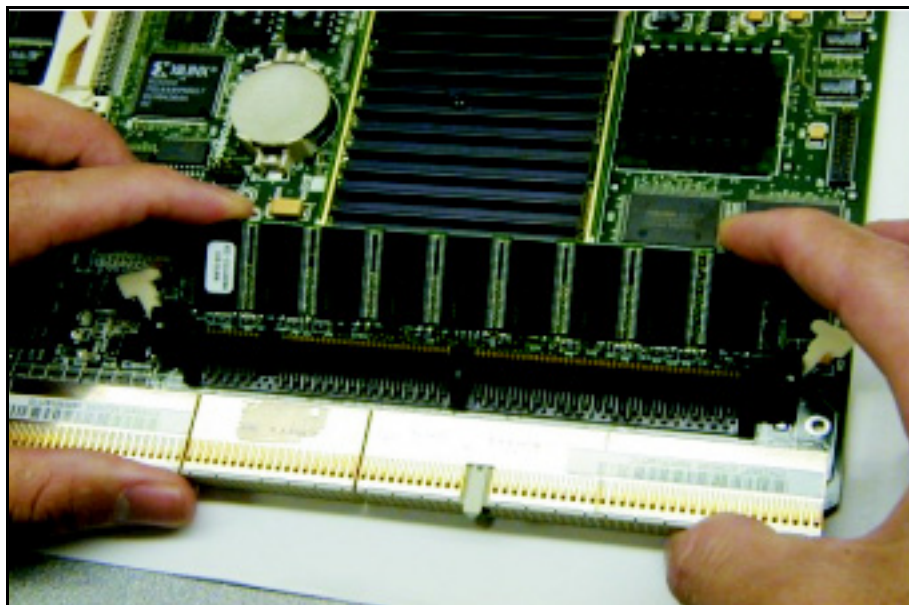
8   Push the module into the DIMM socket until it is locked by the latches. See Figure 104.

Figure 104
Lock latches
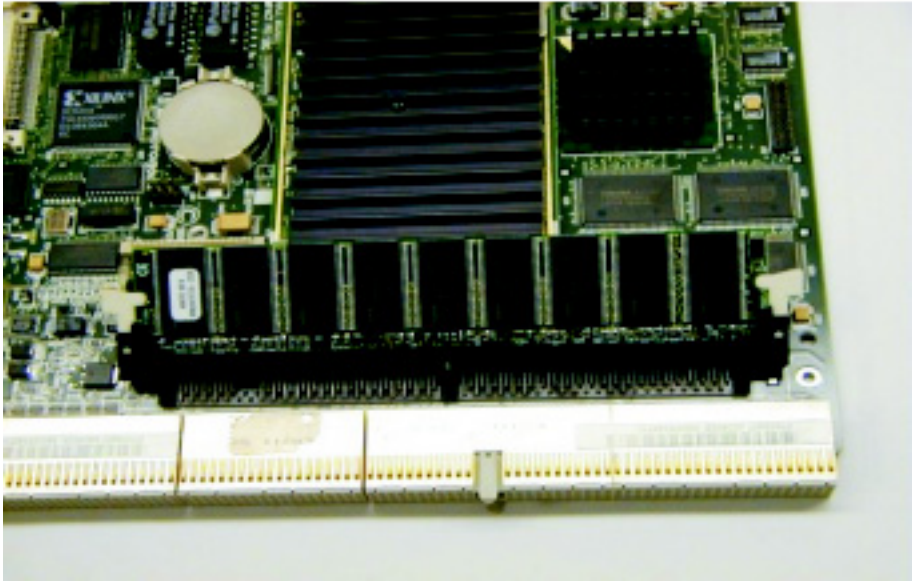
9   Put the faceplate label on the faceplate of the card. See Figure 105.

Figure 105
Faceplate label
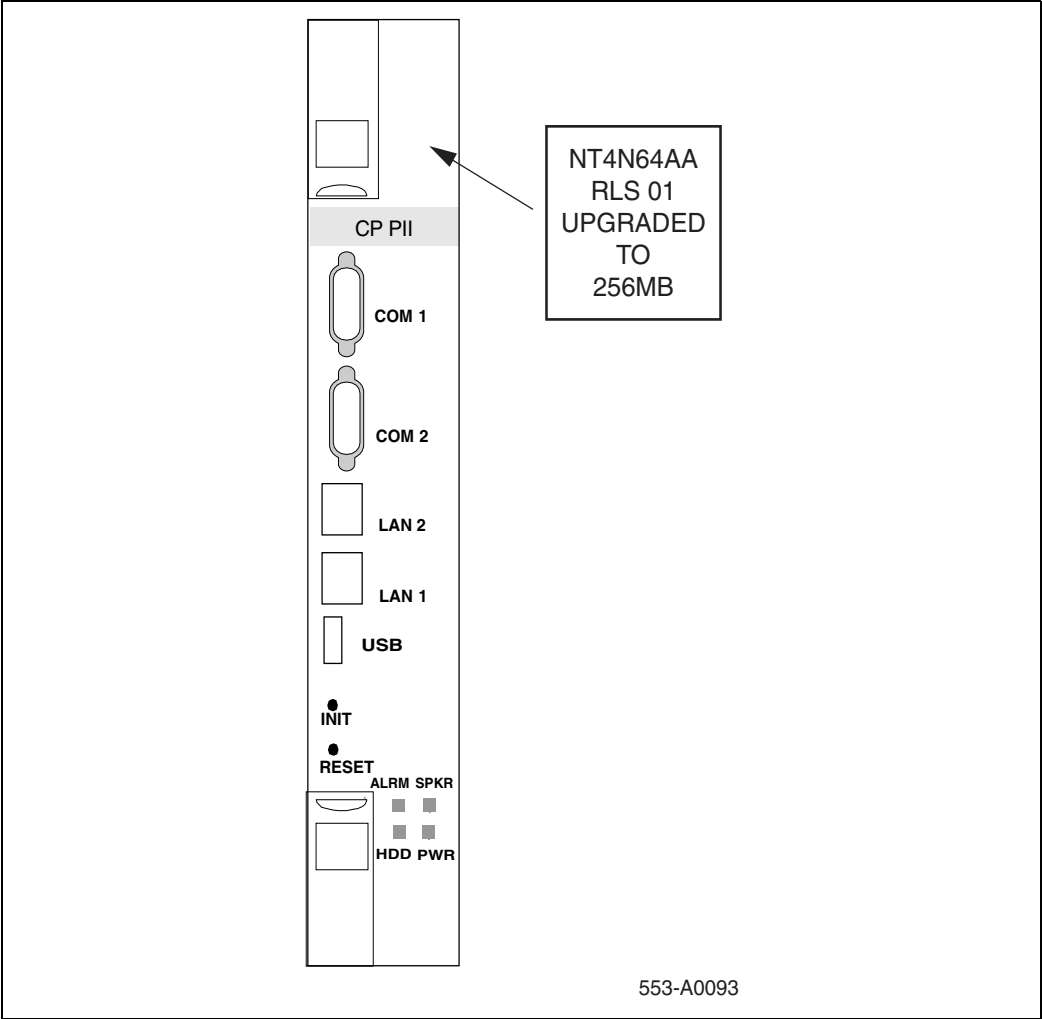
553-A0093

10   Return the card to its slot and reconnect all original cables.

———— **End of Procedure** ————

Install software on Core/Net 0

Follow the steps in Procedure 271 on to install the new software on Core/Net 0.

Procedure 271
Installing the software and converting the database

1   Check that a terminal is connected to J25 on Core/Net 0.

2   In Core/Net 0, install the CD-ROM into the CD-ROM drive in the 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
XXXXXXX 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.

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

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

             For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> b
```

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 XXXXXXX_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
```

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 ISSP command in LD 22. If there are NO DepLists available on the installation CD the summary should appear as shown below:

```
          ---------------------------------------------

              INSTALLATION STATUS SUMMARY

          ---------------------------------------------

 Option        Choice    Status         Comment

SW: CD to disk  yes       ok    from 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
```

Installation of DepList through software installation

The DepList should be installed during the software installation if it is present with the install software.

```
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
XXXXX
```

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 initialize.

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

Enable system redundancy

Follow the steps in Procedure 272 on to enable system redundancy.

Procedure 272
Enabling system redundancy

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

    LD 135   Load program

    JOIN   Synchronize the memory and drives

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

Test Core/Net 1 and Core/Net 0

Follow the steps in Procedure 273 on to test Core/Net 1 and Core/Net 0.

Procedure 273
Testing Core/Net 1 and Core/Net 0

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

1   Perform a redundancy sanity test using the following sequence.

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

2   Test system redundancy:

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

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

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

4   Clear the display and minor alarms on both Cores.

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

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

STAT CPU	Get the status of both Cores and redundancy
STAT CNI c s	Get the status of all configured cCNIs (both main and Transition) cards
****	Exit program

———— **End of Procedure** ————

Perform a data dump

Follow the steps in Procedure 274 on to perform a data dump.

Procedure 274
Performing a data dump

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

    LD 43   Load program

2   Insert a floppy disk into the CP PII MMDU to capture the backup.

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

    EDD   Begin the data dump

4   When "DATABASE BACKUP COMPLETE" or "DATADUMP
COMPLETE" appears on the terminal, enter:

    ****   Exit program

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump is not successful, do not continue.
> Contact the technical support organization. Correct any
> data dump problem before continuing.

5   Proceed to "Post-conversion procedure" on .

> The parallel reload procedure is complete.

———— **End of Procedure** ————

Installing memory on Meridian 1 Option 51C

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

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

The procedures in this section describe how to increase CP memory on CP3 and CP4 systems.

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

The following section describes how to increase memory on Meridian 1 Option 51C systems **only.**

Prepare for installation

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

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

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

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 161 below:

Table 161
Prepare for upgrade steps

Procedure Step	Page
Planning	806
Upgrade Checklists	807
Preparing	807
Identifying the proper procedure	807
Connect a terminal	808
Print Site Data	809
Perform a template audit	811
Back up the database (data dump and ABKO)	813
Identify two unique IP addresses	815

Planning

Planning for an upgrade involves the following tasks:

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure sufficient power for new columns/modules or applications.

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.

- Prepare a contingency plan for backing out of the upgrade.

Upgrade Checklists

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

Preparing

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

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

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

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and key code.

- Secure the target software and key code.

- Verify the new key code using the DKA program.

- Print site data.

Identifying the proper procedure

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

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

IMPORTANT!

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

Connect a terminal

Procedure 275
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/0 panel in the *inactive* Core or Core/Net module.

2   The settings for the terminal are:

   a.   9600 Baud

   b.   8 data

   c.   parity none

   d.   1 stop bit

   e.   full duplex

   f.   XOFF

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

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

Print Site Data

Print site data to preserve a record of the system configuration (Table 162). 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 162
Print site data (Part 1 of 3)

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

Table 162
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ TYPE	PRT CFN
*Software packages	LD 22	
	REQ TYPE	PRT PKG
*Software issue and tape ID	LD 22	
	REQ REQ	ISS TID
* Peripheral software versions	LD 22	
	REQ TYPE	PRT PSWV
ACD data block for all customers	LD 23	
	REQ TYPE CUST ACDN	PRT ACD Customer Number ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ TYPE LOOP APPL PH	PRT MISP loop number (0-158) <cr> <cr>

Table 162
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)

Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Perform a template audit

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

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

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> Do not abort this overlay until the audit is complete. If the overlay is interrupted, data will be corrupted.

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**
TEMPLATE 0003 NO USERS FOUND	

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

-

-

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

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

1   Perform a data dump to save all system memory to the hard disk.

2   Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 276
Performing a data dump

1   Log into the system.

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

    LD 43   Load program

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

    EDD   Begin the data dump

> ⚠️ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

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

    ****   Exit program

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

Procedure 277
Performing an ABKO (save the database to floppies)

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

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

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

     LD 143   Load program

3   Run the ABKO backup (LD 143).

     ABKO   Run the backup

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

4   If there are validation errors, repeat the procedure.

⚠ **CAUTION — Service Interruption**

Loss of Data

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

---

5   Once the backup is complete, type:

     ****   Exit program

——————— **End of Procedure** ———————

Procedure 278
Converting to 2 MByte database media

> ### IMPORTANT!
>
> Database conversion for Meridian 1 Options 21E, 51, 61,71, STE, NT and XT must be completed by Nortel Software Conversion Lab. Consult the current Nortel price book for cost and contact information.
>
> If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.
>
> If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MByte floppy.
>
> All systems can be converted by Nortel in the software conversion lab.

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.

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

Identify two unique IP addresses

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

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

- Contact your systems administrator to identify two unique IP addresses before the upgrade.

- For instructions to configure these IP numbers, see "Configuring IP Addresses" in Book 1.

Perform installation

Verify memory

Determine whether the system requires additional memory. Refer to Table 163 on page 817 for memory requirement.

Table 163
Supported memory upgrade configurations (Part 1 of 2)

Total Memory	Total FLASH	Total DRAM	Call Processor		Slot 0	Slot 1	Slot 2	Slot 3
			68060	68060E	X5	X6	X7	X8
48	32	16	NT5D10AA	NT5D03AA	16	0	0	0
64	32	32	NT5D10CA	NT5D03BA	16	16	0	0
					32	0	0	0
80	32	48	NT5D10EA	NT5D03CA	16	16	16	0
					16	32	0	0
96	32	64	NT5D10TA	NT5D03TA	16	16	16	16
					16	16	32	0
					32	32	0	0
112*	32	80	NT5D10UA	NT5D03UA	16	16	16	32
					16	32	32	0
128*	32	96	NT5D10VA	NT5D03VA	16	16	32	32
					32	32	32	0
96	64	32	N/A	N/A	16	16	0	0
					32	0	0	0
112	64	48	NT5D10JA	NT5D03EA	16	16	16	0
					16	32	0	0
128	64	64	N/A	NT5D03FA	16	16	16	16
128	64	64	NT5D10FB	NT5D03FB	16	16	16	16

* This configuration requires Release 24 or later.

** The 68040 CP card is available in A and B vintages. When labeling the CP card, use the appropriate vintage suffix.

Table 163
Supported memory upgrade configurations (Part 2 of 2)

Total Memory	Total FLASH	Total DRAM	Call Processor 68060	Call Processor 68060E	Slot 0 X5	Slot 1 X6	Slot 2 X7	Slot 3 X8
					16	16	32	0
					32	32	0	0
144*	64	80	NT5D10NA	NT5D03NA	16	16	16	32
					16	32	32	0
160*	64	96	NT5D10PB	NT5D03PB	16	16	32	32
					32	32	32	0

* This configuration requires Release 24 or later.

** The 68040 CP card is available in A and B vintages. When labeling the CP card, use the appropriate vintage suffix.

CS 1000 Release 4.5

Table 164 lists the memory requirements of CS 1000 Release 4.5.

Table 164
CS 1000 Release 4.5 memory requirements

System type	Flash memory requirement	DRAM memory requirement	Total memory requirement
Meridian 1 Options 51C/61C with CP3 (68060) or CP4 (68060E)	64 MByte	64 MByte	128 MByte
Meridian 1 Options 81/81C with or without Fibre Network Fabric	64 MByte	96 MByte	160 MByte
Meridian 1 Option 61C CP PII	NA	256 MByte	256 MByte
Meridian 1 Option 81C CP PII with or without Fibre Network Fabric	NA	256 MByte	256 MByte
Meridian 1 Option 61C CP PIV	NA	512 MBytes	512 Mbytes
Meridian 1 Option 81C CP PIV with or without Fibre Network Fabric	NA	512 MBytes	512 Mbytes

Note 1: CP1 (68030) and CP 2 (68040) Call Processors are not supported.

Note 2: All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PII systems are equipped with 256 MByte.

Note 3: All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PIV systems are equipped with 512 Mbytes.

Perform a data dump

Follow the steps in Procedure 279 below to perform a data dump on the Meridian 1 Option 51C.

Procedure 279
Performing a data dump on the Meridian 1 Option 51C

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

LD 43   Load program

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

  EDD   Begin the data dump

3   When "DATABASE BACKUP COMPLETE" or "DATADUMP COMPLETE" appears on the terminal, enter:

  ****   Exit program

——————— **End of Procedure** ———————

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump is not successful, do not continue. Contact the technical support organization. A data dump problem must be corrected before proceeding.

> **IMPORTANT!**
>
> Database backup information should be preserved for a minimum of 5 days.

STAT the hardware on the Meridian 1 Option 51C

Follow the steps in Procedure 280 to determine the status of the hardware on the Meridian 1 Option 51C.

Procedure 280
Determining the hardware status on the Meridian 1 Option 51C

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

LD 137	Load program
STAT	Get the status of the hard disks

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

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

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

Procedure 281
Remove CP card from Core/Net 1

1   Push the manual reset button on the CP card.

2   Release the button and immediately unlatch the card and remove it from the shelf.

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

> ⚠️ **IMPORTANT!**
>
> Power down all applications (Meridian Mail, CallPilot, Symposium).

NT5D03, NT5D10 CP cards

Use the procedures in this section to complete the upgrade, or refer to " Install the DRAM SIMMs" on page 856 and Appendix on page 860 for detailed upgrade instructions.

Table 163 on page 817 defines the memory upgrade paths for the following Motorola-based Call Processor cards:

- 68060E

- 68040

To perform a DRAM and/or Flash upgrade:

- Locate your existing processor vintage in Table 163 on page 817.

- Locate the target processor vintage in Table 163 on page 817.

- Compare the existing SIMM configuration with the target configuration.

- Determine what SIMMs must be added or deleted from the existing location.

- Add or delete DRAM SIMMs as required to achieve the target memory configuration.

- Install the Flash memory modules in an available Flash connector.

- Install the label and label inserts. Discard all unused labels.

> The upgrade is complete.

Install the DRAM SIMMs

Procedure 282
Installing the DRAM SIMMs

1   Place the CP card SIMM-side up on the antistatic mat.

2   Locate the DRAM SIMM connectors (see Figure 106 on page 824).

3   Determine if your memory upgrade requires you to remove an existing DRAM SIMM (see Table 163 on page 817) If removal is required, remove the SIMM from the highest numbered slot available first (X8, X7, X6, etc.) To remove the DRAM SIMM:

   a.   Use a nonconducting screw driver to carefully move each latch away first from one end of the SIMM, and then the other end. The SIMM pivots away from the others until it is at approximately a 50- to 70-degree angle to the board (see Figure 106).

   b.   If the SIMM does not release from the latches, use your thumbnails, one on each latch, to release the latches. If the board has plastic latches, the latches are located on the side facing the card faceplate. If the board has metal latches, the levers protrude from each latch. Carefully move the latches outward simultaneously until the SIMM pivots away from the others and is at approximately a 50- to 70-degree angle to the board (see Figure 106 on page 824).

> ⚠️ **CAUTION — Service Interruption**
>
> Do not mix up the 32 MByte DRAM SIMM with the 16 MByte DRAM SIMM. The 16 MByte DRAM SIMM is labeled A0662646 or A0614334; the 32 MByte DRAM SIMM is labeled A0634230. Older 16 MByte DRAM SIMMs may not be labeled.

---

4   Working from left to right, install the 32 MByte SIMM(s) in the SIMM location designated X5, X6, X7 or X8 where appropriate (see Figure 106 on page 824)

   a.   Orient the new SIMM so that the notch at one end of the SIMM aligns with the key at one end of the SIMM socket. Hold the SIMM at approximately a 50- to 70-degree angle and gently insert the SIMM into the socket. See Figure 106 on page 824.

5   Using your thumbs and index fingers only (at the upper corners of the SIMM), carefully lean the SIMM toward the others until it is upright and the latch at each end of the SIMM snaps into place. If necessary, use a nonconducting screwdriver to help open each latch while you move the SIMM into the upright position.Apply the generic label over the existing label.

6   Select the correct labels for your CP card from the sheet provided.

7   Place the CP/memory configuration label at the top of the faceplate.

---

8   Place the engineering code/release level label on the bottom of the
faceplate.

9   Discard unused labels.

Figure 106
NT5D10, NT5D03 card DRAM SIMM installation

553-8492
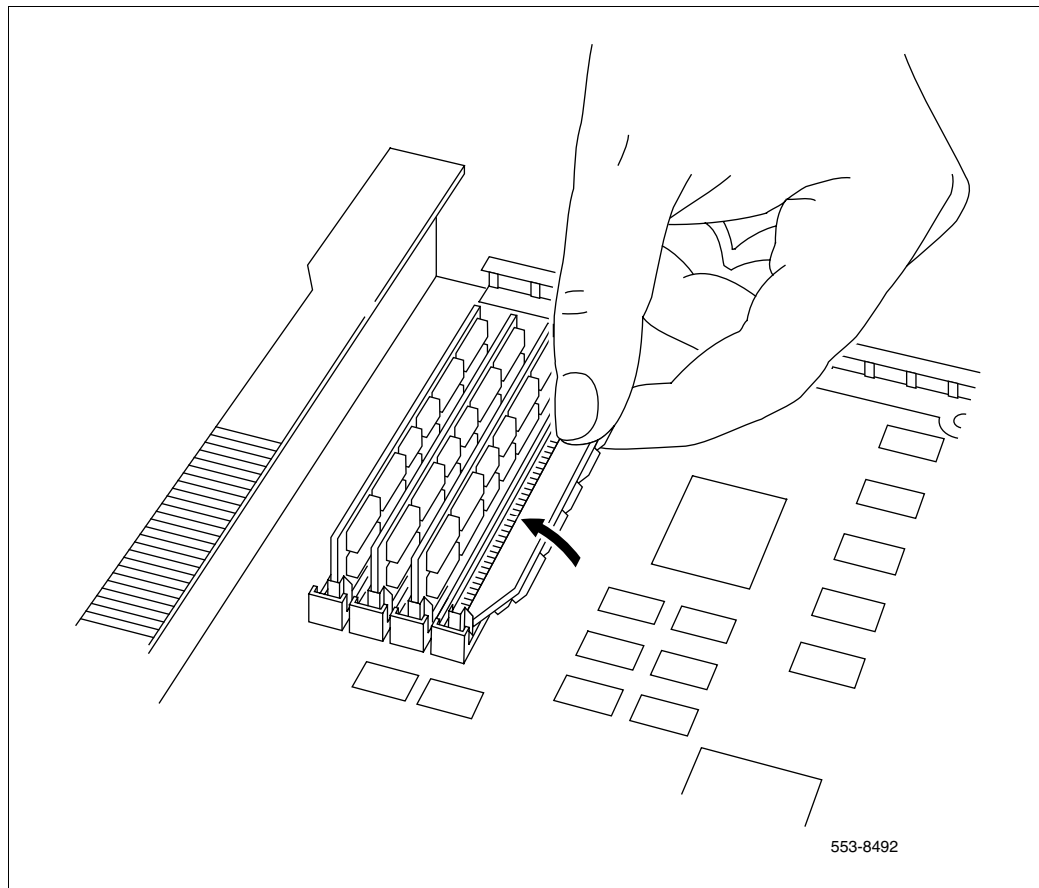
———————   **End of Procedure**   ———————

Install the Flash memory

Procedure 283
Installing the Flash memory

> ⚠️ **CAUTION — Service Interruption**
>
> **Do not** remove the existing Flash SIMMS from the Call
> Processor board.

1 Place the CP card SIMM-side up on the antistatic mat.

2 Determine the location of the new Flash SIMM connectors.

3 Install the new 32 MByte Flash SIMM module in the appropriate slot:

    a. Orient the new SIMM so that the notches on the bottom of the SIMM align with the notches on the connector.

    b. Gently guide the Flash SIMM toward the connector socket.

    c. When the Flash SIMM makes contact with the connector, apply pressure to one end of the Flash SIMM and close the latch connector.

    d. Apply pressure to the other end of the Flash SIMM and close the latch connector.

4 Apply the generic label over the existing label.

5 Select the correct labels for your CP card from the sheet provided.

6 Place the CP/memory configuration label at the top of the faceplate.

7 Place the engineering code/release level label on the bottom of the faceplate.

8 Discard unused labels.

9 Update the Flash ROM using the Software Install Tool:

Note: For dual CPU systems, verify that the system is operating in split mode before activating the Software Install Tool.

    a. To activate the Software Install Tool, insert the Install disk into the inactive the IODU/C (or IOP/CMDU). Press the MAN RST button on the Call Processor card in the inactive Core.

    b. From the Main Menu, select <G>, to update the Flash ROMs from the hard disk.

    c. Select <Y> to confirm installation.

    d. Press <CR> to return to the Install Menu.

    e. Upon successful installation of software on the Flash ROMs, select <E> to update the CP-BOOT ROM.

    f. Repeat this procedure for the second Core.

—————— **End of Procedure** ——————

Install new software on Meridian 1 Option 51C

Follow the steps in Procedure 284 below to install the new software on the Meridian 1 Option 51C.

Procedure 284
Installing the software and converting the database

1 Install the CD-ROM into the CD-ROM drive in the MMDU:

    a. Press the button on the CD-ROM drive to open the CD-ROM disk holder.

    b. Place the CD-ROM disk into the holder with the disk label showing.

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

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

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

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

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

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

System Date and Time now is:

Day-Month-Year, Hour:Min:Sec

Succession Enterprise Software/Database/BOOTROM CDROM INSTALL Tool

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

Please enter:

<CR> -> <n> - No

<y> - Yes

Enter Choice>

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

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 XXXXXXX software

(all subissues) for machine type XXXX

(XXX processor on XXXX System)

IMPORTANT!

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

---

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

Please confirm that this keycode matches the CDROM Release

Please enter:

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

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

Enter Choice> **<CR>**

>Obtain database file names

---

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

I N S T A L L   M E N U

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

Please enter:

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

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

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> **b**

---

8   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 XXXXXXX_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

>Processing the Install Control file

>Installing release XXXXX

---

9 Confirm all options before installing the software.

```
 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 XXXXX

10 After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1>   Global 10 Languages

<2>   Western Europe 10 Languages

<3>   Eastern Europe 10 Languages

<4>   North America 6 Languages

<5>   Spare Group A

<6>   Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.

- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.

- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.

- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.

- 5 – Spare Group A.

- 6 – Spare Group B.

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

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

All files were copied from CDROM to the hard disk.

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

You will now perform the database installation.

Note: If you are installing the Database from a floppy disk, please insert the correct disk now. Perform data dump using the back up disk from Core/Net 1 and use this back up disk to install the customer database.

Please enter:

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

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

<b> - Install DEFAULT Database

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

<c> - Transfer the previous system Database.

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

<q> - Quit.

Enter Choice> **<CR>**

12 Confirm database transfer.

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

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

> You have chosen to restore database dated:
> Month-Day-Hour Min:Sec:Year
>
>> Please confirm.
>
>> Please enter:
>
> <CR> -> <y> - Yes, load.
>
>> <n> - No, DO NOT load.
>
>> Enter Choice> **<CR>**

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

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

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

15   Enter **q** to quit.

I N S T A L L   M E N U

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

Please enter:

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

<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**

---

16 The system then prompts you to confirm and reboot.

You selected to Quit the Software Installation Tool.

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

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 the Core/Net to INI.

——— **End of Procedure** ———

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

Complete the upgrade

Procedure 285
Completing the upgrade

1   Perform a redundancy sanity test using the following sequence:

   LD 135   Load program

   STAT CNI   Get status of CNI card

   STAT CPU   Get status of CPU and memory

2   Clear the display and minor alarms.

   CDSP   Clear the displays on the Cores

   CMAJ   Clear major alarms

   CMIN ALL   Clear minor alarms

   ****   Exit program

3   Check dial tone.

4   Make internal, external and network calls.

5   Check attendant console activity.

6   Check DID trunks.

   Note: Proceed to "Post-conversion procedure" on .

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

Installing memory on Meridian 1 Options 61C, 81, 81C

CAUTION WITH ESDS DEVICES

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

WARNING

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

The procedure in this section is used to increase the memory of the NT5D10 or NT5D03 card

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

Prepare for installation

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

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

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

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 165 below:

Table 165
Prepare for upgrade steps

Procedure Step	Page
Planning	840
Upgrade Checklists	841
Preparing	841
Identifying the proper procedure	842
Connect a terminal	842
Print Site Data	843
Perform a template audit	845
Back up the database (data dump and ABKO)	847
Identify two unique IP addresses	849

Planning

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure sufficient power for new columns/modules or applications.

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.

- Prepare a contingency plan for backing out of the upgrade.

Upgrade Checklists

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

Preparing

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

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

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

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and key code.

- Secure the target software and key code.

- Verify the new key code using the DKA program.

- Print site data.

Identifying the proper procedure

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

> **IMPORTANT!**
>
> Database backup information should be preserved for a minimum of 5 days.

Connect a terminal

Procedure 286
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/0 panel in the *inactive* Core or Core/Net module.

2 The settings for the terminal are:

    a. 9600 Baud

    b. 8 data

    c. parity none

    d. 1 stop bit

    e. full duplex

    f. XOFF

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

―――――― **End of Procedure** ――――――

Print Site Data

Print site data to preserve a record of the system configuration (Table 166). 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 166
Print site data (Part 1 of 3)

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

Table 166
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ TYPE	PRT CFN
*Software packages	LD 22	
	REQ TYPE	PRT PKG
*Software issue and tape ID	LD 22	
	REQ REQ	ISS TID
* Peripheral software versions	LD 22	
	REQ TYPE	PRT PSWV
ACD data block for all customers	LD 23	
	REQ TYPE CUST ACDN	PRT ACD Customer Number ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ TYPE LOOP APPL PH	PRT MISP loop number (0-158) <cr> <cr>

Table 166
Print site data (Part 3 of 3)

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

Perform a template audit

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

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

CAUTION — Service Interruption

Loss of Data

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**
TEMPLATE 0003 NO USERS FOUND	

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

-

-

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

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

1   Perform a data dump to save all system memory to the hard disk.

2   Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 287
Performing a data dump

1   Log into the system.

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

    LD 43   Load program

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

    EDD   Begin the data dump

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

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

    ****   Exit program

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

Procedure 288
Performing an ABKO (save the database to floppies)

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

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

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

   LD 143   Load program

3   Run the ABKO backup (LD 143).

   ABKO   Run the backup

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

4   If there are validation errors, repeat the procedure.

CAUTION — Service Interruption

Loss of Data

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

---

5   Once the backup is complete, type:

   ****   Exit program

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

Procedure 289
Converting to 2 MByte database media

> **IMPORTANT!**
>
> Database conversion for Meridian 1 Options 21E, 51, 61,71, STE, NT and XT must be completed by Nortel Software Conversion Lab. Consult the current Nortel price book for cost and contact information.
>
> If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.
>
> If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MByte floppy.
>
> All systems can be converted by Nortel in the software conversion lab.

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.

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

Identify two unique IP addresses

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

- Contact your systems administrator to identify two unique IP addresses before the upgrade.

- For instructions to configure these IP numbers, see "Configuring IP Addresses" in Book 1.

Perform installation

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

> *Note:* This procedure does not include instructions for installing new IODU/C cards or CP cards. If required, refer to "Installing a Call Processor card on Options 61C CP PII, 81C CP PII" on page 900 and "Installing a Call Processor card on Option 51C" on page 1004.

Parallel reloads can be done from either CPU. For the purposes of this document, the parallel reload begins with CPU 0.

If during the software conversion a problem is detected and it is determined that the system should revert back to the source release follow the "Parallel reload procedures" in Book 1.

Verify memory

Determine whether the system requires additional memory. Refer to "Installing IODU/C cards, CP cards, CP memory" on page 733 for memory requirements and upgrade procedures.

Perform a data dump

Follow the steps in Procedure 290 to perform a data dump.

Procedure 290
Performing a data dump

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

LD 43   Load program

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

EDD   Begin the data dump

3   When "DATABASE BACKUP COMPLETE" or "DATADUMP
COMPLETE" appears on the terminal, enter:

****   Exit program

CAUTION — Service Interruption

Loss of Data

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

IMPORTANT!

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

End of Procedure

Determine status (STAT) of the hardware

Follow the steps in Procedure 291 on to determine the required
hardware status.

Procedure 291
Obtaining hardware status

1   Load LD 137 and get status of the hard disks.

Note: Be sure the hard disks are synchronized. If not, synchronize before
proceeding.

LD 137	Load program
STAT	Get the status of the hard disks
SYNC	Synchronize hard disks if necessary (Synchronization may take up to 50 minutes)

TEST CMDU	Performs hard and floppy disk test
****	Exit program

2 Load LD 135 and determine the status of the CPs, CNIs and memory.

LD 135	Load program
STAT CPU	Get the status of both CPs and memory
STAT CNI	Get the status of all configured CNIs

3 Test the standby (inactive) CP. Then switch CPs, and test again.

TEST CPU	Test standby (inactive) CP

Wait until the terminal returns a complete test message. The message "HWI533 or HWI534" does not mean the test has completed!

SCPU	Switch CPs
TEST CPU	Test the standby (inactive) CP

4 Check total memory allocation before the upgrade.

LD 10	Load program

When the header for LD 10 is displayed, note the value associated with Total Memory. After the upgrade, compare Total Memory before and after the upgrade. Total Memory should be greater after the upgrade.

Exit the program:

****	Exit program

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

——————— **End of Procedure** ———————

Split the Core processors

Follow the steps in Procedure 292 to split the core processors.

Procedure 292
Splitting the Core processors

1   Be sure CP 0 is active and CP1 is standby. If necessary, switch CPs again:

STAT CPU

SCPU   Switch CPs (if necessary)

****   Exit program

2   Verify that IODU/C 0 is active. If necessary, switch IODU/Cs.

LD 137

STAT   Get the status of IODU/C

SWAP   Switch IODU/Cs (if necessary)

****   Exit program

3   Connect a terminal from the CPSI port in Core/Net 1 to J25 of the I/O panel at the back of the Core/Net. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.

   7 data bits, 1 stop bit, Space parity, Full-duplex, XON protocol

4   Place CP 0 in Maintenance by setting the MAINT/NORM switch to MAINT.

5   In Core/Net 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

6   Place CP1 in Maintenance by setting the MAINT/NORM switch to MAINT.

Note: Core 1 will now sysload. Allow the system to complete the sysload and INI. Review any sysload errors and correct before proceeding.

> System is now is split mode, Core 0 active, Clock Controller 0 is active if equipped with FNF. Rings are in half/half mode.

———— **End of Procedure** ————

NT5D03, NT5D10 CP cards

Use the procedures in this section to complete the upgrade, or refer to " Install the DRAM SIMMs" on page 856 and "Install the Flash memory" on page 860 for detailed upgrade instructions.

Table 167 on page 855 defines the memory upgrade paths for the following Motorola-based Call Processor cards:

- 68060

- 68060E

To perform a DRAM and/or Flash upgrade:

- Locate your existing processor vintage in Table 167 on page 855.

- Locate the target processor vintage in Table 167 on page 855.

- Compare the existing SIMM configuration with the target configuration.

- Determine what SIMMs must be added or deleted from the existing location.

- Add or delete DRAM SIMMs as required to achieve the target memory configuration (see Figure 107 on page 857 for the DRAM and Flash SIMM slot locations).

- Install the Flash memory modules in an available Flash connector.

- Install the label and label inserts. Discard all unused labels.

Table 167
Supported memory upgrade configurations (Part 1 of 2)

Total Memory	Total FLASH	Total DRAM	Call Processor 68060	Call Processor 68060E	Slot 0 X5	Slot 1 X6	Slot 2 X7	Slot 3 X8
48	32	16	NT5D10AA	NT5D03AA	16	0	0	0
64	32	32	NT5D10CA	NT5D03BA	16	16	0	0
					32	0	0	0
80	32	48	NT5D10EA	NT5D03CA	16	16	16	0
					16	32	0	0
96	32	64	NT5D10TA	NT5D03TA	16	16	16	16
					16	16	32	0
					32	32	0	0
112*	32	80	NT5D10UA	NT5D03UA	16	16	16	32
					16	32	32	0
128*	32	96	NT5D10VA	NT5D03VA	16	16	32	32
					32	32	32	0
96	64	32	N/A	N/A	16	16	0	0
					32	0	0	0
112	64	48	NT5D10JA	NT5D03EA	16	16	16	0
					16	32	0	0
128	64	64	N/A	NT5D03FA	16	16	16	16
128	64	64	NT5D10FB	NT5D03FB	16	16	16	16

* This configuration requires Release 24 or later.

** The 68040 CP card is available in A and B vintages. When labeling the CP card, use the appropriate vintage suffix.

Table 167
Supported memory upgrade configurations (Part 2 of 2)

Total Memory	Total FLASH	Total DRAM	Call Processor		Slot 0	Slot 1	Slot 2	Slot 3
			68060	**68060E**	**X5**	**X6**	**X7**	**X8**
					16	16	32	0
					32	32	0	0
144*	64	80	NT5D10NA	NT5D03NA	16	16	16	32
					16	32	32	0
160*	64	96	NT5D10PB	NT5D03PB	16	16	32	32
					32	32	32	0

* This configuration requires Release 24 or later.

** The 68040 CP card is available in A and B vintages. When labeling the CP card, use the appropriate vintage suffix.

Install the DRAM SIMMs

Procedure 293
Installing the DRAM SIMMs

1   Place the CP card SIMM-side up on the antistatic mat.

2   Locate the DRAM SIMM connectors (see Figure 107 on).

3   Determine if your memory upgrade requires you to remove an existing DRAM SIMM (see Table 167 on) If removal is required, remove the SIMM from the highest numbered slot available first (X8, X7, X6, etc.) To remove the DRAM SIMM.

   a.   Use a nonconducting screw driver to carefully move each latch away first from one end of the SIMM, and then the other end. The SIMM

Figure 107
NT5D10 or NT5D03 DRAM and Flash location

DRAM SIMMs

Notch location

X5 X6 X7 X8

FLASH SIMMs

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pivots away from the others until it is at approximately a 50- to 70-degree angle to the board (see Figure 108 on).

b. If the SIMM does not release from the latches, use your thumbnails, one on each latch, to release the latches. If the board has plastic latches, the latches are located on the side facing the card faceplate. If the board has metal latches, the levers protrude from each latch. Carefully move the latches outward simultaneously until the SIMM pivots away from the others and is at approximately a 50- to 70-degree angle to the board (see Figure 108 on).

⚠️ **CAUTION — Service Interruption**

Do not mix up the 32 MByte DRAM SIMM with the 16 MByte DRAM SIMM. The 16 MByte DRAM SIMM is labeled A0662646 or A0614334; the 32 MByte DRAM SIMM is labeled A0634230. Older 16 MByte DRAM SIMMs may not be labeled.

---

4 Working from left to right, install the 32 MByte SIMM(s) in the SIMM location designated X5, X6, X7 or X8 where appropriate (Table 167 on).

a. Orient the new SIMM so that the notch at one end of the SIMM aligns with the key at one end of the SIMM socket. Hold the SIMM at approximately a 50- to 70-degree angle and gently insert the SIMM into the socket. See Figure 108 on .

5 Using your thumbs and index fingers only (at the upper corners of the SIMM), carefully lean the SIMM toward the others until it is upright and the latch at each end of the SIMM snaps into place. If necessary, use a nonconducting screwdriver to help open each latch while you move the SIMM into the upright position.Apply the generic label over the existing label.

6 Select the correct labels for your CP card from the sheet provided.

7 Place the CP/memory configuration label at the top of the faceplate.

8 Place the engineering code/release level label on the bottom of the faceplate.

9 Discard unused labels.

————— **End of Procedure** —————

Figure 108
NT5D10, NT5D03 card DRAM SIMM installation

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Install the Flash memory

CAUTION — Service Interruption

Do not remove the existing Flash SIMMS from the Call Processor board.

Procedure 294
Installing the Flash memory

1   Place the CP card SIMM-side up on the antistatic mat.

2   Determine the location of the new Flash SIMM connectors (see Table 167 on)

3   Install the new 32 MByte Flash SIMM module in the appropriate slot:

   a. Orient the new SIMM so that the notches on the bottom of the SIMM align with the notches on the connector.

   b. Gently guide the Flash SIMM toward the connector socket.

   c. When the Flash SIMM makes contact with the connector, apply pressure to one end of the Flash SIMM and close the latch connector.

   d. Apply pressure to the other end of the Flash SIMM and close the latch connector.

4   Apply the generic label over the existing label.

5   Select the correct labels for your CP card from the sheet provided.

6   Place the CP/memory configuration label at the top of the faceplate.

7   Place the engineering code/release level label on the bottom of the faceplate.

8   Discard unused labels.

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

Install software on Core/Net 1

Procedure 295
Installing the system software on Core/Net 1

1   Place the CP Install disk that corresponds with the installed CP card type into the IODU/C in Core/Net 1.

2   Install the CD-ROM into the CD drive:

    a.   Press the button on the CD-ROM drive to open the CD-ROM disk holder.

    b.   Place the CD-ROM disk into the holder with the disk label showing.

    c.   Use the four tabs to secure the CD-ROM drive.

    d.   Press the button again to close the CD-ROM disk holder. Don't push the holder in by hand.

3   In Core/Net 1, perform the following three steps in uninterrupted sequence:

    a.   In Core/Net 1 press and release the MAN RST button on the CP card.

    b.   Set the MAINT/NORM switch on the CP card to MAINT.

    c.   Release the MAN RST button.

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

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

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

4   Press <CR> to continue.

5   Log into the system. Enter the time and date, when prompted.

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

