Nortel Communication Server 1000

Nortel Communication Server 1000 Release 5.5

Communication Server 1000M and Meridian 1

Large System Upgrades Overview

Document Number: NN43021-458
Document Release: Standard 02.11
Date: September 2009

Contents

List of Procedures

New in this release

The following sections detail what's new in *Nortel Communication Server 1000M and Meridian 1 Large System Upgrades Overview* (NN43021-458) for Nortel Communication Server 1000 Release 5.5.

Other changes

See the following sections for information about changes that are not feature related:

Revision history

September 2009

Standard 02.11. This document is up-issued to include additional information on Installing and enabling the Peripheral Signaling

November 2008

Standard 02.10. This document is up-issued with addition of a table to the Check requirements for cCNI to 3PE cables (NTND14) section.

November 2008

Standard 02.09. This document is up-issued with updates in Graphics

September 2008

Standard 02.08. This document is up-issued with updates in Graphics

August 2008

Standard 02.07. This document is up-issued with updates in Graphics

April 2008

Standard 02.06. This document is up-issued with corrections to contents of upgrade kits.

April 2008

Standard 02.05. This document is up-issued with editing corrections.

March 2008

Standard 02.04. This document is up-issued with corrections to procedures for invoking software downgrade.

March 2008

Standard 02.03. This document is up-issued with corrections to procedures for invoking software downgrade.

February 2008

Standard 02.02. This document is up-issued with additions to procedures for invoking software downgrade.

November 2007

Standard 02.01. This document is issued for Communication Server 1000 Release 5.5.

July 2007

Standard 01.04. This document is up-issued with corrections to procedures for invoking the install menu during CP PIV and CP P4 upgrades.

June 2007

Standard 01.03. This document is up-issued with corrections to upgrade procedures.

June 2007

Standard 01.02. This document is up-issued with corrections to links for software upgrades.

May 2007

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

May 2006

Standard 5.00. This document is up-issued with corrections installing clock controllers and keycode upgrade procedure for CP PIV.

January 2006

Standard 4.00. This document is up-issued with corrections to various upgrade procedures.

August 2005

Standard 3.00. This document is up-issued to support CP PIV and Communication Server 1000 Release 4.5.

September 2004

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

October 2003

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

Finding the latest updates on the Nortel Web site

The content of this documentation was current at the time the product was released. To check for updates to the latest documentation and software for CS 1000 Release 5.5, click one of the links below.

Latest Software	Takes you directly to the Nortel page for CS 1000 Release 5.5 software.
Latest Documentation	Takes you directly to the Nortel page for CS 1000 Release 5.5 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.

System information

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

Subject

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

This document also contains information on converting Release 19.0x or later software to CS 1000 Release 5.0 or later on Meridian 1 Options 51C, 61C, 81, 81C, CS 1000M SG and CS 1000M MG systems. For software conversion procedures prior to Release 19.xx, refer to the *Software conversion procedures* (553-2001-320) NTP for software Release 24.

IMPORTANT!

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

Note on legacy products and releases

This NTP contains information about systems, components, and features that are compatible with Nortel Communication Server 1000 Release 5.5 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 5.5 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

Signaling Server configuration

Meridian 1 Large Systems can be configured to run one or more Signaling Servers. The following Signaling Servers are supported in a Large System configuration for CS 1000 release 5.5:

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

For detailed Signaling Server configuration information see *Signaling Server: Installation and Commissioning* (NN43001-312).

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.

CS 1000 4.5 Documentation

For documentation of the following upgrades, see *Communication Server 1000M and Meridian 1 Large System Upgrades* (553-3021-258), Book 3 of 3:

- Adding an NT8D35 Network Group to Option 81 (NT5D60)
- Adding a Network Group to Option 81C CP3, CP4 (NT5D21)
- Installing IODU/C cards, CP cards, CP memory

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.

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” on page 73 before performing any operations.

It contains information vital to the conversion process.

NTPs

The following NTPs are referenced in this document:

- *Product Compatibility* (NN43001-256)
- *Converging the Data Network with VoIP* (NN43001-260)
- *Circuit Card: Description and Installation* (NN43001-311)
- *Signaling Server: Installation and Commissioning* (NN43001-312)
- *IP Peer Networking: Installation and Commissioning* (NN43001-313)
- *Features and Services* (NN43001-106)
- *Software Input/Output: Administration* (NN43001-611)
- *Element Manager: System Administration* (NN43001-632)
- *IP Trunk: Description, Installation, and Operation* (NN43001-563)
- *IP Line: Description, Installation, and Operation* (NN43100-500)
- *ISDN Basic Rate Interface: Features* (NN43001-580)
- *Software Input/Output: Maintenance* (NN43001-711)
- *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (NN43021-220)
- *Communication Server 1000M and Meridian 1: Large System Installation and Commissioning* (NN43021-310)
- *Communication Server 1000M and Meridian 1: Large System Maintenance* (NN43021-700)
- *Communication Server 1000M and Meridian 1 Large System Upgrade NTPs* (NN43021-458\=NN43021-475)

Online

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

www.nortel.com

CD-ROM

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

Technical support

For technical support contact information, see "Technical Assistance service" on page 1233.

Overview

Contents

This section contains information on the following topics:

NTP structure

The Large System Upgrade NTPs are divided into the following individual books. Upgrade procedures in these books are written from source software or system to target software or system and are organized by source system number.

CS 1000M and Meridian 1 Large System Upgrades Overview (NN43021-458)

CS 1000M and Meridian 1 51C to CS 1000M SG CP PIV Upgrade (NN43021-459)

CS 1000M and Meridian 1 61C to CS 1000M SG CP PIV Upgrade (NN43021-461)

CS 1000M and Meridian 1 61C CP PII to CS 1000M SG CP PIV Upgrade (NN43021-462)

CS 1000M and Meridian 1 61C to CS 1000M MG CP PIV FNF Upgrade (NN43021-463)

CS 1000M and Meridian 1 61C CP PII to CS 1000M MG CP PII FNF Upgrade (NN43021-464)

CS 1000M and Meridian 1 61C CP PII to CS 1000M MG CP PIV FNF Upgrade (NN43021-465)

CS 1000M and Meridian 1 CS1000M SG CP PIV to CS 1000M MG CP PIV FNF Upgrade (NN43021-466)

CS 1000M and Meridian 1 71 to CS 1000M MG CP PIV FNF Upgrade (NN43021-467)

CS 1000M and Meridian 1 81 to CS 1000M MG CP PII FNF Upgrade (NN43021-468)

CS 1000M and Meridian 1 81C IGS to CS 1000M MG CP PII FNF Upgrade (NN43021-469)

CS 1000M and Meridian 1 81C FNF to CS 1000M MG CP PII FNF Upgrade (NN43021-470)

CS 1000M and Meridian 1 81C IGS to CS 1000M MG CP PIV FNF Upgrade (NN43021-471)

CS 1000M and Meridian 1 CS 1000M MG CP PII IGS to CS 1000M MG CP PII FNF Upgrade (NN43021-472)

CS 1000M and Meridian 1 CS 1000M MG CP PII IGS to CS 1000M MG CP PIV FNF Upgrade (NN43021-473)

CS 1000M and Meridian 1 CS 1000M MG CP PII FNF to CS 1000M MG CP PIV FNF Upgrade (NN43021-474)

CS 1000M and Meridian 1 Large System Upgrades - Network Groups (NN43021-475)

General hardware upgrade information

Contents

This section contains information on the following topics:

NT4N40 Core/Net module

The Meridian 1 PBX 61C and Meridian 1 PBX 81C CPP systems feature an NT4N40 Core/Net (see Figure 1 on page 52), allowing CS 1000 Release 5.5 to support a unified hardware platform for both single group and multi-group configurations. This platform allows upgrades from single group to multi-group configurations (requiring a new keycode file and any additional hardware necessary for a multi-group system).

Figure 1
NT4N40 Core/Net shelf (Meridian 1 PBX 61C CP PII example)

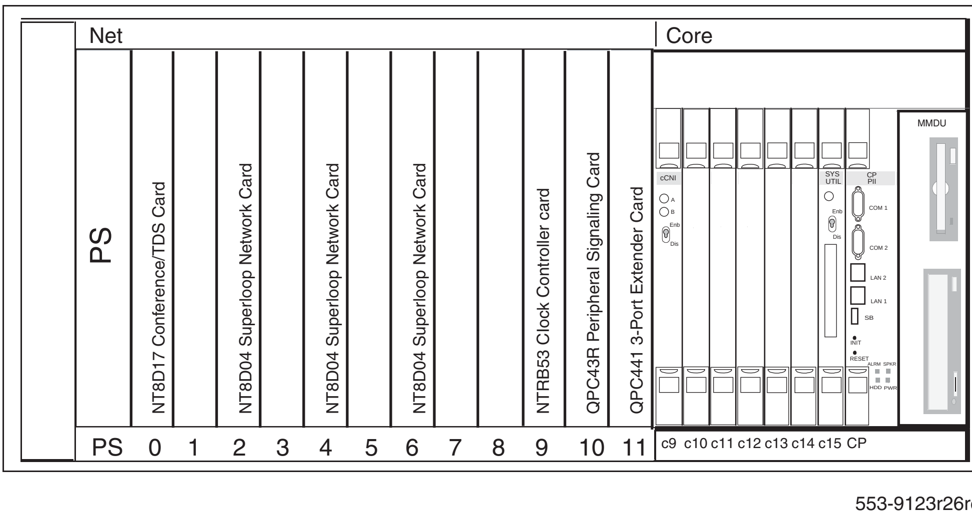
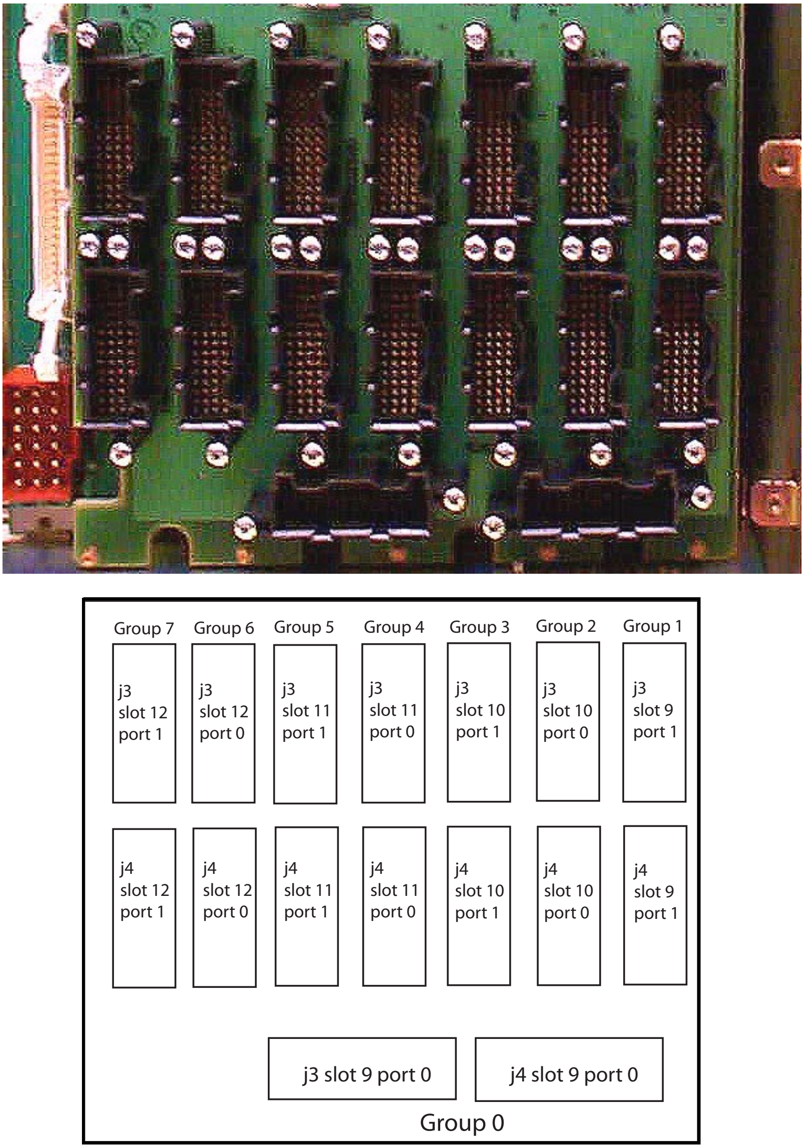


Figure 2
Fanout panel (backplane)



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

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

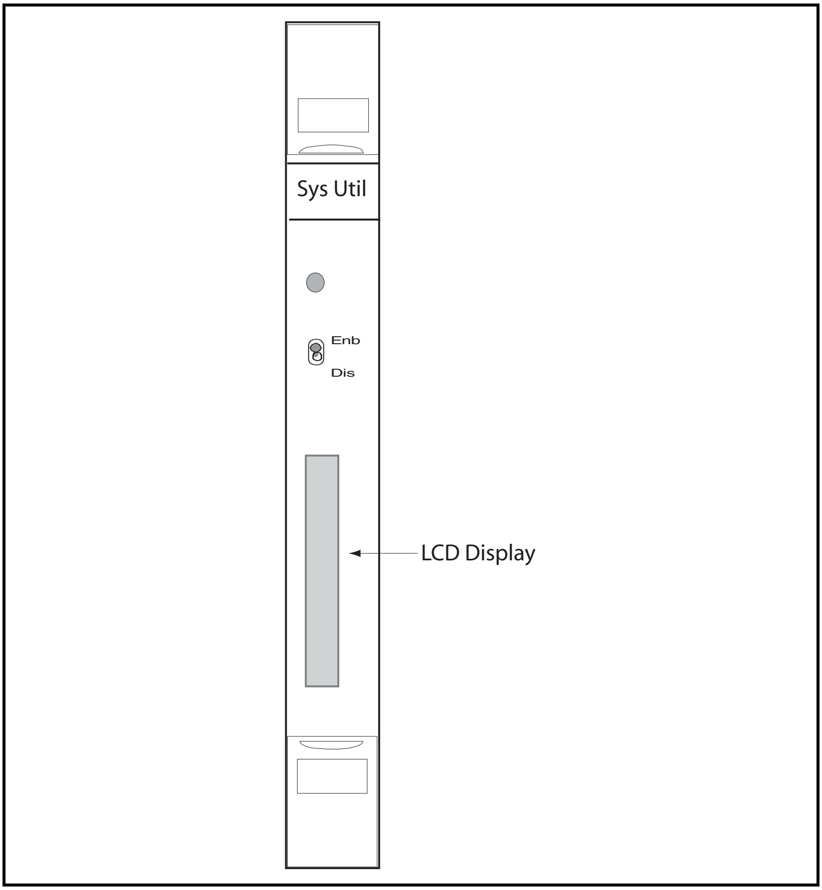
System Utility card

The NT4N48 System Utility card is located in slot c15 of the Core/Net module (see Figure 4 on page 56).

The Core ID switch is now located on the system utility card (see Figure 3 on page 55).

Figure 3
Core Module ID switch

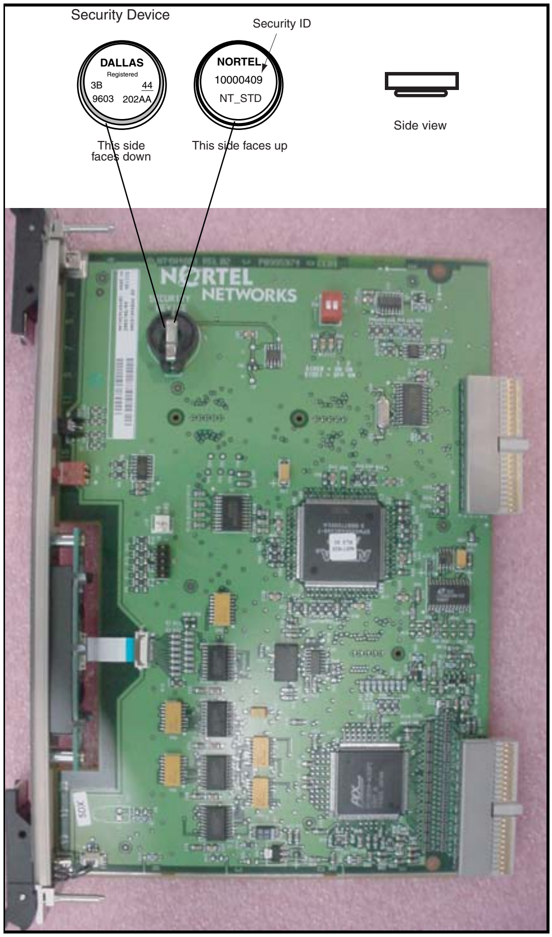
Figure 4
NT4N48 System Utility card



Security Device

The Security Device fits into the NT4N48 System Utility card (see Figure 5 on page 57).

Figure 5
System Utility card Security Device



Upgrading Signaling Server Memory

To enable customers to redeploy their current NTDU27AA 01, 02 or 03 Signaling Servers into a large CS 1000 Release 5.5 environment, a Signaling Server Memory Upgrade Kit (NTDU80CA) is available. To upgrade the memory using this kit, refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

The ISP 1100 is shipped with (2) Server Memory Upgrade Kits (NTDU80CA). Each kit has 512MB (2 x 256 MB). The upgrade to 1 GB memory includes (2) 256 MB sticks of RAM.

Upgrading the CP PIV BIOS

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

Procedure 1
Upgrading the CP PIV BIOS

1. Prepare or create an installation RMD.
2. Save the BIOS image in the /cf2/bios directory.
3. Check that a terminal is connected to COM 1.
4. Insert the RMD into the CF card slot.
5. Press the manual RESET button on the CP PIV card faceplate.
6. Call up the Software Installation Program during a SYSLOAD. During SYSLOAD, the following prompt appears:

```
Read boot parameters from:
  F: Faceplate compact flash
  H: Hard Drive
  0 [H]
```

   Press F to boot from the compact flash (which contains the software).

7 Enter <CR> at the Install Tool Menu.

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

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

        Please press <CR> when ready ...

/d/ - Volume is OK

****
```
```

8 The system then enters the `Main Menu`. Enter **`t`** to enter the Tools menu.

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

                    M A I N   M E N U

        The Software Installation Tool will install or upgrade
        Communication Server 1000 Software, Database and the CP-BOOTROM.

        You will be prompted throughout the installation and given the
        opportunity to quit at any time.

        Please enter:
<CR> -> <u> - To Install Menu.
        <t> - To Tools Menu.
        <q> - Quit.

        Enter choice> t

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

9 The Tools menu appears. Choose `t` to replace the CPU board BIOS, then select the BIOS files (in this case, select `1`)

```
===================================================================

                              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 Fix Media Device.
        <c> - To display the partition size of Fix Media Device.
        <d> - To reload default accounts.
        <g> - To print System S/W content on Removable Media Device.
        <h> - To print Keycode content.
        <i> - To print Security Device content.
        <j> - To Check the customer specific System S/W on the RMD.
        <k> - To manually create Keycode on Removable Media Device.
        <r> - To install Keycode only.
        <s> - To archive existing database.
        <t> - To replace CPU board BIOS.
        <v> - To display media vendor information.
        <m> - To return to the Main Menu.

        Enter choice> t

 The following BIOS files are available on the removable media:

                          Name                              Size
Date              Time
                         --------------------                ------
         -----------         -------
 <CR> -> <1> - CPP4V16.ROM             1048576    Nov-15-2005   15:44
               <2> - BIOS1_2.ROM              1048576    Nov-15-2005
22:28
                <q> - Quit

         Enter choice> 1
```

10 The BIOS installs. The system verifies, passes, and returns to the Tools menu.

```
Image size: 0x100000 bytes
Space required in flash memory: 1048576 bytes

Found 1 device(s) to program ...

All found flash devices will be erased before programming.
Do you want to continue (y/n)? y
Erasing: Bank 1, offset 0x0, size 0x100000 ...
Erasing flash memory ...   done.

Programming: Bank 1, offset 0x0, size 0x100000 ...
Programming flash memory

  0 |###################################################| 100%
Done.

Verifying: Bank 1, offset 0x0, size 0x100000 ...
PASS
```

```
============================================================

                         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 Fix Media Device.
        <c> - To display the partition size of Fix Media Device.
        <d> - To reload default accounts.
        <g> - To print System S/W content on Removable Media Device.
        <h> - To print Keycode content.
        <i> - To print Security Device content.
        <j> - To Check the customer specific System S/W on the RMD.
        <k> - To manually create Keycode on Removable Media Device.
        <r> - To install Keycode only.
        <s> - To archive existing database.
        <t> - To replace CPU board BIOS.
        <y> - To display media vendor information.
        <m> - To return to the Main Menu.

        Enter choice>
```

Note: If an RMD is placed in the drive with no BIOS image in the /cf2/bios folder, the install utility displays the following message.

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

      No BIOS files are available on the removable media.
      Please replace the RMD.

      Please enter:
<CR> -> <a> - RMD containing BIOS is now in the drive.
      <q> - Quit.

      Enter choice> q

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

      You selected to quit. Please confirm.

      Please enter:
<CR> -> <y> - Yes, quit.
      <n> - No, DON'T quit.

      Enter choice>

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

11 The Tools menu appears. Choose m to return to the Main menu.

```
      Communication Server 1000 Software/Database/BOOTROM RMD 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 Fix Media Device.
      <c> - To display the partition size of Fix Media Device.
      <d> - To reload default accounts.
      <g> - To print System S/W content on Removable Media Device.
      <h> - To print Keycode content.
      <i> - To print Security Device content.
      <j> - To Check the customer specific System S/W on the RMD.
      <k> - To manually create Keycode on Removable Media Device.
      <r> - To install Keycode only.
      <s> - To archive existing database.
      <t> - To replace CPU board BIOS.
      <v> - To display media vendor information.
      <m> - To return to the Main Menu.

      Enter choice> m

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

12 The Main menu appears. Choose <a> or <CR> to reboot the system.

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

                               M A I N    M E N U

       The Software Installation Tool will install or upgrade
       Communication Server 1000 Software, Database and the CP-BOOTROM.

       You will be prompted throughout the installation and given the
       opportunity to quit at any time.

       Please enter:
<CR> -> <u> - To Install Menu.
        <t> - To Tools Menu.
        <q> - Quit.

       Enter choice> q

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

       You selected to quit. Please confirm.

       Please enter:
<CR> -> <y> - Yes, quit.
        <n> - No, DON'T quit.

       Enter choice>

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

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

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

       Enter choice>


>Rebooting system ...
```

End of Procedure

Upgrade strategy

CS 1000 Release 5.5 supports Automatic Inline Conversion from Release 19 and later in Meridian 1 Option 51C and CPP systems.

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

The hardware upgrade to CPP systems is performed as part of the software upgrade to CS 1000 Release 5.5. This eliminates the requirement of interim hardware.

IMPORTANT!

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

Security device and keycode

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

For CPP systems, the security device is mounted on the System Utility Card in the NT4N40 shelf (see Figure 5 on page 57) or in the Security Device Holder for a NT4N46 Shelf.

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

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

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

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

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

Table 2
Contents of the Security Device Kit

Item	Quantity	Description
Keycode diskette (3.5” disk)	1	A diskette containing the keycode file.
Distributor Keycode Application diskette (3.5” disk)	1	A Windows 95 utility that supports download of keycodes from a keycode server.

The contents of the Security Device Kit for CP PIV are listed in Table 3.

Table 3
Contents of the Security Device Kit

Item	Quantity	Description
Compact Flash card	1	A Compact Flash card (512 MB) that contains: • Install Software files • CS1000 5.5 software • Key code file • DEP list • Default database
Keycode acknowledgment	1	A hard-copy printout of the keycode file, including a listing of the parameters for which the keycode was created.
Compact Flash card	1	Blank 128 MB CF for back-up.

Tools

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

Table 4
List of recommended tools

— Pliers, needle-nose
— Pliers, standard
— Screwdriver, 3/16” flat blade
— Screwdriver, #2 Phillips
— Wire cutters
— Electrical insulation tape
— 5/16” socket wrench
— 1/4” socket wrench
— 3/8” socket wrench
— 1/4” nut driver
— 7/16” socket driver
— 11/32 Deep Socket
— Flashlight

Upgrade preparation

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

- Verify the suitability of the upgrade package you are considering.
- Resolve any existing operational problems, error messages, or other problems.

- Check for minimum vintage requirements on all circuit cards that will remain in the system. A table is provided in each upgrade section. For more information see *Product Compatibility* (NN43001-256).
- Verify that all equipment needed for the upgrade has been identified.
- Identify the target platform.
- Identify the source platform.
- Check for minimum software requirements on each application. See *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (NN43021-220).
- Check current installed patches and Dep lists. For this information and downloads, go to www.nortel.com/espl (ESPL Web site).
- Check required Dep list for the target platform and applications.

Terminal and modem connections

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

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

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

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

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

Refer to “Terminal and modem connections” on page 1113 for instructions on connecting terminals and modems to the system.

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

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

- NT4N40 backplanes on Meridian 1 Options 61C/81C CPP
- NT5D21 backplanes used on Meridian 1 Options 51C, 61C and 81C
- NT6D60 backplanes on the Meridian 1 Option 81

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

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

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

CAUTION — Service Interruption

Damage to Equipment

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

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

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

CAUTION — Service Interruption

Damage to Equipment

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

WARNING

Damage to Equipment

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

Procedure 2
Removing cable connectors

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

1 Grasp the cable just behind the connector hood.

2 Center the long flat edge at the angled end of the tool between the cable connector hood and the securing clip.

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

End of Procedure

General software conversion information

Contents

This section contains information on the following topics:

Introduction

Conversion procedures vary with the system type and software release.

IMPORTANT!

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

Conversion media

> *Note:* CP PII systems contain floppy disc drives. CP PIV systems contain CF card drives.

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

- CD-ROM – a generic CD-ROM that contains all software generics.
- Security device– provides a unique program for each system. The device does not contain feature or software release-specific information.
- Install diskette – activates the Software Installation Tool. The Software Installation Kit contains three Install diskettes to support each Call Processor card. Use the Install diskette that corresponds with the CP card type.
- 2 MB customer database diskettes – a blank DOS formatted disk for archiving the customer database.
- Database Transfer Utility diskette – supports the transfer of 4 MB databases to 2 MB.
- Customer database media converter tool (CP PIV)– supports the transfer of a backed-up customer database to a CF card.
- Keycode diskette – consists of "keycodes" that contain software feature data. The keycodes must validate against the security device. In addition to receiving a keycode diskette from Nortel, a keycode diskette can be created on site using the following methods:
  - Downloading a keycode from the Nortel Keycode Distributor Server to a PC and creating a diskette. See "Using the Distributor Keycode Application" on page 1091 for more information.
  - Entering a keycode manually using the commands in LD 143. Using this method, the keycode is entered as 21 lines of 16 characters. The keycode file is then saved to a 2 MB diskette in the floppy drive.
  - Entering a keycode manually in the Meridian 1 Software Installation Tool. Using this method, the keycode is entered as 21 lines of 16 characters. The keycode file is then saved to a 2 MB diskette in the floppy drive.

CPPII keycode files must be named keycode with no extension. CP PIV keycodes can be named anything as long as they are in the keycode folder on the RMD and have the extension “.kcd”. When the keycode diskette is created, the keycode is entered into the system by:

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

The keycode is automatically activated on the next system Sysload.

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

Software packaging

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

Software Install Kit

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

Table 5 lists the contents of the Software Install Kits for CP PII and CP PIV.

Table 5
Contents of the Software Install Kits

CP PII		
Item	**Quantity**	**Description**
Software CD-ROM	1	Each CD contains all nine generics for a given release and issue of software.
Install Program diskette (1.44-MB media, created from the installation CD ROM)	2	Used to launch the Install Program and to download software from the CD-ROM. One diskette for 81 CP PII and one for 61 CP PII.
Distributor Keycode Application diskette (1.44-MB media)	1	A Windows 95 utility that supports download of keycodes from a keycode server.
Database diskettes (blank, 1.44-MB media)	2	Blank 1.44-MB diskettes that can be used to archive the customer database.
Keycode diskette (blank,1.44-MB media)	1	A blank 1.44-MB diskette that can be used to store a back-up copy of the keycode file.
Documentation CD	1	A CD-Rom containing the Nortel Communications Server 1000 Release 5.5 documentation.
CP PIV		
Item	**Quantity**	**Description**
One CF (512 MB)	1	A CF card containing the Install Software files, CS 1000 Release 5.5 software, Dep. Lists (PEPs), and the keycode file.

Table 5
Contents of the Software Install Kits

CP PII		
Item	**Quantity**	**Description**
Keycode acknowledgment	1	A hard-copy printout of the keycode file, including a listing of the parameters for which the keycode was created.
Compact Flash card	1	Blank 128 MB CF for back-up.
Documentation CD	1	A CD-Rom containing the Nortel Communications Server 1000 Release 5.5 documentation.

General conversion information

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

IMPORTANT!

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

Be sure the system has enough memory to complete the conversion. Refer to Table 6 on page 81 for details concerning CS 1000 Release 5.5 system capacity requirements.

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

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

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

CAUTION — Service Interruption

Loss of Data

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

Patches

Software patches

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

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

For this information and downloads, go to www.nortel.com/espl (ESPL Web site).

Loadware patches using DPSD

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

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

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

FIJI Download

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

Normal message output appears on the active side.

From the Meridian 1 side:

```
NEW STATE RING 0 : NONE
RING 1 : FULL
FIJI061 RING 0 : STARTING AUTOMATIC DOWNLOAD
FIJI062 FIJI 0 0 : ENABLING FIJI CARD
FIJI062 FIJI 1 0 : ENABLING FIJI CARD
etc.
COMPLETE
FIJI063 FIJI 1 0 : DOWNLOAD DONE. TESTING CARD
COMPLETE
FIJI063 FIJI 3 0 : DOWNLOAD DONE. TESTING CARD
etc.
FIJI064 FIJI 1 0 : SELFTEST DONE
FIJI064 FIJI 3 0 : SELFTEST DONE
FIJI055 [Clock switch]
```

```
FIJI007 [Ring state change. Change to none/full.]
FIJI061 RING 1 : STARTING AUTOMATIC DOWNLOAD
FIJI062 FIJI 0 1 : ENABLING FIJI CARD
FIJI062 FIJI 1 1 : ENABLING FIJI CARD
etc.
COMPLETE
FIJI063 FIJI 0 1 : DOWNLOAD DONE. TESTING CARD
COMPLETE
FIJI063 FIJI 1 1 : DOWNLOAD DONE. TESTING CARD
etc.
FIJI064 FIJI 0 1 : SELFTEST DONE
FIJI064 FIJI 1 1 : SELFTEST DONE
```

> ***Note:*** The single slot FIJI (NTRB33BBE5) packs require a different firmware than the existing double slot FIJIs. Provision has been made to have both the double slot and single slot card firmware in the same switch. The FIJI card will download its own firmware depending on the card ID information stored in it. The details about the firmware download explained in the previous paragraph is true for new single slot FIJI cards also.

CS 1000 Release 5.5

CS 1000 Release 5.5 supports Automatic Inline Conversion from Release 19, 20, 21, 22, 23, 24 in Meridian 1 Option 51C, Meridian 1 Option 61C and Meridian 1 Options 81/81C systems.

Fiber Network Fabric

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

With CS 1000 Release 5.5, Meridian 1 Option 61C and Meridian 1 Option 81C must use the NT4N64 CP PII or NT4N39 CP PIV processor cards.

IMPORTANT!

Release 25 introduced new Flash and DRAM memory requirements. Call Processor cards that meet the "total" memory requirement might not meet the individual Flash and DRAM memory requirement. Refer to Table 6 for CS 1000 Release 5.5 flash and DRAM memory requirements.

Table 6
CS 1000 Release 5.5 memory requirements (Part 1 of 2)

Minimum memory requirement for CP processors ***Note:*** The minimum memory requirement for CP PII processors running CS 1000 Release 5.5 is 256 MB. The minimum memory requirement for CP PIV processors running CS 1000 Release 5.5 is 512 MB.			
System type	**Flash memory requirement**	**DRAM memory requirement**	**Total memory requirement**
Meridian 1 Option 61C CP PII	NA	256 MB	256 MB
Meridian 1 Option 81C CP PII with or without Fibre Network Fabric	NA	256 MB	256 MB
Meridian 1 Option 61C CP PIV	NA	512 MB	512 MB

Table 6
CS 1000 Release 5.5 memory requirements (Part 2 of 2)

Meridian 1 Option 81C CP PIV with or without Fibre Network Fabric	NA	512 MB	512 MB
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 MB. ***Note 3:*** All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PIV systems are equipped with 512 MB.			

Software release supported by machine type

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

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

System type	Software system number	Lowest supported release	Highest supported release
STE	1511	18	21
NT	1111	8	21
XT	1211	8	21
RT	1311	12	21
Option 21E	1511	18	21
Meridian 1 Option 51C equipped with NT5D10 CP card	2421	23	CS 1000 Release 5.5 2421
Meridian 1 Option 51C equipped with NT5D03 CP card	2821	23.5X	CS 1000 Release 5.5 2821
Meridian 1 Option 61	1111	15	21
Meridian 1 Option 61C equipped with NT5D10 CP card	2521	23	CS 1000 Release 5.5 2521
Meridian 1 Option 61C equipped with NT5D03 CP card	2921	23.5X	CS 1000 Release 5.5 2921
Meridian 1 Option 61C CP PII equipped with NT4N64 CP PII card***	3221	CS 1000 Release 5.0	CS 1000 Release 5.5 3221

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

System type	Software system number	Lowest supported release	Highest supported release
Meridian 1 Option 61C CP PIV equipped with NT4N39 CP PIV card***	3521	CS 1000 Release 5.0	CS 1000 Release 5.5 3521
Option 71	1211	15	21
Meridian 1 Option 81 equipped with NT5D10 CP card*	2611	23	25
Meridian 1 Option 81 equipped with NT5D03 CP card*	3011	23.5X	25
Meridian 1 Option 81 equipped with NT5D10 CP card*	2621	23	CS 1000 Release 5.5 2621
Meridian 1 Option 81 equipped with NT5D03 CP card*	3021	23.5X	CS 1000 Release 5.5 3021
Meridian 1 Option 81C equipped with NT5D10 CP card**	2621	23	CS 1000 Release 5.5 2621
Meridian 1 Option 81C equipped with NT5D03 CP card**	3021	23.5X	CS 1000 Release 5.5 3021
Meridian 1 Option 81C CP PII equipped with A0810496 CP PII card***	3311	25.xx	25.40b
Meridian 1 Option 81C CP PII equipped with NT4N64 CP PII card***	3321	25.xx	CS 1000 Release 5.5 3321

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

System type	Software system number	Lowest supported release	Highest supported release
Meridian 1 Option 81C CP PIV equipped with NT4N39 CP PIV card***	3621	CS 1000 Release 5.0	CS 1000 Release 5.5 3621
*Meridian 1 Option 81 systems require Package 298. **Meridian 1 Option 81C systems require Package 299. *** Meridian 1 Option 61C and Option 81C systems require Package 368.			

H.323 Gatekeeper database to NRS database migration

To migrate an H.323 Gatekeeper database to a Communication Server 1000 (CS 1000) Release 5.5 Network Routing Service (NRS) database, see *Signaling Server: Installation and Commissioning* (NN43001-312).

Software conversion

Contents

This section contains information on the following topics:

Software pre-conversion

> **IMPORTANT!**
>
> Database conversion for Meridian 1 Options 21E, 51, 61,71, STE, NT and XT must be completed by Nortel Software Conversion Lab. Consult the current Nortel price book for cost and contact information.
>
> If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See “Database transfer” on page 244.
>
> If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.
>
> All systems can be converted by Nortel in the software conversion lab.

Introduction

Read “General software conversion information” on page 73 before beginning the conversion procedures. The conversion procedure used depends on the release of the Source and Target software. Obtain all necessary hardware and software. Save a copy of the data-dumped **Source** software until it is determined that all site data converted successfully.

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

Use these procedures to convert from one software release to a later release or to up-issue software within the same software release. These procedures are for software conversions only. Do not use this procedure for any other purpose. After the conversion is completed, perform the post-conversion procedures in “Post-conversion procedure” on page 306.

Have the following items available before proceeding:

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

CS 1000 compatibility

Consult *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (NN43021-220) for CS 1000 Release 5.5 product compatibility.

Software Install Kit

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

Table 8 lists the contents of the Software Install Kits for CP PII and CP PIV.

Table 8
Contents of the Software Install Kits

CP PII		
Item	**Quantity**	**Description**
Software CD-ROM	1	Each CD contains all nine generics for a given release and issue of software.
Install Program diskette (1.44-MB media, created from the installation CD ROM)	2	Used to launch the Install Program and to download software from the CD-ROM. One diskette for 81 CP PII and one for 61 CP PII.
Distributor Keycode Application diskette (1.44-MB media)	1	A Windows 95 utility that supports download of keycodes from a keycode server.
Database diskettes (blank, 1.44-MB media)	2	Blank 1.44-MB diskettes that can be used to archive the customer database.
Keycode diskette (blank,1.44-MB media)	1	A blank 1.44-MB diskette that can be used to store a back-up copy of the keycode file.
Documentation CD	1	A CD-Rom containing the Nortel Communications Server 1000 Release 5.5 documentation.
CP PIV		
Item	**Quantity**	**Description**
One CF (512 MB)	1	A CF card containing the Install Software files, CS 1000 Release 5.5 software, Dep. Lists (PEPs), and the keycode file.

Table 8
Contents of the Software Install Kits

CP PII		
Item	**Quantity**	**Description**
Keycode acknowledgment	1	A hard-copy printout of the keycode file, including a listing of the parameters for which the keycode was created.
Compact Flash card	1	Blank 128 MB CF for back-up.
Documentation CD	1	A CD-Rom containing the Nortel Communications Server 1000 Release 5.5 documentation.

Meridian 1 CP PII and CP PIV software upgrade procedures

Prepare for upgrade

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

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

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

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 9.

Table 9
Prepare for upgrade steps

Procedure Step	Page
Plan upgrade	93
Upgrade Checklists	93
Prepare	93
Identifying the proper procedure	94
Connecting a terminal	94
Perform a template audit	98
Back up the database (data dump)	99

Plan upgrade

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.
- Conduct a site inspection to determine proper power and grounding.
- Review the site profile to determine proper foot space if adding new columns or modules.
- Ensure Sufficient power for new columns/modules or applications
- Identify all applications that are currently installed on the source platform.
- Identify and correct outstanding service problems.
- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.
- Determine if software can be converted on site or must be sent to Nortel Networks.
- Prepare a contingency plan for backing out of the upgrade.

Upgrade Checklists

Upgrade checklists can be found in "Upgrade checklists" on page 1241. 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* (NN43021-220)).
- 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.

Connecting 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

Printing Site Data

Print site data to preserve a record of the system configuration (Table 10). Verify that all information is correct. Make corrections as necessary.

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

Table 10
Print site data (Part 1 of 4)

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

Table 10
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 10
Print site data (Part 3 of 4)

Site data	Print command	
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
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)

Table 10
Print site data (Part 4 of 4)

Site data	Print command	
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop. xxx = 0-252 in multiples of four for MG 1000E
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)

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

Procedure 4
Performing a data dump

1 Log into the system.

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

LD 43	Load the program

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

EDD	Begin the data dump

CAUTION — Service Interruption

Loss of Data

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

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

****	Exit the program

End of Procedure

Making the RMD bootable

Procedures 5 and 6 apply to CP PIV systems.

CAUTION — Data Loss

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

The PC utility used in the following procedure (mkbootrmd.exe) will erase any data on the CF card. For more information, read the README_BOOTABLE_RMD.txt file.

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

The installation RMD CF card must come pre-formatted and bootable from Nortel. Consumer CF cards are not bootable by default and must be made bootable as outlined in Procedure 5 on page 101.

Procedure 5
Making the RMD bootable

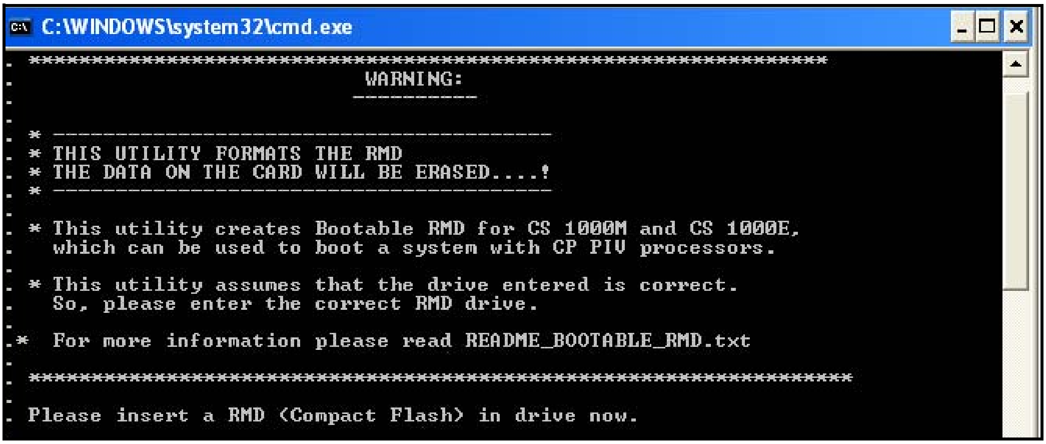
1 After downloading the software image file, unzip it to a directory on your PC.

Note: To find the Signaling Server software utility, you must navigate to the CF folder, then utilities folder.

2 Open the utilities folder.

3 Double click the mkbootrmd.bat file. Insert a blank 512 MB CF card (see Figure 6).

Figure 6
mkbootrmd.bat



4 Enter the correct drive letter of the RMD (see Figure 7).

Figure 7
mkbootrmd.bat

```
C:\WINDOWS\system32\cmd.exe
. ******************************************************************
.                            WARNING:
.                           ----------
.
. * -----------------------------------------
. * THIS UTILITY FORMATS THE RMD
. * THE DATA ON THE CARD WILL BE ERASED....!
. * -----------------------------------------
.
. * This utility creates Bootable RMD for CS 1000M and CS 1000E,
.   which can be used to boot a system with CP PIV processors.
.
. * This utility assumes that the drive entered is correct.
.   So, please enter the correct RMD drive.
.
.*  For more information please read README_BOOTABLE_RMD.txt
.
. ********************************************************************
.
. Please insert a RMD (Compact Flash) in drive now.
.
Press any key to continue . . .
Please enter the Drive letter of your RMD:E
```

5 The boot sector files (bootrom.sys and nvram.sys) are successfully copied making the CF card bootable (see Figure 8).

Figure 8
Boot sector successfully installed

```
.
. RMD format Successful ...
.
. Installing Boot sector ...
.
.
. Copying files . . .
.
. bootrom.sys copied OK.
.
. Check whether the following output shows
. "All the specified file(s) are contiguous"
.
.          * * * WARNING * * *
.IF THE FILES ARE NOT CONTIGUOUS,
.   PLEASE RECREATE THE RMD
.          * * * * * * * * * *
Press any key to continue . . .
The type of the file system is FAT.
Volume CS1000BOOT created 4/12/2006 12:22 PM
Volume Serial Number is 389E-1E98
Windows is verifying files and folders...
File and folder verification is complete.
Windows has checked the file system and found no problems.

  512,180,224 bytes total disk space.
      352,256 bytes in 1 files.
  511,827,968 bytes available on disk.

        8,192 bytes in each allocation unit.
       62,522 total allocation units on disk.
       62,479 allocation units available on disk.
All specified files are contiguous.
.
Press any key to continue . . .
```

End of Procedure

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

IMPORTANT!

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

The floppy disk that contains the backed up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MB floppy disk to CF card, which is restored during the CS 1000 Release 5.5 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

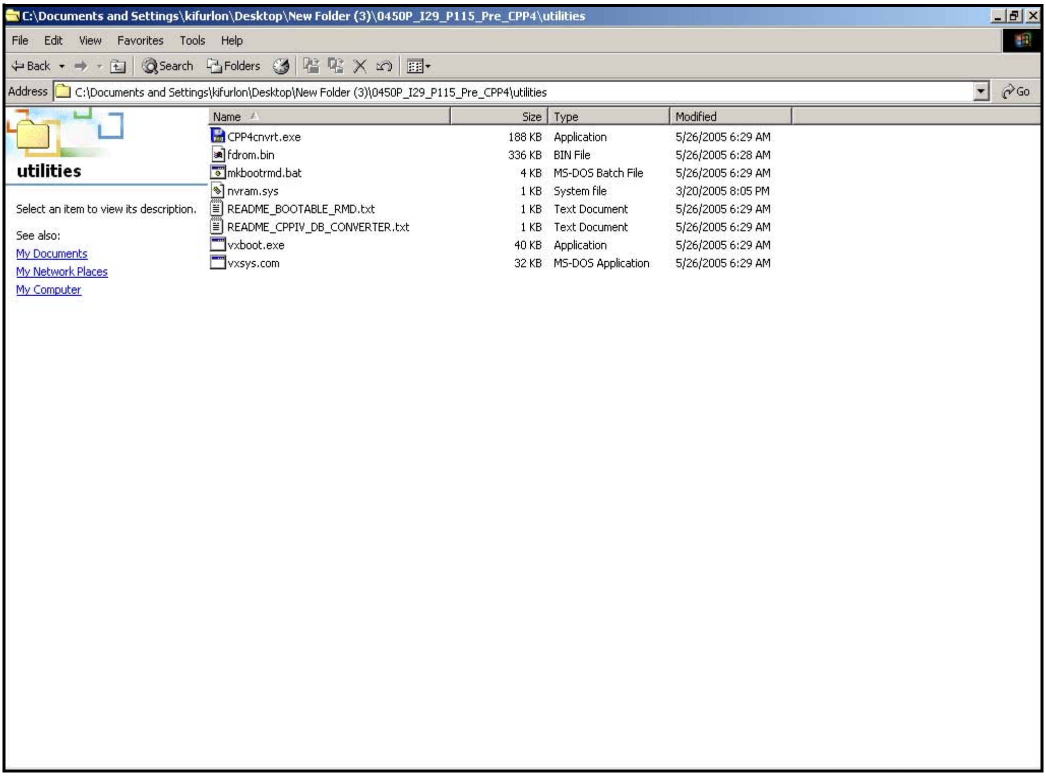
Procedure 6
Transferring the customer database from floppy disk to CF

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

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

2 Open the Utilities folder. See Figure 9.

Figure 9
Utilities folder



3 Insert the floppy disk containing the backed up customer database from Procedure 4 on page 99.

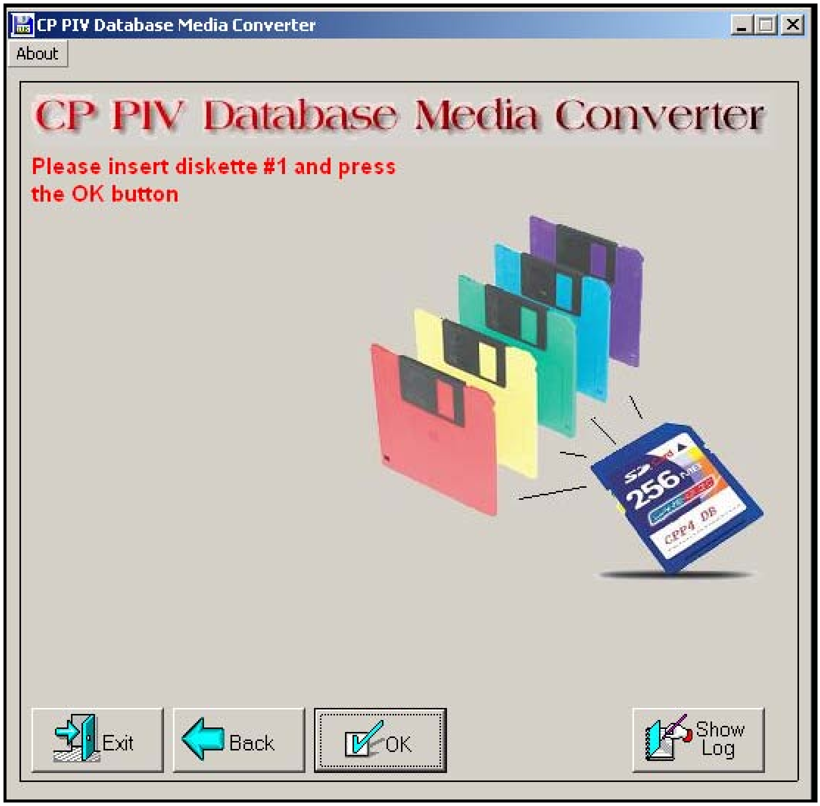
4 Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.

5 Start the Database Media Converter utility by double clicking the CPP4cnvrt.exe file. The first screen (Figure 10 on page 106) prompts you to select the correct drive letter for the floppy disk drive.

Figure 10
Select the floppy disk drive

6 The utility then prompts you to insert the floppy disk (diskette 1) and click OK (see Figure 11 on page 107).

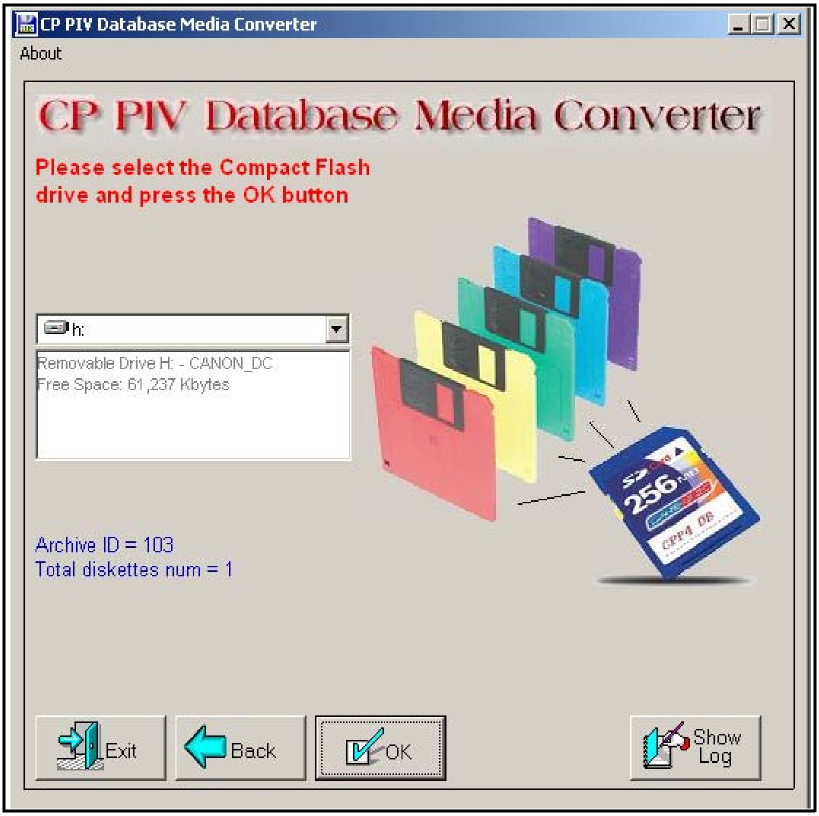
Figure 11
Insert diskette 1



7 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 12 on page 108).

Note: if the database is on more than 1 floppy, the utility prompts you to insert the next floppy until the entire database is read.

Figure 12
Select the CF drive

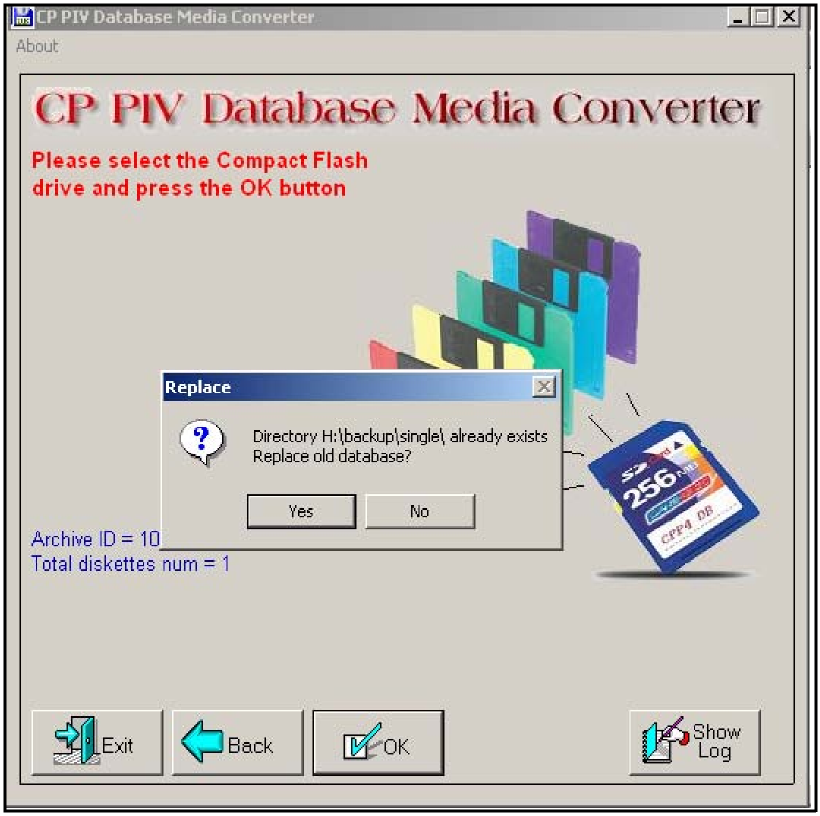


8 At this point, 2 options are available:

  a. If the CF card already contains a previously backed-up database, a dialog box appears (see Figure 13 on page 109). Click yes to replace old database.

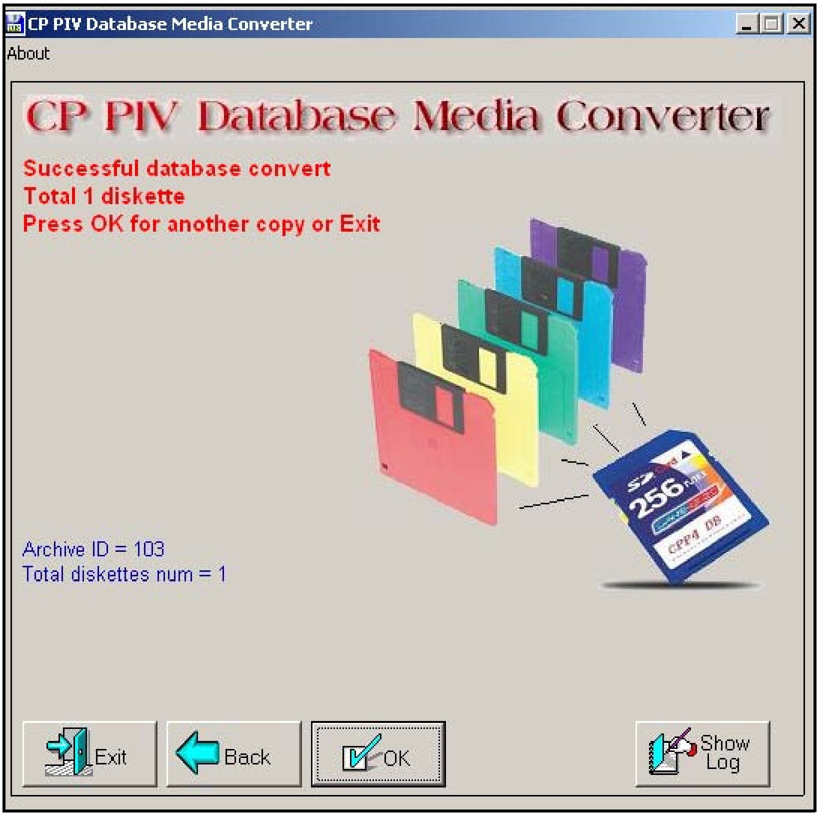
  b. If the CF card is blank, the database is backed up to the CF card.

Figure 13
Replace database on CF drive



9 The utility completes the transfer to CF and prompts you to copy another or EXIT.

Figure 14
Copy another or exit



End of Procedure

Perform upgrade

CAUTION WITH ESDS DEVICES

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

Perform a parallel reload

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

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

Verify memory

Determine whether the system requires additional memory. See “Installing CP cards and CP memory” on page 799.

Check the status of the hardware

Follow the steps in Procedure 7 to determine the status of the hardware.

Procedure 7
Determining hardware status

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

LD 137	Load program
STAT	Get the status of the hard disks

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

LD 135	Load program
STAT CPU	Get the status of both CPs and memory
STAT CNI	Get the status of all configured CNIs

End of Procedure

Check that Core 0 is active

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

LD 135	Load program
STAT CPU	Get the status of the CPUs
SCPU	Switch to Core 0 (if necessary)

Split the Cores

From the active side, split the cores:.

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

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

Install the software on Core/Net 1

For CP PII systems, follow the steps in Procedure 8 on page 113 to install the software on Core/Net 1.

For CP PIV systems, follow the steps in Procedure 9 on page 127 to install the software on Core/Net 1.

Procedure 8
Upgrading the software on CP PII systems

1 Insert 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.

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 MB
The size of partition 0 of disk 0 is XX MB
The size of partition 0 of disk 0 is XX MB

Disk partitions and sectors checking is
completed!
```

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
```

9 Choosing Yes for the Dependency Lists installation.

```
 Do you want to install Dependency Lists?

        Please enter:

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

       <n> - No, Continue without Dependency Lists
installation

        Enter choice>

The default choice is YES as shown in the prompt.

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

10 Confirm all options before installing the software.

```
>Processing the Install Control file

      >Installing release XXXXX

                INSTALLATION STATUS SUMMARY

------------------------------------------

      ============+========+========+=============

  |     Option       |      Choice       | Status |    Comment          |

      ================+========+========+=========

 | SW: CD to disk  |     yes          |            | install for rel XXXXX|

  |     Option       |      Choice       | Status |    Comment          |

      ================+========+========+=========

 | Dependency Lists  |     yes          |

       ============+========+========+=============

 |      Option       |      Choice       | Status |    Comment          |
       ============+========+========+=============

 |  AUTO-CSU Feature  | no          |       AUTO-CSU Disabled    |

 |      Option       |      Choice       | Status |    Comment          |
        ================+========+========+=========

 |      Database    |       no         |            |                       |\

      ================+========+========+=========

 |      Option       |      Choice       | Status |    Comment          |

      ================+========+========+=========

 | CP-BOOTROM |        yes          |            |                        |
```

```
XXXX to release: XXXXX.

This will erase all old system files.

Please enter:<CR> -> <y> - Yes, start
Installation.

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

Enter Choice> <CR>

>Checking System Configuration

You selected to upgrade the system from release:

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

Please enter:

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

<q> - Quit.

Enter Choice> <CR>

>Starting Software Install

        >Upgrading from release XXXX to release
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 Enter **<CR>** when prompted, returning the system to the Install Menu.

13 Enter **q** to quit.

```
               I N S T A L L   M E N U

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

        Please enter:

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

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

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

               For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> q
```

14 The system then prompts you to confirm and reboot.

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

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

Remove all disks from the system before rebooting.


        ------------------------------

        DO NOT REBOOT USING BUTTON!!!


        ------------------------------


        Please enter:

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

        <m> - Return to the Main menu.

        Enter Choice> <CR>

    >Removing (temporary files)




        >Rebooting system ...
```

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

End of Procedure

Procedure 9
Upgrading the software on CP PIV systems

1 Check that a terminal is now connected to COM 1.

2 Insert the RMD into the CF card slot.

3 Press the manual RESET button on the CP PIV card faceplate.

4 Call up the Software Installation Program during a SYSLOAD. During SYSLOAD, the following prompt appears:

```
Read boot parameters from:
  F: Faceplate compact flash
  H: Hard Drive
  0 [H]
```

Press F to boot from the compact flash (which contains the software).

For the CP PIV upgrade to 5.5, the **F** must be in uppercase.

5 Enter <CR> at the Install Tool Menu.

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

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

        Please press <CR> when ready ...

/d/ - Volume is OK

****
```
```

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

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

        Please press <CR> when ready ...

****
 WARNING:

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

 Proceed with the upgrade? (Y/N) y

****
 WARNING:

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

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

6 A warning appears and you are prompted: *Proceed with the upgrade? [Y/N]*. Enter **y** and press <CR>.

7 Another warning appears and you are prompted again: *Proceed with the upgrade? [Y/N]*. Enter **y** and press <CR>.

8 The system then enters the `Main Menu` for keycode authorization.
```

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

                               M A I N   M E N U

        The Software Installation Tool will install or upgrade
        Communication Server 1000 Software, Database and the CP-BOOTROM.

        You will be prompted throughout the installation and given the
        opportunity to quit at any time.

        Please enter:
<CR> -> <u> - To Install Menu.
        <t> - To Tools Menu.
        <q> - Quit.

        Enter choice> u

 The following keycode files are available on the removable media:

                  Name                         Size      Date         Time
                ---------------------      ------    -----------  -------
 <CR> -> <1> - 491L_PIV.KCD                  1114    Dec-04-2006   16:07
         <q> - Quit

         Enter choice> 1
```

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

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

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

No keycode files are available on the removable
media.

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

Please enter:

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

          <q> - Quit.

          Enter choice>
```

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

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

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

You selected to quit. Please confirm.

Please enter:

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

        <n> - No, DON'T quit.

        Enter choice>
```

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

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

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

Name                      Size   Date       Time

--------------------     -------           -----

<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min

<2> - KCport60430m.kcd   1114 mon-d-year hr:min

<q> - Quit

Enter choice> 2
```

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

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

```
Validating keycode ...

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

Copy OK: 1114 bytes copied

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

Note: The software release displayed depends on the keycode file content. The machine type displayed can be one of the following, according to the keycode content.

- 3521 (CP PIV processor on CS 1000M SG) for Meridian 1 Option 61C CP PIV
- 3621 (CP PIV processor on CS 1000M MG) for Meridian 1 Option 81C CP PIV systems

10 The system requests keycode validation.

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

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

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

Please enter:

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

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

Enter choice>
```

11 If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. If already using an FMD platform, select option **<a>** or if upgrading to a Fixed Media Disk (FMD) platform, select option **<b>**.

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

                         I N S T A L L    M E N U

        The Software Installation Tool will install or upgrade
        Communication Server 1000 Software, Database and the CP-BOOTROM.

        You will be prompted throughout the installation and given the
        opportunity to quit at any time.

        Please enter:
<CR> -> <a> - To install Software, CP-BOOTROM.
        <b> - To install Software, Database, CP-BOOTROM.
        <c> - To install Database only.
        <d> - To install CP-BOOTROM only.
        <t> - To go to the Tools Menu.
        <k> - To install Keycode only.
              For Feature Expansion, use OVL143.
        <p> - To install 3900 Set Languages.
        <q> - Quit.

        Enter choice>

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

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

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

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

Please enter:

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

         <q> - Quit.

Enter choice> <CR>
```

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

14 The system displays the release of the software found on RMD under the *swload* directory and requests confirmation to continue the installation.

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

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

The RMD contains System S/W version xxxx.

Please enter:

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

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

Enter choice> <CR>
```

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

15 The Dependency List menus appear.

```
 Do you want to install Dependency Lists?

        Please enter:

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

       <n> - No, Continue without Dependency Lists
installation

        Enter choice> y

>Processing the install control file ...

>Installing release xxxx
```

16 The Installation Status Summary appears.

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

       +================+========+========+==========================+
       |     Option     | Choice | Status |         Comment          |
       +================+========+========+==========================+
       | SW: RMD to FMD |  yes   |        | install for rel xxxxx    |
       +----------------+--------+--------+--------------------------+
       | Dependency Lists|  yes  |        |                          |
       +----------------+--------+--------+--------------------------+
       | Database       |  yes   |        |                          |
       +----------------+--------+--------+--------------------------+
       | CP-BOOTROM     |  yes   |        |                          |
       +----------------+--------+--------+--------------------------+

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

       Enter choice>
>Checking system configuration
```

17 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.

```
Select one of the six PSDL files:
1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default
By default option 1 will be selected.
Enter your choice ->x
```

18 Enter <CR> to confirm and continue installation.

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

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

        Enter choice>
>Checking system configuration

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

        You selected to upgrade the system from release: 450W
        to release: 5.50x .

        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>
```

19 Successful installation confirmation appears, enter <CR> to continue.

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

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

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.


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

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

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

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

You will now perform the database installation.

Please enter:

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

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

        <b> - Install DEFAULT database.

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

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

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

        <q> - Quit.

Enter choice> a or <CR>
```

Note: The previous screen does not appear if you select option <a>. If you are not using option <a>, you have the following other options:

- <b> –Install the default database.
- <c>–Transfer the previous system database.
- <e>–Check the database on the Fixed Media Device.
- <q>–Quit.

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

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

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

          <q>-Quit

Enter choice> s or <CR>
```

Note: The previous screen does not appear if you selected option <a> on the database installation main menu. If you are not using option <a>, you have the following options:

- <s>–Single database created.
- <q>–Quit.

21 Continue with database installation.

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

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

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

The database will be converted from release xxxx.

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

Please enter:

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

          <q> - Quit.