```
 System Date and Time now is:

      Day-Month-Year, Hour:Min:Sec

      Succession Enterprise Software/Database/BOOTROM
CDROM INSTALL Tool

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

      Please enter:

<CR> -> <n> - No

      <y> - Yes

      Enter Choice>
```

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

```
                    M A I N   M E N U

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

      Please enter:

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

      <t> - To Tools menu.

      <q> - Quit.

      Enter Choice> <CR>

>Validating Keycode

 The provided keycode authorizes the install of XXXXXXX
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.

---

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

Please confirm that this keycode matches the CDROM Release

   Please enter:

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

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

   Enter Choice> **<CR>**

   >Obtain database file names

---

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

I N S T A L L   M E N U

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

Please enter:

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

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

    <c> - To install Database only.

    <d> - To install CP-BOOTROM only.

    <t> - To go to the Tools menu.

    <k> - To install Keycode only.

      For Feature Expansion, use OVL143.

    <p> - To install 3900 set Languages.

    <q> - Quit.

Enter Choice> **b**

---

10 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 XXXXXXX_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

>Processing the Install Control file

>Installing release XXXXX

---

11 Confirm all options before installing the software.

```
 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 XXXXX

12 After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1>   Global 10 Languages

<2>   Western Europe 10 Languages

<3>   Eastern Europe 10 Languages

<4>   North America 6 Languages

<5>   Spare Group A

<6>   Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.

- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.

- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.

- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.

- 5 – Spare Group A.

- 6 – Spare Group B.

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

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

All files were copied from CDROM to the hard disk.

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

You will now perform the database installation.

Note: If you are installing the Database from a floppy disk, please insert the correct disk now. Perform data dump using the back up disk from Core/Net 1 and use this back up disk to install the customer database.

Please enter:

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

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

<b> - Install DEFAULT Database

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

<c> - Transfer the previous system Database.

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

<q> - Quit.

Enter Choice> **<CR>**

14 Confirm database transfer.

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

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

> You have chosen to restore database dated:
> Month-Day-Hour Min:Sec:Year
>
>   Please confirm.
>
>   Please enter:
>
> <CR> -> <y> - Yes, load.
>
>   <n> - No, DO NOT load.
>
>   Enter Choice> **<CR>**

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

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

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

17 Enter **q** to quit.

I N S T A L L   M E N U

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

Please enter:

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

<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**

---

18 The system then prompts you to confirm and reboot.

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

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

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** ───────────────

Determine peripheral software version

Procedure 296
Checking peripheral software versions

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

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

——————— **End of Procedure** ———————

Switch call processing to Core/Net 1

CAUTION — Service Interruption

Service Interruption

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

WARNING

System initialization may take up to 15 minutes or longer.

IMPORTANT!

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

Follow the steps in Procedure 297 to switch call processing from Core/Net 0 to Core/Net 1.

Procedure 297
Switching call processing from Core/Net 0 to Core/Net 1

1   In Core/Net 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

2   In Core/Net 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS and unseat it.

3   In Core/Net 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

4   In Core/Net 1, press the MAN INT button.

———————————————— **End of Procedure** ————————————————

CAUTION — Service Interruption

Service Interruption

The INI may take up to15 minutes to complete.

IMPORTANT!

Power up all applications (Meridian Mail, CallPilot, Symposium).

Procedure 298
Testing Core/Net 1

From Core/Net 1, perform these tests:

1   Check dial tone.

2   Make internal, external and network calls.

3   Check attendant console activity.

4   Check DID trunks.

5   Check applications (CallPilot, Symposium, Meridian Mail, etc.).

CP1 is active, Clock 1 is active, IODU/C is active. If equipped, the FIJI ring is in half/half mode.

————————   **End of Procedure**   ————————

Procedure 299
Removing CP card from Core/Net 0

1 Push the manual reset button on the CP card.

2 Release the button and immediately unlatch the card and remove it from
   the shelf.

——————— **End of Procedure** ———————

NT5D03, NT5D10 CP cards

Table 168 on page 877 defines the memory upgrade paths for the following
Motorola-based Call Processor cards:

• 68060

• 68060E

To perform a DRAM and/or Flash upgrade:

• Locate your existing processor vintage in Table 168 on page 877.

• Locate the target processor vintage in Table 168 on page 877.

• Compare the existing SIMM configuration with the target configuration.

• Determine what SIMMs must be added or deleted from the existing
  location.

• Add or delete DRAM SIMMs as required to achieve the target memory
  configuration (see Figure 109 on page 879 for the DRAM and Flash
  SIMM slot locations).

• Install the Flash memory modules in an available Flash connector.

• Install the label and label inserts. Discard all unused labels.

Table 168
Supported memory upgrade configurations (Part 1 of 2)

Total Memory	Total FLASH	Total DRAM	Call Processor		Slot 0	Slot 1	Slot 2	Slot 3
			68060	68060E	X5	X6	X7	X8
48	32	16	NT5D10AA	NT5D03AA	16	0	0	0
64	32	32	NT5D10CA	NT5D03BA	16	16	0	0
					32	0	0	0
80	32	48	NT5D10EA	NT5D03CA	16	16	16	0
					16	32	0	0
96	32	64	NT5D10TA	NT5D03TA	16	16	16	16
					16	16	32	0
					32	32	0	0
112*	32	80	NT5D10UA	NT5D03UA	16	16	16	32
					16	32	32	0
128*	32	96	NT5D10VA	NT5D03VA	16	16	32	32
					32	32	32	0
96	64	32	N/A	N/A	16	16	0	0
					32	0	0	0
112	64	48	NT5D10JA	NT5D03EA	16	16	16	0
					16	32	0	0
128	64	64	N/A	NT5D03FA	16	16	16	16
128	64	64	NT5D10FB	NT5D03FB	16	16	16	16

* This configuration requires Release 24 or later.

** The 68040 CP card is available in A and B vintages. When labeling the CP card, use the appropriate vintage suffix.

Table 168
Supported memory upgrade configurations (Part 2 of 2)

Total Memory	Total FLASH	Total DRAM	Call Processor		Slot 0	Slot 1	Slot 2	Slot 3
			68060	**68060E**	**X5**	**X6**	**X7**	**X8**
					16	16	32	0
					32	32	0	0
144*	64	80	NT5D10NA	NT5D03NA	16	16	16	32
					16	32	32	0
160*	64	96	NT5D10PB	NT5D03PB	16	16	32	32
					32	32	32	0

* This configuration requires Release 24 or later.

** The 68040 CP card is available in A and B vintages. When labeling the CP card, use the appropriate vintage suffix.

Install the DRAM SIMMs

Procedure 300
Installing the DRAM SIMMs

1   Place the CP card SIMM-side up on the antistatic mat.

2   Locate the DRAM SIMM connectors (see Figure 109 on).

3   Determine if your memory upgrade requires you to remove an existing DRAM SIMM (see Table 167 on) If removal is required, remove the SIMM from the highest numbered slot available first (X8, X7, X6, etc.) To remove the DRAM SIMM.

    a.   Use a nonconducting screw driver to carefully move each latch away first from one end of the SIMM, and then the other end. The SIMM

Figure 109
NT5D10 or NT5D03 DRAM and Flash location
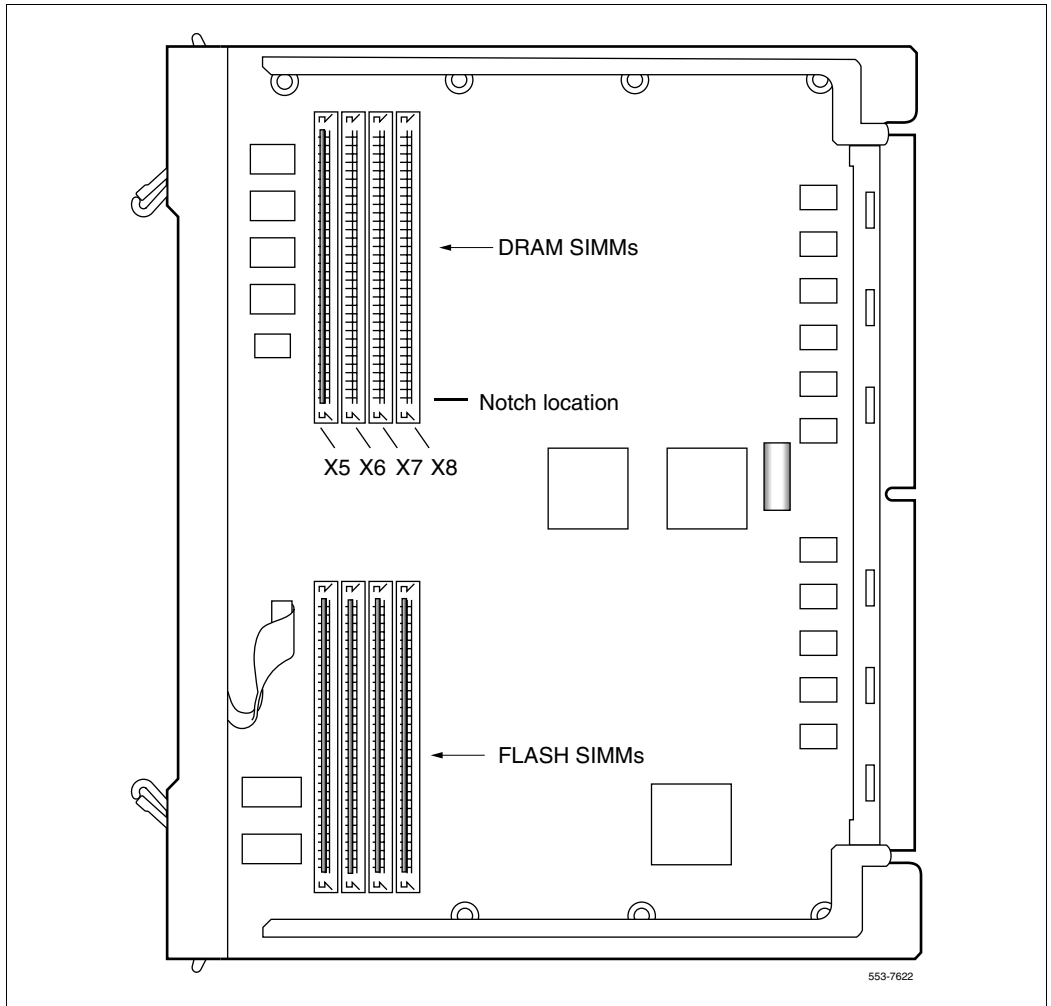
DRAM SIMMs

Notch location

X5 X6 X7 X8

FLASH SIMMs

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pivots away from the others until it is at approximately a 50- to 70-degree angle to the board (see Figure 109 on page 879).

b. If the SIMM does not release from the latches, use your thumbnails, one on each latch, to release the latches. If the board has plastic latches, the latches are located on the side facing the card faceplate. If the board has metal latches, the levers protrude from each latch. Carefully move the latches outward simultaneously until the SIMM pivots away from the others and is at approximately a 50- to 70-degree angle to the board (see Figure 109 on page 879).

> ⚠️ **CAUTION — Service Interruption**
>
> Do not mix up the 32 MByte DRAM SIMM with the 16 MByte DRAM SIMM. The 16 MByte DRAM SIMM is labeled A0662646 or A0614334; the 32 MByte DRAM SIMM is labeled A0634230. Older 16 MByte DRAM SIMMs may not be labeled.

4 Working from left to right, install the 32 MByte SIMM(s) in the SIMM location designated X5, X6, X7 or X8 where appropriate (Table 167 on page 855).

a. Orient the new SIMM so that the notch at one end of the SIMM aligns with the key at one end of the SIMM socket. Hold the SIMM at approximately a 50- to 70-degree angle and gently insert the SIMM into the socket. See Figure 109 on page 879.

5 Using your thumbs and index fingers only (at the upper corners of the SIMM), carefully lean the SIMM toward the others until it is upright and the latch at each end of the SIMM snaps into place. If necessary, use a nonconducting screwdriver to help open each latch while you move the SIMM into the upright position.Apply the generic label over the existing label.

6 Select the correct labels for your CP card from the sheet provided.

7 Place the CP/memory configuration label at the top of the faceplate.

8 Place the engineering code/release level label on the bottom of the faceplate.

9 Discard unused labels.

———————— **End of Procedure** ————————

Figure 110
NT5D10, NT5D03 card DRAM SIMM installation
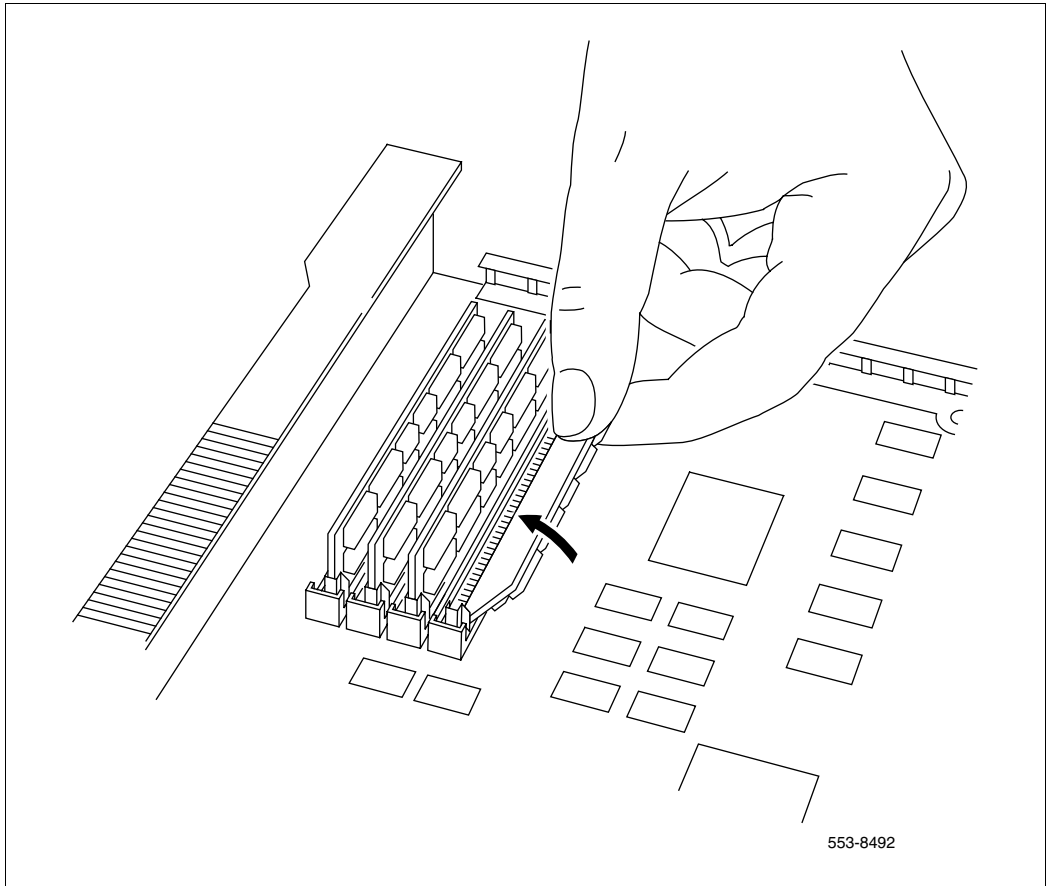
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Install the Flash memory

CAUTION — Service Interruption

Do not remove the existing Flash SIMMS from the Call Processor board.

Procedure 301
Installing the Flash memory

1   Place the CP card SIMM-side up on the antistatic mat.

2   Determine the location of the new Flash SIMM connectors (see Table 167 on page 855).

3   Install the new 32 MByte Flash SIMM module in the appropriate slot:

   a.   Orient the new SIMM so that the notches on the bottom of the SIMM align with the notches on the connector.

   b.   Gently guide the Flash SIMM toward the connector socket.

   c.   When the Flash SIMM makes contact with the connector, apply pressure to one end of the Flash SIMM and close the latch connector.

   d.   Apply pressure to the other end of the Flash SIMM and close the latch connector.

4   Apply the generic label over the existing label.

5   Select the correct labels for your CP card from the sheet provided.

6   Place the CP/memory configuration label at the top of the faceplate.

7   Place the engineering code/release level label on the bottom of the faceplate.

8   Discard unused labels.

   The Flash memory upgrade is complete.

Install new software on Core/Net 0

Procedure 302
Installing the software and converting the database

1 Check that a terminal is connected to J25 on Core/Net 0.

2 In Core/Net 0, install the CD-ROM into the CD-ROM drive in the 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 IODU/C floppy drive.

Note: If a problem is detected during the system verification, Install stops, prints an error message, and aborts the installation. If the verification is not successful, do not continue; contact your technical support organization.

4 Press the manual RESET button on the CP card faceplate.

5 Select yes or (no) when asked if a Signaling Server is connected.

```
System Date and Time now is:

     Day-Month-Year, Hour:Min:Sec

     Succession Enterprise Software/Database/BOOTROM
CDROM INSTALL Tool

     Does this System have a Signaling Server.....? (Default - No)

     Please enter:

<CR> -> <n> - No

     <y> - Yes

     Enter Choice>
```

6   The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

M A I N   M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu

<t> - To Tools menu.

<q> - Quit.

Enter Choice> **<CR>**

>Validating Keycode

The provided keycode authorizes the install of XXXXXXX 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.

      <b> - To install Software, Database, CP-BOOTROM.

      <c> - To install Database only.

      <d> - To install CP-BOOTROM only.

      <t> - To go to the Tools menu.

      <k> - To install Keycode only.

           For Feature Expansion, use OVL143.

      <p> - To install 3900 set Languages.

      <q> - Quit.

      Enter Choice> b
```

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 XXXXXXX_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

>Processing the Install Control file

>Installing release XXXXX

10 Confirm all options before installing the software.

```
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 XXXXX

11 After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1>   Global 10 Languages

<2>   Western Europe 10 Languages

<3>   Eastern Europe 10 Languages

<4>   North America 6 Languages

<5>   Spare Group A

<6>   Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.

- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.

- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.

- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.

- 5 – Spare Group A.

- 6 – Spare Group B.

12 Continue with upgrade when prompted. Select a database to install.

Software release 4.x was installed successfully on Core X.

All files were copied from CDROM to the hard disk.

Please press <CR> when ready. **<CR>**

You will now perform the database installation.

Note: If you are installing the Database from a floppy disk, please insert the correct disk now. Perform data dump using the back up disk from Core/Net 1 and use this back up disk to install the customer database.

Please enter:

<CR> -> <a> - Install CUSTOMER Database

   (the customer database diskette must be in the Core X disk drive).

<b> - Install DEFAULT Database

   (the installation CDROM must be in the Core X disk drive).

<c> - Transfer the previous system Database.

<e> - Check the Database that exists on the hard disk.

<q> - Quit.

Enter Choice> **<CR>**

---

13 Confirm database transfer.

> You selected to transfer the database from the floppy disk - release: XXXX to the hard disk on Core X. release: XXXX.
>
> This will erase the database on the hard disk.
>
> The database diskette has been inserted into the floppy disk drive.
>
> If you quit now, the database will be left unchanged.
>
> Please enter:
>
> <CR> -> <a> - Continue with Database Install.
>
> <q> - Quit.
>
> Enter Choice> **<CR>**

The system then informs you of the database details and prompts you to confirm.

> You have chosen to restore database dated:
> 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** ——————

Exiting split mode

Follow the steps in Procedure 303 to exit the split mode.

Procedure 303
Exiting the split mode

1   Connect CPSI port or maintenance SDI port.

2   Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.

3   Perform the following in uninterrupted sequence:

   •   Press and release the MAN RST button in Core/Net 0.

   •   When SYS700 messages appears on the LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

   In 60 seconds, the LCD lights and confirms the processes with:

   RUNNING ROM OS

   ENTERING CP VOTE

   An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

4   In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

──────────────── **End of Procedure** ────────────────

Test Core/Net 1 and Core/Net 0

Follow the steps in Procedure 304 to test Core/Net 0 and Core/Net 1.

Procedure 304
Testing Core/Net 0 and Core/Net 1

1   Perform a redundancy sanity test using the following sequence:

LD 135

STAT CNI	Get status of CNI cards
STAT CPU	Get status of CPU and memory
TEST CPU	Test the inactive Core/Net/Net
TEST CNI c s	Test each inactive CNI card

2   Switch Core/Nets and test the other side (Core/Net 0)

SCPU	Switch Core/Nets
TEST CPU	Test the inactive Core/Net/Net
TEST CNI c s	Test each inactive CNI card

Note: Testing the Call Processor and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the Call Processor test is complete, the Call Processor the memory is automatically synchronized.

3   Clear the display and minor alarms on both Core/Nets.

CDSP	Clear the displays on the Core/Nets
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms

4   Get the status of the Core/Nets, CNIs, and memory.

> **STAT CPU**   Get the status of both Core/Nets
>
> **STAT CNI**   Get the status of all configured CNIs and memory

> *Note:* You may need to execute the STAT CNI command twice before receiving a response from the system.

> ********   Exit program

─────────── **End of Procedure** ───────────

Switch the Clocks

**Procedure 305
Switching the Clocks**

1   Verify that the clock controller is assigned to the *active* Core.

> **LD 60**   Load program
>
> **SSCK *x***   Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1
>
> **SWCK**   Switch the Clock (if necessary)
>
> ********   Exit program

2   Verify that the Clock Controllers are switching correctly:.

> **SWCK**   Switch the Clock
>
> **SWCK**   Switch the Clock again

─────────── **End of Procedure** ───────────

If equipped, stat the FIJI rings

Procedure 306
Stat the rings

1   Check the status of Ring 0 and Ring 0.

LD 39	Load program
STAT RING 0	Get the status of Ring 0 (Ring state should be HALF/HALF)

2   Check the status of Ring 0 and Ring 1.

LD 39	Load program
STAT RING 1	Get the status of Ring 0 (Ring state should be HALF/HALF)

——————— **End of Procedure** ———————

Synchronize the hard disks

Procedure 307
Synchronizing the hard disks

1   Access LD 137 and synchronize the hard disks. Synchronization can take up to 50 minutes. To ensure that the contents of IODU/C 1 are copied to IODU/C 0, verify that IODU/C 0 is disabled.

LD 137	Load program
STAT	Get the status of the IODU/C and redundancy
SYNC	Enter "Yes" to synchronize disks (Wait until the memory synchronization successfully completes before continuing)
TEST CMDU	Perform hard and floppy disk test

2   Get the status of the CMDU's and be sure CMDU 0 is active. Switch if necessary.

STAT	Get the status of IODU/C and redundancy
SWAP	Switch CMDU (if necessary)
STAT CMDU	Get the status of the IODU/Cs (Be sure the same IODU/C and CPU are active)
****	Exit program

Perform a data dump

Procedure 308
Performing a data dump

1 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

LD 43   Load program

2 When "EDD000" appears on the terminal, enter:

EDD   Begin the data dump

3 When "DATABASE BACKUP COMPLETE" or "DATADUMP COMPLETE" appears on the terminal, enter the following:

****   Exit program

———————— **End of Procedure** ————————

> ✔ The Parallel Reload process is complete. The system is now running on the upgraded CP card.
>
> System is now in redundant mode.

Proceed to "Post-conversion procedure" on .

Installing a Call Processor card on Options 61C CP PII, 81C CP PII

CAUTION WITH ESDS DEVICES

To avoid damaging equipment from electrostatic discharge, wear a properly connected anti-static wrist strap when working on or near Meridian 1 equipment.

WARNING

Use the procedures in this section if the system is equipped with NT4N43 CP PII Multi-Media Disk Unit (CP PII MMDU). If the system is not equipped with the CP PII MMDU, do not use these procedures

The NT4N43 CP PII MMDU is located in the extreme right hand slot next to the CP PII card. The CP PII MMDU contains the hard drive, floppy drive and CD-ROM drive.

Perform a parallel reload in Meridian 1 Option 61C CP PII and Meridian 1 Option 81C CP PII

Software must be installed on both Core hard drives. Follow the procedures in this section to complete the installation.

Note: To complete these procedures, the system must be working and connected to a terminal.

Prepare for installation

This document implements a source to target approach to performing an upgrade. It is important to correctly identify the source platform, target platform and maintenance window required to perform the upgrade.

Each chapter features check boxes indicating what condition the system should be in at that stage of the upgrade. If the system is not in the proper condition steps should be taken to correct this.

Each section is written to maintain Dial Tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 169 below:

Table 169
Prepare for upgrade steps

Procedure Step	Page
Planning	901
Upgrade Checklists	902
Preparing	902
Identifying the proper procedure	903
Connect a terminal	903
Print Site Data	904
Perform a template audit	907
Back up the database (data dump and ABKO)	908
Convert the 4 MByte database media to 2 MByte database media	910
Identify two unique IP addresses	910

Planning

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure sufficient power for new columns/modules or applications.

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.

- Prepare a contingency plan for backing out of the upgrade.

Upgrade Checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter on . Engineers may print this section in order to facilitate the upgrade.

Preparing

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Determine the current patch or Dep lists installed at the source platform.

- Determine the required patch or Dep lists at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and key code.

- Secure the target software and key code.

- Verify the new key code using the DKA program.

- Print site data.

Identifying the proper procedure

Each procedure has been written in a source to target format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

> **IMPORTANT!**
>
> Database backup information should be preserved for a minimum of 5 days.

Connect a terminal

Procedure 309
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/0 panel in the *inactive* Core or Core/Net module.

2 The settings for the terminal are:

    a. 9600 Baud

    b. 8 data

    c. parity none

    d. 1 stop bit

    e. full duplex

    f. XOFF

3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

———————————— **End of Procedure** ————————————

Print Site Data

Print site data to preserve a record of the system configuration (Table 170). 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 170
Print site data (Part 1 of 3)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>

Table 170
Print site data (Part 2 of 3)

Site data	Print command	
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	
		IDC loop

Table 170
Print site data (Part 3 of 3)

Site data	Print command	
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)
Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.

Note: The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.

> ⚠ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> Do not abort this overlay until the audit is complete. If the overlay is interrupted, data will be corrupted.

LD 01   The audit begins as soon as LD 01 is entered.

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW   **CHECKSUM OK**

TEMPLATE 0002 USER COUNT HIGH   **CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK   **CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK   CHECKSUM OK

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

To back up system data, complete the following two procedures.

1 Perform a data dump to save all system memory to the hard disk.

2 Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 310
Performing a data dump

1 Log into the system.

2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

> **LD 43**   Load program

3 When "EDD000" appears on the terminal, enter:

> **EDD**   Begin the data dump

> ⚠ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

---

4   The messages "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" will appear once the data dump is complete.

    ****   Exit program

End of Procedure

Procedure 311
Performing an ABKO (save the database to floppies)

1   Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

Note: If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

2   Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

    LD 143   Load program

3   Run the ABKO backup (LD 143).

    ABKO   Run the backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

4   If there are validation errors, repeat the procedure.

⚠	**CAUTION — Service Interruption**
	Loss of Data
	If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PII.

5   Once the backup is complete, type:

    ****   Exit program

———————— **End of Procedure** ————————

Convert the 4 MByte database media to 2 MByte database media

<table>
<tr>
<td rowspan="2">⚠️</td>
<td>

IMPORTANT!

Database conversion for Meridian 1 Options 21E, 51, 61,71, STE, NT and XT must be completed by Nortel Software Conversion Lab. Consult the current Nortel price book for cost and contact information.

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MByte floppy.

All systems can be converted by Nortel in the software conversion lab.

</td>
</tr>
</table>

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MByte floppy.

Identify two unique IP addresses

Each CP PII system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the

active Core. The second IP address is defined for the *inactive* Core. In this configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your systems administrator to identify two unique IP addresses before the upgrade.

- For instructions to configure these IP numbers, see "Configuring IP Addresses" in Book 1.

Perform installation

Verify memory

CS 1000 Release 4.5

Table 171 lists the memory requirements of CS 1000 Release 4.5.

Table 171
CS 1000 Release 4.5 memory requirements

System type	Flash memory requirement	DRAM memory requirement	Total memory requirement
Meridian 1 Options 51C/61C with CP3 (68060) or CP4 (68060E)	64 MByte	64 MByte	128 MByte
Meridian 1 Options 81/81C with or without Fibre Network Fabric	64 MByte	96 MByte	160 MByte
Meridian 1 Option 61C CP PII	NA	256 MByte	256 MByte
Meridian 1 Option 81C CP PII with or without Fibre Network Fabric	NA	256 MByte	256 MByte
Meridian 1 Option 61C CP PIV	NA	512 MBytes	512 Mbytes
Meridian 1 Option 81C CP PIV with or without Fibre Network Fabric	NA	512 MBytes	512 Mbytes

Note 1: CP1 (68030) and CP 2 (68040) Call Processors are not supported.

Note 2: All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PII systems are equipped with 256 MByte.

Note 3: All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PIV systems are equipped with 512 Mbytes.

Perform data dump

Procedure 312
Backing up the current data

1   Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

    LD 43   Load program

2   When "EDD000" appears on the terminal, enter:

    EDD   Begin data dump

3   When "DATABASE BACKUP COMPLETE" or "DATADUMP COMPLETE" appears on the terminal, enter

    ****   Exit program

> ⚠️ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump is not successful, do not continue. Contact the technical support organization. Correct any data dump problem before continuing.

> ⚠️ **IMPORTANT!**
>
> Database backup information should be preserved for a minimum of 5 days.

End of Procedure

Check the status of the hardware

Procedure 313
Determining hardware status

1   Load LD 137 to check the status of the hard disks.

LD 137	Load program
STAT	Get the status of the hard disks
TEST CMDU	Perform hard and floppy disk test

2   Load LD 135 and check the status of the CPs, CNIs and memories.

LD 135	Load program
STAT CPU	Get the status of both CPs and memory
STAT CNI	Get the status of all configured CNIs

—————————— **End of Procedure** ——————————

Check that Core 0 is active

Check that Core 0 is active. If Core 1 is active, make Core 0 active:

LD 135	Load program
STAT CPU	Get the status of the CPUs
SCPU	Switch to Core 0 (if necessary)

Split the Cores

From the active side, split the cores:

LD 135	Load program
SPLIT	Enter Split on the active core
****	Exit program

> ✔ The system is now in split mode with Core/Net 0 active and Clock Controller 0 active.

Upgrade Core/Net 1 hardware

Procedure 314
Upgrading Core/Net 1 hardware

1   Tag all faceplate cables on the CP card in Core/Net 1.

2   Disconnect all faceplate cables on the CP card in Core/Net 1

3   Remove the CP card from the system in Core/Net 1

4   Install the replacement CP card in Core/Net 1.

Reconnect all faceplate cables.

———————————————— **End of Procedure** ————————————————

Install the software on Core/Net

Procedure 315
Installing the software on Core/Net 1

1   Install the CD-ROM into the CD-ROM drive in the CP PII MMDU:

  a. Press the button on the CD-ROM drive to open the CD-ROM disk holder.

  b. Place the CD-ROM disk into the holder with the disk label facing up. Use the four tabs to secure the CD-ROM drive.

  c. Press the button to close the CD-ROM disk holder.
       Do not push the holder in by hand.

  Note: If the CD-ROM is not in the CD-ROM drive, the installation will not continue. Insert the CD-ROM to continue.

2   Place the CP PII Install floppy disk into the CP PII MMDU floppy drive.

  Note: If a problem is detected during the system verification, the install stops, prints an error message, and aborts the installation.
  If the verification is not successful, do not continue; contact the technical support organization.

3   Press the manual RESET button on the CP PII card faceplate.

Before the install runs, the system validates hard disk partitioning which takes about five minutes.