Enter choice> a or <CR>
```

Note: The previous screen does not appear if you selected option <a> on the database installation main menu. If you are not using option <a>, you have the following options:

- <a>–Continue with database transfer.
- <q>–Quit.

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

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

+=================+========+========+===========================+
|     Option      | Choice | Status |          Comment          |
+=================+========+========+===========================+
| SW: RMD to FMD  |  yes   |   OK   |  install for rel 04xxx    |
+-----------------+--------+--------+---------------------------+
| Dependency Lists|  yes   |   OK   |                           |
+-----------------+--------+--------+---------------------------+
| AUTO-CSU Feature|  no    |        |  AUTO-CSU Disabled        |
+-----------------+--------+--------+---------------------------+
| Database        |  yes   |   OK   | conversion from xxxx      |
+-----------------+--------+--------+---------------------------+
| CP-BOOTROM      |  yes   |   OK   |                           |
+-----------------+--------+--------+---------------------------+

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

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

```
              I N S T A L L    M E N U

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

        Please enter:

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

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

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

               For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> q
```

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

```
You selected to quit. Please confirm.
    Please enter:
<CR> -> <y> - Yes, quit.
        <n> - No, DON'T quit.

        Enter choice> <CR>
You selected to quit the Install Tool.
You may reboot the system or return to the Main
Menu.



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

        ------------------------------

        Please enter:
<CR> -> <a> - Reboot the system.
        <m> - Return to the Main menu.
        Enter Choice> <CR>
>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```

At this point the system reloads and initializes.

End of Procedure

Check for peripheral software download

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

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

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

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

CAUTION — Service Interruption

Service Interruption

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

WARNING

System initialization may take up to 15 minutes or longer.

IMPORTANT!

Power down all applications.

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

To transfer call processing, do the following:

LD 135	Load the program
CUTOVR	The inactive CP become active

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

FIJI Download

IMPORTANT!

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

Note: The single slot FIJI (NTRB33BBE5) packs require a different firmware than the existing double slot FIJIs. Provision has been made to have both the double slot and single slot card firmware in the same switch. The FIJI card will download its own firmware depending on the card ID information stored in it. The details about the firmware download explained in the previous paragraph is true for new single slot FIJI cards also.

Test Core/Net 1

Follow the steps in Procedure 10 to test call processing on Core/Net 1.

Procedure 10
Testing call processing on Core/Net 1

1 Check for dial tone.

2 Make internal, external, and network calls.

3 Check attendant console activity.

4 Check DID trunks.

5 Check any auxiliary processors.

End of Procedure

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

Install software on Core/Net 0

For CP PII systems, follow the steps in Procedure 8 on page 113 to install the new software on Core/Net 0. Where “Core/Net 1” appears, assume “Core/Net 0”.

For CP PIV systems, follow the steps in Procedure 9 on page 127 to install the new software on Core/Net 0. Where “Core/Net 1” appears, assume “Core/Net 0”.

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

Enable system redundancy

Follow the steps in Procedure 11 to enable system redundancy.

Procedure 11
Enabling system redundancy

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

LD 135	Load program
JOIN	Synchronize the memory and drives

System is now in redundant mode,

Test Core/Net 1 and Core/Net 0

Follow the steps in Procedure 12 to test Core/Net 1 and Core/Net 0.

Procedure 12
Testing Core/Net 1 and Core/Net 0

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

1 Perform a redundancy sanity test using the following sequence.

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

2 Test system redundancy.

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

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

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

4 Clear the display and minor alarms on both Cores.

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

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

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

End of Procedure

Perform a data dump

Follow the steps in Procedure 13 (CP PII) and Procedure 14 (CP PIV) to perform a data dump.

Procedure 13
Performing a data dump (CP PII)

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

LD 43	Load the program

2 Insert a floppy disk into the CP PII MMDU to capture the backup.

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

EDD	Begin the data dump

4 When “DATABASE BACKUP COMPLETE” or “DATADUMP COMPLETE” appears on the terminal, enter:

****	Exit the program

CAUTION — Service Interruption

Loss of Data

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

End of Procedure

Procedure 14
Performing a data dump (CP PIV)

1 Remove the existing CF card from the active Core/Net RMD slot and insert a fresh CF card.

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

LD 43	Load program.
.	EDD

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

EDD	Begin the data dump.

CAUTION — Service Interruption

Loss of Data

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

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

****	Exit program

End of Procedure

To complete the parallel reload, proceed to “Post-conversion procedure” on page 306.

The parallel reload procedure is complete.

Back out of a system software upgrade (CP PII)

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

Split the Cores

Follow the steps in Procedure 15 on page 153 to split the core processors.

Procedure 15
Splitting the cores

1 From the active side, split the cores.

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

End of Procedure

Install the old release software on Core/Net 1

Follow the steps in Procedure 16 to re-install the old release of software.

Procedure 16
Installing the old release of software (software downgrade)

1 For CP PII systems, insert 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, and place the CD-ROM disk into the holder with the disk label facing up. Use the four tabs to secure the CD-ROM drive.

b. 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 For CP PIV systems, insert the RMD into the CF card slot.

3 For CP PII systems, place the Install floppy disk with the old software release into the CP PII MMDU floppy drive.

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

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

```
Testing partition 0

        0 percent done...1 percent done...99 percent done....100
        percent done

Testing partition 1

        0 percent done...1 percent done...99 percent done....100
        percent done

Testing partition 2

        0 percent done...1 percent done...99 percent done....100
        percent completed!

Disk physical checking is completed!

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

Disk partitions and sectors checking is competed!
```

5 For CP PII systems, at the terminal, press <cr> to start the software installation.

6 For CP PIV systems, call up the Software Installation Program during a SYSLOAD. During SYSLOAD, the following prompt appears:

```
Read boot parameters from:

    F: Faceplate compact flash

    H: Hard Drive
```

Press F to boot from the compact flash (which contains the software).

7 For CP PII systems, when prompted, remove the Install Program diskette and insert the Keycode diskette.

<a> Continue with keycode validation.

<y> Confirm that the keycode matches the CD-ROM release.

8 When the screen displays the Install Menu, select the following options in sequence when prompted:

<a> Install software.

<a> Verify that the CD-ROM is now in drive.

The Installation Status Summary screen appears that lists the options to be installed.

<y> Start Installation.

<a> Continue with Upgrade.

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 Select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1> Global 10 Languages

<2> Western Europe 10 Languages

<3> Eastern Europe 10 Languages

<4> North America 6 Languages

<5> Spare Group A

<6> North America 6 Languages (Duplicate of **<4>**)

The languages contained in each selection are outlined as follows:

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

(Current Release) Language groups

11 Select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1>	Global 10 Languages
<2>	Western Europe 10 Languages
<3>	Eastern Europe 10 Languages
<4>	North America 6 Languages
<5>	Spare Group A
<6>	North America 6 Languages (Duplicate of **<4>**)

The languages contained in each selection are outlined as follows:

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

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

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

<a>	Continue with ROM upgrade.

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

<cr>	Continue.
<q>	Quit. Remove any diskettes and the CD-ROM from the CP PII MMDU drives.
<y>	Confirm quit.
<a>	Reboot the system.

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

LD 135	Load program
STAT CPU	Display CPU status
STAT CNI	Display CNI status

End of Procedure

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

CAUTION — Service Interruption

Service Interruption

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

IMPORTANT!

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

CAUTION — Service Interruption

Service Interruption

The INI may take up to15 minutes to complete.

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

LD 135	Load program
CUTOVR	The inactive CP become active

CAUTION — Service Interruption

Service Interruption

The INI may take up to15 minutes to complete.

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

FIJI Download

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

IMPORTANT!

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

> ***Note:*** The single slot FIJI (NTRB33BBE5) packs require a different firmware than the existing double slot FIJIs. Provision has been made to have both the double slot and single slot card firmware in the same switch. The FIJI card will download its own firmware depending on the card ID information stored in it. The details about the firmware download explained in the previous paragraph is true for new single slot FIJI cards also.

Test Core/Net 1

Follow the steps in Procedure 17 to test call processing on Core/Net 1. Testing call processing includes, but is not limited to the following tests.

Procedure 17
Testing call processing on Core/Net 1

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

5 Check any auxiliary processors.

End of Procedure

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

Install software on Core/Net 0

Follow the steps in Procedure 16 on page 153 to install the old software on Core/Net 0. Where “Core/Net 1” appears, assume “Core/Net 0”.

Check for peripheral software download

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

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

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

Enable system redundancy

Follow the steps in Procedure 18 to enable system redundancy.

Procedure 18
Enabling system redundancy

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

LD 135	Load program
JOIN	Synchronize the memory and drives

System is now in redundant mode.

Test Core/Net 1 and Core/Net 0

Follow the steps in Procedure 19 to test call processing on Core Net 1 and Core/Net 0.

Procedure 19
Testing call processing on Core/Net 1 and Core/Net 0

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

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

2 Test system redundancy:

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

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

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

4 Clear the display and minor alarms on both Cores.

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

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

STAT CPU	Get the status of both Cores and redundancy
STAT CNI c s	Get the status of all configured cCNIs (both main and Transition) cards
****	Exit program

End of Procedure

Perform a data dump

Follow the steps in Procedure 20 on page 165 to perform a data dump.

Procedure 20
Performing a data dump

1 Load the LD 43. At the prompt, enter

LD 43	Load program

2 When “EDD000” appears on the terminal, enter

EDD	Begin data dump

3 When “DATABASE BACKUP COMPLETE” or “DATADUMP COMPLETE” appears on the terminal, enter:

****	Exit program

CAUTION — Service Interruption

Loss of Data

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

End of Procedure

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

Prepare for upgrade

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

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

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

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 11.

Table 11
Prepare for upgrade steps

Procedure Step	Page
Plan upgrade	167
Upgrade Checklists	167
Prepare	167
Identifying the proper procedure	168
Connect a terminal	168
Print site data	169
Perform a template audit	172
Back up the database (data dump and ABKO)	173
Identify two unique IP addresses	177

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.

Upgrade Checklists

Upgrade checklists can be found in "Upgrade checklists" on page 1241. 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* (NN43021-220)).
- 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 21
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.** 7 data
- **c.** space parity
- **d.** 1 stop bit
- **e.** full duplex
- **f.** XOFF

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

End of Procedure

Print site data

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

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

Table 12
Print site data (Part 1 of 4)

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

Table 12
Print site data (Part 2 of 4)

Site data	Print command	
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV

Table 12
Print site data (Part 3 of 4)

Site data	Print command	
ACD data block for all customers	LD 23	
	REQ 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
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)

Table 12
Print site data (Part 4 of 4)

Site data	Print command	
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop. xxx = 0-252 in multiples of four for MG 1000E
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 22
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 23
Performing an ABKO
(save the database to floppies)

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

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

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

LD 143	Load program

3 Run the ABKO backup (LD 143).

ABKO	Run backup

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

4 If there are validation errors, repeat the procedure.

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PII.

5 Once the backup is complete, type:

****	Exit program

End of Procedure

Procedure 24
Converting the 4 MB database media to 2 MB 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 “Database transfer” on page 244.
>
> If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.
>
> All systems can be converted by Nortel in the software conversion lab.

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

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

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

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

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

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

4 From the installation menu select:

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

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

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

End of Procedure

Identify two unique IP addresses

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

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

Perform upgrade

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

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

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

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

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

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

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

Note: This procedure does not include instructions for installing new IODU/C cards, CP cards or CP memory. If required, refer to “Installing CP cards and CP memory” on page 799.

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

If during the software conversion a problem is detected and it is determined that the system should revert back to the source release follow the "Parallel reload procedures" on page 286.

Verify memory

Determine whether the system requires additional memory. Refer to "Installing CP cards and CP memory" on page 799 for memory requirements and upgrade procedures.

Perform a data dump

Follow the steps in Procedure 25 to perform a data dump.

Procedure 25
Performing a data dump

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

LD 43	Load program

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

EDD	Begin data dump.

3 When "DATABASE BACKUP COMPLETE" or "DATADUMP COMPLETE" appears on the terminal, enter:

****	Exit program

CAUTION — Service Interruption

Loss of Data

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

End of Procedure

Determine status (STAT) of the hardware

Follow the steps in Procedure 26 to determine the required hardware status.

Procedure 26
Obtaining hardware status

1 Load LD 137 and get status of the hard disks.

Note: Be sure the hard disks are synchronized. If not, synchronize before proceeding.

LD 137	Load the program
STAT	Get the status of the hard disks
SYNC	Synchronize hard disks if necessary (Synchronization may take up to 50 minutes)
TEST CMDU	Performs hard and floppy disk test
****	Exit program

2 Load LD 135 and determine the status of the CPs, CNIs and memory.

LD 135	Load program
STAT CPU	Get the status of both CPs and memory
STAT CNI	Get the status of all configured CNIs

3 Test the standby (inactive) CP. Then switch CPs, and test again.

TEST CPU	Test standby (inactive) CP

Wait until the terminal returns a complete test message. The message "HWI533 or HWI534" does not mean the test has completed!

SCPU	Switch CPs
TEST CPU	Test the standby (inactive) CP

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

End of Procedure

Split the Core processors

Follow the steps in Procedure 27 to split the core processors.

Procedure 27
Splitting the Core processors

1 Be sure CP 0 is active and CP1 is standby. If necessary, switch CPs again:

STAT CPU

SCPU	Switch CPs if necessary
****	Exit program

2 Verify that IODU/C 0 is active. If necessary, switch IODU/Cs.

LD 137

STAT	Get the status of IODU/C
SWAP	Switch IODU/Cs (if necessary)
****	Exit program

3 Connect a terminal from the CPSI port in Core/Net 1 to J25 of the I/O panel at the back of the Core/Net. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.

7 data bits, 1 stop bit, Space parity, Full-duplex, XON protocol

4 Place CP 0 in Maintenance by setting the MAINT/NORM switch to MAINT.

5 In Core/Net 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

6 Place CP1 in Maintenance by setting the MAINT/NORM switch to MAINT.

Note: Core 1 will now sysload. Allow the system to complete the sysload and INI. Review any sysload errors and correct before proceeding.

> System is now is split mode, Core 0 active, Clock Controller 0 is active if equipped with FNF. Rings are in half/half mode.

End of Procedure

Install software on Core/Net 1

Follow the steps in Procedure 28 to install the system software on Core/Net 1.

Procedure 28
Installing the system software on Core/Net 1

1 Place the CP Install disk that corresponds with the installed CP card type into the IODU/C in Core/Net 1.

2 Install the CD-ROM into the CD drive:

- **a.** Press the button on the CD-ROM drive to open the CD-ROM disk holder.
- **b.** Place the CD-ROM disk into the holder with the disk label showing.
- **c.** Use the four tabs to secure the CD-ROM drive.
- **d.** Press the button again to close the CD-ROM disk holder. Don't push the holder in by hand.

3 In Core/Net 1 press and release the MAN RST button on the CP card.

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

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

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

4 Press <CR> to continue.

5 Log into the system. Enter the time and date, when prompted.

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

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

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

```
M A I N   M E N U
    The Software Installation Tool will install or upgrade
Succession Enterprise System Software, Database and the
CP-BOOTROM. You will be prompted throughout the installation
and given the opportunity to quit at any time.
    Please enter:
<CR> -> <u> - To Install menu
    <t> - To Tools menu.
    <q> - Quit.
    Enter Choice> <CR>
    >Validating Keycode
The provided keycode authorizes the install of X210300 software
(all subissues) for machine type XXXX
(XXX processor on XXXX System)
```

IMPORTANT!

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

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

```
Please confirm that this keycode matches the CDROM Release

      Please enter:

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

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

      Enter Choice> <CR>

      >Obtain database file names
```

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

```
I N S T A L L   M E N U

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

      Please enter:

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

      <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 X210300_K.

        Please enter:

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

        <n> - No, this is not the correct version. Try another CDROM.

                or keycode disk

        Enter Choice> <CR>

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

        >Updating /u/direct.rec

        >Processing the Install Control file

        >Installing release 4.x
```

11 Confirm all options before installing the software:

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

| Option | Choice | Status | Comment |
=================+========+========+=========
| CP-BOOTROM | yes | | |

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

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

Please enter:

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

<q> - Quit.

Enter Choice> **<CR>**

>Starting Software Install

>Upgrading from release XXXX to release 4.x

12 After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1>	Global 10 Languages
<2>	Western Europe 10 Languages
<3>	Eastern Europe 10 Languages
<4>	North America 6 Languages
<5>	Spare Group A
<6>	Spare Group B

The languages contained in each selection are outlined as follows:

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

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

```
Software release 4.x was installed successfully on Core X.
        All files were copied from CDROM to the hard disk.
        Please press <CR> when ready... <CR>
        You will now perform the database installation.
        Note: If you are installing the Database from a floppy disk,
please insert the correct disk now.
        Please enter:
<CR> -> <a> - Install CUSTOMER Database
            (the customer database diskette must be in the Core X disk
drive).
        <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: Jul 07 14:10:00 2003
     Please confirm.
     Please enter:
<CR> -> <y> - Yes, load.
     <n> - No, DO NOT load.
     Enter Choice> <CR>
```

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

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

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

17 Enter **q** to quit:

```
                    I N S T A L L   M E N U

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

     Please enter:

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

     <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.

Before rebooting the system, remove Install diskette from the floppy
drive(s).


     -----------------------------

     DO NOT REBOOT USING BUTTON!!


     -----------------------------


     Please enter:

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

     <m> - Return to the Main menu.

     Enter Choice> <CR>

     >Removing temporary files


     >Remove /u/diskXXXX.sys



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

End of Procedure

If the system fails to load, or system messages indicate data corruption, back out of the parallel reload process by performing the steps in "Back out of the parallel reload and re-install old software" on page 215.

Determine peripheral software version

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

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

Switch call processing to Core/Net 1

CAUTION — Service Interruption

Service Interruption

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

WARNING

System initialization may take up to 15 minutes or longer.

IMPORTANT!

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

Follow the steps in Procedure 29 to switch call processing from Core/Net 0 to Core/Net 1.

Procedure 29
Switching call processing from Core/Net 0 to Core/Net 1

1 In Core/Net 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

2 In Core/Net 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS and unseat it.

3 In Core/Net 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

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

End of Procedure

FIJI Download

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

CAUTION — Service Interruption

Service Interruption

The INI may take up to15 minutes to complete.

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

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

IMPORTANT!

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

Note: The single slot FIJI (NTRB33BBE5) packs require a different firmware than the existing double slot FIJIs. Provision has been made to have both the double slot and single slot card firmware in the same switch. The FIJI card will download its own firmware depending on the card ID information stored in it. The details about the firmware download explained in the previous paragraph is true for new single slot FIJI cards also.

Test Core/Net 1

Procedure 30
Testing Core/Net 1

1 Check dial tone.

2 Make internal, external and network calls.

3 Check attendant console activity.

4 Check DID trunks.

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

End of Procedure

Install new software on Core/Net 0

Follow the steps in Procedure 31 to install the new software on Core/Net 0.

Procedure 31
Installing the software and converting the database

1 Check that a terminal is connected to J25 on Core/Net 0.

2 In Core/Net 0, install the CD-ROM into the CD-ROM drive in the IODU/C:

- **a.** Press the button on the CD-ROM drive to open the CD-ROM disk holder.
- **b.** Place the CD-ROM disk into the holder with the disk label showing.
- **c.** Press the button again to close the CD-ROM disk holder.
  Do not push the holder in by hand.

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

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

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

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

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

```
System Date and Time now is:

     Day-Month-Year, Hour:Min:Sec

     Succession Enterprise Software/Database/BOOTROM
CDROM INSTALL Tool

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

     Please enter:

<CR> -> <n> - No

     <y> - Yes

     Enter Choice>
```

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

M A I N   M E N U

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

Please enter:

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

<t> - To Tools menu.

<q> - Quit.

Enter Choice> **<CR>**

>Validating Keycode

The provided keycode authorizes the install of X210300 software

(all subissues) for machine type XXXX

(XXX processor on XXXX System)

IMPORTANT!

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

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

```
Please confirm that this keycode matches the CDROM Release

        Please enter:

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

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

        Enter Choice> <CR>

        >Obtain database file names
```

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

```
                    I N S T A L L   M E N U

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

        Please enter:

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

        <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 X210300_K.

        Please enter:

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

        <n> - No, this is not the correct version. Try another CDROM.

                or keycode disk

        Enter Choice> <CR>

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

        >Updating /u/direct.rec

        >Processing the Install Control file

        >Installing release 4.x
```

10 Confirm all options before installing the software:

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

| Option | Choice | Status | Comment |
=================+========+=======+=========
| CP-BOOTROM | yes | | |


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

Database files will NOT be erased. You may continue installing the software or quit now and leave your system unchanged. Please enter: <CR> -> <a> - Continue with Upgrade. <q> - Quit. Enter Choice> **<CR>** >Starting Software Install >Upgrading from release XXXX to release 4.x

11 After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1> Global 10 Languages

<2> Western Europe 10 Languages

<3> Eastern Europe 10 Languages

<4> North America 6 Languages

<5> Spare Group A

<6> Spare Group B

The languages contained in each selection are outlined as follows:

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

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

```
Software release 4.x was installed successfully on Core X.
    All files were copied from CDROM to the hard disk.
    Please press <CR> when ready... <CR>
    You will now perform the database installation.
    Note: If you are installing the Database from a floppy disk,
please insert the correct disk now.
    Please enter:
<CR> -> <a> - Install CUSTOMER Database
      (the customer database diskette must be in the Core X disk
drive).
    <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: Jul 07 14:10:00 2003

        Please confirm.

        Please enter:

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

        <n> - No, DO NOT load.

        Enter Choice> <CR>
```

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

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

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

16 Enter **q** to quit:

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.

Before rebooting the system, remove Install diskette from the floppy
drive(s).


        ------------------------------

        DO NOT REBOOT USING BUTTON!!


        ------------------------------


        Please enter:

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

        <m> - Return to the Main menu.

        Enter Choice> <CR>

        >Removing temporary files


        >Remove /u/diskXXXX.sys



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

End of Procedure

Exiting split mode

Follow the steps in Procedure 32 to exit the split mode.

Procedure 32
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 33 to test Core/Net 0 and Core/Net 1.

Procedure 33
Testing Core/Net 0 and Core/Net 1

1 Perform a redundancy sanity test. Use the following sequence:

LD 135

STAT CNI	Get status of CNI cards
STAT CPU	Get status of CPU and memory
TEST CPU	Test the inactive Core/Net/Net
TEST CNI c s	Test each inactive CNI card

2 Switch Core/Nets and test the other side (Core/Net 0).

SCPU	Switch Core/Nets
TEST CPU	Test the inactive Core/Net/Net
TEST CNI c s	Test each inactive CNI card

Note: Testing the Call Processor and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the Call Processor test is complete, the Call Processor the memory is automatically synchronized.

3 Clear the display and minor alarms on both Core/Nets.

CDSP	Clear the displays on the Core/Nets
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms

4 Get the status of the Core/Nets, CNIs, and memory.

STAT CPU	Get the status of both Core/Nets
STAT CNI	Get the status of all configured CNIs and memory

Note: You may need to execute the STAT CNI command twice before receiving a response from the system.

****	Exit program

End of Procedure

Switch the Clocks

Procedure 34
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 35
Stat the rings

1 Check the status of Ring 0 and Ring 0.

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

End of Procedure

Synchronize the hard disks

Follow the steps in Procedure 36 to synchronize the hard disks.

Procedure 36
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 37
Performing a data dump

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

   LD 43 Load program

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

   EDD Begin the data dump

3. When “DATABASE BACKUP COMPLETE” or “DATADUMP COMPLETE” appears on the terminal, enter the following:

   ******** Exit program

Proceed to “Post-conversion procedure” on page 306.

The parallel Reload process is complete. The system is now running on the target release

System is now in redundant mode.

End of Procedure

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

Follow the steps in Procedure 38 to back out of the parallel reload and re-install the old software.

Procedure 38
Backing out of the parallel reload and re-installing old software

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

5 Select <a> to continue with keycode validation.

> **IMPORTANT!**
>
> Remove keycode floppy disk at this time.

6 When the install screen appears, select the following options in sequence, and insert the **source** database diskette when prompted.

<b>	Install software, database, CP-BOOT ROM, and IOP-ROM.
<a>	Start installation.
<a>	Continue with upgrade.

7 When the database installation screen appears, select the following:

<c>	Transfer the previous system database (DBMT).
<a>	Continue with the database install.
<y>	Delete the hardware infrastructure database files from the hard disk.

8 When the ROM installation screen appears, select the following:

<a>	Continue with the ROM upgrade.

9 Following the database installation, upgrade the ROMs:

<a>	Continue with ROM upgrade (CP-BOOT).
<y>	Start installation.
<a>	Continue with ROM upgrade (IOP-ROM).

10 Remove the source database disk from the IODU/C in Core/Net 1.

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

<q>	Quit.
<y>	Confirm quit.

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

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

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

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

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

RUNNING ROM OS
ENTERING CP VOTE

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

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

15 Perform a redundancy sanity test.

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

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

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

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

End of Procedure

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

System is now in redundant mode.

Proceed to "Post-conversion procedure" on page 306.

Meridian 1 Option 51C software conversion

CAUTION WITH ESDS DEVICES

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

WARNING

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

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

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

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

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

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

Prepare for upgrade

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

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

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

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 13 below:

Table 13
Prepare for upgrade steps

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.

Upgrade Checklists

Upgrade checklists can be found in "Upgrade checklists" on page 1241. 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* (NN43021-220)).
- 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 39
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.** 7 data
- **c.** space parity
- **d.** 1 stop bit
- **e.** full duplex
- **f.** XOFF

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

End of Procedure

Print site data

Print site data to preserve a record of the system configuration (Table 14). Verify that all information is correct. Make corrections as necessary.

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

Table 14
Print site data (Part 1 of 3)

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

Table 14
Print site data (Part 2 of 3)

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

Table 14
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ TYPE	PRT DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ TYPE SUPL	CHG SUPL Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop. xxx = 0-252 in multiples of four for MG 1000E
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 40
Performing a data dump

1 Log into the system.

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

LD 43	Load program

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

EDD	Begin the data dump

CAUTION — Service Interruption

Loss of Data

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

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

****	Exit program

Procedure 41
Performing an ABKO (save the database to floppies)

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

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

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

LD 143	Load program

3 Run the ABKO backup (LD 143).

ABKO	Run the backup

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

4 If there are validation errors, repeat the procedure.

CAUTION — Service Interruption

Loss of Data

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

5 Once the backup is complete, type:

****	Exit program

End of Procedure

Identify two unique IP addresses

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

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

Perform upgrade

Verify memory

Determine whether the system requires additional memory. Refer to "Installing CP cards and CP memory" on page 799 for memory requirements and upgrade procedures.

Perform a data dump

Follow the steps in Procedure 42 below to perform a data dump on the Meridian 1 Option 51C.

Procedure 42
Performing a data dump on the Meridian 1 Option 51C

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

LD 43	Load program

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

EDD	Begin the data dump

3 When “DATABASE BACKUP COMPLETE” or “DATADUMP COMPLETE” appears on the terminal, enter

****	Exit program

End of Procedure

CAUTION — Service Interruption

Loss of Data

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

STAT the hardware on the Meridian 1 Option 51C

Follow the steps in Procedure 43 to determine the status of the hardware on the Meridian 1 Option 51C.

Procedure 43
Determining the hardware status on the Meridian 1 Option 51C

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

LD 137	Load program
STAT	Get the status of the hard disks

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

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

IMPORTANT!

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

End of Procedure

CAUTION — Service Interruption

Service Interruption

Meridian 1 Option 51C conversion is service affecting

The procedure takes approximately 30 minutes to complete.

Install new software on Meridian 1 Option 51C

Follow the steps in Procedure 44 below to install the new software on the Meridian 1 Option 51C.

Procedure 44
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 X210300 software

 (all subissues) for machine type XXXX

 (XXX processor on XXXX System)
```

IMPORTANT!

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

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

```
Please confirm that this keycode matches the CDROM Release

        Please enter:

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

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

        Enter Choice> <CR>

        >Obtain database file names
```

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

```
                    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 X210300_K.
    Please enter:
<CR> -> <y> - Yes, this is the correct version. Continue.
    <n> - No, this is not the correct version. Try another CDROM.
        or keycode disk
    Enter Choice> <CR>
    >copying direct.rec from /cd0/0300_KMR.N33/target/p/sl1/
direct.rec to /u/direct.rec
    >Updating /u/direct.rec
    >Processing the Install Control file
    >Installing release 4.x
```

9 Confirm all options before installing the software:

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

|    Option     |     Choice     | Status |   Comment        |
================+=======+=======+=========
| CP-BOOTROM |      yes        |          |                       |


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

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

Please enter:

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

<q> - Quit.

Enter Choice> <CR>

>Starting Software Install

    >Upgrading from release XXXX to release 4.x
```

10 After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1>	Global 10 Languages
<2>	Western Europe 10 Languages
<3>	Eastern Europe 10 Languages
<4>	North America 6 Languages
<5>	Spare Group A
<6>	Spare Group B

The languages contained in each selection are outlined as follows:

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

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

```
Software release 4.x was installed successfully on Core X.
    All files were copied from CDROM to the hard disk.
    Please press <CR> when ready... <CR>
    You will now perform the database installation.
    Note: If you are installing the Database from a floppy disk,
please insert the correct disk now.
    Please enter:
<CR> -> <a> - Install CUSTOMER Database
        (the customer database diskette must be in the Core X disk
drive).
    <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: Jul 07 14:10:00 2003

     Please confirm.

     Please enter:

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

     <n> - No, DO NOT load.

     Enter Choice> <CR>
```

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

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

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

15 Enter **q** to quit:

```
INSTALL MENU

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

Please enter:

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

<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.

Before rebooting the system, remove Install diskette from the floppy
drive(s).

        ------------------------------

        DO NOT REBOOT USING BUTTON!!

        ------------------------------

        Please enter:

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

        <m> - Return to the Main menu.

        Enter Choice> <CR>

        >Removing temporary files


        >Remove /u/diskXXXX.sys


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

End of Procedure

Complete the upgrade

Follow the steps in Procedure 45 to complete the upgrade.

Procedure 45
Completing the upgrade

1 Perform a redundancy sanity test using the following sequence:

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

2 Clear the display and minor alarms.

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

Note: Wait for the system to INI.

IMPORTANT!

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

Proceed to "Post-conversion procedure" on page 306.

Test Core/Net 1

Procedure 46
Testing Core/Net 1

1 Check dial tone.

2 Make internal, external and network calls.

3 Check attendant console activity.

4 Check DID trunks.

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

End of Procedure

Database transfer

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

IMPORTANT!

Database conversion for Meridian 1 Options 21E, 51, 61,71, STE, NT and XT must be completed by Nortel 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 “Database transfer” on page 244.

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

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

Database requirements

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

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

Before beginning this procedure:

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

Perform a Data Dump

Procedure 47
Performing a data dump

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

LD 43	Load program

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

EDD	Begin data dump

3 When "DATABASE BACKUP COMPLETE" or "DATADUMP COMPLETE" appears on the terminal, enter:

****	Exit program

CAUTION — Service Interruption

Loss of Data

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

End of Procedure

Determine status (STAT) of the hardware

Procedure 48
Obtaining hardware status

1 Load LD 137 and get status of the hard disks.

Note: Be sure the hard disks are synchronized. If not, synchronize before proceeding.

LD 137	Load program
STAT	Get the status of the hard disks
SYNC	Synchronize hard disks if necessary (Synchronization may take up to 50 minutes)
TEST CMDU	Performs hard and floppy disk test
****	Exit program

2 Load LD 135 and determine the status of the CPs, CNIs and memory.

LD 135	Load program
STAT CPU	Get the status of both CPs and memory
STAT CNI	Get the status of all configured CNIs

3 Test the standby (inactive) CP. Then switch CPs, and test again.

TEST CPU	Test standby (inactive) CP

Wait until the terminal returns a complete test message. The message "HWI533 or HWI534" does not mean the test has completed!

SCPU	Switch CPs
TEST CPU	Test the standby (inactive) CP

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

End of Procedure

Split the Core processors

Follow the steps in Procedure 49 to split the core processors.

Procedure 49
Splitting the Core processors

1 Be sure CP 0 is active and CP1 is standby. If necessary, switch CPs again:

STAT CPU

SCPU	Switch CPs (if necessary)
****	Exit program

2 Verify that IOP/CMDU 0 is active. If necessary, switch IOP/CMDUs.

LD 137

STAT	Get the status of IOP/CMDU
SWAP	Switch IOP/CMDUs (if necessary)
****	Exit program

3 Connect a terminal from the CPSI port in Core/Net 1 to J25 of the I/O panel at the back of the Core/Net. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.

7 data bits, 1 stop bit, Space parity, Full-duplex, XON protocol

4 Place CP 0 in Maintenance by setting the MAINT/NORM switch to MAINT.

5 In Core/Net 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

6 Place CP1 in Maintenance by setting the MAINT/NORM switch to MAINT.

Note: Core 1 will now sysload. Allow the system to complete the sysload and INI. Review any sysload errors and correct before proceeding.

System is now is split mode, Core 0 active, Clock Controller 0 is active if equipped with FNF. Rings are in half/half mode.

End of Procedure

Procedure 50
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 MB diskette into the floppy drive in Core 1)
<a>	diskette is now in floppy drive in side 1

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

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

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

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

End of Procedure

Exiting split mode

Procedure 51
Exiting the split mode

1 Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 1.

2 Perform the following in uninterrupted sequence:

- Press and release the MAN RST button in Core/Net 1.
- When SYS700 messages appears on the LCD display on Core/ Net 0, set the MAINT/NORM switch to NORM in Core/Net 1.

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

RUNNING ROM OS

ENTERING CP VOTE

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

3 In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

End of Procedure

Test Core/Net 1 and Core/Net 0

Procedure 52
Testing Core/Net 0 and Core/Net 1

1 Perform a redundancy sanity test using the following sequence:

LD 135

STAT CNI	Get status of CNI cards
STAT CPU	Get status of CPU and memory
TEST CPU	Test the inactive Core/Net/Net
TEST CNI c s	Test each inactive CNI card

2 Switch Core/Nets and test the other side (Core/Net 0)

SCPU	Switch Core/Nets
TEST CPU	Test the inactive Core/Net/Net
TEST CNI c s	Test each inactive CNI card

Note: Testing the Call Processor and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the Call Processor test is complete, the Call Processor the memory is automatically synchronized.

3 Clear the display and minor alarms on both Core/Nets.

CDSP	Clear the displays on the Core/Nets
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms

4 Get the status of the Core/Nets, CNIs, and memory.

STAT CPU	Get the status of both Core/Nets
STAT CNI	Get the status of all configured CNIs and memory

Note: You may need to execute the STAT CNI command twice before receiving a response from the system.

****	Exit program

5 Check for dial tone.

6 Make internal, external, and network calls.

7 Check attendant console activity.

8 Check DID trunks.

9 Check any auxiliary processors.

End of Procedure

Procedure 53
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

Synchronize the hard disks

Procedure 54
Synchronizing the hard disks

1 Access LD 137 and synchronize the hard disks. Synchronization can take up to 50 minutes. To ensure that the contents of IODU/C 1 are copied to IODU/C 0, verify that IODU/C 0 is disabled.

LD 137	Load program
STAT	Get the status of the IODU/C and redundancy
SYNC	Enter "Yes" to synchronize disks. (Wait until the memory synchronization successfully completes before continuing)
TEST CMDU	Perform hard and floppy disk test

2 Get the status of the CMDU's and be sure CMDU 0 is active. Switch if necessary.

STAT	Get the status of IODU/C and redundancy
SWAP	Switch CMDU if necessary
STAT CMDU	Get the status of the IODU/Cs (Be sure the same IODU/C and CPU are active)
****	Exit program

End of Procedure

The database transfer procedure is complete. You are now ready to install CS 1000 Release 5.5 software.

Feature and License upgrade

Prepare for upgrade

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

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

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

Plan upgrade

Planning for an upgrade involves the following tasks:

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

Upgrade Checklists

Upgrade checklists can be found in “Upgrade checklists” on page 1241. 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* (NN43021-220)).
- 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 55
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.** 7 data
   - **c.** space parity
   - **d.** 1 stop bit
   - **e.** full duplex
   - **f.** XOFF
3. If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An “A/B” switch box can also be installed to switch the terminal from side to side.

End of Procedure

Print site data

Print site data to preserve a record of the system configuration (Table 15). Verify that all information is correct. Make corrections as necessary.

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

Table 15
Print site data (Part 1 of 3)

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

Table 15
Print site data (Part 2 of 3)

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

Table 15
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ TYPE	PRT DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ TYPE SUPL	CHG SUPL Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop. xxx = 0-252 in multiples of four for MG 1000E
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 56
Performing a data dump

1 Log into the system.

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

LD 43	Load program

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

EDD	Begin the data dump

CAUTION — Service Interruption

Loss of Data

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

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

****	Exit program

Procedure 57
Performing an ABKO (save the database to floppies)

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

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

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

LD 143	Load program

3 Run the ABKO backup (LD 143).

ABKO	Run the backup

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

4 If there are validation errors, repeat the procedure.

CAUTION — Service Interruption

Loss of Data

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

5 Once the backup is complete, type:

****	Exit program

End of Procedure

Installing a new keycode

Adding new features and/or modifying License limits requires the installation of a new keycode. Keycodes are delivered by a portable media appropriate for the processor type (floppy diskette for CPT and CP PII, Compact Flash [CF] for CP PIV) or electronic file transfer. They are installed using the keycode management commands in LD 143 or the Software Installation Tool.

IMPORTANT!

To ensure proper formatting of a CF card, you must use the PC utility (mkbootrmd.exe) found in the utilities folder of the downloaded software image. For more information, read the README_BOOTABLE_RMD.txt file.

The following procedures outline the steps to install a new keycode (using the keycode commands in LD 143) that can be activated "instantly" or that requires a Sysload (Cold Restart). More information on the "Instant License" feature can be found in *Features and Services* (NN43001-106).

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

Table 16
Keycode installation

Keycode delivery	Keycode Installation command
Diskette for CPT (CP3/CP4)	Use the KNEW F0 for Core 0 and KNEW F1 for Core 1 command in LD 143.
Diskette for CP PII	Use the KNEW F0 command for both Core 0 and Core 1 in LD 143.
CF card for CP PIV	Use the KNEW RMD command for both Core 0 and Core 1 in LD 143.
Electronic file on a PC	Use the KUPL command in LD 143, followed by the KNEW HD (CP PII and CPT) or KNEW FMD (CP PIV) command (see note).

Table 16
Keycode installation

Keycode delivery	Keycode Installation command
Faxed to the customer site (paper-based keycode)	Use the KMAN command in LD 143, followed by the KNEW HD (CP PII and CPT) or KNEW FMD (CP PIV) command.
Note 1: For a CP PIV RMD, the new keycode must be in a file directory called keycode. The CF card used for this purpose must be formatted using the PC utility (mkbootrmd.exe) found in the utilities folder of a CP PIV downloaded software image. ***Note 2:*** If the keycode is downloaded from the Keycode Distributor Server (KDS), use the KUPL command to install the keycode. Refer to "Using the Distributor Keycode Application" on page 1091 for more information about KDS.	

Feature operation

Feature operation is further broken down into five options:

- Feature and License parameter upgrade using a keycode delivered on a floppy diskette (CPT and CP PII)
- Feature and License parameter upgrade using a keycode delivered on a CF card (CP PIV)
- Upgrade feature and License parameter using HyperTerminal
- Upgrade feature and License parameter entered manually
- Revert to the previous keycode with the KRVR command

Feature and License parameter upgrade using a keycode delivered on a floppy diskette

Follow the steps in Procedure 58 on page 265 to perform a feature and License parameter upgrade using a floppy diskette. The floppy diskette must be a standard 2 MB floppy diskette IBM formatted to 1.44 MB.

Leave the system in full redundant mode (hard-disk and CPU redundancy).

Procedure 58
Performing a feature and License parameter upgrade

1 Log in on a system terminal and load LD 143.

>LD 143
CCBR000
.

2 Insert the new keycode floppy diskette into the floppy drive on the active Core.

3 Print the pending keycode contents.

KSHO F0, F1	print the contents of the candidate keycode in the floppy drive on the active Core. Where: F0 = Core 0 (CPT) F0 = Core 0 or 1 (CP PII only) F1 = Core 1 (CPT only)

4 Enter the KDIF command and select keycode comparison options.

Note: Ensure that the new keycode does not lower License limits or reduce features compared with the existing keycode. If it has been determined that the keycode lowers License limits or reduces features, do not continue with the KNEW command. Contact the Nortel order management representative.

. KDIF
Please use: KDIF <param1> <param2> with the following parameters:

NEW	Accepted new keycode
REC	Currently used keycode
OLD	Previously used keycode
F0	Candidate keycode on diskette in /f0 floppy drive
F1	Candidate keycode on diskette in /f1 floppy drive
HD	Candidate keycode which was uploaded to hard disk

Enter the keycode comparison option. The new keycode option is shown in **bold**.

> ***Note:*** In the following example, the (REC) currently used keycode will be compared with the new keycode disk in floppy drive F0. The limits shown are for example purposes only.

.KDIF REC F0
Validating Keycode File /p/install/keycode.rec... OK
Validating Keycode File /f0/keycode.kcd... OK

System parameters	1st keycode	2nd keycode
System Serial Number	: 46XX	46XX
Software Version	: 2511	2511
System Type	: Meridian 1 Option 61C	Meridian 1 Option 61C
Call Processor	: CP68060	CP68060
Release	: CS 1000 Release 5.5	CS 1000 Release 5.5
Issue	: XX	XX
NTI Order Number	:	
NT SDID - 1	:	
NT SDID - 2	:	
Date and Time of Manufacture	:	

> ***Note:*** (:) indicates that information is not available

License Limits	1st keycode	2nd keycode
Loop Limit	: 32	32
Sys TNs Limit	: 0	200
ACD Agt Limit	: 10	10
ACD DNs Limit	: 10	10
AST Limit	: 10	10

......

Common packages for both keycodes:
0-2 4-5 7-25 28-29 32-55 58-65
......

Additional packages in the 2nd keycode:
< **30-31**
.

5 Select the new keycode for activation using the KNEW command.

KNEW F0 (KNEW F1 if Core 1 is active on CPT only)

The uploaded keycode is validated against the security device.

If the following system message is displayed:

CCBR020 New Keycode accepted and activated successfully.

Sysload is not needed!

This means that the new keycode is eligible for instant activation and no further user action is required. Go to steps 6 and 7.

If the keycode is not eligible for instant activation, a Sysload is needed to activate the new keycode and the following system message is displayed:

CCBR009 New Keycode accepted. New License limits and feature packages will be activated during the next Sysload (Cold Restart).

Go to step 8.

6 Load LD 22 and confirm that the new License parameters have been updated.

>LD 22
REQ SLT
....

If License limits are correct, then the keycode installation is complete.

See "Reverting to the previous keycode with the KRVR command" on page 277 if License limits are not increased or problems exist.

7 Once it is confirmed that the keycode changes taken effect as expected, perform a data dump in LD 43.

8 For keycodes that are not eligible for Instant License, place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

For CPT use Procedure 63.

For CP PII and CP PIV use Procedure 64.

End of Procedure

Feature and License parameter upgrade using a keycode delivered on a CF card (CP PIV)

A directory must be created on the CF card (RMD) named "keycode". The following rules apply:

- All keycode files must reside in this directory
- The directory can contain up to 20 different keycodes
- The keycode filenames must be unique
- The keycode filenames can contain up to eight characters, and must end with a .kcd extension.

Follow the steps in Procedure 59 on page 269 to perform a feature and License parameter upgrade using a keycode delivered on a CF card (CP PIV).

Leave the system in full redundant mode (hard-disk and CPU redundancy).

Procedure 59
Performing a feature and License parameter upgrade using a keycode delivered on a CF card (CP PIV).

1 Log in on a system terminal and load LD 143.

> **>LD 143**
> **CCBR000**
> **.**

2 Insert the new keycode CF card into the CF drive on the active Core.

3 Print the pending keycode contents.

KSHO RMD	print the contents of the candidate keycode in the CF drive on the active Core. Where: RMD = Core 0 or 1 (CP PIV only)

4 Enter the KDIF command and select keycode comparison options.

Note: Ensure that the new keycode does not lower License limits or reduce features compared with the existing keycode. If it has been determined that the keycode lowers License limits or reduces features, do not continue with the KNEW command. Contact the Nortel order management representative.

> . KDIF
> Please use: KDIF <param1> <param2> with the following parameters:

NEW	Accepted new keycode
REC	Currently used keycode
OLD	Previously used keycode
RMD	Candidate keycode on removable CF card
FMD	Candidate keycode on fixed CF card

Enter the keycode comparison option. The new keycode option is shown in **bold**.

Note: In the following example, the (REC) currently used keycode will be compared with the new keycode file on the CF card. If choosing from multiple keycode files, ensure you select the correct keycode file. The system limits shown are for example purposes only.

.KDIF REC RMD
Validating Keycode File /p/install/keycode.rec ... OK

The following keycode files are available on the removable media:

```
Name                               Size      Date          Time
--------------------               ------    ----------    -------
 <CR> -> <1> - site_A.kcd          1114   Apr-06-2006     10:09
          <2> - KEYCODE.KCD        1114   Mar-28-2006     11:11

      <q> - Quit

      Enter choice>
```

Validating Keycode File /cf2/keycode/KEYCODE.KCD ... OK

System parameters	**1st keycode**	**2nd keycode**
System Serial Number	: 46379	46379
Software Version	: 3521	3521
System Type	: Option 61C	Option 61C
Call Processor	: CP PIV	CP PIV
Release	: 4	4
Issue	: 50	50
NTI Order Number	:	
NT SDID - 1	:	
NT SDID - 2	:	
Date and Time of Manufacture	:	

Note: (:) indicates that information is not available

License Limits	1st keycode	2nd keycode
Loop Limit	: 32	32
Sys TNs Limit	: 0	200
ACD Agt Limit	: 10	10
ACD DNs Limit	: 10	10
AST Limit	: 10	10

......

Common packages for both keycodes:
0-2 4-5 7-25 28-29 32-55 58-65
......

Additional packages in the 2nd keycode:
< **30-31**
.

5 Select the new keycode for activation using the KNEW command.

KNEW RMD

CAUTION
A menu appears prompting the user to choose from multiple keycode files. Ensure you select the correct keycode file.

The uploaded keycode is validated against the security device.

If the following system message is displayed:

CCBR020 New Keycode accepted and activated successfully.

Sysload is not needed!

This means that the new keycode is eligible for instant activation and no further user action is required. Go to steps 6 and 7.

If the keycode is not eligible for instant activation, a Sysload is needed to activate the new keycode and the following system message is displayed:

CCBR009 New Keycode accepted. New License limits and feature packages will be activated during the next Sysload (Cold Restart).

Go to step 8.

6 Load LD 22 and confirm that the new License parameters have been updated.

>LD 22
REQ SLT
....

If License limits are correct, then the keycode installation is complete.

See “Reverting to the previous keycode with the KRVR command” on page 277 if License limits are not increased or problems exist.

7 Once it is confirmed that the keycode changes taken effect as expected, perform a data dump in LD 43.

8 For keycodes that are not eligible for Instant License, place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

For CPT use Procedure 63.

For CP PII and CP PIV use Procedure 64.

End of Procedure

Feature and License parameter upgrade using HyperTerminal®

Follow the steps in Procedure 60 to perform a feature and License parameter upgrade using HyperTerminal®. Leave the system in full redundant mode (hard-disk and CPU redundancy).

Procedure 60
Performing a feature and License parameter upgrade

1 On a PC, access the system (through a modem) with HyperTerminal®:

Click the Start button | Programs | Accessories | HyperTerminal.

2 Double-click the HyperTerminal client to the system.

3 Log into the system.

4 Load the Keycode Management Program (LD 143).

LD 143	Load program
KUPL	Upload keycodes to the hard disk or FMD on the target system

5 Click the **Transfer** menu in HyperTerminal and select **Send Text File**.

6 From the **Files of type** pull-down menu, select **All Files (*.*)**.

7 Locate and select the keycode file on the PC. Use the **Look in** pull-down menu to select the drive on which the keycode is located.

8 Click **Open**.

The keycode is displayed after the KUPL prompt.

Example:

KUPL 0001PBX 0101
9FPAMSRHNN17KRUQAFFSPREQEVMTHIDHRKDJHRKEJR56

9 Press the Enter key.

The Keycode is checked for CRC errors and is uploaded to the hard disk or Fixed Media Device (FMD).

Enter the following command:

KDIF REC HD	Compare the existing keycode with the new keycode on the hard disk
KDIF REC FMD	Compare the existing keycode with the new keycode on the FMD

Ensure that the new keycode does not lower License limits or reduce features compared with the existing keycode. If it is determined that the keycode lowers License limits or reduces features, do not continue with the KNEW command. Contact the Nortel order management representative.

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

KNEW (refer to Table 16 on page 263 for correct command syntax)

The uploaded keycode is validated against the security device.

If the following system message is displayed:

CCBR020 New Keycode accepted and activated successfully. Sysload is NOT needed!

This means that the new keycode is eligible for instant activation and no further user action is required. Go to steps 11 and 12.

If the keycode is not eligible for instant activation, a Sysload is needed to activate the new keycode. The following system message is displayed:

CCBR009 New Keycode accepted. New License limits and feature packages will be activated during the next Sysload (Cold Restart).

Go to step 13.

11 Load LD 22 and confirm that the new License parameters have been updated.

>LD 22
REQ SLT
....

If License limits are correct, then the keycode installation is complete.

See "Reverting to the previous keycode with the KRVR command" on page 277 if License limits are not increased or problems exist.

12 Once it is confirmed that the keycode changes taken effect as expected, perform a data dump in LD 43.

13 For keycodes that are not eligible for Instant License, place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

For CPT use Procedure 63.

For CP PII and CP PIV use Procedure 64.

End of Procedure

Feature and License parameter upgrade entered manually

Before beginning this procedure, obtain a copy of the keycode. The keycode can reside on paper or as an electronic file. To enter the keycode manually, type the keycode in LD 143 as 21 lines, 16 characters per line.

Follow the steps in Procedure 61 on page 275 to perform a feature and License parameter upgrade manually.

Procedure 61
Performing a feature and License parameter upgrade manually

1 Log into the system.

2 Load the Keycode Management Program (LD 143).

LD 143	Load program
KMAN	Manually enter the keycode to the target system

3 Type the keycode file, 21 lines of 16 characters each. Press **Return** to go to the next line.

Note: When entering the keycode, do not enter the header information that proceeds the keycode.

4 Type "end" at line 22 to end the process.

5 Press **Enter**. The new keycode file is saved on the hard disk or FMD.

Enter the following command:

KDIF REC HD	Compare the existing keycode with the new keycode on the hard disk.
KDIF REC FMD	Compare the existing keycode with the new keycode on the FMD

Ensure that the new keycode does not lower License limits or reduce features compared with the existing keycode. If it is determined that the keycode lowers License limits or reduces features, do not continue with the KNEW command. Contact the Nortel order management representative.

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

KNEW (refer to Table 16 on page 263 for correct command syntax)

The uploaded keycode is validated against the security device.

If the following system message is displayed:

CCBR020 New Keycode accepted and activated successfully. Sysload is NOT needed!

This implies that the new keycode is eligible for instant activation and no further user action is required. Go to step 7 and 8.

If the keycode is not eligible for instant activation, a Sysload is needed to activate the new keycode. The following system message is displayed:

CCBR009 New Keycode accepted. New License limits and feature packages will be activated during the next Sysload (Cold Restart).

Go to step 9.

7 Load LD 22 and confirm that the new License parameters have been updated.

>LD 22
REQ SLT
....

If License limits are correct, then the keycode installation is complete.

See “Reverting to the previous keycode with the KRVR command” on page 277 if License limits are not increased or problems exist.

8 Once it is confirmed that the keycode changes have taken effect as expected, perform a data dump in LD 43.

9 For keycodes that are not eligible for Instant License, place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

For CPT use Procedure 63.

For CP PII and CP PIV use Procedure 64.

End of Procedure

Reverting to the previous keycode with the KRVR command

The terms “old” and “new” keycode, as discussed here, refer to the most recent previous KNEW command. The “old” keycode is the former keycode, prior to the KNEW command. The “new” keycode is the keycode that was activated by the KNEW command. Use KRVR command (as shown in Procedure 62) to revert to the old keycode.

Procedure 62
Revert to old keycode

1 Log in to the system.

2 Load the Keycode Management Program (LD 143).

LD 143	Load program
KRVR	Replaces the keycode.rec with the keycode.old file.

The old keycode is eligible for instant activation with the KRVR command if the only difference between the old keycode and the new keycode is that some or all of the License parameters in the old keycode are *higher*.

If the old keycode is eligible for instant activation, it is activated without further user action. The following system message is displayed:

CCBR020 New Keycode accepted and activated successfully. Sysload is NOT needed!

If the keycode is not eligible for instant activation, a Sysload is needed to activate the old keycode and the following system message is displayed:

> **CCBR009 New Keycode accepted. New License limits and feature packages will be activated during the next Sysload (Cold Restart).**

Go to step 5.

3 Load LD 22 and confirm that the new License parameters have been updated.

>LD 22
REQ SLT
....

If License limits are correct, then the keycode installation is complete.

4 Once it is confirmed that the keycode changes taken effect as expected, perform a data dump in LD 43.

5 For keycodes that are not eligible for Instant License, place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

For CPT use Procedure 63.

For CP PII and CP PIV use Procedure 64.

End of Procedure

Procedure 63
Parallel reload for CPT

Place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

1 Be sure CP 0 is active and CP1 is standby. It might be necessary to switch CPs:

LD 135	
STAT CPU	
SCPU	Switch CPUs if necessary
****	Exit program

2 Verify that IODU/C 0 is active. It might be necessary to switch IODU/Cs.

LD 137	
STAT	Get the status of IODU/C
SWAP	Switch IODU/Cs if necessary
****	Exit program

3 In Core 0, set the CP card MAINT/NORM switch to MAINT.

4 In Core 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

5 Connect a terminal to J25 of Core 1 to monitor reload. Terminal settings are:

— 9600 BAUD, 8 bits, no parity and 1 stop bit (8N1)

6 In Core/Net 1, perform the following three steps in uninterrupted sequence:

— Press and hold the MAN RST button on the CP card

— Set the MAINT/NORM switch on the CP card to MAINT

— Release the MAN RST button

A Sysload begins (cold start).

7 Wait until sysload and INI have completed.

8 In the inactive core (Core 1), load Overlay 143 and confirm that the new License parameters have been updated.

> **>LD 143**
> **KSHO REC (show currently used keycode)**
> **....**

9 Compare license parameters from memory to keycode.rec.

> **>LD 22**
> **SLT (show current license limits active on system)**
> **...**

10 Compare package parameters from memory to keycode.rec

> **>LD 22**
> **PRT**
> **PKG (show current software packages active on system)**
> **...**

11 Switch call processing from the active core (Core 0) to the inactive core (Core 1).

> **CAUTION — Service Interruption**
>
> **Service Interruption**
>
> Call Processing will be interrupted! Perform these next steps carefully and quickly. This is the point at which service is interrupted. Calls in progress are interrupted.

a. In Core 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

b. In Core 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS. Call Processing is interrupted.

c. In Core 1, press the MAN INT button. Call processing is switched from Core 0 to Core 1 when the warm restart is completed.

> The previously inactive core (Core 1) with the new keycode now becomes active.

12 Return the system to redundant mode, synchronizing the memory and hard drive of the inactive core with the active core. Perform the following actions:

a. Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.

b. Perform the following in uninterrupted sequence:

— Press and release the MAN RST button in Core/Net 0.

— When SYS700 messages appears on LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

In 60 seconds, the LCD displays and confirm the processes with:

RUNNING ROM OS

ENTERING CP VOTE

An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on the Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

c. In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

13 Synchronize the hard disks.

a. Load LD 137 and synchronize the hard disks. Synchronization can take up to 50 minutes. To be sure that the contents of IODU/C 1 hard disk are copied to IODU/C 0 hard disk, verify that IODU/C 1 is active.

LD 137	
STAT	Get the status of the IODU/C and redundancy
SYNC	Enter “Yes” to synchronize disks (Wait until the memory synchronization successfully completes before continuing)
TEST CMDU	Performs hard and floppy disk test

14 Test Core/Net 1 and Core/Net 0. Perform the following actions:

a. Perform a redundancy sanity test using the following sequence:

LD 135	
STAT CNI	Get status of CNI cards
STAT CPU	Get status of CPU and memory
TEST CPU	Test the inactive Core/Net
TEST CNI c s	Test each inactive CNI card

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

SCPU	Switch cores
TEST CPU	Test the inactive Core/Net
TEST CNI c s	Test each inactive CNI card

Note: Testing the CP and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the CP test is complete, the CP the memory is automatically synchronized.

c. Clear the display and minor alarms on both Cores.

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

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

STAT CPU	Get the status of both Cores
STAT CNI	Get the status of all configured CNIs and memory

Note: It might be necessary to execute the STAT CNI command twice before receiving a response from the system.

****	Exit program

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

LD 43	
EDD	Begin the data dump
****	Exit program

End of Procedure

Procedure 64
Parallel reload for CP PII and CP PIV

Place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

1 Connect a terminal to J25 of Core 1 to monitor reload. Terminal settings are:

— 9600 BAUD, 8 bits, no parity and 1 stop bit (8N1)

2 Ensure CP 0 is active and CP1 is standby. It might be necessary to switch CPs and split the Cores:

LD 135	
STAT CPU	
SCPU	Switch CPs if necessary
SPLIT	Split CPs (CP 1 reloads)
****	Exit program

3 Wait until sysload and INI have completed.

4 In the inactive core (Core 1), load Overlay 143 and confirm that the new License parameters have been updated.

>LD 143
KSHO REC (show currently used keycode)
....

5 Compare license parameters from memory to keycode.rec.

>LD 22
SLT (show current license limits active on system)
....

6 Compare package parameters from memory to keycode.rec

>LD 22
PRT
PKG (show current software packages active on system)
...

7 Switch call processing from the active core (Core 0) to the inactive core (Core 1). This command must be issued from active Core 0.

CAUTION — Service Interruption

Service Interruption

Call Processing will be interrupted!

LD 135	
CUTOVR	Force Core 1 to become active
****	Exit program

The previously inactive core (Core 1) with the new keycode now becomes active.

8 Return the system to redundant mode, synchronizing the memory and hard drive of the inactive core with the active core. From the active Core (Core 1) enter LD 135:

LD 135	
STAT CPU	
JOIN	Synchronize CPs with CP 1 as master
****	Exit program

9 Wait until synchronization of memory drives is completed.

10 From the active Core (Core 1) enter LD 135 and obtain the health status of the Cores:

LD 135	
STAT CPU	
STAT HEALTH	CP 1 and 0 should have identical health
****	Exit program

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

LD 43	
EDD	Begin the data dump
****	Exit program

End of Procedure

Parallel reload procedures

Use these procedures to perform a parallel reload for maintenance purposes only.

Meridian 1 Options 61C and 81C

Perform a Data Dump

Procedure 65
Performing a data dump

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

LD 43	Load program

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

EDD	Begin the data dump

3 When “DATABASE BACKUP COMPLETE” or “DATADUMP COMPLETE” appears on the terminal, enter:

****	Exit program

CAUTION — Service Interruption

Loss of Data

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

End of Procedure

Determine status (STAT) of the hardware

Procedure 66
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 67
Splitting the Core processors

1 Be sure CP 0 is active and CP1 is standby. If necessary, switch CPs again:

STAT CPU

SCPU	Switch CPs (if necessary)
****	Exit program

2 Verify that IODU/C 0 is active. If necessary, switch IODU/Cs.

LD 137

STAT	Get the status of IODU/C
SWAP	Switch IODU/Cs (if necessary)
****	Exit program

3 Connect a terminal from the CPSI port in Core/Net 1 to J25 of the I/O panel at the back of the Core/Net. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.

7 data bits, 1 stop bit, Space parity, Full-duplex, XON protocol

4 Place CP 0 in Maintenance by setting the MAINT/NORM switch to MAINT.

5 In Core/Net 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

6 Place CP1 in Maintenance by setting the MAINT/NORM switch to MAINT.

Note: Core 1 will now sysload. Allow the system to complete the sysload and INI. Review any sysload errors and correct before proceeding.

System is now is split mode, Core 0 active, Clock Controller 0 is active if equipped with FNF. Rings are in half/half mode.

End of Procedure

Exit split mode

Procedure 68
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 69
Testing Core/Net 0 and Core/Net 1

1 Perform a redundancy sanity test using the following sequence:

LD 135

STAT CNI	Get status of CNI cards
STAT CPU	Get status of CPU and memory
TEST CPU	Test the inactive Core/Net/Net
TEST CNI c s	Test each inactive CNI card

2 Switch Core/Nets and test the other side (Core/Net 0)

SCPU	Switch Core/Nets
TEST CPU	Test the inactive Core/Net/Net
TEST CNI c s	Test each inactive CNI card

Note: Testing the Call Processor and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the Call Processor test is complete, the Call Processor the memory is automatically synchronized.

3 Clear the display and minor alarms on both Core/Nets.

CDSP	Clear the displays on the Core/Nets
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms

4 Get the status of the Core/Nets, CNIs, and memory.

STAT CPU	Get the status of both Core/Nets
STAT CNI	Get the status of all configured CNIs and memory

Note: You may need to execute the STAT CNI command twice before receiving a response from the system.

****	Exit program

End of Procedure

Procedure 70
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 71
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 72
Synchronizing the hard disks

1 Access LD 137 and synchronize the hard disks. Synchronization can take up to 50 minutes. To ensure that the contents of IODU/C 1 are copied to IODU/C 0, verify that IODU/C 0 is disabled.

LD 137	Load program
STAT	Get the status of the IODU/C and redundancy
SYNC	Enter “Yes” to synchronize disks (Wait until the memory synchronization successfully completes before continuing)
TEST CMDU	(Perform hard and floppy disk test)

2 Get the status of the CMDU's and be sure CMDU 0 is active. Switch if necessary.

STAT	Get the status of IODU/C and redundancy
SWAP	Switch CMDU (if necessary)
STAT CMDU	Get the status of the IODU/Cs (Be sure the same IODU/C and CPU are active)
****	Exit program

End of Procedure

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

Perform a data dump

Procedure 73
Performing a data dump

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

LD 43	Load program

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

EDD	Begin the data dump

3 When “DATABASE BACKUP COMPLETE” or “DATADUMP COMPLETE” appears on the terminal, enter:

****	Exit program

> **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> If the data dump is not successful, do not continue. Contact the technical support organization. A data dump problem must be corrected before proceeding.

End of Procedure

Determine status (STAT) of the hardware

Procedure 74
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 75
Splitting the Core processors

1 Be sure CP 0 is active and CP1 is standby. If necessary, switch CPs again:

STAT CPU

SCPU	Switch CPs (if necessary)
****	Exit program

2 Verify that IODU/C 0 is active. If necessary, switch IODU/Cs.

LD 137

STAT	Get the status of IODU/C
SWAP	Switch IODU/Cs (if necessary)
****	Exit program

3 Connect a terminal from the CPSI port in Core/Net 1 to J25 of the I/O panel at the back of the Core/Net. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.

7 data bits, 1 stop bit, Space parity, Full-duplex, XON protocol

4 Place CP 0 in Maintenance by setting the MAINT/NORM switch to MAINT.

5 In Core/Net 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

6 Place CP1 in Maintenance by setting the MAINT/NORM switch to MAINT.

Note: Core 1 will now sysload. Allow the system to complete the sysload and INI. Review any sysload errors and correct before proceeding.

System is now is split mode, Core 0 active, Clock Controller 0 is active if equipped with FNF. Rings are in half/half mode.

End of Procedure

Switch call processing to Core/Net 1

CAUTION — Service Interruption

Service Interruption

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

WARNING

System initialization may take up to 15 minutes or longer.

IMPORTANT!

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

Procedure 76
Switching call processing from Core/Net 0 to Core/Net 1

1 In Core/Net 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

2 In Core/Net 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS and unseat it.

3 In Core/Net 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

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

CAUTION — Service Interruption

Service Interruption

The INI may take up to15 minutes to complete.

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

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

IMPORTANT!

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

End of Procedure

Procedure 77
Testing Core/Net 1

From Core/Net 1, perform these tests:

1 Check dial tone.

2 Make internal, external and network calls.

3 Check attendant console activity.

4 Check DID trunks.

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

End of Procedure

Exit split mode

Procedure 78
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 79
Testing Core/Net 0 and Core/Net 1

1 Perform a redundancy sanity test using the following sequence:

LD 135

STAT CNI	Get status of CNI cards
STAT CPU	Get status of CPU and memory
TEST CPU	Test the inactive Core/Net/Net
TEST CNI c s	Test each inactive CNI card

2 Switch Core/Nets and test the other side (Core/Net 0)

SCPU	Switch Core/Nets
TEST CPU	Test the inactive Core/Net/Net
TEST CNI c s	Test each inactive CNI card

Note: Testing the Call Processor and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the Call Processor test is complete, the Call Processor the memory is automatically synchronized.

3 Clear the display and minor alarms on both Core/Nets.

CDSP	Clear the displays on the Core/Nets
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms

4 Get the status of the Core/Nets, CNIs, and memory.

STAT CPU	Get the status of both Core/Nets
STAT CNI	Get the status of all configured CNIs and memory

Note: You may need to execute the STAT CNI command twice before receiving a response from the system.

****	Exit program

End of Procedure

Procedure 80
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 81
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 82
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

Normalize the XPECs

IMPORTANT!

When upgrading from an earlier release, XPECs do not automatically upgrade software after coming out of the split mode and need to be manually reset to upgrade the firmware.