```
Testing partition 0

      0 percent done...1 percent done......99
      percent done....100 percent done

Testing partition 1

      0 percent done...1 percent done......99
      percent done....100 percent done

Testing partition 2

      0 percent done...1 percent done......99
      percent done....100 percent completed!

Disk physical checking is completed!
```
```
Validate hard drive partition number and size...

There are 3 partitions in disk 0:
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte

Disk partitions and sectors checking is
completed!
```

The system then checks the partitions for any errors. The screen displays the following for each partition.

```
Copyright (c) 1993-1996 RST Software Industries
Ltd. All rights reserved
ver: X.X FCS
Disk Check In Progress...
      total disk space (bytes) : XX
      bytes in each allocation unit: XX
      total allocation units on disk: XX
      bad allocation units: XX
      available bytes on disk: XX
      available clusters on disk: XX
      maximum available contiguous chain (bytes):
      XX
      available space fragmentation (%): XX
      clusters allocated: XX
      Done Checking Disk.
              checks for PART_X OK!
              pmDosFsCheck is completed!
```

4 Select yes or (no) when asked if a Signaling Server is connected.

```
 System Date and Time now is:

        Day-Month-Year, Hour:Min:Sec

        Succession Enterprise Software/Database/
BOOTROM CDROM INSTALL Tool

        Does this System have a Signaling
Server.....? (Default - No)

        Please enter:

<CR> -> <n> - No

        <y> - Yes

        Enter Choice>
```

5 The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

```
              M A I N    M E N U

         The Software Installation Tool will
install or upgrade Succession Enterprise System
Software, Database and the CP-BOOTROM. You will
be prompted throughout the installation and
given the opportunity to quit at any time.

         Please enter:

<CR> -> <u> - To Install menu

         <t> - To Tools menu.

         <q> - Quit.

         Enter Choice> <CR>

>Validating Keycode

 The provided keycode authorizes the install of
XXXXXXX software

   (all subissues) for machine type XXXX

   (XXX processor on XXXX System)
```

IMPORTANT!

Remove install floppy disk at this time and insert the keycode diskette.

---

6   The screen displays the Install Menu. Confirm that the keycode matches
the CD-ROM release.

```
 Please confirm that this keycode matches the
CDROM Release

        Please enter:

<CR> -> <y> - Yes, the keycode matches. Go on to
Install Menu.

        <n> - No, the keycode does not match. Try
another keycode diskette.

        Enter Choice> <CR>

     >Obtain database file names
```

7   Enter **b** to install the Software, Database and CP-BOOTROM.

```
 I N S T A L L    M E N U

        The Software Installation Tool will
install or upgrade Succession Enterprise System
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

        Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

        <b> - To install Software, Database, CP-
BOOTROM.

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

             For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> b
```

8   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 XXXXXXX_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.

9   Choosing Yes for the Dependency Lists installation.

```
 Do you want to install Dependency Lists?

        Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists
installation

      <n> - No, Continue without Dependency Lists
installation

        Enter choice>

The default choice is YES as shown in the prompt.

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
```

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 ISSP command in LD 22. If there are NO DepLists available on the installation CD the summary should appear as shown below:

```
             ----------------------------------------

             INSTALLATION STATUS SUMMARY

             ----------------------------------------

 Option         Choice    Status        Comment

SW: CD to disk   yes       ok    from 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
```

Installation of DepList through software installation

The DepList should be installed during the software installation if it is present with the install software.

```
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
```

---

10 Confirm all options before installing the software.

```
>Processing the Install Control file

    >Installing release XXXXX

              INSTALLATION STATUS SUMMARY

-------------------------------------------

     ============+========+========+============
 |    Option    |   Choice   | Status |   Comment     |
 ================+========+========+=========
 | SW: CD to disk |    yes     |        | install for rel XXXXX|

     ============+========+========+============
 |    Option    |   Choice   | Status |   Comment     |
 ================+========+========+=========
 |  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
XXXXX
```

11 After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1>   Global 10 Languages

<2>   Western Europe 10 Languages

<3>   Eastern Europe 10 Languages

<4>   North America 6 Languages

<5>   Spare Group A

<6>   Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.

- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.

- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.

- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.

- 5 – Spare Group A.

- 6 – Spare Group B.

12 Continue with upgrade when prompted. Select a database to install. 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>
```

13 The system restores the database and provides a status summary.

Note: The hard drive on a new system displays an error message that no database is found on hard drive. This message can be ignored.

14 Enter **<CR>** when prompted, returning the system to the Install Menu.

15 Enter **q** to quit.

```
              I N S T A L L    M E N U

        The Software Installation Tool will
install or upgrade Succession Enterprise System
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

        Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

        <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
```

16 The system then prompts you to confirm and reboot.

```
You selected to Quit the Software Installation
Tool.

You may reboot the system or return to the Main
Menu.

Remove all disks from the system before rebooting.


        -----------------------------

        DO NOT REBOOT USING BUTTON!!!


        -----------------------------


        Please enter:
<CR> -> <a> - Reboot the system.

        <m> - Return to the Main menu.

        Enter Choice> <CR>

    >Removing (temporary files)




        >Rebooting system ...
```

Before completing the next procedure, wait for Core/Net 1 to initialize.

———————————— **End of Procedure** ————————————

Check for peripheral software download

Access LD 22 and print the Target peripheral software version.
(The Source peripheral software version was printed during the pre-conversion procedure.)

If there is a difference between the Source and Target peripheral software version, a forced download occurs during initialization when coming out of parallel reload. System initialization takes longer and established calls on IPE are dropped.

LD 22	Load program.
REQ	Print.
TYPE	PSWV.
ISS	Print issue and release.
TID	Print Tape/Aux ID.
ISSP	Print System, DepList, and Patch information
****	Exit program.

Transfer call processing from Core/Net 0 to Core/Net 1

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> Call Processing will be interrupted! Perform these next steps carefully. This is the point at which service is interrupted. Calls in process are interrupted, especially if Peripheral Software Download takes place. Some calls might be dropped.

> **WARNING**
>
> System initialization may take up to 15 minutes or longer.

Follow the steps in Procedure 268 on to transfer call processing from Core/Net 0 to Core/Net 1.

> **IMPORTANT!**
>
> Power up all applications (Meridian Mail, CallPilot, Symposium).

Procedure 316
Transferring call processing from Core/Net 0 to Core/Net 1

1   From Core/Net 0, the active side, transfer call processing to Core/Net 1:

    LD 135   Load program

    CUTOVR   The inactive CP become active

> ⚠️ **IMPORTANT!**
>
> Power down all applications (Meridian Mail, CallPilot, Symposium).

End of Procedure

Test Core/Net 1

Procedure 317
Testing call processing on Core/Net 1

1   Check for dial tone.

2   Make internal, external, and network calls.

3   Check attendant console activity.

4   Check DID trunks.

5   Check any auxiliary processors.

End of Procedure

> ✔️ Core/Net 1 is active, Clock Controller 1 is active, and the system is in split mode. From this point forward, Core/Net 0 is being upgraded with new software.

Upgrade Core/Net 0 hardware

Procedure 318
Upgrading Core/Net 0 hardware

1   Tag all faceplate cables on the CP card in Core/Net 0.

2   Disconnect all faceplate cables on the CP card in Core/Net 0.

3   Remove the CP card from the system in Core/Net 0.

4   Install the replacement CP card in Core/Net 0.

——————————— **End of Procedure** ———————————

Install software on Core/Net 0

Procedure 319
Installing the software and converting the database

1   Check that a terminal is connected to J25 on Core/Net 0.

2   In Core/Net 0, install the CD-ROM into the CD-ROM drive in the 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
XXXXXXX 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.

       <b> - To install Software, Database, CP-
BOOTROM.

       <c> - To install Database only.

       <d> - To install CP-BOOTROM only.

       <t> - To go to the Tools menu.

       <k> - To install Keycode only.

            For Feature Expansion, use OVL143.

       <p> - To install 3900 set Languages.

       <q> - Quit.

       Enter Choice> b
```

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 XXXXXXX_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
```

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 ISSP command in LD 22. If there are NO DepLists available on the installation CD the summary should appear as shown below:

```
       --------------------------------------------

              INSTALLATION STATUS SUMMARY

       --------------------------------------------

 Option         Choice    Status         Comment

SW: CD to disk   yes       ok    from 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
```

Installation of DepList through software installation

The DepList should be installed during the software installation if it is present with the install software.

```
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
XXXXX
```

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 initialize.

————————— **End of Procedure** —————————

Enable system redundancy

Procedure 320
Enabling system redundancy

1   From the active CPU, Core/Net 1, enable redundancy:

    LD 135   Load program

    JOIN   Synchronize the memory and drives

——— End of Procedure ———

> ✔ Core/Net 1 is active, Clock Controller 1 is active, and the system is in redundant mode. Core/Net 0 is inactive, Clock Controller 0 is inactive.

Test Core/Net 1 and Core/Net 0

Procedure 321
Testing Core/Net 1 and Core/Net 0

From the active CPU, Core/Net 1, perform these tests:

1   Perform a redundancy sanity test using the following sequence.

LD 135   Load program

STAT CNI c s   Get status of cCNI cards

STAT CPU   Get status of CPU and memory

TEST CPU   Test the CP PII card in both Core/Nets

TEST CNI c s   Test each cCNI card (core, slot)

STAT SUTL   Get status of System Utility (main and
                   Transition) cards

TEST SUTL   Test the System Utility (main and
                   Transition) cards

TEST IPB   Test the Inter Processor Bus

TEST LCD   Test LCDs

TEST LED   Test LEDs

2   Test system redundancy:

LD 137   Load program

TEST RDUN   Test redundancy

DATA RDUN

TEST CMDU   Test the CP PII MMDU card

3 Switch Cores and test the other side (Core/Net 0).

LD 135	Load program
SCPU	Switch cores
TEST CPU	Test the inactive Core/Net
STAT CNI c s	Get status of cCNI (both main and Transition) cards
TEST CNI c s	Test cCNI (both main and Transition) cards
STAT SUTL	Get status of System Utility card
TEST SUTL	Test System Util card
TEST IPB	Test Inter Processor Bus
TEST LCD	Test LCDs
TEST LED	Test LEDs

4 Clear the display and minor alarms on both Cores.

CDSP	Clear the displays on the Cores
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms

5 Get the status of the Cores, CNIs, and memory.

STAT CPU	Get the status of both Cores and redundancy
STAT CNI c s	Get the status of all configured cCNIs (both main and Transition) cards
****	Exit program

—————————— **End of Procedure** ——————————

Perform a data dump

Procedure 322
Performing a data dump

1   Load the LD 43. At the prompt, enter:

>   **LD 43**   Load program

2   Insert a floppy disk into the CP PII MMDU to capture the backup.

3   When "EDD000" appears on the terminal, enter:

>   **EDD**   Begin the data dump

4   When "DATABASE BACKUP COMPLETE" or "DATADUMP
    COMPLETE" appears on the terminal, enter:

>   ********   Exit program

CAUTION — Service Interruption

Loss of Data

If the data dump is not successful, do not continue.
Contact the technical support organization. Correct
any data dump problem before continuing.

The parallel reload procedure is complete.

Installing an IODU/C on Meridian 1 Options 61C, 81, 81C

CAUTION WITH ESDS DEVICES

To avoid damaging equipment from electrostatic discharge, wear a properly connected anti-static wrist strap when working on or near Meridian 1 equipment.

WARNING

Use the procedures in this section if the system is equipped with NT5D61 Input Output Disk Unit with CD-ROM (IODU/C) card(s). If the system is not equipped with the IODU/C card, do not use these procedures

This procedure is used to upgrade CP1, CP2, CP3 and CP4 systems with IOP/CMDU to IODUC cards.

To better understand the process, read through the entire procedure before beginning the conversion.

Prepare for installation

This document implements a source to target approach to performing an upgrade. It is important to correctly identify the source platform, target platform and maintenance window required to perform the upgrade.

Each chapter features check boxes indicating what condition the system should be in at that stage of the upgrade. If the system is not in the proper condition steps should be taken to correct this.

Each section is written to maintain Dial Tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 172:

Table 172
Prepare for upgrade steps

Procedure Step	Page
Planning	959
Upgrade Checklists	960
Preparing	960
Identifying the proper procedure	961
Connect a terminal	961
Print Site Data	962
Perform a template audit	964
Back up the database (data dump and ABKO)	966
Convert the 4 MByte database media to 2 MByte database media	968
Identify two unique IP addresses	968

Planning

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure sufficient power for new columns/modules or applications.

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.

- Prepare a contingency plan for backing out of the upgrade.

Upgrade Checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter on . Engineers may print this section in order to facilitate the upgrade.

Preparing

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Determine the current patch or Dep lists installed at the source platform.

- Determine the required patch or Dep lists at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and key code.

- Secure the target software and key code.

- Verify the new key code using the DKA program.

- Print site data.

Identifying the proper procedure

Each procedure has been written in a source to target format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

IMPORTANT!

Database backup information should be preserved for a minimum of 5 days.

Connect a terminal

Procedure 323
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/0 panel in the *inactive* Core or Core/Net module.

2 The settings for the terminal are:

    a. 9600 Baud

    b. 8 data

    c. parity none

    d. 1 stop bit

    e. full duplex

    f. XOFF

3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

End of Procedure

Print Site Data

Print site data to preserve a record of the system configuration (Table 173). 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 173
Print site data (Part 1 of 3)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>

Table 173
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	
		IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>

Table 173
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)

Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.

Note: The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.

> ⚠ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> Do not abort this overlay until the audit is complete. If the overlay is interrupted, data will be corrupted.

LD 01   The audit begins as soon as LD 01 is entered.

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

·

·

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

To back up system data, complete the following two procedures.

1 Perform a data dump to save all system memory to the hard disk.

2 Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 324
Performing a data dump

1 Log into the system.

2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

    LD 43   Load program

3 When "EDD000" appears on the terminal, enter:

    EDD   Begin the data dump

⚠ **CAUTION — Service Interruption**

Loss of Data

If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

---

4 The messages "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" will appear once the data dump is complete.

    ****   Exit program

———————————— **End of Procedure** ————————————

Procedure 325
Performing an ABKO (save the database to floppies)

1   Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

   Note: If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

2   Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

   LD 143   Load program

3   Run the ABKO backup (LD 143).

   ABKO   Run the backup

   Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

4   If there are validation errors, repeat the procedure.

⚠	**CAUTION — Service Interruption** **Loss of Data** If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PII.

5   Once the backup is complete, type:

   ****   Exit program

——————— **End of Procedure** ———————

Convert the 4 MByte database media to 2 MByte database media

> **IMPORTANT!**
>
> Database conversion for Meridian 1 Options 21E, 51, 61,71, STE, NT and XT must be completed by Nortel Software Conversion Lab. Consult the current Nortel price book for cost and contact information.
>
> If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.
>
> If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MByte floppy.
>
> All systems can be converted by Nortel in the software conversion lab.

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MByte floppy.

Identify two unique IP addresses

Each CP PII system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this

configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your systems administrator to identify two unique IP addresses before the upgrade.

- For instructions to configure these IP numbers, see "Configuring IP Addresses" in Book 1.

Perform installation

Parallel reload the Meridian 1 Option 61C and Meridian 1 81/81C CP3 CP4

Use the parallel reload procedures to convert from one software release to a later release or to up-issue software within the same software release. These parallel reload procedures are for software conversions only. Do *not* use this procedure for any other purpose. Parallel reloads can be done from either CPU. For the purposes of this document, the parallel reload begins with CPU 0.

If during the software conversion a problem is detected and it is determined that the system should revert back to the source release follow the "Parallel reload procedures" in Book 1.

Verify memory

Determine whether the system requires additional memory. Refer to "Installing IODU/C cards, CP cards, CP memory" on page 733 for memory requirements and upgrade procedures.

———————————————— **End of Procedure** ————————————————

Determine status (STAT) of the hardware

Procedure 326
Obtaining hardware status

1   Load LD 137 and get status of the hard disks.

Note: Be sure the hard disks are synchronized. If not, synchronize before proceeding.

LD 137	Load program
STAT	Get the status of the hard disks
SYNC	Synchronize hard disks if necessary (Synchronization may take up to 50 minutes)
TEST CMDU	Performs hard and floppy disk test
****	Exit program

2   Load LD 135 and determine the status of the CPs, CNIs and memory.

LD 135	Load program
STAT CPU	Get the status of both CPs and memory
STAT CNI	Get the status of all configured CNIs

3   Test the standby (inactive) CP. Then switch CPs, and test again.

TEST CPU	Test standby (inactive) CP

Wait until the terminal returns a complete test message. The message "HWI533 or HWI534" does not mean the test has completed!

SCPU	Switch CPs
TEST CPU	Test the standby (inactive) CP

Note: Testing the CPs can take up to 20 minutes for each test. When the test is complete, the memories are automatically synchronized.

———————————— **End of Procedure** ————————————

Split the Core processors

Procedure 327
Splitting the Core processors

1   Be sure CP 0 is active and CP1 is standby. If necessary, switch CPs
    again:

   STAT CPU

   SCPU   Switch CPs if necessary

   ****   Exit program

2   Verify that IODU/C 0 is active. If necessary, switch IODU/Cs.

   LD 137

   STAT   Get the status of IODU/C

   SWAP   Switch IODU/Cs (if necessary)

   ****   Exit program

3   Connect a terminal from the CPSI port in Core/Net 1 to J25 of the I/O
    panel at the back of the Core/Net. Be sure it is configured as follows. The
    recommended baud rate is 9600, to be the same as the CPSI port.

   7 data bits, 1 stop bit, Space parity, Full-duplex, XON protocol

4   Place CP 0 in Maintenance by setting the MAINT/NORM switch to
    MAINT.

5   In Core/Net 1, disable the CNI cards by setting the ENB/DIS faceplate
    switches to DIS.

6   Place CP1 in Maintenance by setting the MAINT/NORM switch to MAINT.

Note: Core 1 will now sysload. Allow the system to complete the sysload and INI. Review any sysload errors and correct before proceeding.

> ✔ System is now is split mode, Core 0 active, Clock Controller 0 is active if equipped with FNF. Rings are in half/half mode.

──────── **End of Procedure** ────────

Upgrade Core/Net 1 Hardware

Procedure 328
Upgrading hardware

1   Remove IOP/CMDU if replacing or upgrading to IODUC.

2   Install new CP cards in Core/Net 1.

3   Install new IODUC card in Core/Net 1.

Note: Ensure the provided security device is installed.

Install software on Core/Net 1

Procedure 329
Installing the system software on Core/Net 1

1   Place the CP Install disk that corresponds with the installed CP card type into the IODU/C in Core/Net 1.

2   Install the CD-ROM into the CD drive:

    a.   Press the button on the CD-ROM drive to open the CD-ROM disk holder.

    b.   Place the CD-ROM disk into the holder with the disk label showing.

    c.   Use the four tabs to secure the CD-ROM drive.

    d.   Press the button again to close the CD-ROM disk holder. Don't push the holder in by hand.

3   In Core/Net 1, perform the following three steps in uninterrupted
sequence:

  a.   In Core/Net 1 press and release the MAN RST button on the CP card.

  b.   Set the MAINT/NORM switch on the CP card to MAINT.

  c.   Release the MAN RST button.

A Sysload begins (cold start). Wait for the Main Menu to appear on the terminal
before proceeding.

> *Note 1:* If the CD-ROM is not in the CD drive of the IODU/C, the
> installation procedure will not continue. Insert the CD-ROM into the drive
> to continue.

> *Note 2:* If a problem is detected during the system verification, the Install
> process stops, prints an error message, and aborts the installation. If the
> verification is not successful, do not continue. Contact the technical
> support organization.

4   Press <CR> to continue.

5   Log into the system. Enter the time and date, when prompted.

6   Select yes or (no) when asked if a Signaling Server is connected.

```
 System Date and Time now is:

      Day-Month-Year, Hour:Min:Sec

      Succession Enterprise Software/Database/BOOTROM
 CDROM INSTALL Tool

      Does this System have a Signaling Server.....? (Default - No)

      Please enter:

 <CR> -> <n> - No

      <y> - Yes

      Enter Choice>
```

7   The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

```
                    M A I N   M E N U

        The Software Installation Tool will install or upgrade
    Succession Enterprise System Software, Database and the CP-
    BOOTROM. You will be prompted throughout the installation and
    given the opportunity to quit at any time.

        Please enter:

    <CR> -> <u> - To Install menu

        <t> - To Tools menu.

        <q> - Quit.

        Enter Choice> <CR>

    >Validating Keycode

     The provided keycode authorizes the install of XXXXXXX
    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.

---

8   The screen displays the Install Menu. Confirm that the keycode matches the CD-ROM release.

Please confirm that this keycode matches the CDROM Release

   Please enter:

<CR> -> <y> - Yes, the keycode matches. Go on to Install Menu.

   <n> - No, the keycode does not match. Try another keycode diskette.

   Enter Choice> **<CR>**

   >Obtain database file names

---

9   Enter **b** to install the Software, Database and CP-BOOTROM.

I N S T A L L   M E N U

   The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

   Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

   <b> - To install Software, Database, CP-BOOTROM.

   <c> - To install Database only.

   <d> - To install CP-BOOTROM only.

   <t> - To go to the Tools menu.

   <k> - To install Keycode only.

      For Feature Expansion, use OVL143.

   <p> - To install 3900 set Languages.

   <q> - Quit.

   Enter Choice> **b**

---

10 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 XXXXXXX_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

>Processing the Install Control file

>Installing release XXXXX

---

11 Confirm all options before installing the software.

```
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 XXXXX

12 After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1>   Global 10 Languages

<2>   Western Europe 10 Languages

<3>   Eastern Europe 10 Languages

<4>   North America 6 Languages

<5>   Spare Group A

<6>   Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.

- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.

- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.

- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.

- 5 – Spare Group A.

- 6 – Spare Group B.

13 Continue with upgrade when prompted. Select a database to install.

> Software release 4.x was installed successfully on Core X.
>
> All files were copied from CDROM to the hard disk.
>
> Please press <CR> when ready. **<CR>**
>
> You will now perform the database installation.
>
> Note: If you are installing the Database from a floppy disk, please insert the correct disk now. Perform data dump using the back up disk from Core/Net 1 and use this back up disk to install the customer database.
>
> Please enter:
>
> <CR> -> <a> - Install CUSTOMER Database
>
> (the customer database diskette must be in the Core X disk drive).
>
> <b> - Install DEFAULT Database
>
> (the installation CDROM must be in the Core X disk drive).
>
> <c> - Transfer the previous system Database.
>
> <e> - Check the Database that exists on the hard disk.
>
> <q> - Quit.
>
> Enter Choice> **<CR>**

14 Confirm database transfer.

> You selected to transfer the database from the floppy disk - release: XXXX to the hard disk on Core X. release: XXXX.
>
> This will erase the database on the hard disk.
>
> The database diskette has been inserted into the floppy disk drive.
>
> > If you quit now, the database will be left unchanged.
>
> > Please enter:
>
> <CR> -> <a> - Continue with Database Install.
>
> <q> - Quit.
>
> Enter Choice> **<CR>**

The system then informs you of the database details and prompts you to confirm.

> You have chosen to restore database dated:
> Month-Day-Hour Min:Sec:Year
>
> > Please confirm.
>
> > Please enter:
>
> <CR> -> <y> - Yes, load.
>
> > <n> - No, DO NOT load.
>
> > Enter Choice> **<CR>**

15 The system restores the database and provides a status summary.

Note: The hard drive on a new system displays an error message that no database is found on hard drive. This message can be ignored.

16 Enter **<CR>** when prompted, returning the system to the Install Menu.

17   Enter **q** to quit.

I N S T A L L   M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

<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**

---

18 The system then prompts you to confirm and reboot.

You selected to Quit the Software Installation Tool.

You may reboot the system or return to the Main Menu.

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** ————————

Note: If the system fails to load, or system messages indicate data corruption, back out of the parallel reload process by performing the steps in "Back out of the parallel reload and re-install old software" in Book 1.

Determine peripheral software version

Procedure 330
Checking peripheral software versions

1   Load LD 22 and print Target peripheral software version. The Source
peripheral software version was printed during the pre-conversion
procedure. If there is a difference between the Source and Target
peripheral software version, a forced download will occur during
initialization when coming out of parallel reload. System initialization will
take longer and established calls on IPE will be dropped.

LD 22	Load program
REQ	PRT
TYPE	PSWV
****	Exit program

Switch call processing to Core/Net 1

CAUTION — Service Interruption

Service Interruption

Call Processing will be interrupted! Perform these
next steps carefully. This is the point at which service
is interrupted. Calls in process are interrupted,
especially if Peripheral Software Download takes
place. Some calls might be dropped.

WARNING

System initialization may take up to 15 minutes or
longer.

<table>
<tr><td>⚠️</td><td>IMPORTANT!
Power down all applications (Meridian Mail, CallPilot, Symposium).</td></tr>
</table>

Procedure 331
Switching call processing from Core/Net 0 to Core/Net 1

1   In Core/Net 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

2   In Core/Net 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS and unseat it.

3   In Core/Net 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

4   In Core/Net 1, press the MAN INT button.

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, download up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all Fiji's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

<table>
<tr><td>⚠️</td><td>CAUTION — Service Interruption

Service Interruption

The INI may take up to15 minutes to complete.</td></tr>
</table>

<table>
<tr><td>✔️</td><td>CP1 is active, Clock 1 is active, IODU/C is active. If equipped, the FIJI ring is in half/half mode. Call processing is now switched from Core/Net 0 to Core/Net 1.</td></tr>
</table>

> **IMPORTANT!**
>
> Power up all applications (Meridian Mail, CallPilot, Symposium).

Procedure 332
Testing Core/Net 1

From Core/Net 1, perform these tests:

1   Check dial tone.

2   Make internal, external and network calls.

3   Check attendant console activity.

4   Check DID trunks.

5   Check applications (CallPilot, Symposium, Meridian Mail, etc.).

———————————— **End of Procedure** ————————————

Upgrade Core/Net 0 Hardware

Procedure 333
Upgrading Core/Net 0 hardware

1   Remove IOP/CMDU if replacing or upgrading to IODUC.

2   Install new CP cards in Core/Net 0.

3   Install new IODUC card in Core/Net 0.

———————————— **End of Procedure** ————————————

Install new software on Core/Net 0

Procedure 334
Installing the software and converting the database

1   Check that a terminal is connected to J25 on Core/Net 0.

2   In Core/Net 0, install the CD-ROM into the CD-ROM drive in the 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 IODU/C floppy drive.

Note: If a problem is detected during the system verification, Install stops, prints an error message, and aborts the installation. If the verification is not successful, do not continue; contact your technical support organization.

4   Press the manual RESET button on the CP card faceplate.

5   Select yes or (no) when asked if a Signaling Server is connected.

```
System Date and Time now is:

    Day-Month-Year, Hour:Min:Sec

    Succession Enterprise Software/Database/BOOTROM
CDROM INSTALL Tool

    Does this System have a Signaling Server.....? (Default - No)

    Please enter:

<CR> -> <n> - No

    <y> - Yes

    Enter Choice>
```

6   The system then enters the Main Menu for keycode authorization.
Remove the CP PII Install Program diskette and insert the Keycode
diskette.

M A I N   M E N U

   The Software Installation Tool will install or upgrade
Succession Enterprise System Software, Database and the CP-
BOOTROM. You will be prompted throughout the installation and
given the opportunity to quit at any time.

   Please enter:

<CR> -> <u> - To Install menu

   <t> - To Tools menu.

   <q> - Quit.

   Enter Choice> **<CR>**

>Validating Keycode

 The provided keycode authorizes the install of XXXXXXX
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.

  <b> - To install Software, Database, CP-BOOTROM.

  <c> - To install Database only.

  <d> - To install CP-BOOTROM only.

  <t> - To go to the Tools menu.

  <k> - To install Keycode only.

    For Feature Expansion, use OVL143.

  <p> - To install 3900 set Languages.

  <q> - Quit.

  Enter Choice> **b**

---

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 XXXXXXX_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

>Processing the Install Control file

>Installing release XXXXX

10 Confirm all options before installing the software.

```
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 XXXXX

11 After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1>   Global 10 Languages

<2>   Western Europe 10 Languages

<3>   Eastern Europe 10 Languages

<4>   North America 6 Languages

<5>   Spare Group A

<6>   Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.

- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.

- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.

- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.

- 5 – Spare Group A.

- 6 – Spare Group B.

12 Continue with upgrade when prompted. Select a database to install.

Software release 4.x was installed successfully on Core X.

    All files were copied from CDROM to the hard disk.

    Please press <CR> when ready. **<CR>**

    You will now perform the database installation.

    Note: If you are installing the Database from a floppy disk, please insert the correct disk now. Perform data dump using the back up disk from Core/Net 1 and use this back up disk to install the customer database.

    Please enter:

<CR> -> <a> - Install CUSTOMER Database

      (the customer database diskette must be in the Core X disk drive).

    <b> - Install DEFAULT Database

      (the installation CDROM must be in the Core X disk drive).

<c> - Transfer the previous system Database.

    <e> - Check the Database that exists on the hard disk.

    <q> - Quit.

    Enter Choice> **<CR>**

---

13 Confirm database transfer.

> You selected to transfer the database from the floppy disk - release: XXXX to the hard disk on Core X. release: XXXX.
>
> This will erase the database on the hard disk.
>
> The database diskette has been inserted into the floppy disk drive.
>
> > If you quit now, the database will be left unchanged.
> >
> > Please enter:
>
> <CR> -> <a> - Continue with Database Install.
>
> <q> - Quit.
>
> Enter Choice> **<CR>**

The system then informs you of the database details and prompts you to confirm.

> You have chosen to restore database dated:
> 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** ────────────────

Exit split mode

**Procedure 335
Exiting the split mode**

1   Connect CPSI port or maintenance SDI port.

2   Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.

3   Perform the following in uninterrupted sequence:

   •   Press and release the MAN RST button in Core/Net 0.

   •   When SYS700 messages appears on the LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

   In 60 seconds, the LCD lights and confirms the processes with:

   RUNNING ROM OS

   ENTERING CP VOTE

   An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

4   In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

─────────────────── **End of Procedure** ───────────────────

Test Core/Net 1 and Core/Net 0

Procedure 336
Testing Core/Net 0 and Core/Net 1

1   Perform a redundancy sanity test using the following sequence:

    LD 135

    STAT CNI   Get status of CNI cards

    STAT CPU   Get status of CPU and memory

    TEST CPU   Test the inactive Core/Net/Net

    TEST CNI c s   Test each inactive CNI card

2   Switch Core/Nets and test the other side (Core/Net 0)

    SCPU   Switch Core/Nets

    TEST CPU   Test the inactive Core/Net/Net

    TEST CNI c s   Test each inactive CNI card

Note: Testing the Call Processor and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the Call Processor test is complete, the Call Processor the memory is automatically synchronized.

3   Clear the display and minor alarms on both Core/Nets.

    CDSP   Clear the displays on the Core/Nets

    CMAJ   Clear major alarms

    CMIN ALL   Clear minor alarms

4   Get the status of the Core/Nets, CNIs, and memory.

    STAT CPU   Get the status of both Core/Nets

    STAT CNI   Get the status of all configured CNIs and memory

Note: You may need to execute the STAT CNI command twice before receiving a response from the system.

    ****   Exit program

———————————— **End of Procedure** ————————————

Switch the Clocks

Procedure 337
Switching the Clocks

1   Verify that the clock controller is assigned to the *active* Core.

    LD 60   Load the program

    SSCK *x*   Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1

    SWCK   Switch the Clock (if necessary)

    ****   Exit program

2   Verify that the Clock Controllers are switching correctly:.

    SWCK   Switch the Clock

    SWCK   Switch the Clock again

———————————— **End of Procedure** ————————————

If equipped, stat the FIJI rings

Procedure 338
Stat the rings

1   Check the status of Ring 0 and Ring 0.

LD 39	Load the program
STAT RING	Get the status of Ring 0
0	(Ring state should be HALF/HALF)

2   Check the status of Ring 0 and Ring 1.

LD 39	Load the program
STAT RING	Get the status of Ring 0
1	(Ring state should be HALF/HALF)

——————— **End of Procedure** ———————

Synchronize the hard disks

Procedure 339
Synchronizing the hard disks

1 Access LD 137 and synchronize the hard disks. Synchronization can take up to 50 minutes. To ensure that the contents of IODU/C 1 are copied to IODU/C 0, verify that IODU/C 0 is disabled.

LD 137	Load program
STAT	Get the status of the IODU/C and redundancy
SYNC	Enter "Yes" to synchronize disks (Wait until the memory synchronization successfully completes before continuing)
TEST CMDU	Perform hard and floppy disk test

2 Get the status of the CMDU's and be sure CMDU 0 is active. Switch if necessary.

STAT	Get the status of IODU/C and redundancy
SWAP	Switch CMDU if necessary
STAT CMDU	Get the status of the IODU/Cs. Be sure the same IODU/C and CPU are active
****	Exit program

Perform a data dump

Procedure 340
Performing a data dump

1   Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

   LD 43   Load program

2   When "EDD000" appears on the terminal, enter:

   EDD   Begin the data dump

3   When "DATABASE BACKUP COMPLETE" or "DATADUMP
   COMPLETE" appears on the terminal, enter the following:

   ****   Exit program

> ✔ The Parallel Reload process is complete. The system is
>   now running on the new IODUC.
>
>   System is now in redundant mode.

―――――――――――― **End of Procedure** ――――――――――

Note: Proceed to "Post-conversion procedure" on .

Installing a Call Processor card on Option 51C

This procedure is for systems equipped with IODU/C cards only. If your system is equipped with an IOP/CMDU or IOP and CMDU cards, refer to page 1004.

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> Installing the NT5D10 Call Processor card in the Meridian 1 Option 51C will require system downtime. Schedule for this when planning the system upgrade.

The Call Processor card must be removed from the system to perform this upgrade. This will cause loss of service to the whole telephone system. Plan the upgrade for a time when the impact to the telephone users will be minimal.

Installing an NT5D10 or NT5D03 Call Processor card in a Meridian 1 Option 51C system consists of:

• installing a new Call Processor card in the Core module.

• upgrading the system software and Call Processor ROMs.

Prepare for installation

This document implements a source to target approach to performing an upgrade. It is important to correctly identify the source platform, target platform and maintenance window required to perform the upgrade.

Each chapter features check boxes indicating what condition the system should be in at that stage of the upgrade. If the system is not in the proper condition steps should be taken to correct this.

Each section is written to maintain Dial Tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 174 below:

Table 174
Prepare for upgrade steps

Procedure Step	Page
Planning	1005
Upgrade Checklists	1006
Preparing	1006
Identifying the proper procedure	1007
Connect a terminal	1007
Print Site Data	1008
Perform a template audit	1010
Back up the database (data dump and ABKO)	1012
Identify two unique IP addresses	1014
Complete the upgrade	1019

Planning

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure sufficient power for new columns/modules or applications.

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.

- Prepare a contingency plan for backing out of the upgrade.

Upgrade Checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter on . Engineers may print this section in order to facilitate the upgrade.

Preparing

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Determine the current patch or Dep lists installed at the source platform.

- Determine the required patch or Dep lists at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and key code.

- Secure the target software and key code.

- Verify the new key code using the DKA program.

- Print site data.

Identifying the proper procedure

Each procedure has been written in a source to target format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

> ### IMPORTANT!
>
> Database backup information should be preserved for a minimum of 5 days.

Connect a terminal

Procedure 341
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/0 panel in the *inactive* Core or Core/Net module.

2   The settings for the terminal are:

   a.   9600 Baud

   b.   8 data

   c.   parity none

   d.   1 stop bit

   e.   full duplex

   f.   XOFF

3   If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

────────── **End of Procedure** ──────────

Print Site Data

Print site data to preserve a record of the system configuration (Table 175). 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 175
Print site data (Part 1 of 3)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>

Table 175
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	
		IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>

Table 175
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)

Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.

Note: The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.

⚠️ **CAUTION — Service Interruption**

Loss of Data

Do not abort this overlay until the audit is complete. If the overlay is interrupted, data will be corrupted.

LD 01 The audit begins as soon as LD 01 is entered.

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

To back up system data, complete the following two procedures.

1 Perform a data dump to save all system memory to the hard disk.

2 Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 342
Performing a data dump

1 Log into the system.

2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

> **LD 43**   Load program

3 When "EDD000" appears on the terminal, enter:

> **EDD**   Begin the data dump

	CAUTION — Service Interruption
⚠	**Loss of Data**
	If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

---

4 The messages "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" will appear once the data dump is complete.

> ********   Exit program

——————— **End of Procedure** ———————

Procedure 343
Performing an ABKO (save the database to floppies)

1   Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

Note: If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

2   Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

LD 143   Load program

3   Run the ABKO backup (LD 143).

ABKO   Run the backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

4   If there are validation errors, repeat the procedure.

CAUTION — Service Interruption

Loss of Data

If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PII.

---

5   Once the backup is complete, type:

****   Exit program

———————— **End of Procedure** ————————

Procedure 344
Converting to 2 MByte database media

> **IMPORTANT!**
>
> Database conversion for Meridian 1 Options 21E, 51, 61,71, STE, NT and XT must be completed by Nortel Software Conversion Lab. Consult the current Nortel price book for cost and contact information.
>
> If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.
>
> If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MByte floppy.
>
> All systems can be converted by Nortel in the software conversion lab.

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MByte floppy.

Identify two unique IP addresses

Each CP PII system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this

configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your systems administrator to identify two unique IP addresses before the upgrade.

- For instructions to configure these IP numbers, see "Configuring IP Addresses" in Book 1.

Perform installation

Procedure 345
Installing the CP card and CS 1000 Release 4.5 software

> **IMPORTANT!**
>
> Power down all applications (Meridian Mail, CallPilot, Symposium).

At this time you will install the new Call Processor card and CS 1000 Release 4.5 system software if it is not already installed on the hard drive.

1 Connect a terminal to the CPSI port in the Core module to J25 of the I/O panel at the back of the core. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.

2 7 data bits

3 1 stop bit

4 Space parity

5 Full duplex

6 XON protocol

7 Set the NORM/MAINT switch to MAINT, disengage the lock latches and remove the Call Processor card from the Core module.

8 Insert the Install diskette that corresponds to the Call Processor card you will be installing into the IODU/C.

9 Install the CD-ROM disk into the CD-ROM drive. To install the CD-ROM:

10 press the button on the CD-ROM drive to open the CD-ROM disk holder

11 place the CD-ROM disk into the holder with the disk label showing

12 press the button again to close the CD-ROM disk holder (don't push the holder in by hand)

13 Verify that the MAINT/NORM switch on the NT5D10 Call Processor card is set to NORM.

14 Verify that the ENB/DIS switch on the CNI card is set to ENB.

15 Insert the new Call Processor card in the same slot in the Core module and secure the lock latches.

16 The system will automatically load the software install program.

17 When the NT Logo Screen appears on the terminal, the Software Installation Tool has loaded. Press **<CR>** to go to the Install Main Menu.

18 Set the system date and time. When prompted to enter the time and date, enter it in the following format. A space or dash can be used to separate the items.

19 dd mm yyyy
hh mm ss
or
dd-mm-yyyy
hh-mm-ss

20 At the Main menu select **<u>** to go to the Install menu.

```
      Nortel Meridian - 1  Software/Database/PEROM CDROM INSTALL Tool (x11)
      —————————————————————————————————————————————
                        M A I N   M E N U
      The Software Installation Tool will install or upgrade Meridian-1
      System Software, Database and the PE-ROM (both CP and IOP ROM).
      You will be prompted throughout the installation and given the
      opportunity to quit at any time.

      Please enter:
 <CR>-->   <u> - To Install menu.

          <t> - To Tools menu.

          <q> - Quit.


      Enter choice > u                                  553-7780
```

21 Insert the Keycode diskette when prompted and select **<a>** to continue
with the keycode validation.

Nortel Meridian - 1 Software/Database/PEROM CDROM INSTALL Tool (x11)
— —

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.   553-7729

  <q> - Quit.

Enter Choice>

>Validating Keycode

Once the keycode is validated against the Security Device, the Install menu is
displayed.

22 When the Install menu appears, select the following options in sequence
when you are prompted to do so:

    <a>   to install software, CP-BOOT ROM and IOP-ROM

    <y>   to start installation

    <a>   to continue with the upgrade

23 Following the software installation, install the CP-BOOT and IOP-ROMs.
From the menu select the following:

    <a>   to continue with ROM upgrade

    <a>   to continue with ROM upgrade (CP-BOOT ROM)

    <y>   to start installation

    <a>   to continue with ROM upgrade (IOP-ROM)

---

24 Remove the diskette from the IODU/C.

25 Select the following options to quit and reload the system:

<q>   to quit

<yes>   to confirm quit

<a>   to reboot the system

The system will automatically perform a sysload and system initialization during which several messages will appear on the system terminal. Wait until initialization has finished (INI messages are no longer displayed on the system terminal) before continuing.

Note 1: SYS4695 is not an error message. This message is cleared when you perform a data dump.

Note 2: If you are converting from a Release prior to CS 1000 Release 4.5, the following message appears on the system terminal:

DATA CONVERSION

RELEASE xx.xx TO RELEASE xx.xx

26 Verify that the "DONE" message appears on the system terminal.

Note: The SYSTEM INI message may take 70 seconds or more to appear.

IMPORTANT!

Power up all applications (Meridian Mail, CallPilot, Symposium).

Complete the upgrade

Procedure 346
Completing the upgrade

To complete the Call Processor card upgrade, verify CPU and CNI status.

1   Verify CPU and CNI functionality:

    LD 135   Load the overlay

    STAT CPU   Check the CPU status

    STAT CNI   Verify CNI functionality

    ****   Exit program

2   Backup the customer database to 2mb diskettes:

3   Load the Equipment Data Dump Program (LD 43). At the prompt, enter

    LD 43   Load program

4   When "EDD000" appears on the terminal, enter

    EDD   Begin the data dump

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

5   When "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" appear on the terminal, enter:

    ****   Exit program

6 Evaluate the number of call registers and telephone buffers that are configured for the system. Refer to *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120).

> ✔ The Call Processor card upgrade is complete.

—————— **End of Procedure** ——————

Note: Proceed to "Post-conversion procedure" on .

Installing IODU/C on Meridian 1 Option 51C

CAUTION WITH ESDS DEVICES

To avoid damaging equipment from electrostatic discharge, wear a properly connected anti-static wrist strap when working on or near Meridian 1 equipment.

WARNING

Use the procedures in this section if the system is equipped with IOP/CMDU cards. If the system is not equipped with the IOP/CMDU card, do not use these procedures.

This procedure is used to upgrade CP1, CP2, CP3 and CP4 systems with IOP/CMDU to IODUC cards.

To better understand the process, read through the entire procedure before beginning the conversion.

"Database transfer" in Book 1 must be completed before proceeding.

Prepare for installation

This document implements a source to target approach to performing an upgrade. It is important to correctly identify the source platform, target platform and maintenance window required to perform the upgrade.

Each chapter features check boxes indicating what condition the system should be in at that stage of the upgrade. If the system is not in the proper condition steps should be taken to correct this.

Each section is written to maintain Dial Tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 176 below:

Table 176
Prepare for upgrade steps

Procedure Step	Page
Planning	1022
Upgrade Checklists	1023
Preparing	1023
Identifying the proper procedure	1024
Connect a terminal	1024
Print Site Data	1025
Perform a template audit	1027
Back up the database (data dump and ABKO)	1029
Convert the 4 MByte database media to 2 MByte database media	1031
Identify two unique IP addresses	1031

Planning

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure sufficient power for new columns/modules or applications.

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.

- Prepare a contingency plan for backing out of the upgrade.

Upgrade Checklists

Upgrade checklists can be found in the"Upgrade checklists" chapter on . Engineers may print this section in order to facilitate the upgrade.

Preparing

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Determine current patch or Dep lists installed at the source platform.

- Determine the required patch or Dep lists at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and key code.

- Secure the target software and key code.

- Verify the new key code using the DKA program.

- Print site data.

Identifying the proper procedure

Each procedure has been written in a source to target format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

> **IMPORTANT!**
>
> Database backup information should be preserved for a minimum of 5 days.

Connect a terminal

Procedure 347
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/0 panel in the *inactive* Core or Core/Net module.

2   The settings for the terminal are:

    a.   9600 Baud

    b.   8 data

    c.   parity none

    d.   1 stop bit

    e.   full duplex

    f.   XOFF

3   If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

———————— **End of Procedure** ————————

Print Site Data

Print site data to preserve a record of the system configuration ((Table 177) below). 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 177
Print site data (Part 1 of 3)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>

Table 177
Print site data (Part 2 of 3)

Site data	Print command	
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	
		IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>

Table 177
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)

Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.

Note: The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> Do not abort this overlay until the audit is complete. If the overlay is interrupted, data will be corrupted.

LD 01   The audit begins as soon as LD 01 is entered.

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**
TEMPLATE 0003 NO USERS FOUND	

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

-

-

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

To back up system data, complete the following two procedures.

1   Perform a data dump to save all system memory to the hard disk.

2   Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 348
Performing a data dump

1   Log into the system.

2   Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

   LD 43   Load program

3   When "EDD000" appears on the terminal, enter:

   EDD   Begin the data dump

⚠ **CAUTION — Service Interruption**

Loss of Data

If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

---

4   The messages "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" will appear once the data dump is complete.

   ****   Exit program

────────────── **End of Procedure** ──────────────

Procedure 349
Performing an ABKO (save the database to floppies)

1   Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

Note: If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

2   Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

    LD 143   Load program

3   Run the ABKO backup (LD 143).

    ABKO   Run the backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

4   If there are validation errors, repeat the procedure.

⚠	**CAUTION — Service Interruption**
	Loss of Data
	If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PII.

5   Once the backup is complete, type:

    ****   Exit program

———————— **End of Procedure** ————————

Convert the 4 MByte database media to 2 MByte database media

> **IMPORTANT!**
>
> If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility.
>
> If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility.
>
> All systems can be converted by Nortel in the software conversion lab.

Identify two unique IP addresses

Each CP PII system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

• Contact your systems administrator to identify two unique IP addresses before the upgrade.

• For instructions to configure these IP numbers, see "Configuring IP Addresses" in Book 1.

Perform installation

Verify memory

Determine whether the system requires additional memory. Refer to Table 178 on for memory requirement.

Table 178
Supported memory upgrade configurations (Part 1 of 2)

Total Memory	Total FLASH	Total DRAM	Call Processor 68060	68060E	Slot 0 X5	Slot 1 X6	Slot 2 X7	Slot 3 X8
48	32	16	NT5D10AA	NT5D03AA	16	0	0	0
64	32	32	NT5D10CA	NT5D03BA	16	16	0	0
					32	0	0	0
80	32	48	NT5D10EA	NT5D03CA	16	16	16	0
					16	32	0	0
96	32	64	NT5D10TA	NT5D03TA	16	16	16	16
					16	16	32	0
					32	32	0	0
112*	32	80	NT5D10UA	NT5D03UA	16	16	16	32
					16	32	32	0
128*	32	96	NT5D10VA	NT5D03VA	16	16	32	32
					32	32	32	0
96	64	32	N/A	N/A	16	16	0	0
					32	0	0	0
112	64	48	NT5D10JA	NT5D03EA	16	16	16	0
					16	32	0	0
128	64	64	N/A	NT5D03FA	16	16	16	16
128	64	64	NT5D10FB	NT5D03FB	16	16	16	16

* This configuration requires Release 24 or later.

** The 68040 CP card is available in A and B vintages. When labeling the CP card, use the appropriate vintage suffix.

Table 178
Supported memory upgrade configurations (Part 2 of 2)

| Total Memory | Total FLASH | Total DRAM | Call Processor | | Slot 0 | Slot 1 | Slot 2 | Slot 3 |
			68060	68060E	X5	X6	X7	X8
					16	16	32	0
					32	32	0	0
144*	64	80	NT5D10NA	NT5D03NA	16	16	16	32
					16	32	32	0
160*	64	96	NT5D10PB	NT5D03PB	16	16	32	32
					32	32	32	0

* This configuration requires Release 24 or later.

** The 68040 CP card is available in A and B vintages. When labeling the CP card, use the appropriate vintage suffix.

CS 1000 Release 4.5

Table 179 lists the memory requirements of CS 1000 Release 4.5.

Table 179
CS 1000 Release 4.5 memory requirements

System type	Flash memory requirement	DRAM memory requirement	Total memory requirement
Meridian 1 Options 51C/61C with CP3 (68060) or CP4 (68060E)	64 MByte	64 MByte	128 MByte
Meridian 1 Options 81/81C with or without Fibre Network Fabric	64 MByte	96 MByte	160 MByte
Meridian 1 Option 61C CP PII	NA	256 MByte	256 MByte
Meridian 1 Option 81C CP PII with or without Fibre Network Fabric	NA	256 MByte	256 MByte
Meridian 1 Option 61C CP PIV	NA	512 MBytes	512 Mbytes
Meridian 1 Option 81C CP PIV with or without Fibre Network Fabric	NA	512 MBytes	512 Mbytes

Note 1: CP1 (68030) and CP 2 (68040) Call Processors are not supported.

Note 2: All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PII systems are equipped with 256 MByte.

Note 3: All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PIV systems are equipped with 512 Mbytes.

STAT the hardware on the Meridian 1 Option 51C

Procedure 350
Determining the hardware status on the Meridian 1 Option 51C

1   Access LD 137 and get the status of the hard disk.

LD 137	Load program
STAT	Get the status of the hard disks

2   Access LD 135 and get status of the CP, CNI and memory.

LD 135	Load program
STAT CPU	Get the status of the CP and memory
STAT CNI	Get the status of the CNI

——————— **End of Procedure** ———————

Using the Database Transfer Utility

Procedure 351
Using the Database Transfer Utility

1   Place the database transfer utility disk that matches your system type into the floppy drive of Core/Net 1.

2   Press the manual reset button on the CP card in Core/Net 1.

3   When the Nortel Logo Screen appears on the terminal, the Database Transfer Utility has loaded. Press **<CR>** to continue.

> ⚠️ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> When using the Database Transfer Utility, do not select options other than those specified by this procedure. Selecting any other options can result in operating system corruption.

4   When the Main Menu appears, select **<d>** *To install Database only.*

5   Select **<c>** *to transfer the previous system database (DBMT).* Follow all on-screen instructions. When DBMT is complete, press **<CR>** to return to the Main Menu.

6   Select **<t>** to go to the Tools Menu

<s>	to archive existing database
<a>	to continue with archive (insert 2.0 Mbyte diskette into the floppy drive in Core 1)
<a>	diskette is now in floppy drive in side 1

The message "Database backup complete!" is displayed and the Tool menu reappears after the backup is successfully completed.

7   Remove the 2.0 Mbyte diskette containing the customer database from the IOP/CMDU floppy drive.

IMPORTANT!

Database backup information should be preserved for a minimum of 5 days.

---

8   When the database is converted to 2.0 Mbyte, place it in a safe place for use after the IOP/CMDU card is replaced with an IODU/C card, and continue with the system upgrade.

——————— **End of Procedure** ———————

Upgrade Core/Net 1 Hardware

Procedure 352
Upgrading Core/Net 1 hardware

1   Remove IOP/CMDU if replacing or upgrading to IODUC.

2   Install new CP cards in Core/Net 1.

3   Install new IODUC card in Core/Net 1.

Note: Ensure the provided security device is installed (see Figure 111 on).

Figure 111
Security Device holder
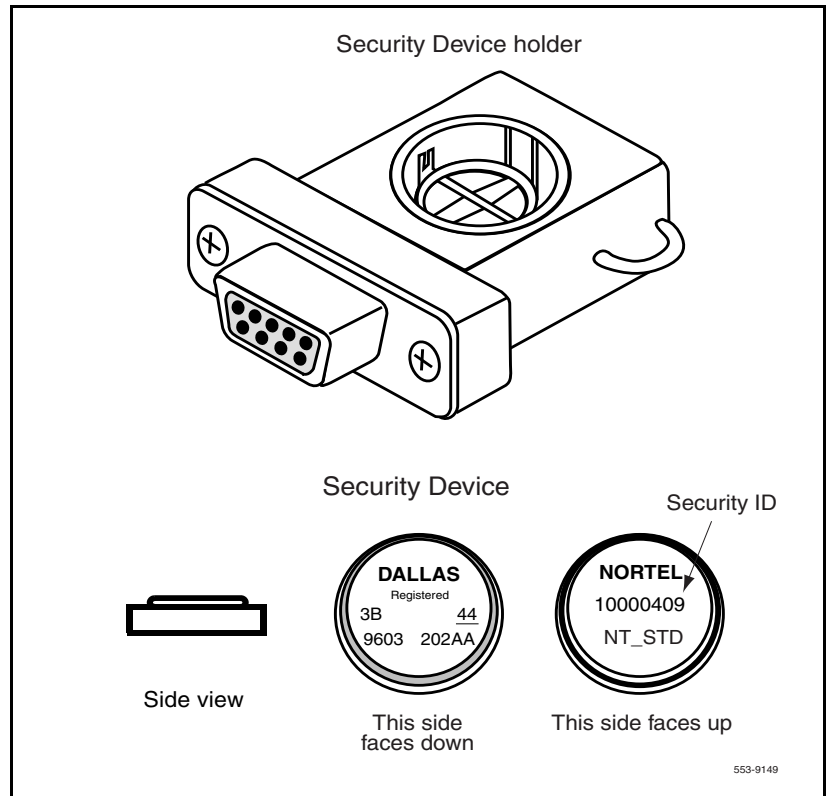
Security Device holder

Security Device

Security ID

DALLAS
Registered
3B   44
9603   202AA

NORTEL
10000409
NT_STD

Side view

This side
faces down

This side faces up

553-9149

————— **End of Procedure** —————

IMPORTANT!

Power down all applications (Meridian Mail, CallPilot, Symposium).

Install new software on Meridian 1 Option 51C

Procedure 353
Installing the software and converting the database

1   Install the CD-ROM into the CD-ROM drive in the MMDU:

   a.   Press the button on the CD-ROM drive to open the CD-ROM disk holder.

   b.   Place the CD-ROM disk into the holder with the disk label showing.

   c.   Press the button again to close the CD-ROM disk holder. Do not push the holder in by hand.

   Note: If the CD-ROM is not in the CD-ROM drive, the installation will not continue. Insert the CD-ROM to continue.

2   Place the Install floppy disk into the MMDU floppy drive.

   Note: If a problem is detected during the system verification, Install stops, prints an error message, and aborts the installation. If the verification is not successful, do not continue; contact your technical support organization.

3   Press the manual RESET button on the CP card faceplate.

4   Select yes or (no) when asked if a Signaling Server is connected.

System Date and Time now is:

    Day-Month-Year, Hour:Min:Sec

    Succession Enterprise Software/Database/BOOTROM
CDROM INSTALL Tool

    Does this System have a Signaling Server.....? (Default - No)

    Please enter:

<CR> -> <n> - No

    <y> - Yes

    Enter Choice>

---

5   The system then enters the Main Menu for keycode authorization.
Remove the CP PII Install Program diskette and insert the Keycode
diskette.

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 XXXXXXX
software

 (all subissues) for machine type XXXX

 (XXX processor on XXXX System)

IMPORTANT!

Remove install floppy disk at this time and insert the keycode diskette.

---

6   The screen displays the Install Menu. Confirm that the keycode matches the CD-ROM release.

Please confirm that this keycode matches the CDROM Release

Please enter:

<CR> -> <y> - Yes, the keycode matches. Go on to Install Menu.

<n> - No, the keycode does not match. Try another keycode diskette.

Enter Choice> **<CR>**

>Obtain database file names

---

7   Enter **b** to install the Software, Database and CP-BOOTROM.

```
 I N S T A L L   M E N U

      The Software Installation Tool will install or upgrade
 Succession Enterprise System Software, Database and the CP-
 BOOTROM. You will be prompted throughout the installation and
 given the opportunity to quit at any time.

      Please enter:

 <CR> -> <a> - To install Software, CP-BOOTROM.

      <b> - To install Software, Database, CP-BOOTROM.

      <c> - To install Database only.

      <d> - To install CP-BOOTROM only.

      <t> - To go to the Tools menu.

      <k> - To install Keycode only.

          For Feature Expansion, use OVL143.

      <p> - To install 3900 set Languages.

      <q> - Quit.

      Enter Choice> b
```

8   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 XXXXXXX_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

>Processing the Install Control file

   >Installing release XXXXX

---

9   Confirm all options before installing the software.

```
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 XXXXX

10   After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1>   Global 10 Languages

<2>   Western Europe 10 Languages

<3>   Eastern Europe 10 Languages

<4>   North America 6 Languages

<5>   Spare Group A

<6>   Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.

- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.

- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.

- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.

- 5 – Spare Group A.

- 6 – Spare Group B.

11 Continue with upgrade when prompted. Select a database to install.

Software release 4.x was installed successfully on Core X.

All files were copied from CDROM to the hard disk.

Please press <CR> when ready. **<CR>**

You will now perform the database installation.

Note: If you are installing the Database from a floppy disk, please insert the correct disk now. Perform data dump using the back up disk from Core/Net 1 and use this back up disk to install the customer database.

Please enter:

<CR> -> <a> - Install CUSTOMER Database

(the customer database diskette must be in the Core X disk drive).

<b> - Install DEFAULT Database

(the installation CDROM must be in the Core X disk drive).

<c> - Transfer the previous system Database.

<e> - Check the Database that exists on the hard disk.

<q> - Quit.

Enter Choice> **<CR>**

---

12 Confirm database transfer.

You selected to transfer the database from the floppy disk - release: XXXX to the hard disk on Core X. release: XXXX.

This will erase the database on the hard disk.

The database diskette has been inserted into the floppy disk drive.

   If you quit now, the database will be left unchanged.

   Please enter:

<CR> -> <a> - Continue with Database Install.

<q> - Quit.

Enter Choice> **<CR>**

The system then informs you of the database details and prompts you to confirm.

 You have chosen to restore database dated:
Month-Day-Hour Min:Sec:Year

   Please confirm.

   Please enter:

<CR> -> <y> - Yes, load.

   <n> - No, DO NOT load.

   Enter Choice> **<CR>**

---

13 The system restores the database and provides a status summary.

Note: The hard drive on a new system displays an error message that no database is found on hard drive. This message can be ignored.

14 Enter **<CR>** when prompted, returning the system to the Install Menu.

15 Enter **q** to quit.

```
                    I N S T A L L   M E N U

       The Software Installation Tool will install or upgrade
   Succession Enterprise System Software, Database and the CP-
   BOOTROM. You will be prompted throughout the installation and
   given the opportunity to quit at any time.

       Please enter:

   <CR> -> <a> - To install Software, CP-BOOTROM.

       <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
```

16 The system then prompts you to confirm and reboot.

You selected to Quit the Software Installation Tool.

You may reboot the system or return to the Main Menu.

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 the Core/Net to INI.

─────── **End of Procedure** ───────

IMPORTANT!

Power up all applications (Meridian Mail, CallPilot, Symposium).

Complete the upgrade

Procedure 354
Completing the upgrade

1   Perform a redundancy sanity test using the following sequence:

    LD 135   Load program

    STAT CNI   Get status of CNI card

    STAT CPU   Get status of CPU and memory

2   Clear the display and minor alarms.

    CDSP   Clear the displays on the Cores

    CMAJ   Clear major alarms

    CMIN ALL   Clear minor alarms

    ****   Exit program

3   Check dial tone.

4   Make internal, external and network calls.

5   Check attendant console activity.

6   Check DID trunks.

Note: Proceed to "Post-conversion procedure" on .

———————————— **End of Procedure** ————————————

Installing a Call Processor on Options 61C, 81, 81C

> **CAUTION WITH ESDS DEVICES**
>
> To avoid damaging equipment from electrostatic discharge, wear a properly connected anti-static wrist strap when working on or near Meridian 1 equipment.

> **WARNING**
>
> Use the procedures in this section if the system is equipped with NT5D61 Input Output Disk Unit with CD-ROM (IODU/C) card(s). If the system is not equipped with the IODU/C card, do not use these procedures.

> **WARNING**
>
> **Service Interruption**
>
> The Call Processor card must be removed from the system to perform this upgrade, causing loss of service to the entire telephone system. Plan to perform the upgrade when impact to telephone users is minimal.

This procedure is for systems equipped with IODU/C cards only. If your system is equipped with an IOP/CMDU or IOP and CMDU cards, they must be upgraded first.

Installing an NT5D10 or NT5D03 Call Processor card in a Meridian 1 Option 51C system consists of:

• Installing a new Call Processor card in the Core module.

• Upgrading the system software and Call Processor ROMs.

Prepare for installation

This document implements a source to target approach to performing an upgrade. It is important to correctly identify the source platform, target platform and maintenance window required to perform the upgrade.

Each chapter features check boxes indicating what condition the system should be in at that stage of the upgrade. If the system is not in the proper condition steps should be taken to correct this.

Each section is written to maintain Dial Tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 180 below:

Table 180
Prepare for upgrade steps

Procedure Step	Page
Planning	1052
Upgrade Checklists	1053
Preparing	1053
Identifying the proper procedure	1054
Connect a terminal	1054
Print Site Data	1055
Perform a template audit	1058
Back up the database (data dump and ABKO)	1059
Convert the 4 MByte database media to 2 MByte database media	1062
Identify two unique IP addresses	1062

Planning

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

- Ensure sufficient power for new columns/modules or applications.

- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.

- Prepare a contingency plan for backing out of the upgrade.

Upgrade Checklists

Upgrade checklists can be found in the "Upgrade checklists" chapter on . Engineers may print this section in order to facilitate the upgrade.

Preparing

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).

- Verify proper cable lengths for the target platform.

- Verify card vintage requirements of the target platform.

- Determine the current patch or Dep lists installed at the source platform.

- Determine the required patch or Dep lists at the target platform.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and key code.

- Secure the target software and key code.

- Verify the new key code using the DKA program.

- Print site data.

Identifying the proper procedure

Each procedure has been written in a source to target format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

> **IMPORTANT!**
>
> Database backup information should be preserved for a minimum of 5 days.

Connect a terminal

Procedure 355
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/0 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.

Print site data

──────── **End of Procedure** ────────

Print Site Data

Print site data to preserve a record of the system configuration ((Table 181) below). 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 181
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 181
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 181
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 181
Print site data (Part 4 of 4)

Site data	Print command	
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)

Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.

Note: The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> Do not abort this overlay until the audit is complete. If the overlay is interrupted, data will be corrupted.

LD 01   The audit begins as soon as LD 01 is entered.

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW	**CHECKSUM OK**
TEMPLATE 0002 USER COUNT HIGH	**CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK	**CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK	**CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

To back up system data, complete the following two procedures.

1   Perform a data dump to save all system memory to the hard disk.

2   Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 356
Performing a data dump

1   Log into the system.

2   Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

    LD 43   Load program

3   When "EDD000" appears on the terminal, enter:

    EDD   Begin the data dump

> ⚠️ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

4   The messages "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" will appear once the data dump is complete.

    ****   Exit program

———————————— **End of Procedure** ————————————

Procedure 357
Performing an ABKO (save the database to floppies)

1   Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

Note: If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

2   Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

>   **LD 143**   Load program

3   Run the ABKO backup (LD 143).

>   **ABKO**   Run the backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

4   If there are validation errors, repeat the procedure.

> ⚠ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PII.

5   Once the backup is complete, type:

>   ********   Exit program

——————————— **End of Procedure** ———————————

Convert the 4 MByte database media to 2 MByte database media

> **IMPORTANT!**
>
> Database conversion for Meridian 1 Options 21E, 51, 61,71, STE, NT and XT must be completed by Nortel Software Conversion Lab. Consult the current Nortel price book for cost and contact information.
>
> If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.
>
> If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MByte floppy.
>
> All systems can be converted by Nortel in the software conversion lab.

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See "Using the Database Transfer Utility" on page 1035.

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MByte floppy.

Identify two unique IP addresses

Each CP PII system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this

configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your systems administrator to identify two unique IP addresses before the upgrade.

- For instructions to configure these IP numbers, see "Configuring IP Addresses" in Book 1.

Perform installation

Parallel reload the Meridian 1 Option 61C and Meridian 1 81/81C CP3 CP4

> *Note:* This procedure does not include instructions for installing new IODU/C cards or CP cards. If required, refer to "Installing a Call Processor card on Options 61C CP PII, 81C CP PII" on page 900 and "Installing a Call Processor card on Option 51C" on page 1004.

Parallel reloads can be done from either CPU. For the purposes of this document, the parallel reload begins with CPU 0.

If during the software conversion a problem is detected and it is determined that the system should revert back to the source release follow the "Parallel reload procedures" in Book 1.

Verify memory

Determine whether the system requires additional memory. Refer to "Installing IODU/C cards, CP cards, CP memory" on page 733 for memory requirements and upgrade procedures.

Determine status (STAT) of the hardware

Procedure 358
Obtaining hardware status

1   Load LD 137 and get status of the hard disks.

Note: Be sure the hard disks are synchronized. If not, synchronize before proceeding.

LD 137	Load program
STAT	Get the status of the hard disks
SYNC	Synchronize hard disks if necessary (Synchronization may take up to 50 minutes)
TEST CMDU	Performs hard and floppy disk test
****	Exit program

2   Load LD 135 and determine the status of the CPs, CNIs and memory.

LD 135	Load program
STAT CPU	Get the status of both CPs and memory
STAT CNI	Get the status of all configured CNIs

3   Test the standby (inactive) CP. Then switch CPs, and test again.

TEST CPU	Test standby (inactive) CP

Wait until the terminal returns a complete test message. The message "HWI533 or HWI534" does not mean the test has completed!

SCPU	Switch CPs
TEST CPU	Test the standby (inactive) CP

4   Check total memory allocation before the upgrade.

LD 10	Load program

When the header for LD 10 is displayed, note the value associated with Total Memory. After the upgrade, compare Total Memory before and after the upgrade. Total Memory should be greater after the upgrade.

Exit the program:

****   Exit program

Note: Testing the CPs can take up to 20 minutes for each test. When the test is complete, the memories are automatically synchronized.

———————— **End of Procedure** ————————

Split the Core processors

Procedure 359
Splitting the Core processors

1   Be sure CP 0 is active and CP1 is standby. If necessary, switch CPs again:

   STAT CPU

   SCPU   Switch CPs if necessary

   ****   Exit program

2   Verify that IODU/C 0 is active. If necessary, switch IODU/Cs.

   LD 137

   STAT   Get the status of IODU/C

   SWAP   Switch IODU/Cs (if necessary)

   ****   Exit program

3   Connect a terminal from the CPSI port in Core/Net 1 to J25 of the I/O panel at the back of the Core/Net. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.

   7 data bits, 1 stop bit, Space parity, Full-duplex, XON protocol

4   Place CP 0 in Maintenance by setting the MAINT/NORM switch to MAINT.

5   In Core/Net 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

6   Place CP1 in Maintenance by setting the MAINT/NORM switch to MAINT.

Note: Core 1 will now sysload. Allow the system to complete the sysload and INI. Review any sysload errors and correct before proceeding.

System is now is split mode, Core 0 active, Clock Controller 0 is active if equipped with FNF. Rings are in half/half mode.

End of Procedure

Upgrade Core/Net 1 hardware

Procedure 360
Upgrading Core/Net 1 hardware

1   Tag all faceplate cables on the CP card in Core/Net 1.

2   Disconnect all faceplate cables on the CP card in Core/Net 1

3   Remove the CP card from the system in Core/Net 1

4   Install the replacement CP card in Core/Net 1.

Reconnect all faceplate cables.

End of Procedure

Install software on Core/Net 1

Procedure 361
Installing the system software on Core/Net 1

1   Place the CP Install disk that corresponds with the installed CP card type into the IODU/C in Core/Net 1.

2   Install the CD-ROM into the CD drive:

    a.   Press the button on the CD-ROM drive to open the CD-ROM disk holder.

    b.   Place the CD-ROM disk into the holder with the disk label showing.

    c.   Use the four tabs to secure the CD-ROM drive.

    d.   Press the button again to close the CD-ROM disk holder. Don't push the holder in by hand.

3   In Core/Net 1, perform the following three steps in uninterrupted sequence:

    a.   In Core/Net 1 press and release the MAN RST button on the CP card.

    b.   Set the MAINT/NORM switch on the CP card to MAINT.

    c.   Release the MAN RST button.

A Sysload begins (cold start). Wait for the Main Menu to appear on the terminal before proceeding.