Procedure 83
Normalizing the XPECs

1 Disable XPEC.

LD 32	Load program
DSXP x	Disable controller x and all associated IPE cards

2 Disable the superloop.

LD 32	Load program
DISL sl	Disable specified superloop

3 Disable the faceplate superloop.

4 Switch off the power cycle of the IPE shelf.

5 Switch on the power cycle of the IPE shelf.

6 Enable the faceplate superloop.

7 Enable the superloop.

LD 32	Load program
ENLL sl	Enable specified superloop

8 Enable XPEC.

LD 32	Load program
ENXP x	Enable controller x and all associated IPE cards

If there is a software mismatch, the XPEC requests a firmware download.

Post-conversion procedure

Introduction

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

The site data should be printed before and after conversion. See Table 17 on page 310. If the data has changed, make the necessary updates on the **Target** release, and datadump to the new system media. Print out the items marked with an asterisk (*) to be sure everything converted properly. All other items on Table 17 on page 310 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 17 on page 310. 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 program
TEST CPU	Test CPU
SCPU	Switch CPUs
****	Exit overlay

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

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

Note: Check MMDU in CP PII machines.

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

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

Note: Back up additional 2 MB floppy disks.

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

LD 02

STAD dd mm yyyy hh mm ss

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

mm = month (for example, 09 for September)

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

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

mm = minute (for example, 25)

ss = seconds (for example, 00)

**** Exit overlay

20 Check that Fiber Ring 1 operates correctly:

LD 39	Load the program
STAT RING 1	Check the status of Ring 1

21 Reset the Rings:

RSET	Reset the Rings and prepare them for redundancy
RSTR	Restore both Rings to HALF state

22 Check that the Rings operate correctly:

STAT RING 0	Check the status of Ring 0 (HALF/HALF)
STAT RING 1	Check the status of Ring 1 (HALF/HALF)

23 If any Ring problems occur, correct them now.

STAT ALRM <X> <Y>	Check the alarm status of individual FIJI cards or all FIJI cards (See *Software Input/Output: Administration* (NN43001-611) for more information)

24 Verify that call processing operates correctly: this includes, but is not limited to the following:

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

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

26 Keep one copy of the **Source** software, as it was backed up in the pre-conversion procedure, in case it becomes necessary to reconvert. After the **Target** software has been running well for a few weeks, return the original software to Nortel through the usual distribution channel.

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

Table 17
Print site data (Part 1 of 4)

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

Table 17
Print site data (Part 2 of 4)

Site data	Print command	
Attendant Console data block for all customers	LD 20	LD 20
	REQ TYPE CUST	PRT ATT, 2250 <cr>
*Customer data block for all customers	LD 21	LD 21
	REQ TYPE CUST	PRT CDB <cr>
Route data block for all customers	LD 21	
	REQ TYPE CUST ROUT ACOD	PRT RDB Customer number <cr> <cr>
*Configuration Record	LD 22	
	REQ TYPE	PRT CFN
*Software packages	LD 22	
	REQ TYPE	PRT PKG
*Software issue and tape ID	LD 22	
	REQ REQ	ISS TID
* Peripheral software versions	LD 22	
	REQ TYPE	PRT PSWV

Table 17
Print site data (Part 3 of 4)

Site data	Print command	
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
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)

Table 17
Print site data (Part 4 of 4)

Site data	Print command	
Superloops and XPEs	LD 97	
	REQ 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
Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

Overview of upgrading to Meridian 1 PBX systems

Contents

This section contains information on the following topics:

Introduction

The focus of the "Meridian 1 PBX systems upgrade procedures" on page 335 is upgrading Meridian 1 PBX systems. (See "Terminology" on page 318 for an explanation of "Internet-enabled".) The scenarios and procedures described in this section and in "Meridian 1 PBX systems upgrade procedures" on page 335 do not apply for upgrades to Meridian 1 PBX systems that are not Internet-enabled to any degree.

If your system is not already "Internet-enabled" to any degree, then upgrading to CS 1000 Release 5.5 is no different from any other update to a new release of software. Refer to the appropriate scenario in this NTP.

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

- *IP Line: Description, Installation, and Operation* (NN43100-500)
- *IP Trunk: Description, Installation, and Operation* (NN43001-563)
- *IP Peer Networking: Installation and Commissioning* (NN43001-313)

To upgrade your Meridian 1 Large System to a CS 1000M Large System, install a Signaling Server. For more information, refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

If your system is already equipped with IP Line, IP Trunk, or both, then upgrading to CS 1000 Release 5.5 involves more than simply updating to a new software release. Similarly, upgrading to a CS 1000M Large System involves more than simply installing a Signaling Server: it involves migrating the network from a node-based dialing plan to a Network Routing Service (NRS) resolved Network Numbering Plan, as well as reconfiguring and cutting over the upgraded system to use IP Peer Virtual Trunks. The scope of the upgrade will depend on the configuration and complexity of the existing network.

If your system is already equipped with IP Line, IP Trunk, or both, make sure that you read and fully understand this section. Then, after you have identified the upgrade scenario that best suits your circumstances, follow the procedures for that scenario in "Meridian 1 PBX systems upgrade procedures" on page 335.

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

1 Software and system

2 Software only

3 System only

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

Table 18
Upgrade types for Meridian 1 PBX systems

	Upgrade from this configuration...		To this configuration	
Type	**System**	**Software**	**System**	**Software**
Software only	CS 1000M	CS 1000 Release 4.0 or earlier	CS 1000M	CS 1000 Release 5.5
Software and system	Meridian 1	Succession 4.0 or earlier	CS 1000M	CS 1000 Release 5.5
Software only	Meridian 1	Succession 4.0 or earlier	Meridian 1	CS 1000 Release 5.5
System only	Meridian 1	CS 1000 Release 4.5	CS 1000M	CS 1000 Release 5.5

Note 1: Within the upgrade scenarios, some procedures apply to Meridian 1 systems with IP Line, others to IP Trunk.

Note 2: To complete a system-only upgrade, you must first complete a software-only upgrade.

Note 3: Meridian 1 systems without IP Line or IP Trunk should be treated as software-only upgrades. In these cases, a subsequent system-only upgrade should be treated as a new installation of IP Line and IP Peer Networking.

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

IMPORTANT!

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

Terminology

The following terms are used in this document:

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

  Note: The system is not equipped with a Signaling Server.

- **System upgrade**. Refers to upgrading a Meridian 1 PBX system (Option 61C, 81C) to CS 1000 Release 5.5 with a Signaling Server (CS 1000M HG, CS 1000M SG, CS 1000M MG).
- **Software upgrade**. Refers to any of the following:
  - upgrading any Meridian 1 system to CS 1000 Release 5.5
  - upgrading the ITG Trunk 2.xx application software (also known as loadware) to IP Trunk 3.01
  - upgrading the IP Line 2.20 or 3.00 software (also known as loadware) to IP Line 4.0.
- **Network upgrade**. Refers to upgrading systems and software across a private IP Telephony network in a coordinated way to minimize cost, service interruption, or both. In general, this must be done gradually, system by system.

- **Migration**. Refers to migrating IP Trunk 3.0 nodes from a node-based dialing plan that is managed through Telephony Manager (TM) to a Network Routing Service (NRS) resolved Network Numbering Plan that is centrally managed through NRS. Migration denotes a gradual, low-risk, system-by-system reconfiguration and testing of the UDP and CDP dialing plans, Network Numbering Plan, and network routing. For detailed information on Succession 3.0 Gatekeeper migration to CS 1000 Release 5.5, see *Signaling Server: Installation and Commissioning* (NN43001-312).
- **Cutover**. Refers to reconfiguring and cutting over an upgraded CS 1000M system from using IP Trunks to using IP Peer Virtual Trunks. If a large IP Trunk 3.0 network has been completely migrated to using the NRS-resolved Network Numbering Plan, then cutover to using IP Peer Virtual Trunks can proceed gradually, system by system, with low risk of service interruption.
- **Coordinated cutover**. For small networks (for example, 2 to 4 systems) it may be practical to coordinate the simultaneous cutover of all systems from using IP Trunks with node-based dialing plans to using the IP Peer Virtual Trunks and NRS-resolved Network Numbering Plan *in the same maintenance window*. In this case the IP Trunk migration procedures are eliminated.
- **Conversion**. Refers to converting unused IP Trunk cards to Media Cards.
- **IP Line**. Refers to a software application that allows an IP Phone to be connected to a Meridian 1, CS 1000S, or CS 1000M. It also provides echo cancellation, and compresses and packetizes voice for transmission over an IP data network. The IP Line application runs on the Meridian 1 and Call Server, Signaling Server, and Media Cards. On the Media Card, it provides two independent services:
  — UNIStim Line Terminal Proxy Server (LTPS) at system level
  — Voice Gateway (VGW) media ports at customer level

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

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

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

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

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

Software specifications

Table 19 lists the software components required to upgrade to CS 1000 Release 5.5.

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

Table 19
CS 1000 Release 5.5 software components (Part 1 of 2)

Item	Version
Call Server	X21 Release 5.0
Signaling Server (see note below)	FW shipped with CS 1000 Release 5.5
IP Line application (see note below)	IPL 5.xx
IP Trunk application	IPT 3.01
Telephony Manager	3.1
Media Card firmware (8051XA Controller)	FW shipped with CS 1000 Release 5.5
IP Phone 1120E/1140E	FW shipped with CS 1000 Release 5.5
IP Phone 2001	FW shipped with CS 1000 Release 5.5
IP Phone 2002	FW shipped with CS 1000 Release 5.5
IP Phone 2004	FW shipped with CS 1000 Release 5.5
IP Phone 2007	FW shipped with CS 1000 Release 5.5
IP Phone 2033	FW shipped with CS 1000 Release 5.5
IP Softphone 2050	FW shipped with CS 1000 Release 5.5
Mobile Voice Client 2050	FW shipped with CS 1000 Release 5.5

Table 19
CS 1000 Release 5.5 software components (Part 2 of 2)

Item	Version
IP Phone 2210/2211	FW shipped with CS 1000 Release 5.5
IP Phone 2212	FW shipped with CS 1000 Release 5.5
IP Phone ACD Set	FW shipped with CS 1000 Release 5.5
Web browser	Microsoft Internet Explorer v.6.0.2600 or later Other Web browsers (such as Netscape Navigator) are *not supported*.
Note: The Signaling Server IP Line Terminal Proxy Server (LTPS), NRS, Element Manager, IP Line loadware, and IP Phone firmware are contained on the Signaling Server CD-ROM.	

Stand-alone NRS

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

You can order duplicate sets of the NTDU27CB Signaling Server hardware/software package and power cord prior to upgrading any Meridian 1 PBX system to CS 1000 Release 5.5 with IP Peer Networking. This package is required to install a Primary and an Alternate stand-alone NRS for centralized NRS management of the Network Numbering Plan for the IP Trunk 3.01 and BCM 3.6 network.

Collocated stand-alone NRS can be configured later as Signaling Servers when the systems are upgraded to CS 1000 Release 5.5, with co-resident NRS, IP Peer Virtual Trunks, and LTPS for IP Line 3.10.

Surplus equipment

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

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

Choosing a scenario

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

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

After considering the information provided in "Migration and cutover options" below and "Additional considerations" on page 325, choose the upgrade scenario that best suits your organization.

The scenarios presented in these two chapters are not exhaustive. They are intended to cover the most common situations and the most likely desired configurations. After studying the scenarios, you may decide to contact Nortel for assistance with the upgrade, migration, and conversion procedures. See "Choosing a scenario" on page 323.

Migration and cutover options

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

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

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

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

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

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

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

Additional considerations

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

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

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

You must also consider:

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

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

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

If you have already completed the migration of a large network of IP Trunk 3.0 and BCM 3.01 nodes (using any of the migration scenarios), you no longer need to consider migration when upgrading any additional Meridian 1 PBX systems to CS 1000M. In these post-migration cases, you can choose a gradual, system-by-system cutover scenario, to immediately reconfigure and cut over each upgraded system to use the IP Peer Virtual Trunks and NRS-resolved Network Numbering Plan.

WARNING

1 CS 1000 Release 5.5 is not backwards compatible with Meridian 1 X11 Release 25.40 and IP Line 4.0 within a single system.

2 Prior to cutting over any upgraded CS 1000M system belonging to a large IP Trunk network to use IP Peer Virtual Trunks:

- **a.** All ITG Trunk nodes in the network must be upgraded to run IP Trunk release 3.01 and migrated to use the NRS-resolved Network Numbering Plan.
- **b.** BCM systems using IP trunks must be upgraded to Release 3.01 and migrated to use the NRS-resolved Network Numbering Plan.

Failure to upgrade and migrate all nodes to IP Trunk 3.01 and BCM Release 3.6 using NRS will isolate the non-upgraded nodes in the network from the nodes using NRS for Network Numbering Plan resolution.

3 Software releases prior to IP Trunk 3.00 and BCM 3.6 do not interoperate with the CS 1000 Release 5.5 NRS and therefore cannot support calls to and from the CS 1000 Release 4.5 system using the IP Peer Virtual IP trunks.

4 IP Trunk 3.00 interoperates with the CS 1000 Release 5.5 NRS and IP Peer Virtual IP trunk Gateways, and also with the ITG Trunk 2.xx and BCM 2.50 and 3.00 nodes in the network, because IP Trunk 3.xx supports dual methods of resolving destinations by:

- **a.** node-based dialing plan resolution for interoperation with ITG Trunk 2.xx nodes, BCM 2.50 and 3.00, and IP Trunk 3.00 nodes (if desired — for example, for Network QoS Fallback to PSTN)
- **b.** the CS 1000 Release 5.5 NRS Network Numbering Plan resolution for interoperation with IP Peer Gateways, IP Trunk 3.00, and BCM 3.01.

UFTP

Previously, IP Phones on Communication Server (CS) 1000 and Meridian 1 systems had their firmware downloaded using Trivial File Transfer Protocol (TFTP). Firewalls often have their well-known TFTP port (port 69) disabled to maintain security. When port 69 is blocked, IP Phones cannot obtain firmware downloads. This situation prevents the IP Phone from registering and coming into service.

In order to eliminate the file transfer problem with the firewalls and TFTP, CS 1000 Release 5.5 implements a Unistim File Transfer Protocol (UFTP) download solution. UFTP shares the existing Unistim signaling port (5000) at the IP Phone and RUDP stream; it is a separate protocol on top of the RUDP layer.

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

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

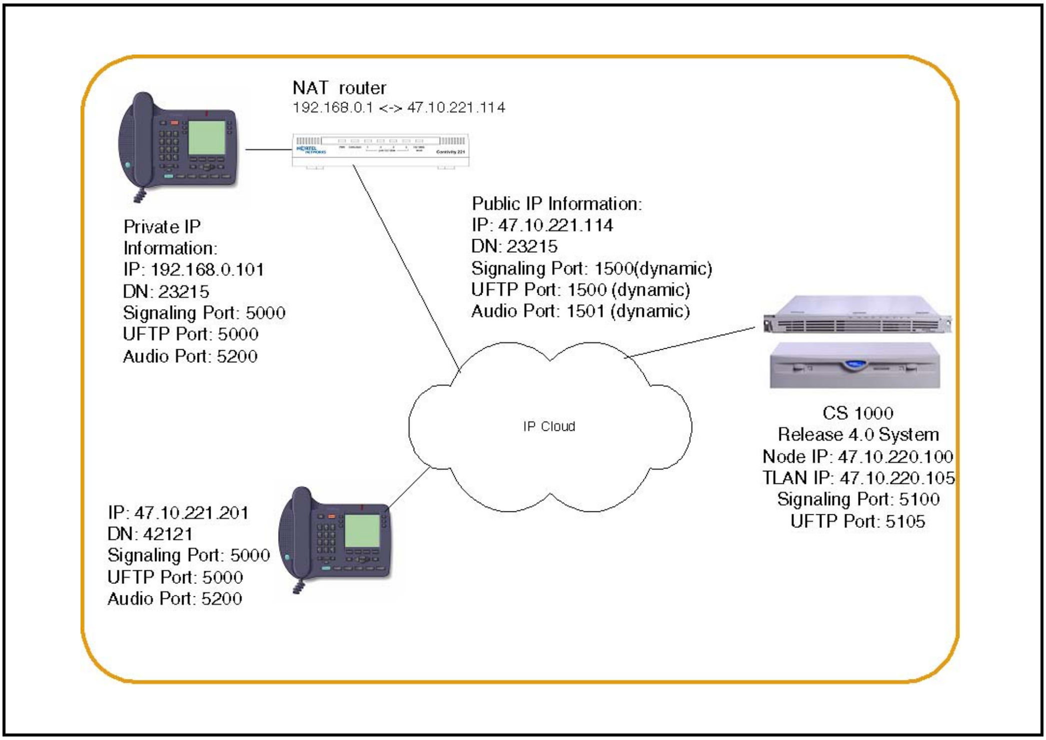
UFTP uses the same IP Phone UDP signaling port (port 5000) as the Unistim messages currently use for the IP Phone messages. UFTP uses port 5105 as the UFTP server port to communicate between the IP Phone and the UFTP server. Both of these ports can be safety enabled by firewalls. See Table 21.

Table 21
Source/destination port usage on either side of the connection

Port	IP Phone signaling	IP Phone UFTP	UFTP Server
Source port	5000 (see note)	5000 (see note)	5105
Destination port	5100	5105	5000 (see note)

If the IP Phone is behind a Network Address Translation (NAT) device, then a different public signaling port is used. The public signaling port is assigned dynamically. See Figure 15 on page 329.

Figure 15
Using NAT with UFTP



Upgrade scenarios

Table 22 lists the upgrade scenarios. See “Meridian 1 PBX systems upgrade procedures” on page 335 for details about the tasks and procedures for each scenario.

Table 22
Upgrade scenarios (Part 1 of 4)

Scenario	Description	General tasks
Software and system upgrades		
1	Software and system upgrade using the pre-upgrade migration method. Refer to “Scenario 1: Software and system (pre-upgrade migration)” on page 338 for the detailed list of tasks and procedures.	**1** Install the stand-alone Signaling Server at two sites and configure Primary and Alternate NRS to avoid a single point of failure. **2** Migrate the entire IP Trunk 3.0 network and an associated BCM network to use the NRS-resolved Network Numbering Plan. **3** Later, upgrade the Call Server to CS 1000 Release 5.5, and simultaneously upgrade IP Line node to IP Line 3.1. **4** Cut over the upgraded CS 1000M system to use IP Peer Virtual Trunks.
2	Software and system upgrade using the post-upgrade migration method. Refer to “Scenario 2: Software and system (post-upgrade migration)” on page 338 for the detailed list of tasks and procedures.	**1** Upgrade two or more Meridian 1 PBX systems to CS 1000M systems and simultaneously upgrade IP Line node to IP Line 3.10. Continue to use IP Trunks with local node-based dialing plan. **2** Configure Primary and Alternate NRS to avoid a single point of failure. **3** Migrate the entire IP Trunk 3.01 network to use the NRS-resolved Network Numbering Plan. **4** Cut over the upgraded CS 1000M systems to use IP Peer Virtual Trunks.

Table 22
Upgrade scenarios (Part 2 of 4)

Scenario	Description	General tasks
3	Software and system upgrade using the coordinated cutover method. Refer to "Scenario 3: Software and system (coordinated cutover)" on page 339 for the detailed list of tasks and procedures.	**1** Upgrade all Meridian 1 PBX systems to CS 1000M. Continue to use IP Trunks with local node-based dialing plan. **2** Coordinate the simultaneous cutover of all the upgraded CS 1000M systems to use IP Peer Virtual Trunks and the NRS-resolved Network Numbering Plan.
4	Software and system upgrade of Meridian 1 systems equipped with IP Line only. Refer to "Scenario 4: Software and system (IP Line only)" on page 339 for the detailed list of tasks and procedures.	**1** Upgrade the Meridian 1 PBX system to CS 1000M system and simultaneously upgrade IP Line node to IP Line 3.10.
Software-only upgrades		
5	Software-only upgrade to CS 1000 Release 5.5. Refer to "Upgrade scenarios" on page 336 for the detailed list of tasks and procedures.	**1** Upgrade the TM application. **2** Upgrade the IP Line application. **3** Upgrade the system software to CS 1000 Release 5.5. **4** Configure IP Telephony Node. **5** Upgrade the IP Trunk application.
System-only upgrades		

Table 22
Upgrade scenarios (Part 3 of 4)

Scenario	Description	General tasks
6	System-only upgrade of a system whose IP Trunk 3.01 network has previously been migrated. Refer to "Scenario 6: System only (pre-upgrade migration)" on page 340 for the detailed list of tasks and procedures.	**1** Install Signaling Servers on the CS 1000 Release 5.5 system that is being upgraded to CS 1000M. **2** Perform keycode expansion on the Call Server to expand the system limit for IP Peer Virtual Trunks. **3** Cut over the upgraded CS 1000M system to use IP Peer Virtual Trunks.
7	System-only upgrade using the post-upgrade migration method. Refer to "Scenario 7: System only (post-upgrade migration)" on page 341 for the detailed list of tasks and procedures.	**1** Upgrade one or more Meridian 1 Succession 3.0 Software systems to CS 1000M by adding one or more Signaling Servers. **2** Perform keycode expansion on the Call Server to expand the system limit for IP Peer Virtual Trunks. **3** Migrate the entire IP Trunk 3.0 network to use the NRS-resolved Network Numbering Plan. **4** Cut over the upgraded CS 1000M system to use IP Peer Virtual Trunks.

Table 22
Upgrade scenarios (Part 4 of 4)

Scenario	Description	General tasks
8	System-only upgrade using the coordinated cutover method. Refer to “Scenario 8: System only (coordinated cutover)” on page 341 for the detailed list of tasks and procedures.	**1** Upgrade one or more Meridian 1 Succession 3.0 Software systems to CS 1000M by adding one or more Signaling Servers. **2** Configure the upgraded CS 1000M systems to use IP Peer Virtual Trunks and NRS-resolved Network Numbering Plan.
9	System-only upgrade of Meridian 1 systems equipped with IP Line only. Refer to “Scenario 4: Software and system (IP Line only)” on page 339 for the detailed list of tasks and procedures.	**1** Upgrade one or more Meridian 1 Succession 3.0 Software systems to CS 1000M by adding one or more Signaling Servers.

Meridian 1 PBX systems upgrade procedures

Contents

This section contains information on the following topics:

Upgrade scenarios

The sequence in which the procedures must be performed depends on the upgrade scenario you are following. Refer to "Overview of upgrading to Meridian 1 PBX systems" on page 315 for important information you must consider before choosing a scenario.

Table 23 lists the upgrade scenarios.

Table 23
Upgrade scenarios (Part 1 of 2)

Scenario	Description
1	Software and system upgrade using the pre-upgrade migration method. Refer to "Scenario 1: Software and system (pre-upgrade migration)" on page 338 for the detailed list of tasks and procedures.
2	Software and system upgrade using the post-upgrade migration method. Refer to "Scenario 2: Software and system (post-upgrade migration)" on page 338 for the detailed list of tasks and procedures.

Table 23
Upgrade scenarios (Part 2 of 2)

Scenario	Description
3	Software and system upgrade using the coordinated cutover method. Refer to "Scenario 3: Software and system (coordinated cutover)" on page 339 for the detailed list of tasks and procedures.
4	Software and system upgrade of Meridian 1 systems equipped with IP Line only. Refer to "Scenario 4: Software and system (IP Line only)" on page 339 for the detailed list of tasks and procedures.
5	Software-only upgrade to CS 1000 Release 5.5. Refer to "Scenario 5: Software only" on page 340 for the detailed list of tasks and procedures.
6	System-only upgrade of a CS 1000 Release 5.5 system whose IP Trunk 3.01 network has previously been migrated. Refer to "Scenario 6: System only (pre-upgrade migration)" on page 340 for the detailed list of tasks and procedures.
7	System-only upgrade using the post-upgrade migration method. Refer to "Scenario 7: System only (post-upgrade migration)" on page 341 for the detailed list of tasks and procedures.
8	System-only upgrade using the coordinated cutover method. Refer to "Scenario 8: System only (coordinated cutover)" on page 341 for the detailed list of tasks and procedures.
9	System-only upgrade of Meridian 1 systems equipped with IP Line only. Refer to "Scenario 9: System only (IP Line only)" on page 342 for the detailed list of tasks and procedures.

List of procedures

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

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

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

1. "Installing and configuring the Signaling Server" on page 344
2. "Upgrading to TM 3.1" on page 344
3. "Configuring the Call Server to enable Element Manager" on page 348
4. "Upgrading the Call Server and rebooting the system to run CS 1000 Release 5.5" on page 350
5. "Upgrading the firmware on Media Cards" on page 351
6. "Creating the IP Telephony node in Element Manager" on page 353
7. "Configuring TM to launch Element Manager" on page 359
8. "Configuring IP Peer Virtual Trunks on the Call Server" on page 361
9. "Converting unused IP Trunk cards to Media cards" on page 369
10. "Configuring/importing converted Media Cards into an IP Telephony node using Element Manager" on page 372

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

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

1. "Upgrading to TM 3.1" on page 344
2. "Installing and configuring the Signaling Server" on page 344
3. "Configuring the Call Server to enable Element Manager" on page 348
4. "Upgrading the Call Server and rebooting the system to run CS 1000 Release 5.5" on page 350
5. "Upgrading the firmware on Media Cards" on page 351
6. "Creating the IP Telephony node in Element Manager" on page 353
7. "Configuring TM to launch Element Manager" on page 359
8. "Configuring IP Peer Virtual Trunks on the Call Server" on page 361

9 “Converting unused IP Trunk cards to Media cards” on page 369

10 “Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on page 372

Scenario 3: Software and system (coordinated cutover)

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

1 “Upgrading to TM 3.1” on page 344

2 “Installing and configuring the Signaling Server” on page 344

3 “Configuring the Call Server to enable Element Manager” on page 348

4 “Upgrading the Call Server and rebooting the system to run CS 1000 Release 5.5” on page 350

5 “Upgrading the firmware on Media Cards” on page 351

6 “Creating the IP Telephony node in Element Manager” on page 353

7 “Configuring TM to launch Element Manager” on page 359

8 “Configuring IP Peer Virtual Trunks on the Call Server” on page 361

9 “Converting unused IP Trunk cards to Media cards” on page 369

10 “Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on page 372

Scenario 4: Software and system (IP Line only)

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

1 “Upgrading to TM 3.1” on page 344

2 “Installing and configuring the Signaling Server” on page 344

3 “Configuring the Call Server to enable Element Manager” on page 348

4 “Upgrading the Call Server and rebooting the system to run CS 1000 Release 5.5” on page 350

5 “Upgrading the firmware on Media Cards” on page 351

6 “Creating the IP Telephony node in Element Manager” on page 353

7 “Configuring TM to launch Element Manager” on page 359

Scenario 5: Software only

To upgrade a Meridian 1 PBX system to CS 1000 Release 5.5 software, perform the following procedures in the order given:

1 “Upgrading to TM 3.1” on page 344

2 “Upgrading the Call Server and rebooting the system to run CS 1000 Release 5.5” on page 350

3 “Upgrading the firmware on Media Cards” on page 351 (if necessary)

Scenario 6: System only (pre-upgrade migration)

To upgrade a previously migrated Meridian 1 CS 1000 Release 5.5 system to CS 1000M, perform the following procedures in the order given:

1 “Installing and configuring the Signaling Server” on page 344

2 “Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks” on page 352

3 “Creating the IP Telephony node in Element Manager” on page 353

4 “Configuring TM to launch Element Manager” on page 359

5 “Configuring IP Peer Virtual Trunks on the Call Server” on page 361

6 “Converting unused IP Trunk cards to Media cards” on page 369

7 “Configuring/importing converted Media Cards into an IP Telephony node using Element Manager” on page 372

Scenario 7: System only (post-upgrade migration)

To upgrade a Meridian 1 CS 1000 Release 5.5 system to CS 1000M using the post-upgrade migration method, perform the following procedures in the order given:

1. "Installing and configuring the Signaling Server" on page 344
2. "Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks" on page 352
3. "Creating the IP Telephony node in Element Manager" on page 353
4. "Configuring TM to launch Element Manager" on page 359
5. "Configuring IP Peer Virtual Trunks on the Call Server" on page 361
6. "Converting unused IP Trunk cards to Media cards" on page 369
7. "Configuring/importing converted Media Cards into an IP Telephony node using Element Manager" on page 372

Scenario 8: System only (coordinated cutover)

To upgrade a Meridian 1 CS 1000 Release 5.5 system to CS 1000M using the coordinated cutover method, perform the following procedures in the order given:

1. "Installing and configuring the Signaling Server" on page 344
2. "Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks" on page 352
3. "Creating the IP Telephony node in Element Manager" on page 353
4. "Configuring TM to launch Element Manager" on page 359
5. "Configuring IP Peer Virtual Trunks on the Call Server" on page 361
6. "Converting unused IP Trunk cards to Media cards" on page 369
7. "Configuring/importing converted Media Cards into an IP Telephony node using Element Manager" on page 372

Scenario 9: System only (IP Line only)

To upgrade a Meridian 1 CS 1000 Release 5.5 system equipped with IP Line only to CS 1000M, perform the following procedures in the order given:

1 "Installing and configuring the Signaling Server" on page 344

2 "Creating the IP Telephony node in Element Manager" on page 353

3 "Configuring TM to launch Element Manager" on page 359

Summary of scenarios

Table 24 summarizes the upgrade scenarios, for ease of reference. Table 25 on page 343 summarizes and compares the sequence of procedures for each scenario, by indicating the order in which the procedures are performed.

Table 24
Summary of upgrade scenarios

Scenario	Description
1	Software and system upgrade using the pre-upgrade migration method.
2	Software and system upgrade using the post-upgrade migration method.
3	Software and system upgrade using the coordinated cutover method.
4	Software and system upgrade of Meridian 1 systems equipped with IP Line only.
5	Software-only upgrade to CS 1000 Release 5.5.
6	System-only upgrade of a CS 1000 Release 5.5 system whose IP Trunk 3.01 network has previously been migrated.
7	System-only upgrade using the post-upgrade migration method.
8	System-only upgrade using the coordinated cutover method.
9	System-only upgrade of Meridian 1 systems equipped with IP Line only.
Note: Refer to Table 25 on page 343 for a high-level description of the scenarios.	

Table 25
Order of procedures, by scenario

	Scenario/Sequence								
Procedure	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Upgrading to TM 3.1 (p. 344)	5	**1**	**1**	**1**	**1**				
Installing and configuring the Signaling Server (p. 344)	**1**	2	2	2		**1**	**1**	**1**	**1**
Configuring the Call Server to enable Element Manager (p. 348)	7	4	4	4	3				
Upgrading the Call Server and rebooting the system to run CS 1000 Release 5.5 (p. 350)	8	5	5	5	4				
Upgrading the firmware on Media Cards (p. 351)	9	6	6	6	5				
Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks (p. 352)						2	2	2	
Creating the IP Telephony node in Element Manager (p. 353)	10	7	7	7		3	3	3	2
Configuring TM to launch Element Manager (p. 359)	11	8	8	8		4	4	4	3
Configuring IP Peer Virtual Trunks on the Call Server (p. 361)	12	9	9			5	5	5	
Converting unused IP Trunk cards to Media cards (p. 369)	14	14	11			7	10	7	
Configuring/importing converted Media Cards into an IP Telephony node using Element Manager (p. 372)	15	15	12			8	11	8	

Procedures

The following are the procedures required to complete the upgrade scenarios. Not all the procedures are required for each scenario, and the order in which the procedures are performed is critical. Refer to the applicable "List of procedures" or to the "Order of procedures, by scenario" on page 343 for the sequence you must follow.

WARNING

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

Upgrading to TM 3.1

Refer to *Optivity Telephony Manager: Installation and Commissioning* (NN43050-300) to upgrade to TM 3.1

> ***Note:*** If TM has already been upgraded on your network, you do not need to perform this procedure.

Next steps

Upon completion of this procedure, choose one of the following options.

For this scenario...		Go to...
1	Software and system (post-upgrade migration)	"Installing and configuring the Signaling Server" on page 344
2	Software and system (coordinated cutover)	"Installing and configuring the Signaling Server" on page 344
3	Software and system (IP Line only)	"Installing and configuring the Signaling Server" on page 344
4	Upgrade Signaling Server	"Installing and configuring the Signaling Server" on page 344

Installing and configuring the Signaling Server

Prior to beginning the procedure, make note of the existing Signaling Server node id and node IP address. This information is used to configure the new Signaling Server in order to reduce impact to existing phone users that use partial DHCP. If new node data is used for full DHCP users, the DHCP scope must be changed at the time of installation to reduce user impact.

When connecting a Signaling Server Leader to the ELAN subnet and TLAN subnet of a system that has an existing IP Line node, you must take care not to disrupt service on the existing IP Line node. To avoid service interruption you must prevent the new Signaling Server Leader from interacting with the existing IP Line node until the node has been appropriately reconfigured (as outlined in step 3).

The SIP Virtual Trunk application resides on the Signaling Server.

The following applications can run on the Signaling Server:

- IP Line application, including the Line Terminal Proxy Server (LTPS)
- Element Manager
- Network Routing Service (NRS) comprised of the following three components:
  - SIP Redirect Server
  - Network Connection Server (NCS)
- Application Server which includes Personal Directory, Callers List, Redial List, and Password administration.

Procedure 85
Installing and configuring the Signaling Server (Part 1 of 3)

Step	Action
1	Install the Signaling Servers (hardware) and connect all Signaling Servers to the ELAN subnet and TLAN subnet. Refer to: • *Signaling Server: Installation and Commissioning* (NN43001-312) • *Communication Server 1000S: Installation and Commissioning* (NN43031-310)

Procedure 85
Installing and configuring the Signaling Server (Part 2 of 3)

Step	Action
2	Insert the CS 1000 Release 5.5 Signaling Server software installation CD into the Signaling Server. Refer to *Signaling Server: Installation and Commissioning* (NN43001-312) In general: **1** Reset the Signaling Server. **2** Follow the online instructions displayed by the Install Tool to prepare the hard disk for installation. **3** From the main menu, choose option `(a)` to perform a complete Signaling Server software installation (includes Media Card loadware, IP Phone firmware, and basic Signaling Server configuration). **4** Proceed to step 3 when prompted for Basic Signaling Server Configuration. ***Note:*** If this step does not automatically take you into Basic Signaling Server Configuration, then manually choose main menu option (e), Basic Signaling Server Configuration, and proceed to step 3.
3	Configure the first Signaling Server as Leader of the IP Telephony node during the installation. To prevent conflict with the Node ID and Node IP address of an existing IP Line node: **1** Configure a temporary Node ID (for example, 9999). **2** Configure a temporary Node IP address. **3** Configure the Primary (active side) Call Server ELAN network interface IP address when prompted. This action is not required for stand-alone NRS.
4	Install and configure any additional Signaling Servers as Followers in the IP Telephony node.
5	Reboot the Signaling Server Leader after the software installation and basic configuration is complete. ***Note:*** **Do not reboot the Signaling Server Followers.** They will be rebooted in a later procedure, after they have been manually configured in Element Manager (see “Creating the IP Telephony node in Element Manager” on page 353, step 7).

Procedure 85
Installing and configuring the Signaling Server (Part 3 of 3)

Step	Action
6	Log in to the Signaling Server from a TTY where: login ID (default) = **admin** password (default) = **admin** ***Note:*** You will be prompted to change the Signaling Server password after logging in.
7	Use ping to verify the Signaling Server's Ethernet connection by pinging hosts on the ELAN subnet and TLAN subnet. Refer to "Verifying a successful configuration" in *Communication Server 1000S: Installation and Commissioning* (NN43031-310).

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 System only (pre-upgrade migration)	"Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks" on page 352
2 System only (post-upgrade migration)	"Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks" on page 352
3 System only (coordinated cutover)	"Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks" on page 352
4 System only (IP Line only)	"Creating the IP Telephony node in Element Manager" on page 353

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...		Go to...
1	Software and system (pre-upgrade migration)	"Configuring the Call Server to enable Element Manager" on page 348
2	Software and system (post-upgrade migration)	"Configuring the Call Server to enable Element Manager" on page 348
3	Software and system (coordinated cutover)	"Configuring the Call Server to enable Element Manager" on page 348
4	Software and system (IP Line only)	"Configuring the Call Server to enable Element Manager" on page 348
5	Software only	"Configuring the Call Server to enable Element Manager" on page 348

Configuring the Call Server to enable Element Manager

In CS 1000 Release 5.5, Login Name must be enabled on the call server in order for the Call Server PWD1, PWD2, and PDT2 to synchronize with the Signaling Server and the Media Cards when the PBX link to each host comes up. Element Manager also depends on this setting.

Procedure 86
Configuring the Call Server to enable operation of Element Manager (Part 1 of 2)

Step	Action
1	Configure a minimum of two (preferably four) pseudo TTYs (PTY) on the Call Server in LD 17 using **ADAN** command.
2	Enable the Login Name feature on the Call Server by configuring LNAME = **YES** in LD 17 for data block TYPE PWD.
3	Verify the Login Name and Password (in LD 22 using print type PWD) that you must use for logging into Element Manager. You can use PWD01, PWD02, or LAPW login names and passwords to log in to Element Manager.

Procedure 86
Configuring the Call Server to enable operation of Element Manager (Part 2 of 2)

Step	Action
4	Verify the Primary (active CP side) IP address and Secondary (inactive CP side) IP address on the Call Server using LD 117 **PRT ELNK** command or LD 137 **STAT ELNK** command.
5	Save configuration changes permanently in LD 43 by entering the command: **EDD** ***Note:*** EDD also synchronizes Call Server PWD01 Login Name and Password with the Signaling Servers and Media Cards if their pbxLinks to the Call Server are established.

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Upgrading the Call Server and rebooting the system to run CS 1000 Release 5.5" on page 350
2 Software and system (post-upgrade migration)	"Upgrading the Call Server and rebooting the system to run CS 1000 Release 5.5" on page 350
3 Software and system (coordinated cutover)	"Upgrading the Call Server and rebooting the system to run CS 1000 Release 5.5" on page 350
4 Software and system (IP Line only)	"Upgrading the Call Server and rebooting the system to run CS 1000 Release 5.5" on page 350
5 Software only	"Upgrading the Call Server and rebooting the system to run CS 1000 Release 5.5" on page 350

Upgrading the Call Server and rebooting the system to run CS 1000 Release 5.5

IMPORTANT!

The call server and IP Line nodes within a single system must be upgraded simultaneously to CS 1000 Release 5.5.

Note: CS 1000 Release 5.5 is not backwards compatible with Meridian 1 X11 Release 25.40 and IP Line 5.0 within a single system.

Upgrade the Call Server software to CS 1000 Release 5.5. For CP PII systems, refer to "Upgrading the software on CP PII systems" on page 113. For CP PIV systems, refer to "Upgrading the software on CP PIV systems" on page 127.

Option 61C and 81C can be upgraded in split mode to minimize service interruption. If upgrading in this mode, do not force the CS 1000 Release 5.5 CP side to become active until the existing IP Line 3.00 node has been upgraded to IP Line 3.10 loadware, and the IP Line cards have been reset and are in the process of simultaneously rebooting.

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...		Go to...
1	Software and system (pre-upgrade migration)	"Upgrading the firmware on Media Cards" on page 351
2	Software and system (post-upgrade migration)	"Upgrading the firmware on Media Cards" on page 351
3	Software and system (coordinated cutover)	"Upgrading the firmware on Media Cards" on page 351
4	Software and system (IP Line only)	"Upgrading the firmware on Media Cards" on page 351
5	Software only	"Upgrading the firmware on Media Cards" on page 351

Upgrading the firmware on Media Cards

You may need to upgrade the Media Card firmware as part of the software upgrade. Use the **`IPL>firmwareVersionShow`** command, as indicated in the following procedure, to display the firmware version and determine if you must upgrade the firmware.

> ***Note:*** You must upgrade the Media Card firmware if the following message displays repeatedly on the Command Line Interface (CLI) of the upgraded or converted Media Card running IP Line:
>
> `(A07) Poll message not received from 8051XA`

Procedure 87
Upgrading the firmware on Media Cards

1 Telnet to each Media Card and log in to the IPL>shell.

2 Check the firmware version by entering: **`IPL>firmwareVersionShow`**

3 Verify the 8051XA firmware version of each card.

4 If the Media Card firmware version is less than 5.8, complete the following steps:

5 Access the www.nortel.com Web site.

6 Choose **Support | Software Downloads | Product Family | Communication Server | IP Line and Voice Gateway Media Card**

7 Download the appropriate firmware.

End of Procedure

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...		Go to...
1	Software and system (pre-upgrade migration)	"Creating the IP Telephony node in Element Manager" on page 353
2	Software and system (post-upgrade migration)	"Creating the IP Telephony node in Element Manager" on page 353
3	Software and system (coordinated cutover)	"Creating the IP Telephony node in Element Manager" on page 353
4	Software and system (IP Line only)	"Creating the IP Telephony node in Element Manager" on page 353

Performing keycode expansion on the Call Server to enable IP Peer Virtual Trunks

Refer to the appropriate NTPs listed below to perform keycode expansion on the Call Server to enable IP Peer Virtual Trunks:

- *Communication Server 1000M and Meridian 1: Large System Installation and Commissioning* (NN43021-310)
- *Communication Server 1000M and Meridian 1: Small System Installation and Configuration* (NN43011-310)

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...		Go to...
1	System only (pre-upgrade migration)	"Creating the IP Telephony node in Element Manager" on page 353
2	System only (post-upgrade migration)	"Creating the IP Telephony node in Element Manager" on page 353
3	System only (coordinated cutover)	"Creating the IP Telephony node in Element Manager" on page 353

Creating the IP Telephony node in Element Manager

If a large multi-card IP Line node exists, it saves time and minimizes user error to import the IP Line node configuration into the Element Manager IP Telephony node configuration.

Refer to *IP Line: Description, Installation, and Operation* (NN43100-500) and *IP Peer Networking: Installation and Commissioning* (NN43001-313) during this procedure.

> ***Note:*** After you have created the IP Telephony node in Element Manager, you must add the configuration data of the Signaling Server Leader and Followers and any new Media Cards to the IP Telephony node.

Procedure 88
Creating IP Telephony node in Element Manager (Part 1 of 6)

Step	Action
1	Open a Web browser on the management PC and go to: **`http://<Signaling Server Leader ELAN network interface IP address or TLAN network interface IP address>`** ***Note:*** Only Microsoft Internet Explorer v.6.0.2600, or later, is supported.

Procedure 88
Creating IP Telephony node in Element Manager (Part 2 of 6)

Step	Action
2	Log in to Element Manager via the Signaling Server Leader using the Call Server login name and password for PW01, PW02, or appropriately configured LAPW.
3	Import the IP Line node configuration files from the Leader card of the existing IP Line node by choosing **Configuration** | **IP Telephony** from the Navigation Tree and clicking on the **Import Node Files** button. Refer to *IP Line: Description, Installation, and Operation* (NN43100-500), section titled *“Import node configuration from an existing node”* for more detail.

Procedure 88
Creating IP Telephony node in Element Manager (Part 3 of 6)

Step	Action
4	Edit the node configuration from Element Manager. Refer to *IP Line: Description, Installation, and Operation* (NN43100-500), section titled *“Import node configuration from an existing node.”* **1** Add the Signaling Server Leader to the node and configure the Signaling Server Leader as a Primary, Alternate, or Failsafe NRS. ***Note:*** There is only one Network Routing Service (NRS) and one Alternate NRS in the network. All other Signaling Servers are configured as Failsafe NRS. **2** Add any additional Signaling Server Followers to the node. **3** Enable Line TPS on Signaling Server Leader and Followers. **4** Enable IP Peer VTRK Gateway on the Signaling Server Leader and Followers. **5** Configure H323-ID for IP Peer VTRK Gateway (for example, “`upgraded_system_IPP-GW`”). **6** Configure Primary and Alternate NRS IP addresses for IP Peer Virtual Trunks:

Procedure 88
Creating IP Telephony node in Element Manager (Part 4 of 6)

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td></td><td>
(Step 4, Action 6 continued...)
<table>
<tr><th>If...</th><th>Then...</th></tr>
<tr><td>The local IP Telephony node contains the Alternate NRS for the NRS zone...</td><td>• The Alternate NRS IP address for the MG 1000T must equal the TLAN IP address of the Signaling Server Leader hosting the Alternate NRS in the local IP Telephony node.
• The Primary NRS IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary NRS.</td></tr>
<tr><td>The local IP Telephony node does not contain the Primary or Alternate NRS for the NRS zone...</td><td>• The Primary NRS IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary NRS.
• The Alternate NRS IP address for the MG 1000T must equal the TLAN IP address of the remote Signaling Server Leader hosting the Alternate NRS.</td></tr>
</table>
7 Add the new Media Cards to the IP Telephony node (if required by System and Engineering).
8 Click the Save/Transfer button to save the configuration to the Call Server and to transfer the configuration to the Signaling Server and cards.
</td></tr>
</table>

Procedure 88
Creating IP Telephony node in Element Manager (Part 5 of 6)

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>5</td><td>Configure the new Voice Gateway TNs on the Call Server. Do one of the following:

1 From the Navigation Tree in Element Manager, choose Configuration | IP Telephony.

Result: Node Summary Page appears.

a. Click on the arrowhead.

b. Click on the appropriate Media Card.

c. Click on <code>ADD VGW CHANNELS</code>.

Note: If an Alert Box appears, you need to log in to the command line of the call server, and use LD 22 to determine if Package 167 is enabled or restricted:

<code>REQ</code>
<code>PRT</code>
<code>TYPE: 167</code>
If it is restricted, obtain a new keycode to enable GPRI Package 167.

Then, in LD 73 perform:
<code>REQ</code>
<code>NEW</code>
<code>TYPE: DDB</code>
and carriage return through, accepting all the defaults.

or

2 Use LD 14 from the Call Server CLI to configure the new Voice Gateway TNs.</td></tr>
</table>

Procedure 88
Creating IP Telephony node in Element Manager (Part 6 of 6)

Step	Action
6	Clear Leader information on the former Leader card: **1** Using Telnet or a TTY, log in to the technician level shell (`IPL>`) of the former Leader card of the imported IP Line node. **2** Enter the CLI command **`clearLeader`** to clear the Leader flag from the card. **3** Issue **`disTPS`** command to gracefully disable the Terminal Proxy Server and allow the IP Phones to reregister to another IP Line card when idle. Be sure to monitor the progress by using the **`tpsShow`** or **`isetShow`** commands. **4** Use LD 32 **`DISI`** command to gracefully disable the Voice Gateway TNs of the card when idle on the Call Server. Be sure to monitor the progress using LD 32 **`STAT`** command, or **`IPT> vgwShow`** command. **5** Reset the former Leader card by entering the CLI command **`cardReset`** in the `IPL>` shell.
7	Reboot the Signaling Server Leader and all Signaling Server Followers.
8	Verify that the Signaling Server Leader functions as the new Leader of the IP Telephony upon rebooting (for example, **`oam>electShow`**; **`censusShow`**; **`tpsShow`**).
9	Log in to the Signaling Server Leader and enter: **`oam> loadBalance`** **Result:** All IP Phones will be unregistered from the Media Card and reregistered with the Signaling Server Leader. This may take up to several minutes, resulting in the following message: `loadbalance has been completed.`
10	Enable the Voice Gateway TNs of the former Leader card using LD 32. The command is: **`ENLC c`**

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...		Go to...
1	Software and system (pre-upgrade migration)	"Scenario 1: Software and system (pre-upgrade migration)" on page 338
2	Software and system (post-upgrade migration)	"Scenario 2: Software and system (post-upgrade migration)" on page 338
3	Software and system (coordinated cutover)	"Scenario 3: Software and system (coordinated cutover)" on page 339
4	Software and system (IP Line only)	"Scenario 4: Software and system (IP Line only)" on page 339
5	Software only	"Scenario 5: Software only" on page 340
6	System only (pre-upgrade migration)	"Scenario 6: System only (pre-upgrade migration)" on page 340
7	System only (post-upgrade migration)	"Scenario 7: System only (post-upgrade migration)" on page 341
8	System only (coordinated cutover)	"Scenario 8: System only (coordinated cutover)" on page 341
9	System only (IP Line only)	"Scenario 9: System only (IP Line only)" on page 342

Configuring TM to launch Element Manager

For details on how to configure TM to launch Element Manager, refer to *Telephony Manager: System Administration* (NN43050-601).

> ***Note:*** When you check the option box in **System Properties** in the TM Navigator to indicate that you have added a Signaling Server to an upgraded Meridian 1 system, TM shows the System Type as CS 1000M MG (Option 81C), CS 1000M SG (Option 61C), CS 1000M HG (Option 51C), CS 1000M Cabinet (Option 11C), or CS 1000M Chassis (Option 11C Mini).

If you attempt to open an IP Line node for a CS 1000M system in TM IP Line management service, TM will automatically log you into Element Manager and open at the Element Manager **Configuration | IP Telephony | Node Summary** Web page, from which you can edit or create IP Telephony nodes. If the node already exists in Element Manager, you can edit the IP Telephony node from this page. If the node does not already exist, you can create the IP Telephony node in Element Manager manually or by importing the node configuration data from an existing IP Line 3.00 node.

When the node configuration is changed by adding or deleting elements, or by changing the ELAN network interface IP addresses, from Element Manager you must go to the TM IP Line configuration service and retrieve the node properties for that node. (This is required for scheduling the collection of Operational Measurement reports.)

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...		Go to...
1	Software and system (pre-upgrade migration)	"Configuring IP Peer Virtual Trunks on the Call Server" on page 361
2	Software and system (post-upgrade migration)	"Configuring IP Peer Virtual Trunks on the Call Server" on page 361
3	Software and system (coordinated cutover)	"Configuring IP Peer Virtual Trunks on the Call Server" on page 361
4	Software and system (IP Line only)	END OF PROCEDURES FOR THIS SCENARIO

For this scenario...		Go to...
6	System only (pre-upgrade migration)	"Configuring IP Peer Virtual Trunks on the Call Server" on page 361
7	System only (post-upgrade migration)	"Configuring IP Peer Virtual Trunks on the Call Server" on page 361
8	System only (coordinated cutover)	"Configuring IP Peer Virtual Trunks on the Call Server" on page 361
9	System only (IP Line only)	END OF PROCEDURES FOR THIS SCENARIO

Configuring IP Peer Virtual Trunks on the Call Server

In general, this procedure involves configuring the IP Peer Virtual Trunks (IPP VTRK) as described in *IP Peer Networking: Installation and Commissioning* (NN43001-313) and verifying the correct configuration and operational state of the IP Peer VTRK.

Procedure 89
Configuring IP Peer Virtual Trunks on the Call Server (Part 1 of 2)

Step	Action
1	Configure the IP Peer Virtual Trunk as per *IP Peer Networking: Installation and Commissioning* (NN43001-313), section titled *"Configuring IP Peer networking."*
2	Verify the operational state of the IP Peer Virtual Trunk D-Channel in LD 96 using the command: **STAT DCH <DCH No.>**

Procedure 89
Configuring IP Peer Virtual Trunks on the Call Server (Part 2 of 2)

Step	Action
3	Verify the operational state of the IP Peer Virtual Trunk Route, Members, and D-Channel using LD 32 and the following commands: • on the Call Server: **STVT <Cust. No.> <Route No.> <Starting No.><No.of Members>** **DSRM <Cust. No.> <Route No.>** **ENRM <Cust. No.> <Route No.>** • on the Signaling Server: **oam> vtrkShow**

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...		Go to...
1	Software and system (pre-upgrade migration)	"Accessing the NRS and configuring the Redirect Server" on page 369
2	Software and system (post-upgrade migration)	"Accessing the NRS and configuring the Redirect Server" on page 369
3	Software and system (coordinated cutover)	"Accessing the NRS and configuring the Redirect Server" on page 369
4	System only (pre-upgrade migration)	"Accessing the NRS and configuring the Redirect Server" on page 369
5	System only (post-upgrade migration)	"Accessing the NRS and configuring the Redirect Server" on page 369
6	System only (coordinated cutover)	"Accessing the NRS and configuring the Redirect Server" on page 369

SIP Redirect Server

Using the Session Initiation Protocol (SIP), a SIP Redirect Server connects Nortel Communication Servers.

CS 1000 Release 5.5 SIP Redirect Server allows SIP interoperability between the CS 1000 systems and other proxy servers. A SIP Redirect Server is always required for interoperability between two SIP devices. It provides address resolution for the Call Servers.

> ***Note:*** Currently, the Multimedia Communication Server (MCS) 5100 system provides a proxy server; however, this system may not be part of the customer network.

Nortel has many products with a SIP interface. A Redirect Server is used to translate telephone numbers recognized by Enterprise Business Network (EBN) voice systems to IP addresses in the SIP domain. As a result, the Redirect Server interfaces with SIP-based products.

Building on the H.323 Gatekeeper, the SIP Redirect Server with CS 1000 Release 5.5 facilitates centralized dialing plan management and the configuration of the network routing information for the SIP domain.

The H.323 Gatekeeper and SIP Proxy can reside on the same Signaling Server. The data entry for the dialing plan is common for both the H.323 and SIP solutions. CS 1000 Release 5.5 also includes an enhanced Web interface for the SIP Redirect Server.

Redirect server functionality

A redirect server receives requests, but rather than passing these onto another redirect server, it sends a response back to the caller.

The originator sends an address resolution request to the redirect server. The redirect server performs a lookup to see if there is an address match in its database. The redirect server returns a response back to the originator indicating the address (if a match is found) required for the originator to call the called party. The originator uses the provided address and directly contacts the called party at the next server.

A redirect server receives SIP requests and responds with 3xx (redirection) responses, directing the client to contact an alternate set of SIP addresses. 3xx redirection responses provide information about the user's new location or about alternate services that must be able to satisfy the call.

Network Routing Service (NRS)

CS 1000 Release 5.5 includes the Networking Routing Service (NRS).

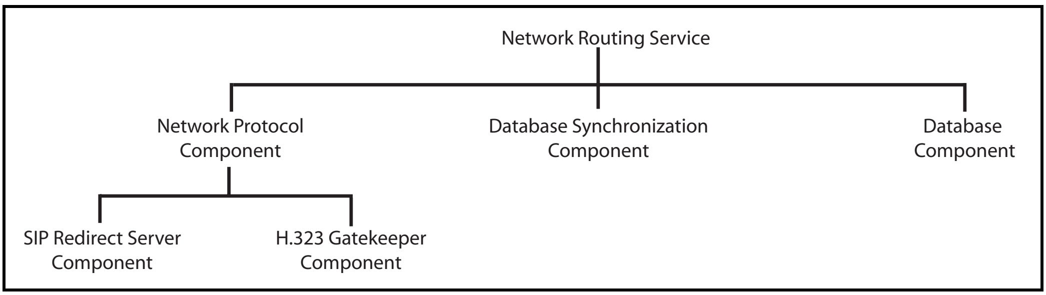
The NRS allows customers to manage a single network dialing plan for SIP, H.323, and mixed H.323/SIP networks.

The NRS is comprised of the following three components:

- network protocol component
- database synchronization component
- database component

Figure 16 shows a the NRS components.

Figure 16
NRS components



The NRS combines the following into a single application for network-based routing:

- SIP Redirect Server – Provides central dialing plan management/routing for SIP-based solutions. The Redirect Server is a software component of the NRS.
- H.323 Gatekeeper – Provides central dialing plan management/routing for H.323-based solutions. The H.323 Gatekeeper is a software component of the NRS.
- Network Connection Server (NCS) – The NCS is used for Virtual Office solutions. The IP Line Virtual Office/MG 1000B feature depends on the H.323 Gatekeeper to act as the NCS for the purposes of routing a Virtual Office login to the proper home Terminal Proxy Server (TPS).

The NRS database also resides on the Signaling Server with the NRS applications (see Figure 17). Both the SIP Redirect Server and H.323 Gatekeeper have access to this endpoint/location database. The data is stored and organized in the database. The data is used by both the SIP Redirect Server and the H.323 Gatekeeper.

Figure 17
NRS components and database

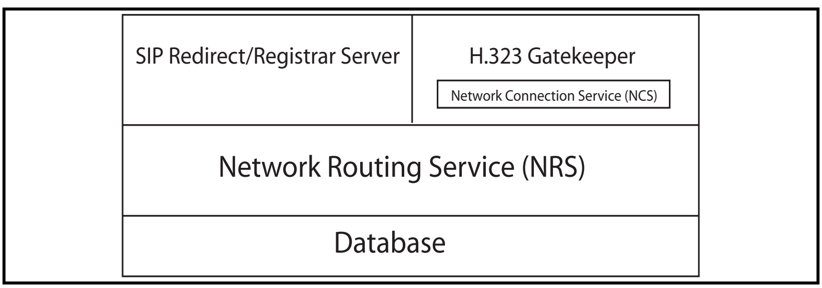
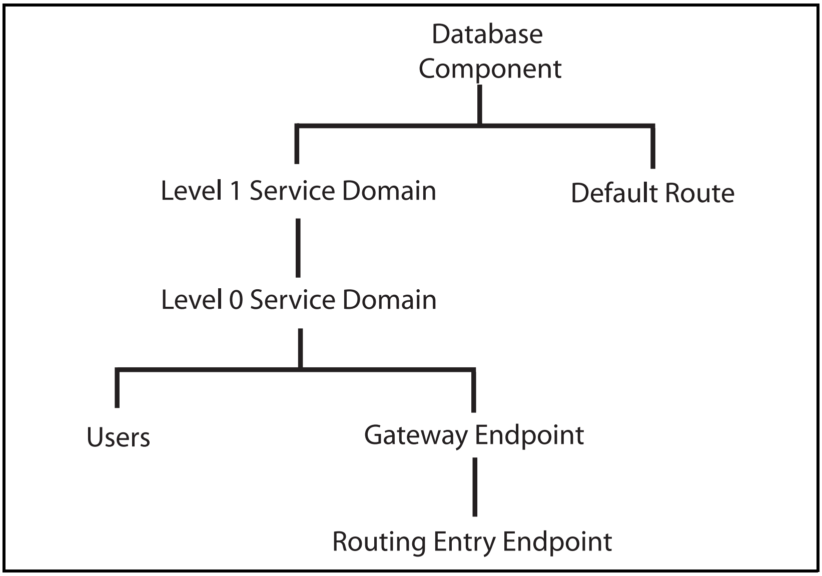


Figure 18 shows a hierarchical view of the database.

Figure 18
NRS database components



The NRS provides services to several service provider networks.

Capacity

The capacity of the NRS has been expanded to support 5000 endpoints (SIP and/or H.323) from the Succession 3.0 Gatekeeper limit of 2000 endpoints.

The maximum number of routing entries in the database is 20 000.

The maximum number of calls per hour is 60 000. This is a combination of calls going through all three components: SIP Redirect Server, H.323 Gatekeeper, and the NCS.

Authentication

SIP provides improved security through authentication. CS 1000 Release 5.5 requires a username and password for accessing the database. The username and password are stored (in encrypted format) in the same database as the SIP Redirect Server or Proxy Server data.

Three types of access privileges are supported:

- Administrative privileges – Administrative users have full read/write privileges. An administrator can view and modify NRS server data.
- Observer privileges – Observers have read-only privileges. An observer can only view the Redirect/Proxy Server data.
- Database Password Change privileges – The database administrative login is used to control access to the NRS database engine. The only privilege the database administrative login has is the ability to change the database access password.

Redundancy

The NRS maintains the redundancy capabilities of backup and failsafe servers introduced with the H.323 Gatekeeper and extends these capabilities to the SIP domain.

Compatibility

The CS 1000 Release 5.5 H.323 Gatekeeper and NRS are backwards compatible with IP Trunk 3.01, and Succession 3.0 Line TPS Network Connect Service signaling for Virtual Office and MG 1000B. However, the CS 1000 Release 5.5 NRS is not compatible with the Succession 3.0 Failsafe Gatekeeper.

Web interface

A new Web interface has been developed for the NRS. The Web interface is common to both the H.323 Gatekeeper and the SIP Redirect Server.

The URL of the NRS has the following format:

http://[NRS_server_IP_address]/nrs/

Configuring NRS

To configure NRS for CS 1000 Release 5.5, see *IP Peer Networking: Installation and Commissioning* (NN43001-313).

When configuring NRS for CS 1000 Release 5.5:

- The Primary NRS must be standalone (i.e. no other applications).
- The Alternate NRS may be standalone, or may be co-resident (i.e. running other applications) except for Personal Directory.
- Do not configure Failsafe NRS.
- If a Signaling Server has a Call Server defined on the same ELAN subnet, it can be managed by Element manager, even if it is standalone. Refer to *IP Peer Networking: Installation and Commissioning* (NN43001-313).
- If a Signaling Server has no Call Server defined it can only be reconfigured using the Install Tool (option 'e'). See *IP Peer Networking: Installation and Commissioning* (NN43001-313).

If you are installing a new Primary or Alternate NRS, perform a complete installation (option 'a'). See *IP Peer Networking: Installation and Commissioning* (NN43001-313).

Accessing the NRS and configuring the Redirect Server

For details on installing a new Primary or Alternate NRS, see *IP Peer Networking: Installation and Commissioning* (NN43001-313)

Converting unused IP Trunk cards to Media cards

This procedure converts IP Trunk cards (Media Cards) that are no longer used to Media Cards running IP Line loadware.

The recommended method employs the TM ITG ISDN Trunk service that you use to manage the existing IP Trunk or ITG Trunk node.

In general, for Media Cards, download the IP Line application loadware onto the existing IP Trunk or ITG Trunk card.

After the IP Trunk cards have been converted to run the IP Line application loadware, you can use Element Manager to do one of the following:

- Manually add the converted cards to an IP Telephony node as Media Cards and configure the corresponding Voice Gateway TNs on the Call Server. Refer to *IP Line: Description, Installation, and Operation* (NN43100-500).
- Import the node configuration from the former IP Trunk Leader card of the newly converted Media Cards, and create a new IP Telephony node.

Note 1: This procedure assumes that all IP Trunk cards have received their IP address configuration data from the Active Leader (Leader 0 or Leader 1) and are functioning in the role of Active Leader, Backup Leader, or Follower.

Note 2: ITG Trunk 2.xx nodes containing Media Cards must first be upgraded and rebooted to run IP Trunk before TM can transmit IP Line loadware to the IP Trunk cards that are being converted to Media Cards.

Note 3: The IP Line application will automatically remove unnecessary files and directories that may have been created previously by the IP Trunk or ITG Trunk applications. Therefore, the conversion procedure completes without the need to reformat the C: drive.

Procedure 90
Converting unused IP Trunk cards to Media cards (Part 1 of 2)

Step	Action
1	Download the CS 1000 Release 5.5 IP Line software from the Nortel Software Download Web page to the TM Server, or place the Signaling Server CD in the drive of the TM Server, or use FTP to get the IP Line software from the Signaling Server.
2	Use TM ITG ISDN Trunk service to select the node. To select all cards in the node of the same host type (Media Card), right-click on the node and choose **Synchronize | Transmit**, and click the appropriate radio buttons for selected node or selected cards and for Card software.

Procedure 90
Converting unused IP Trunk cards to Media cards (Part 2 of 2)

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>3</td><td>Browse for the IP Line loadware file for the appropriate host type (Media Card), then click Open | Start Transmit.

Note: Monitor the progress in the Transmit Control window to ensure that the IP Line loadware is transmitted successfully to all selected cards.</td></tr>
<tr><td>4</td><td>At the Call Server CLI, use the <code>DISI</code> command in LD 32 to disable each IP Trunk card that is being converted.</td></tr>
<tr><td>5</td><td>In TM ITG ISDN Trunk service, double-click on each disabled card that is being converted and then click the Reset button for each card.</td></tr>
<tr><td>6</td><td>Verify the 8051XA firmware version of each Media Card:

1 Telnet to each card and log in to <code>IPL>shell</code>.

2 Check the firmware version by entering:
<code>IPL>firmwareVersionShow</code></td></tr>
<tr><td>7</td><td>Upgrade the firmware if necessary. See “Upgrading the firmware on Media Cards” on page 351.</td></tr>
<tr><td>8</td><td><table>
<tr><th>If...</th><th>Then...</th></tr>
<tr><td>Part of the IP Trunk node is being retained...</td><td>The IP Trunk cards that are being converted must be deleted from the existing IP Trunk node in TM and the IP Trunk node properties must be transmitted from TM to the leader of the IP Trunk node.</td></tr>
<tr><td>None of the IP Trunk node is being retained...</td><td>Delete the node from TM.</td></tr>
</table></td></tr>
</table>

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...		Go to...
1	Software and system (pre-upgrade migration)	"Configuring/importing converted Media Cards into an IP Telephony node using Element Manager" on page 372
2	Software and system (post-upgrade migration)	"Configuring/importing converted Media Cards into an IP Telephony node using Element Manager" on page 372
3	Software and system (coordinated cutover)	"Configuring/importing converted Media Cards into an IP Telephony node using Element Manager" on page 372
6	System only (pre-upgrade migration)	"Configuring/importing converted Media Cards into an IP Telephony node using Element Manager" on page 372
7	System only (post-upgrade migration)	"Configuring/importing converted Media Cards into an IP Telephony node using Element Manager" on page 372
8	System only (coordinated cutover)	"Configuring/importing converted Media Cards into an IP Telephony node using Element Manager" on page 372

Configuring/importing converted Media Cards into an IP Telephony node using Element Manager

Note: The converted Media Cards are former IP Trunk cards.