>*Note 1:* If the CD-ROM is not in the CD drive of the IODU/C, the installation procedure will not continue. Insert the CD-ROM into the drive to continue.

>*Note 2:* If a problem is detected during the system verification, the Install process stops, prints an error message, and aborts the installation. If the verification is not successful, do not continue. Contact the technical support organization.

4   Press <CR> to continue.

5   Log into the system. Enter the time and date, when prompted.

6   Select yes or (no) when asked if a Signaling Server is connected.

```
 System Date and Time now is:

     Day-Month-Year, Hour:Min:Sec

     Succession Enterprise Software/Database/BOOTROM
CDROM INSTALL Tool

     Does this System have a Signaling Server.....? (Default - No)

     Please enter:

<CR> -> <n> - No

     <y> - Yes

     Enter Choice>
```

7   The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

```
                  M A I N   M E N U

     The Software Installation Tool will install or upgrade
Succession Enterprise System Software, Database and the CP-
BOOTROM. You will be prompted throughout the installation and
given the opportunity to quit at any time.

     Please enter:

<CR> -> <u> - To Install menu

     <t> - To Tools menu.

     <q> - Quit.

     Enter Choice> <CR>

>Validating Keycode

 The provided keycode authorizes the install of XXXXXXX
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.

---

8   The screen displays the Install Menu. Confirm that the keycode matches the CD-ROM release.

Please confirm that this keycode matches the CDROM Release

    Please enter:

<CR> -> <y> - Yes, the keycode matches. Go on to Install Menu.

    <n> - No, the keycode does not match. Try another keycode diskette.

    Enter Choice> **<CR>**

    >Obtain database file names

---

9   Enter **b** to install the Software, Database and CP-BOOTROM.

I N S T A L L   M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

<b> - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> **b**

---

10 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 XXXXXXX_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

>Processing the Install Control file

>Installing release XXXXX

---

11 Confirm all options before installing the software.

```
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 XXXXX

12 After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1>   Global 10 Languages

<2>   Western Europe 10 Languages

<3>   Eastern Europe 10 Languages

<4>   North America 6 Languages

<5>   Spare Group A

<6>   Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.

- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.

- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.

- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.

- 5 – Spare Group A.

- 6 – Spare Group B.

13 Continue with upgrade when prompted. Select a database to install.

Software release 4.x was installed successfully on Core X.

All files were copied from CDROM to the hard disk.

Please press <CR> when ready. **<CR>**

You will now perform the database installation.

Note: If you are installing the Database from a floppy disk, please insert the correct disk now. Perform data dump using the back up disk from Core/Net 1 and use this back up disk to install the customer database.

Please enter:

<CR> -> <a> - Install CUSTOMER Database

(the customer database diskette must be in the Core X disk drive).

<b> - Install DEFAULT Database

(the installation CDROM must be in the Core X disk drive).

<c> - Transfer the previous system Database.

<e> - Check the Database that exists on the hard disk.

<q> - Quit.

Enter Choice> **<CR>**

---

14 Confirm database transfer.

You selected to transfer the database from the floppy disk - release: XXXX to the hard disk on Core X. release: XXXX.

This will erase the database on the hard disk.

The database diskette has been inserted into the floppy disk drive.

    If you quit now, the database will be left unchanged.

    Please enter:

<CR> -> <a> - Continue with Database Install.

<q> - Quit.

Enter Choice> **<CR>**

The system then informs you of the database details and prompts you to confirm.

 You have chosen to restore database dated:
Month-Day-Hour Min:Sec:Year

    Please confirm.

    Please enter:

<CR> -> <y> - Yes, load.

    <n> - No, DO NOT load.

    Enter Choice> **<CR>**

---

15 The system restores the database and provides a status summary.

Note: The hard drive on a new system displays an error message that no database is found on hard drive. This message can be ignored.

16 Enter **<CR>** when prompted, returning the system to the Install Menu.

17 Enter **q** to quit.

I N S T A L L   M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

<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**

---

18 The system then prompts you to confirm and reboot.

You selected to Quit the Software Installation Tool.

You may reboot the system or return to the Main Menu.

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** ────────

Determine peripheral software version

Procedure 362
Checking peripheral software versions

1   Load LD 22 and print Target peripheral software version. The Source
      peripheral software version was printed during the pre-conversion
      procedure. If there is a difference between the Source and Target
      peripheral software version, a forced download will occur during
      initialization when coming out of parallel reload. System initialization will
      take longer and established calls on IPE will be dropped.

LD 22	Load program
REQ	PRT
TYPE	PSWV
****	Exit program

Switch call processing to Core/Net 1

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> Call Processing will be interrupted! Perform these next
> steps carefully. This is the point at which service is
> interrupted. Calls in process are interrupted, especially if
> Peripheral Software Download takes place. Some calls
> might be dropped.

> **WARNING**
>
> System initialization may take up to 15 minutes or longer.

> **IMPORTANT!**
>
> Power down all applications (Meridian Mail, CallPilot, Symposium).

Procedure 363
Switching call processing from Core/Net 0 to Core/Net 1

1   In Core/Net 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

2   In Core/Net 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS and unseat it.

3   In Core/Net 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

4   In Core/Net 1, press the MAN INT button.

> Call processing is now switched from Core/Net 0 to Core/Net 1.

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> The INI may take up to15 minutes to complete.

> **IMPORTANT!**
>
> Power up all applications (Meridian Mail, CallPilot, Symposium).

———— **End of Procedure** ————

Test Core/Net 1

**Procedure 364
Testing Core/Net 1**

From Core/Net 1, perform these tests:

1   Check dial tone.

2   Make internal, external and network calls.

3   Check attendant console activity.

4   Check DID trunks.

5   Check applications (CallPilot, Symposium, Meridian Mail, etc.).

> CP1 is active, Clock 1 is active, IODU/C is active. If equipped, the FIJI ring is in half/half mode.

———— **End of Procedure** ————

Upgrade Core/Net 0 hardware

**Procedure 365
Upgrading Core/Net 0 hardware**

1   Tag all faceplate cables on the CP card in Core/Net 0.

2   Disconnect all faceplate cables on the CP card in Core/Net 0.

3   Remove the CP card from the system in Core/Net 0.

4   Install the replacement CP card in Core/Net 0.

———— **End of Procedure** ————

Install new software on Core/Net 0

Procedure 366
Installing the software and converting the database

1   Check that a terminal is connected to J25 on Core/Net 0.

2   In Core/Net 0, install the CD-ROM into the CD-ROM drive in the 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 IODU/C floppy drive.

   Note: If a problem is detected during the system verification, Install stops, prints an error message, and aborts the installation. If the verification is not successful, do not continue; contact your technical support organization.

4   Press the manual RESET button on the CP card faceplate.

5   Select yes or (no) when asked if a Signaling Server is connected.

System Date and Time now is:

   Day-Month-Year, Hour:Min:Sec

   Succession Enterprise Software/Database/BOOTROM
CDROM INSTALL Tool

   Does this System have a Signaling Server.....? (Default - No)

   Please enter:

<CR> -> <n> - No

   <y> - Yes

   Enter Choice>

---

6   The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

M A I N   M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu

<t> - To Tools menu.

<q> - Quit.

Enter Choice> **<CR>**

>Validating Keycode

The provided keycode authorizes the install of XXXXXXX 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.

    <b> - To install Software, Database, CP-BOOTROM.

    <c> - To install Database only.

    <d> - To install CP-BOOTROM only.

    <t> - To go to the Tools menu.

    <k> - To install Keycode only.

       For Feature Expansion, use OVL143.

    <p> - To install 3900 set Languages.

    <q> - Quit.

    Enter Choice> **b**

---

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 XXXXXXX_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

>Processing the Install Control file

>Installing release XXXXX

---

10 Confirm all options before installing the software.

```
 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 XXXXX

11   After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1>   Global 10 Languages

<2>   Western Europe 10 Languages

<3>   Eastern Europe 10 Languages

<4>   North America 6 Languages

<5>   Spare Group A

<6>   Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.

- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.

- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.

- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.

- 5 – Spare Group A.

- 6 – Spare Group B.

12 Continue with upgrade when prompted. Select a database to install.

Software release 4.x was installed successfully on Core X.

All files were copied from CDROM to the hard disk.

Please press <CR> when ready. **<CR>**

You will now perform the database installation.

Note: If you are installing the Database from a floppy disk, please insert the correct disk now. Perform data dump using the back up disk from Core/Net 1 and use this back up disk to install the customer database.

Please enter:

<CR> -> <a> - Install CUSTOMER Database

   (the customer database diskette must be in the Core X disk drive).

<b> - Install DEFAULT Database

   (the installation CDROM must be in the Core X disk drive).

<c> - Transfer the previous system Database.

<e> - Check the Database that exists on the hard disk.

<q> - Quit.

Enter Choice> **<CR>**

---

13 Confirm database transfer.

> You selected to transfer the database from the floppy disk - release:
> XXXX to the hard disk on Core X. release: XXXX.
>
> This will erase the database on the hard disk.
>
> The database diskette has been inserted into the floppy disk drive.
>
> > If you quit now, the database will be left unchanged.
> >
> > Please enter:
>
> <CR> -> <a> - Continue with Database Install.
>
> <q> - Quit.
>
> Enter Choice> **<CR>**

The system then informs you of the database details and prompts you to confirm.

> You have chosen to restore database dated:
> 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** ———————————

Exit split mode

Procedure 367
Exiting split mode

1   Connect CPSI port or maintenance SDI port.

2   Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.

3   Perform the following in uninterrupted sequence:

   • Press and release the MAN RST button in Core/Net 0.

   • When SYS700 messages appears on the LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

   In 60 seconds, the LCD lights and confirms the processes with:

   RUNNING ROM OS

   ENTERING CP VOTE

   An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

4   In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

———————————— **End of Procedure** ————————————

Test Core/Net 1 and Core/Net 0

Procedure 368
Testing Core/Net 0 and Core/Net 1

1 Perform a redundancy sanity test using the following sequence:

LD 135

STAT CNI	Get status of CNI cards
STAT CPU	Get status of CPU and memory
TEST CPU	Test the inactive Core/Net/Net
TEST CNI c s	Test each inactive CNI card

2 Switch Core/Nets and test the other side (Core/Net 0)

SCPU	Switch Core/Nets
TEST CPU	Test the inactive Core/Net/Net
TEST CNI c s	Test each inactive CNI card

Note: Testing the Call Processor and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the Call Processor test is complete, the Call Processor the memory is automatically synchronized.

3 Clear the display and minor alarms on both Core/Nets.

CDSP	Clear the displays on the Core/Nets
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms

4 Get the status of the Core/Nets, CNIs, and memory.

STAT CPU	Get the status of both Core/Nets
STAT CNI	Get the status of all configured CNIs and memory

5 Check for dial tone.

6   Make internal, external, and network calls.

7   Check attendant console activity.

8   Check DID trunks.

9   Check any auxiliary processors.

> *Note:* You may need to execute the STAT CNI command twice before receiving a response from the system.

    ****   Exit program

———————————— **End of Procedure** ————————————

Switch the Clocks

Procedure 369
Switching the Clocks

1   Verify that the clock controller is assigned to the *active* Core.

LD 60	Load program
SSCK *x*	Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1
SWCK	Switch the Clock (if necessary)
****	Exit program

2   Verify that the Clock Controllers are switching correctly:.

SWCK	Switch the Clock
SWCK	Switch the Clock again

———————————— **End of Procedure** ————————————

If equipped, stat the FIJI rings

Procedure 370
Stat the rings

1   Check the status of Ring 0 and Ring 0.

LD 39	Load program
STAT RING 0	Get the status of Ring 0 (Ring state should be HALF/HALF)

2   Check the status of Ring 0 and Ring 1.

LD 39	Load program
STAT RING 1	Get the status of Ring 0 (Ring state should be HALF/HALF)

——————————— **End of Procedure** ———————————

Synchronize the hard disks

Procedure 371
Synchronizing the hard disks

1   Access LD 137 and synchronize the hard disks. Synchronization can take up to 50 minutes. To ensure that the contents of IODU/C 1 are copied to IODU/C 0, verify that IODU/C 0 is disabled.

LD 137	Load program
STAT	Get the status of the IODU/C and redundancy
SYNC	Enter "Yes" to synchronize disks (Wait until the memory synchronization successfully completes before continuing)
TEST CMDU	Perform hard and floppy disk test

2   Get the status of the CMDU's and be sure CMDU 0 is active. Switch if necessary.

STAT	Get the status of IODU/C and redundancy
SWAP	Switch CMDU (if necessary)
STAT CMDU	Get the status of the IODU/Cs (Be sure the same IODU/C and CPU are active)
****	Exit program

——————— **End of Procedure** ———————

Perform a data dump

Procedure 372
Performing a data dump

1   Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

    LD 43   Load program

2   When "EDD000" appears on the terminal, enter:

    EDD   Begin the data dump

3   When "DATABASE BACKUP COMPLETE" or "DATADUMP
    COMPLETE" appears on the terminal, enter the following:

    ****   Exit program

———————————— **End of Procedure** ————————————

> The Parallel Reload process is complete. The system is
> now running on the upgraded CP card.
>
> System is now in redundant mode.

Upgrade to an NTRB53 Clock Controller

Note: The NTRB53 Clock Controller cannot be combined with a
QPC775 or a QPC471 card.

Procedure 373
Upgrading to an NTRB53 Clock Controller

1   Remove old equipment.

> **CAUTION — Service Interruption**
>
> Never connect Clock-to-Clock cable J3 between the old clock (QPC471 or QPC775) and the new clock (NTRB53).

2   For dual core systems, ensure the clock controller card being removed is on the inactive core. If you need to switch cores, go to LD 135 and enter:

LD 135
SCPU   Switch cores
****   Exit the overlay

3   Disable the QPC775 or QPC471 Clock Controller card. At the prompt, enter:

LD 60   Load program
SSCK x   Get status of system clock where x = 0 or 1

4   If the clock is active, switch clocks. At the prompt, enter:

SWCK   Switch system clock from active to standby
SSCK x   Get status of system clock where x = 0 or 1

5   Ensure the other clock controller is active and in the free run mode. At the prompt, enter:

SSCK x   Get status of system clock where x = 0 or 1
TRCK FRUN   Set clock controller tracking to free run

> **CAUTION — Service Interruption**
>
> When the system is equipped with PRI and tracks to an external source, the T1 spans see slips and can exceed the thresholds. Voice quality over PRI can start to hear degradation.

6   Disable the clock controller card you are removing. At the prompt, enter:

DIS CC x   Disable system clock controller where x = 0 or 1

7   Set the ENL/DIS switch to DIS on the card being removed.

Note: Disabling the clock causes the system message FIJI0022 to display.

8   Tag and disconnect the cables to the card being removing.

9   Unhook the locking devices on the card.

10 Pull the card out of the card cage.

———————————— **End of Procedure** ————————————

Install new equipment

Procedure 374
Installing new equipment

1   Set the ENB/DIS switch to DIS on the replacement card.

2   Set the option switches on the replacement card (NTRB53). Refer to Table 8, "Clock Controller switch settings for NTRB53", on page 102 in What's New for Meridian 1 (Release 25.4).

3   Insert the replacement card into the vacated slot and hook the locking devices.

> ⚠️ **CAUTION — Service Interruption**
>
> Never connect the Clock-to-Clock cable J3 between the old clock (QPC471 or QPC775) and the new clock (NTRB53)

4   Connect the reference cables (J1 and J2) to the replacement card.

Note: Do not connect J3.

5   Set the ENB/DIS switch to ENB on the replacement card.

6   Software enable the card. At the prompt, enter:

LD 60
ENL CC x   Enable clock controller card, where x = 0 or 1

7   Verify that the card is active. At the prompt, enter:

SSCK x   Get status of system clock where x = 0 or 1
****   Exit the overlay

Note: Enabling the new clock card can initiate a F/W download.The card resets and executes a self test. This is recognized by the 2 faceplate LEDs flashing 3 times, indicating a pass. The completion of the download is indicated on the system terminal.

Note: Wait one minute before proceeding to the next step.

8   Switch to the core with the new clock. At the prompt, enter:

LD 135
SCPU   Switch CPU

> ⚠️ **CAUTION — Service Interruption**
>
> Noise is experienced over local and trunk calls. System FIJI alarms are also displayed. The noise and alarms are resolved after the new clock begins tracking to the selected reference.

9   Faceplate-disable the old clock controller to force the newly installed clock controller to activate.

10   Connect the Clock-to-Clock faceplate cable to J3 of the new clock controller card in the active CPU side. This provides system clocking through this cable.

Note: The old and new clocks are cabled together. This is acceptable because the old clock was faceplate disabled in the previous step.

11 Verify that the clock controller is active. At the prompt, enter:

LD 60
SSCK   Get status of the new system clock, where x = 0 or 1.
TRCK PCK   Track primary clock, where x = 0 or 1.
RCNT   Resets all alarm counters of all digital cards.
****   Exit the overlay.

Note: Replacing the clock controller generates errors on the network equipment. It is recommended that all counters be reset.

⚠️ **IMPORTANT!**

Perform the following steps in rapid succession to minimize potential slips on the PRI.

---

12 To replace the remaining QPC775 or QPC471 clock controller card, tag and disconnect the cables to the card being removed.

13 Unhook the locking devices on the card.

14 Pull the card out of the card cage.

15 Set the ENB/DIS switch to DIS on the replacement card.

16 Set the option switches on the replacement card (NTRB53). Refer to Table 8, "Clock Controller switch settings for NTRB53", on page 102 in the What's New for Meridian 1 (Release 25.40).

17 Insert the replacement card into the selected slot and hook the locking devices.

18 Connect the reference cables (J1 and J2) and the clock-to-clock cable (J3) to the replacement card.

19 Set the ENB/DIS switch to ENB on the replacement card.

20 Software disable and enable the card. At the prompt, enter:

LD 60
DIS CC x   Disable clock controller card, where x=0 or 1
ENL CC x   Enable clock controller card, where x=0 or 1

Note: If necessary, the clock card can download F/W.

21 Verify that the card is enabled. At the prompt, enter:

SSCK x   Get status of system clock, where x=0 or 1
****   Exit the overlay

Note: Wait two minutes before proceeding to next step.

22 Activate the new card and verify that it is active. At the prompt enter:

LD60
SWCK   Switch system clock from active to standby
SSCK x   Get status of system clock, where x = 0 or 1

TRCK PCK   Track primary clock, where x = 0 or 1
RCNT   Reset alarm counters of all digital cards
****   Exit overlay

23 Set the clock source to the status it was in before the replacement procedure.

Note: Wait one minute between clock switch.

24 Verify clock switch-over and tracking. At the prompt, enter:

SWCK   Switch system clock from active to standby
SSCK x   Get status of system clock, where x = 0 or 1
****   Exit overlay

——————— **End of Procedure** ———————

Upgrades on the web

The Multi Media Disk Unit (MMDU) upgrade on the Meridian 1 Option 61C CP PII and Meridian 1 Option 81C CP PII will be made available online.

To access this documentation online, click the **Technical Documentation** link under **Support** on the Nortel home page:

http://www.nortel.com/

Using the Distributor Keycode Application

Contents

This section contains information on the following topics:

Introduction

The Distributor Keycode Application (DKA) is a Windows-based utility program which enables distributors to download keycodes from a remote server (known as Keycode Delivery Server (KDS). DKA makes use of a standard Wizard Windows interface to guide the user's operation.

Note: Electronic retrieval of keycodes via DKA is not supported in European markets. If downloading keycodes from Europe, please refer to "Using the Keycode Retrieval Utility" on .

This section contains the following procedures:

- "Install DKA" on

- "Adding the KDS network client in Dial-up Networking" on

- "Downloading from KDS" on

- "Reading from a File" on

- "Manually enter a keycode" on

  Note: The "Installing DKA" and "Adding the KDS connection in Dial-Up Networking   " procedures must be completed before the "Downloading from KDS" procedure can be performed.

Hardware and Software Requirements

To install and use the DKA program, certain requirements must be met:

- A PC or compatible computer with a Pentium or compatible Intel processor running the Windows 95 or Windows 95B operating system.

- A modem that supports 14.4kbps or less must be installed and configured on the PC. To ensure that a modem is configured correctly under Windows 95, configure a modem through the Control Panel (using 8 data bits, Parity None, Stop Bits 1). Additionally, the modem must be configured with the correct Dial Prefix (Access Code) used by the telephone system to access an outside line. This modem must access a standard analog telephone line.

- Approximately 5 MByte free hard drive space for installation of the DKA program and, if desired, storage of keycodes.

- Microsoft Dial-up Networking software must be installed on the PC (provided with Windows 95)

- The following procedures must be performed before downloading keycodes: "Installing DKA." and "Adding the KDS connection in Dial-Up Networking   ."

Install DKA

Once it is determined that the PC and modem meet the system requirements listed above, the DKA program can be installed on the PC. Once the program is installed, make a Shortcut to the program to appear on the Windows desktop. Double-clicking this Shortcut provides easy access to the program.

Procedure 375
**Installing the DKA program**

1   Locate the DKA Installation diskette.

2   Insert the diskette, label facing upwards, into the floppy drive on the PC.

3   Run the Windows Explorer   application by clicking **Start** | **Program Files** | **Windows Explorer**.

4   In the **Windows Explorer** application, click the 3.5" Floppy drive (A:) from the left side of the window.

5   In the right side of the window, double-click the **Setup.exe** file (which has a computer icon to the left of it).

Wait for the **Setup** program to prepare for installation.

The Identification Screen is displayed.

**6**   Enter the requested information in the **Name** and **Company** fields. See Figure 112 below.

Figure 112
Identification screen
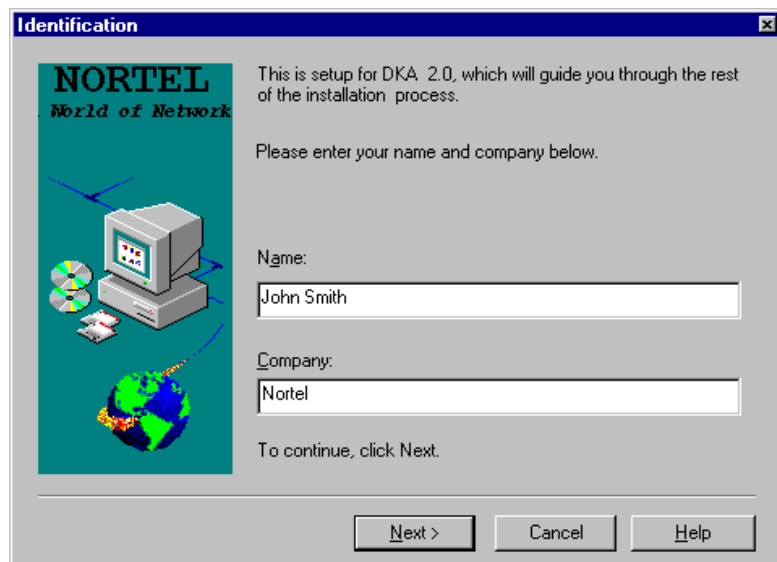
7   Click **Next** or press return.

The Software License screen is displayed. This screen contains a scrollable text box that contains the legal agreement governing the use of the DKA software. See Figure 113 below.
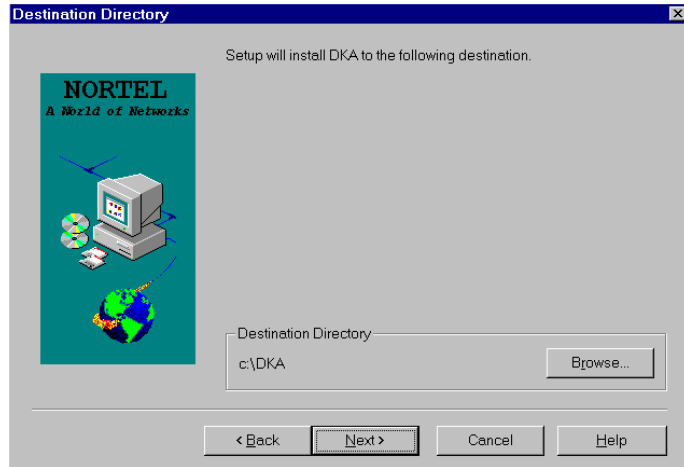
Figure 113
License agreement screen
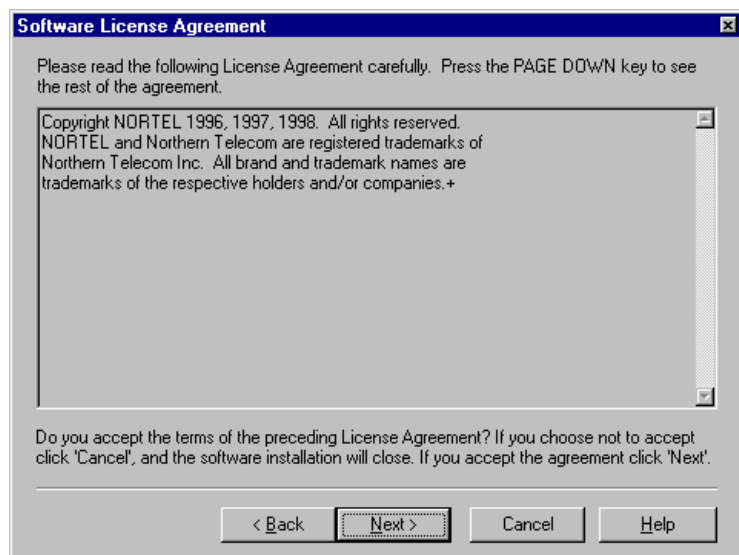
8   If accepting the terms of the license agreement, click the **Next** button. If not accepting the terms, click **Cancel** and the program installation is stopped.
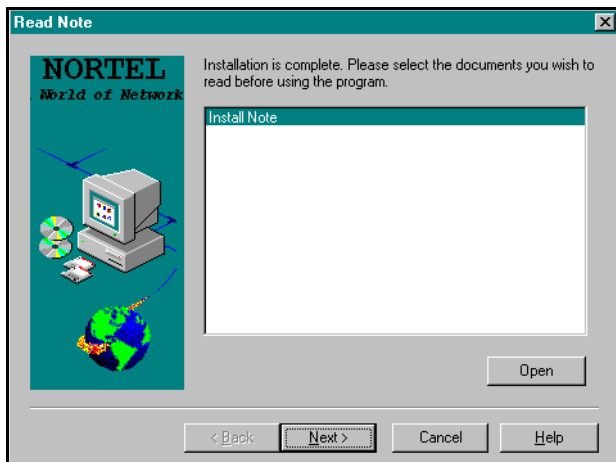
The Destination Directory screen appears. This screen indicates that the DKA program will be installed on the hard drive in a folder called DKA. See Figure 114 on .

Figure 114
Destination directory


9 Click **Next** or press return.

10 The Read Note screen appears. This screen is used to read any Read me files for the DKA program. See Figure 115 on .

Figure 115
Read note screen.

11 Read the contents of the Read Me files: Select the desired file, then click
     Open.

12 Click **Next** or press return.
     The Install Completed screen appears. This screen indicates that the
     Distributor Keycode Application has been successfully installed on
     the PC. See Figure 116 on .

Figure 116
Install Completed screen
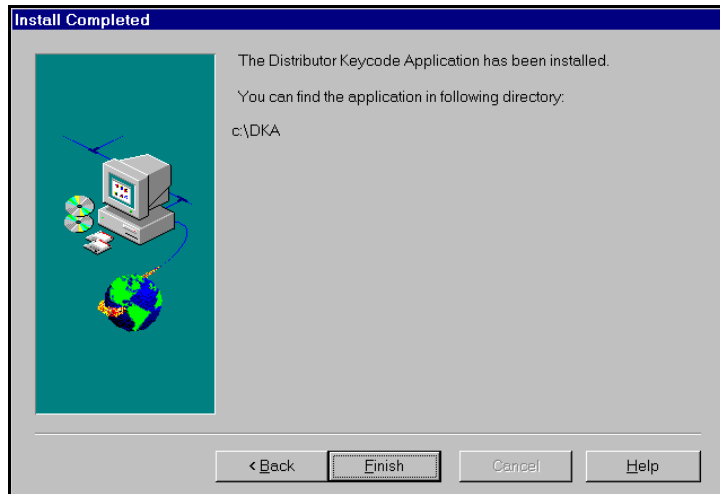
13 Click the **Finish** button to close the setup program.

————————————— **End of Procedure** —————————————

Create a Shortcut

Procedure 376
Creating a shortcut

1 Select the **dka.exe** file located in the DKA folder on the (C:) drive.

2 Click on the **File** menu and drag down to **Create Shortcut**.

A file called **Shortcut to dka.exe** appears in the DKA folder.

3 Click and drag the **Shortcut to dka.exe** file to a convenient location on the desktop and release.

————————————— **End of Procedure** —————————————

Now the Distributor Keycode Application can be accessed easily by double-clicking on the **Shortcut to dka.exe** file on the desktop.

# Adding the KDS network client in Dial-up Networking

Before keycodes can be downloaded, it is necessary to configure the Dial-up Networking KDS client. Dial-up Networking stores and manages all communication parameters (such as phone number, dial prefixes, user name, password) necessary for connecting to the Keycode Download Server.

Procedure 377
Configuring Dial-up Networking

1   Click the **Start** button on the lower left corner of the PC desktop and drag to **Programs|Accessories|Dial-up Networking**.

2   Double-click the **Make a New Connection** icon in the Dial-Up Networking window and enter the following:

Type a name for the computer you are dialing:
Richardson KCD Server 1 (example)

3 Select a modem:
The modem must support 14.4 kbps or less with the following configuration:
Data Bits 8, Parity None, Stop Bits 1
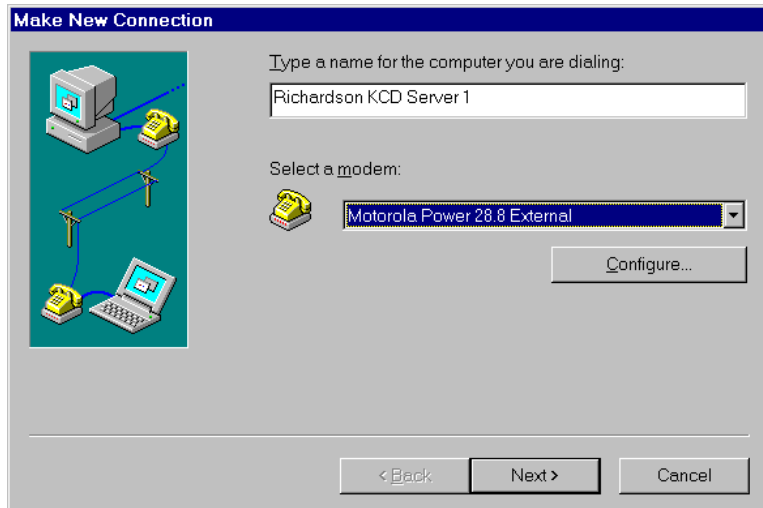
4 Click **Next**. The telephone number entry screen appears. See Figure 117 on . Enter the following for regions where the 888 Area Code is available:

Enter the Area Code as follows: 888
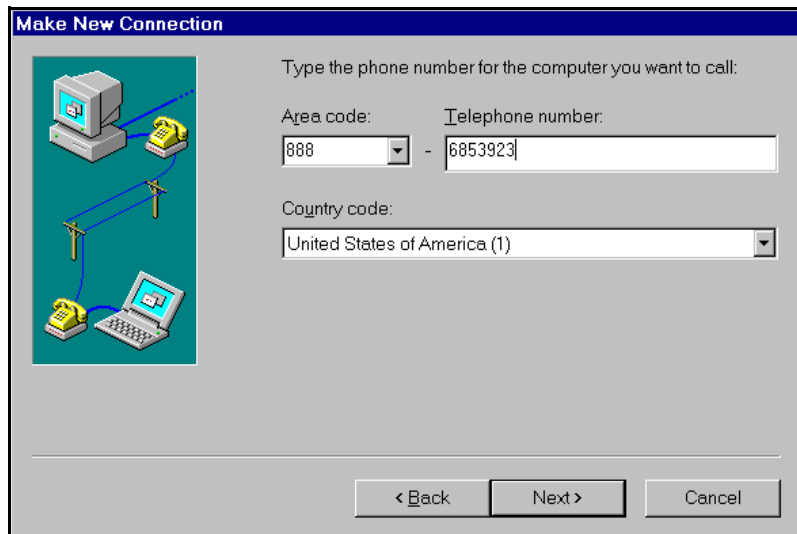
Telephone Number: 685-3923

Country code: United States of America

Note 1: The information entered in the Make New Connection window must match this information. If using DKA in a market other than the United States of America, ensure that the Area Code, Telephone Number, Dial Prefix, and Country code are configured correctly.

Note 2: In regions where the 888 Area Code is not applicable, the number which must be substituted is: **(972) 685-1764**. This number must be configured in Dial-Up Networking.

Figure 117
Make New Connection screen – telephone numbers.

5   Click **Next**.

A message Is received that states a new Dial-Up Networking connection has been successfully completed.

6   Click **Finish** or press return to complete the procedure.

———————————— **End of Procedure** ————————————

Configure the Type of Dial-Up Server

Procedure 378
Configuring the Type of Dial-Up Server

1   Click the **Start** button on the lower left corner of the PC desktop and drag to **Programs|Accessories|Dial-up Networking**.

2   Click on **Richardson KCD Server 1.**
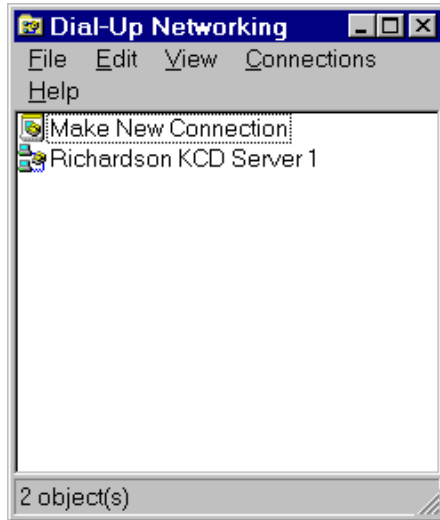
3   Select the **File menu** and choose **Properties**.

4   Click **Server Type...** to continue.

5   Configure the **Server Type** window with the following information:

   Type of Dial-Up Server: PPP Windows 95 Windows NT 3.5 Internet

   Advanced's: Enable software compression

   Advanced network protocols: TCP/IP

   TCP/IP Settings....: *use the default settings*

6   Click **OK** or press return.

7   Click **OK** again to return to the Dial-Up Networking window**.**

───────── **End of Procedure** ─────────
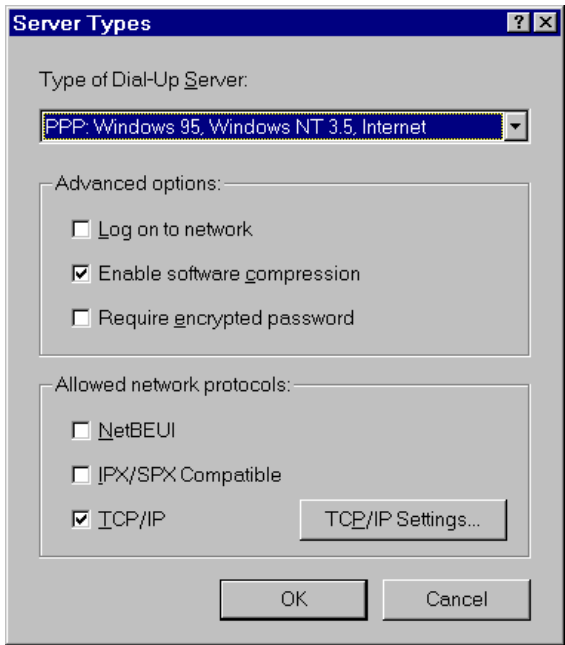
Downloading from KDS

The following procedure is used to request and receive keycodes from a remote server, known as KDS (Keycode Delivery Server). This procedure assumes that you have already installed the DKA program as described in "Install DKA" on , and have added and configured the Dial-up Networking client as described in "Adding the KDS network client in Dial-up Networking" on .

Procedure 379
Establishing the PPP connection to the KDS server via
Dial-up Networking

1   Double click on the Richardson KCD Server 1 Dial-Up Networking client.
     Enter user name "nortel-keycode" and password "97enable." Click the
     Connect button and verify that the modem dials a call and the Dial-Up
     Networking client successfully connects to the Richardson KCD Server 1.

     Once the Dial-up Networking PPP connection has been established,
     continue with the download by starting the DKA application:

2   Double-click on the **Shortcut to DKA** icon on the PC desktop.

     A gray screen appears that includes four menus and a Toolbar with
     buttons for essential commands.

3   Click on the **Tools** menu and select **Download Keycodes.**

The KDS Welcome screen appears.
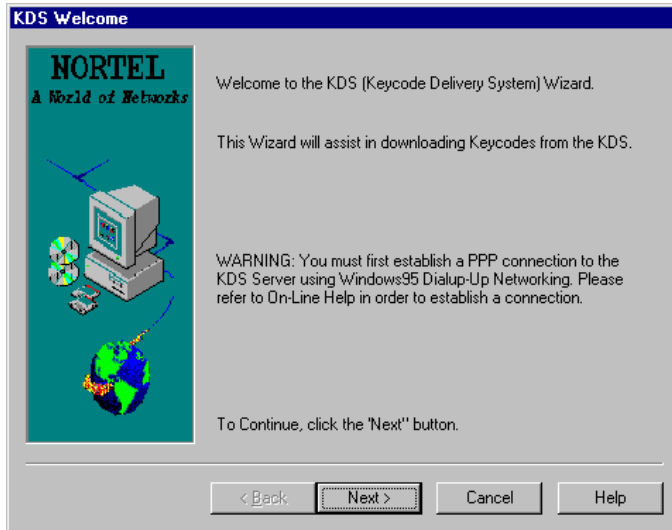
4   Click **Next** or return to download a keycode from KDS.

The Build a Request List screen is displayed. This screen has four information fields which must be completed for each keycode request that is submitted.

5   Enter the information into the four fields as described in Table 182 below.

Table 182
"Build a Request List" fields

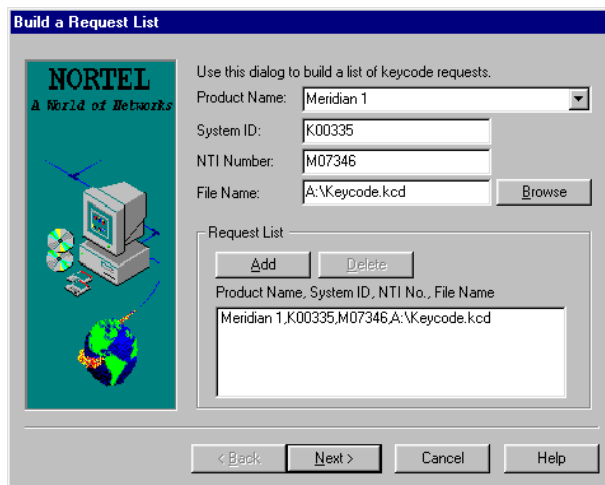| Name of field	How the information is entered in the field
Product Name	Select the product family of the system for which you are requesting a keycode.
System ID	Enter the System ID for the system for which you are requesting a keycode.
NTI Number	Click in the field and type in the NTI Number for the system for which you are requesting a keycode (the NTI Number is the same as the NT order number).
File Name	Enter a file name for the keycode you will be downloading. If the keycode will be downloaded to the hard drive ((C:) drive), use the following file naming convention: c:\DKA\<System ID>\NTI Number>. When you click <u>A</u>dd, a.kcd file extension is added to the file name. If the keycode will be downloaded to a floppy diskette in the 3.5" Floppy drive (A:), the file name must be named "keycode" so the Meridian 1 can recognize the file. When you click <u>A</u>dd, a.kcd file extension is added to the file name.

6   Click **Add** to continue. The request will appear in the Request List scroll box.

When a request is added to the list, another request may be added by filling out the fields with information for another keycode, and again clicking the Add button.

To remove a request from the list, select the request in the Request List scroll box and click the Delete button.

7   Click the <u>**Next**</u> or press return.

The KDS Billing Notice screen is displayed

8   Enter the information in Table 183 below into the KDS Billing Notice screen.

Table 183
Fields on the KDS Billing Notice screen

Name of field	How the information is entered in the field
Distributor Name	Enter the name of the Distributor who is requesting the keycode(s).
User Name	Enter the name of the person requesting the keycode(s).
Telephone Number	Enter the telephone number that can be used to contact the individual who is requesting the keycode(s). For example: (408) 555-1212.

9   Click the **Next** button or press return.

10   Click **Next** or press return.

The KDS Download screen is displayed.

Note: The Dial-up Networking connection must have been established, as described in "Establishing the PPP connection to the KDS server via Dial-up Networking" on .
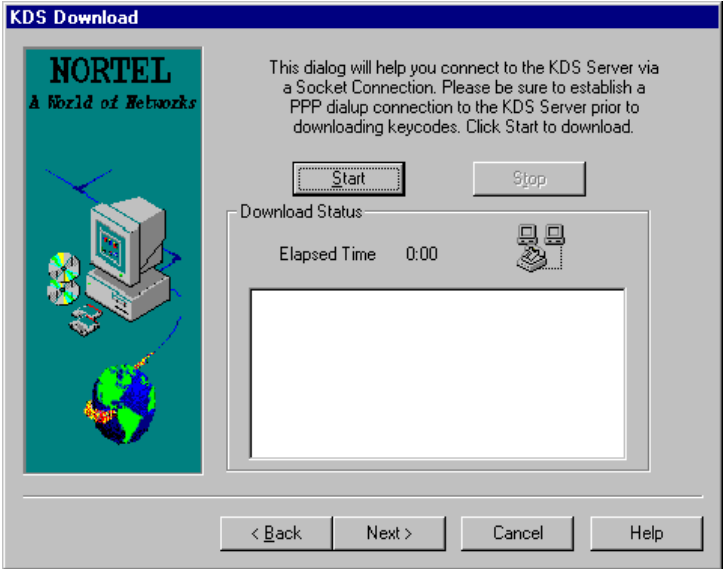
11 Click **Start** to begin downloading the keycode(s).

Note: This starts the keycode download process. A socket connection is established over the existing PPP connection. Next, the provided login information is sent to the Keycode Delivery Server and verified. Then the requested keycodes are downloaded to your PC in the location you specified in the Build a Request List window. Status is displayed in the Download Status box.
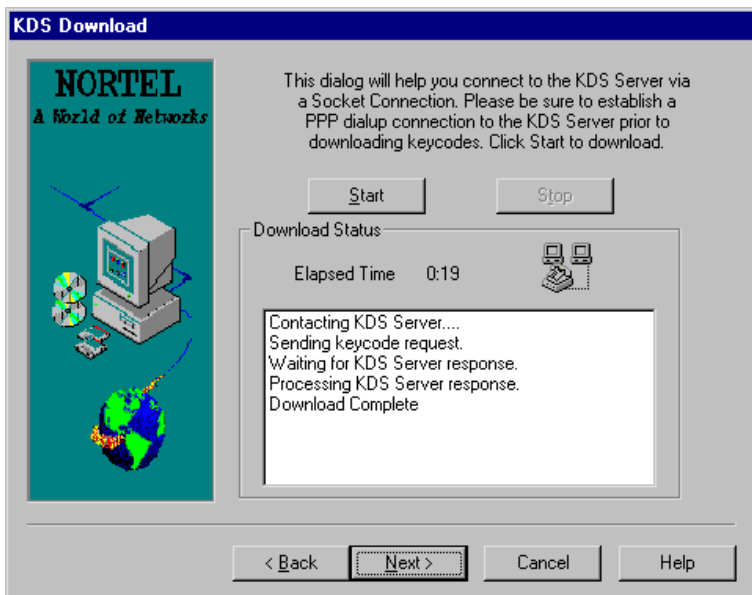
12 Click **Next** to receive the "KDS Download Results" screen, summarizing the results of the download.
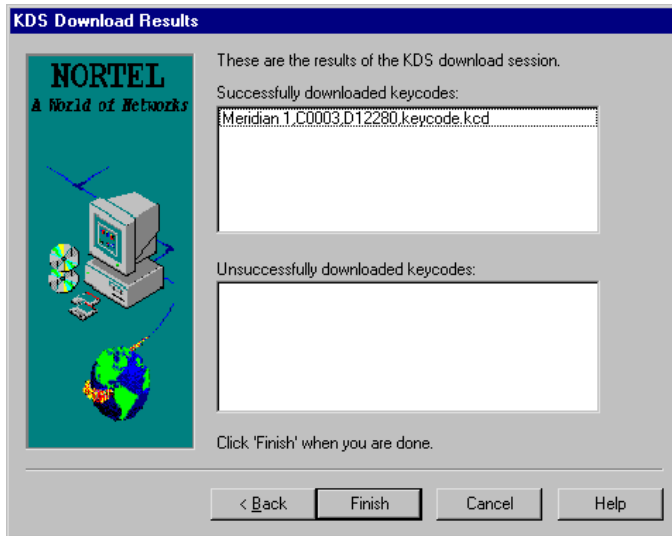
13 Double-click the network icon in the lower right corner of the screen.
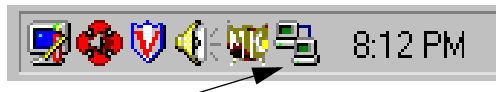
14 The Dial-up Networking status window appears. Click the **Disconnect** button to end the connection to the network.

The "Download from KDS" procedure is complete. Refer to "Keycode Management, LD 143" in this document for keycode installation instructions.

If there was a problem downloading keycodes, the problem keycodes are listed in the "Unsuccessfully downloaded keycodes" scroll box.

Note: If the download was unsuccessful, verify that the correct telephone number and Dial Prefix are configured in Dial-up Networking.

When the requested keycode is downloaded from the Keycode Delivery System to your PC, refer to "Adding features and License limits" in Book 1 for keycode installation procedures.

──────────────── **End of Procedure** ────────────────

Reading from a File

Procedure 380
Reading from a File

The following procedure is used to learn information about the properties of an existing keycode, or a keycode that was just downloaded from KDS. In this procedure you will specify a keycode file in a location on your hard drive or on a floppy diskette that is inserted in your floppy disk drive.

You will also specify a "Product type" to examine within the keycode file, in case there are multiple keycodes within the keycode file being examined.

This procedure assumes that you have already installed the DKA program as described in "Install DKA" on .

1   Double-click on the **Shortcut to DKA** icon on the PC desktop.

2   Select **Open** from the **File** menu.

    A navigation dialog box appears. In the navigation dialog box, locate the keycode. For a keycode residing on a floppy drive, this is the 3.5" Floppy drive (A:); for a keycode residing on the hard drive, this is most likely the C: drive.

3   Click **OK**.

The Keycode file is displayed in a format similar to the hardcopy Keycode Acknowledgment sent to a customer. The Keycode itself is displayed at the bottom of the file, in 21 rows of 16 characters each.