This procedure assumes the following:

- The Signaling Server is functioning properly.
- The ELAN and TLAN network interfaces are properly configured.
- The Signaling Server is configured as the Leader in the node.

- The Call Server software has been upgraded to CS 1000 Release 5.5.
- All unused IP Trunk TNs have been removed from the Call Server database.
- All IP Trunk cards have been converted to Media Cards (upgraded to IP Line application).
- A PC is connected to the Local Area Network (LAN).

Choose one of the following methods:

1 Procedure 91, "Manually configuring converted Media Cards into the existing IP Telephony node" on page 374 or

2 Procedure 92, "Importing converted Media Cards into a new IP Telephony node using Element Manager" on page 377.

Procedure 91
Manually configuring converted Media Cards into the existing IP Telephony node (Part 1 of 3)

Step	Action
1	***Note:*** Prior to beginning the procedure, make note of the existing Signaling Server node id and node IP address. This information is used to configure the new Signaling Server in order to reduce impact to existing phone users that use partial DHCP. If new node data is used for full DHCP users, the DHCP scope must be changed at the time of installation to reduce user impact.
1	Using a PC connected to the LAN, open a Web browser. ***Note:*** Only Microsoft Internet Explorer v.6.0.2600, or later, is supported.
2	In the browser **Address** field, enter the ELAN network interface IP address or TLAN network interface IP address of the Signaling Server Leader, and click **Go**. ***Note:*** If the Leader is not responding, then enter the address of a Signaling Server Follower.
3	Log in to Element Manager using a valid user ID and password (for example, Admin1, Admin2, or LAPW password).
4	From the Navigation Tree in Element Manager, choose **Configuration | IP Telephony**. **Result:** The **Node Summary** page displays.
5	In the Node Summary, identify the IP Telephony node to which you want to add the converted Media Cards. (The converted cards will be added as Followers.) Click the **Edit** button for the IP Telephony node you have chosen. **Result:** The **Edit** window opens.

Procedure 91
Manually configuring converted Media Cards into the existing IP Telephony node (Part 2 of 3)

Step	Action
6	Click the **Add** button next to the **Card** heading to access the card properties for data entry of a new card. For each card that you are configuring into the system, enter the card's: • ELAN network interface IP address • ELAN MAC address • TLAN network interface IP address • TLAN gateway IP address • TN • Card Processor type (Pentium or Voice Gateway Media) • Enable set TPS
7	Repeat step 6 for each additional card to be configured into the system.
8	Once all the required card properties have been entered for all the cards you are adding, click the **Save and Transfer** button to save the configuration changes to the Call Server and to transfer the changes to the Signaling Servers and Media Cards in the node. Monitor progress in the **Transfer Progress** window. The BOOTP and CONFIG files are saved on the Call Server and transferred to the Signaling Server Leader. The BootP table is updated so the converted cards can receive their IP address configuration. ***Note:*** It may be necessary to press the **Reset** button in the faceplate of the converted Media Cards to trigger a new BootP request. Wait until all converted cards have received their IP address before you reset.
9	Click the **Transfer to Failed Elements** button to transfer the bootp.tab and config.ini files to the converted Media Cards.

Procedure 91
Manually configuring converted Media Cards into the existing IP Telephony node (Part 3 of 3)

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>10</td><td>
Configure the new Voice Gateway TNs on the Call Server by using either Element Manager or LD 14. Do one of the following:
1 From the Navigation Tree in Element Manager, choose Configuration | IP Telephony.
Result: The Node Summary page displays.
a. Click on the arrowhead.
b. Click on the appropriate Media Card.
c. Click on ADD VGW CHANNELS.
<table>
<tr><th>If</th><th>Then</th></tr>
<tr><td>An Alert Box appears...</td><td>proceed to sub-action (d).</td></tr>
<tr><td>No Alert Box appears...</td><td>this procedure is at an end.</td></tr>
</table>
d. If an Alert Box appears, log in to the CLI of the Call Server. Use LD 22 to determine if Package 167 is enabled or restricted:
<code>REQ</code>
<code>PRT</code>
<code>TYPE: PKG 167</code>
If Package 167 is restricted, obtain a new keycode to enable GPRI Package 167.
Then, in LD 73 perform:
<code>REQ</code>
<code>NEW</code>
<code>TYPE: DDB</code>
and carriage return through, accepting all the defaults.
or
2 From the CLI of the Call Server, use LD 14 to configure the new Voice Gateway TNs.
</td></tr>
</table>

In general, it is easier to import card configurations than to configure them manually, but the import function is available only for new nodes. Use the following procedure if:

- you want to import the converted Media Cards into a new, separate node (for example, because you do not require them for LTPS redundancy in the existing node)
- the system is not equipped with IP Line and there is therefore no existing node to which you can add them

Procedure 92
Importing converted Media Cards into a new IP Telephony node using Element Manager (Part 1 of 5)

Step	Action
1	Using a PC connected to the LAN, open a Web browser. ***Note:*** Only Microsoft Internet Explorer v.6.0.2600, or later, is supported.
2	In the browser **Address** field, enter the ELAN network interface IP address or TLAN network interface IP address of the Signaling Server Leader, and click **Go**. ***Note:*** If the Leader is not responding, then enter the address of a Signaling Server Follower.
3	Log in to Element Manager using a valid user ID and password (e.g., Admin1, Admin2, or LAPW password).
4	From the Navigation Tree in Element Manager, choose **Configuration | IP Telephony**. **Result:** The **Node Summary** page displays.
5	Choose **Import Node Files**.
6	In the text entry box, enter the ELAN network interface IP address of the former Leader 0 of the IP Trunk node that has been converted to Media Cards. Click **Import**. **Result:** The following message displays: `The BOOTP.1 and CONFIG1.INI files were retrieved from Voice Gateway Media Card x.x.x.x.`

Procedure 92
Importing converted Media Cards into a new IP Telephony node using Element Manager (Part 2 of 5)

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>7</td><td>Since the BOOTP.1 file does not have a Node ID, enter the Node ID that you want to use for this node, and click Continue.

Note: If you have already installed a Signaling Server that will be the Leader for this new node, and if you have already configured this node’s sets to point to the Signaling Server Node ID or Virtual Trunk route, use that Signaling Server Node ID when you create this new node, and then add the Signaling Server to this new node in step 8.

Once the new node has been created with the imported data, the following message displays:

<code>Warning: Call Server IP address in CONFIG.INI file is 0.0.0.0. Please edit the node and update it.
BOOTP.TAB and CONFIG.INI files for node yyy were retrieved from Voice Gateway Media Card x.x.x.x, and stored on Call Server z.z.z.z. The new node will appear on the Node Summary page (Configuration > IP Telephony)</code></td></tr>
<tr><td>8</td><td>1 On the Node Summary page, click the Edit button for the new node.
2 Edit the node’s properties as follows:
a. Provision the correct IP address for the Call Server.
b. Add the Signaling Server if it exists and is not already part of a larger IP Line node.
c. Add any additional Media Cards.</td></tr>
</table>

Procedure 92
Importing converted Media Cards into a new IP Telephony node using Element Manager (Part 3 of 5)

Step	Action
9	Once all the required card properties have been entered for all the cards you are adding, click the **Save and Transfer** button to save the configuration changes to the Call Server and to transfer the changes to the Signaling Servers and Media Cards in the node. Monitor progress in the **Transfer Progress** window. The BOOTP and CONFIG files are saved on the Call Server and transferred to the Signaling Server Leader. The BootP table is updated so the converted cards can receive their IP address configuration. ***Note:*** It may be necessary to press the **Reset** button in the faceplate of the converted Media Cards to trigger a new BootP request. Wait until all converted cards have received their IP address before you reset.
10	Click the **Transfer to Failed Elements** button to transfer the bootp.tab and config.ini files to the converted Media Cards.

Procedure 92
Importing converted Media Cards into a new IP Telephony node using Element Manager (Part 4 of 5)

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>11</td><td>Configure the new Voice Gateway TNs on the Call Server by using either Element Manager or LD 14. Do one of the following:

1 From the Navigation Tree in Element Manager, choose Configuration | IP Telephony.
Result: The Node Summary page displays.

a. Click on the arrowhead.
b. Click on the appropriate Media Card.
c. Click on ADD VGW CHANNELS.

<table><tr><th>If</th><th>Then</th></tr><tr><td>An Alert Box appears...</td><td>proceed to sub-action (d).</td></tr><tr><td>No Alert Box appears...</td><td>this step is at an end.</td></tr></table>
d. If an Alert Box appears, log in to the CLI of the Call Server. Use LD 22 to determine if Package 167 is enabled or restricted:

<code>REQ</code>
<code>PRT</code>
<code>TYPE: PKG 167</code>

If Package 167 is restricted, obtain a new keycode to enable GPRI Package 167.

Then, in LD 73 perform:

<code>REQ</code>
<code>NEW</code>
<code>TYPE: DDB</code>
and carriage return through, accepting all the defaults.

or

2 From the CLI of the Call Server, use LD 14 to configure the new Voice Gateway TNs.</td></tr>
</table>

Procedure 92
Importing converted Media Cards into a new IP Telephony node using Element Manager (Part 5 of 5)

Step	Action
12	If you did not add a Signaling Server to the imported node (see step 8), Telnet to the former IP Trunk Leader 1 card and use the **`clearLeader`** command to remove the leader flag from Leader 1.

End of procedures

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 93
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 & Training, Online Self-Service, click on the Keycode Retrieval link. You are now on the Keycode Retrieval page. See Figure 20 on page 386.

4 Click on the Online Registration 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 94
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 & Training, Online Self-Service, click on the Keycode Retrieval link. See Figure 19 on page 385. You are now on the Keycode Retrieval page. See Figure 20 on page 386.

4 In Step 1, select a login location. See Figure 21 on page 387.

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

6 Click **Go.** The Keycode Retrieval System window opens. See Figure 23 on page 389.

Figure 19
Nortel home page.

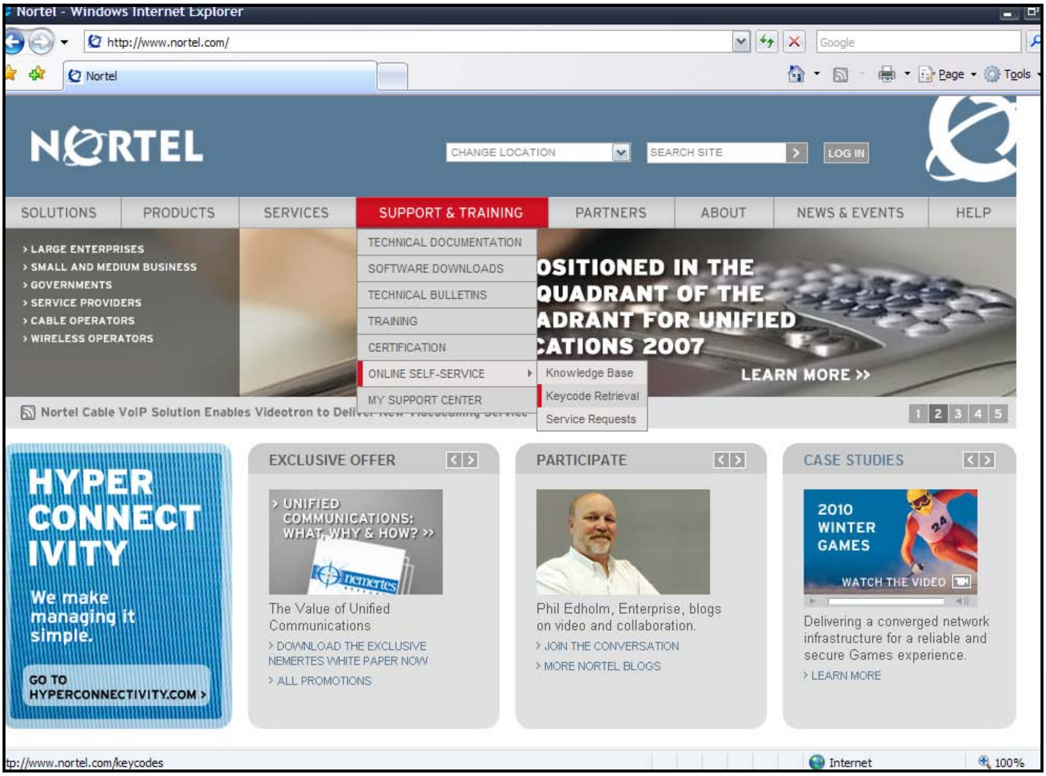


Figure 20
Keycode Retrieval page

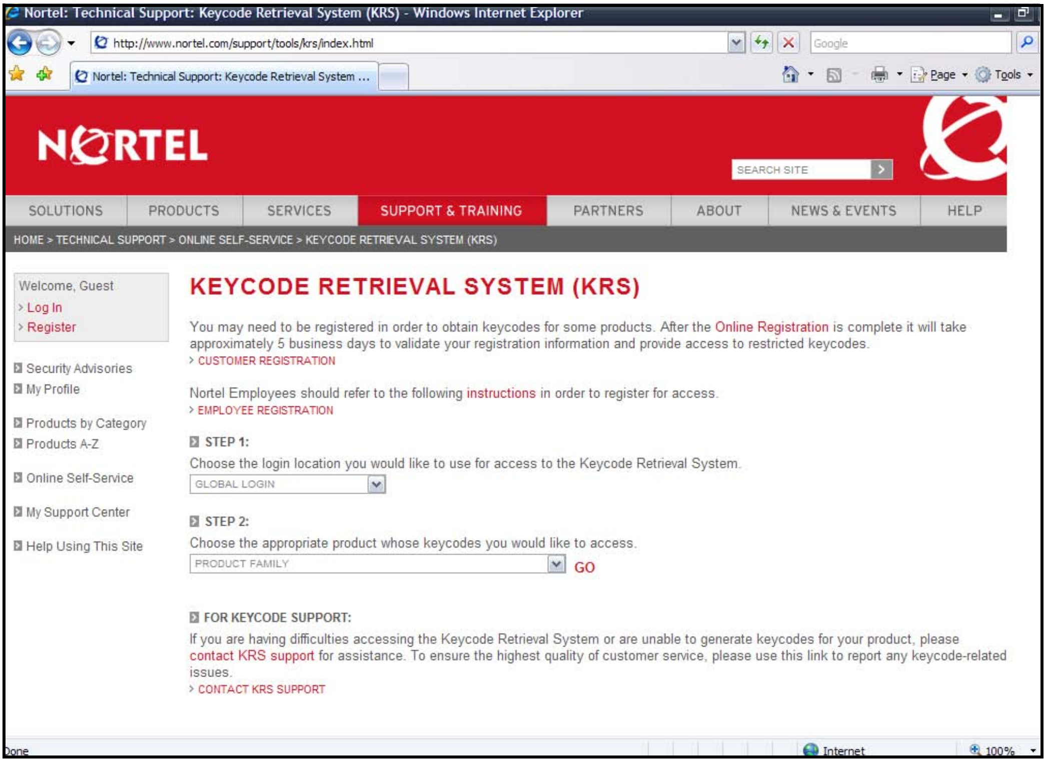


Figure 21
Login location selection (step 1)

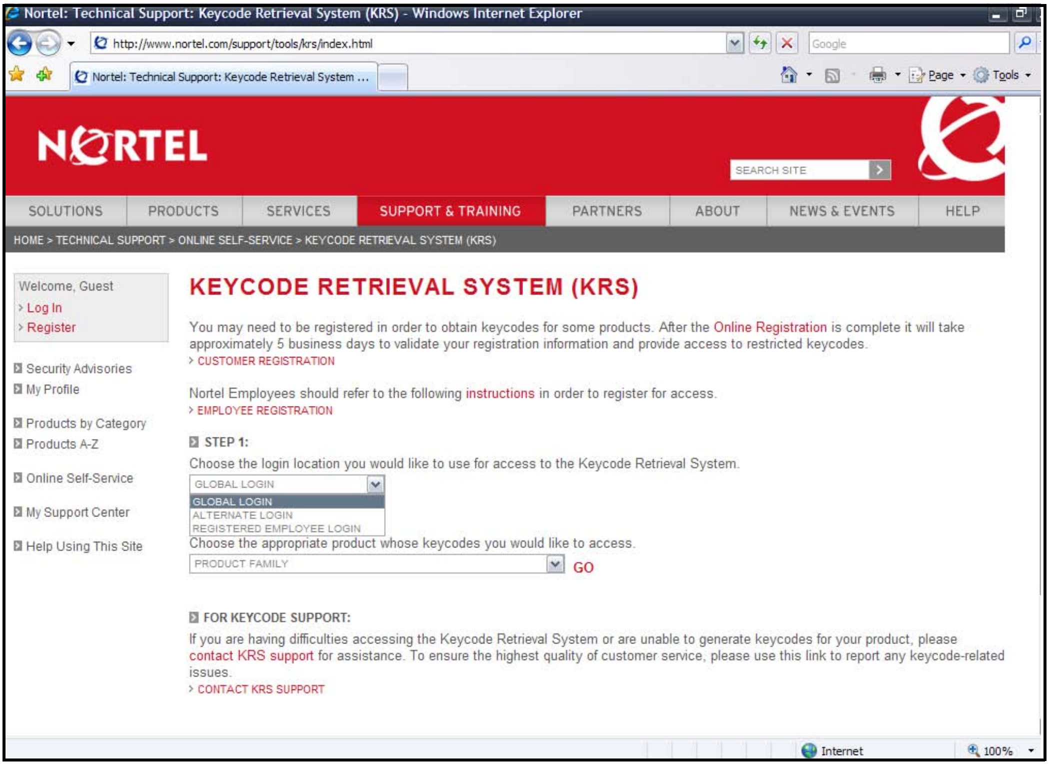


Figure 22
Product family selection (step 2)

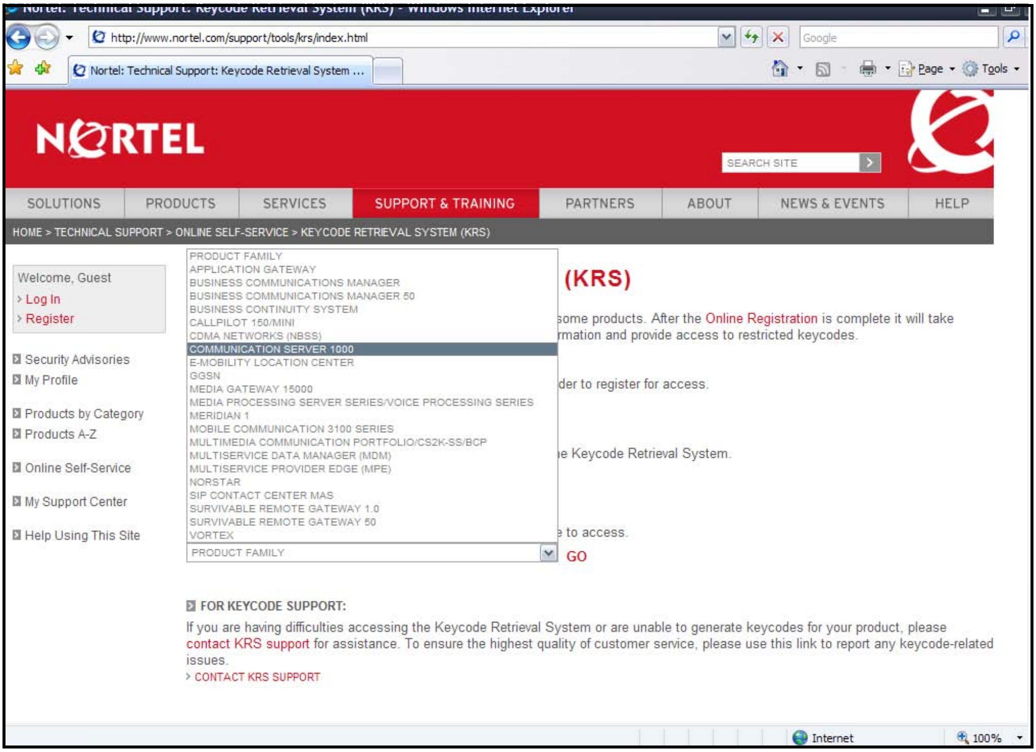
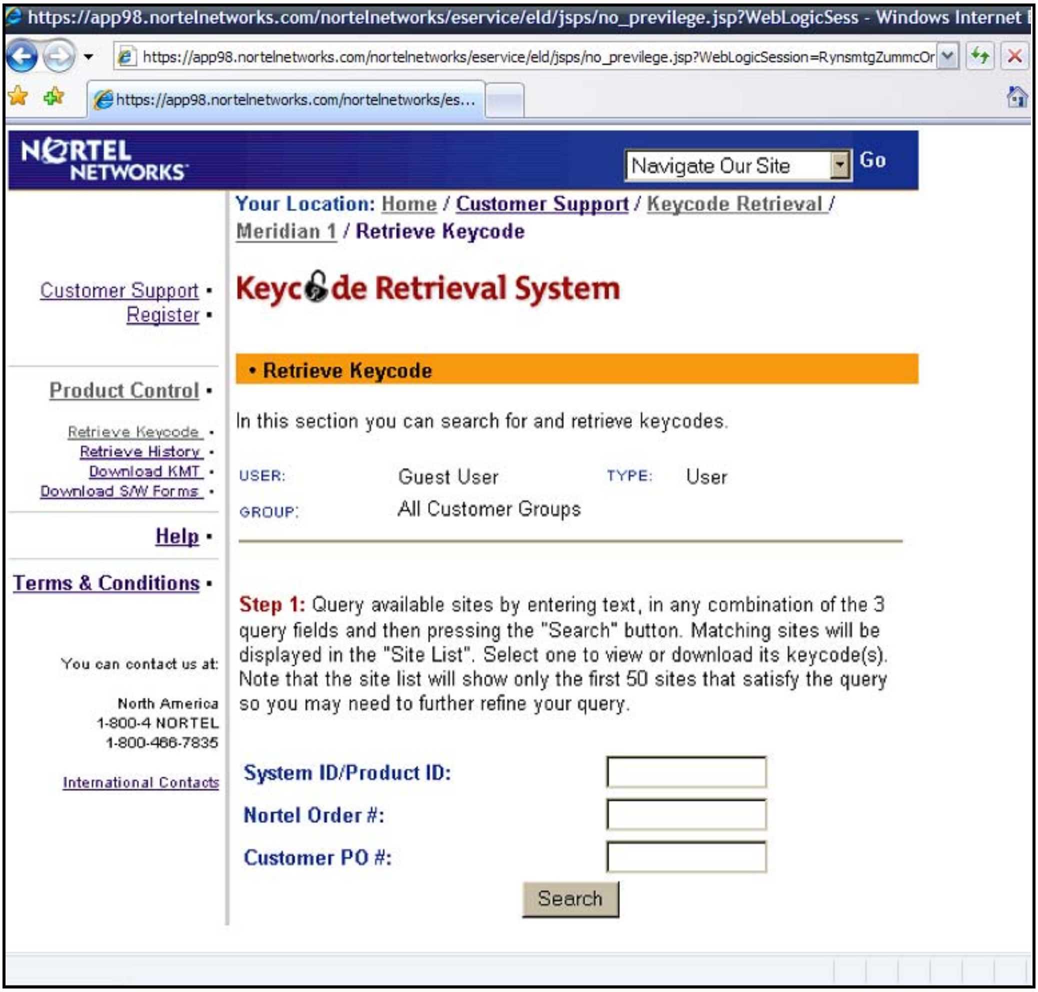


Figure 23
Keycode Retrieval System



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 26.

Table 26
Prepare for upgrade steps

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 1241. 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* (NN43021-220)).
- 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 95
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 96
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 27.

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 27
Core module ID switch settings (System Utility card)

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

Figure 24
Core card placement in the NT4N40 Core/Net card cage (front)

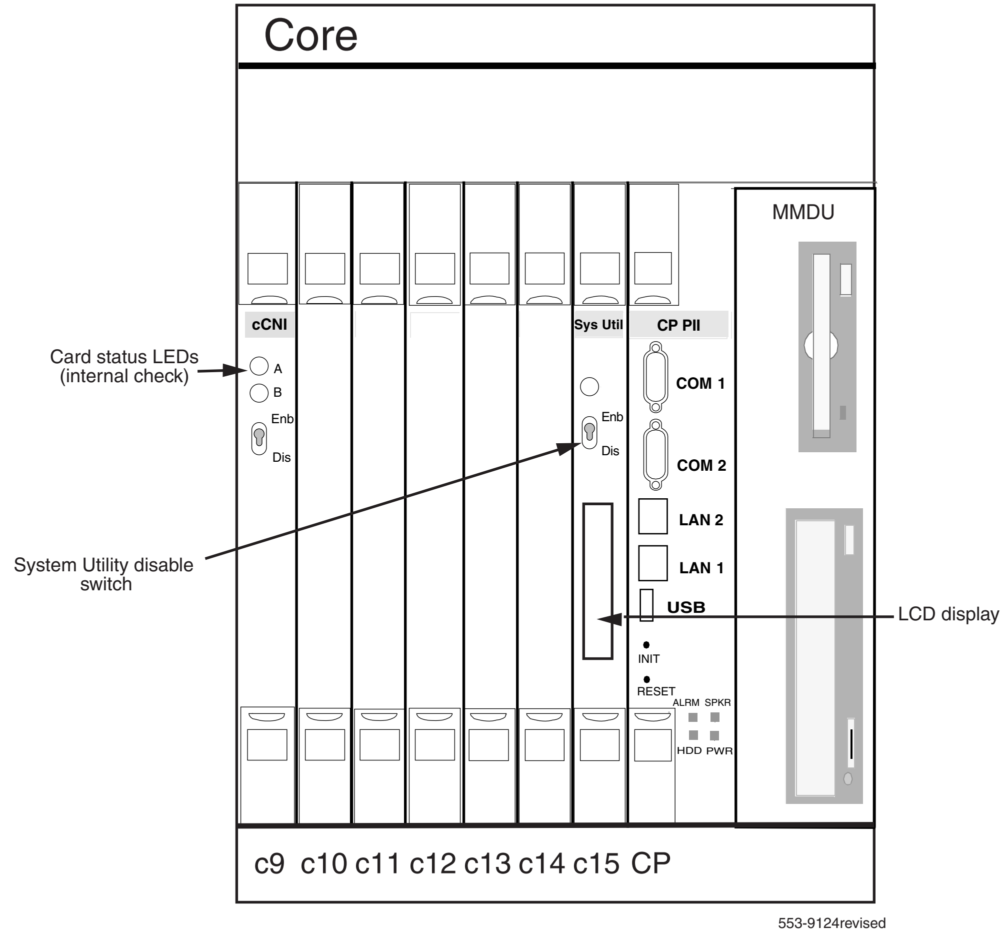


Figure 25
Core Module ID switch

Print site data

Print site data to preserve a record of the system configuration (Table 28). 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 28
Print site data (Part 1 of 3)

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

Table 28
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 28
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
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 97
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 98
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 99
Converting the 4 MB database media to 2 MB 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 MB 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 MB media. Systems with an IODU/C drive already have 2 MB media and can skip this procedure.

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

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

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

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

> **CAUTION — Service Interruption**
>
> **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 MB diskette with the customer database from the floppy drive of the IOP or CMDU. Keep the diskette for use after you convert Core 1 to NT4N40 Core/Net 1. Do not reboot the system at this point.

End of Procedure

Identify two unique IP addresses

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

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

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.

NTND14 CNI to 3PE Cable Connects CPU Core to Network Shelf.

Table 29
Cable Length

Cable	Length
NTND14BA	1.8 m (6 ft.)
NTND14BB	2.4 m (8 ft.)
NTND14BC	3.0 m (10 ft.)
NTND14BD	3.7 m (12 ft.)

Table 29
Cable Length

Cable	Length
NTND14BE	7.6 m (25 ft.)
NTND14BG	10.6 m (35 ft.)

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 30 on page 408.

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

Table 30
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***

Table 30
Required hardware

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 30 on page 408.

Procedure 100
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 31 below. (NT4N48 System Utility card is located in slot c15.)

Table 31
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 32 lists factory-installed cables.

Table 32
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 30 on page 408 for minimum equipment requirements to replace the CPP II Core/Net module.

Procedure 101
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 102
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 33 for Peripheral Signaling Card numbers
****	Exit program

Table 33
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 103
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 104
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.

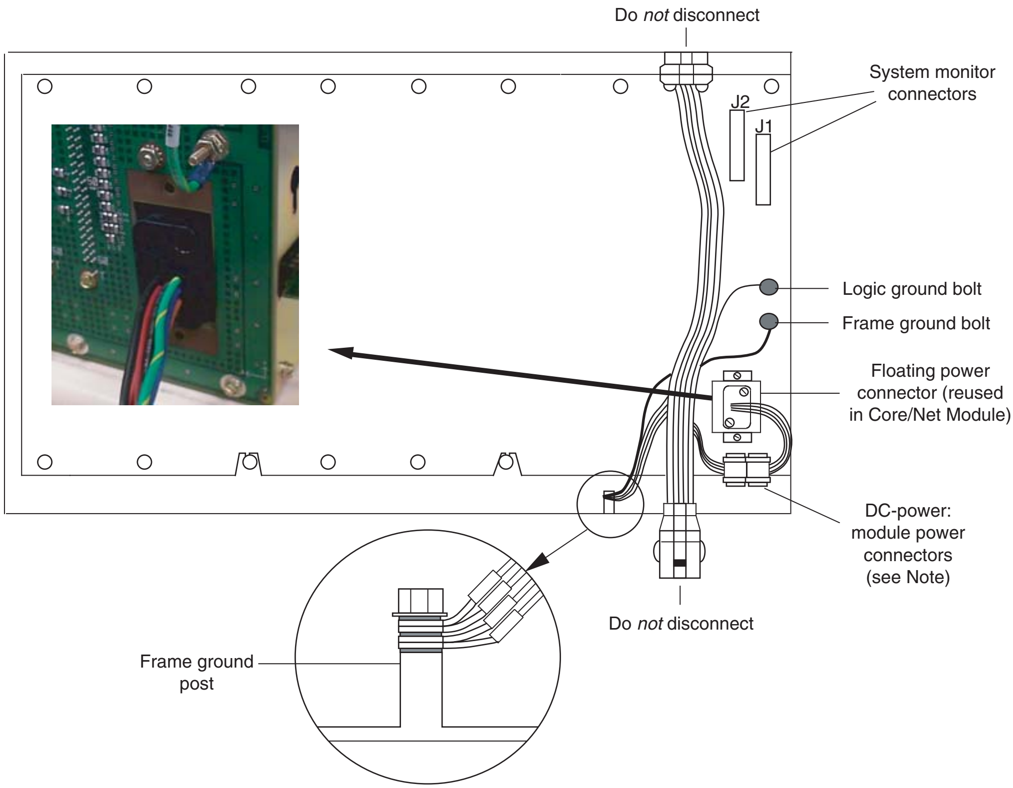
10 Pull the card cage forward until it is halfway out of the module.

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 26 below for DC power connectors; Figure 27 on page 419 for AC power connectors.

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

Figure 26
DC power connectors on the Core module backplane



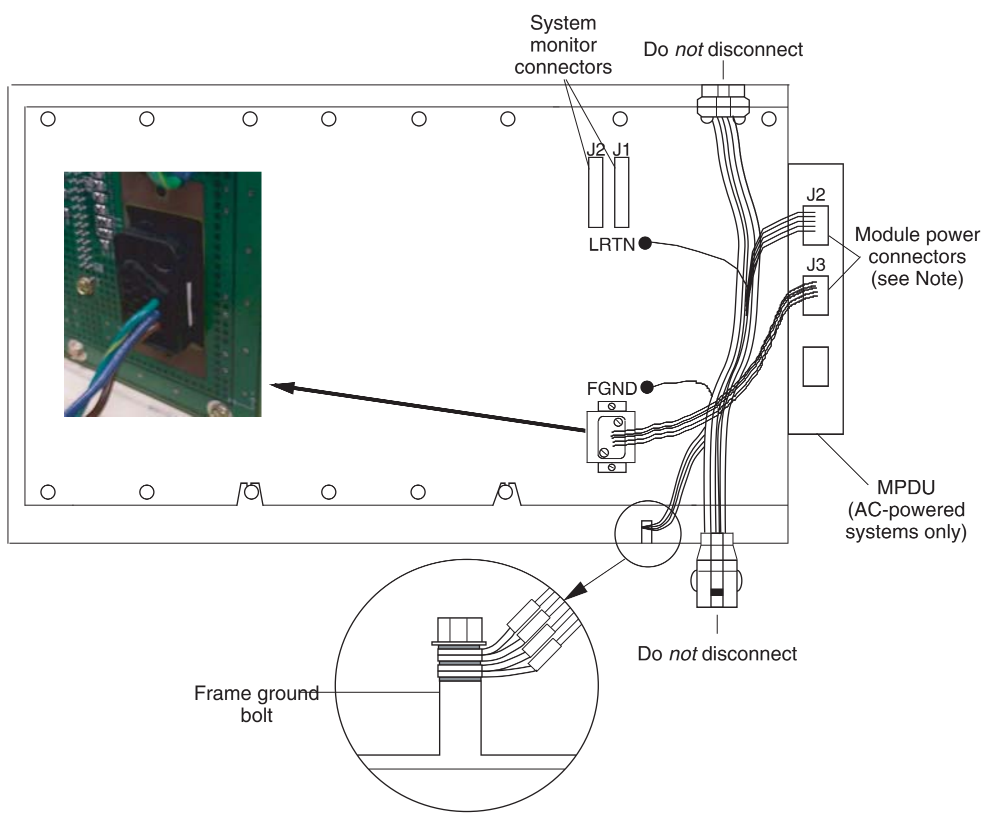
Note: With AC power, the module power connectors plug into J1 and J2 on the MPDU. (With DC power, they connect to each other and hang loose.)

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 27
AC power connectors on the Core module backplane



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

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 105
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 page 396 for instructions.

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

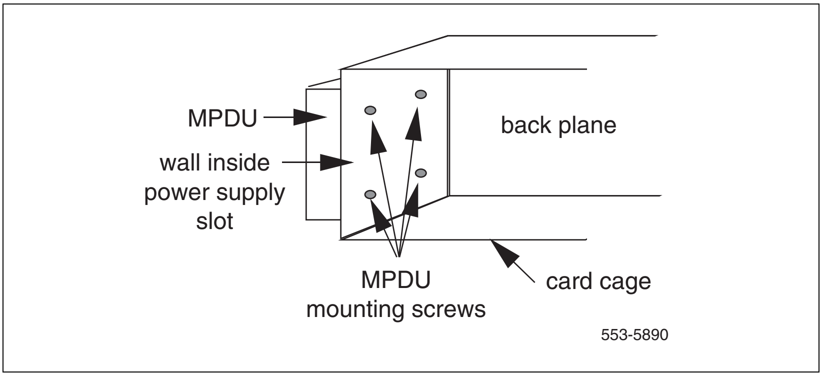
a. Remove the MPDU.

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 28 on page 421.

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

Figure 28
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 30 on page 427.)

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 29 on page 425). To install the Security Device, do the following.

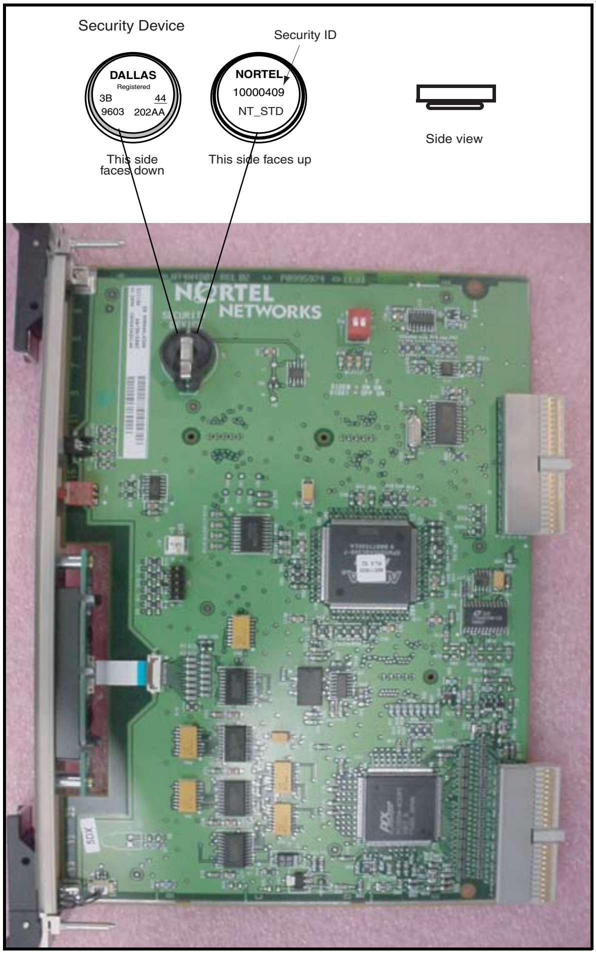
1 Remove the original Security dongle from the Security Device holder on the System Utility Transition Card.

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 29
Security Device



Relocate Core and Network cards to CoreNet 1

Procedure 106
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 107
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 31 on page 428).
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 32 on page 429).

End of Procedure

Figure 30
COM and LAN connections to the Core/Net I/O panel

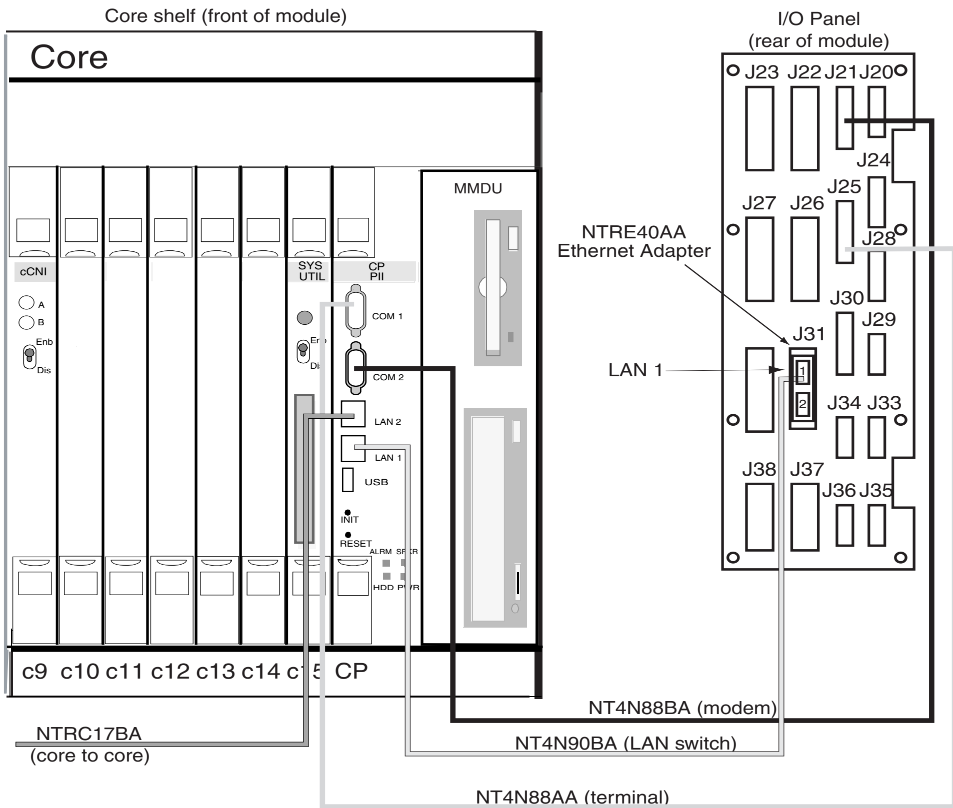


Figure 31
Fanout Panel connections on the CP PII Core/Net backplane

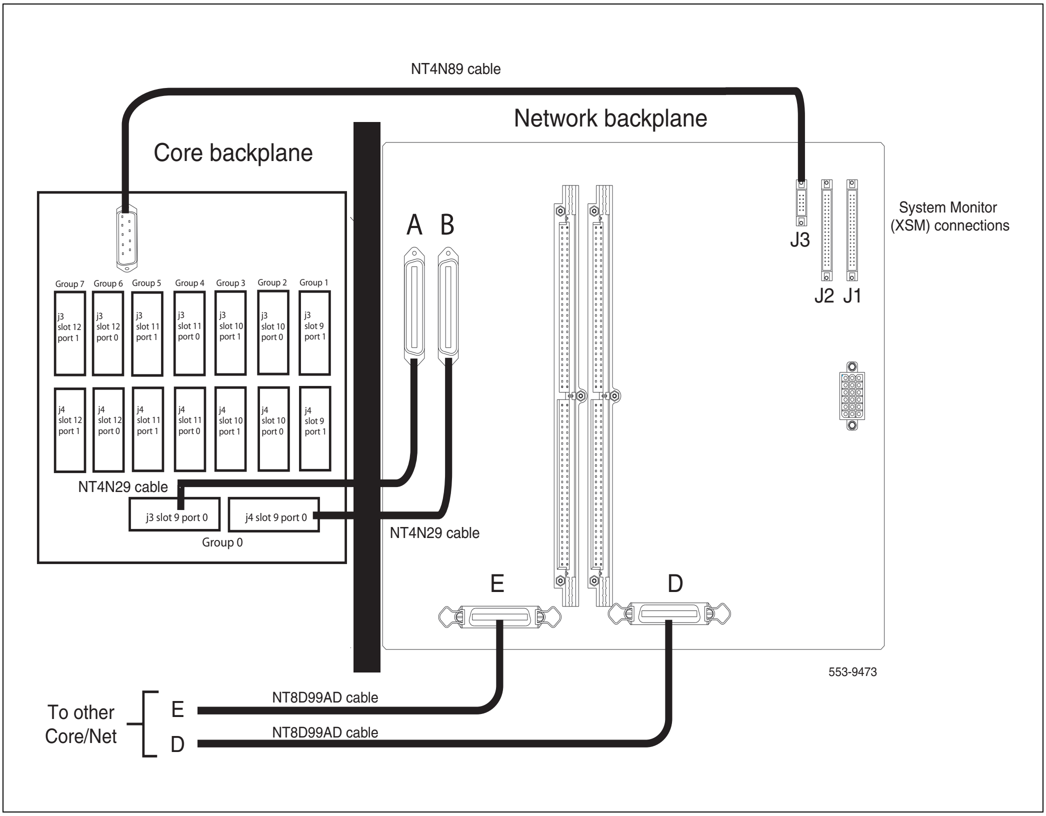


Figure 32
3PE card connections

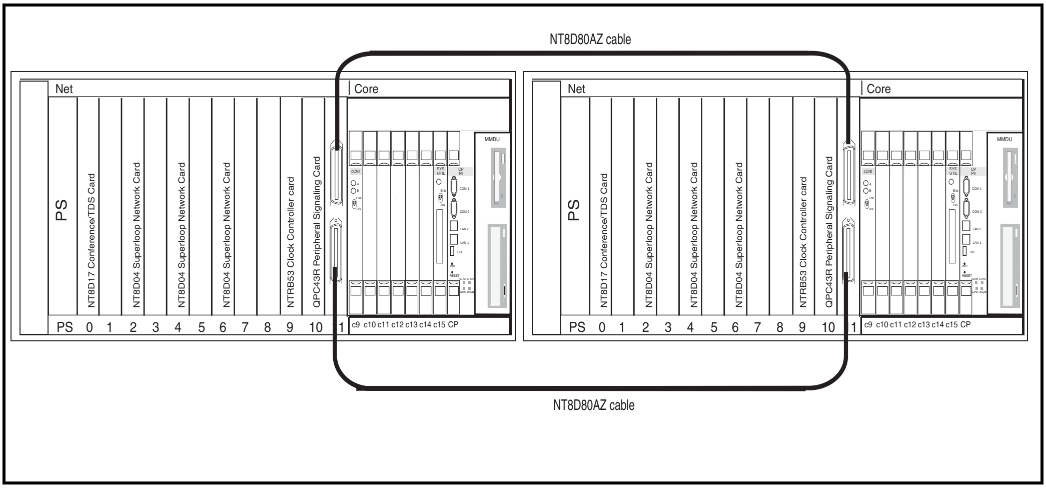
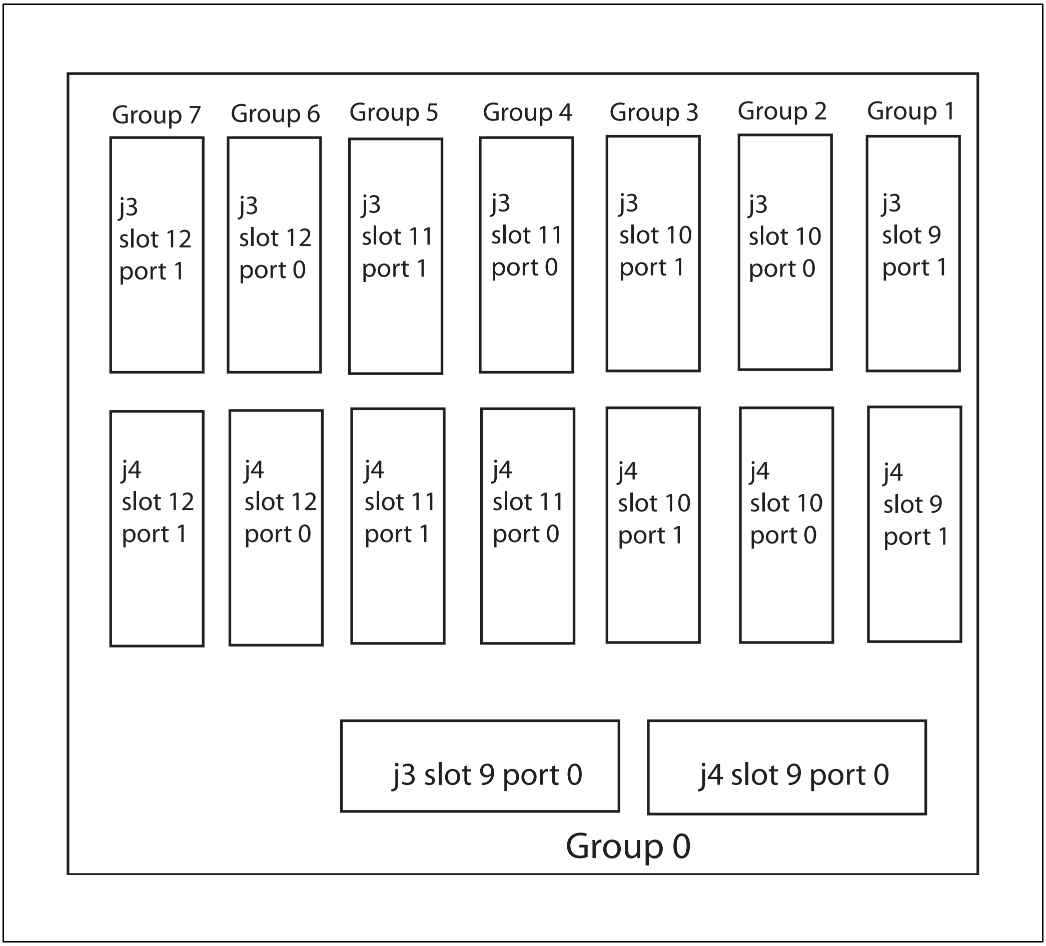


Figure 33
Connectors for CNI-3PE cables to the Fanout panel



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 34
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 33 on page 430). Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 34 on page 433).

Table 34
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 33 on page 430). Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 34 on page 433).

End of Procedure

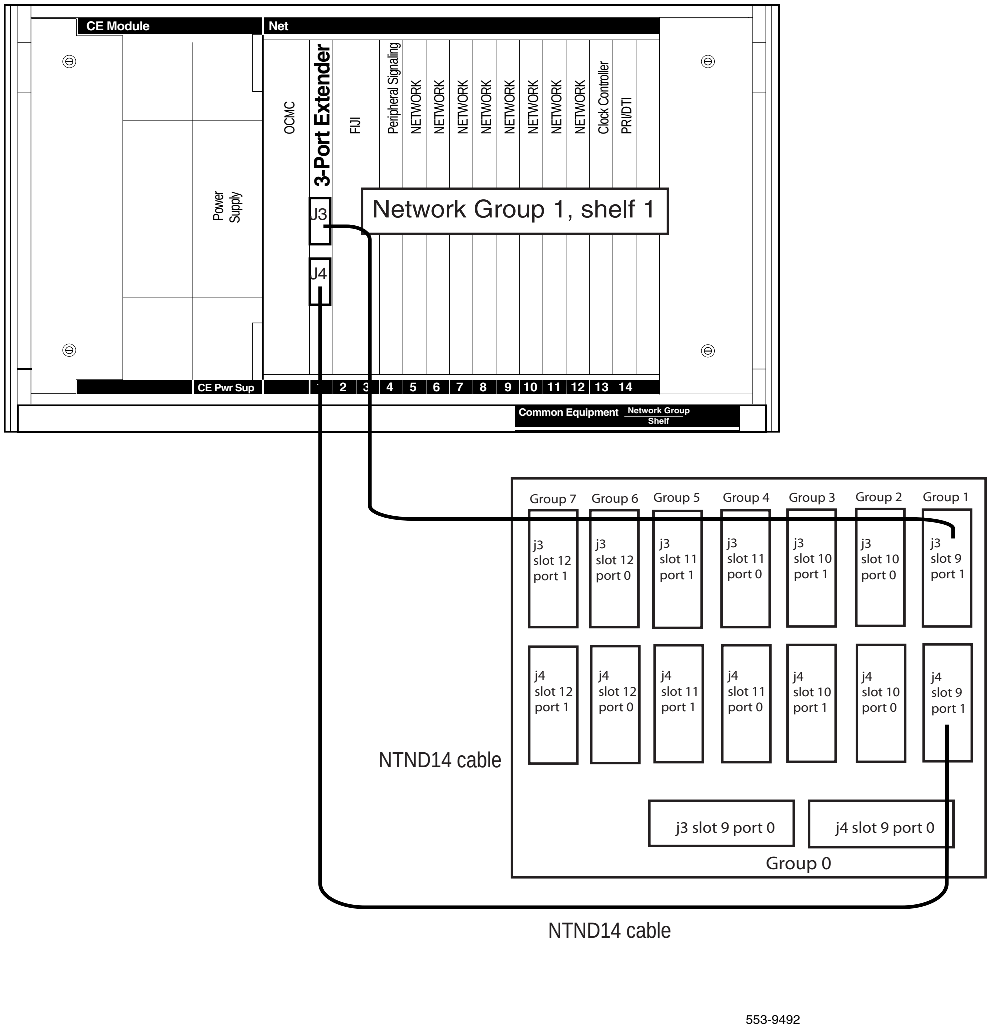
Power up Core 1

Procedure 108
Preparing for power up

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

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

Figure 34
3PE Fanout Panel connections



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 109
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 110
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 35 below for Peripheral Signaling Card numbers
****	Exit program

Table 35
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 111
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 112
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* (NN43001-711) for more information on LD 39 commands.

a. Check that the Fiber Rings operate correctly.

LD 39	Load program
STAT RING 0	Check the status of Ring 0 (HALF/HALF)
STAT RING 1	Check the status of Ring 1 (HALF/HALF)

b. If necessary, restore the Rings to Normal State.

RSTR	Restore both Rings to HALF state

c. Check that the Rings operate correctly:

STAT RING 0	Check the status of Ring 0 (HALF/HALF)
STAT RING 1	Check the status of Ring 1 (HALF/HALF)

9 Check the status of the FIJI alarms

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

End of Procedure

Switch call processing

Procedure 113
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 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 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 Commissioning* (NN43021-310).

Before attempting any software or hardware upgrade field personnel must complete the steps in Table 36.

Table 36
Prepare for upgrade steps

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 NTPs* (NN43021-458\=NN43021-475). 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 NTPs* (NN43021-458\=NN43021-475).
- 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 114
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 37). 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 37
Print site data (Part 1 of 3)

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

Table 37
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 37
Print site data (Part 3 of 3)

Site data	Print command	
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ TYPE LOOP APPL PH	PRT MISP loop number (0-158) <cr> <cr>
DTI/PRI data block for all customers	LD 73	
	REQ TYPE	PRT DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ TYPE SUPL	CHG SUPL Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop. xxx = 0-252 in multiples of four for MG 1000E
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 115
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

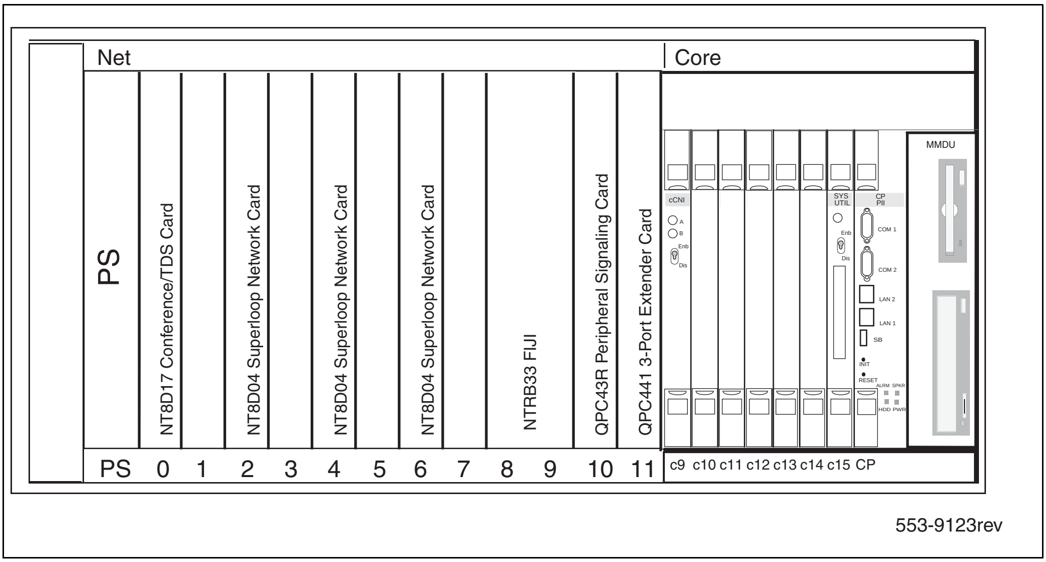
Perform the upgrade

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 35 on page 456 shows a Meridian 1 Option 81C/FNF (NT4N40).

Figure 35
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 38 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 38
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/ BBE5	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 39 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 39
List of recommended tools

Digital Multimeter (DMM)	Electric drill and drill bits
Pliers, needle-nose	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 36 on page 463.

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 116
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 36 on page 463).

> **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 40 on page 461.

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 40
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 117
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 36 on page 463).

> **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 41 on page 464.

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 36
Shelf 1 descending fiber-optic Ring (example)

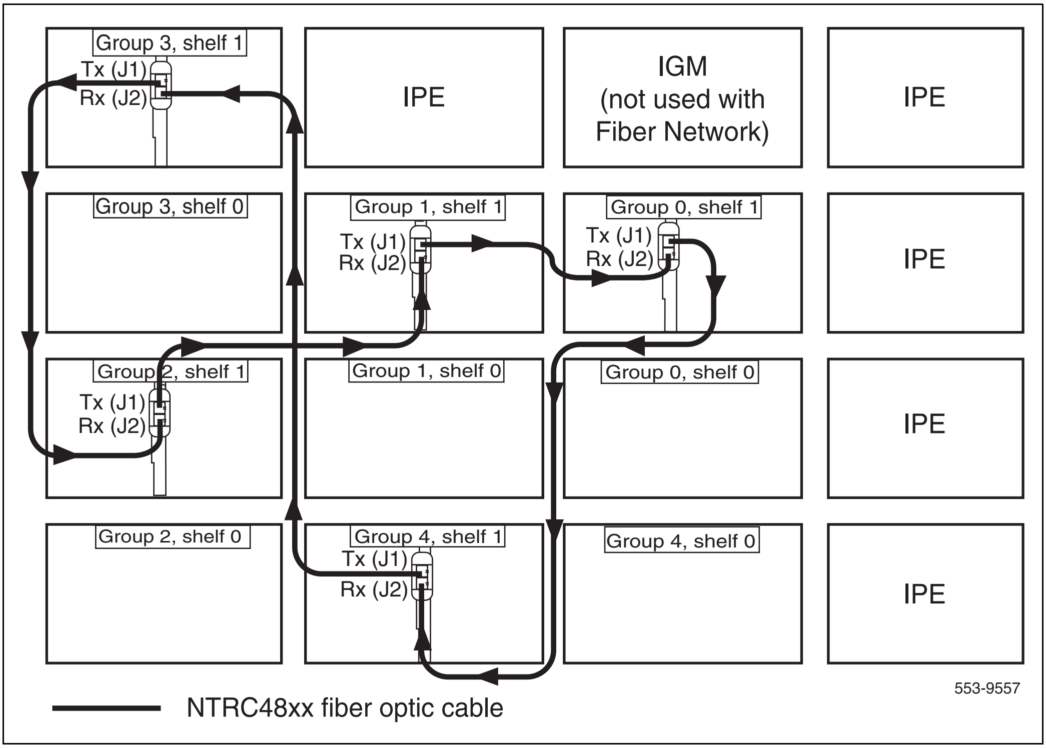


Table 41
FIJI Ring 1 connections

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 118
Interconnecting the Core/Net modules

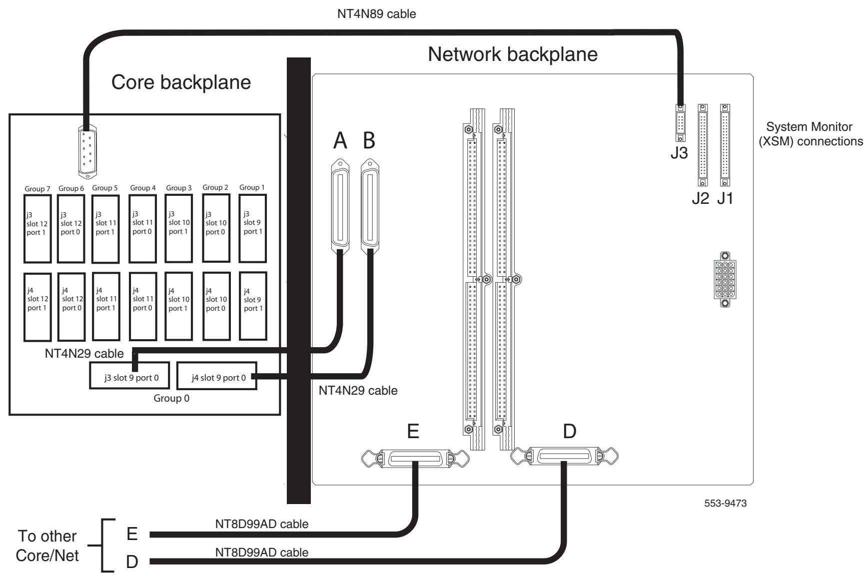
On the back of each Core/Net module backplanes are two connectors labeled D and E.

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 37
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)



Add CNI cards if necessary

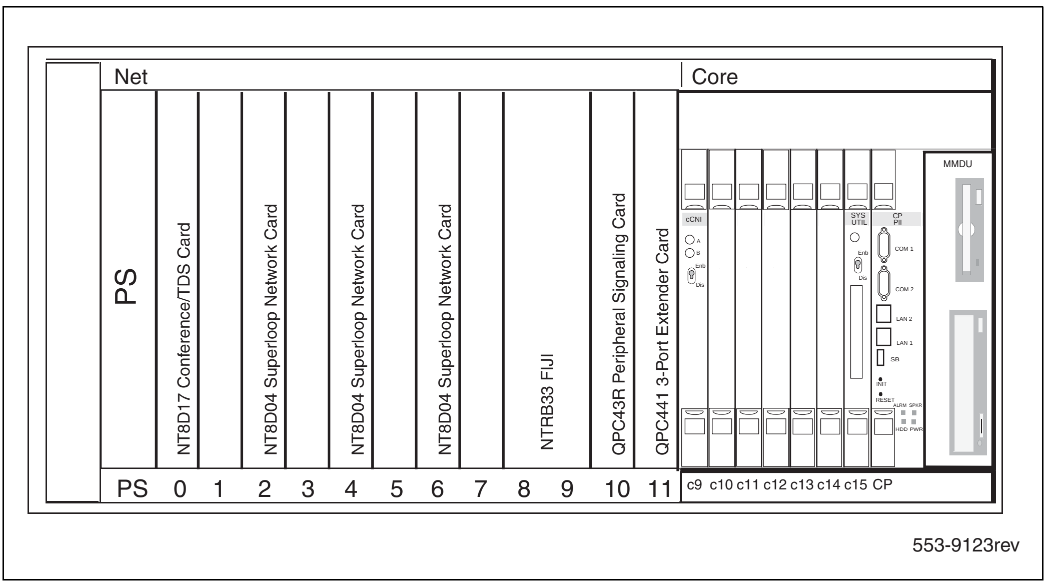
Procedure 119
Adding CNI cards

If additional CNI cards are required, add to each Core Module as required (see Figure 38 on page 467).

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 38
NT4N40 Core/Net card cage



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 39 on page 470 and Table 42 on page 469.

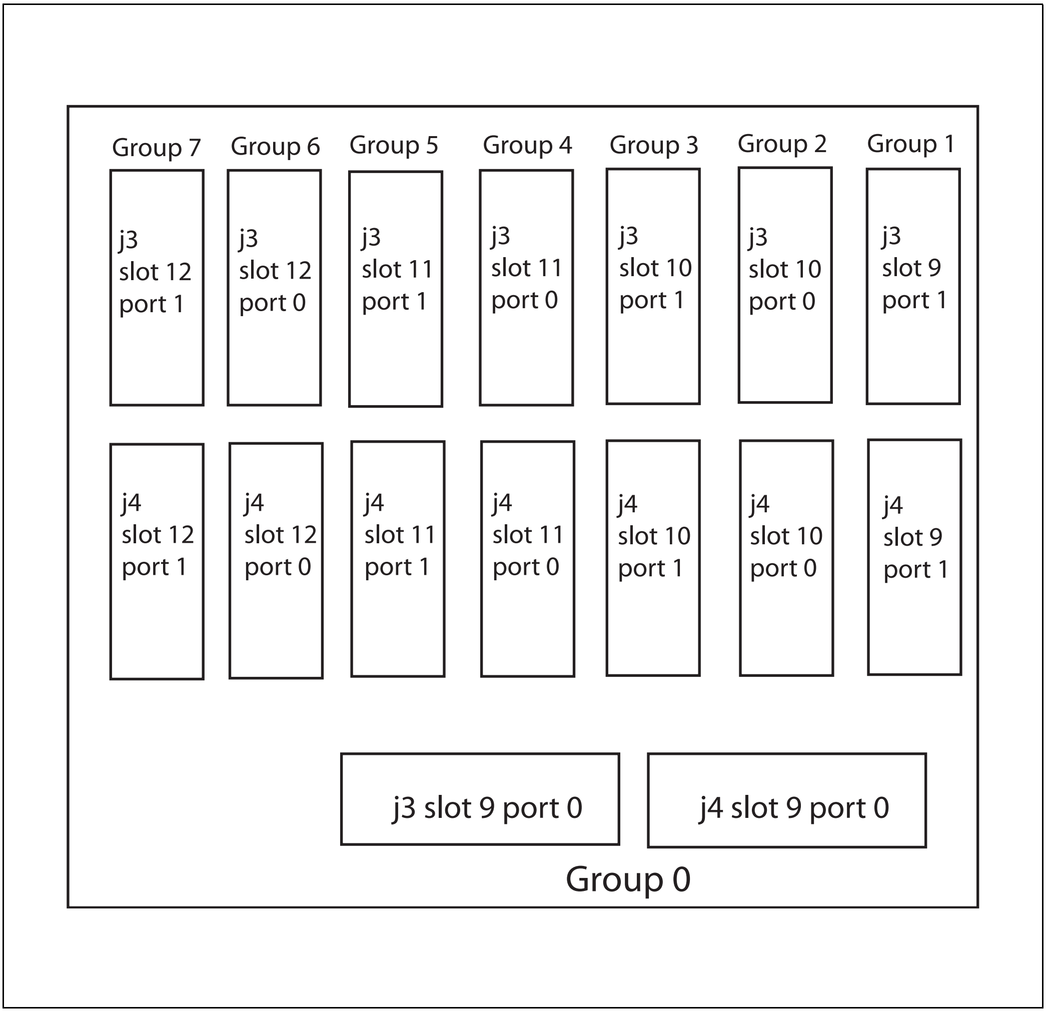
Table 42
Fanout Panel to 3PE card connectors

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 39 on page 470).

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 39 on page 470).

Figure 39
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.

Install and enable the QPC441 3PE cards

Procedure 120
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 43 on page 472 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 43
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 121
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.

> **IMPORTANT!**
>
> Never install an unequipped Peripheral Signaling card. Installing an unequipped Peripheral Signaling card in the system can cause undesirable system behavior.

End of Procedure

Procedure 122
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, or NTRB33BBE5 card into slot 9 of each added Network module.

Do not plug the card into the backplane.

End of Procedure

Procedure 123
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 124
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 125
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 126
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 44 on page 477 specifies the Network group assignments for each CNI slot and port. These are fixed and cannot be changed in software.

Table 44
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 127
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: The single slot FIJI (NTRB33BBE5) packs require a different firmware than the existing double slot FIJIs. Provision has been made to have both the double slot and single slot card firmware in the same switch. The FIJI card will download its own firmware depending on the card ID information stored in it. The details about the firmware download explained in the previous paragraph is true for new single slot FIJI cards also.