```
 alex.kcd - DKA                                                                    _ □ ×
File  View  Tools  Help

 ☞   ⬛   ↓   ?

C:\WINDOWS\Desktop\alex.kcd                                    DKA Version 2.0


NTI Order #    Gen. Time      Gen. Date     Mfg. Site ID   System S/N    NT SDID(S)
D12280         06:41:46       02/12/1998    01             C0003         10010444
                                                                         10010147


               OPTIONS 2511/2399


     0,1,2,4,5,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,23,24,25,28,29,32,33,34,36,44,46,
     47,48,49,52,53,54,55,57,58,60,61,64,70,71,72,73,74,75,76,80,81,88,89,90,91,92,93,95,
     107,108,110,113,115,119,121,127,132,133,139,140,141,157,162,164,170,173,174,181,186,
     191,203,204,205,222,223,227,228,229,234,242,243,245,246,250,251,253,254,256,258,296,
     301,306,307,310,329,

                           ISM LIMITS

          Loop Limit       32          Cap Admin      0
          Max Sys TNs      600         Max ACD Agt    0
          Max ACD DN       1000        Max AST        0
          Max DSL          0           Max LTID       96
          Max DCH          64          Max AML        16
          Max MPH DSL      0           RAN CON        0
          RAN RTE          0           MUS CON        0
          Brand Index      0

    K E Y C O D E              K E Y C O D E              K E Y C O D E
 -----------------------------  -----------------------------  -----------------------------
      A      B      C      D        A      B      C      D        A      B      C      D
 -----------------------------  -----------------------------  -----------------------------
   1  1REQ  P2EC  V4D0  U480    9  40H2  0810  40H2  008Y   17  0000  0000  0000  0000
   2  1LRE  QFS8  AL1M  Q74Q   10  00S3  6F9S  CWGM  TMJP   18  0000  0000  0OH0  004M
   3  6WPY  RF49  S3JJ  L44Q   11  5S73  4EGE  YYXV  ST69   19  09D0  0003  W000  003W
   4  NN4E  YTQF  C5X3  DWUD   12  1G7P  S0YR  R3XH  06P8   20  0006  0020  0080  004C
   5  W3G2  CM2K  8R1K  F9V7   13  A50H  R700  0HM2  D12R   21  0000  0000  0000  0000
   6  4D7P  9N40  QCPA  XCRG   14  4401  R003  3HH3  DEJ3
   7  T3S3  AYYQ  JPA8  QLPJ   15  M000  0000  HHS0  0046
   8  2S1L  0D1H  6DH2  080F   16  8000  0000  0000  006T
                                  -----------------------------  -----------------------------

For Help, press F1
```

The "Reading from a File" procedure is complete.

—————— **End of Procedure** ——————

Manually enter a keycode

Procedure 381
Manually entering a keycode

The following procedure is used to manually enter a keycode for the purpose of creating and storing a keycode file.
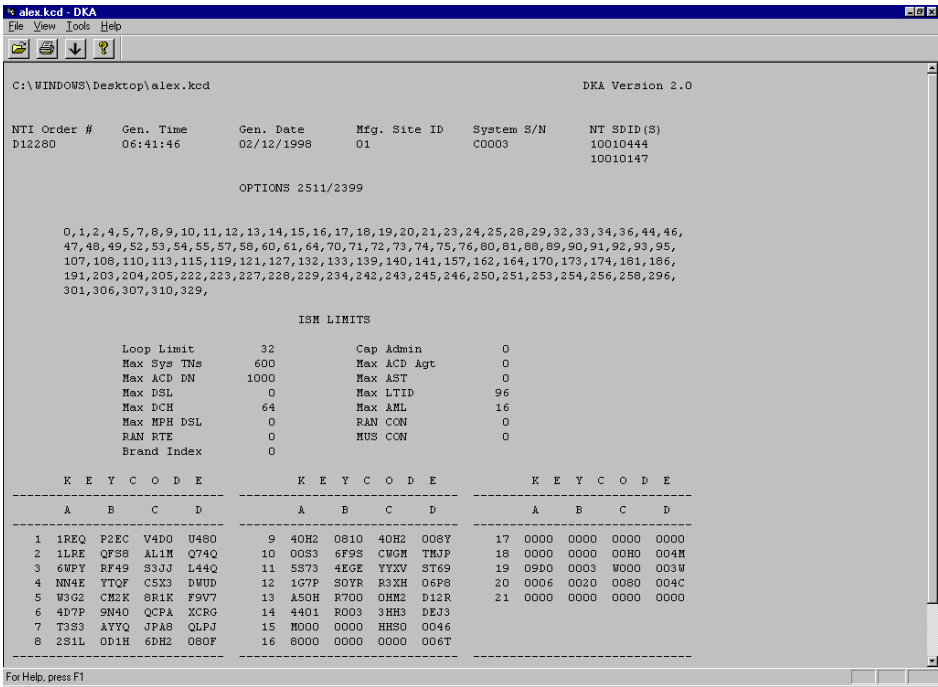
This procedure assumes that you have already installed the DKA program as described in "Install DKA" on page 1106.

1   Double-click on the **Shortcut to DKA** icon on the PC desktop.

2   Select **Manual Entry** from the **Tools** menu.

The Keycode Entry screen is displayed. This screen consists of rows and four columns (A-D) into which the keycode is entered four characters at a time. When 16 characters (four cells) are entered in a row, the program tries to validate that row. If the row does not validate, a red X appears to the left of that row to indicate invalidity.

The Clear All... button is used to erase all characters in the cells that have been entered on the Keycode Entry screen. A dialog box will prompt "Are you sure you want to clear the Keycode characters?" when this button is selected. Confirming the dialog erases all characters in all cells.

3   When the entire keycode has been entered, click the **Save...** button.

   If the keycode is valid, the Save As screen is displayed. This screen allows you to specify the file name your keycode will be saved as and the directory where it will be saved.

4   From the **Save in** pull-down menu, select the drive location where you want to save the keycode.

5   In the **File Name** field, type the name you want your keycode file to be saved as. Note that the.kcd extension will be appended to that filename.

   To save the keycode file nested within folders, double-click on the folder in which the keycode file will ultimately be saved. When you have navigated to the folder where you would like to save the keycode file, click the **Save** button.

6   Click **Save** or press return.

   The keycode file has been saved as specified.

―――――――――――――   **End of Procedure**   ―――――――――――――

Terminal and modem connections

Contents

This section contains information on the following topics:

Introduction

During the system upgrade, a terminal must be connected to a serial data interface (SDI) port to provide an I/O interface to the system. When the upgrade is complete, a terminal (for local access) or a modem (for remote access) must remain permanently connected to an SDI port to provide a constant I/O interface to the system (see Figure 118 on).

When upgrading a dual CPU system, you may want to temporarily install additional terminals for split mode monitoring, or programming, or both.

Note: In Meridian 1 Option 61 and Meridian 1 Option 71, SDI cards can be temporarily installed in CPU slots during a software conversion. In Meridian 1 Option 61C CP PII and Meridian 1 Option 81C CP PII, I/O ports on the call processing (Call Processor) cards, can be used to monitor CPU operations. On the Meridian 1 Option 81C CP PII, COM 1 port on the call processing (CP PII) cards, can be used to monitor CPU operations. These configurations should not be used as the permanent I/O connection for the system because the port is only active when the associated CPU, or CPU, is active.

Figure 118
Terminal connection diagram
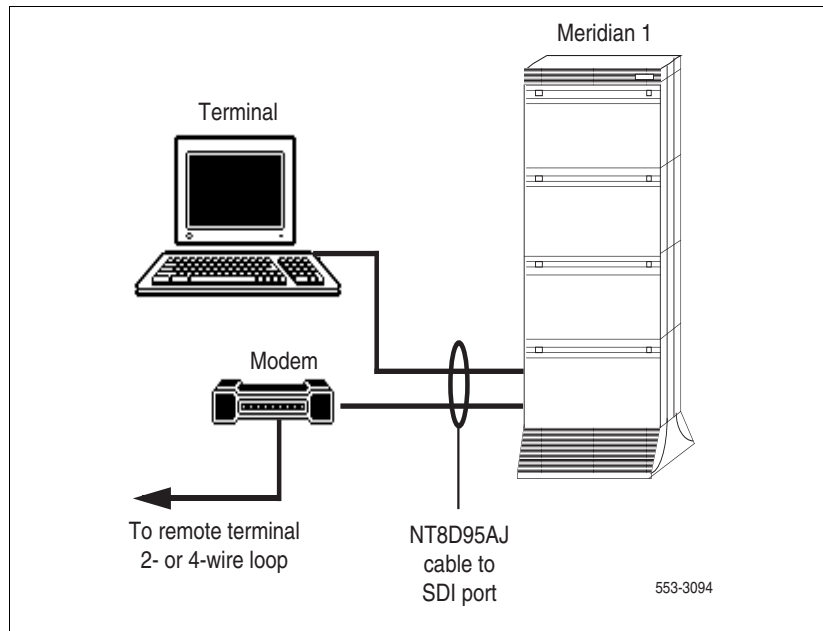
For a modem connection to the Meridian 1, Bell 103/212 compatible dumb modems are recommended for all systems, except Meridian 1 Option 61C CP PII and Meridian 1 Option 81C CP PII.

> ⚠️ **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> If a Hayes command-set compatible (smart) modem is used at the Meridian 1 end, you *must* select the dumb mode of operation, Command Recognition OFF and Command Echo OFF, before connecting the modem to the SDI port. Refer to the modem instructions to set the mode of operation.

If a printer is connected to an SDI port (locally or remotely), you must disable XON/XOFF flow control, so no characters or signals are sent to the port, to avoid a "ping-pong" effect.

Note: For information specific to Meridian 1 Option 61C CP PII and Meridian 1 Option 81C CP PII, see "Meridian 1 Option 61C CP PII and Meridian 1 Option 81C CP PII terminal and modem connections" on page 1135.

Configure the system

Procedure 382
Configuring the system

1 Install and cable a system terminal or a modem:

   a. Unpack the terminal/modem and place it in its assigned location.

   b. Install the terminal/modem according to the manufacturer's instructions.

   c. Connect an NT8D95AJ cable to a matching connector on the terminal/modem.

   Note: At a remote location, install and connect a compatible modem and terminal. Connect the NT8D95AJ cable to the modem.

2 Install and cable the SDI card:

   a. Set the Enb/Dis switch to Dis (down).

   b. See *Circuit Card: Description and Installation* (553-3001-211) to set the option switches for each port.

   c. See Figure 119 for switch locations on an NT8D41 SDI Paddle Board. (The paddle board cannot be used in Meridian 1 Option 71 and Meridian 1 Option 81C CP PII.)

   d. See Figure 120 for switch locations on an NTND02 MSPS Card. (The MSPS card is used in Option 21E only.)

   e. Insert the SDI card into its assigned slot.

   f. Cable the SDI card:

   g. See Figure 121 to cable the NT8D41 SDI Paddle Board. (There is no faceplate on the paddle board; Figure 121 identifies the ports.)

   h. See Figure 121 on page 1133 to cable an NTND02 MSPS Card.

    i. See Figure 122 to cable a QPC841 Four-Port SDI Card.

    j. Set the Enb/Dis switch to Enb (up).

3   Software enable the SDI card:

    a. Define each SDI port in the Configuration Record (LD 17).

    b. Enable each SDI port using the appropriate software program for the port application. Typical SDI applications and associated programs include:

Terminal and printer ports	LD 37
Call Detail Recording (CDR) ports	LD 42
Automatic Call Distribution (ACD) ports	LD 48

4   Connect an NT8D95AJ cable from the terminal, or modem, to the
assigned SDI port.

Figure 119
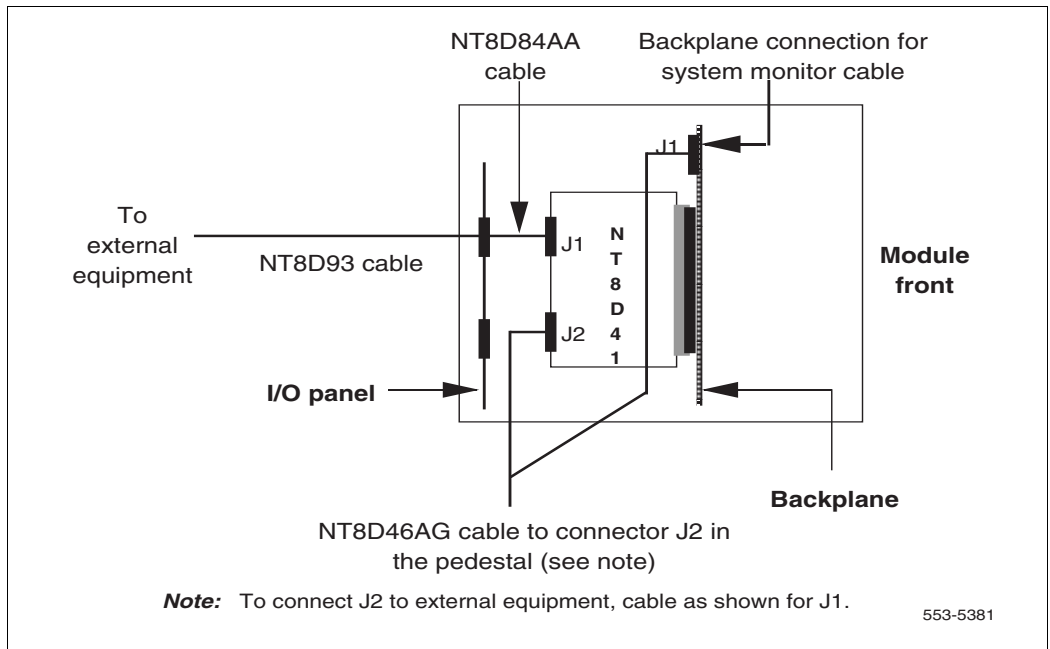**Ports and switches on the NT8D41 SDI Paddle Board**
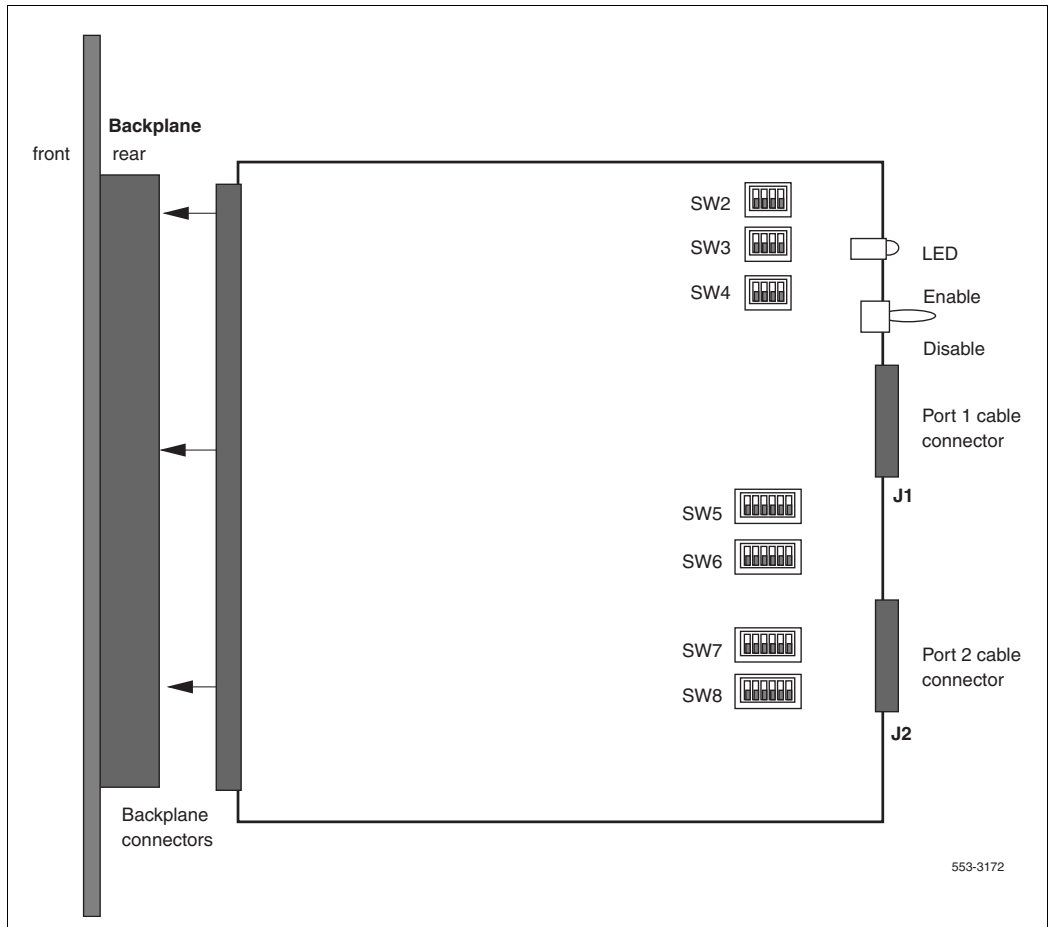
— **End of Procedure** —

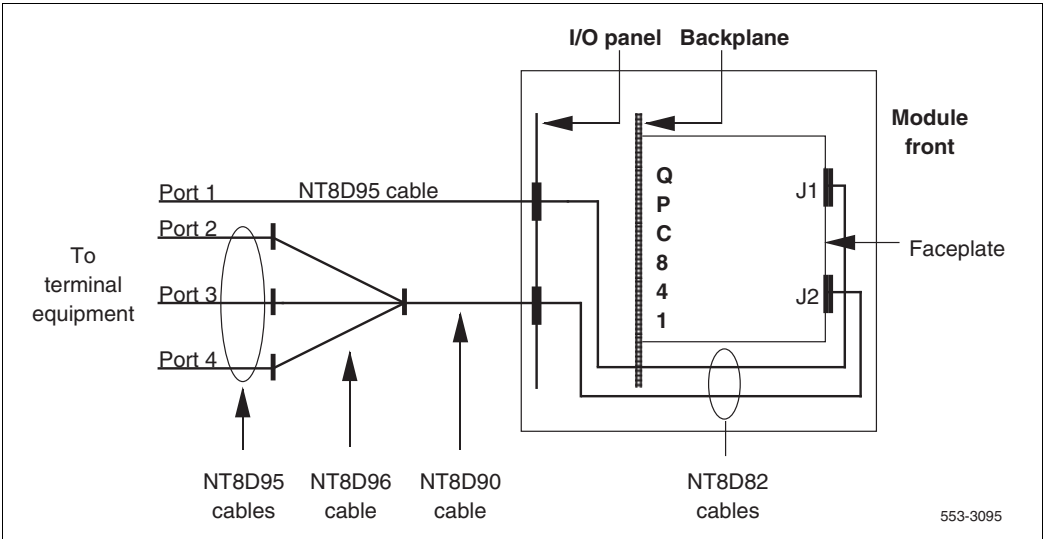**Figure 120**
Switch locations on the NTND02 MSPS Card
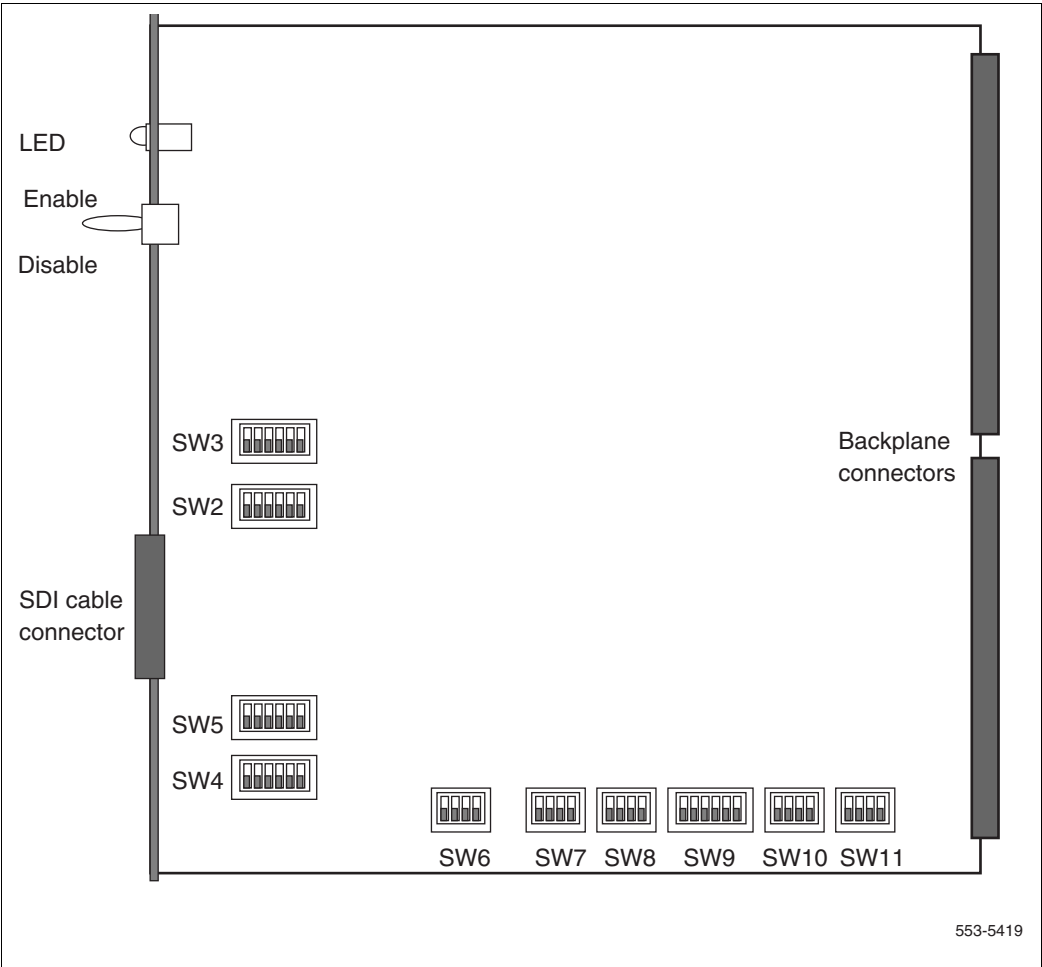
Figure 121
Cabling diagram for the NT8D41 SDI Paddle Board

Note: To connect J2 to external equipment, cable as shown for J1.

553-5381

Figure 122
Cabling diagram for the QPC841 Four-Port SDI Card

Meridian 1 Option 61C CP PII and Meridian 1 Option 81C CP PII terminal and modem connections

During the system upgrade and for continuing system operation, a terminal must be connected to an SDI port in a network slot to provide an I/O interface to the active CPU in the system.

In addition, a data terminal equipment (DTE) port and a data communication equipment (DCE) port on each NT4N64AA Call Processor Card can be used for direct access to the Core or Core/Network Module that houses the card.

The designations DTE and DCE refer to the function of the port, not the type of device that connects to the port. Therefore, a modem (which is DCE) connects to the DTE port at J21, and a terminal (which is DTE) connects to the DCE port at J25. Typically, the CPSI ports are preconfigured on I/O addresses four and five.

The data terminal equipment (DTE) port, COM 1 and a data communication equipment (DCE) port, COM 2 on each NT4N64 CP PII can be used for direct access to the Core or Core/Network Module that houses the card.

The Call Processor card ports (CPSI/COM1 COM2 ports) are active only when the CPU associated with the Call Processor card is active. Therefore, the CPSI/COM1 COM2 ports should not be used as the only I/O connection for the system.

When the upgrade is complete, you must leave a terminal or a modem connected to the system. One SDI port in a network slot must be permanently connected to a terminal or modem.

On the CPSI ports you can:

- disconnect the ports

- leave terminals connected for local monitoring

- connect modems for remote monitoring

The Black Box ABCDE-Switch, which provides up to four-to-one switching, is available from Nortel as part number A0377992. The switch box can be used to connect the SDI and CPSI/COM1 COM2 ports to a terminal or a

modem. If used, one switch box must be used for terminals and one for modems.

Meridian 1 Option 61C CP PII and Meridian 1 Option 81C CP PII terminal guidelines

During an upgrade, you can connect terminals to the CPSI/COM1 ports for split mode monitoring, or programming, or both. (Due to the speed of the system messages displayed, personal computers are useful for file capture and review.) Terminals connected to the CPSI/COM1 ports can be installed as follows:

- One terminal connects to a CPSI/COM1 port in one CPU (the cable is switched from module to module as needed); one terminal is required in addition to the terminal for the SDI port connection (see Figure 123 on).

- One terminal connects to a switch box that connects to a CPSI/COM1 port in each CPU: one terminal and a switch box are required in addition to the terminal for the SDI port connection (see Figure 124 on).

- One terminal connects to a switch box that connects to an SDI port and to a CPSI/COM1 port in each CPU: one terminal and a switch box are required (see Figure 125 on).

The Meridian 1 Option 51C has only one CPU module and requires only one CPSI terminal connection and one SDI port connection. A single terminal with a switch box can be used.

Connect a terminal to a CPSI port

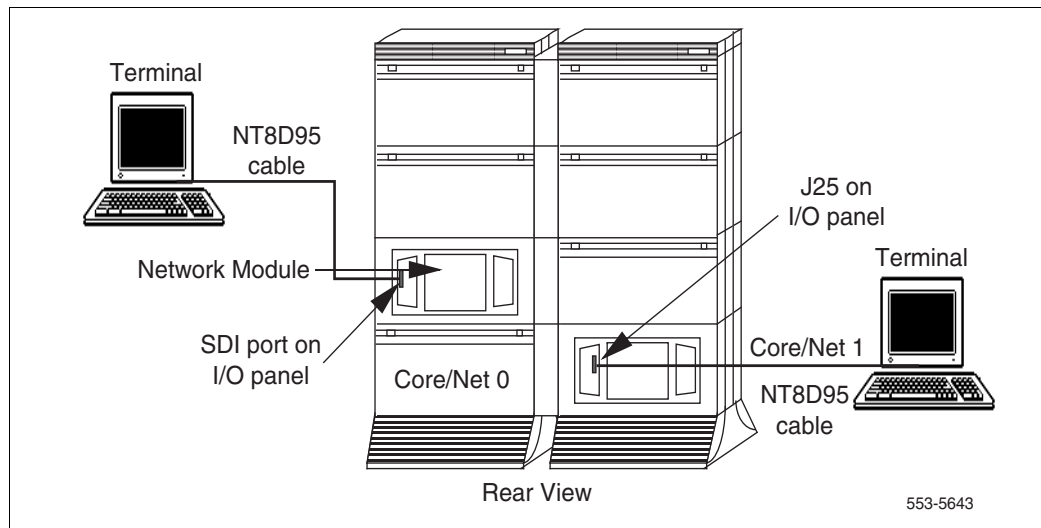**Procedure 383**
Connecting a terminal to a CPSI port

Use the following procedure to connect a CPSI/COM1 port directly (no switch box) to a terminal (see Figure 123):

1 Set the terminal to 9600 baud, 7 data, space parity, one stop bit, full duplex, XON.

2 Connect an NT8D95 cable to a matching connector on the terminal.

3 Connect the NT8D95 cable to J25 on the I/O panel in the rear of the Core or Core/Network Module.

4 If you are using only one terminal for both CPSI/COM1 ports, switch the cable as needed. The terminal connected to the SDI port will always communicate with whichever CPU is active.

Figure 123
One terminal for the CPSI ports

Terminal

NT8D95 cable

J25 on I/O panel

Network Module

Terminal

SDI port on I/O panel

Core/Net 1

Core/Net 0

NT8D95 cable

Rear View

553-5643

──────── **End of Procedure** ────────

Connect a switch box and terminal to CPSI ports

Procedure 384
Connecting a switch box and terminal to CPSI ports

Use the following procedure to connect CPSI/COM 1 ports to a switch box and a terminal (see Figure 124):

1 Set the terminal to 9600 baud, 7 data, space parity, one stop bit, full duplex, XON.

2 Connect an NT8D95 cable to the terminal and to the switch box.

3 Connect NT8D95 cables to a matching connector on the switch box.

4   If you are using an A0377992 ABCDE box, connect cables as follows:

5   Connect CPU 0 to connector A.

6   Connect CPU 1 to connector B.

7   Connect the NT8D95 cables from the switch box to J25 on the I/O panel in the rear of the Core/Network Modules.

8   To communicate directly with a CPSI/COM 1 port, switch the cable as needed. The terminal connected to the SDI port will always communicate with whichever CPU is active.

——————————— **End of Procedure** ———————————

Connect a switch box and terminal to the SDI and CPSI ports

Procedure 385
Connecting a switch box and terminal to the SDI and CPSI ports

Use the following procedure to connect CPSI/COM 1 ports to a switch box and a terminal (see Figure 124 and Figure 125):

1   Set the terminal to 9600 baud, 7 data, space parity, one stop bit, full duplex, XON.

2   Connect an NT8D95 cable to the terminal and to the switch box.

3   Connect NT8D95 cables to a matching connector on the switch box.

4   If you are using an A0377992 ABCDE box, connect cables as follows:

    a.   Connect CPU 0 to connector A.

    b.   Connect CPU 1 to connector B.

    c.   Connect the SDI port to connector D (connector C is common).

5   Connect NT8D95 cables from the switch box to J25 on the I/O panel in the rear of each Core or Core/Network Module.

6   Connect an NT8D95 cable from the switch box to the I/O panel slot for the SDI card.

Figure 124
One terminal and a switch box to two CPSI ports

Terminal

NT8D95 cable

Network Module

SDI port on I/O panel

J25 on I/O panel

J25 on I/O panel

Core/Net 0

Core/Net 1

NT8D95 cable

NT8D95 cable

Rear View

Switch box

NT8D95 cable

Terminal

Note: The A0377992 switch box can be used in this configuration.

553-5644
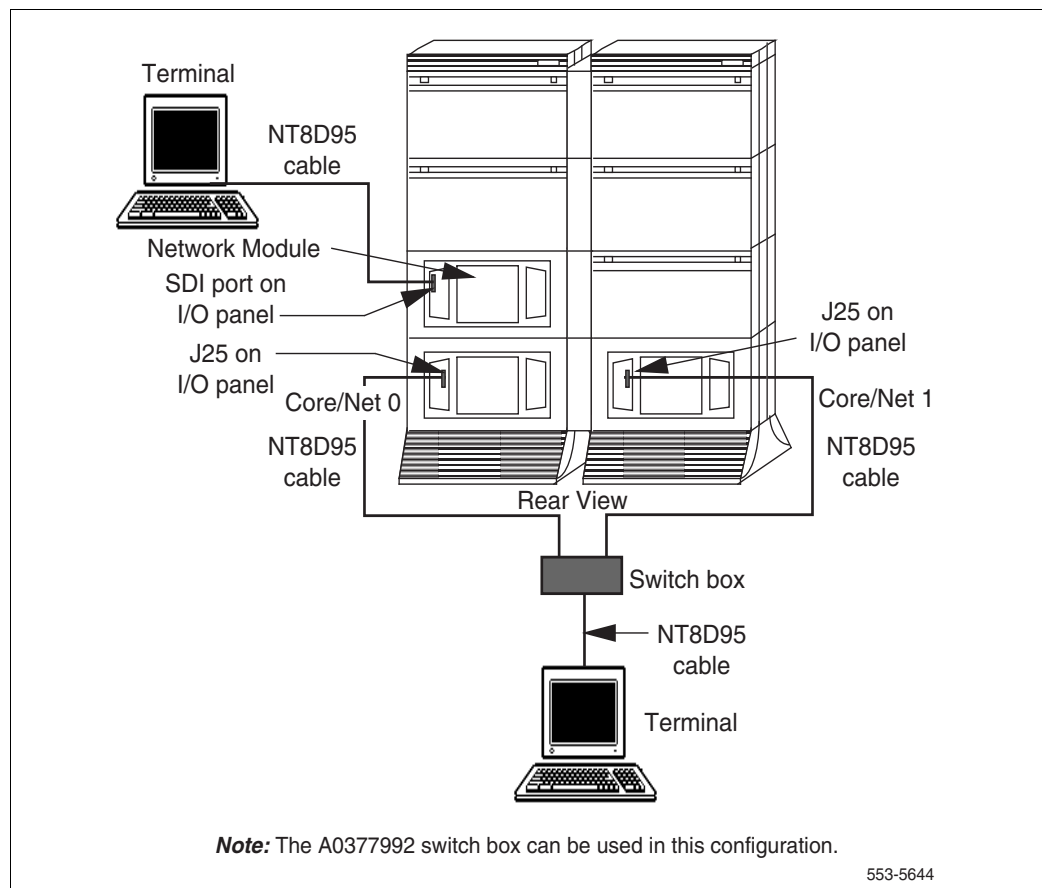
7   To communicate with the system in general, set the switch box to the SDI port. To communicate directly with a CPSI/COM 1 port, switch the cable as needed.

——————— **End of Procedure** ———————

Figure 125
One terminal and a switch box to the SDI and CPSI ports

Network
Module

SDI port on
I/O panel

J25 on
I/O panel

J25 on
I/O panel

Core/Net 0

Core/Net 1

NT8D95
cables

NT8D95
cable

Rear View

Switch box

NT8D95
cable

Terminal

Note: The A0377992 switch box can be used in this configuration.

553-5654
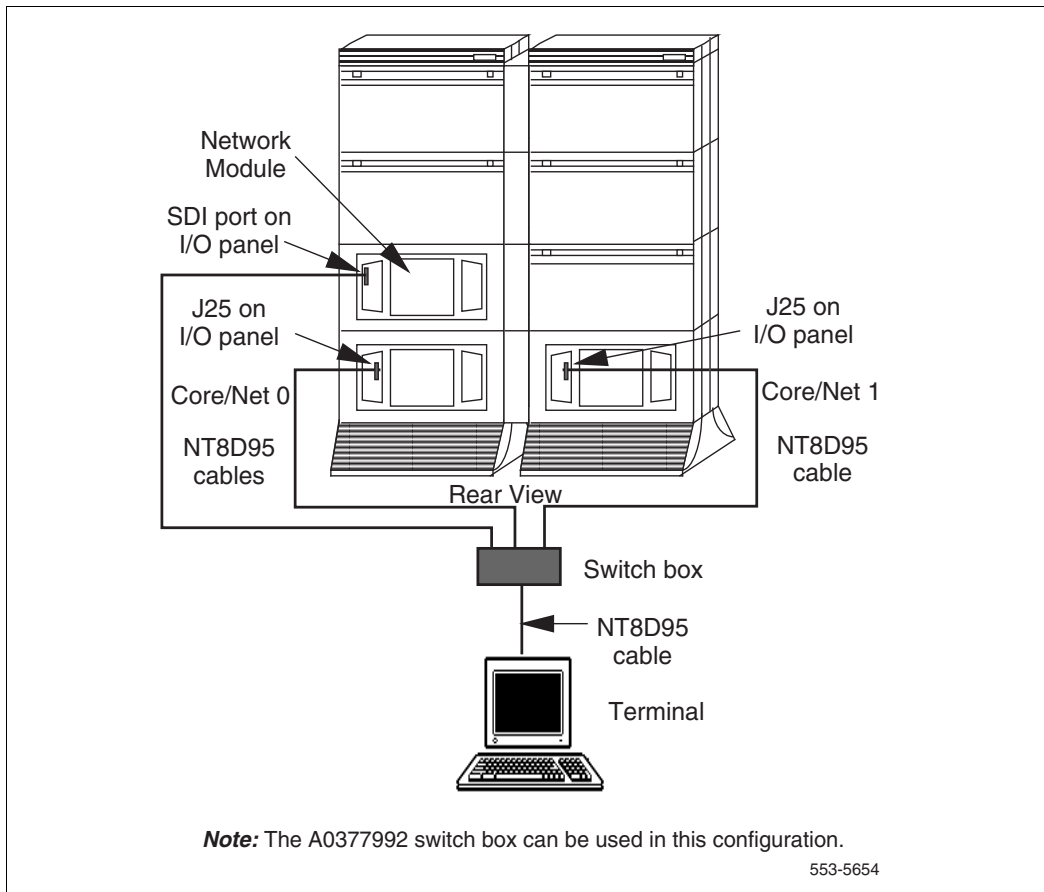
Meridian 1 Option 61C CP PII and Meridian 1 Option 81C CP PII modem guidelines

You can connect a modem to an SDI port to remotely monitor general system operation. Or you can connect a modem to the CPSI/COM2 ports for debugging and patch downloading (through your Nortel representative). Or you may want a remote connection to both the SDI and CPSI ports.

At the Meridian 1 end (the local end), modems must be set to dumb mode (command recognition OFF, command echo OFF). Modems at the local end can be connected as follows:

- One modem connects to the SDI port and the cable is switched to each CPSI/COM2 port as needed (see Figure 126 on).

- One modem connects to a switch box that connects to the SDI and CPSI/COM2 ports (see Figure 127 on).

    Note: The second method listed here is preferred. Other configurations, such as a separate modem for each port, are possible.

At the remote end, at least one modem (which can be set to smart mode), one terminal, and one RS-232 cable are required in all modem configurations.

Modems at the local end must meet the following required specifications to be compatible with Meridian 1 Option 61C CP PII and Meridian 1 Option 81C CP PII. Modems that meet the following recommended specifications must also meet the required specifications.

- required*:* true, not buffered, 9600 baud support (required for remote Nortel technical support)

- required*:* CCITT V.32 or V.32bis compliance

- recommended: the ability to adjust to lower and higher speeds, depending on line quality, while maintaining 9600 baud at local DTE

- recommended: V.42 error correction

- recommended: V.42 bis data compression

A dispatch or call back modem, normally connected to the SDI port, can be used if it meets the requirements. If you want to use a modem of this type that does not meet the requirements, the modem can only be used in addition to a modem that does meet specifications.

Existing modems on upgraded systems

Any modem that meets the required specifications should be compatible with Meridian 1 Option 61C CP PII and Meridian 1 Option 81C CP PII.

The following modems listed below, are no longer available. However, if your system uses these modems now, they will work with the upgraded system:

• Hayes V-series ULTRA Smartmodem 9600

• UDS FastTalk V.32/42b

• US Robotics Courier HST Dual Standard V.32bis

• Motorola 28.8 Data/Fax

Available modem for an upgraded system

The US Robotics, Sportster External 33.5 Data/Fax modem model is tested and verified as compatible. The US Robotics, Sportster External 33.5 Data/Fax modem is available through Nortel as part number A0663901.

Configure the US Robotics 33.5 Data/Fax modem

Procedure 386
Configuring the US Robotics 33.5 Data/Fax modem

Use the following procedure to configure a US Robotics, Sportster External 33.5 Data/Fax modem for operation with Meridian 1 Option 61C CP PII and Meridian 1 Option 81C CP PII. This procedure must be done before you connect the modem to the Meridian 1 system. You need a terminal such as a PC computer, to configure the modem.

1   Turn the modem off.

2   Set the modem DIP switches as follows:

    • DIP switches 1, 3, 7, and 8 to ON (down).

    • DIP switches 2, 4, 5, and 6 to OFF (up).

3   Connect an RS-232 cable to the modem and to a terminal.

4 Set the terminal with the following values:

- 9600 baud

- 8 bits

- 1 stop bit

- no parity

5 Turn the modem on and enter each command listed below with a carriage return (press Enter or Return key):

- AT&FLoad active profile

- AT&H0Flow control disabled

- AT&D3Resets on receipt of DTR

- AT&S1Modem controls DSR

- ATS0=1Answer after 1 ring

- ATS2=128Escape character = ASCII 128

- ATS7=60Pause 1s for carrier detection

- ATQ1Quiet mode

- AT&WStore active profile

The modem responds **OK** to every command (except for the last two commands ATQ1 and AT&W).

6 Disconnect the power cord and serial from the modem.

7 Set DIP switches 1 and 4 to ON (down) and the remaining switches OFF (up).

—— **End of Procedure** ——

Configuring an A0638930 Motorola 28.8 Data/Fax Modem

Use the following procedure to configure a Motorola 28.8 Data/Fax Model 3400 modem for operation with Meridian 1 Option 61C CP PII and Meridian 1 Option 81C CP PII.

The modem can be configured:

- for local mode of operation

- for remote mode of operation

  Note: After the modem is configured, power down of the modem will not result in loss of the configuration settings. However, by pushing the RESET button on the modem and holding it down until the "MR" light flashes 5 only, and by releasing the RESET button before the next 5 flashes start, will reset the modem to its factory default settings. It will then be necessary to reconfigure the modem to the settings required for operation with Meridian 1 systems.

Procedure 387
Installing the modem

1   Unpack the modem and read the installation instructions included with the modem.

2   Position the modem in its designated space, install its power cord, and plug it into the power receptacle.

3   Connect a 25-pin RS-232 cable to the modem and to a terminal.

       i.   For Local configuration

   a.   Set the terminal with these parameters:

       — 9600 baud

       — 8 data bits

       — 1 stop bit

       — no parity

   b.   Install the communication utility program shipped with the modem or use an appropriate alternate communication utility program such as Procomm, Telix, SmartCom, Bitcom, or CrossTalk.

   c.   Enter the following command string in one line, followed by the carriage return <cr>:

       AT&F \Q0 &S1 S0=1 S7=60 S2=128 Q1 E0 &W &W1 <cr>

d. After you press the carriage return <cr>, the modem will appear to have stopped functioning. This is normal.

e. Power off the modem and connect it to a Call Processor CPSI or CP PII COM2 port in the Meridian 1 system. To do this:

— Set the power switch to OFF.

— Connect the NT8D95 cable between the modem and the J25 on the I/O panel at the rear of the Core/Network module.

— Connect the modem to the telephone jack (RJ11) using the RJ11 telephone cord. If the cord is not supplied, use the NT8D46 cable.

— Turn the power switch on the modem to ON.

The modem is now configured for local communication with the Meridian 1 system.

ii.   For Remote configuration

To configure a modem in the remote mode, connect the modem as described above in "Local configuration procedure" and proceed as follows:

a. To place the modem in the remote configuration mode:

b. Press and hold the RESET button until the "MR" light flashes 10 times. There is a 3 second pause before each set of five flashes are received. The "AA" light comes on at the beginning of the last five flashes and remains on.

c. Do not release the RESET button until you receive all 10 flashes, the "MR", and the "AA" lights are on. The modem is now placed in the remote mode.

d. Dial up the modem at 9600 bps.

e. Dialing up the modem at a baud rate other than 9600 bps will result in configuration errors.

f. Enter five equal signs (= = = = =) after you received the connection message.

g. Press carriage return <cr> after the PASSWORD prompt appears.

h. RC ESTABLISHED prompt will appear. Now you can enter the following commands, each followed by the carriage return <cr>:

AT\Q0	<cr>	Disable Computer Flow Control
AT&S1	<cr>	DSR on when ready to accept data
ATS0=1	<cr>	Answer on the first ring
ATS7=60	<cr>	How long to wait for carrier
ATS2=128	<cr>	Escape sequence character
AT*NT	<cr>	Turn AT command set OFF (very important)
ATQ1	<cr>	Response display OFF
AT&W	<cr>	Write to first profile
AT&W1	<cr>	Write to second profile
AT*RQ	<cr>	End remote configuration and save changes

> ✔ The modem is now configured for remote communication with the Meridian 1 system.

———— **End of Procedure** ————

Configure an A0381391 UDS FastTalk modem

Use the following procedure to configure a UDS FastTalk modem for operation with Meridian 1 Option 61C CP PII and Meridian 1 Option 81/81C CP PII.

Procedure 388
Configuring an A0381391 UDS FastTalk modem

Note: With the exception of the smart/dumb mode jumper setting, configuration changes to the modem are made through software. The modem must remain in smart mode (as shipped) until the software configuration is complete.

- ATE   turn off local character echo

- ATS0=2   enable autoanswer on second ring

- ATDT   set for tone dialing (default is pulse dialing)

- AT&W   store changes in profile 0

- AT&Y   use profile 0 at power up

1   Disconnect the power cord, RS-232 cable, and any other cables from the modem.

2   Remove the top cover on the modem.

3   Stand the unit on its side.

4   Using a medium-size flat screwdriver, lightly pry the four lock tabs off the locks (located on the bottom of the case) and pull the cover away from the modem as the locks release.

5   Set the modem to smart mode.

6   Locate the option jumper. The jumper is located just to the left of the speaker (when viewed from the front of the modem).

7   Place the jumper on the two pins farthest from the speaker.

8   Connect a 25-pin RS-232 cable to the modem and to a terminal.

9   Set the terminal with these parameters:

    — 9600 baud (no other speeds will work)

    — 8 data bits

    — 1 stop bit

    — no parity

Note: The modem will communicate at 9600 bps *only;* the terminal or computer must be set to 9600 bps also.

10 Enter the following commands to set compatible parameters. Follow each command with a carriage return (press the "Return" or "Enter" key):

AT&F   load active profile containing factory settings

AT\N0   select normal mode, error control disabled

AT\Q0   set serial port flow control

ATV3   form-of-response message = DTE

AT&D2   modem disconnects when DTR signal is lost

AT&S1   select DSR control

ATS0=1   answer after 1 ring

ATS2=128   escape character = ascii 128

ATS7=60   pause 1 second for carrier detection

ATQ1

11 After you enter this last command (ATQ1), the modem no longer responds with "OK". Enter the next command:

AT&W   store active profile

12 The modem should respond to every command (except the last two commands) with "OK". If you do not get this response, turn the modem off and on and try again.

13 Disconnect the power cord and serial cable.

14 Set the modem to dumb mode:

15 Locate the option jumper. The jumper is located just to the left of the speaker (when viewed from the front of the modem).

16 Place the jumper on the two pins closest to the speaker.

17 Replace the cover on the modem.

18 Align the tabs, locks, and rear guide grooves.

19 Press the cover into place until the locks and the tabs snap together.

20 Reconnect the power cord and any other cables that will be used.

—————————— **End of Procedure** ——————————

Connect a modem to an SDI port

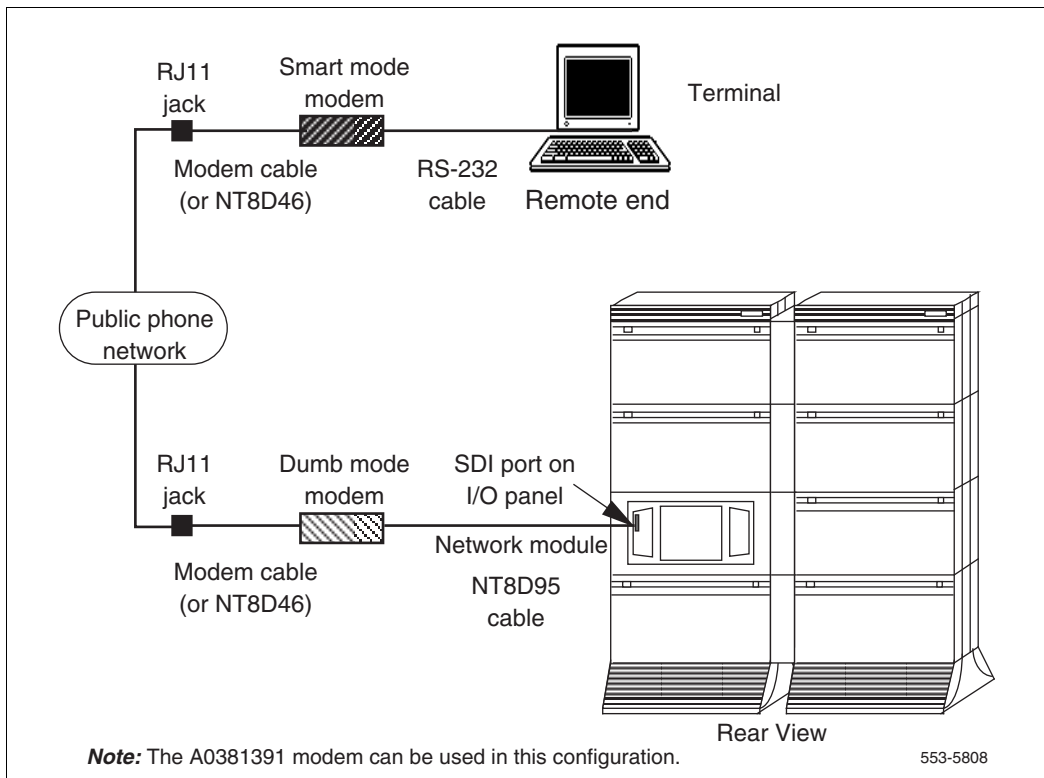Use the following procedure to connect an SDI port directly (no switch box) to a modem (see Figure 126 on page 1150):

Procedure 389
Connecting a modem to an SDI port

1 At the remote end, connect an RS-232 cable to the terminal and to the modem.

2 At the remote end, connect the cable from the modem to an RJ11 telephone jack. (If a cable is required, connect an NT8D46 cable to the modem and to the RJ11 jack.)

3 At the local end, configure the modem:

   a. If you are using a Motorola 28.8 Data/Fax modem, follow the instructions in this document. (See "Configuring an A0638930 Motorola 28.8 Data/Fax Modem" on page 1143.)

   b. If you are using an UDS FastTalk modem, follow the instructions in this document. (See "Configure an A0381391 UDS FastTalk modem" on page 1146.)

   c. If you are using a different type of modem, follow the manufacturer's instructions to set the modem for 9600 baud, auto answer, dumb mode, command recognition OFF, command echo OFF.

4 At the local end, connect an NT8D95 cable to the SDI port on the I/O panel in the rear of the module and to the modem.

5 At the local end, connect the cable from the modem to an RJ11 telephone jack. (If a cable is required, connect an NT8D46 cable to the modem and to the RJ11 jack.)

6 To communicate with a CPSI/COM2 port, switch the cable from the modem to the port as needed:

a. For debugging or monitoring, connect the cable to the *active* CPU at J21 on the I/O panel in the rear of the Core/Network Module.

b. For patch downloading, connect the cable to the *inactive* CPU at J21 on the I/O panel in the rear of the Core or Core/Network Module.

Figure 126
Modem to SDI port

Note: The A0381391 modem can be used in this configuration.

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—————— **End of Procedure** ——————

Connecting a modem to a switch box and CPSI and SDI ports

Procedure 390
Connecting a modem to a switch box and CPSI and SDI ports

Use the following procedure to connect SDI and CPSI ports to a switch box
and a modem (see Figure 127 on page 1153 and Figure 128 on page 1154):

1 At the remote end, connect an RS-232 cable to the terminal and to the
modem.

2 At the remote end, connect the cable from the modem to an RJ11
telephone jack. (If a cable is required, connect an NT8D46 cable to the
modem and to the RJ11 jack.)

3 At the local end, configure the modem:

a. If you are using a Motorola 28.8 Data/Fax modem, follow the
instructions in this document. (See "Configuring an A0638930
Motorola 28.8 Data/Fax Modem" on page 1143.)

b. If you are using an UDS FastTalk modem, follow the instructions in
this document. (See "Configure an A0381391 UDS FastTalk modem"
on page 1146.)

c. If you are using a different modem, follow the manufacturer's
instructions to set the modem for 9600 baud, autoanswer, dumb
mode, command recognition OFF, command echo OFF.

4 At the local end, connect NT8D95 cables to

a. J21 on the I/O panel in the rear of the Core or Core/Network Modules

b. the SDI port on the I/O panel in the rear of the Network module

5 At the local end, connect NT8D84 cables to the SDI Paddle Board at the
Core/Network backplane to the I/O panel in the rear of the Core/Network
Module.

6 At the local end, connect NT8D95 cables from the I/O panels to a
matching connector on the switch box.

If you are using an A0377992 ABCDE box, connect cables as follows:

a. Connect CPU 0 to connector A.

b. Connect CPU 1 to connector B.

c. Connect the SDI port to connector D (connector C is common).

7   At the local end, connect an NT8D95 cable from the switch box to the modem.

8   At the local end, connect the cable from the modem to an RJ11 telephone jack. (If a cable is required, connect an NT8D46 cable to the modem and to the RJ11 jack.)

9   At the local end, set the switch box as needed to communicate with the CPSI ports:

a.   During normal operation, set the switch to the SDI port.

b.   For debugging, set the switch to the *active* CPU.

10   For patch downloading, set the switch to the *inactive* CPU.

───────────── **End of Procedure** ─────────────

Figure 127
Modem to a switch box and SDI and CPSI ports (dual-column systems)

RJ11 jack

Smart mode modem

Terminal

Modem cable (or NT8D46)

RS-232 cable

Remote end

Public phone network

SDI port on I/O panel

Network module J21 on I/O panel

J21 on I/O panel

Core/Net 0

Core/Net 1

NT8D95 cables

Rear View

NT8D95 cable

Switch box

RJ11 jack

Modem cable (or NT8D46)

NT8D95 cable

Dumb mode modem

Note: The A0377992 switch box and A0381391 modem can be used in this configuration.

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Figure 128
Modem to a switch box and SDI and CPSI ports (single-column systems)
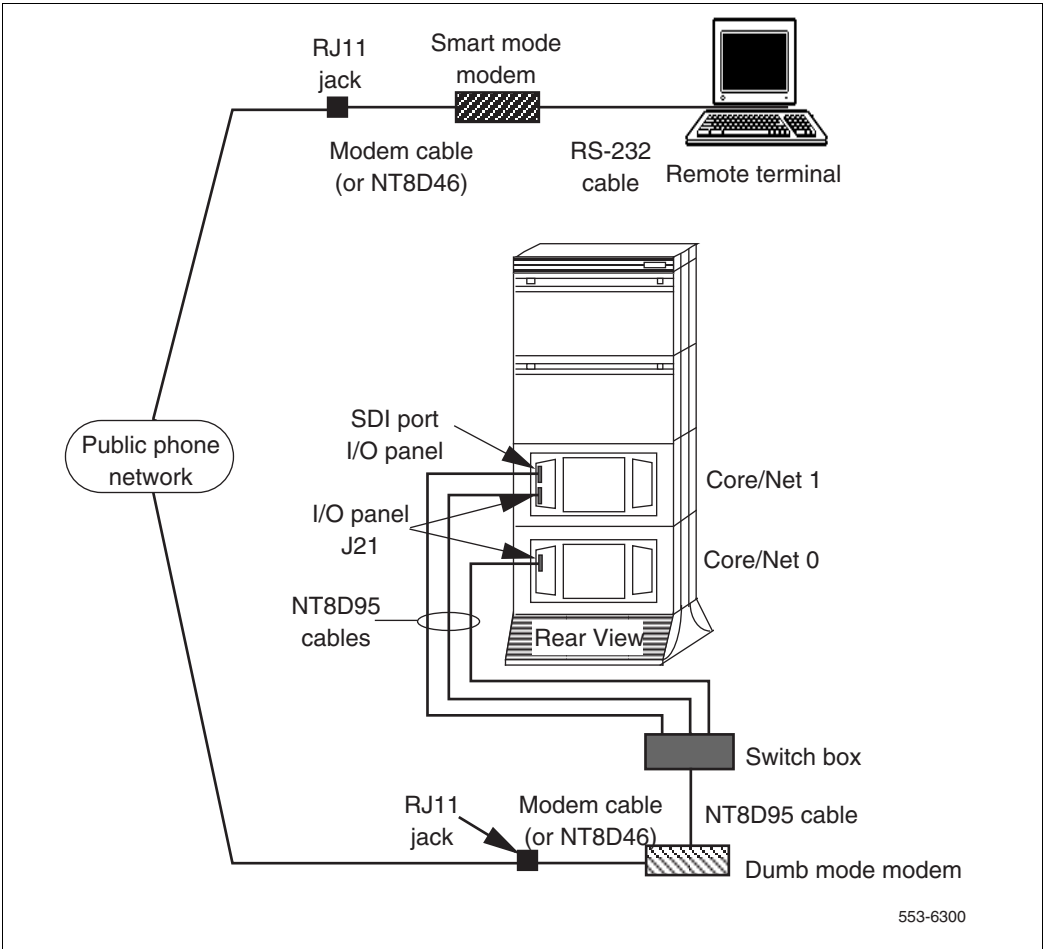
Troubleshooting the upgrade

Contents

This section contains information on the following topics:

Introduction

This appendix contains procedures that you can perform if you experience trouble after upgrading a system to a Meridian 1 Option 61C CP PII or Meridian 1 Option 81C CP PII. Look up all messages displayed on the terminal in the *Software Input/Output: System Messages* (553-3001-411).

Troubleshooting procedures

Find the symptom listed below, and perform the appropriate corrective procedure.

Procedure 391
If the IOP/CMDU, IODU/C, or MMDU card fails the self-test

1   Replace the card with a spare IOP/CMDU, IODU/C, or MMDU card.

2   Look for bent pins on the backplane connectors.

3   Replace the card cage.

──────────────── **End of Procedure** ────────────────

Procedure 392
If the CP/CP PII Card or card fails the self-test

1   Replace the card with a spare CP/CP PII card.

2   Look for bent pins on the backplane connectors.

3   Replace the card cage.

   Note: Contact you Nortel representative for card or card cage
   replacement information.

———————————— **End of Procedure** ————————————

Procedure 393
If "IOP Out of Service" appears on the Call Processor card LCD

1   Check the cable connections on the rear of the backplane. Make sure
     backplane connector positions are correct (and no connectors are in row
     B or E).

2   Look for bent pins on the backplane connectors.

3   Replace the IOP/CMDU or IODU/C card with a spare card and make sure
     it completes its power-up tests successfully. Reset the Call Processor
     card to force it to rehunt the IOP or IOP/CMDU card.

4   If the Call Processor card finds the IOP/CMDU or IODU/C card, the
     original IOP/CMDU or IODU/C card is defective.

5   If the Call Processor card still fails to find the IOP/CMDU or IODU/C card,
     replace the card cage.

———————————— **End of Procedure** ————————————

Procedure 394
If the system points to file corruption while loading software

1   Place the A1 disk (IOP/CMDU) or the Install Program disk (IODU/C) in the
    floppy drive and reload (sysload) the system. The system will boot from
    the floppy, which contains the operating system software, and invoke the
    installation program. When the program installs the software on the hard
    drive, file-level corruption problems should be eliminated.

2   If the failure persists, because of a hard drive failure for example, replace
    the IOP/CMDU or IODU/C card with a spare card and try to load the
    software.

    Note: If the database conversion or the data dump failed, contact your
    Nortel support representative.

————————————————— **End of Procedure** ——————————————

Appendix A: Upgrade checklists

Contents

This section contains information on the following topics:

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 184
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 185
Upgrade details

Current Software - Generic	
Target Software - Generic	
Hardware being added	
Feature Upgrade	
License Upgrade	

Pre-upgrade checklists

Software Upgrade

Software audit

Table 186
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 187
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 188
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 189
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 189
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 190
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 191
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 191
Pre-conversion steps (Part 2 of 2)

LD 30 LDIS (Verify what Is disabled if any)
Get Software Information from LD 22
ISSP - Patches in service - Future Reference if required
TID/SLT - License Parameters - To compare with converted database
LD 21 - PRT CFN
LD 97 - PRT SUPL/XPEC
Run a Template Audit
LD 1 - Auto Run
Perform a Datadump
Backup at least two copies of the current database, retain the copies.
Print History File or System Event Log
LD 22 - Print AHST - Capture Systems Events to compare will new software if required
LD 117 - PRT SEL 500 - Same as above

Post-conversion checks

Table 192
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/CPP (5 Groups Maximum)

Table 193
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 193
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 194
Switch settings (Part 1 of 2)

Group	Shelf	PS	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	1 0	160-175	5 0	off on on on off on off on	off on on off off on off on
5	1	1 1	176-191	5 1	off on on on off on off off	off on on off off on off off
6	0	1 2	192-207	6 0	off on on on off off on on	off on on off off off on on
6	1	1 3	208-233	6 1	off on on on off off on off	off on on off off off on off

Table 194
Switch settings (Part 2 of 2)

7	0	1 4	224- 239	7 0	off on on on off off off on	off on on off off off off on
7	1	1 5	240- 255	7 1	off on on on off off off off	off on on off off off off off

Software generic by machine type

Table 195
Software generic by machine type

System Type	Generic	System Type	Generic	Processors
ST	1011	Option 61	1111	CP1 - NT6D66 - 68030
STE	1511	Option 61 CP1	1811	CP2 - NT9D19 - 68040
NT	1111	Option 61 CP2	2311	CP3 - NT5D10 - 68060
XT	1211	Option 61 CP3	2511	CP4 - NT5D03 - 68060E
RT	1311	Option 61 CP4	2911	CPP - INTEL PII
Option 11	1411	Option 71	1211	CNI'S
Option 11	1411	Option 81 CP1	1611	Opt 81 - 8,9,10
Option 11C	2111	Option 81 CP2	1911	Opt 81C - 12,13,14
Compact	X27	Option 81 CP3	2611	CPP - c9,c10,c11,c12
Option 21	1011	Option 81 CP4	3011	Key Packages
Option21E	1511	Option 81C CP1	1611	Opt 81 - PKG 298
Option 51	1111	Option 81C CP2	1911	Opt 81C - PKG 299
Option 51 CP1	1711	Option 81C CP3	2611	CPP - PKG 299,368
Option 51 CP2	2211	Option 81C CP4	3011	FIJI - PKG 365
Option 51 CP3	2411	Option CP PII	3311	
Option 51 CP4	2811			

Appendix B: Technical Assistance service

Contents

This section contains information on the following topics:

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 196 on page 1172 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 196
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 196
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 197 and 198 describe the service classifications.

Table 197
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 198
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 199 before you call for service.

Table 199
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 197 and 198)	
Description of assistance required	

Appendix C: Software Installation Tool

This appendix details the screen displays and options of the CD-ROM Software Installation Tool (referred to as "Software Installation Tool") that is compatible on Meridian 1 Option 51C, Meridian 1 Option 61C and Meridian 1 Options 81/81C equipped with the NT5D61 Input/Output Disk Unit with CD-ROM (IODU/C).

This tool is based on the existing Software Installation Tool, but has notable differences in menus, as well as new functionality to support installation of software from CD-ROM, copying of system software from Core to Core, copying of database from Core to Core, and Keycode installation.

The IODU/C card uses both a Security Device and an electronic keycode file. This keycode file is stored on a 2MB diskette and must be inserted into the IODU/C floppy drive and authenticated each time the Software Installation Tool is loaded and the Install Menu is accessed.

On systems equipped with an IODU/C, the database is stored on 2MB diskettes, not 4MB diskettes. A Database Transfer Utility diskette, specific to Call Processor type, is available to convert a 4MB database to a 2MB database. Refer to "Database transfer" in Book 3. For procedures on upgrading from systems equipped with IOP and CMDU or IOP/CMDU cards to IODU/C, see *Communication Server 1000M and Meridian 1: Large System Maintenance* (553-3021-500)

The Tools Menu has options for finding the CD-ROM status (option <g>), printing the Keycode (option <h>), printing information about the Security Device (option <i>), checking the customer-specific CD-ROM data (<j>),

---

manually creating a Keycode diskette (<k>), and archiving the database (<s>).

> **WARNING**
>
> Do not turn off the system during the installation process. If you need to quit the installation process, do so from within the Software Installation Tool before powering off the system.

Read and understand the entire procedure before attempting to perform an installation.

Before the Software Installation Tool is activated, verify that the system is in split mode (not applicable for Meridian 1 Option 51C) and that a terminal is connected to CPSI port J25 on the I/O panel (in the inactive Core for dual CPU systems). Meridian 1 Option 51C systems will be taken out of service.

To activate the Software Installation Tool, insert the Install diskette specific to the Call Processor type and the CD-ROM containing system software (if installing that component). Press the MAN RST button on the CP card in the same Core.

The IODU/C Software Installation Tool requires the following items:

- 2MB diskettes (used to store, backup, and restore the database)
- an Install diskette specific to the system's Call Processor card
- a Keycode diskette
- a CD-ROM containing system software

Note: If installing system software from CD-ROM (options <a>, <b>, or <c> from the Install Menu), insert the CD into the CD-ROM drive before loading the Software Installation Tool.

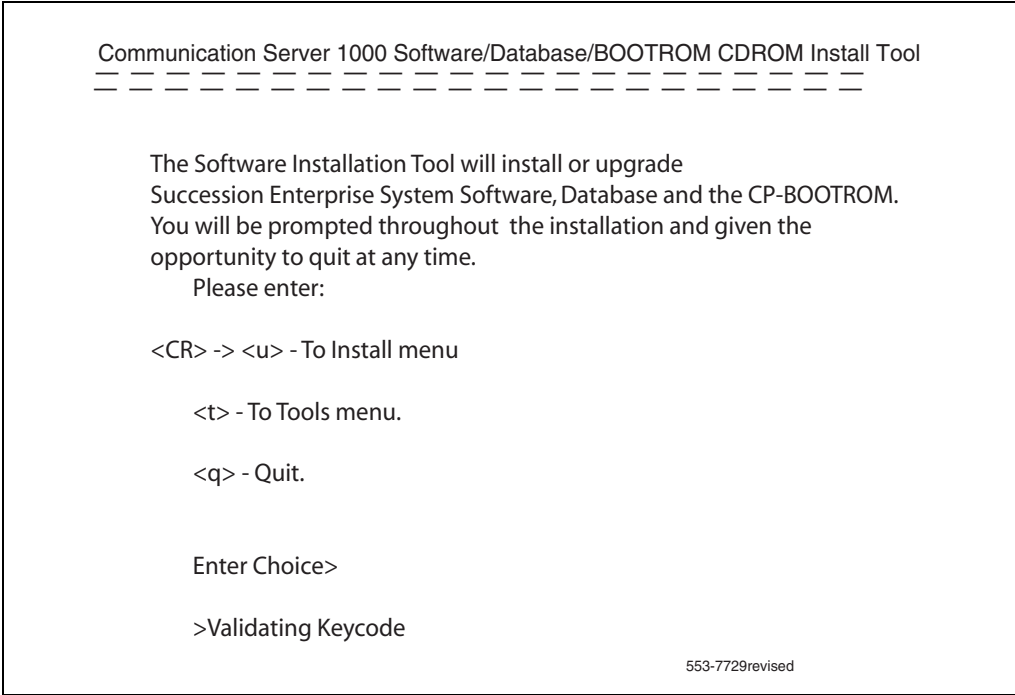
CAUTION — Service Interruption

Loss of Data

The screens shown in this procedure are examples. They are not intended to exactly represent the displays that will appear for the system, nor do the choices entered represent those to choose. Be sure to watch the terminal display, and follow the on-screen instructions.

Pay close attention to the menus when they appear; they display the options available at any given stage.

Status Summary Charts

Status Summary Charts are displayed for the purpose of informing the user about what items will be installed or have been installed. This example is shown when option <b> (all components) is chosen from the Install Menu.

Figure 129
Status Summary screen example