Note 3: 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 44 on page 477.

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 128
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* (NN43001-711) 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 129
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* (NN43001-711) 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 607.

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.
- Double slot FIJI cards are installed in slots 2 and 3 of the Network modules, and slots 8 and 9 of the Core/Net modules.
- Single slot FIJI cards (with vintages more than NTRB33BBE5) are installed in slots 2 of the Network modules, and slot 9 of the Core/Net modules.

> **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 45.

Table 45
Prepare for upgrade steps

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 NTPs* (NN43021-458\=NN43021-475). 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 NTPs* (NN43021-458\=NN43021-475).
- 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 130
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 46). 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 46
Print site data (Part 1 of 3)

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

Table 46
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 46
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 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 131
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.

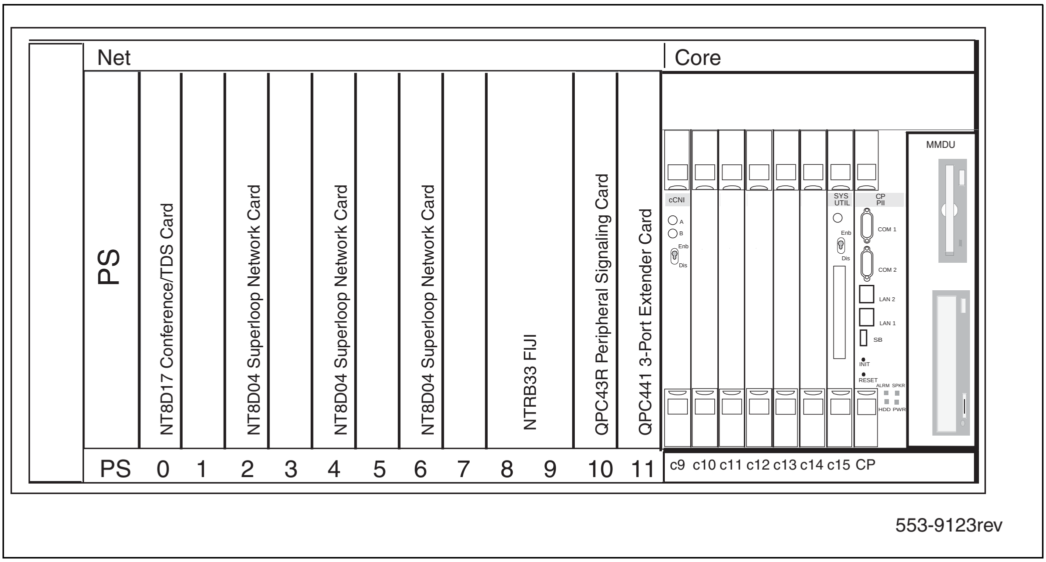
Perform the upgrade

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

Figure 40
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.
- 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 47 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 47
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/BBE5	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 48 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 48
List of recommended tools

Digital Multimeter (DMM)	Electric drill and drill bits
Pliers, needle-nose	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 40 on page 502.

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 132
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 41 on page 509).

> **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 49 on page 507.

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 49
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 133
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 41 on page 509).

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 50 on page 510.

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 41
Shelf 1 descending fiber-optic Ring (example)

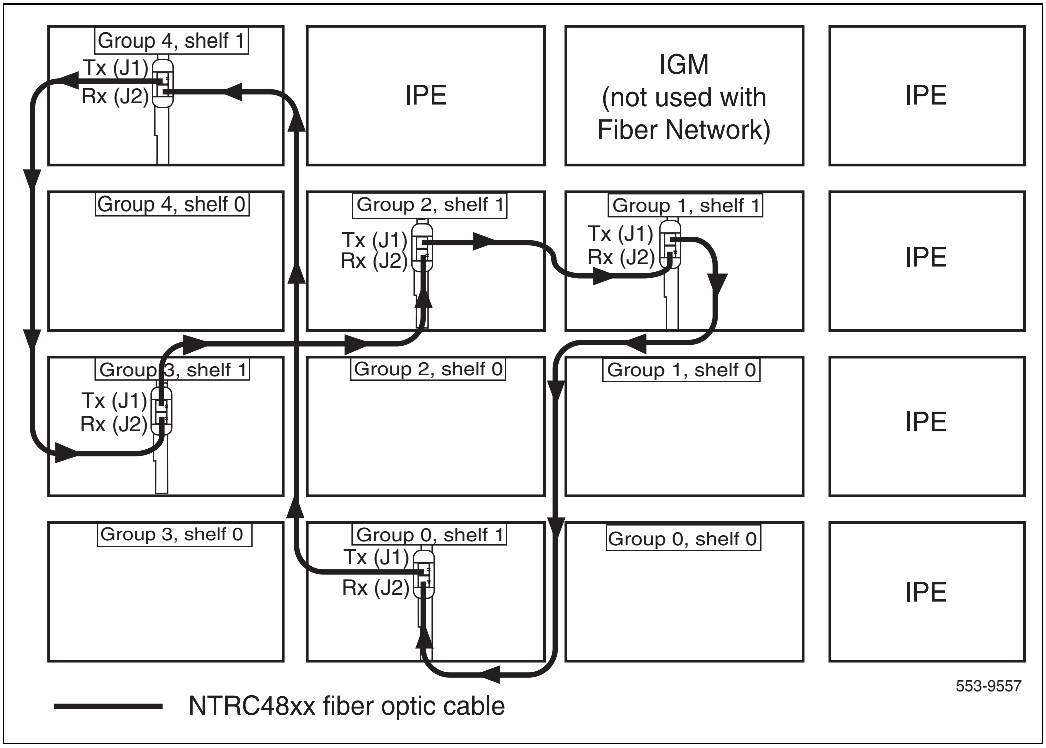


Table 50
FIJI Ring 1 connections

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 134
Interconnecting the network modules

> ***Note:*** The back of each network module backplane has five connectors: A, B, C, D and E. See Figure 42 on page 512. 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 Commissioning* (NN43021-310).

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.

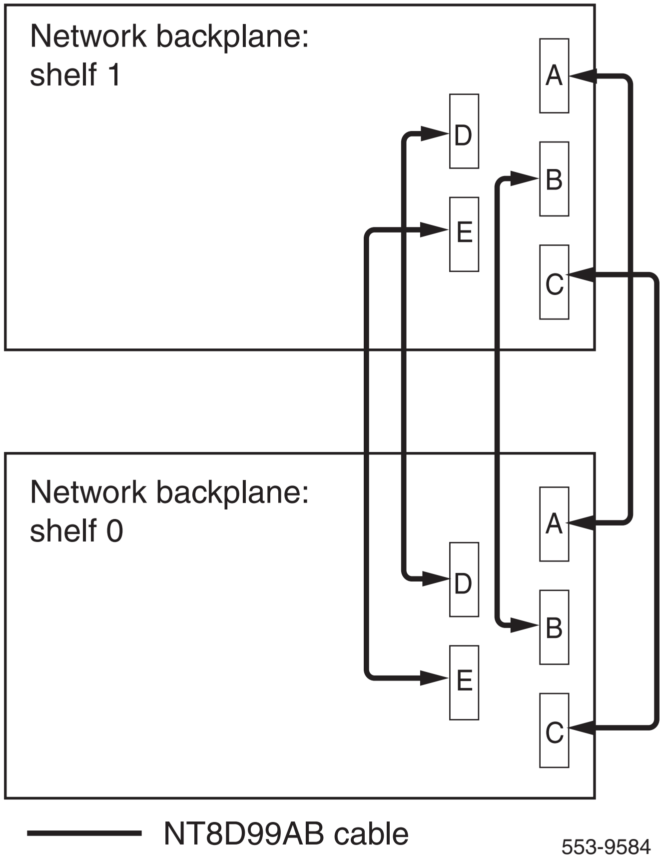
5 Connect the E connector in shelf 0 to the E connector in shelf 1.

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 42
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)



Add CNI cards if necessary

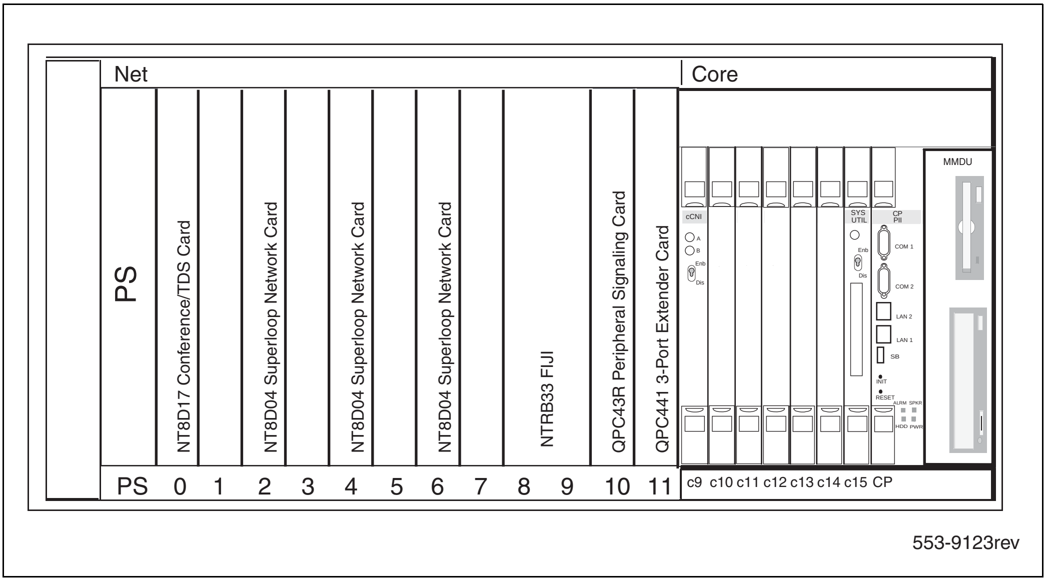
Procedure 135
Adding CNI cards if necessary

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 43).

Figure 43
NT4N40 Core/Net card cage



Procedure 136
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 51, Figure 44 on page 516, and Figure 45 on page 517 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 51
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 39 on page 470.

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1. See Figure 39 on page 470.

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 44
3PE faceplate to 3PE Fanout Panel connection

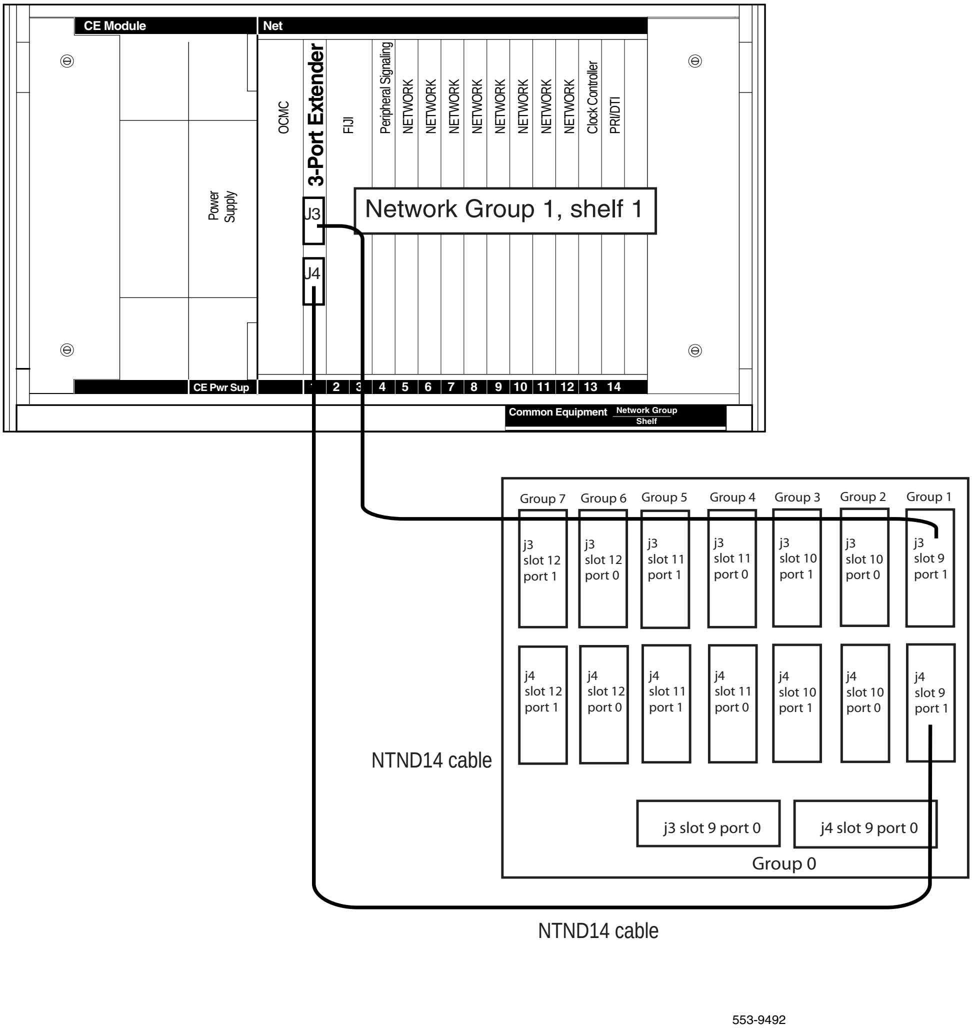
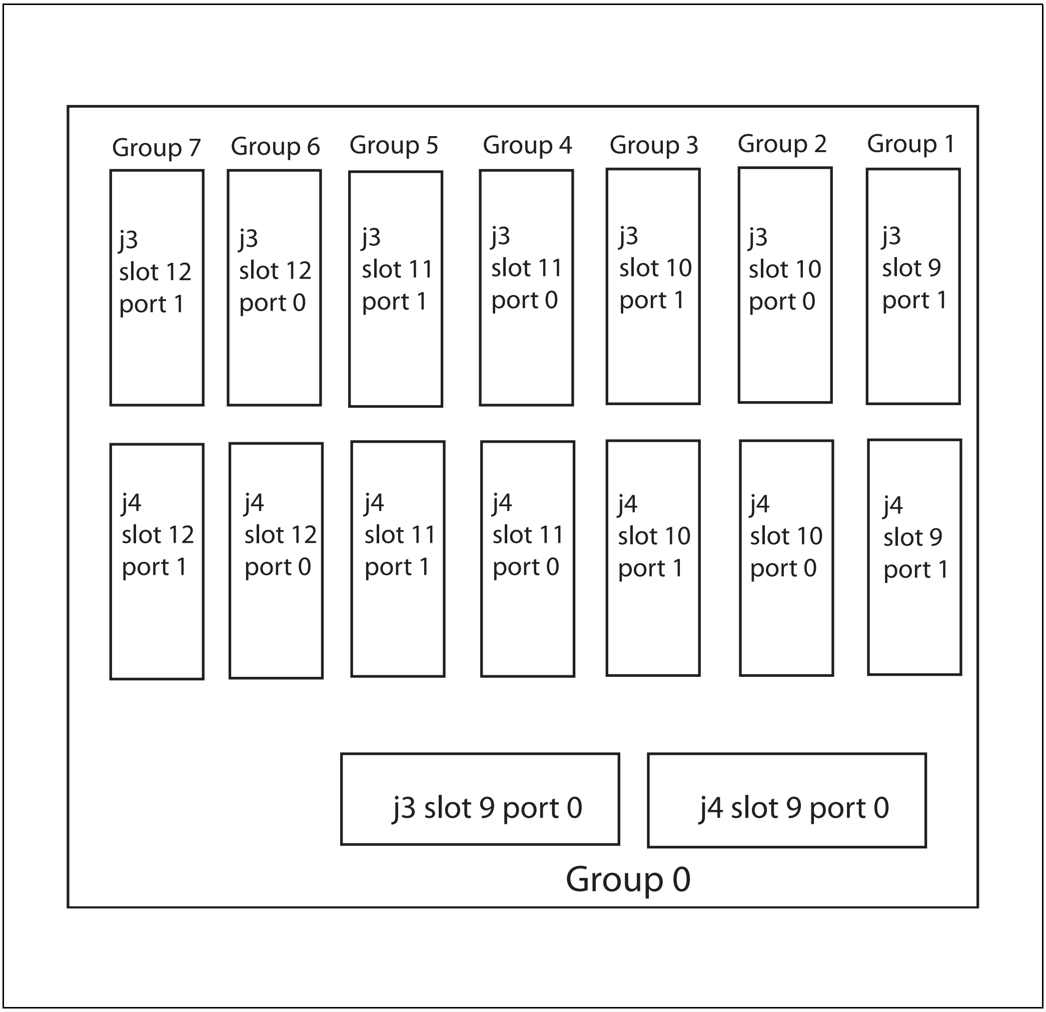


Figure 45
3PE Fanout Panel (Core/Net module)



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 137
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 52 on page 519 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 52
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 138
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.

IMPORTANT!

Never install an unequipped Peripheral Signaling card. Installing an unequipped Peripheral Signaling card in the system can cause undesirable system behavior.

End of Procedure

Procedure 139
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, or NTRB33BBE5 into slot 2 of each added Network module.

End of Procedure

Procedure 140
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 141
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 142
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 143
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 52 on page 519.

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

Table 53
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 144
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 36 on page 463. 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: The single slot FIJI (NTRB33BBE5) packs require a different firmware than the existing double slot FIJIs. Provision has been made to have both the double slot and single slot card firmware in the same switch. The FIJI card will download its own firmware depending on the card ID information stored in it. The details about the firmware download explained in the previous paragraph is true for new single slot FIJI cards also.

Note 3: 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 53 on page 524:

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 145
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* (NN43001-711) 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 146
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 147
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* (NN43001-711) 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 607.

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 54.

Table 54
Prepare for upgrade steps

Step	Page
Plan the upgrade	538
Upgrade checklists	539
Prepare	539
Identifying the proper procedure	540
Connect a terminal	540
Print site data	541
Perform a template audit	544

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 NTPs* (NN43021-458\=NN43021-475). 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 NTPs* (NN43021-458\=NN43021-475).
- 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 148
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 55). 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 55
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 55
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 55
Print site data (Part 3 of 3)

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

Perform a template audit

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

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

CAUTION — 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 149
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

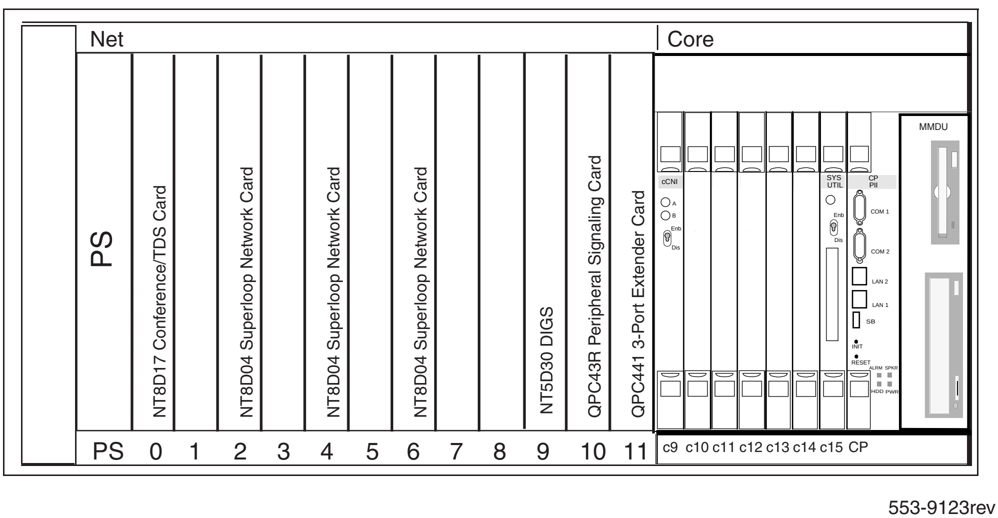
Introduction

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 46
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 56 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 56
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 57 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

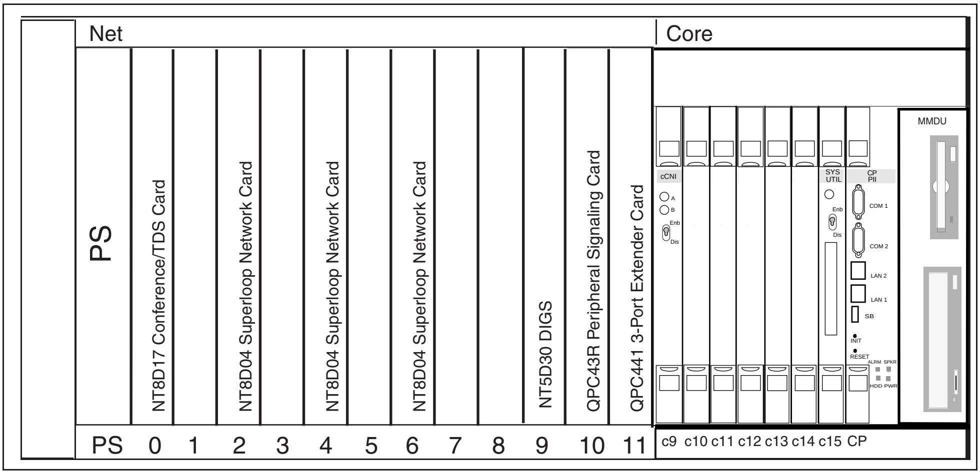
Table 57
List of recommended tools

Digital Multimeter (DMM)	Electric drill and drill bits
Pliers, needle-nose	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 47 on page 551).

Figure 47
NT4N40 Core/Net card cage



Procedure 150
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 58 on page 552 and Figure 48 on page 553.

> ***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 58
Fanout Panel to 3PE card connectors

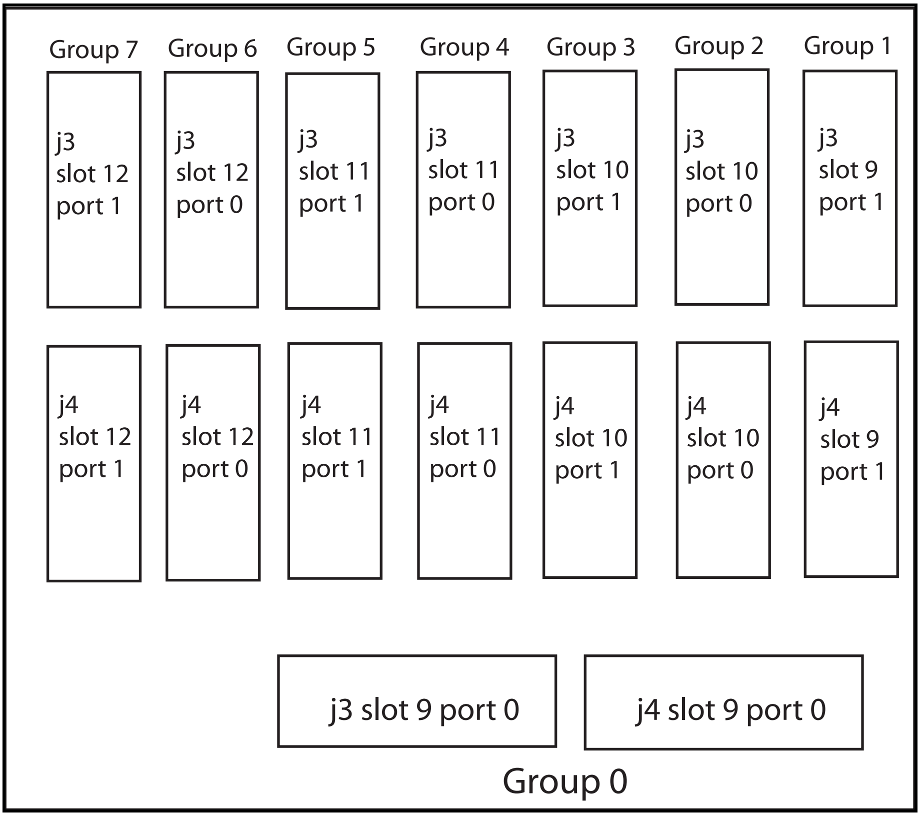
Group Number	Fanout Panel connector	3PE card connector
0	9-0, J3	A
0	9-0, J4	B
1	9-1, J3	J3
1	9-1, J4	J4
2	10-0, J3	J3
2	10-0, J4	J4
3	10-1, J3	J3
3	10-1, J4	J4
4	11-0, J3	J3
4	11-0, J4	J4
5	11-1, J3	J3
5	11-1, J4	J4
6	12-0, J3	J3
6	12-0, J4	J4
7	12-1, J3	J3
7	12-1, J4	J4

Note 1: Group 0 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1.(see Figure 39 on page 470).

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 39 on page 470).

End of Procedure

Figure 48
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 151
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 59 on page 555 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.

> **IMPORTANT!**
>
> Never install an unequipped Peripheral Signaling card. Installing an unequipped Peripheral Signaling card in the system can cause undesirable system behavior.

Table 59
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 152
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 153
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 154
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 155
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 156
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 59 on page 555.

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

Table 60
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 157
Seating the remaining cards

1 Seat the remaining cards (3PE, PER SIG, XCT, DIGS) in both network modules. See Table 61 on page 560 and Figure 49 on page 561.

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 61
IGS to InterGroup cable assignment — use NT8D76 cables (Part 1 of 2)

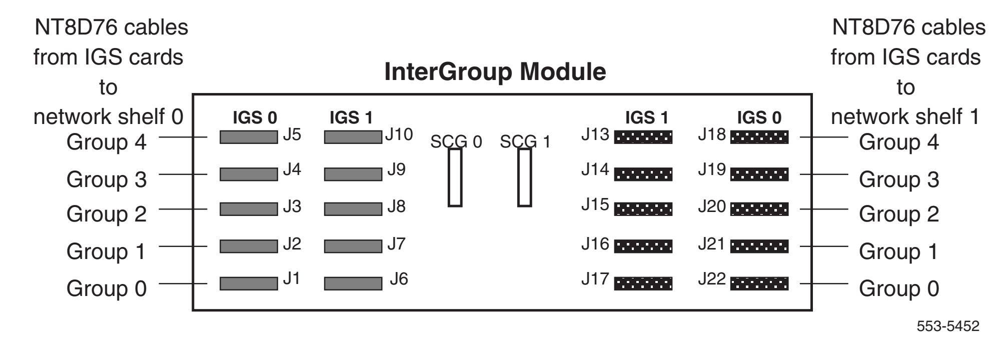
From				To
Network Group	**Network Shelf**	**Slot**	**IGS Connector J1**	**InterGroup Connector**
0	0 (Core/Net 0)	8	0	J1
0	0 (Core/Net 0)	9	1	J6
0	1 (Core/Net 1)	9	1	J17
0	1 (Core/Net 1)	8	0	J22
1	0	3	0	J2
1	0	2	1	J7
1	1	2	1	J16
1	1	3	0	J21
2	0	3	0	J3
2	0	2	1	J8
2	1	2	1	J15
2	1	3	0	J20
3	0	3	0	J4
3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

Table 61
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 49
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 60 on page 559.

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 158
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 62.
****	Exit program.

Table 62
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 159
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 160
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 63).
****	Exit program.

Table 63
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 page 607.

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 64.

Table 64
Prepare for upgrade steps

Step	Page
Plan the upgrade	572
Upgrade checklists	572
Prepare	572
Identifying the proper procedure	573
Connect a terminal	574
Print site data	574
Perform a template audit	577
Back up the database (data dump)	580

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 NTPs* (NN43021-458\=NN43021-475). 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 NTPs* (NN43021-458\=NN43021-475).
- 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 161
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 65 on page 575). 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 65
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 65
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 65
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 162
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

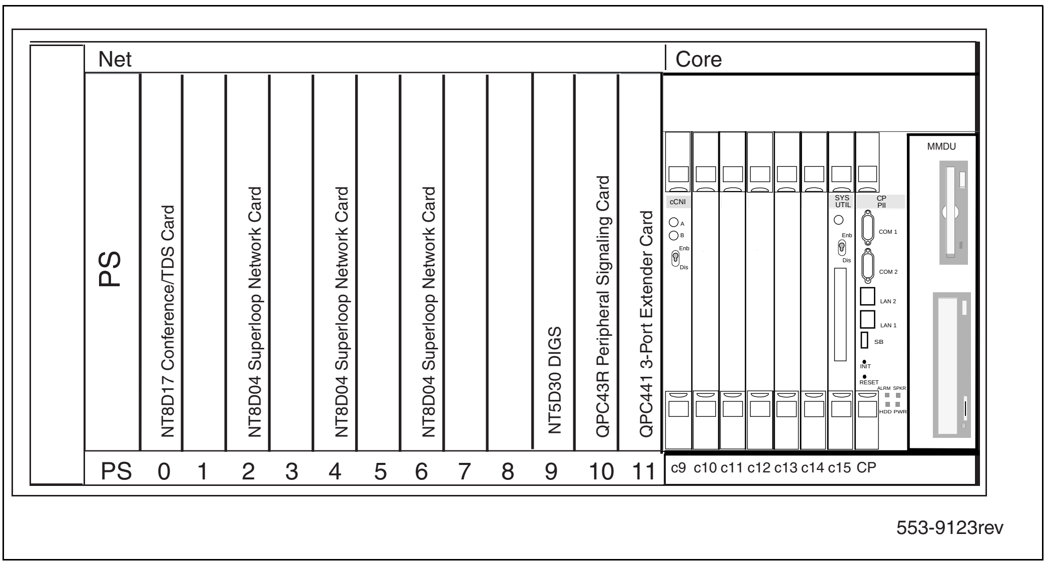
Introduction

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 50
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 66 describes the *minimum* equipment required to add an NT8D35 Network Group to a Meridian 1 Option 81C/IGS (NT4N40). Table 66 and Table 67 on page 584 and Table 68 on page 584 list the DC and AC power equipment requirements. Additional equipment for increased Network capacity must be ordered separately.

Table 66
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 67
DC power requirements for Meridian 1 Option 81C CP PII/IGS upgrades

Order number	Description	Quantity per system
NT6D41	Common Equipment	2

Table 68
AC power requirements for Meridian 1 Option 81C CP PII/IGS upgrades

Order number	Description	Quantity per system
NT8D29	Common Equipment	2

Tools

Table 69 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 69
List of recommended tools

Digital Multimeter (DMM)	Electric drill and drill bits
Pliers, needle-nose	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 163
Interconnecting the network modules

The back of each network module backplane has five connectors: A, B, C, D and E. See Figure 51 on page 586. 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.

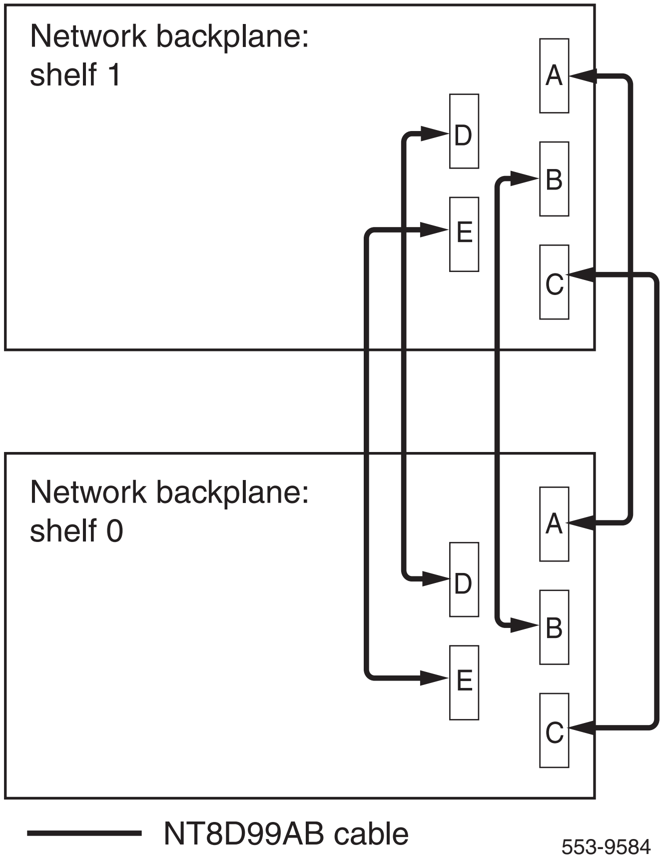
5 Connect the E connector in shelf 0 to the E connector in shelf 1.

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 51
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)

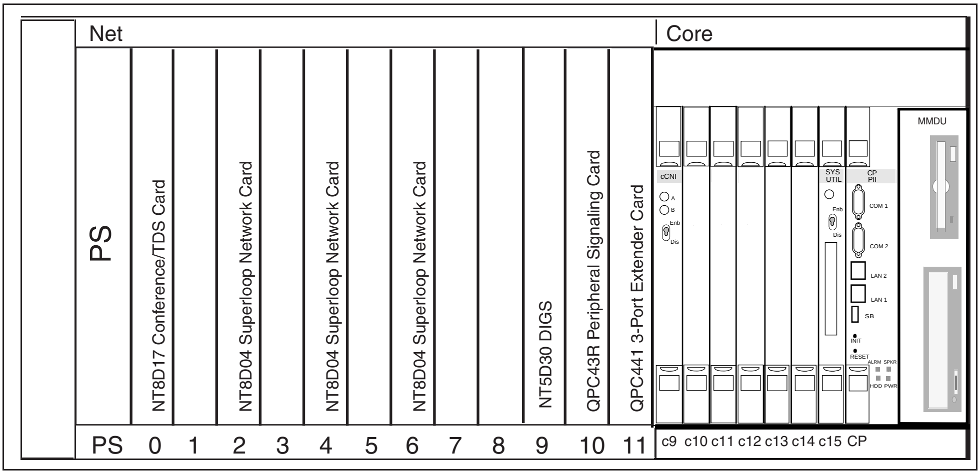


Connect the network to the Core/Net module

Add CNI cards if necessary

If additional CNI cards are required, see Figure 52 on page 587, add to each Core Module as required.

Figure 52
Core/Net card cage



Procedure 164
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 70 on page 588, Figure 53 on page 589, and Figure 54 on page 590 for NTND14 cable connections.

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 70
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 39 on page 470.

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1. See Figure 39 on page 470.

Figure 53
Example of 3PE faceplate to 3PE Fanout Panel connection

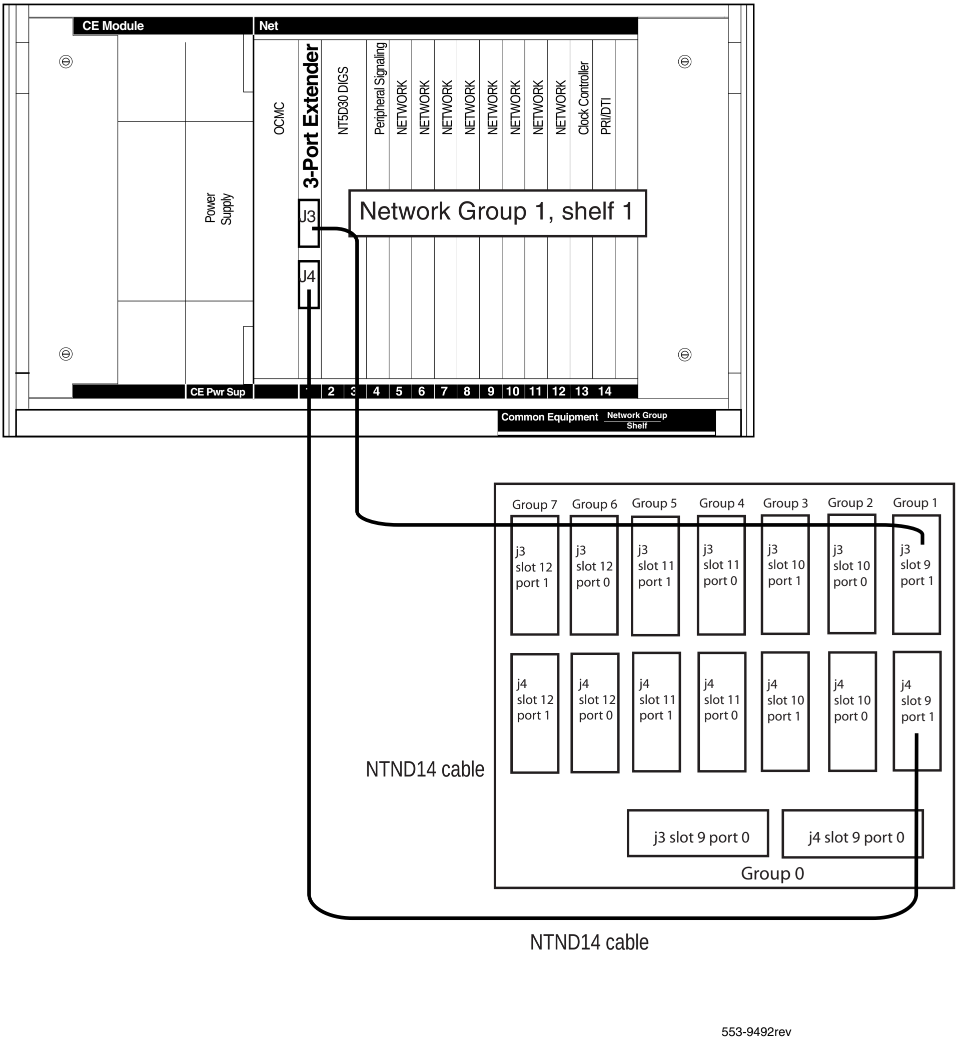
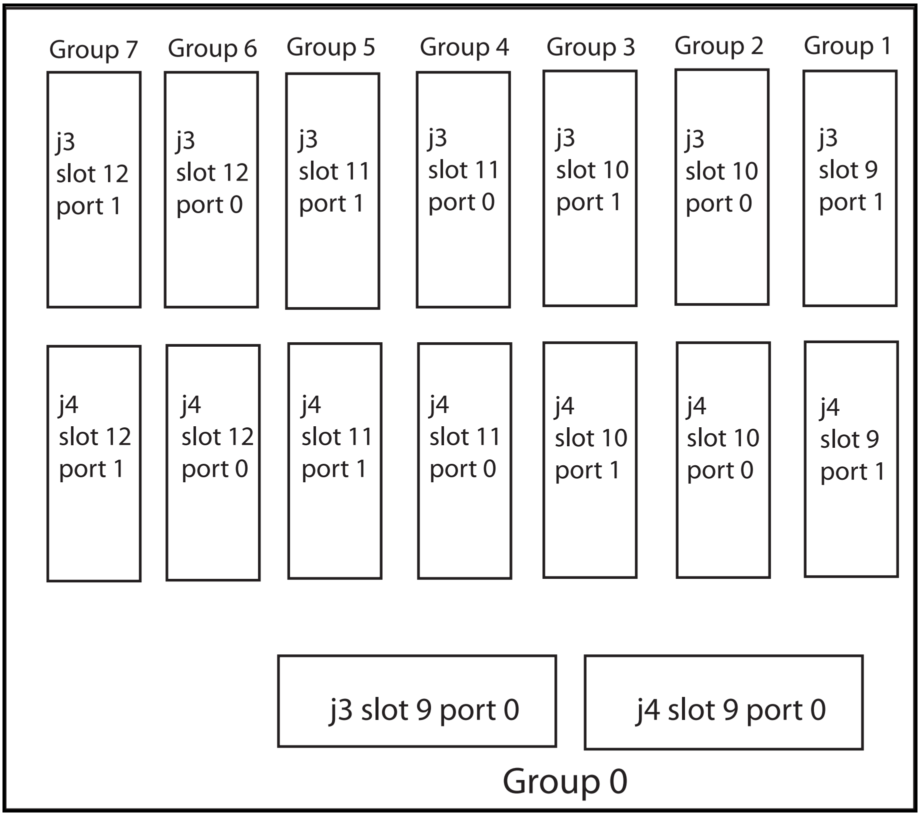


Figure 54
3PE Fanout Panel (Core/Net module)



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 165
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 71 on page 592 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 71
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 166
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.

IMPORTANT!

Never install an unequipped Peripheral Signaling card. Installing an unequipped Peripheral Signaling card in the system can cause undesirable system behavior.

End of Procedure

Procedure 167
Disabling and inserting NT5D30 DIGS cards

1 Faceplate *disable* IGS.

2 Insert the NT5D30 DIGS card into slot x.

End of Procedure

Procedure 168
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 169
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 170
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 171
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 71 on page 592.

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

Table 72
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 172
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 73
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 73 on page 597.

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 173
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 74).
****	Exit program.

Table 74
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 174
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 175
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 75.
****	Exit program.

Table 75
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 77 on page 613. 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 77 on page 613 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 176 to perform the post-conversion procedure.

Procedure 176
Performing the post-conversion procedure

1 Print system data listed in Table 77 on page 613. 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 MB floppy disks.

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

LD 02

STAD dd mm yyyy hh mm ss

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

mm = month (for example, 09 for September)

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

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

mm = minute (for example, 25)

ss = seconds (for example, 00)

**** Exit 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* (NN43001-711) 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 76.
****	Exit program.

Table 76
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* (NN43001-611) 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 77
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 77
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 (peripheral controller, superloop network and controller cards)	LD 32 . IDC loop

Table 77
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 Commissioning* (NN43021-310).

Before attempting any software or hardware upgrade, field personnel should follow the steps in Table 78.

Table 78
Prepare for upgrade steps

Procedure Step	Page
Plan the upgrade	622
Upgrade checklists	623
Prepare	623
Identifying the proper procedure	624
Connect a terminal	624
Print site data	625
Perform a template audit	628
Back up the database (data dump)	630

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 NTPs* (NN43021-458\=NN43021-475). 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 NTPs* (NN43021-458\=NN43021-475).
- 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 177
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 79). 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 79
Print site data (Part 1 of 3)

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

Table 79
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 79
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

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 178
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

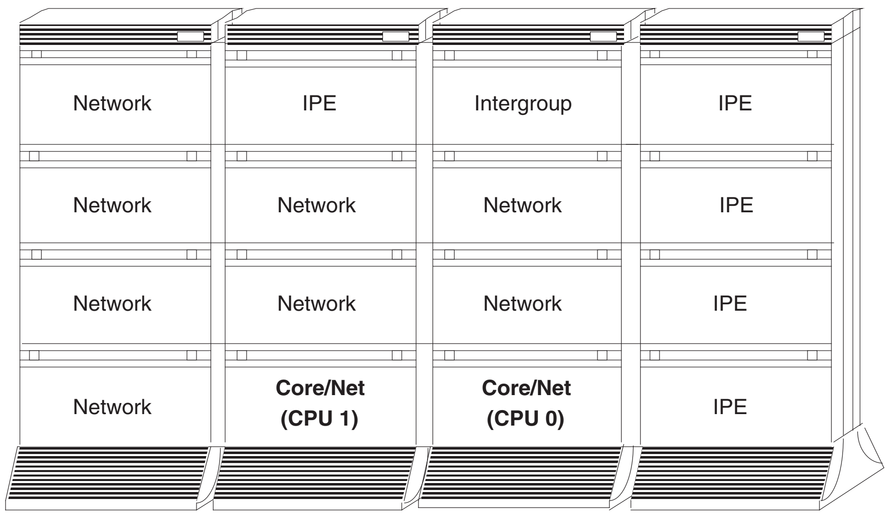
Perform the upgrade

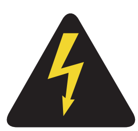
Introduction

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 55 shows a Meridian 1 Option 81C/FNF (NT4N46).

Figure 55
Meridian 1 Option 81C/FNF (NT4N46)





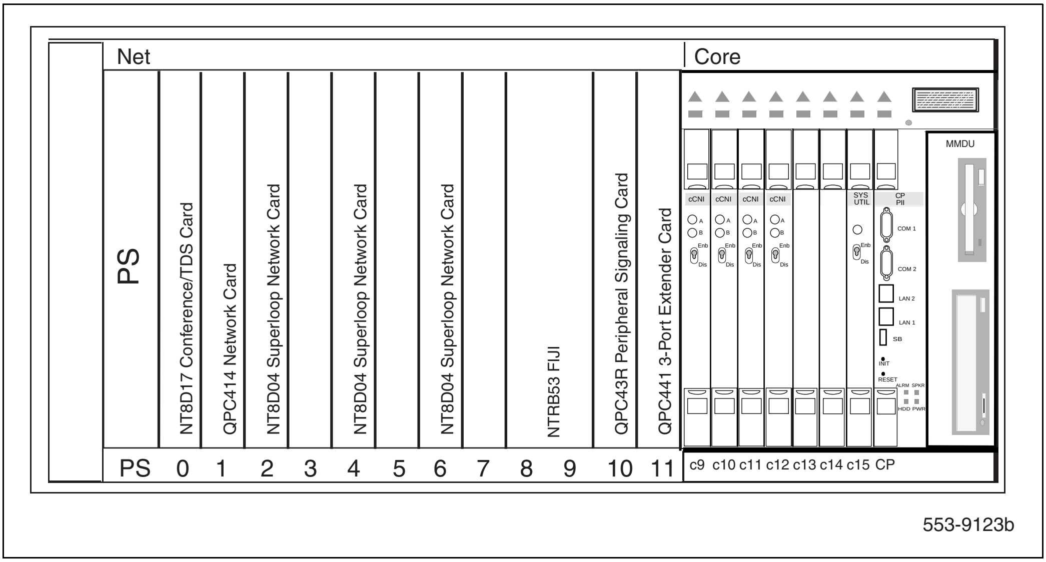
DANGER OF ELECTRIC SHOCK

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 56 shows the NT4N46 Core/Net shelf.

Figure 56
NT4N46 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

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 or BBE5 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 80 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 80
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/ BBE5	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 81 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 81
List of recommended tools

Digital Multimeter (DMM)	Electric drill and drill bits
Pliers, needle-nose	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 179
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 180
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 82 on page 638.

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 82
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 181
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 57 on page 640).

> **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 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 83 on page 641.

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 57
Shelf 1 descending fiber-optic Ring (example)

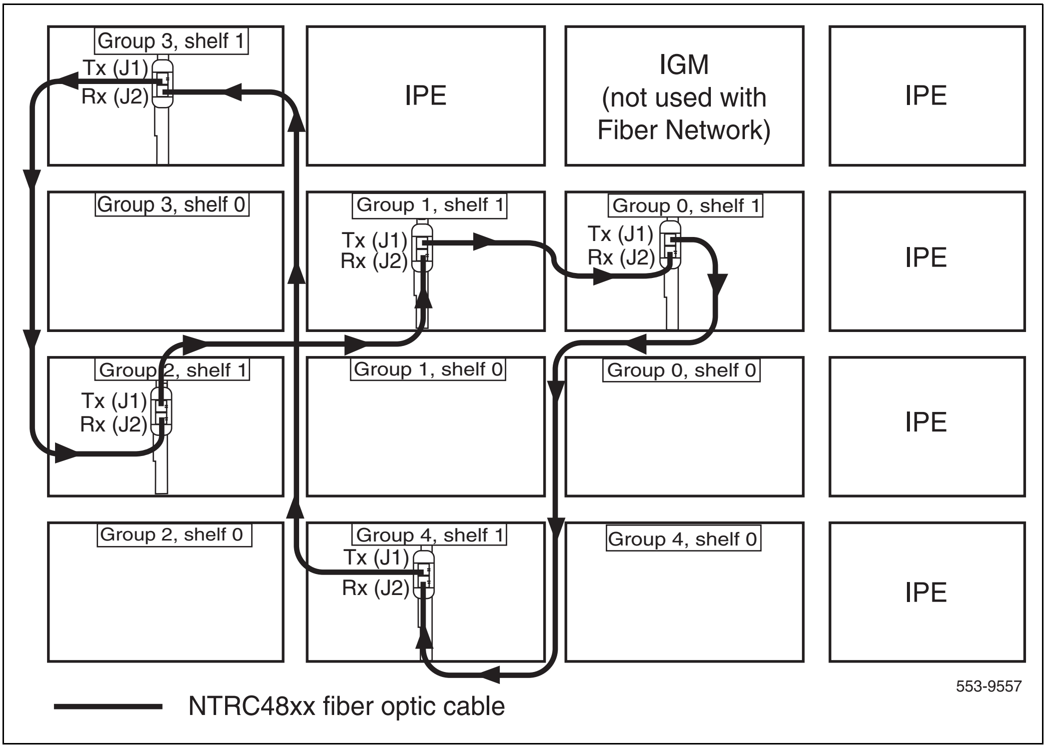


Table 83
FIJI Ring 1 connections

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

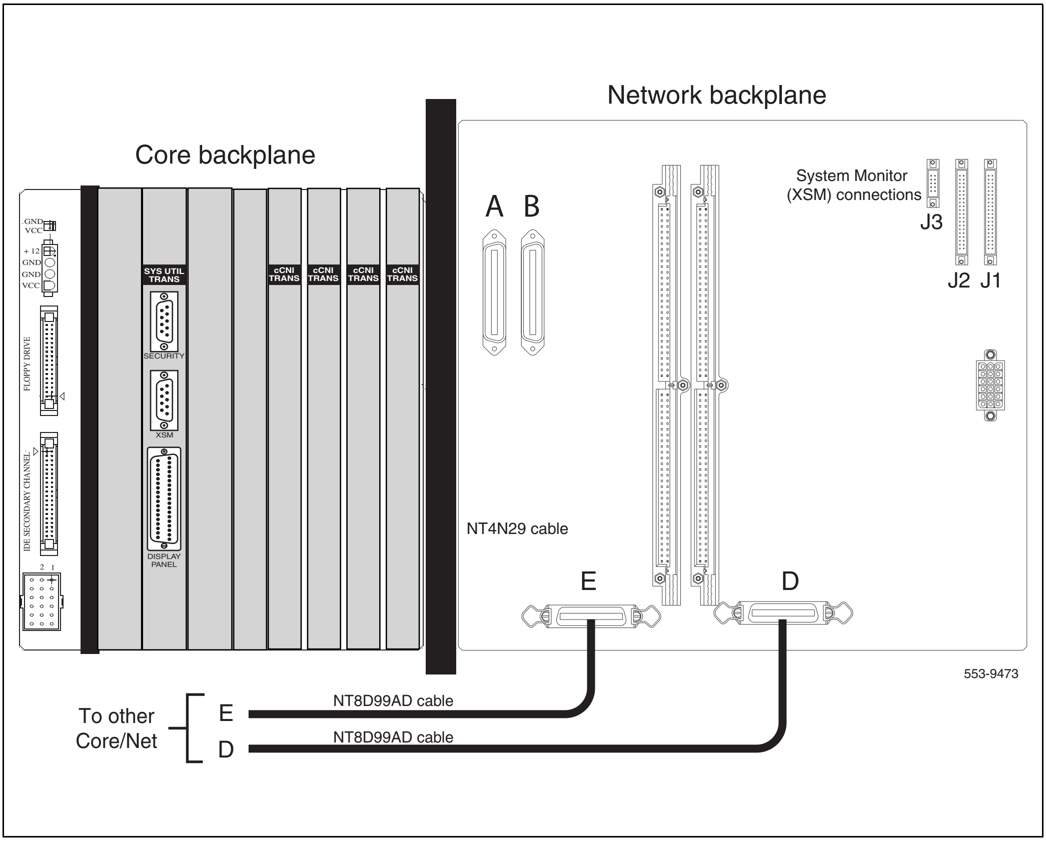
On the back of each Core/Net module backplanes are two connectors labeled D and E.

Procedure 182
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 58
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)



Add CNI cards if necessary

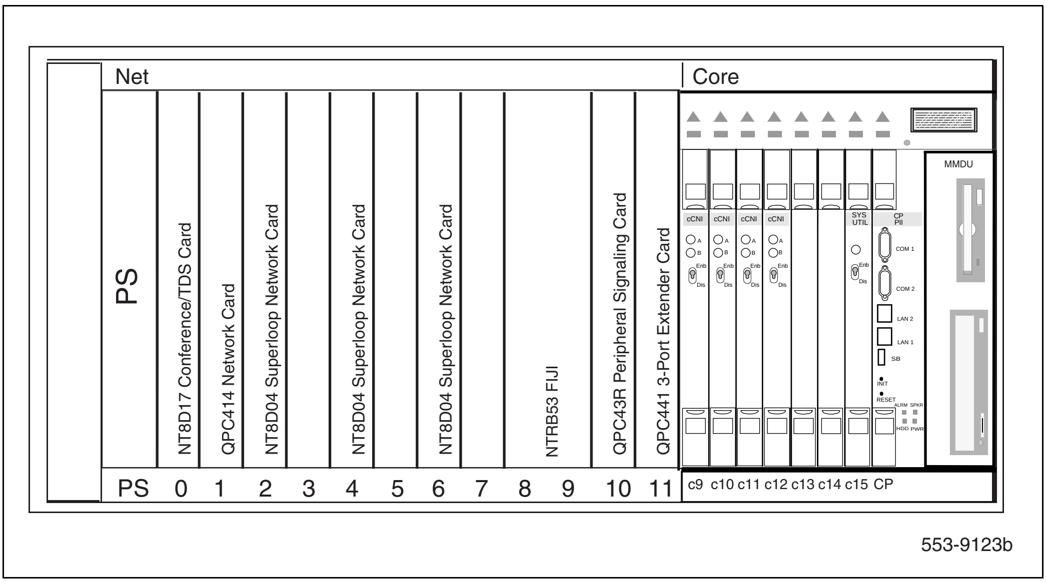
If additional CNI cards are required, add to each Core Module as required. See Figure 59.

Procedure 183
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
Core/Net card cage



Procedure 184
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 84, and Figure 60 on page 646 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 84
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

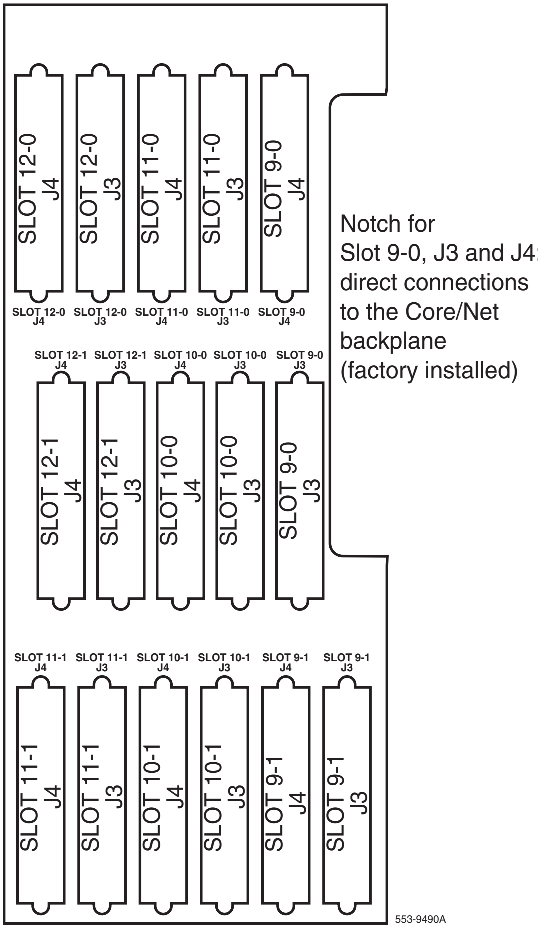
Note: Group 0 cables connect from the CNI Transition card directly to the backplane of Core/Net 0 **or**
to the NT8D76 cable (depending on your CNI group configuration). If the Core/Net module contains a Network Group other than group 0, use NT4N72AA cables to connect the Fanout panel to the network 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 60
3PE Termination Panel (Core/Net module)



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 185
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 85 on page 648 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 85
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 186
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.

IMPORTANT!

Never install an unequipped Peripheral Signaling card. Installing an unequipped Peripheral Signaling card in the system can cause undesirable system behavior.

End of Procedure

Disable and insert the NTRB33AC FIJI cards

Procedure 187
Disabling and inserting the FIJI cards

1 Faceplate *disable* the FIJI cards.

2 Insert the NTRB33AC/AD FIJI cards into slots 2 and 3, or NTRB33BBE5 into slot 2 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 188
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 189
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 190
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 191
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 94 on page 695.

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

Table 86
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 192
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: The single slot FIJI (NTRB33BBE5) packs require a different firmware than the existing double slot FIJIs. Provision has been made to have both the double slot and single slot card firmware in the same switch. The FIJI card will download its own firmware depending on the card ID information stored in it. The details about the firmware download explained in the previous paragraph is true for new single slot FIJI cards also.

Note 3: 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 94 on page 695:

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 193
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* (NN43001-711) 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 194
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 195
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* (NN43001-711) 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 790.

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/BBE5 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 Commissioning* (NN43021-310).

Before attempting any software or hardware upgrade field personnel should complete the steps in Table 87.

Table 87
Prepare for upgrade steps

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 NTPs* (NN43021-458\=NN43021-475). 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 NTPs* (NN43021-458\=NN43021-475).
- 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 196
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 88). Verify that all information is correct. Make corrections as necessary.

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

Table 88
Print site data (Part 1 of 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 88
Print site data (Part 2 of 3)

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

Table 88
Print site data (Part 3 of 3)

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

Perform a template audit

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

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

CAUTION — 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 197
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.

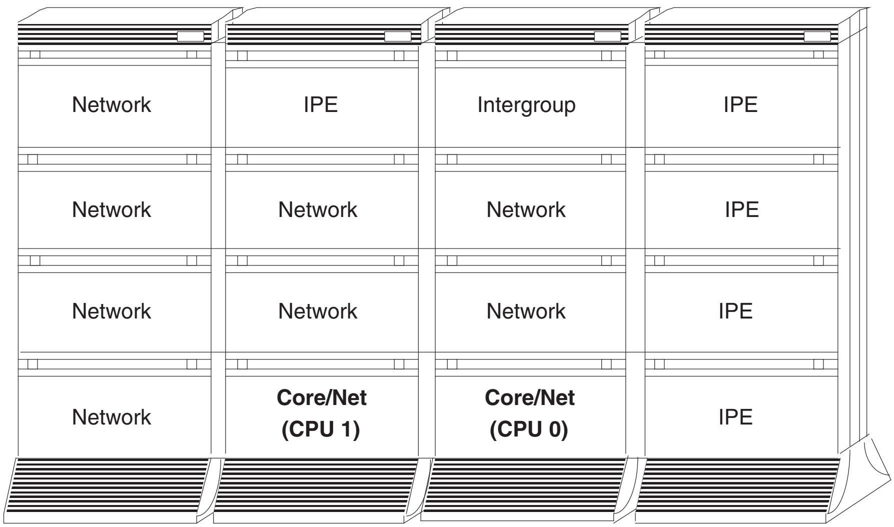
End of Procedure

Perform the upgrade

Introduction

Figure 61 shows a Meridian 1 Option 81C/FNF (NT4N46).

Figure 61
Meridian 1 Option 81C/FNF (NT4N46)

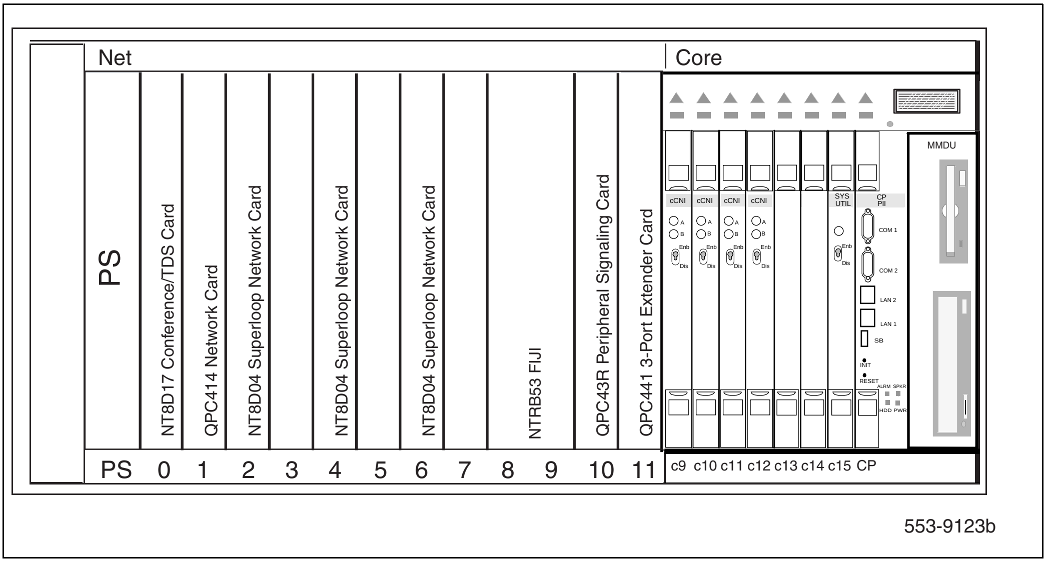


DANGER OF ELECTRIC SHOCK

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 62
NT4N46 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.
- NTRB53AA Clock Controller
- NTRB33AC or ADor BBE5 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 89 describes the *minimum* equipment required to upgrade a system. Additional equipment for increased Network capacity must be ordered separately.Check required power equipment

Table 89
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/ BBE5	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 90 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 90
List of recommended tools

Digital Multimeter (DMM)	Electric drill and drill bits
Pliers, needle-nose	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.

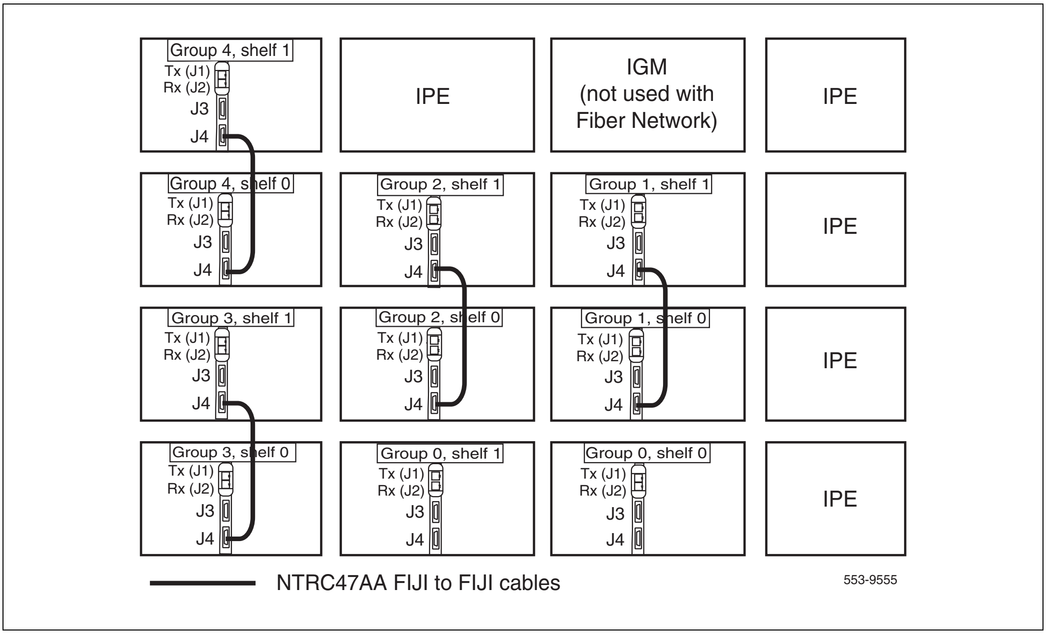
Route FIJI to FIJI cables

Pre-route an NTRC47AA cable between the FIJI cards in shelf 0 and shelf 1 of each added Network Group. See Figure 63 on page 682.

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 63
FIJI to FIJI cables (Option 81C example)



Procedure 198
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 82 on page 638):

> **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 91 on page 684.

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 91
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 199
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 64 on page 686).

> **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 92 on page 687.

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 64
Shelf 1 descending fiber-optic Ring (example

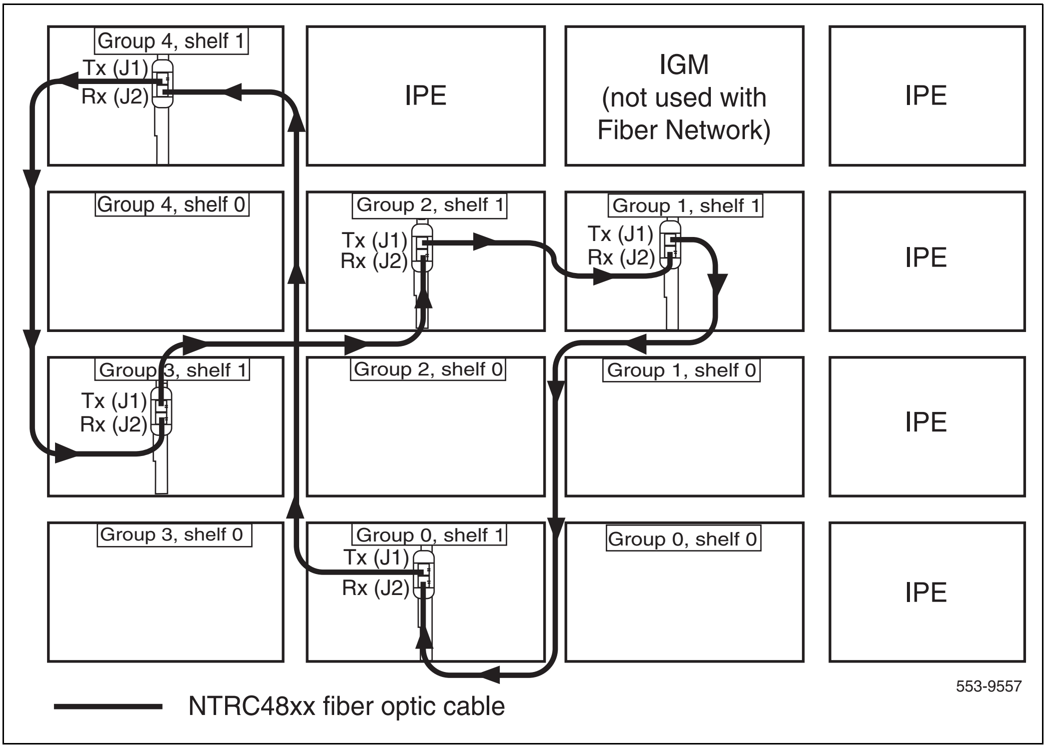


Table 92
FIJI Ring 1 connections

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 200
Interconnecting the network modules

The back of each network module backplane has five connectors: A, B, C, D and E. See Figure 65 on page 689. 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.

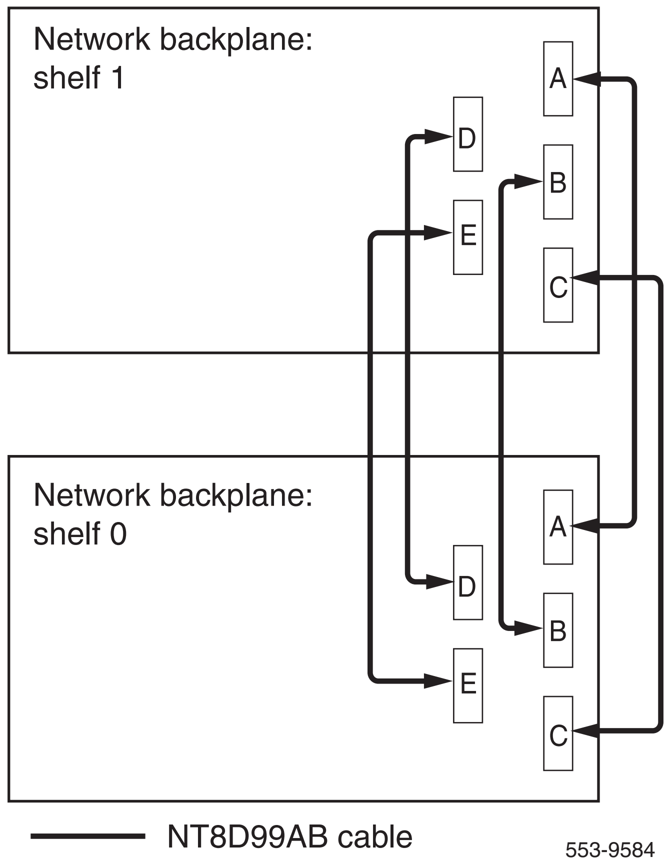
5 Connect the E connector in shelf 0 to the E connector in shelf 1.

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 65
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)



Add CNI cards if necessary

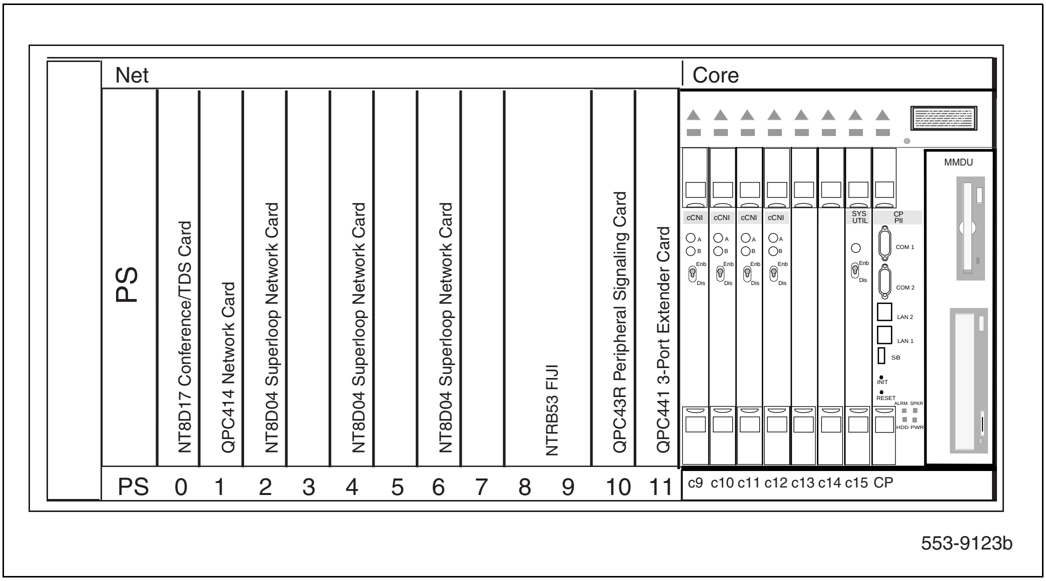
If additional CNI cards are required, add to each Core Module as required. See Figure 66.

Procedure 201
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 66
NT4N46 Core/Net card cage



Procedure 202
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 93, Figure 67 on page 692, and Figure 68 on page 693 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 93
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 67
Example of 3PE faceplate to 3PE Fanout Panel connection

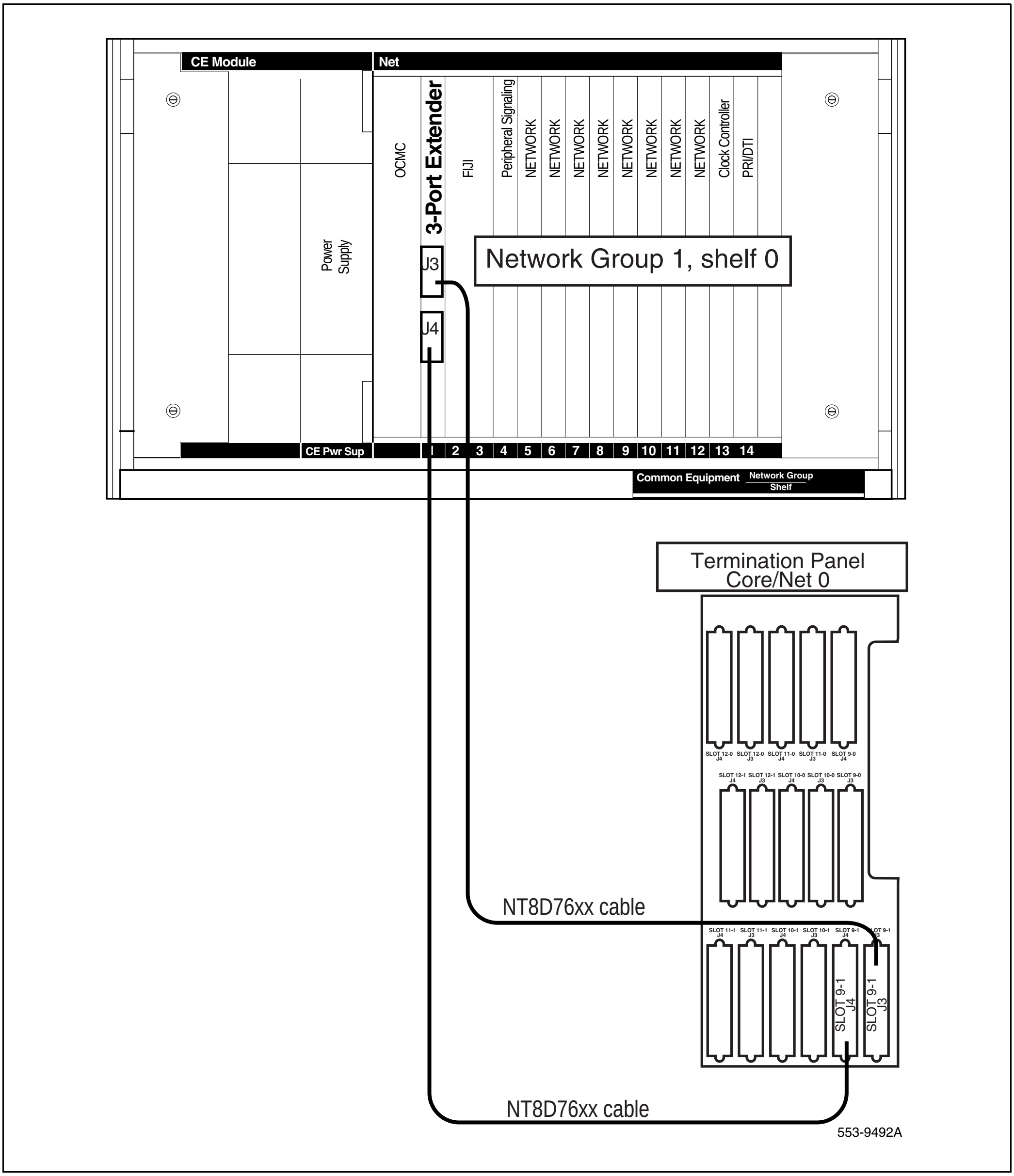
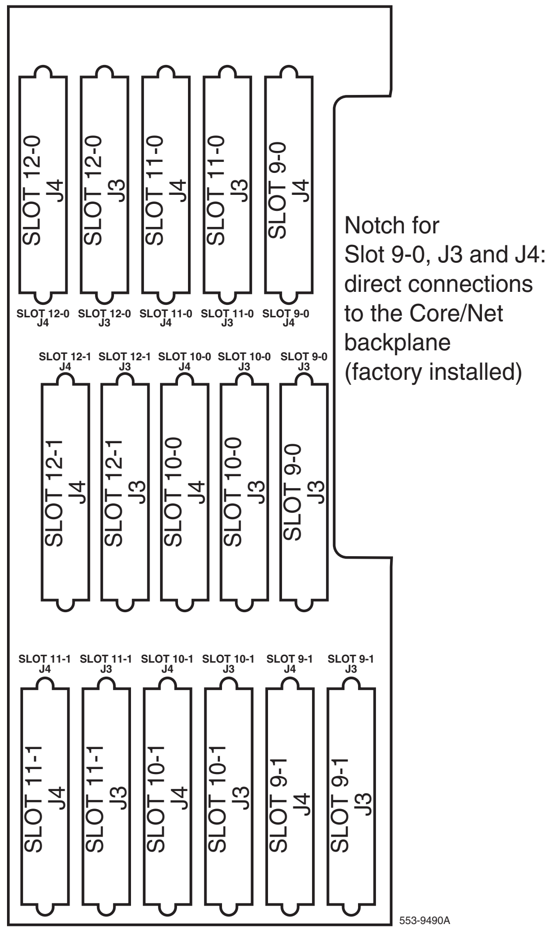


Figure 68
3PE Fanout Panel (Core/Net module)



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 203
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 94 on page 695 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 94
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 204
Installing and enabling the
QPC43R 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.

IMPORTANT!

Never install an unequipped Peripheral Signaling card. Installing an unequipped Peripheral Signaling card in the system can cause undesirable system behavior.

End of Procedure

Procedure 205
Disabling and inserting the NTRB33AC FIJI cards

1 Faceplate *disable* the FIJI cards.

2 Insert the NTRB33AC/AD FIJI cards into slots 2 and 3, or NTRB33BBE5 into slot 2 of each added Network module.

3 Do not plug the card into the backplane.

End of Procedure

Procedure 206
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 207
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 208
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 209
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 94 on page 695:

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

Table 95
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 210
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 57 on page 640. 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: The single slot FIJI (NTRB33BBE5) packs require a different firmware than the existing double slot FIJIs. Provision has been made to have both the double slot and single slot card firmware in the same switch. The FIJI card will download its own firmware depending on the card ID information stored in it. The details about the firmware download explained in the previous paragraph is true for new single slot FIJI cards also.

Note 3: 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 94 on page 695:

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 211
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* (NN43001-711) 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 212
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 213
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* (NN43001-711) 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 790.

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 Commissioning* (NN43021-310).

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 96.

Table 96
Prepare for upgrade steps

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 NTPs* (NN43021-458\=NN43021-475). 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 NTPs* (NN43021-458\=NN43021-475).
- 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 214
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 97 on page 718). 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 97
Print site data (Part 1 of 3)

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

Table 97
Print site data (Part 2 of 3)

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

Table 97
Print site data (Part 3 of 3)

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

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

Perform a template audit

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

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

> **CAUTION — 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 215
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

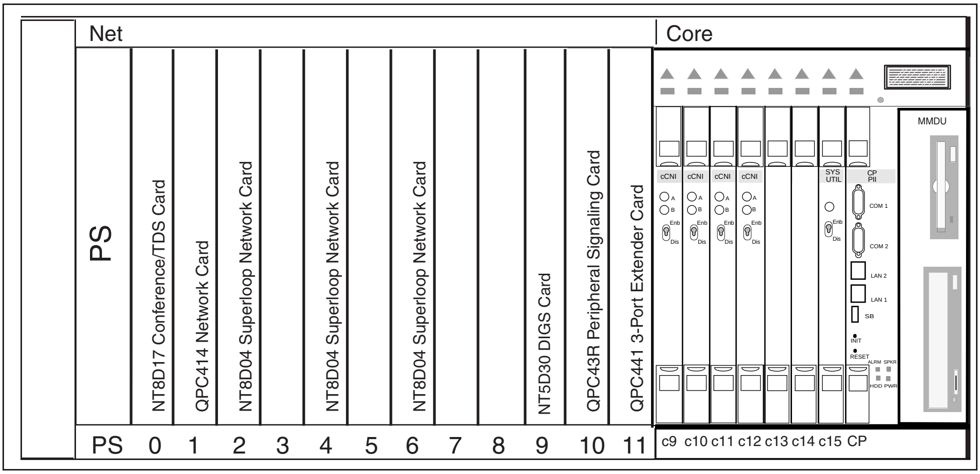
DANGER OF ELECTRIC SHOCK

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 69 shows the NT4N46 Core/Net shelf.

Figure 69
CP PII NT4N46 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.

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 98 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 98
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 81 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 99
List of recommended tools

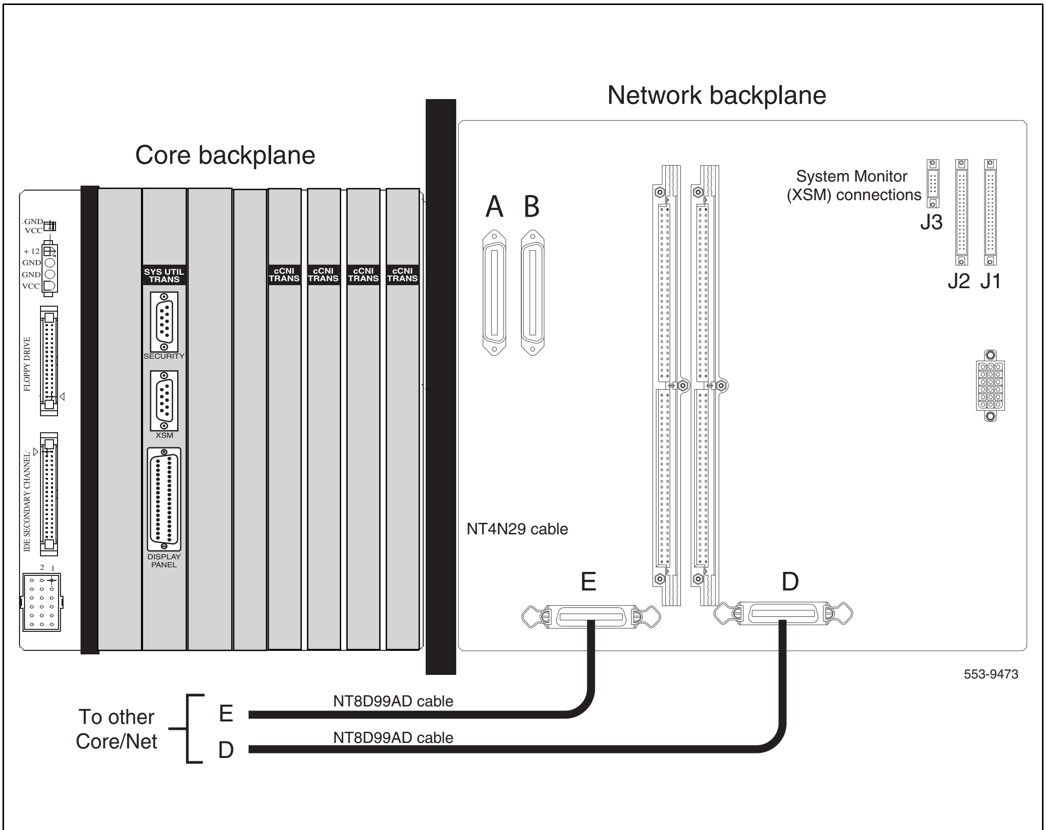
Digital Multimeter (DMM)	Electric drill and drill bits
Pliers, needle-nose	Hammer and sheet metal center punch
Pliers, standard	1/4” socket wrench
Screwdriver, 3/16” flat blade	3/8” socket wrench
Screwdriver, #2 Phillips	1/4” nut driver
Wire cutters	7/16” socket driver
Electrical insulation tape	11/32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

Placing a Group other than Group 0 in the core

Procedure 216
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 70
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 217
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

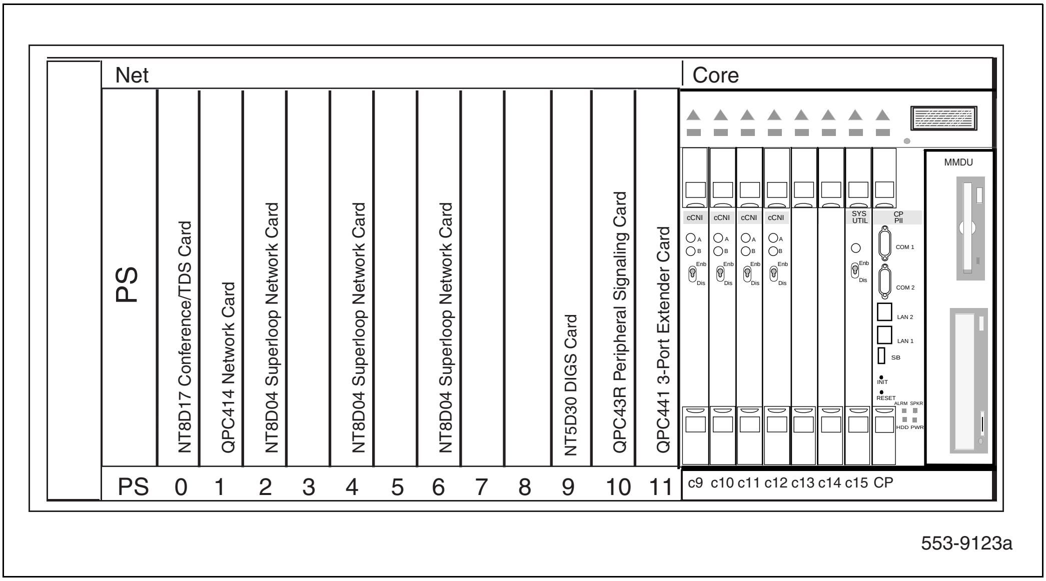
If additional CNI cards are required, add to each Core Module as required. See Figure 59.

Procedure 218
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 71
NT4N46 Core/Net card cage



Connect the 3PE to CNI cables

Procedure 219
Connecting the 3PE to CNI cables

The CNI slot and port connections are labeled on the 3PE Fanout Panel.

See Table 100 on page 733 and Figure 72 on page 732 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 72
3PE Fanout Panel (Core/Net module

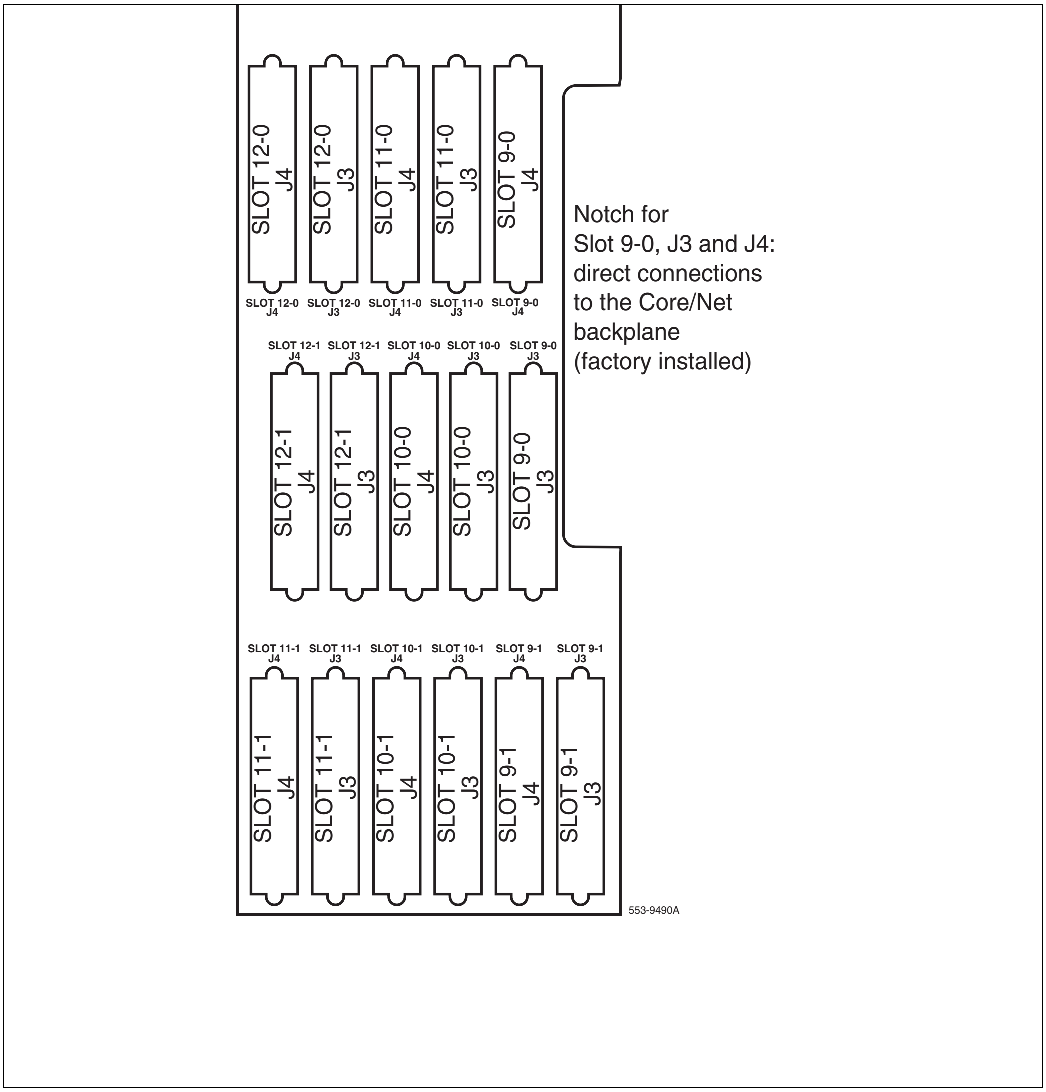


Table 100
Termination Panel to 3PE card connectors

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 220
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 101 and Table 102 on page 735 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 101
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 102
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 221
Installing and enabling the
QPC43R 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.

> **IMPORTANT!**
>
> Never install an unequipped Peripheral Signaling card. Installing an unequipped Peripheral Signaling card in the system can cause undesirable system behavior.

End of Procedure

Procedure 222
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 223
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 224
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 225
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 226
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 100 on page 733:

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

Table 103
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 227
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).

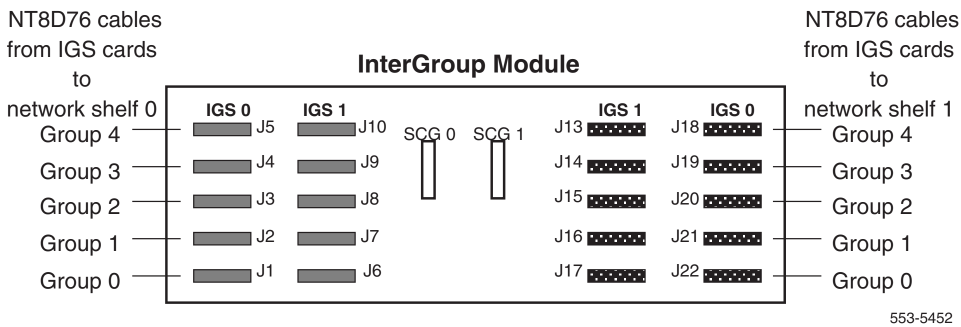
3 Cable the added DIGS cards. See Table 104 and Figure 73 on page 742.

Table 104
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 73
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 94 on page 695:

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 228
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 105).
****	Exit program.

Table 105
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 105
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 229
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 230
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 106).
****	Exit program.

Table 106
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 106
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 790.

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 Commissioning* (NN43021-310).

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 107:

Table 107
Prepare for upgrade steps (Part 1 of 2)

Procedure Step	Page
Plan the upgrade	753
Upgrade checklists	753
Prepare	754
Identifying the proper procedure	754
Connect a terminal	755
Print site data	755

Table 107
Prepare for upgrade steps (Part 2 of 2)

Procedure Step	Page
Perform a template audit	758
Back up the database (data dump)	760

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 NTPs* (NN43021-458\=NN43021-475). 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 NTPs* (NN43021-458\=NN43021-475).
- 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 231
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 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	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 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 232
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.

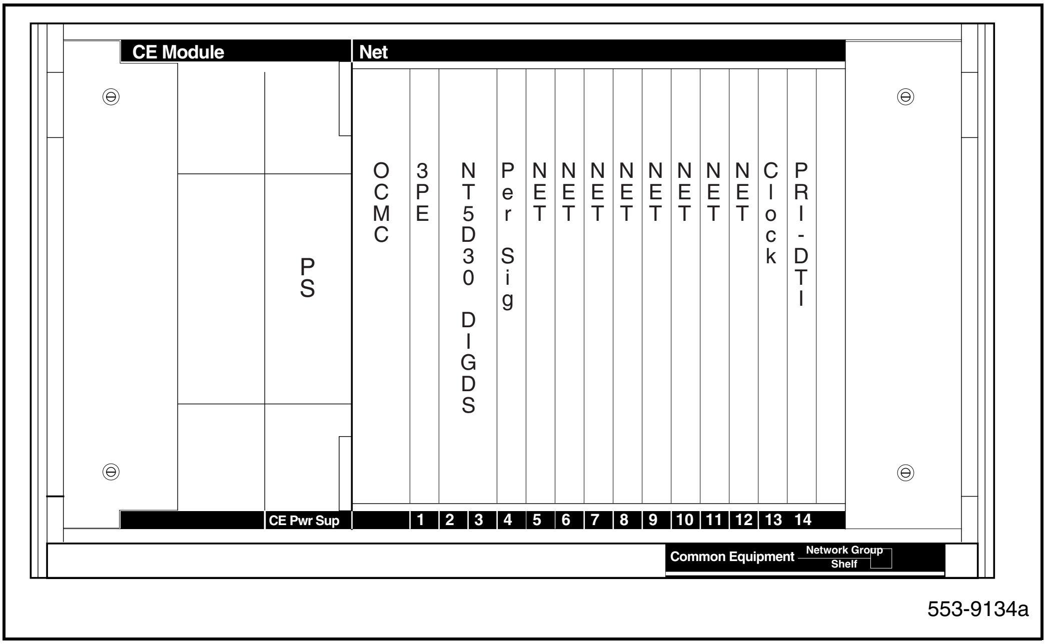
> **IMPORTANT!**
>
> Preserve database backup information for a minimum of 5 days.

Perform the upgrade

Introduction

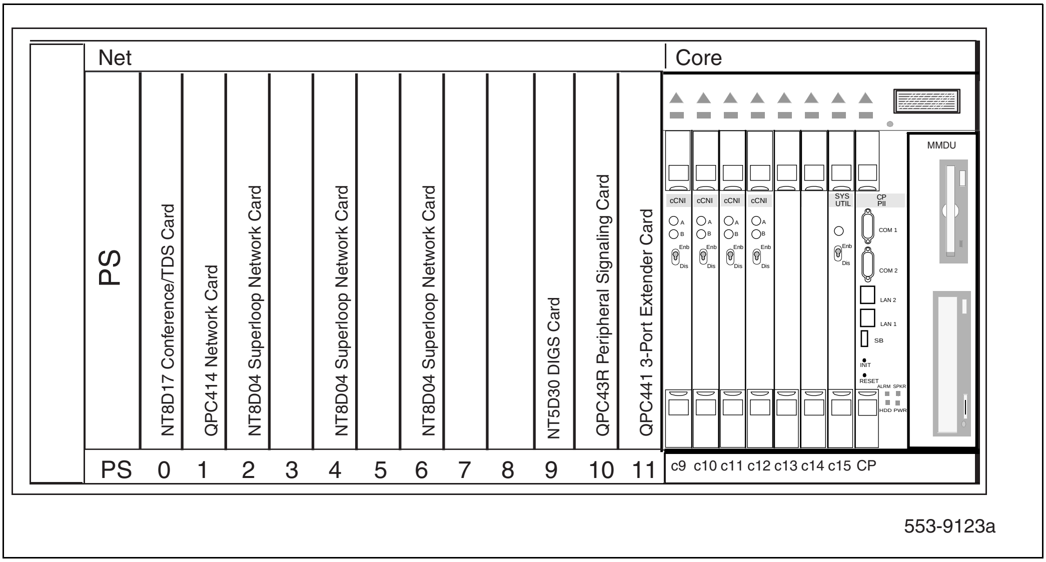
Complete the procedure in this section to add an NT8D35 Network Group to the Meridian 1 Option 81C/IGS (NT4N46).

Figure 74
NT8D35 Network Shelf



Note: An IGS QPC-412 card uses slots 2 & 3. An NT5D30 DIGS card uses slot 2.

Figure 75
CP PII NT4N46 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.

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 describes the *minimum* equipment required to add an NT8D35 Network Group to a Meridian 1 Option 81C/IGS (NT4N46). Table 110 on page 765 and Table 111 on page 765 list the DC and AC power equipment requirements. Additional equipment for increased Network capacity must be ordered separately.

Table 109
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 110 lists the equipment required for AC-powered systems. Table 111 lists the equipment required for DC-powered systems.

Table 110
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 111
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 81 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

Table 112
List of recommended tools

Digital Multimeter (DMM)	Electric drill and drill bits
Pliers, needle-nose	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 233
Interconnecting the network modules

The back of each network module backplane has five connectors: A, B, C, D and E. See Figure 76 on page 767. 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.

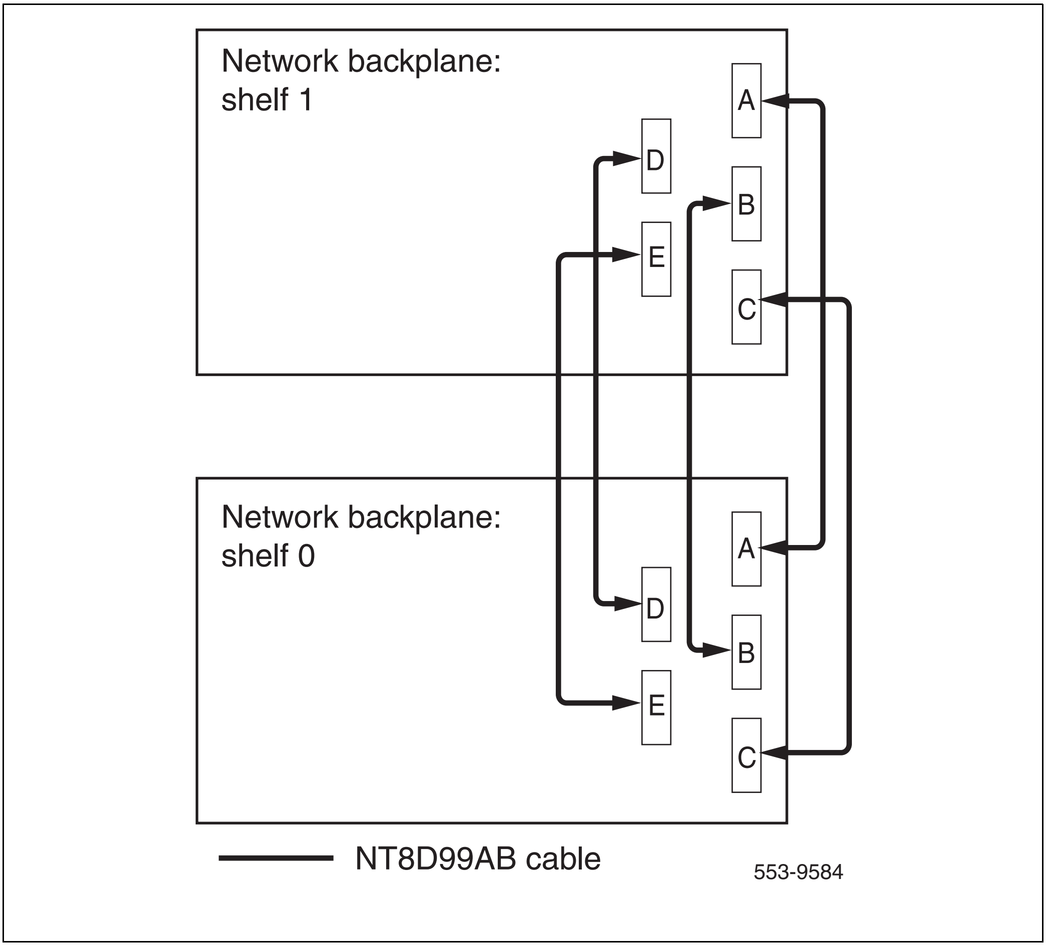
5 Connect the E connector in shelf 0 to the E connector in shelf 1.

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 76
Network shelf 0 to shelf 1 backplane connections (groups 1 through 7)



Add CNI cards if necessary

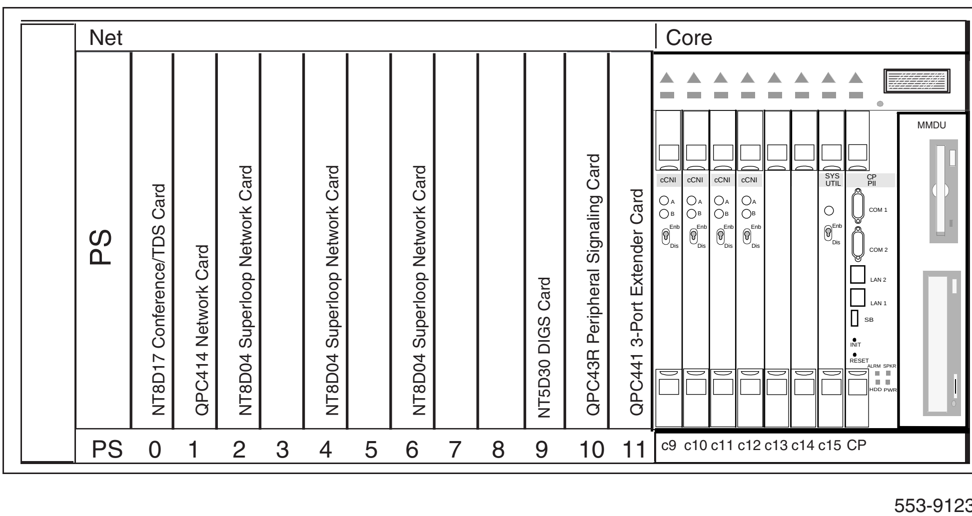
If additional CNI cards are required, add to each Core Module as required. See Figure 77 on page 768.

Procedure 234
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 77
NT4N46 Core/Net card cage



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 235
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 113 on page 770 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 113
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 236
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 114, Figure 78 on page 772, and Figure 79 on page 773 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 114
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 78
Example of 3PE faceplate to 3PE Fanout Panel connection

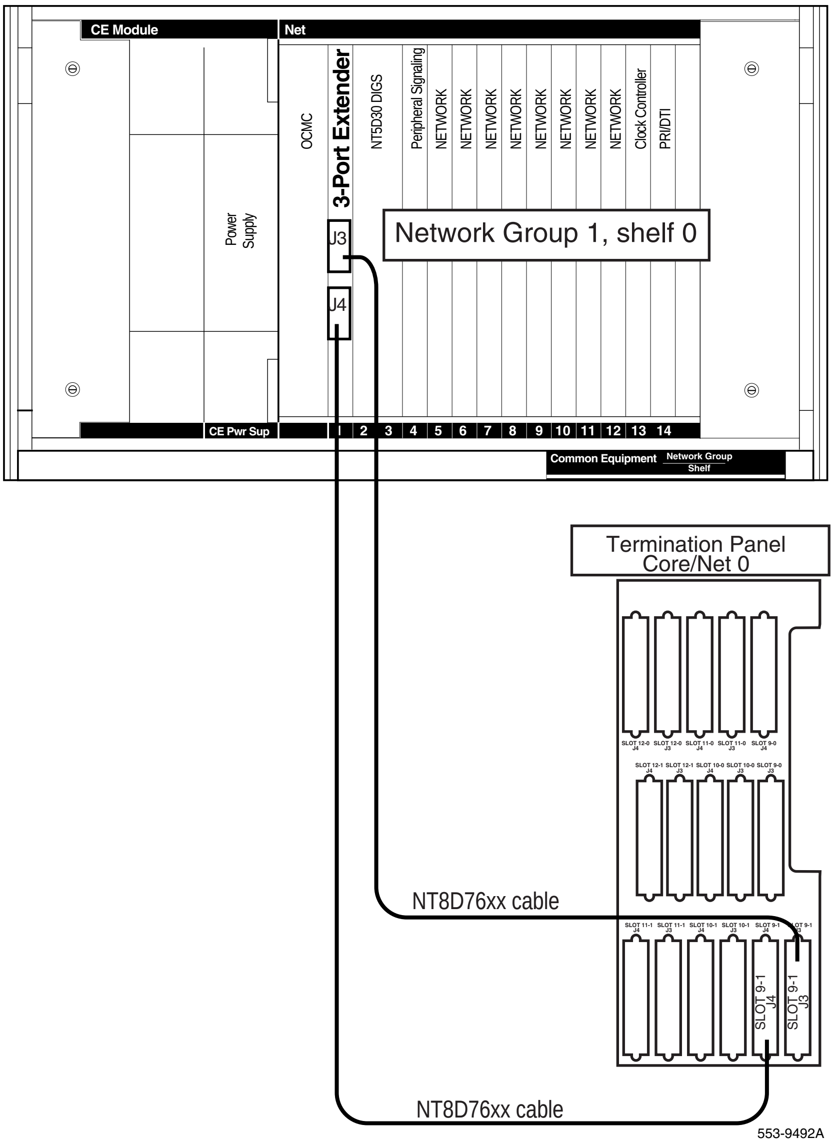


Figure 79
3PE Fanout Panel (Core/Net module)

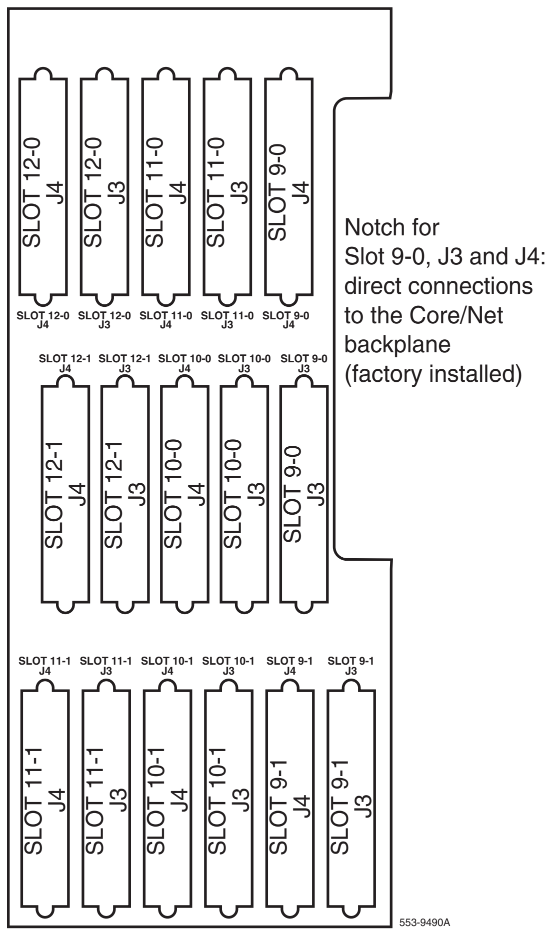


Table 115
3PE card settings for the NT8D35 Module

<table>
<tr><th colspan="10">Jumper Settings</th></tr>
<tr><td colspan="10">Set Jumper RN27 at E35 to “A”.</td></tr>
<tr><th colspan="10">Switch Settings</th></tr>
<tr><td colspan="2">D20 switch position:</td><td>1</td><td>2</td><td>3</td><td>4</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="2">81, 81C (Note)</td><td>off</td><td>on</td><td>on</td><td>on</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Shelf</td><td>Group</td><td colspan="4">D20 switch position:</td><td>5</td><td>6</td><td>7</td><td>8</td></tr>
<tr><td rowspan="8">0

(3PE cards connected to the a CNI in Core or Core/Net 0)</td><td>0</td><td colspan="4"></td><td>on</td><td>on</td><td>on</td><td>on</td></tr>
<tr><td>1</td><td colspan="4"></td><td>on</td><td>on</td><td>off</td><td>on</td></tr>
<tr><td>2</td><td colspan="4"></td><td>on</td><td>off</td><td>on</td><td>on</td></tr>
<tr><td>3</td><td colspan="4"></td><td>on</td><td>off</td><td>off</td><td>on</td></tr>
<tr><td>4</td><td colspan="4"></td><td>off</td><td>on</td><td>on</td><td>on</td></tr>
<tr><td>5</td><td colspan="4"></td><td>off</td><td>on</td><td>off</td><td>on</td></tr>
<tr><td>6</td><td colspan="4"></td><td>off</td><td>off</td><td>on</td><td>on</td></tr>
<tr><td>7</td><td colspan="4"></td><td>off</td><td>off</td><td>off</td><td>on</td></tr>
<tr><td rowspan="8">1

(3PE cards connected to the a CNI in Core or Core/Net 1)</td><td>0</td><td colspan="4"></td><td>on</td><td>on</td><td>on</td><td>off</td></tr>
<tr><td>1</td><td colspan="4"></td><td>on</td><td>on</td><td>off</td><td>off</td></tr>
<tr><td>2</td><td colspan="4"></td><td>on</td><td>off</td><td>on</td><td>off</td></tr>
<tr><td>3</td><td colspan="4"></td><td>on</td><td>off</td><td>off</td><td>off</td></tr>
<tr><td>4</td><td colspan="4"></td><td>off</td><td>on</td><td>on</td><td>off</td></tr>
<tr><td>5</td><td colspan="4"></td><td>off</td><td>on</td><td>off</td><td>off</td></tr>
<tr><td>6</td><td colspan="4"></td><td>off</td><td>off</td><td>on</td><td>off</td></tr>
<tr><td>7</td><td colspan="4"></td><td>off</td><td>off</td><td>off</td><td>off</td></tr>
<tr><td colspan="10">Note: For option 81C systems, QPC441 vintage F or later must be used in all modules.</td></tr>
</table>

Procedure 237
Installing and enabling the
QPC43R 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.

3 Insert NT5D30 card into slot 2 of each added Network group

4 Cable DIGS cards with NT8D76 IGS to IGM cable.

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.

End of Procedure

Disable and insert the NT8D17 Conf/TDS cards

Procedure 238
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 239
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 240
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 241
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 114 on page 771:

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

Table 117
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 242
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 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.		

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 114 on page 771:

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 243
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 119).
****	Exit program.

Table 119
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 119
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 244
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 245
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 120).
****	Exit program.

Table 120
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 120
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 122 on page 795. 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 122 on page 795 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 246 to perform the post-conversion procedure.

Procedure 246
Performing the post-conversion procedure

1 Print system data listed in Table 122 on page 795. 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 MB floppy disks.

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

LD 02

STAD dd mm yyyy hh mm ss

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

mm = month (for example, 09 for September)

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

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

mm = minute (for example, 25)

ss = seconds (for example, 00)

**** Exit 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* (NN43001-711) 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 121).
****	Exit program.

Table 121
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 121
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* (NN43001-611) 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 122
Print site data (Part 1 of 4)

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

Table 122
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 122
Print site data (Part 3 of 4)

Site data	Print command	
* 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
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)

Table 122
Print site data (Part 4 of 4)

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

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

Installing CP cards and 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 123 below:

Table 123
Prepare for upgrade steps

Procedure Step	Page
Planning	801
Upgrade Checklists	802
Preparing	802
Identifying the proper procedure	803
Connect a terminal	803
Print Site Data	804
Perform a template audit	806
Back up the database (data dump and ABKO)	808
Identify two unique IP addresses	810

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 1241. 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* (NN43021-220)).
- 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 247
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 124). 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 124
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 124
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 124
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 248
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 249
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 250
Converting the 4 MB media to 2 MB 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 248.

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 248.

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.

Perform installation

Verify memory

Determine whether the system requires additional memory.

CS 1000 Release 5.5

Table 125 lists the memory requirements of CS 1000 Release 5.5.

Table 125
CS 1000 Release 5.5 memory requirements

System type	Flash memory requirement	DRAM memory requirement	Total memory requirement
Meridian 1 Options 81/81C with or without Fibre Network Fabric	64 MB	96 MB	160 MB
Meridian 1 Option 61C CP PII	NA	256 MB	256 MB
Meridian 1 Option 81C CP PII with or without Fibre Network Fabric	NA	256 MB	256 MB
Meridian 1 Option 61C CP PIV	NA	512 MB	512 MB
Meridian 1 Option 81C CP PIV with or without Fibre Network Fabric	NA	512 MB	512 MB

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 MB.

Note 3: All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PIV systems are equipped with 512 MB.

Perform data dump

Procedure 251
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 252 to determine the status of the hardware.

Procedure 252
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 253 to upgrade the memory.

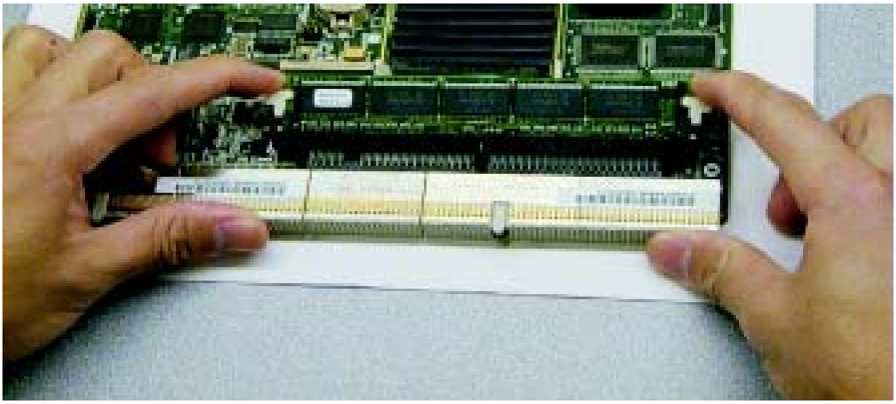
Procedure 253
Upgrade memory

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 80.

Figure 80
Latches



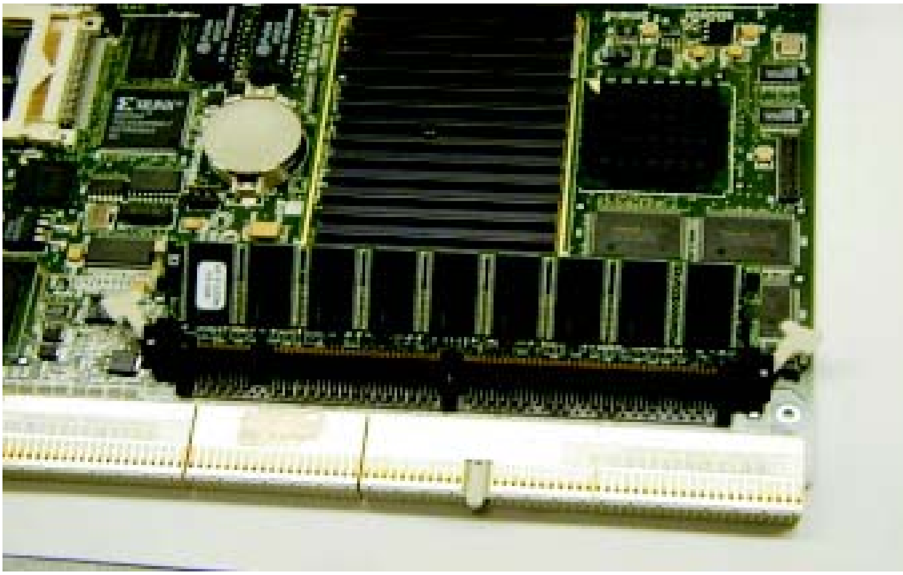
4 Press and rotate the latches from inside to outside carefully. See Figure 81 on page 816.

Figure 81
Rotate latches

5 Remove the 128 MB memory module.

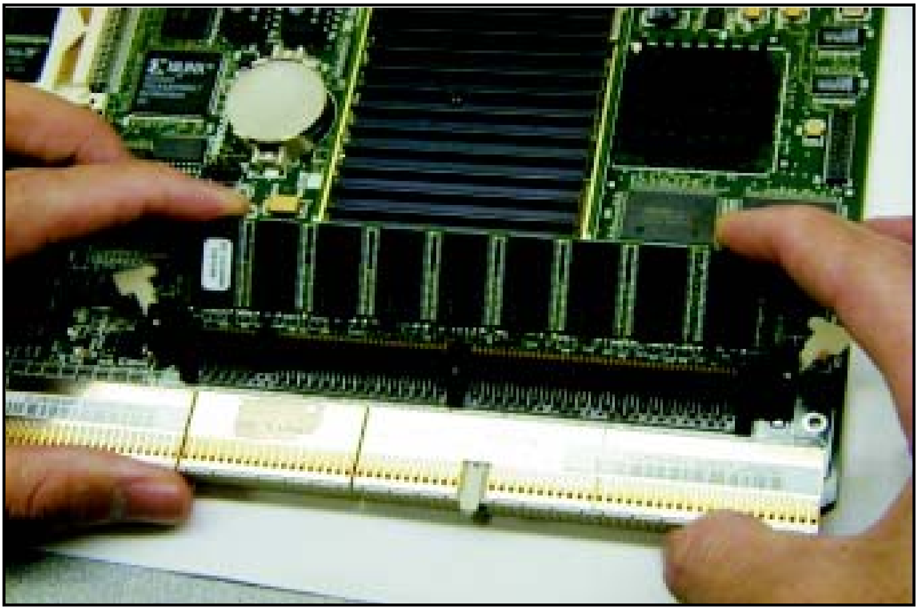
6 Keep the latches open and insert the 256MB module into the DIMM socket. Align the two notches on the module with the two keys in the DIMM socket. See Figure 84 on page 819.

Figure 82
Insert 256MB module



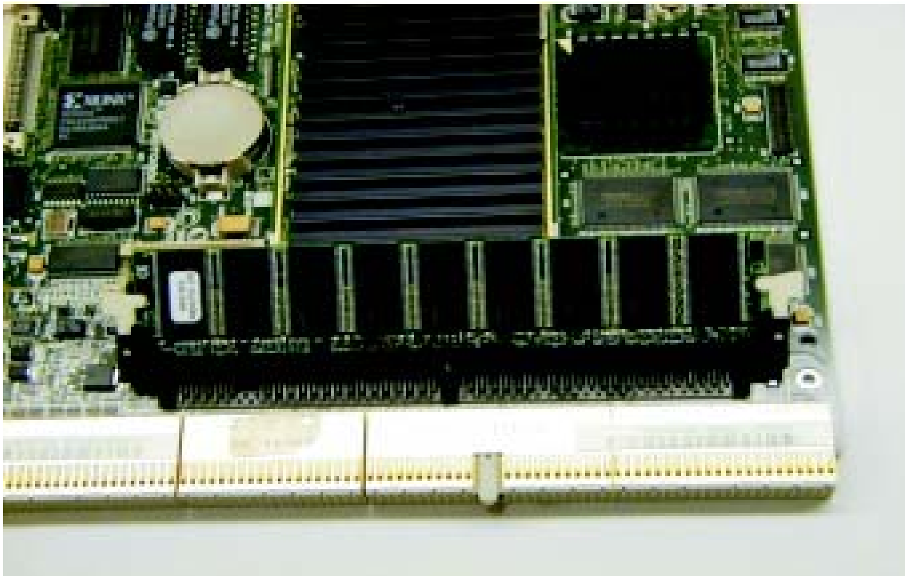
7 Hold the memory module as shown in Figure 83.

Figure 83
Hold memory module



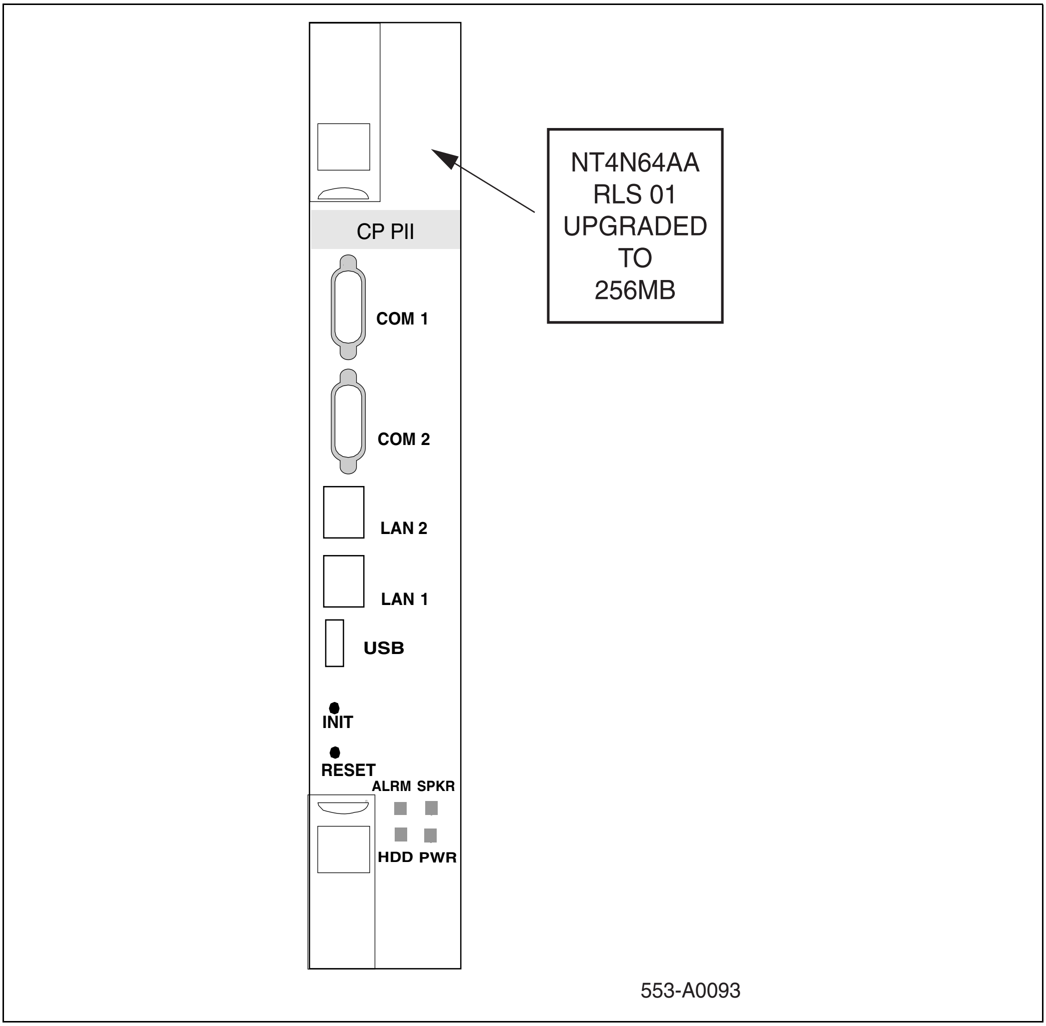
8 Push the module into the DIMM socket until it is locked by the latches. See Figure 84.

Figure 84
Lock latches



9 Put the faceplate label on the faceplate of the card. See Figure 85.

Figure 85
Faceplate label



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 254 to install the software on Core/Net 1.

Procedure 254
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 MB
The size of partition 0 of disk 0 is XX MB
The size of partition 0 of disk 0 is XX MB
```

```
Disk partitions and sectors checking is
completed!
```

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"
```

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
```

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.

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 255 on page 840 to transfer call processing from Core/Net 0 to Core/Net 1.

IMPORTANT!

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

Procedure 255
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.

Note: The single slot FIJI (NTRB33BBE5) packs require a different firmware than the existing double slot FIJIs. Provision has been made to have both the double slot and single slot card firmware in the same switch. The FIJI card will download its own firmware depending on the card ID information stored in it. The details about the firmware download explained in the previous paragraph is true for new single slot FIJI cards also.

Test Core/Net 1

Follow the steps in Procedure 256 to test call processing on Core/Net 1.

Procedure 256
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 257 to upgrade the memory.

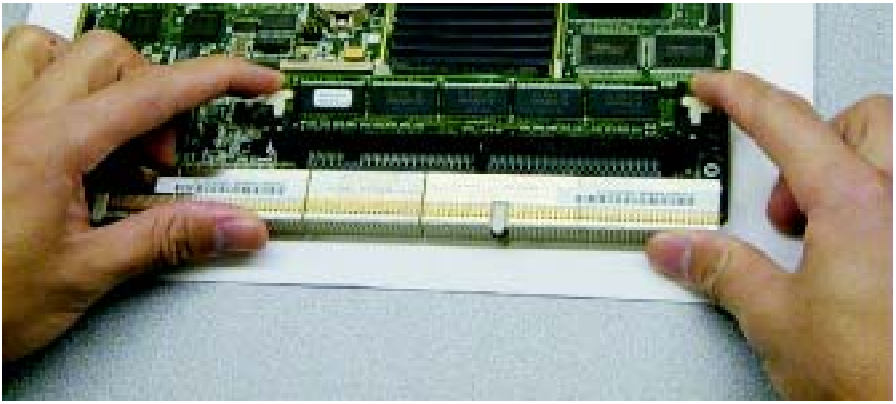
Procedure 257
Upgrade memory

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 86.

Figure 86
Latches



4 Press and rotate the latches from inside to outside carefully. See Figure 87 on page 843.

Figure 87
Rotate latches

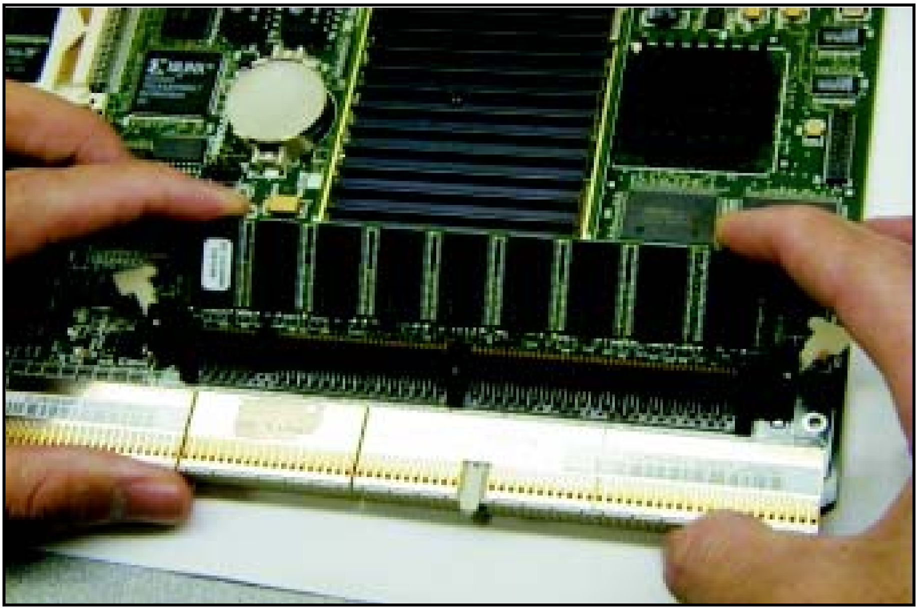
5 Remove the 128 MB memory module.

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 90 on page 846.

Figure 88
Insert 256MB module

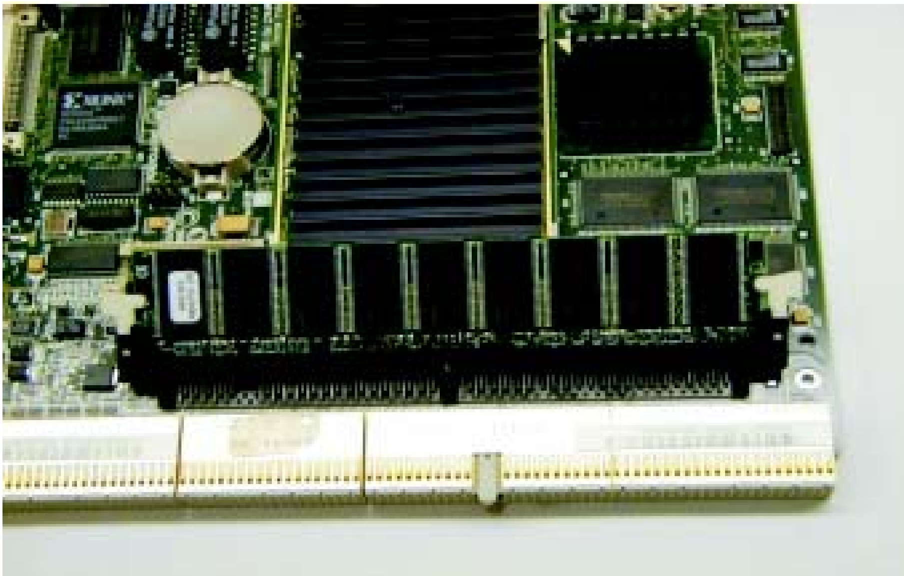
7 Hold the memory module as shown in Figure 89.

Figure 89
Hold memory module



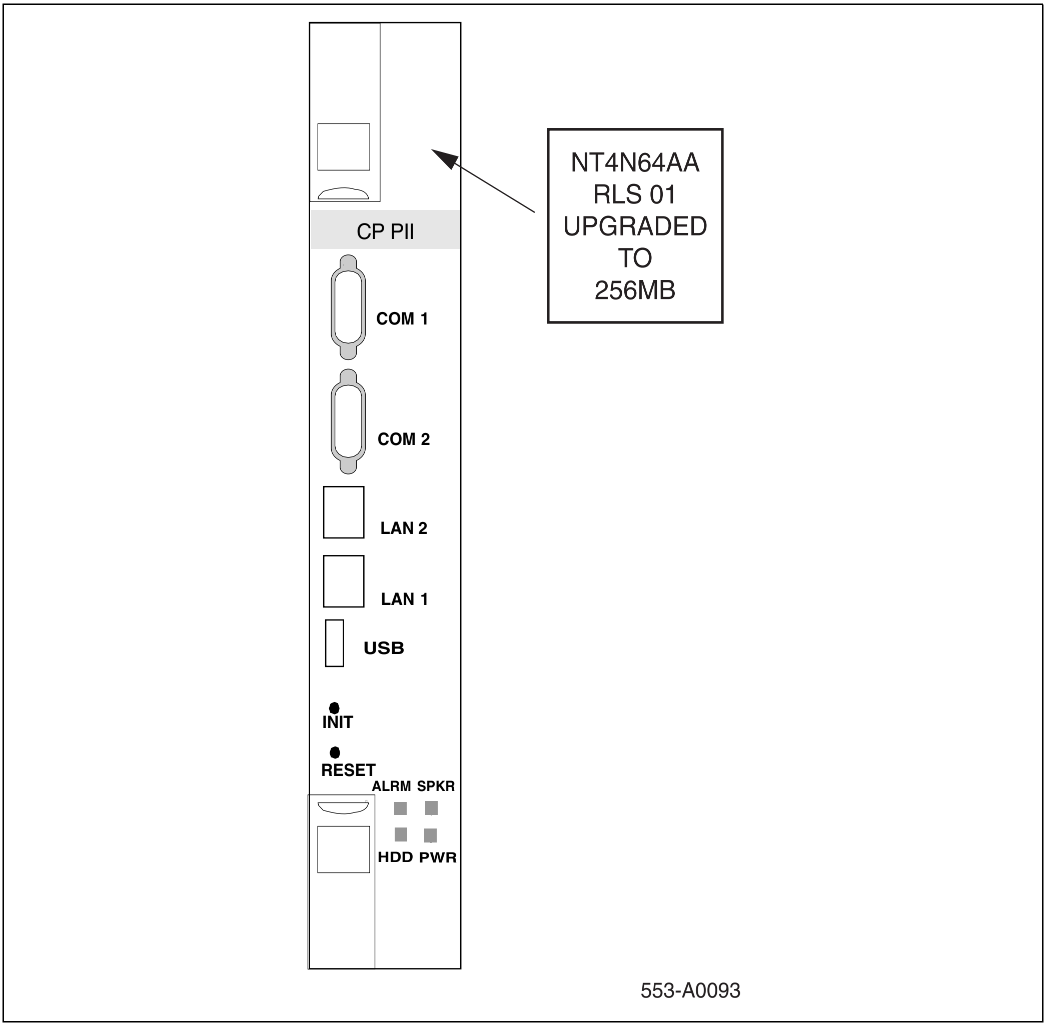
8 Push the module into the DIMM socket until it is locked by the latches. See Figure 90.

Figure 90
Lock latches



9 Put the faceplate label on the faceplate of the card. See Figure 91.

Figure 91
Faceplate label



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 258 on page 848 to install the new software on Core/Net 0.

Procedure 258
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 MB
The size of partition 0 of disk 0 is XX MB
The size of partition 0 of disk 0 is XX MB

Disk partitions and sectors checking is
completed!
```

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"
```

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
```

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.