```
    Communication Server 1000 Software/Database/BOOTROM CDROM Install Tool
    — — — — — — — — — — — — — — — — — — — — — — — — — — —


        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>

        >Validating Keycode
                                                    553-7729revised
```

Note: The screen might differ from this example.

The possible values and meanings for each column are defined below.

- Choice
    - **yes** indicates the item will be installed
    - **no** indicates the item was not selected, and will not be updated.
- Status
    - **quit** indicates the quit option was used, and the process was exited.
    - **ok** indicates the choice was installed successfully.

— **error** indicates the installation was not successful. A system message is given when the Software Installation Tool encounters a problem. Follow the actions required by the message.

— **ignore** applies to the CP ROM and IOP-ROM upgrade only. This appears when the process was exited when asked to replace a release and issue with the same release and issue.

— **blank** indicates the status is not yet determined if Choice = Yes. If Choice = No, the field remains blank.

- Comment

    — **from rel <number> to rel <number>** gives the Source and Target release and issue numbers.

Messages

When the Software Installation Tool encounters a problem, a system message appears on the terminal display. These messages fall into two categories:

- warning

- non-warning

Warning messages are not critical errors. The Software Installation Tool proceeds with the installation following the appearance of this message. Refer to *Software Input/Output: Administration* (553-3001-311) for details regarding these messages.

Non-warning messages appear when a critical problem is encountered. The Software Installation Tool stops the process, and an action is recommended. When the action is complete, the Software Installation Tool can be restarted. In some cases, the tool allows the process to restart by pressing the carriage return <CR>.

Introductory Screen

The first screen that appears after loading the NT5D61 Software Installation Tool is the Nortel Logo Screen shown in Figure 130 on .

Figure 130
Nortel logo screen

```
Communication Server 1000 Software Software/Database/BOOTROM CDROM INSTALL Tool
— — — — — — — — — — — — — — — — — — — — —

     #####
   #########  ########
  ########`` `#############
 ########    `` `#############
 #######`    ######```####
 #######   ######``  `###     NORTEL NETWORKS
 #######  #####``    ####
 ####### #####`      ####  Communication Server 1000 Software
 `#########`       ####`
 #######`         #####    Install Tool version XX
 `#######        #####`
 ##########      `###`    Copyright 1992 - 2004
 ##``##########      #
 ## `#######################
 `#  `######################
  #########################``
  ````````` ````####````
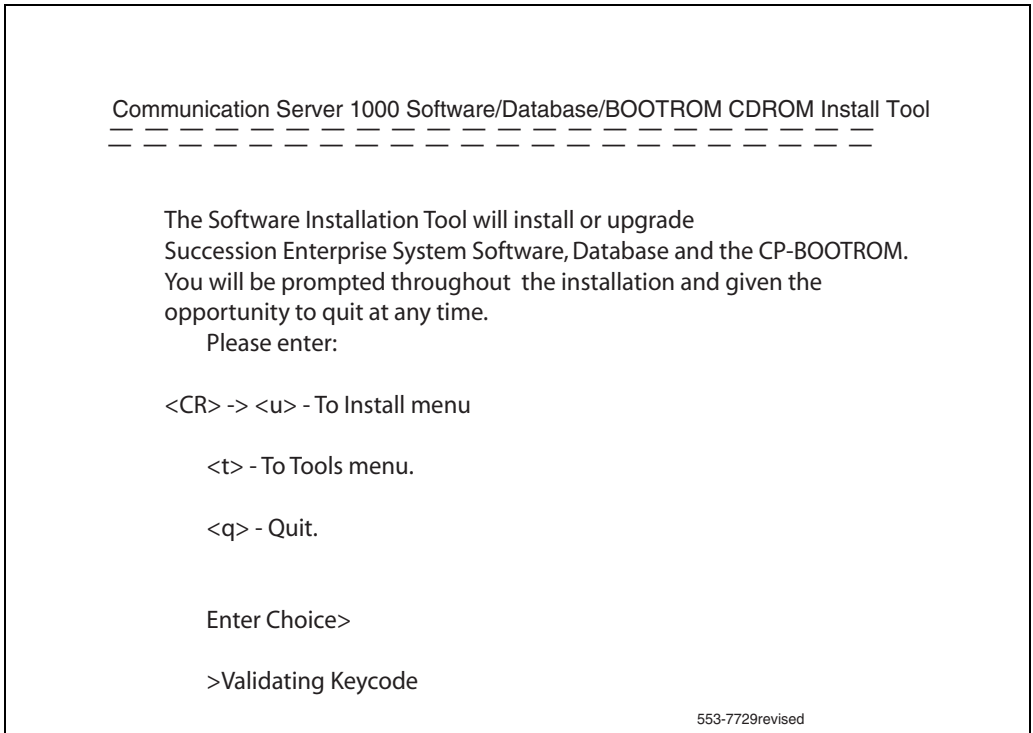

 Please press <CR> when ready . . .   553-7728revised
```
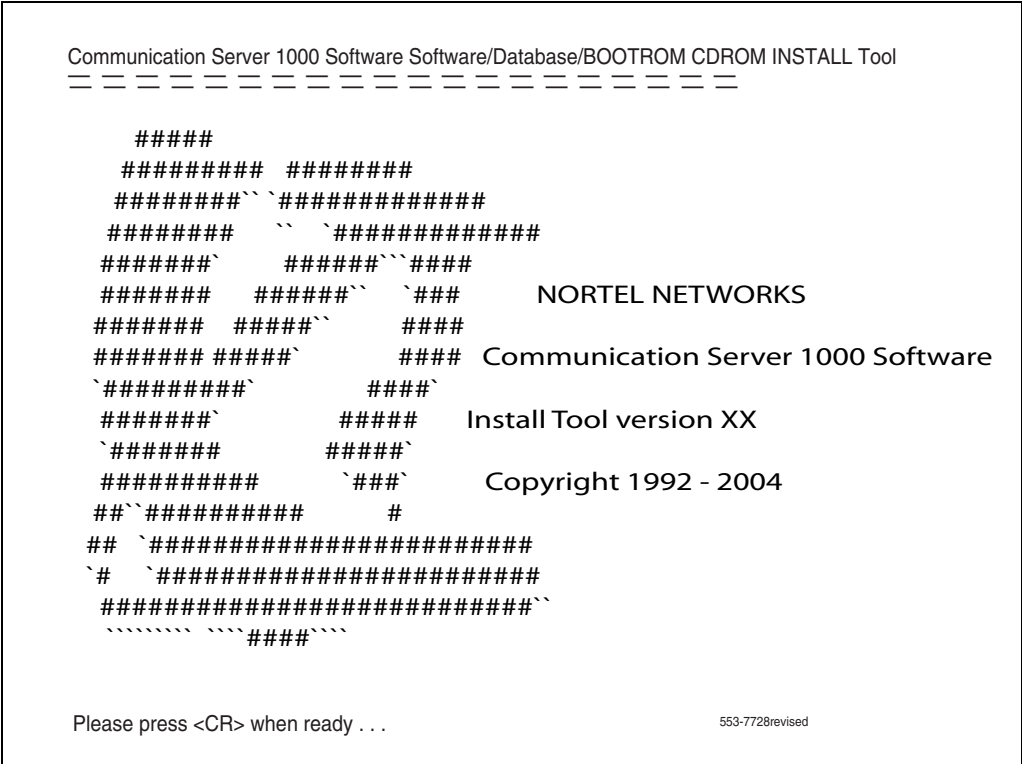
## Main menu

The Main menu screen seen in Figure 131 is displayed after <CR> is pressed from the NT Logo Screen. From this screen, select option <u> to go to the Install Menu, <t> to go to the Tools Menu, or option <q> to quit.

**Figure 131**
**Main menu**

```
Communication Server 1000 Software/Database/BOOTROM CDROM Install Tool
— — — — — — — — — — — — — — — — — — — — — — — — —
— — — — — — — — — — — — — — — — — — — — — —


    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>

        >Validating Keycode
                                            553-7729revised
```

Install Menu

> *Note:* A Keycode diskette is required before accessing the Install Menu.

Before the Install Menu screen is displayed, you are prompted for the Keycode diskette to be inserted for validation against the Security Device.

Figure 132
Keycode confirmation

```
        Communication Server 1000 Software/Database/BOOTROM CDROM Install Tool
        —  —  —  —  —  —  —  —  —  —  —  —  —  —  —  —  —  —  —  —  —

        Please confirm that this keycode matches the CDROM Release

        Please enter:
 <CR>--> <y> - Yes, the keycode matches. Go on to Install Menu.
        <n> - No, the keycode does not match. Try another keycode diskette.


        Enter Choice > y                        553-8365revised
```
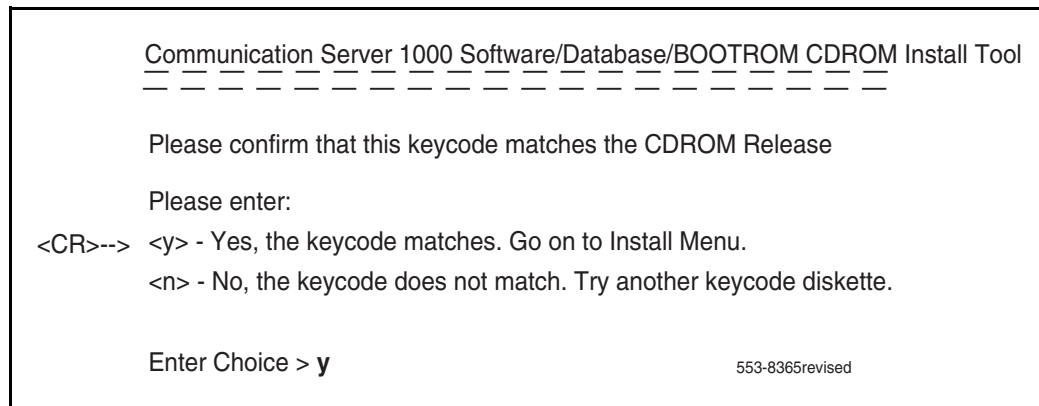
Following successful Keycode validation, the Install Menu screen is displayed (Figure 133).

Note: If the Software Installation Tool is loaded on a Core equipped with an NT5D61BA IODU/C (which lacks a CD-ROM drive), options <a>, <b>, and <c> do not appear.

Figure 133
Install Menu screen

```
       Communication Server 1000 Software/Database/BOOTROM CDROM Install Tool
       ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═
                      I N S T A L L   M E N U
       The Software Installation Tool will install or upgrade Succession
       Enterprise Software, Database and the 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.



                                                    553-7789revised
       Enter Choice >
```

Each option from the Install Menu is described in the following pages.

Installing Software, CP-BOOT ROM, and IOP-ROM

> *Note:* For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

This option, option <a>, is selected for the sequential installation of software, CP-BOOTROM, and IOP-ROM. Option <a> differs from option <b> in that the database is not installed. Use option <a> when going to a later software release or for a software upissue.

Installing Software, Database, CP-BOOT ROM, and IOP-ROM

> *Note:* For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

Option <b> is selected to sequentially install all components – software, database, CP-BOOTROM, and IOP-ROM.

Option <b> is used during the upgrade procedures from NT5D20 IOP/CMDU, NT6D63 IOP and NT6D64 CMDU to NT5D61 IODU/C cards or NT4N43CA CPP PII MMDU card.

Installing Software only

> *Note:* For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

Option <c> is selected to install system software from the CD-ROM to the hard drive. When selecting option <c>, IOP-ROM and CP-BOOTROM are not installed.

Installing Database only

> *Note:* For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

The Database Menu (see Figure 134) of the Software Installation Tool is accessed by the <d> option on the Install Menu.

Figure 134
Database Installation options

```
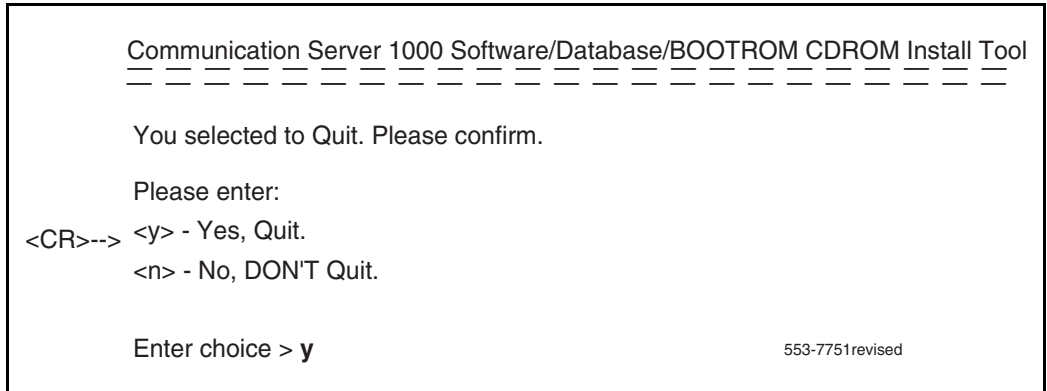Communication Server 1000 Software/Database/BOOTROM CDROM Install Tool
— — — — — — — — — — — — — — — — — — — — — — — — — — —

You will now perform the database installation.

Note: If you are installing the Database from a floppy disk,
        please insert the correct disk now.


            Please enter:
<CR>--> <a> - Install CUSTOMER Database
            (the customer database diskette must be in the Core 1 disk drive).
        <b> - Install DEFAULT Database
            (the installation CDROM must be in the Core 1 disk drive).
        <d> - Copy Database from the redundant disk.
        <e> - Check the Database that exists on the hard disk.
        <q> - Quit.

        Enter Choice > a                                      553-7779revised
```

The following options are available for installing a database:

- Option <a> is to install the backup customer database from one or more 2MB diskettes.

- Option <b> allows installation from the CD-ROM containing the default database. This option is used on new systems which have no existing database.

- Option <d> copies the existing database from the redundant Core. This option is used when the database has already been installed on one Core. Use this option when upgrading from IOP/CMDU to IODU/C cards.

- Option <e> displays the version and issue of the current database residing on the Core. If database files are missing, error messages are printed.

> ⚠️ **Loss of Data**
>
> Before upgrading the system database, be sure a backup of the previous (source) database is on hand. Should any problems arise, it might be necessary to return to the previous database.

Installing CP-BOOT ROM

For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

Option <e> is for installing new CP-BOOTROM. This option is used to install CP-BOOTROM while on Core 0 in a software upgrade, when software has already been installed using options <a> or <b> on Core 1, and software has already been copied onto Core 0 using option <o>.

When option <e> is selected, the next screen displayed shows the version of CP-BOOTROM being replaced and the version being installed, and the card slot where the CP-BOOTROM is being installed. When prompted, select <a> to continue with the CP-BOOTROM upgrade.

Installing IOP-ROM

Note: For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

Option <f> is for installing new IOP-ROM. This option is used to install IOP-ROM while on Core 0 in a software upgrade, when software has already been installed using options <a> or <b> on Core 1, and software has already been copied onto Core 0 using option <o>, and CP-BOOTROM has been installed using option <e>.

When option <f> is selected, the next screen displayed prompts to choose whether to install the IOP-ROM from the hard disk (option <a>), or from CD-ROM (option <b>). If software has just been installed successfully, select option <a>. However, if software was not installed, select option <b> to install from CD-ROM.

after When option <f> is selected, the next screen displayed shows the version of IOP-ROM being replaced and version being installed, and the card slot where the IOP-ROM is being installed. When prompted. select <a> to continue with the IOP-ROM upgrade.

Reinstalling CP-Software

Note: For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

This option is used if a flash programming error occurs during software installation through options <a>, <b>, or <c>. Option <g>, which assumes that software files have already been installed on the hard disk, copies these files from the hard disk to the Flash EEPROM.

To copy system software from the other Core

Note: For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

Option <o> is used during a software upgrade when software has already been installed on Core 1, and the Software Installation Tool has been loaded on Core 0.

Note: This option does not perform the installation of CP-BOOTROM (option <e>) or IOP-ROM (option <f>).

To go to the Tools Menu

Option <t> displays the Tools Menu and its options, which are described beginning on .

To Install Keycode only

Option <k> is used to replace an existing Keycode.

To quit

> *Note:* For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

Throughout the installation process, the option to quit is always available. Quitting with the Software Installation Tool quit commands is preferable to pressing the MAN RST button on the CP card, since quitting from the tool erases unneeded temporary files.

When done using the NT5D61 Software Install Tool, remove the diskette from the IODU/C and select option <q> to quit from the Installation menu. The terminal displays a confirmation to quit. Pressing <y> confirms the quit. See Figure 135.

Figure 135
Quit option – Installation Menu

Communication Server 1000 Software/Database/BOOTROM CDROM Install Tool
— —

You selected to Quit. Please confirm.

Please enter:

<CR>-->   <y> - Yes, Quit.

<n> - No, DON'T Quit.

Enter choice > **y**   553-7751revised

The final screen displayed before quitting is a reminder to remove the Install diskette from the IODU/C floppy drive before pressing <a> to reboot the system. See Figure 136 below.

The system automatically performs a Sysload, during which several messages appear on the system terminal. Wait for "DONE" and then "INI" messages to be displayed before continuing.

Figure 136
Quit screen

```
         Communication Server 1000 Software/Database/BOOTROM CDROM Install Tool
         ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═ ═

         You have selected to quit the Install Tool
         You may reboot the system or return to the Main Menu.
         Remove all disks from the system before rebooting.


         ----------------------------------------------
         DO NOT REBOOT USING RESET BUTTON!!
         ----------------------------------------------

         Please enter:

         <a> - Reboot the system.

<CR>-->  <m> - Return to the Main menu.


         Enter Choice > a
                                                        553-7752revised
```
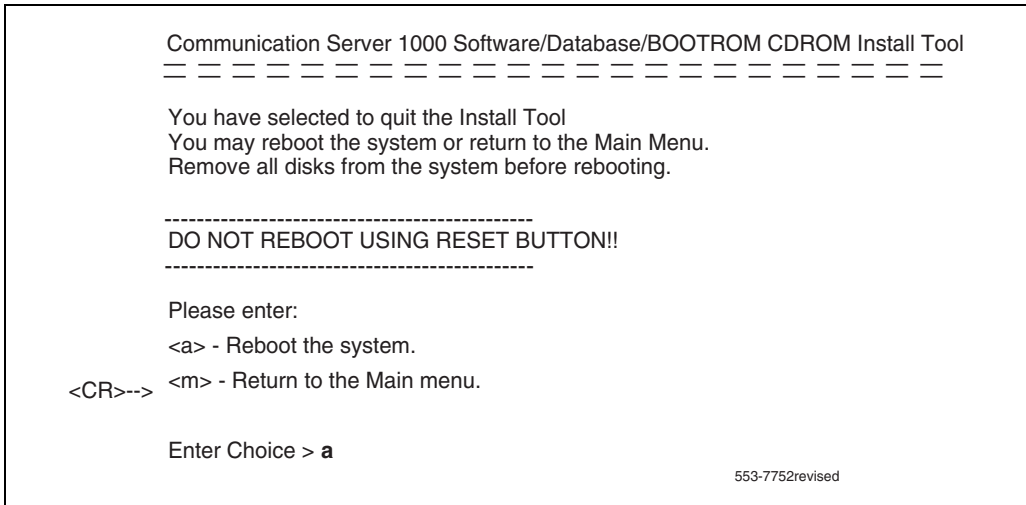
Tools Menu

To load the Software Installation Tool which contains the Tools Menu, insert the Install diskette which is compatible with the Call Processor card. Press the MAN RST button on the CP card to load the tool.

The first screen that appears after loading the NT5D61 Software Installation Tool is the Nortel Logo Screen shown in Figure 137.

Figure 137
Nortel logo screen

```
Communication Server 1000 Software Software/Database/BOOTROM CDROM INSTALL Tool
— — — — — — — — — — — — — — — — — — — — — — —

     #####
   #########  ########
  ########`` `#############
 ########    ``  `#############
 #######`     ######```####
 #######   ######``  `###      NORTEL NETWORKS
 ####### #####``     ####
 ####### #####`        ####  Communication Server 1000 Software
 `#########`         ####`
 #######`          #####    Install Tool version XX
 `#######         #####`
 ##########      `###`       Copyright 1992 - 2004
 ##``##########       #
 ## `#######################
 `#   `######################
  #########################``
   ````````` ````####````

 Please press <CR> when ready . . .   553-7728revised
```

The screen seen in Figure 138 on is displayed after <CR> is
pressed from the Nortel Logo Screen. From this screen, select option <t> to
go to the Tools Menu

Figure 138
Main menu installation

```
Communication Server 1000 Software/Database/BOOTROM CDROM Install Tool
— — — — — — — — — — — — — — — — — — — — — — — — — —


     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>

     >Validating Keycode
                                            553-7729revised
```

Note: Insertion of the Keycode diskette is not required for accessing the Tools Menu.

The Tools Menu has new options for finding the CD-ROM status (option <g>), printing the Keycode (option <h>), printing information about the Security Device (option <i>), checking the customer-specific CD-ROM data (<j>), manually creating a Keycode diskette (<k>), and archiving the database (<s>).

The Tools Menu is displayed in Figure 138.

Figure 139
Tools menu

```
Communication Server 1000 Software/Database/BOOTROM CDROM Install Tool
— — — — — — — — — — — — — — — — — — — —
                        T O O L S   M E N U

This is the Tools Menu for Install. You can select the tool that
is appropriate. Please select one of the options below.

Please enter:
<CR>-->   <a> - To set the system date and time.
          <b> - To partition the hard disk.
          <c> - To display the partition size of hard disk.
          <d> - To regenerate PDT Password.
          <g> - To print CDROM content.
          <h> - To print Keycode content.
          <i> - To print Security Device content.
          <j> - To Check the customer specific part of CDROM.
          <k> - To manually create Keycode floppy diskette.
          <r> - To install Keycode only.
          <s> - To archive existing database.
          <z> - To check MDU connection.
          <m> - To return to the Main Menu
                                                    553-7796revised

Enter choice >
```

Each option from the Tools Menu is described in the following pages.

Setting the system date and time

This option is used to change the system date and time for the system's internal clock. The correct date and time will ensure that files are time-stamped accurately.

> ⚠️ **WARNING**
>
> **Time and Date**
>
> Time and date must be set at time of installation to prevent problems on AUX products.

Figure 140
Set date and time screen

```
Communication Server 1000 Software/Database/BOOTROM CDROM Install Tool
— — — — — — — — — — — — — — — — — — — — — — — —


You have selected the option to set the system date and time.
This will change the internal clock of your system to a new data
and time.

The system date and time are also used by Install to time-stamp the new files
created.

Pressing the carriage return at the prompt below will leave the
system date or time unchanged.

Please enter the new date or time.


Current date is: Tuesday xx-xx-xxxx
Enter new date (dd mm yyyy) ? xx x xxxx
Date is set to: Wednesday xx-xx-xxxx

Current time is: 15:52:00
Enter new time (hh mm ss) ? 15 05 45
Time is set to: 15 05 45

System Date and Time now is:
Wednesday xx-xx-xxxx, 15:05:46                      553-7743revised
```

Partitioning the hard disk

> *Note:* Option <b> requires a password, and should only be performed by Nortel support personnel.

CAUTION — Service Interruption

Loss of Data

Partitioning a disk erases all files from it.

Displaying the hard disk partition size

Option <c> displays the partition sizes of the hard disk. The manufacturer and model number of the hard disk are also displayed. See Figure 141.

Figure 141
Partition information

```
IODU 0
Hard Disk from: MAXTOR:7120SCS, Size:124MB,Sectors:248502
Unprotected     Part Size:30MB,  Sectors: 60000
Spare           Part Size:30MB,  Sectors: 60000
CardId          Part Size:1MB,  Sectors: 2000
Protected       Part Size:60MB,  Sectors: 120000
                                              553-7742
```

Regenerate the PDT password

Option <d> requires a password, and should only be performed by Nortel support personnel.

To print the CD-ROM content

Option <g> is used to determine whether a CD-ROM exists on each IODU/C, and whether its sectors are readable. After selecting <g>, three options are available:

- **Fast** readability test, which takes about 17 seconds for each CD-ROM and reads 1/30th of the CD-ROM sectors.

- **Extensive** readability test, which takes about 3 minutes for each CD-ROM and reads 1/4th of the CD-ROM sectors.

- **Total** readability test, which takes about 6 minutes for each CD-ROM and reads all sectors of the CD-ROMs.

  Note: The failure of a CD-ROM drive to read a known good CD-ROM can indicate a problem with the CD-ROM drive.

To print the Keycode content

Use option <h> to display the information contained in the current Keycode. The information displayed includes machine type, software version, License limits, and which feature packages are enabled.

See Figure 142 on .

Figure 142
Current keycode

```
System Serial Number         :   46379
Software Version             :   1811
System Type                  :   Option 61C
Call Processor               :   CP68030
Release                      :   23
Issue                        :   30G
NTI Order Number             :   000000000000
NT SDID - 1                  :   00000000
NT SDID - 2                  :   00000000
Date and Time of Manufacture :   06/03/1998 - 14:53:38

Note:  ( ) indicates that information is not available

ISM Limits:
   Loop Limit       :   32
   Sys TNs Limit    :   32767
   ACD Agt Limit    :   32767
   ACD DNs Limit    :   24000
   AST Limit        :   32767
   DSL Limit        :   100
   LTID Limit       :   100
   DCH Limit        :   64
   AML Limit        :   16
   MPH DSL Limit    :   100
   RAN CON Limit    :   32767
   RAN RTE Limit    :   512
   MUS CON Limit    :   1000
   Brand Index      :   1

Options Packages:
   0-2 4-5 7-25 28-29 232-55 57-65
   67 70-77 79-81 84 86 88-93
   95 98-105 107-109 111 113-121 125
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```

553-7745

To print the Security Device content

Option <i> displays specific information about the Security Device, such as Serial Number. This enables the user to find information about the Security Device without removing the NT5D61 IODU/C card. See Figure 143.

Figure 143
Security device information

```
Engineering Code (Side x)   :NT5D61AA
Card Serial Number          :06NNTM1831RRC3 IOP
NT SDID                     :20000080
Security Device Type        :NT_TCH
System Serial Number        :46379        553-7746
```

To check the customer-specific part of the CD-ROM

Use option <j> to check the readability of the Keycode-specified system software on the CD-ROM drive. Once all files have been checked successfully, the message
Checking directory /cdx/xxxx_DMR.Nxx ended successfully
is displayed to indicate completion.

To manually create a Keycode diskette

Use option <k> to manually type in a keycode and save it to a 2MB diskette. Upon selecting this option, enter the characters into 21 Keycode entry lines of 16 characters each, which compose the Keycode file to be saved on a 2MB diskette in the floppy drive.

Characters can be entered on the Keycode entry lines in one of two ways:

- manually entering each 16-character line followed by a **<CR>**

- "pasting" each individual 16-character line, then pressing **<CR>** (available on a PC running Windows   using the Copy command (Control-C) to copy a line of characters from a keycode file, positioning the cursor on the current Keycode entry line, and using the Paste command (Control-V) to paste the line).

If a line is entered which does not have 16 characters, a message is displayed requiring the line to be entered correctly.

To install Keycode only

Use option <r> to replace an existing Keycode.

To archive the existing database

Option <s> is one methods (the ABKO and BKO commands from LD 143 are other methods) available to backup the customer database to 2MB diskettes. The size of the backup files and the estimated number of 2MB diskettes required to store the database is displayed.

To check MDU connection

Select option <z> to test the connection between a connected MDU and IODU/C.

To return to the Main Menu

Select Option <m> to return from the Tools Menu to the Main Menu, to select to quit (<q>) or go to the Install Menu (<u>).

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Nortel Communication Server 1000

Communication Server 1000M and Meridian 1

Large System Upgrade Procedures
(Book 3 of 3)

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