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 259 on page 866 to enable system redundancy.

Procedure 259
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 260 on page 867 to test Core/Net 1 and Core/Net 0.

Procedure 260
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 261 on page 869 to perform a data dump.

Procedure 261
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.

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.

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 126 below:

Table 126
Prepare for upgrade steps

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 1241. 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* (NN43021-220)).
- 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 262
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 127). 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 127
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 127
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 127
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 263
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 264
Performing an ABKO (save the database to floppies)

1 Insert floppy diskettes into BOTH floppy disk drives in each Core MMDU.

Note: If the file is too large to fit on a single floppy disk, the ABKO command will compress the data.

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 265
Converting the 4 MB media to 2 MB 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 248.
>
> 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 248.

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.

Perform installation

Verify memory

Determine whether the system requires additional memory. Refer to Table 128 on page 882 for memory requirement.

Table 128
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 128
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 5.5

Table 129 lists the memory requirements of CS 1000 Release 5.5.

Table 129
CS 1000 Release 5.5 memory requirements

System type	Flash memory requirement	DRAM memory requirement	Total memory requirement
Meridian 1 Options 81/81C with or without Fibre Network Fabric	64 MB	96 MB	160 MB
Meridian 1 Option 61C CP PII	NA	256 MB	256 MB
Meridian 1 Option 81C CP PII with or without Fibre Network Fabric	NA	256 MB	256 MB
Meridian 1 Option 61C CP PIV	NA	512 MB	512 MB
Meridian 1 Option 81C CP PIV with or without Fibre Network Fabric	NA	512 MB	512 MB

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 MB.

Note 3: All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PIV systems are equipped with 512 MB.

Perform a data dump

Follow the steps in Procedure 266 below to perform a data dump on the Meridian 1 Option 51C.

Procedure 266
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 267 to determine the status of the hardware on the Meridian 1 Option 51C.

Procedure 267
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 268
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 921 and Appendix on page 925 for detailed upgrade instructions.

Table 128 on page 882 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 128 on page 882.
- Locate the target processor vintage in Table 128 on page 882.
- 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 269
Installing the DRAM SIMMs

1. Place the CP card SIMM-side up on the antistatic mat.
2. Locate the DRAM SIMM connectors (see Figure 92 on page 889).

3 Determine if your memory upgrade requires you to remove an existing DRAM SIMM (see Table 128 on page 882) 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 92).

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 92 on page 889).

CAUTION — Service Interruption

Do not mix up the 32 MB DRAM SIMM with the 16 MB DRAM SIMM. The 16 MB DRAM SIMM is labeled A0662646 or A0614334; the 32 MB DRAM SIMM is labeled A0634230. Older 16 MB DRAM SIMMs may not be labeled.

4 Working from left to right, install the 32 MB SIMM(s) in the SIMM location designated X5, X6, X7 or X8 where appropriate (see Figure 92 on page 889)

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 92 on page 889.

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.

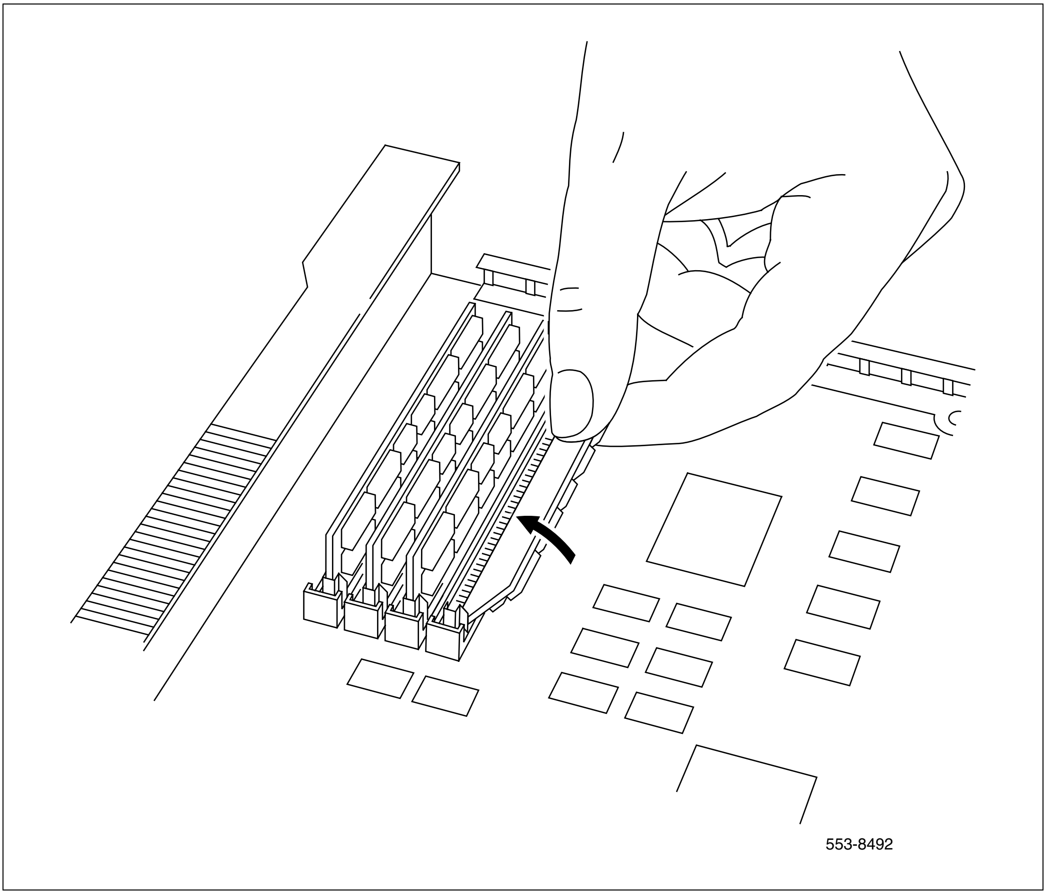
6 Select the correct labels for your CP card from the sheet provided.

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 92
NT5D10, NT5D03 card DRAM SIMM installation



End of Procedure

Install the Flash memory

Procedure 270
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 MB 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 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 271 below to install the new software on the Meridian 1 Option 51C.

Procedure 271
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.

```
INSTALL MENU

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

    Please enter:

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

    <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 x.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.

```
INSTALL MENU

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

    Please enter:

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

    <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 272
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.

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.

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 130 below:

Table 130
Prepare for upgrade steps (Part 1 of 2)

Procedure Step	Page
Planning	905
Upgrade Checklists	906
Preparing	906

Table 130
Prepare for upgrade steps (Part 2 of 2)

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 1241. 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* (NN43021-220)).
- 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 273
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 131). 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 131
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 131
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 131
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 274
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 275
Performing an ABKO (save the database to floppies)

1 Insert floppy diskettes into BOTH floppy disk drives in each Core MMDU.

Note: If the file is too large to fit on a single floppy disk, the ABKO command will compress the data.

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 276
Converting the 4 MB media to 2 MB 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 248.
>
> 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 248.

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.

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 CP cards. If required, refer to "Installing a Call Processor card on Options 61C CP PII, 81C CP PII" on page 965 and "Installing a Call Processor card on Option 51C" on page 1022.

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 "Parallel reload procedures" on page 286.

Verify memory

Determine whether the system requires additional memory. Refer to "Installing CP cards and CP memory" on page 799 for memory requirements and upgrade procedures.

Perform a data dump

Follow the steps in Procedure 277 to perform a data dump.

Procedure 277
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 278 on page 916 to determine the required hardware status.

Procedure 278
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 279 to split the core processors.

Procedure 279
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 921 and “Install the Flash memory” on page 925 for detailed upgrade instructions.

Table 132 on page 920 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 132 on page 920.
- Locate the target processor vintage in Table 132 on page 920.
- 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 93 on page 922 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 132
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 132
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.

Install the DRAM SIMMs

Procedure 280
Installing the DRAM SIMMs

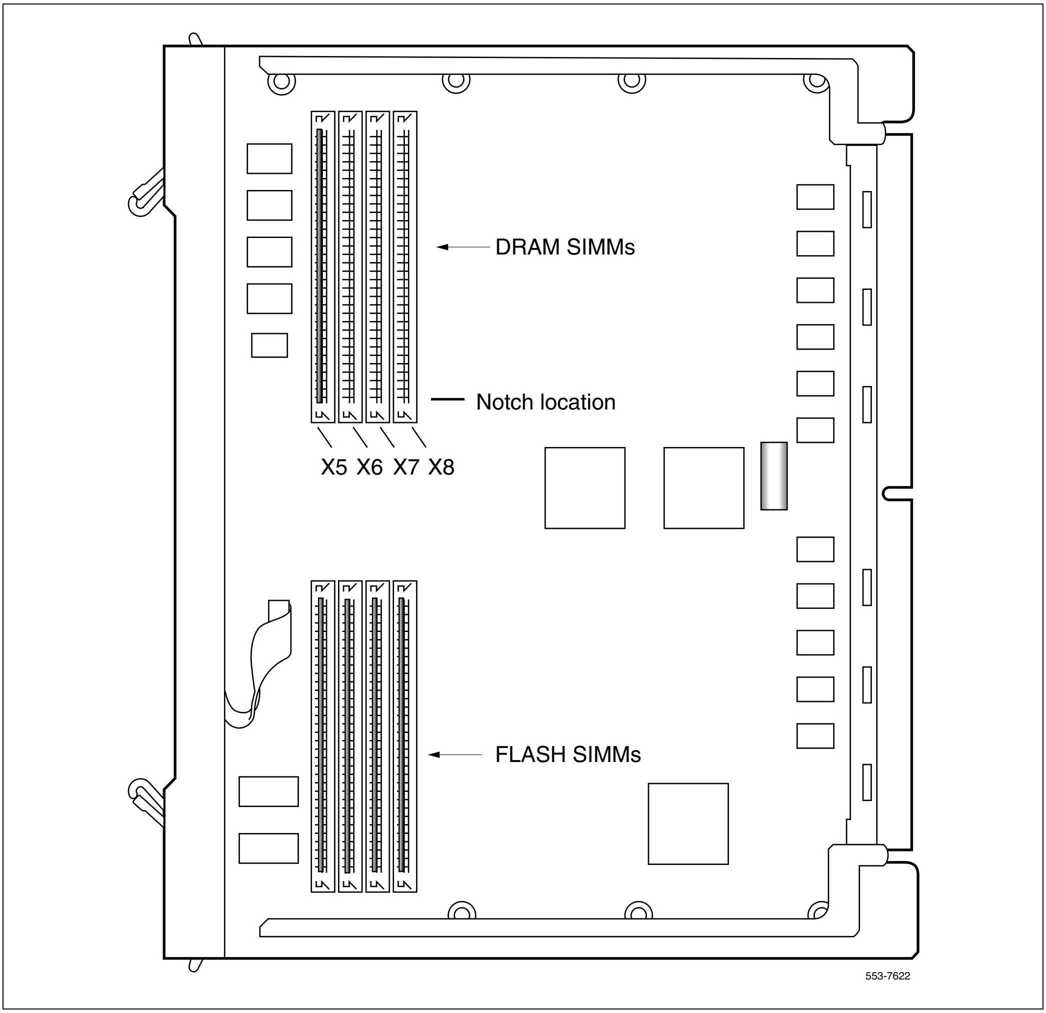
1 Place the CP card SIMM-side up on the antistatic mat.

2 Locate the DRAM SIMM connectors (see Figure 93 on page 922).

3 Determine if your memory upgrade requires you to remove an existing DRAM SIMM (see Table 132 on page 920) 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.

Figure 93
NT5D10 or NT5D03 DRAM and Flash location



The SIMM pivots away from the others until it is at approximately a 50- to 70-degree angle to the board (see Figure 94 on page 924).

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 94 on page 924).

CAUTION — Service Interruption

Do not mix up the 32 MB DRAM SIMM with the 16 MB DRAM SIMM. The 16 MB DRAM SIMM is labeled A0662646 or A0614334; the 32 MB DRAM SIMM is labeled A0634230. Older 16 MB DRAM SIMMs may not be labeled.

4 Working from left to right, install the 32 MB SIMM(s) in the SIMM location designated X5, X6, X7 or X8 where appropriate (Table 132 on page 920).

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 94 on page 924.

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.

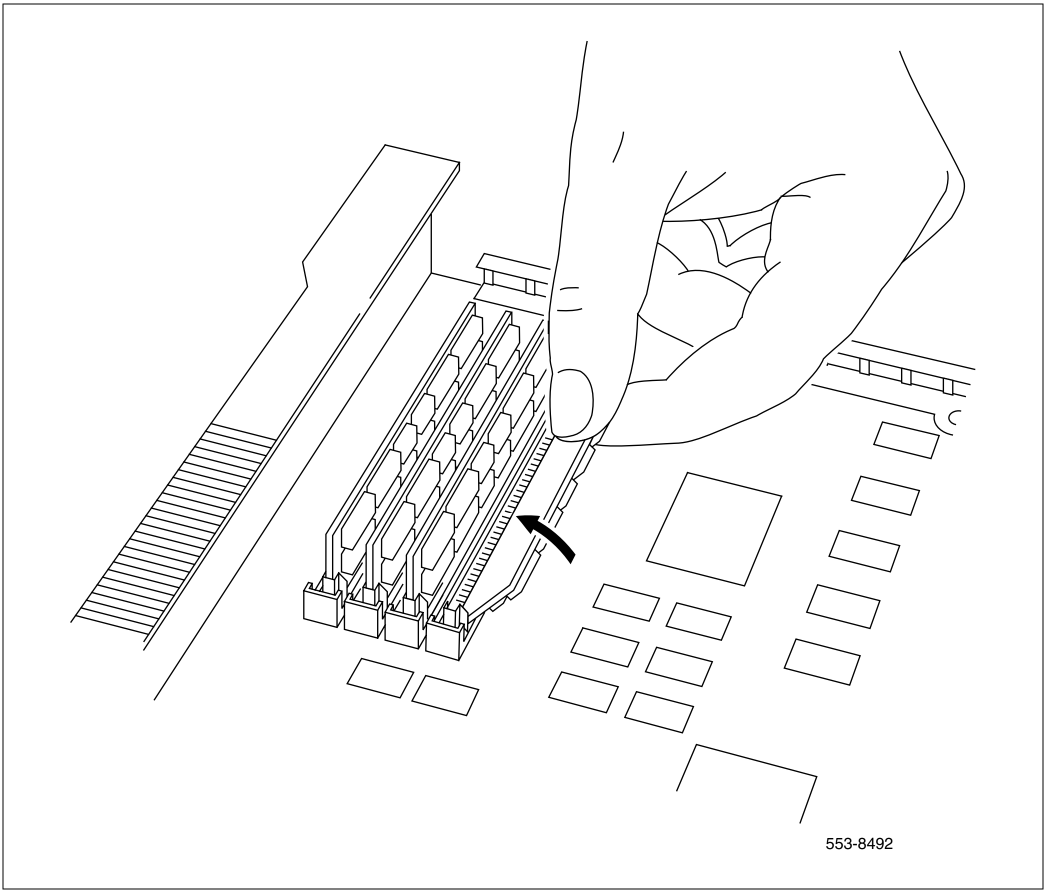
7 Place the CP/memory configuration label at the top of the faceplate.

8 Place the engineering code/release level label on the bottom of the faceplate.

9 Discard unused labels.

End of Procedure

Figure 94
NT5D10, NT5D03 card DRAM SIMM installation



Install the Flash memory

CAUTION — Service Interruption

Do not remove the existing Flash SIMMS from the Call Processor board.

Procedure 281
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 132 on page 920)

3 Install the new 32 MB 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 282
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.

```
INSTALL MENU

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

Please enter:

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

<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 x.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.

```
INSTALL MENU

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

Please enter:

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

<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 283
Checking peripheral software versions

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	
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 284 to switch call processing from Core/Net 0 to Core/Net 1.

Procedure 284
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 285
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 286
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 133 on page 942 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 133 on page 942.
- Locate the target processor vintage in Table 133 on page 942.
- 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 95 on page 944 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 133
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 133
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.

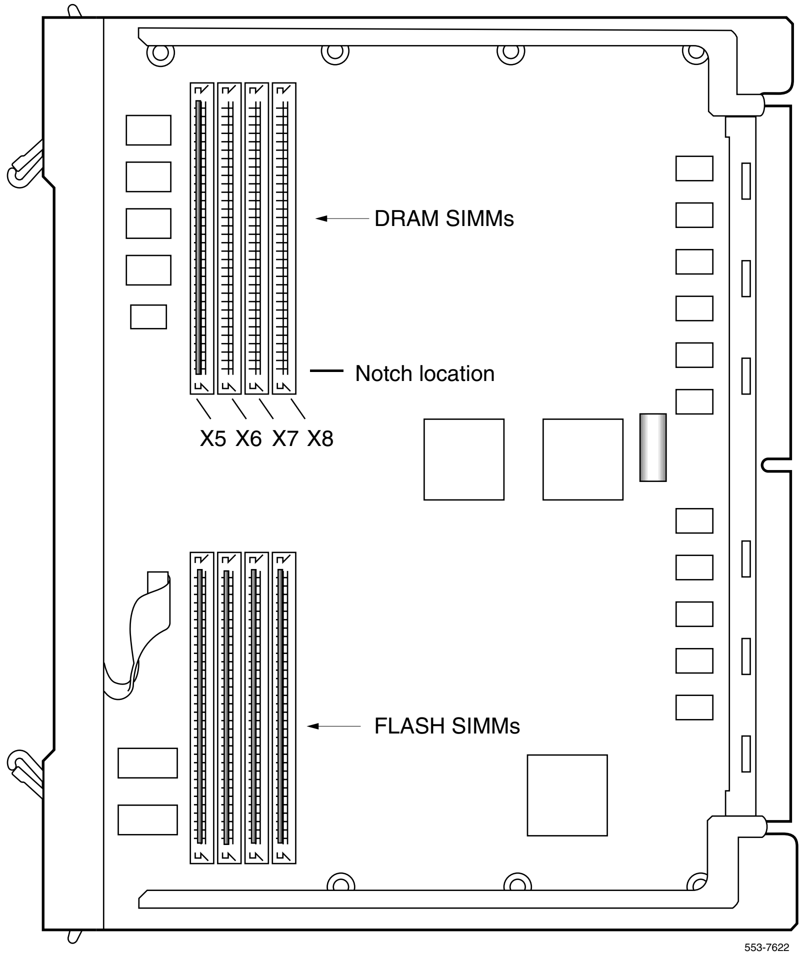
Install the DRAM SIMMs

Procedure 287
Installing the DRAM SIMMs

1. Place the CP card SIMM-side up on the antistatic mat.
2. Locate the DRAM SIMM connectors (see Figure 95 on page 944).
3. Determine if your memory upgrade requires you to remove an existing DRAM SIMM (see Table 132 on page 920) 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.

Figure 95
NT5D10 or NT5D03 DRAM and Flash location



The SIMM pivots away from the others until it is at approximately a 50- to 70-degree angle to the board (see Figure 95 on page 944).

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 95 on page 944).

CAUTION — Service Interruption

Do not mix up the 32 MB DRAM SIMM with the 16 MB DRAM SIMM. The 16 MB DRAM SIMM is labeled A0662646 or A0614334; the 32 MB DRAM SIMM is labeled A0634230. Older 16 MB DRAM SIMMs may not be labeled.

4 Working from left to right, install the 32 MB SIMM(s) in the SIMM location designated X5, X6, X7 or X8 where appropriate (Table 132 on page 920).

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 95 on page 944.

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.

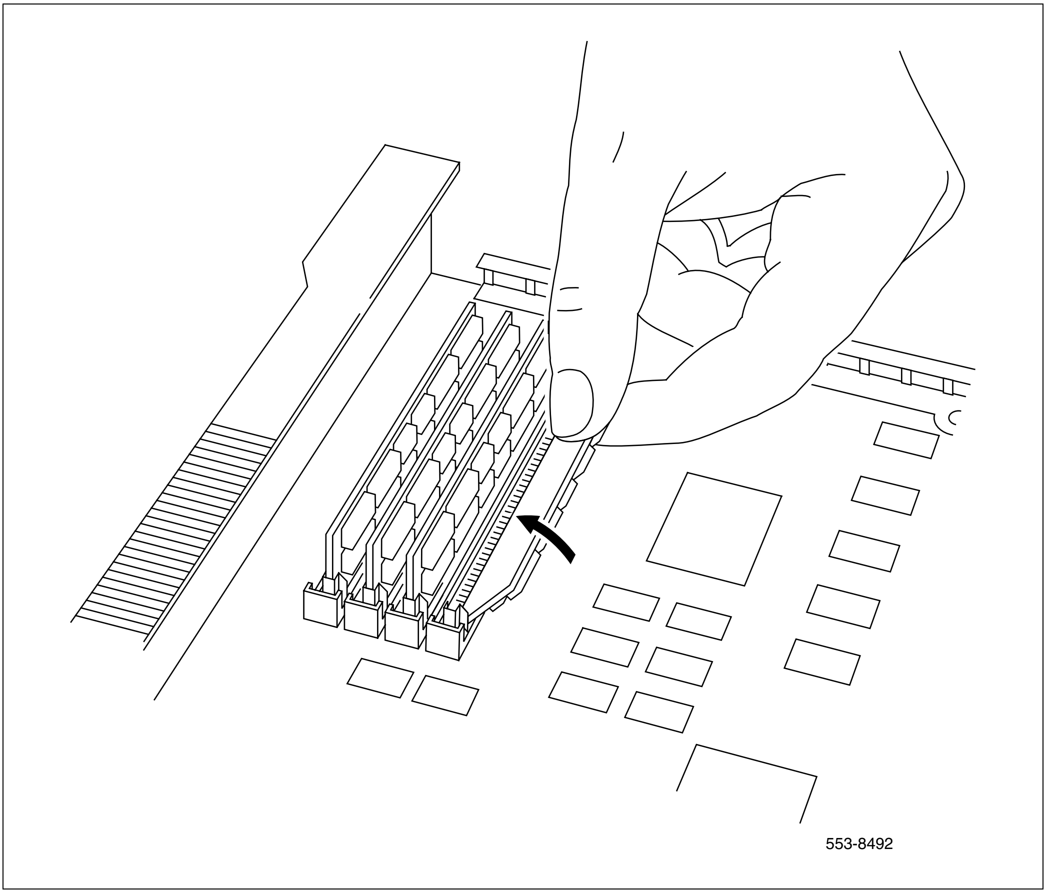
7 Place the CP/memory configuration label at the top of the faceplate.

8 Place the engineering code/release level label on the bottom of the faceplate.

9 Discard unused labels.

End of Procedure

Figure 96
NT5D10, NT5D03 card DRAM SIMM installation



Install the Flash memory

CAUTION — Service Interruption

Do not remove the existing Flash SIMMS from the Call Processor board.

Procedure 288
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 132 on page 920).

3 Install the new 32 MB 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 289
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.

```
INSTALL  MENU

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

    Please enter:

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

    <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 x.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.

```
INSTALL MENU

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

Please enter:

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

<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 290 to exit the split mode.

Procedure 290
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 291 to test Core/Net 0 and Core/Net 1.

Procedure 291
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 292
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 293
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 294
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 295
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.

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 134 below:

Table 134
Prepare for upgrade steps

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 1241. 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* (NN43021-220)).
- 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 296
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 135). 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 135
Print site data (Part 1 of 3)

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

Table 135
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 135
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 297
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 298
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 MB database media to 2 MB 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 248.
>
> 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 248..

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.

Perform installation

Verify memory

CS 1000 Release 5.5

Table 136 lists the memory requirements of CS 1000 Release 5.5.

Table 136
CS 1000 Release 5.5 memory requirements

System type	Flash memory requirement	DRAM memory requirement	Total memory requirement
Meridian 1 Options 81/81C with or without Fibre Network Fabric	64 MB	96 MB	160 MB
Meridian 1 Option 61C CP PII	NA	256 MB	256 MB
Meridian 1 Option 81C CP PII with or without Fibre Network Fabric	NA	256 MB	256 MB
Meridian 1 Option 61C CP PIV	NA	512 MB	512 MB
Meridian 1 Option 81C CP PIV with or without Fibre Network Fabric	NA	512 MB	512 MB

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 MB.

Note 3: All new Meridian 1 Options 61C, 81C and CS 1000M SG/MG CP PIV systems are equipped with 512 MB.

Perform data dump

Procedure 299
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 300
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 301
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 302
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 MB
The size of partition 0 of disk 0 is XX MB
The size of partition 0 of disk 0 is XX MB

Disk partitions and sectors checking is
completed!
```

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"
```

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
```

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.

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 255 on page 840 to transfer call processing from Core/Net 0 to Core/Net 1.

IMPORTANT!

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

Procedure 303
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 304
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 305
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 306
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 MB
The size of partition 0 of disk 0 is XX MB
The size of partition 0 of disk 0 is XX MB

Disk partitions and sectors checking is
completed!
```

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"
```

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
```

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.

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 307
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 308
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 309
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 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 "Installing a Call Processor card on Option 51C" on page 1022.

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 137 below:

Table 137
Prepare for upgrade steps

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 1241. 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* (NN43021-220)).
- 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 310
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 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>

Table 138
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 138
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 311
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 312
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 313
Converting the 4 MB media to 2 MB 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 248.
>
> 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 248.

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.

Perform installation

Procedure 314
Installing the Call Processor card and 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 5.5 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.

    <q> - Quit.


    Enter Choice>

    >Validating Keycode
```

553-7729

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 5.5, 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 315
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* (NN43021-220).

The Call Processor card upgrade is complete.

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 139 below:

Table 139
Prepare for upgrade steps

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 1241. 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* (NN43021-220)).
- 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 316
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 140). 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 140
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 140
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 140
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 317
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 318
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 MB database media to 2 MB 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 248.
>
> 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 248.

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.

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 965 and "Installing a Call Processor card on Option 51C" on page 1022.

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 "Parallel reload procedures" on page 286.

Verify memory

Determine whether the system requires additional memory. Refer to "Installing CP cards and CP memory" on page 799 for memory requirements and upgrade procedures.

Determine status (STAT) of the hardware

Procedure 319
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 320
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 321
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 322
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.

```
INSTALL   MENU

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

        Please enter:

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

        <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 x.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.

```
INSTALL MENU

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

     Please enter:

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

     <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 323
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 324
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 325
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 326
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 327
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 x.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 328
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 329
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 330
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 331
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 332
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 333
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 334
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 335
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, refer to "Using the Keycode Retrieval Utility" on page 383.

This section contains the following procedures:

- "Install DKA" on page 1092

- “Adding the KDS network client in Dial-up Networking” on page 1098
- “Downloading from KDS” on page 1102
- “Reading from a File” on page 1109
- “Manually enter a keycode” on page 1111

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 MB 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 336
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.

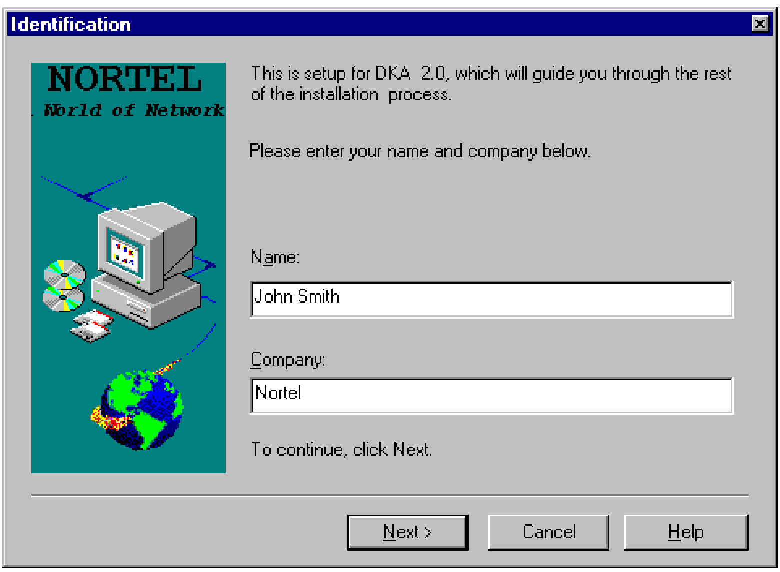
5 In the right side of the window, double-click the **Setup.exe** file (which has a computer icon to the left of it).

   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 97 below.

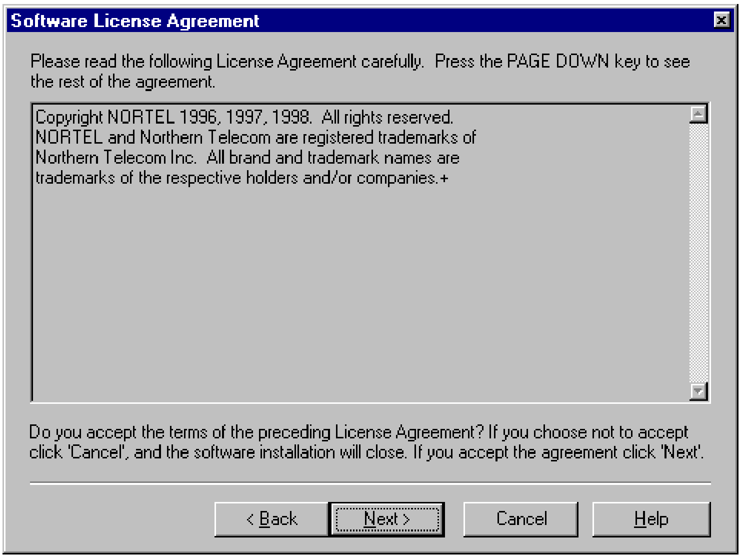
Figure 97
Identification screen



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 98 below.

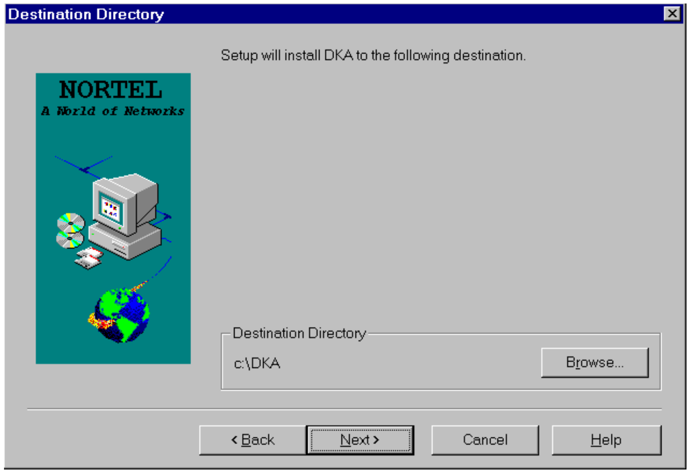
Figure 98
License agreement screen



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 99 on page 1095.

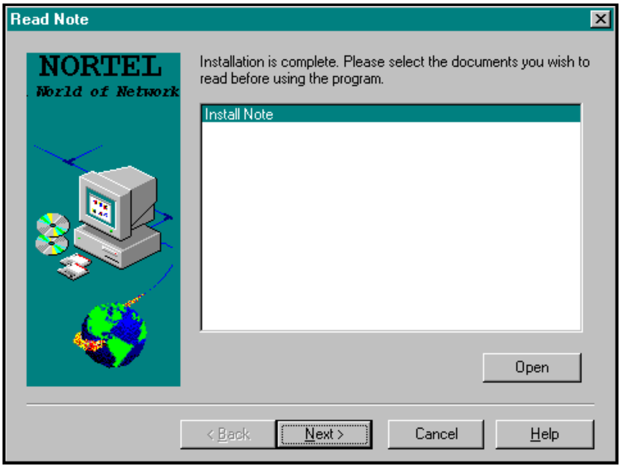
Figure 99
Destination directory



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 100 on page 1096.

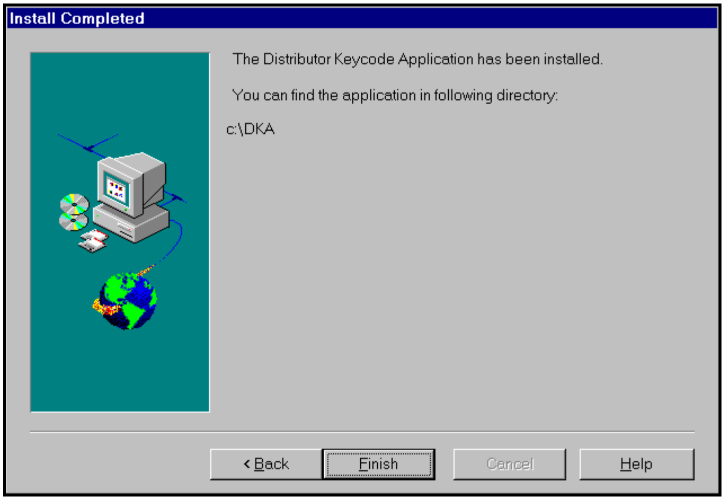
Figure 100
Read note screen.



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 101 on page 1097.

Figure 101
Install Completed screen



13 Click the **Finish** button to close the setup program.

End of Procedure

Create a Shortcut

Procedure 337
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

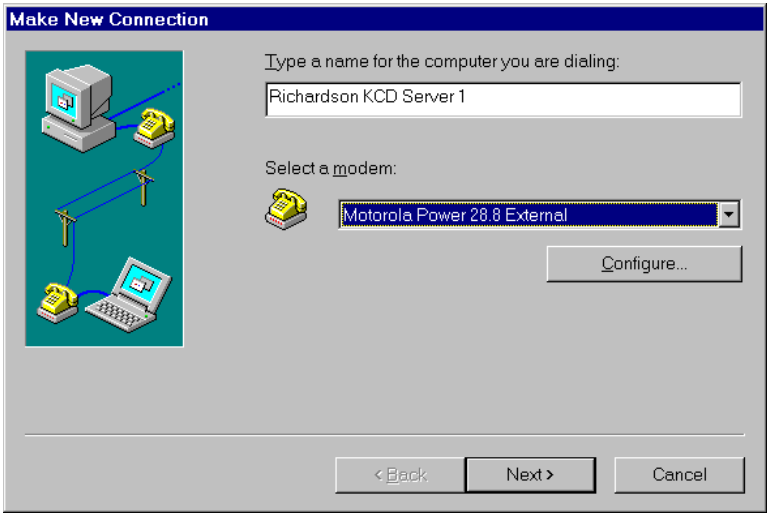
Before keycodes can be downloaded, it is necessary to configure the Dial-up Networking KDS client. Dial-up Networking stores and manages all communication parameters (such as phone number, dial prefixes, user name, password) necessary for connecting to the Keycode Download Server.

Procedure 338
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 102 on page 1100. Enter the following for regions where the 888 Area Code is available:

Enter the Area Code as follows: 888

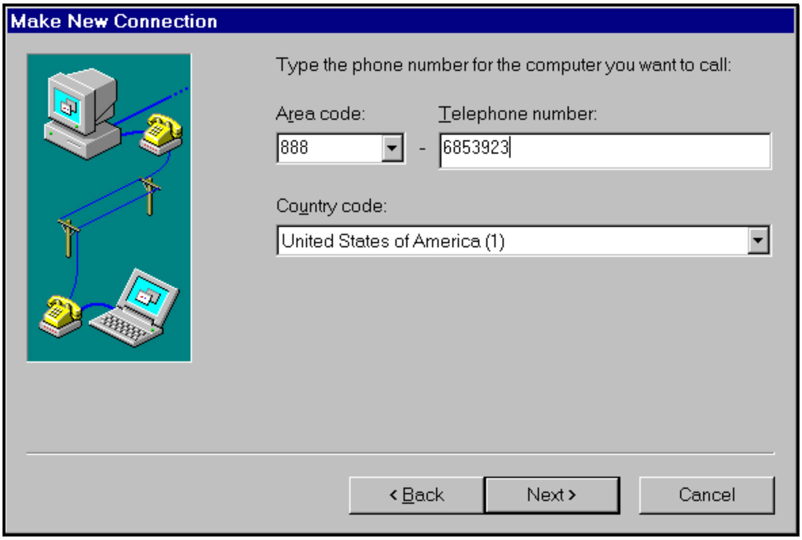
Telephone Number: 685-3923

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 102
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.

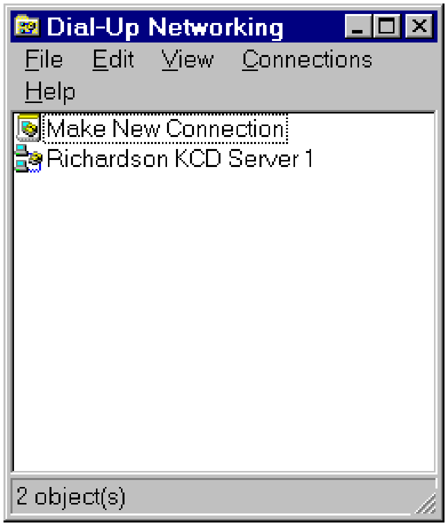
6 Click **Finish** or press return to complete the procedure.

End of Procedure

Configure the Type of Dial-Up Server

Procedure 339
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:

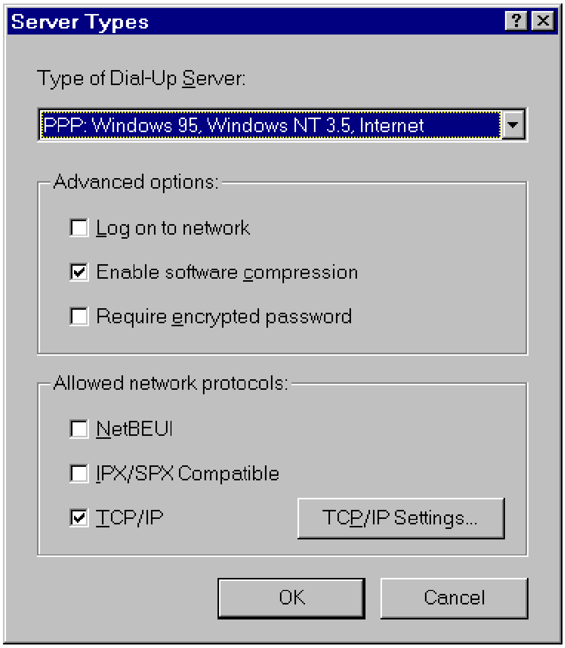
   Type of Dial-Up Server: PPP Windows 95 Windows NT 3.5 Internet

   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 page 1092, and have added and configured the Dial-up Networking client as described in "Adding the KDS network client in Dial-up Networking" on page 1098.

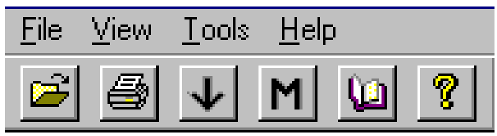
Procedure 340
Establishing the PPP connection to the KDS server via Dial-up Networking

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.

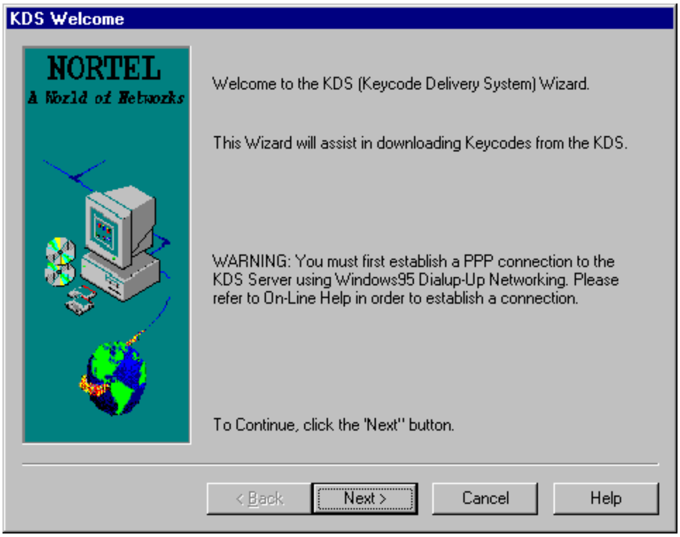
A gray screen appears that includes four menus and a Toolbar with buttons for essential commands.



Open Print Download Keycodes Manual Entry Help About DKA

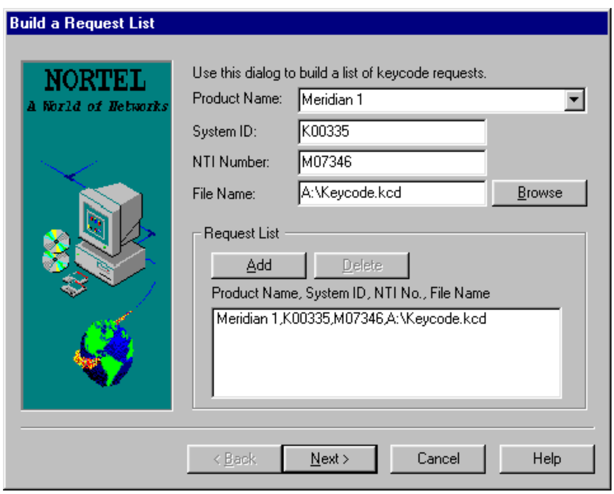
3 Click on the **Tools** menu and select **Download Keycodes.**

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 141 below.

Table 141
“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 Add, 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 Add, 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 **Next** or press return.

The KDS Billing Notice screen is displayed

8 Enter the information in Table 142 below into the KDS Billing Notice screen.

Table 142
Fields on the KDS Billing Notice screen

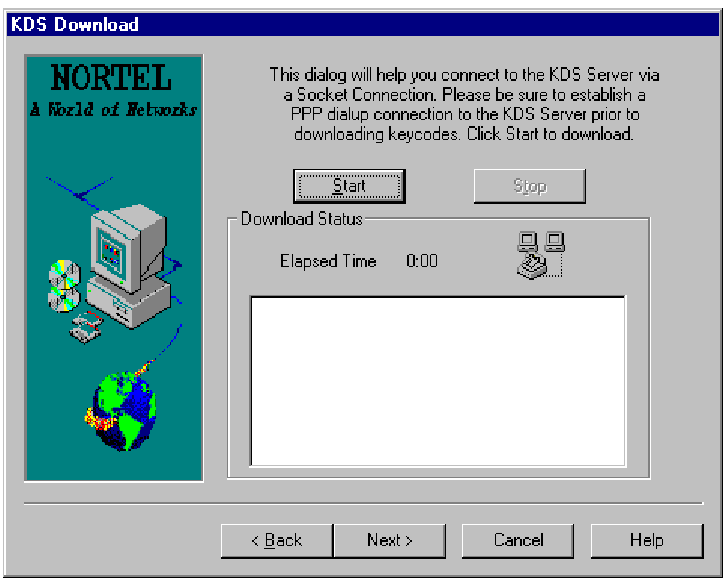
Name of field	How the information is entered in the field
Distributor Name	Enter the name of the Distributor who is requesting the keycode(s).
User Name	Enter the name of the person requesting the keycode(s).
Telephone Number	Enter the telephone number that can be used to contact the individual who is requesting the keycode(s). For example: (408) 555-1212.

9 Click the **Next** button or press return.

10 Click **Next** or press return.

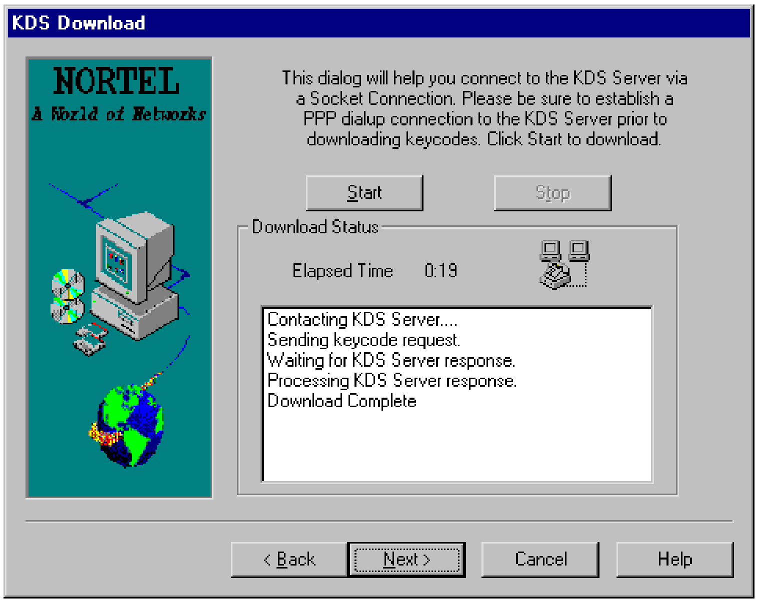
The KDS Download screen is displayed.

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 page 1103.

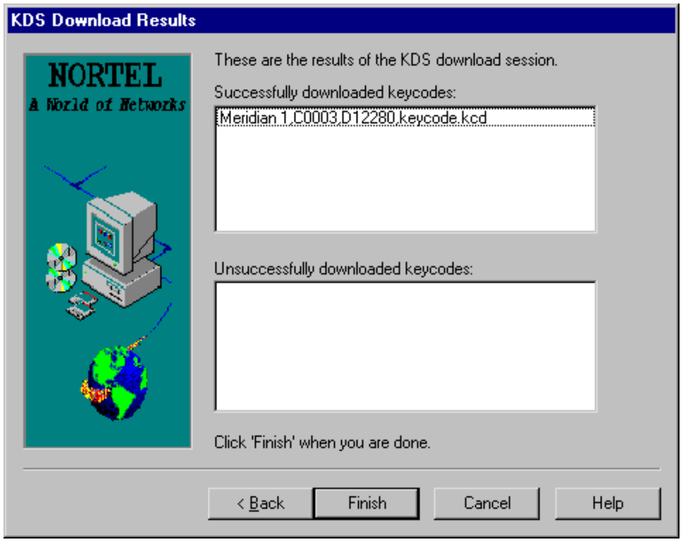


11 Click **Start** to begin downloading the keycode(s).

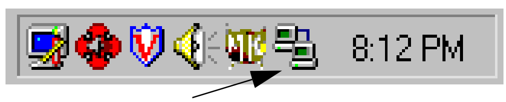
Note: This starts the keycode download process. A socket connection is established over the existing PPP connection. Next, the provided login information is sent to the Keycode Delivery Server and verified. Then the requested keycodes are downloaded to your PC in the location you specified in the Build 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 “Installing a new keycode” on page 263 or 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.

After the requested keycode is downloaded from the Keycode Delivery System to your PC, refer to “Installing a new keycode” on page 263.

End of Procedure

Reading from a File

Procedure 341
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 page 1092.

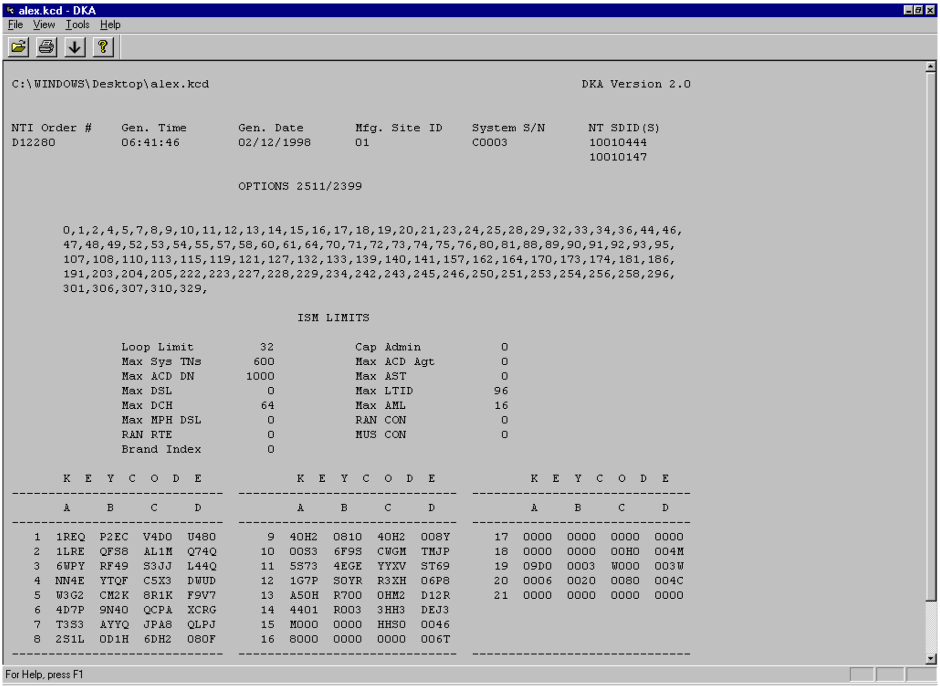
1 Double-click on the **Shortcut to DKA** icon on the PC desktop.

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  00H0  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 342
Manually entering a keycode

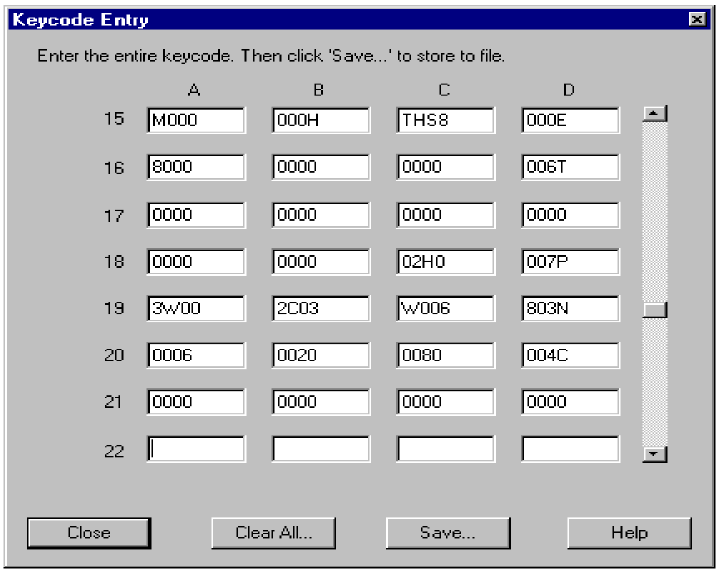
The following procedure is used to manually enter a keycode for the purpose of creating and storing a keycode file.

This procedure assumes that you have already installed the DKA program as described in “Install DKA” on page 1092.

1 Double-click on the **Shortcut to DKA** icon on the PC desktop.

2 Select **Manual Entry** from the **Tools** menu.

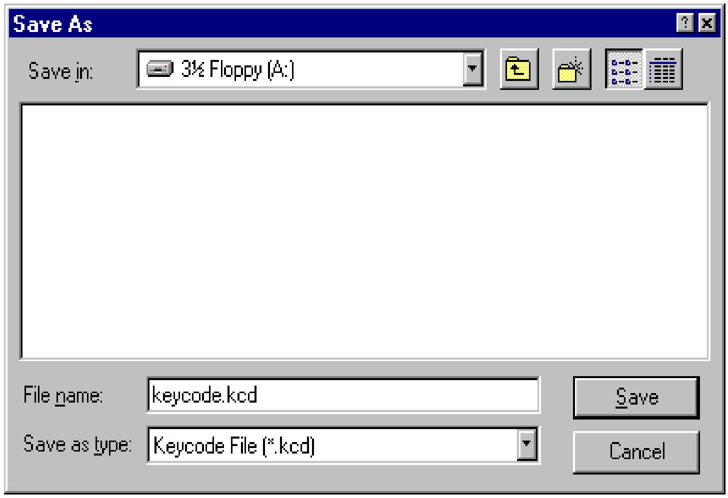
The Keycode Entry screen is displayed. This screen consists of rows and four columns (A-D) into which the keycode is entered four characters at a time. When 16 characters (four cells) are entered in a row, the program tries to validate that row. If the row does not validate, a red X appears to the left 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:

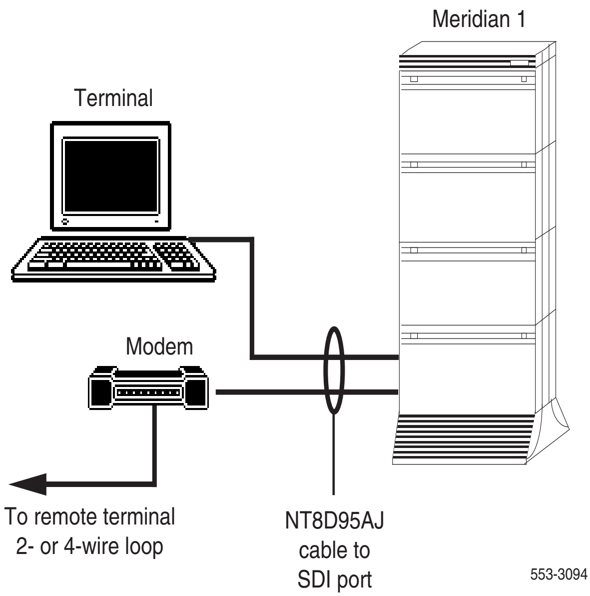
Introduction

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 103 on page 1114).

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 103
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 1121.

Configure the system

Procedure 343
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* (NN43001-311) to set the option switches for each port.
- **c.** See Figure 104 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 105 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 106 to cable the NT8D41 SDI Paddle Board. (There is no faceplate on the paddle board; Figure 106 identifies the ports.)

h. See Figure 106 on page 1119 to cable an NTND02 MSPS Card.

i. See Figure 107 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.

End of Procedure

Figure 104
Ports and switches on the NT8D41 SDI Paddle Board

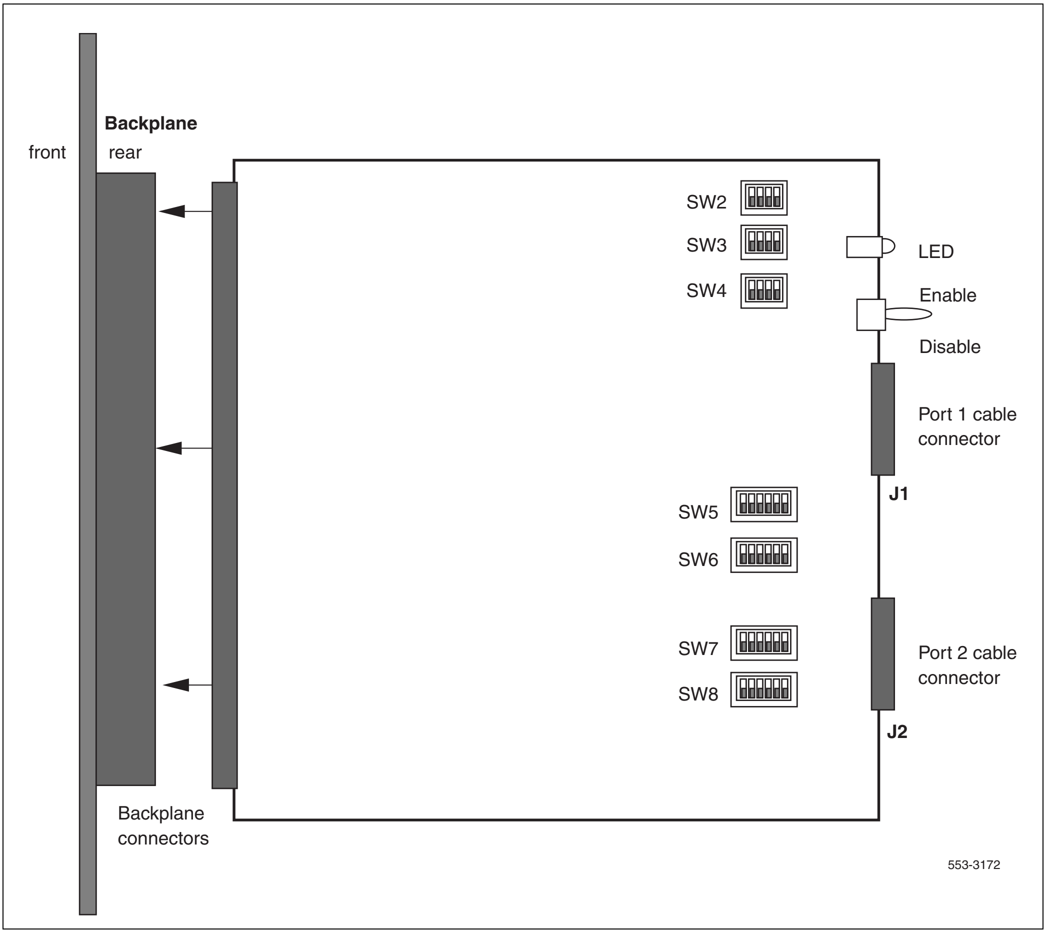


Figure 105
Switch locations on the NTND02 MSPS Card

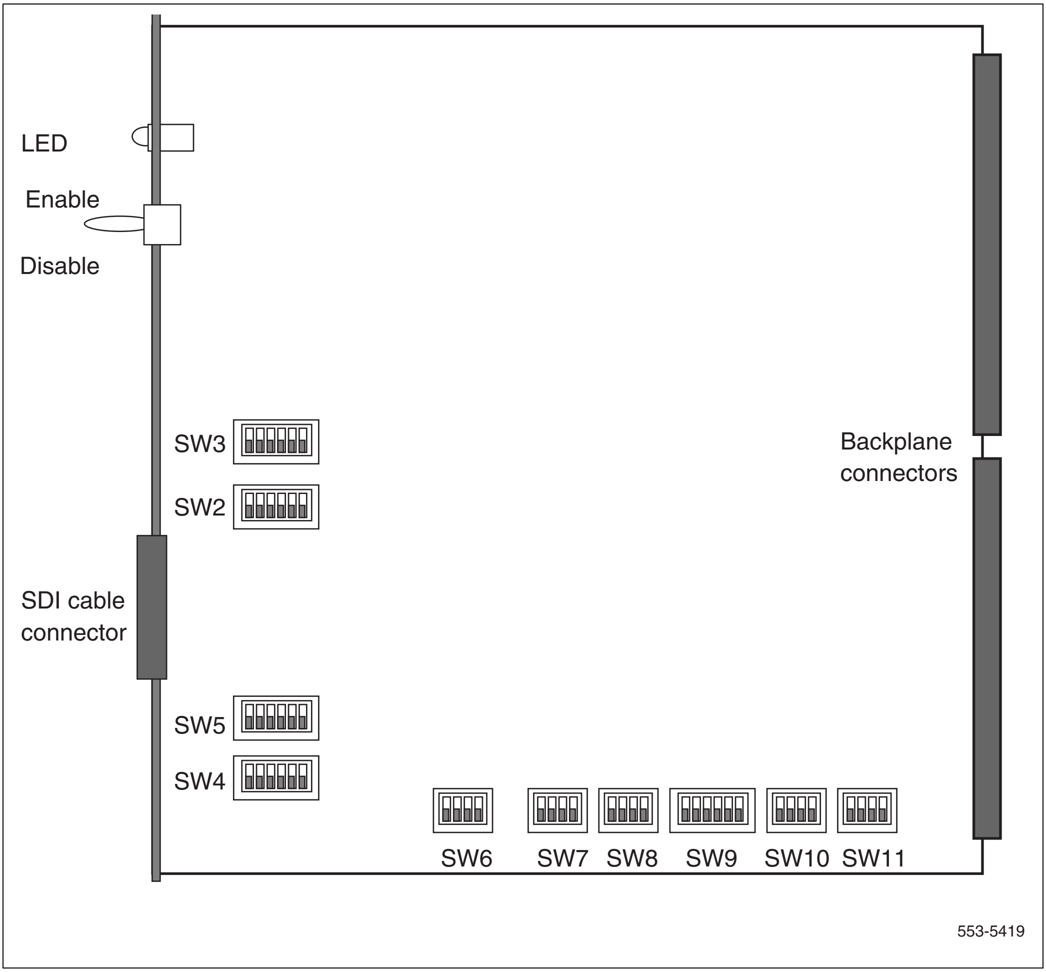
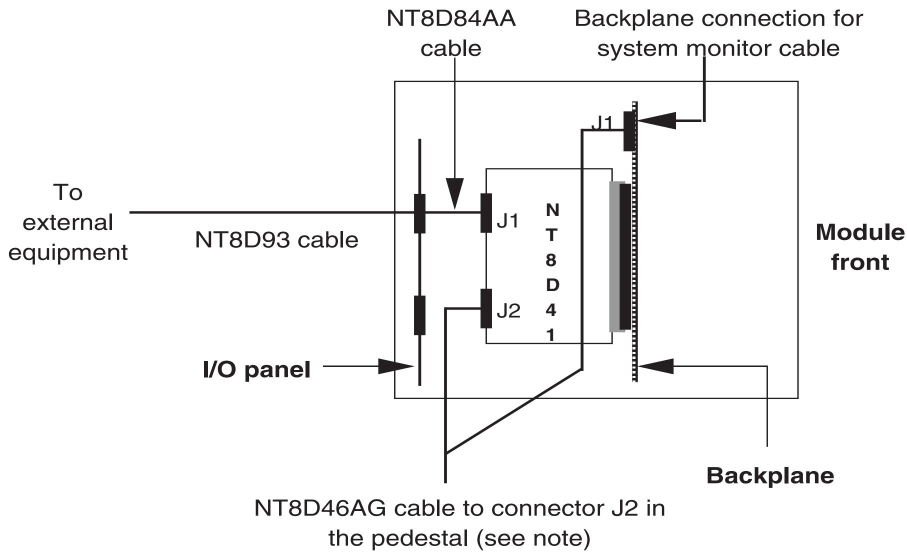


Figure 106
Cabling diagram for the NT8D41 SDI Paddle Board



Note: To connect J2 to external equipment, cable as shown for J1.

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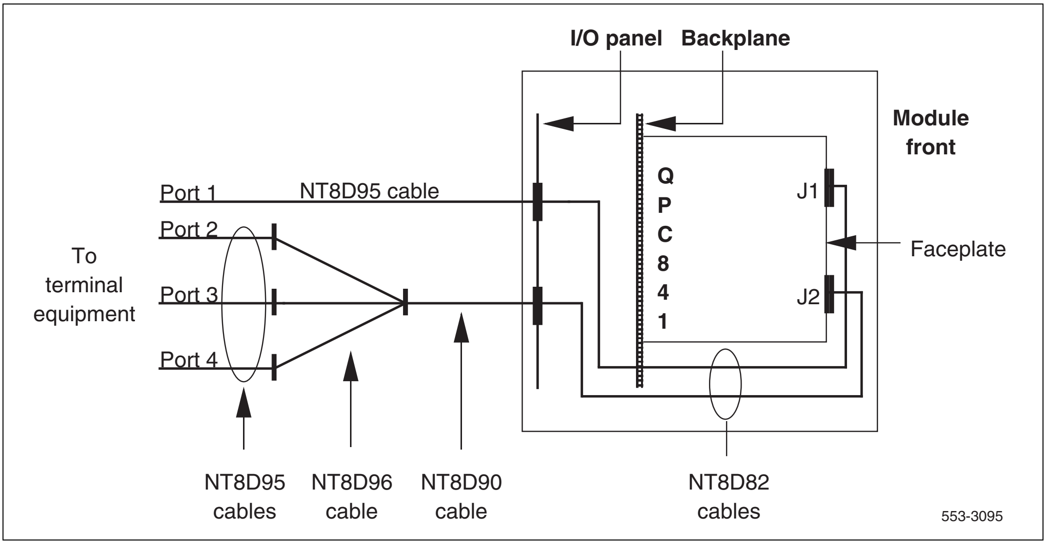
Figure 107
Cabling diagram for the QPC841 Four-Port SDI Card



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 108 on page 1123).
- 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 109 on page 1125).
- 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 110 on page 1126).

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 344
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 108):

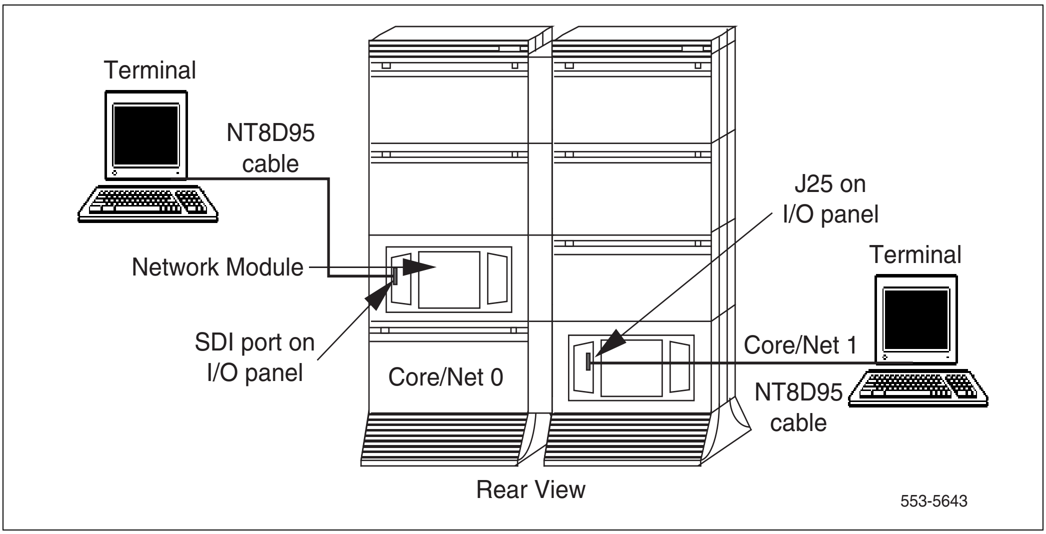
1 Set the terminal to 9600 baud, 7 data, space parity, one stop bit, full duplex, XON.

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 108
One terminal for the CPSI ports



End of Procedure

Connect a switch box and terminal to CPSI ports

Procedure 345
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 109):

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 346
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 109 and Figure 110):

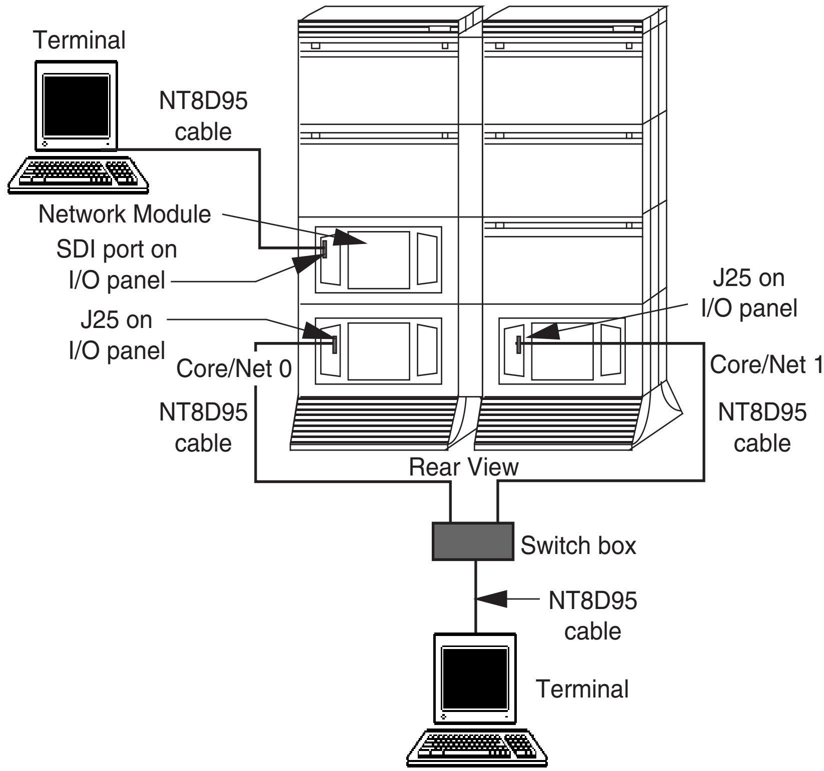
1 Set the terminal to 9600 baud, 7 data, space parity, one stop bit, full duplex, XON.

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:

Figure 109
One terminal and a switch box to two CPSI ports



Note: The A0377992 switch box can be used in this configuration.

- **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).

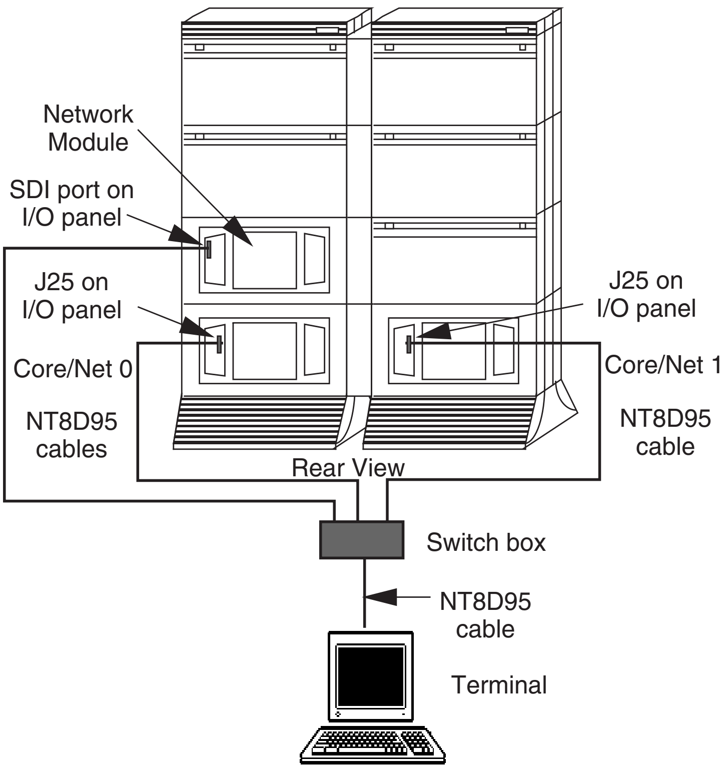
5 Connect NT8D95 cables from the switch box to J25 on the I/O panel in the rear of each Core or Core/Network Module.

6 Connect an NT8D95 cable from the switch box to the I/O panel slot for the SDI card.

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 110
One terminal and a switch box to the SDI and CPSI ports



Note: The A0377992 switch box can be used in this configuration.

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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 111 on page 1136).
- One modem connects to a switch box that connects to the SDI and CPSI/COM2 ports (see Figure 112 on page 1139).

  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 347
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 348
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 349
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 111 on page 1136):

Procedure 350
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 1130.)
- **b.** If you are using an UDS FastTalk modem, follow the instructions in this document. (See "Configure an A0381391 UDS FastTalk modem" on page 1133.)
- **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.

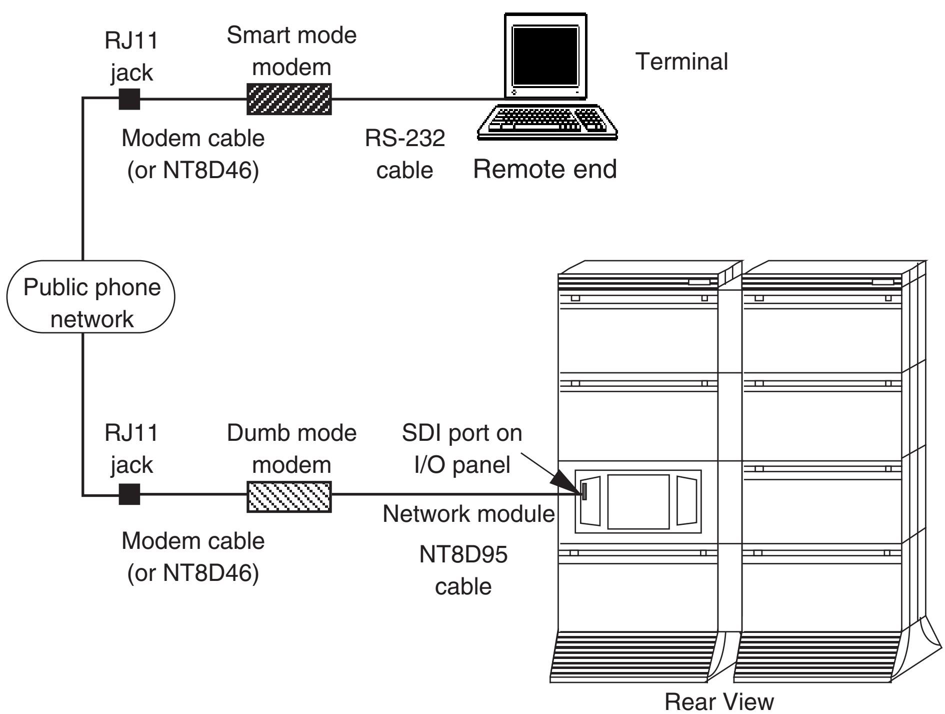
5 At the local end, connect the cable from the modem to an RJ11 telephone jack. (If a cable is required, connect an NT8D46 cable to the modem and to the RJ11 jack.)

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 111
Modem to SDI port



Note: The A0381391 modem can be used in this configuration.

End of Procedure

Connecting a modem to a switch box and CPSI and SDI ports

Procedure 351
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 112 on page 1139 and Figure 113 on page 1140):

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 1130.)
- **b.** If you are using an UDS FastTalk modem, follow the instructions in this document. (See “Configure an A0381391 UDS FastTalk modem” on page 1133.)
- **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:

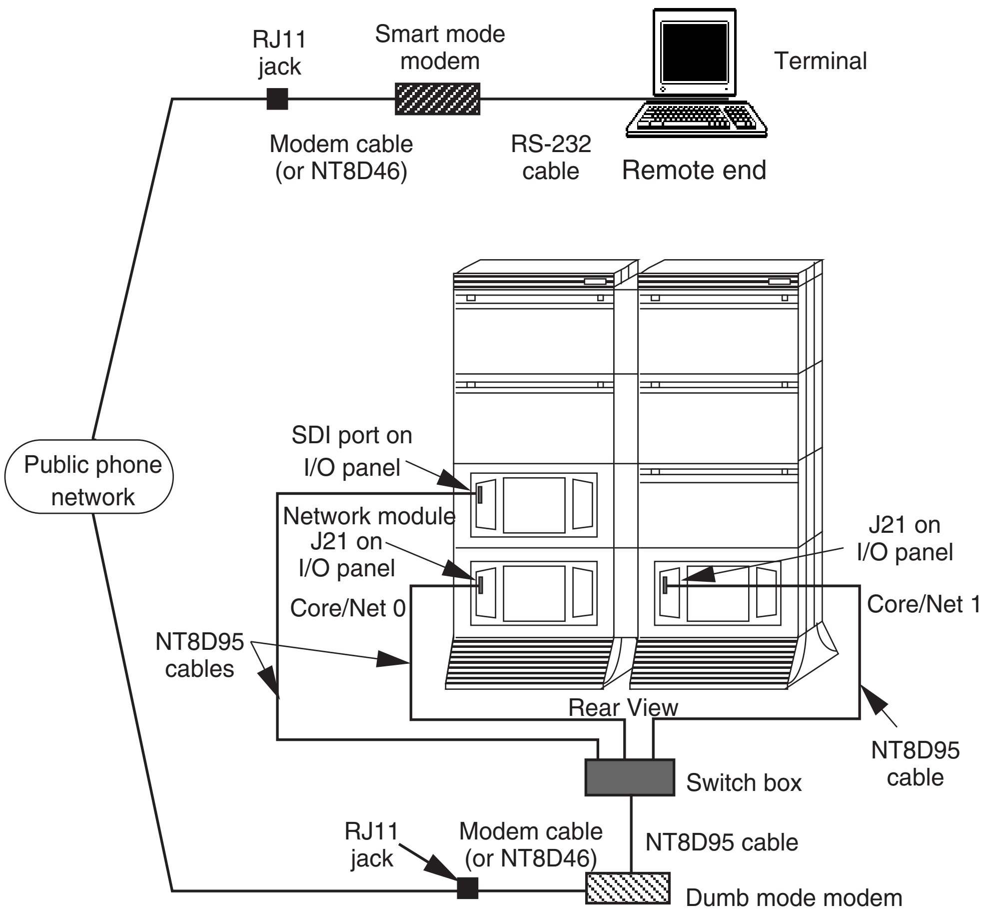
a. During normal operation, set the switch to the SDI port.

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 112
Modem to a switch box and SDI and CPSI ports (dual-column systems)



Note: The A0377992 switch box and A0381391 modem can be used in this configuration.

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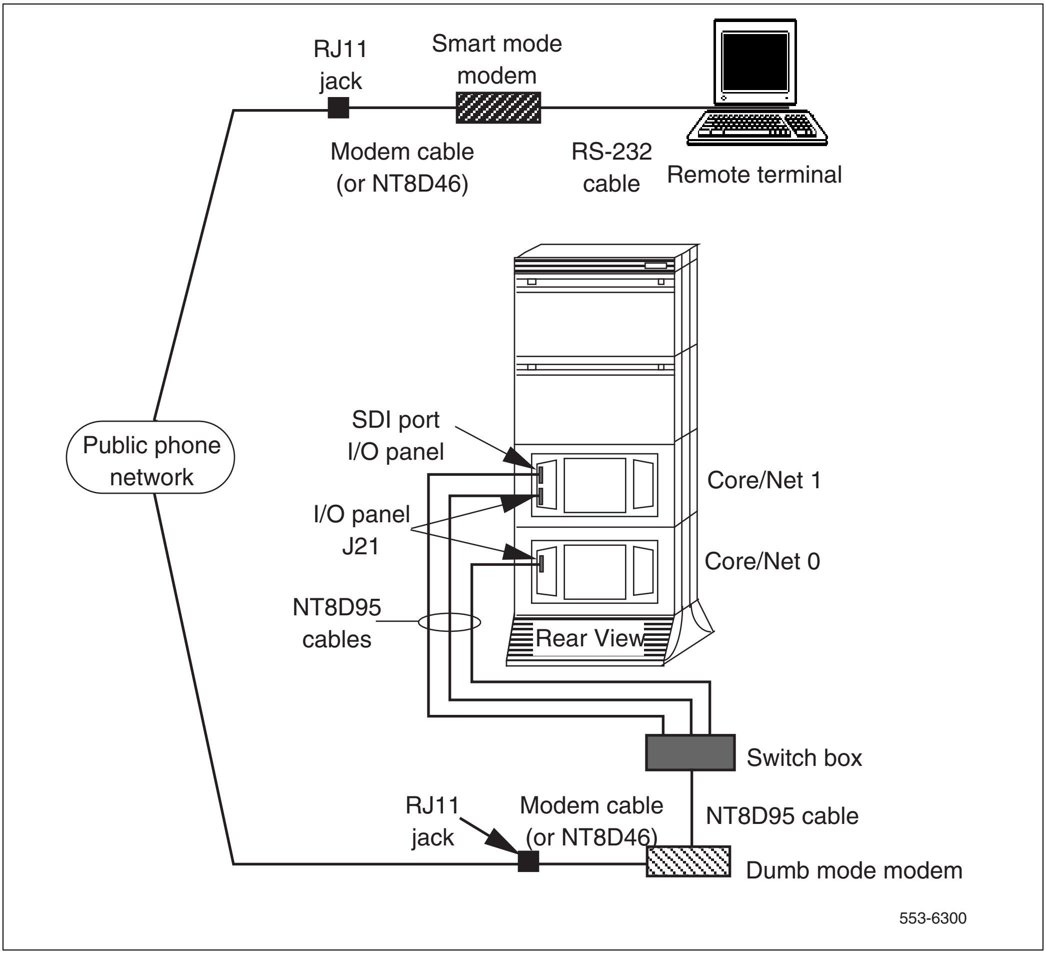
Figure 113
Modem to a switch box and SDI and CPSI ports (single-column systems)



Installing a Signaling Server

Contents

This section contains information on the following topics:

Introduction

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

Of particular note, the IBM X306m and HP DL320-G4 servers require four-post rack mounting, as opposed to two-post rack mounting for the Nortel ISP1100 server.

IMPORTANT!

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

Readiness checklist

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

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

Table 143
Readiness checklist (Part 1 of 2)

Have you:	
Read all safety instructions in *Communication Server 1000M and Meridian 1 Large System Installation and Configuration* (NN43021-310), as appropriate for your CS 1000 system?	
Received all equipment and peripherals? **For a Nortel ISP1100 (NTDU27AA), IBM X306m (NTDU99AAE5), and HP DL320-G4 (NTDU97AA) Signaling Servers:** • installation accessories for rack-mounting the server • AC-power cord • a DTE-DTE null modem cable (supplied) **For a CS 1000M Nortel CP PM Signaling Server (NTDW66AAE5 model)** • NTDW6102E5 - CP PM Signaling Server Hard Drive kit • N0118766 - CP PM Signaling Server Hard Drive Installation instructions • NTAK19ECE6 - CP PM Signaling Server 2 port SDI Cable assembly kit • NTDW69AAE5 - CP PM Signaling Server Large System Cabling kit • N0106745 - CP PM Signaling Large System Cabling • a DTE-DTE null modem cable (supplied) ***Note:*** Save the packaging container and packing materials in case you must ship the product.	
Made sure the area meets all environmental requirements?	
Checked for all power requirements?	
Checked for correct grounding facilities?	

Table 143
Readiness checklist (Part 2 of 2)

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

Installing the CP PM Signaling Server hardware

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

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

(NN43001-311) and *Signaling Server: Installation and Commissioning* (NN43001-312).

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

Installation in a CS 1000M system

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

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

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

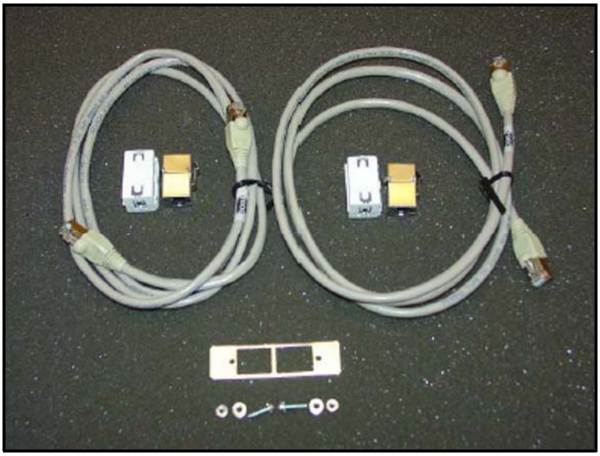
Use the following procedure to install ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM.

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

Procedure 352
Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM

1 Obtain the special cabling kit (NTDW69AAE5) shipped with the CS 1000M model of the Nortel CP PM Signaling Server (NTDW66AAE5). The NTDW69AAE5 cabling kit should include the items shown in Figure 114.

Figure 114
NTDW69AAE5 Cabling Kit contents

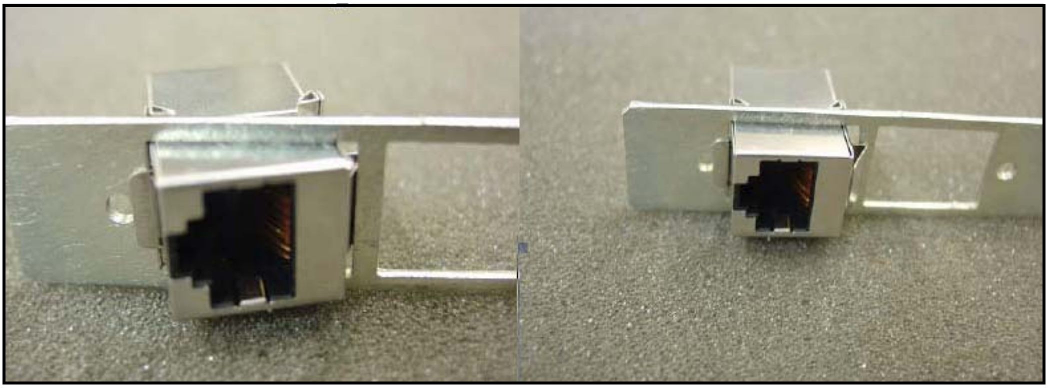


The following is a list of items in the NTDW69AAE5 cabling kit:

- two RJ-45 CAT5 Ethernet patch cables
- two Ethernet port couplers
- one Ethernet port adapter plate
- two screws
- two nuts
- two washers
- two ferrite beads

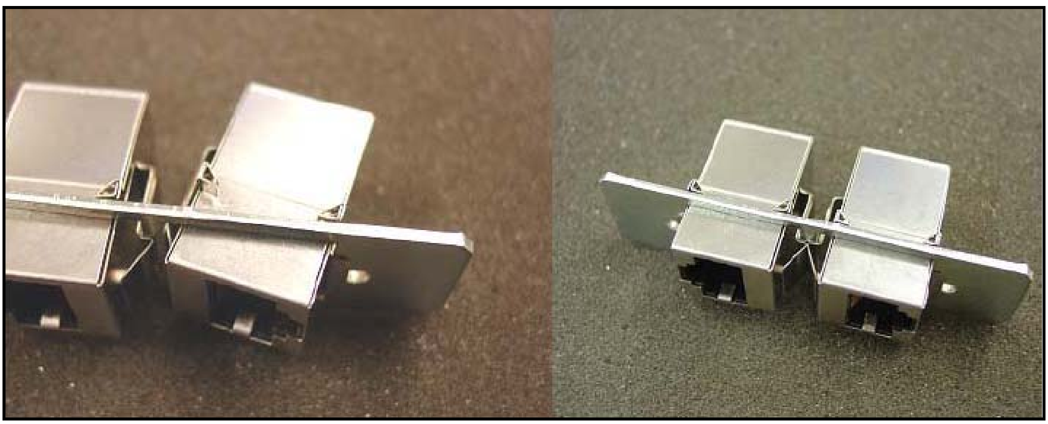
2 Insert an Ethernet port coupler into the adapter plate. See Figure 115.

Figure 115
One Ethernet port coupler in adapter plate



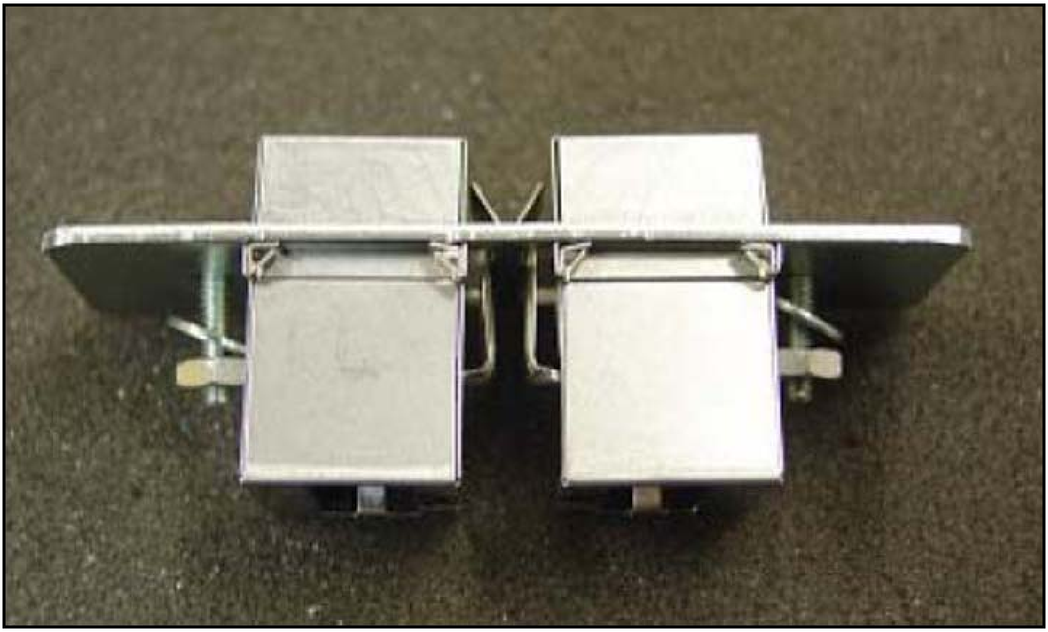
3 Insert the other Ethernet port coupler into the adapter plate. See Figure 116 on page 1148.

Figure 116
Two Ethernet port couplers in adapter plate



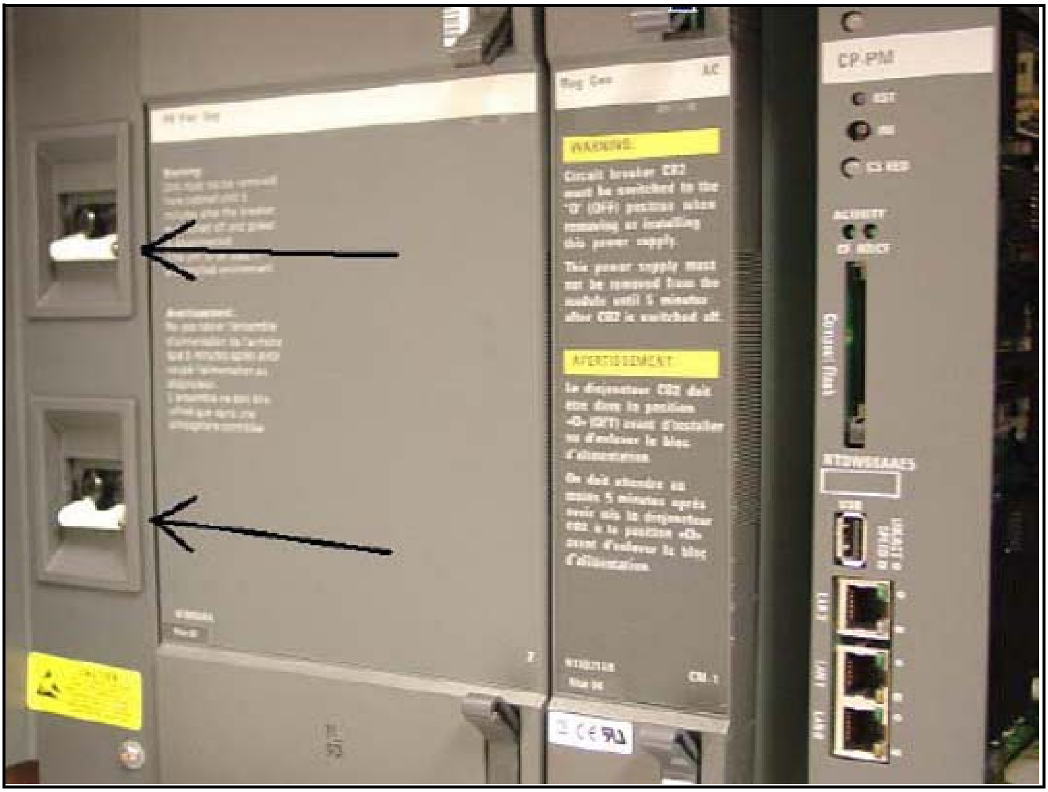
4 Loosely attach screws, washers, and nuts to the Ethernet port adapter plate. See Figure 117.

Figure 117
One Ethernet port coupler in adapter plate



5 Switch off the UEM power supplies. See Figure 118.

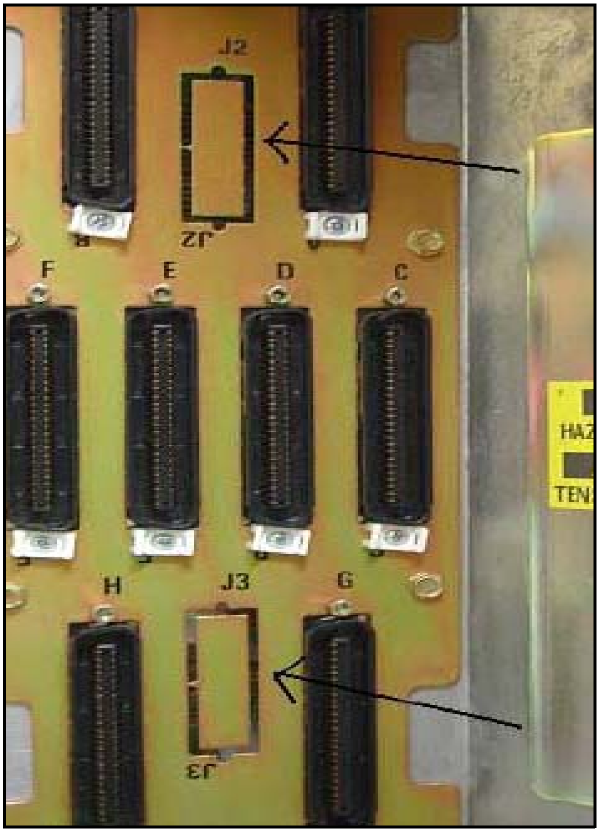
Figure 118
Shut down UEM power supplies



6 Select one of the J2-J5 knock-out plates on the back of the UEM. See Figure 119.

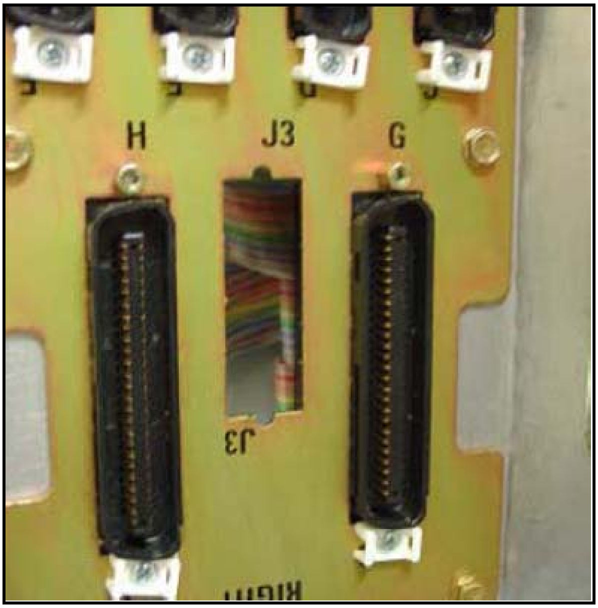
Note: For DC powered systems, you turn breakers off in the pedestal not on the shelf.

Figure 119
J2-J5 plates on back panel of UEM



7 Knock out the metal plate from selected J2-J5 location. This provides a hole through which the Ethernet patch cables are routed, and to which the Ethernet port adapter plate is attached.See Figure 120.

Figure 120
Selected J2-J5 plate on back panel of UEM



8 Establish an ELAN port on the back panel of the UEM.

a. Insert the end of one of the RJ-45 CAT5 Ethernet patch cables (supplied) into the ELAN network interface (ELAN port) on the faceplate of the server.

b. Route the Ethernet patch cable through the hole you made in the back panel of the UEM.

c. Plug the other end of the Ethernet patch cable into one of the Ethernet port couplers mounted in the Ethernet port adapter plate.

d. Label the Ethernet port coupler as ELAN.

See Figure 121 and Figure 122.

Figure 121
ELAN connection on faceplate

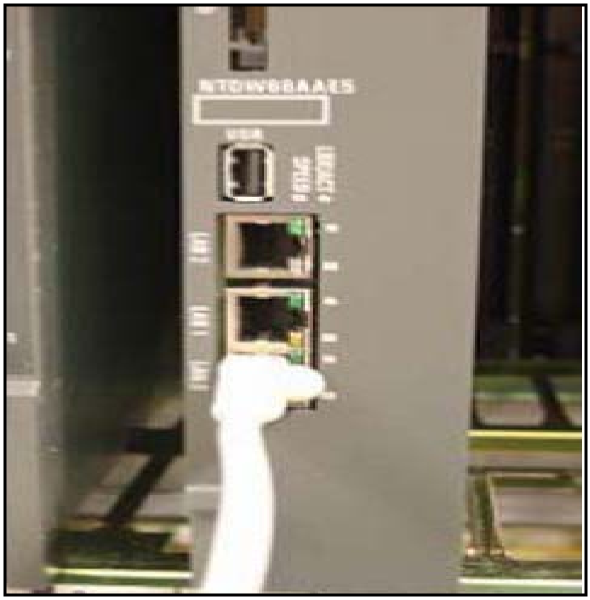


Figure 122
ELAN connection on Ethernet port coupler

9 Connect the server to the TLAN subnet.

a. Insert one end of the remaining RJ-45 CAT5 Ethernet patch cable (supplied) into the TLAN network interface (TLAN port) on the faceplate of the server.

b. Route the Ethernet patch cable through the hole you made in the back panel of the UEM.

c. Plug the other end of the Ethernet patch cable into the remaining Ethernet port coupler mounted in the Ethernet port adapter plate.

d. Label the Ethernet port coupler as TLAN.

See Figure 123 and Figure 124.

Figure 123
TLAN connection on faceplate

Figure 124
TLAN connection on Ethernet port coupler

10 Fit the Ethernet port adapter plate into the hole on the back of the UEM and tighten the screws. See Figure 125.

Figure 125
Installed Ethernet port adapter plate

11 Attach the ferrite beads to the Ethernet patch cables.See Figure 126.

Figure 126
Attached Ethernet patch cable ferrite beads

End of Procedure

Installing a Nortel ISP1100 Signaling Server

Complete Procedure 353 to install the ISP1100 Signaling Server hardware into the 19-inch rack. Refer to *Signaling Server: Installation and Commissioning* (NN43001-312) for additional information.

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

Accessories pouch

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

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

Refer to Figure 127.

Figure 127
ISP1100 Signaling Server mounting accessories

Procedure 353
Preparing an ISP1100 Signaling Server for rack-mounting

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

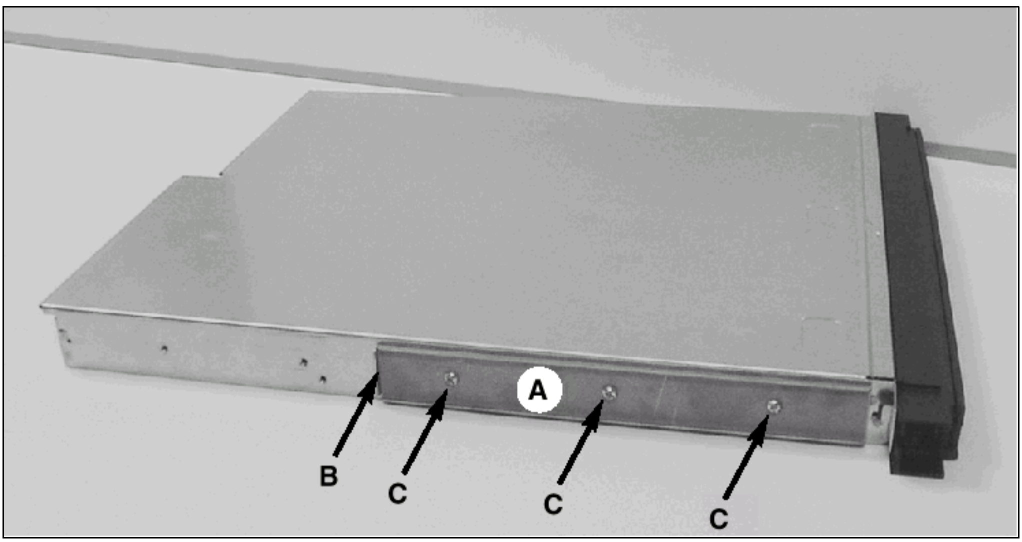
WARNING

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

1 Make sure the Nortel ISP1100 server is not plugged in to an electrical outlet.

2 Align the end of the rail with the flange (B) toward the rear of the ISP1100 Signaling Server. See Figure 128.

Figure 128
Nortel ISP1100 Support bracket



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

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

4 Attach the bezel door to the faceplate of the Signaling Server, as shown in Figure 129 and Figure 130 on page 1162.

Figure 129
Left hinge mount

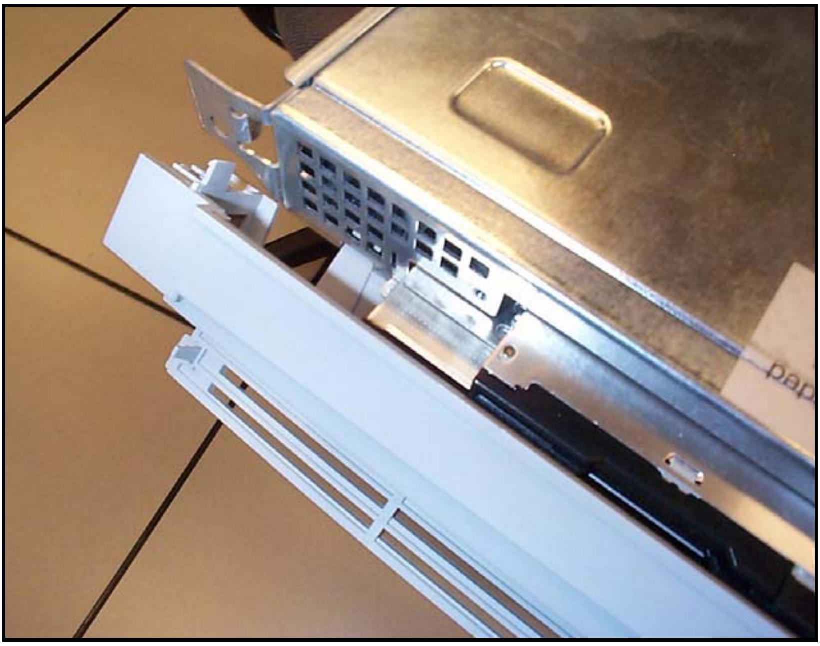
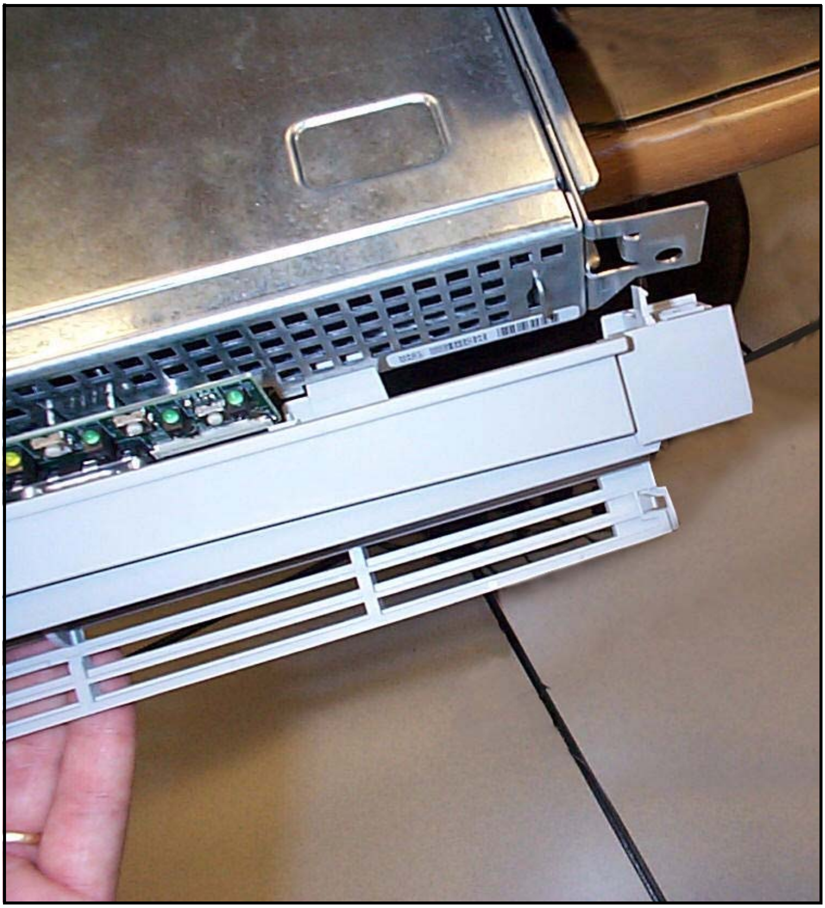
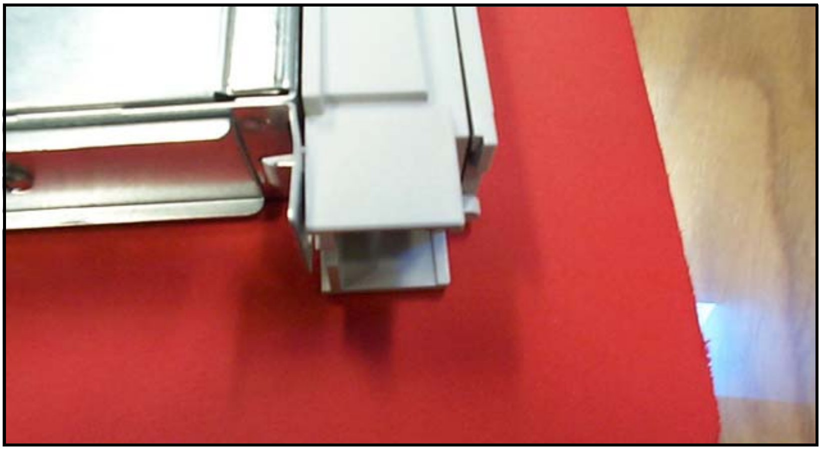


Figure 130
Right hinge mount



When the door is attached to the ISP1100 Signaling Server and rack-mount apparatus, it should appear as shown in Figure 131 on page 1163.

Figure 131
Snapped-in bezel door



End of Procedure

Rack-mounting the Nortel ISP1100 server

Procedure 354
Rack-mounting a ISP1100 Signaling Server

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

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

DANGER OF ELECTRIC SHOCK

DISCONNECT AC POWER

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

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

DANGER OF ELECTRIC SHOCK

GROUNDING THE RACK INSTALLATION

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

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

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

WARNING

MAIN AC POWER DISCONNECT

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

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

WARNING
OVERCURRENT PROTECTION

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

1 Attach the rack-mount brackets (“B” as shown in Figure 127 on page 1159) to the equipment rack. Install the left and right side at an equal height. Use standard length screws from the accessories pouch, and screw them into the top and bottom drill holes of the bracket (see Figure 132 on page 1166).

Figure 132
Installed rack-mount bracket

2 When both brackets are fixed in place:

a. Align the rack-mount brackets on the ISP1100 Signaling Server with the slide rail system on the rack posts.

b. Slide the ISP1100 Signaling Server in place. Refer to Figure 133 on page 1167.

Figure 133
Rack-mounting the ISP1100 Signaling Server

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

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

End of Procedure

Connections

Connection checklist

WARNING

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

IMPORTANT!

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

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

Table 144
Connections checklist

Have you:	
Obtained a serial cable (DTE-DTE null modem cable) to connect the server to a maintenance terminal?	
Obtained the NTAK19EC cable (if you are connecting a Nortel CP PM server)? This cable adapts the 50-pin MDF connector on the back of the shelf of the Media Gateway, Universal Equipment Module, or 11C cabinet to a 25-pin DB connector.	
Obtained the CAT5 cables (or better) to connect the server to the ELAN and TLAN subnets?	

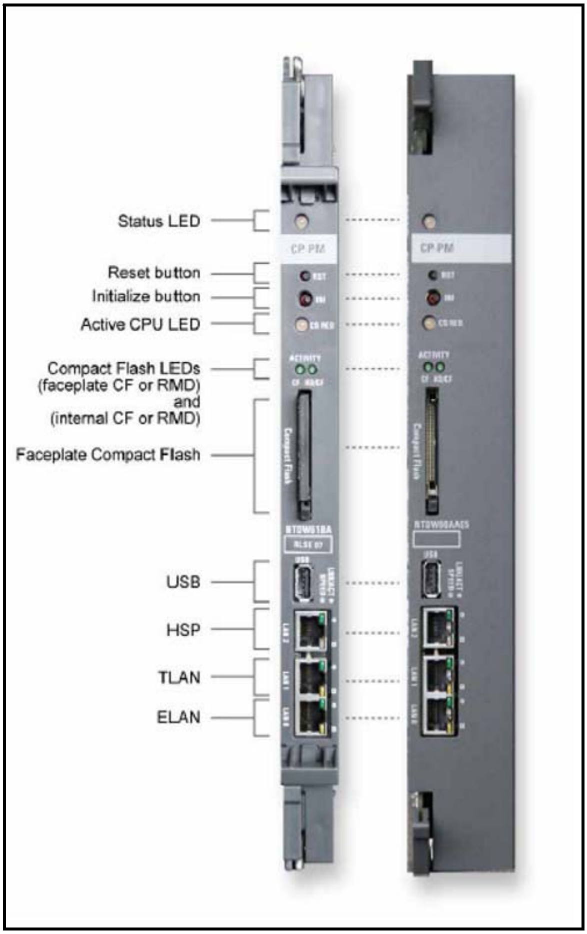
Connecting a Nortel CP PM Signaling Server

This section contains instructions for connecting the NTDW61BAE5 and NTDW66AAE5 models of the Nortel CP PM Signaling Server to the ELAN and TLAN subnet of a CS 1000M system. It also contains instructions for connecting a maintenance terminal to the Nortel CP PM Signaling Server.

The NTDW66AAE5 model of the Nortel CP PM Signaling Server was designed for use in a CS 1000M system. As such, it is inserted into a slot of a Universal Equipment Module (UEM). UEMs do not have built-in ELAN and TLAN Ethernet ports. These Ethernet ports must be installed on the back of the UEM to enable the Nortel CP PM Signaling Server to connect to the ELAN and TLAN subnets of your CS 1000 system (see Procedure 352: "Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM" on page 1147.)

Figure 134 shows the faceplates of the two models of the Nortel CP PM Signaling Server with labeling for all components (NTDW61BAE5 on the left and NTDW66AAE5 on the right).

Figure 134
Faceplates of the Nortel CP PM server



Complete Procedure 355 to connect a Nortel CP PM Signaling Server (model NTDW66AAE5) to the ELAN and TLAN subnets of a CS 1000M system.

IMPORTANT!

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

Procedure 355
Connecting a CP PM Signaling Server to the ELAN and TLAN subnets of a CS 1000M system

1 Insert the end of an RJ-45 CAT5 Ethernet cable (not supplied) into the ELAN network interface port (ELAN port) on the back of the CS 1000M UEM. (You installed this ELAN port at the back of the UEM when you installed the Signaling Server in the UEM. For more information, see Procedure 352: "Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM" on page 1147.

2 Insert the other end of the RJ-45 CAT5 Ethernet cable into an Ethernet port on the ELAN Ethernet switch.

3 Insert the end of another RJ-45 CAT5 Ethernet cable (not supplied) into the TLAN network interface port (TLAN port) on the back of the CS 1000M UEM. (You installed this TLAN port at the back of the UEM when you installed the Signaling Server in the UEM. For more information, see Procedure 352: "Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM" on page 1147.

4 Insert the other end of the RJ-45 CAT5 Ethernet cable into an Ethernet port on the TLAN Ethernet switch.

End of Procedure

Verify or change the baud rate

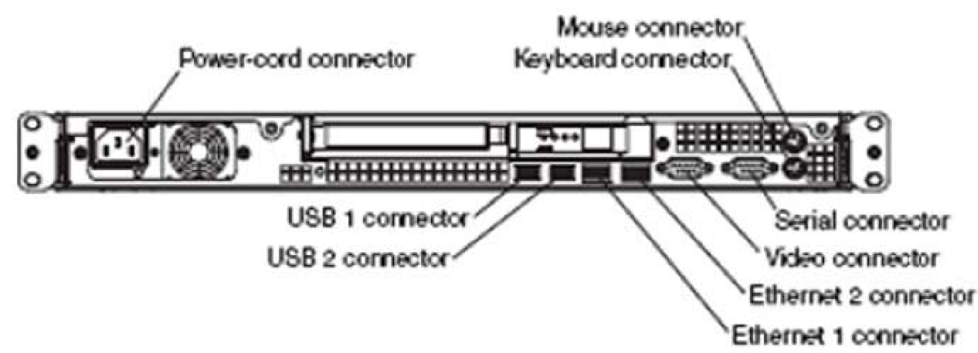
To verify or change the baud rate on a Nortel CP PM Signaling Server, see *Signaling Server: Installation and Commissioning* (NN43001-312).

Connecting an IBM X306m Signaling Server

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

Figure 135 shows the rear view of the IBM X306m Signaling Server.

Figure 135
IBM X306m Signaling Server (rear view)



Note: Refer to Figure 135 when performing the following procedure.

Procedure 356
Connecting an IBM X306m Signaling Server

1. Connect the Signaling Server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable into Port 1 (TLAN network interface) on the back of the Signaling Server. Port 1 is the right-most of the two network interfaces.
2. Connect the Signaling Server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable into PEthernet 2 connector (ELAN network interface) on the back of the Signaling Server. Port 2 is the left-most of the two network interfaces.
3. Connect a DTE–DTE null modem serial cable from the serial port on the back of the Signaling Server to the serial port on a maintenance terminal.
4. Connect the Signaling Server power cord.

a. Check that the power cord is the type required in the region where the Signaling Server is used. Do not modify or use the supplied AC power cord if it is not the correct type.

b. Attach the female end of the power cord to the mating AC power receptacle on the left side of the Signaling Server's back panel. Plug the male end of the AC power cord into the AC power source (wall outlet).

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

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

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

7 Press the Power switch.

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

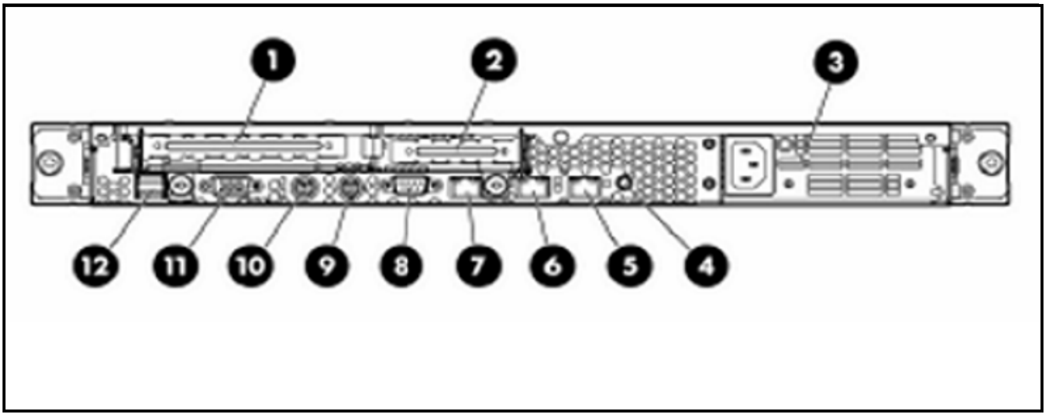
End of Procedure

Connecting an HP DL320-G4 Signaling Server

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

Figure 136 shows the rear view of the HP DL320-G4 Signaling Server.

Figure 136
HP DL320-G4 Signaling Server (rear view)



Procedure 357
Connecting an HP DL320-G4 Signaling Server

1 Connect the Signaling Server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable labeled with the number 5 into the port (TLAN network interface) on the back of the Signaling Server.

2 Connect the Signaling Server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable labeled with the number 6 into the port (ELAN network interface) on the back of the Signaling Server.

3 Connect a DTE–DTE null modem serial cable from the Serial Port on the back of the Signaling Server to a maintenance terminal.

4 Connect the Signaling Server power cord.

a. Check that the power cord is the type required in the region where the Signaling Server is used. Do not modify or use the supplied AC power cord if it is not the correct type.

b. Attach the female end of the power cord to the mating AC power receptacle on the right-hand side of the Signaling Server's back panel. Plug the male end of the AC power cord into the AC power source (wall outlet).

5 Configure the COM1 serial port as the communication port for the connected maintenance terminal. Set the COM 1 baud rate for the serial port on the Signaling Server to 9 600 b/ps. See *Signaling Server: Installation and Commissioning* (NN43001-312).

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

7 Press the Power switch.

End of Procedure

Maintenance terminal configuration parameters

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

Installing the Signaling Server software

IMPORTANT!

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

Introduction

This section provides installation procedures for CS 1000 Release 5.5 Signaling Server software on an IBM X306m or HP DL320-G4 Signaling Server.

IMPORTANT!

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

> **IMPORTANT!**
>
> CS 1000 Release 5.5 Signaling Server software does not need to be installed on the CP PM Signaling Server. It is delivered with the Signaling Server software, operating system, applications and Web files pre-loaded onto the hard drive. Only basic system configuration parameters need to be entered on the first boot of the CP PM Signaling Server.

Before you begin

Before installing the software, you must do the following:

- Connect and power up the Signaling Server. See "Connections" on page 1168.
- For CP PM Signaling Servers, ensure that Switch S5 is set to position 2 (to support the internal hard disk drive)
- For IBM X306m and HP DL320-G4 Signaling Servers, you must obtain the CS 1000 Release 5.5 Signaling Server Software Install CD.
- Nortel advises that you remove the wire on the CF card clip before inserting the card into the slot. The clip can fall open and could cause a short.

Installing the Signaling Server software

To install software and enter basic system configuration parameters on an IBM X306m or HP DL320-G4 Signaling Server, complete Procedure 358.

Leading, following, standalone servers

The IP information applies to a temporary IP Telephony node, to ensure that the existing node is not affected. The entry of data networking and IP telephony parameters also preconfigures the IP Telephony node files. After the Signaling Server software installation, the node files are imported into Element Manager for further configuration (see "Importing IP Telephony nodes" in *Signaling Server: Installation and Commissioning* (NN43001-312)).

If you are installing a Leader Signaling Server, enter the parameters for the Node, ELAN network interface, TLAN network interface, and Call Server as required.

- If installing the Signaling Server at an office that is not a branch office, enter the ELAN network interface IP address of the Call Server.
- If installing the Signaling Server at a branch office, enter the ELAN network interface IP address of the MG 1000B Core.

If you are installing a Follower Signaling Server, enter the Hostname of the Leader Signaling Server.

If you are installing a stand-alone Signaling Server and not associated with a Call Server, the TLAN subnet parameters are required. The Call Server IP address is automatically set to 0.0.0.0.

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

Procedure 358
Installing Signaling Server software

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

1 From your Planning and Engineering group, obtain the following network and IP Telephony data for this Signaling Server:

- node ID for the IP Telephony node
- node IP address for the IP Telephony node
- hostname for the Signaling Server
- ELAN network interface IP address, Subnet mask, and Gateway
- TLAN network interface IP address, Subnet mask, and Gateway
- ELAN network interface IP address of the Call Server
- Primary and Alternate NRS IP addresses for this networked system. Refer to *IP Peer Networking: Installation and Commissioning* (NN43001-313)
- NRS role, if applicable. Refer to *IP Peer Networking: Installation and Commissioning* (NN43001-313)

2 Boot the Signaling Server from the Removable Media Device (RMD):

- For IBM X306m, HP DL320-G4, or Nortel ISP1100 Signaling Servers, insert the CS 1000 Release 5.5 Signaling Server bootable Software CD into the CD drive and press the RST button on the front panel of the Signaling Server to trigger a cold boot. This forces the Signaling Server to boot from the CD.
- For a Nortel CP PM Signaling Server, insert the CS 1000 Release 5.5 Signaling Server Software CF card into the faceplate CF drive and press the RST button on the faceplate of the Signaling Server to trigger a cold boot. The CP PM System BIOS Configuration screen appears (see Figure 137) with an instruction to press F to force the Signaling Server to boot from the CF card.

Note: Ensure that the appropriate DEP list is obtained. Go to www.nortel.com/ESPL to download the latest DEP lists.

Figure 137
Nortel CP PM system BIOS configuration

```
+-------------------------------------------------------------------------+
        System BIOS Configuration, (C) 2005 General Software, Inc.        |
+------------------------------------+------------------------------------+
 System CPU       : Pentium M         | Low Memory       : 632KB           |
 Coprocessor      : Enabled           | Extended Memory  : 1011MB          |
 Ide 0 Type       : 3                 | Serial Ports 1-2 : 03F8 02F8       |
 Ide 1 Type       : 3                 | ROM Shadowing    : Enabled         |
 Ide 2 Type       : 3                 | BIOS Version     : NTDU74AA 15     |
+------------------------------------+------------------------------------+

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

- The VxWorksTM banner screen appears (see Figure 138) followed by system messages indicating that the Signaling Server Software Installation Tool is being loaded from either the Signaling Server Software CD or CF Card.

Figure 138
VxWorks system banner

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

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

When the Install Tool banner appears (Figure 139), press <CR> to perform system checks and begin software installation.

Figure 139
Install Tool banner screen

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


         #####
       #########   ########
      ########`` `#############
     ########      ``    `#############
    #######`         ######```####
    #######      ######``     `###          NORTEL NETWORKS
   #######    #####``          ####
   ####### #####`              #### Communication Server 1000 Software
   `#########`                ####`
    #######`                 #####      Copyright 2002 - 2006
    `#######               #####'
    ##########            `###`
   ##``##########            #
  ##    `#######################
  `#      `#######################
    ##########################``
     `````````  ````####````


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

**3** Press <CR> to perform system checks. If the system has less than 1 GB of RAM, the following error message appears:

```
WARNING: Your system has less than 1 GB RAM.
In order to run Rls 5.5 software you must
upgrade RAM to 1 GB and repeat install.
Otherwise serious service problems are likely
```

Press <CR> to quit. Upgrade to 1 GB of RAM (see *Signaling Server: Installation and Commissioning* (NN43001-312)) and restart the Signaling Server Install Tool again.
```

The system verifies the file systems.

- If the hard drive of the Signaling Server is not partitioned, the file systems verification process fails. Upon failure, the menu in Figure 140 appears.

Figure 140
File systems verification failure

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

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

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

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

        Enter Choice> a
```

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

The system displays the messages:

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

Creating filesystems ...
Filesystems creation succeeded.

Rebooting system ...
```

b. The Install Tool banner screen (Figure 139 on page 1180) reappears. Go back to beginning of Step 2. If the hard drive of the Signaling Server is partitioned, the following system messages appear.

```
Filesystems verification succeeded.
```

c. Confirm or enter the date and time (Figure 141 on page 1182).

Figure 141
Date and time

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

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

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

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

- When reinstalling the software on an existing system, the system verifies the file systems. The disk check reports:

  `Filesystems verification succeeded.`

  The system summary appears (Figure 142 on page 1183). Enter **a** to continue the installation.

  Note: For a new installation, the data fields in the system summary are blank.

Figure 142
System Summary

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

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

+==================================================================+
|  Hostname: SS_Node276_Ldr          S/W Ver: x.xx.xx              |
|                                                                  |
|      Role: Leader                  Set TPS: Disabled             |
|   Node ID:                        Vtrk TPS: Disabled             |
|   Node IP:                      NRS Config: Alternate SIP        |
|  H.323 ID: SS_Node276_Ldr            CS IP:                      |
|                                                                  |
|   ELAN IP: 192.168.10.20           TLAN IP: 192.168.20.20        |
|   ELAN SM: 255.255.255.0           TLAN SM: 255.255.255.0        |
|   ELAN GW: 192.168.10.1            TLAN GW: 192.168.20.1         |
|  ELAN MAC: 00:02:b3:c5:51:c6      TLAN MAC: 00:02:b3:c5:51:c7    |
+==================================================================+
        Please enter:
<CR> -> <a> - Continue with Install Tool.
        <q> - Quit.

        Enter Choice>
```

Figure 143
Install Tool Main Menu

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

                       M A I N   M E N U

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

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

        Enter Choice>
```

4 At the Main Menu (Figure 143), enter **a** to install Signaling Server software. Option **a** performs options **b**, **c**, **d**, and **e**.

The following sample lines display on the screen:

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

The Dependency Lists installation screen appears (Figure 144).

Figure 144
Dependency lists installation

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


Do you want to install Dependency Lists?.


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

        Enter Choice>
```

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

The Installation status screen appears (Figure 145 on page 1186).

Figure 145
Installation Status

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

+=================+========+========+======================================+
|      Option     | Choice | Status |                Comment               |
+=================+========+========+======================================+
| Software        |  no    |        | new install x.xx.xx                  |
+-----------------+--------+--------+--------------------------------------+
| Dependency Lists|  no    |        | copy ALL                             |
+-----------------+--------+--------+--------------------------------------+
| firmware        |  no    |        | copy ALL                             |
+-----------------+--------+--------+--------------------------------------+
| loadware        |  no    |        | copy ALL                             |
+-----------------+--------+--------+--------------------------------------+
| configuration   |  no    |        |                                      |
+-----------------+--------+--------+--------------------------------------+

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

        Enter Choice>
```

6 Enter **y** to start the installation. The screens shown in Figures 146 to 152, which start on page 1187, appear.

Figure 146
Installation output

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

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

Starting new install of version x.xx.xx.

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

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

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

Figure 147
Software installation success

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

Software version x.xx.xx was installed successfully.

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

Figure 148
IP Phone firmware

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

The installation source contains multiple Internet Telephone firmware
files.

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

Figure 149
Voice Gateway Media Card loadware

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

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

Copying “/cd0/IPL4xxxx.p2” to “/u/fw/IPL4xxxx.p2”.
Copying “/cd0/IPL4xxxx.sa” to “/u/fw/IPL4xxxx.sa”.
```

7 After the Signaling Server software and system components are installed, the Restore IP configuration screen appears (Figure 150 on page 1189).

Figure 150
Restore IP configuration

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

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

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

        Enter Choice> b
```

8 Do one of the following:

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

  ```
  Done copying IP configuration to disk
  ```

  The IP Telephony parameter confirmation screen appears (Figure 151 on page 1190). Go to step 12 on page 1216.

Figure 151
IP telephony parameter confirmation

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

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

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

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

        Enter Choice>
```

9 If you are installing a new Signaling Server, or you are migrating a Follower or Standalone Signaling Server (see "Signaling Server migration" in *Signaling Server: Installation and Commissioning* (NN43001-312)), select b to bypass the restoration of IP configuration data. The Signaling Server role selection screen appears (Figure 152 on page 1191).

Figure 152
Signaling Server role selection

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

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

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


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

        Enter Choice>
```

10 Configure the Signaling Server as Leader or Follower. See Figure 152 on page 1191.

- If there is already a Leader Signaling Server in the IP Telephony node, enter **b** at the prompt to set this Signaling Server as Follower. The Follower Signaling Server configuration screen appears (Figure 153 on page 1192). Go to step 10 on page 1212.

Figure 153
Follower Signaling Server configuration

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

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

To identify this Signaling Server, please enter a Hostname.

Hostname : SS_Node276_Ldr
```

- If there is not already a Leader Signaling Server in the IP Telephony node, or if the Signaling Server is to be a stand-alone Signaling Server, enter **a** at the prompt to configure this Signaling Server as Leader. The Application configuration screen appears (Figure 154 on page 1193).

Figure 154
Application configuration

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

Please select the application configuration for this Signaling Server.

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

        Enter Choice>
```

11 Configure the application configuration for this Signaling Server. See Figure 154 on page 1193.

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

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

Figure 155
Network Routing Service (NRS) — co-resident Signaling Server

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

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

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

        Enter Choice>
```

Figure 156
Network Routing Service (NRS) — stand-alone Signaling Server

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

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

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

        Enter Choice>
```

12 Select the Network Routing Service (NRS) to be provided by this Signaling Server. See Figure 155 on page 1194 for a co-resident Signaling Server or Figure 156 on page 1194 for a stand-alone Signaling Server.

- Enter **d** if this Signaling Server is configured as a Coresident Leader and is not providing an H.323 Gatekeeper. Go to step 13.
- Press <CR> or enter **a** if this Signaling Server is to provide an H.323 Gatekeeper and a SIP Redirect/Proxy Server.
- Enter **b** if this Signaling Server is to provide only an H.323 Gatekeeper.
- Enter **c** if this Signaling Server is to provide only a SIP Redirect/Proxy Server.Refer to *Network Routing Service Installation and Commissioning* (NN43001-564) for more information on the NRS.

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

Figure 157
NRS type — co-resident Signaling Server

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

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

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

        Enter Choice>
```

Figure 158
NRS type — stand-alone Signaling Server

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

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

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

        Enter Choice>
```

13 Select the type of NRS to be provided by this Signaling Server. See Figure 157 for a co-resident Signaling Server.

- If this Signaling Server is to be the Primary NRS, enter **a**.
- If this Signaling Server is to be the Alternate NRS, enter **b**.
- If this Signaling Server is not a stand-alone Signaling Server and is to be the Fail-safe NRS, enter **c**.

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

Depending on whether the Signaling Server is configured as Leader or Standalone, either the Leader Signaling Server configuration screen (Figure 159) or the Standalone Signaling Server configuration screen (Figure 160) appears.

Figure 159
Leader Signaling Server configuration

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

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

Node ID          : 276

Hostname         : SS_Node276_Ldr

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

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

Node IP          : 192.168.10.20

Call Server IP   : 192.168.10.10
```

Figure 160
Stand-alone Signaling Server configuration

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

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

Hostname         : SS_SA

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

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

14 Enter the data networking and IP telephony parameters for the Signaling Server, as prompted. The IP information applies to a temporary IP Telephony node, to ensure that the existing node is not affected. The entry of data networking and IP telephony parameters also preconfigures the IP Telephony node files. After the Signaling Server software installation, the node files are imported into Element Manager for further configuration (see "Importing IP Telephony nodes" in *Signaling Server: Installation and Commissioning* (NN43001-312)).

- If this is a Leader Signaling Server, enter the parameters for the Node, ELAN network interface, TLAN network interface, and Call Server as required.
  - — If installing the Signaling Server at an office that is not a branch office, enter the ELAN network interface IP address of the Call Server.
  - — If installing the Signaling Server at a branch office, enter the ELAN network interface IP address of the MG 1000B Core.
- If this is a Follower Signaling Server, enter the Hostname of the Leader Signaling Server. Then go to step 16 on page 1200.
- If this is a stand-alone Signaling Server and not associated with a Call Server (that is, **b** was selected in step 11 on page 1193), enter the TLAN subnet parameters as required. The Call Server IP address is automatically set to 0.0.0.0.

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

Figure 161
Primary NRS IP address

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

Please enter the Primary NRS IP Address:

Primary NRS IP    :
```

Figure 162
Alternate NRS IP address

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

Please enter the Alternate NRS IP Address:

Alternate NRS IP :
```

15 Enter the Primary NRS IP address or the Alternate NRS IP address, depending on the option entered in step 12 on page 1195 or step 13 on page 1196.

- If **a** was entered in step 13, you can enter the address of the Alternate NRS if you know it, but it is not required. See.
- If **b** was entered in step 13, enter the address of the Primary NRS.
- If **c** was entered in step 13:
  - — Enter the address of the Primary NRS.
  - — Enter the address of the Alternate NRS.
- If **d** was entered in step 12:
  - — Enter the address of the Primary NRS (optional).
  - — If you did enter the address of the Primary NRS, enter the address of the Alternate NRS (also optional).

The NRS configuration can be updated later using Element Manager.

The IP Telephony parameter confirmation screen appears (Figure 163).

Figure 163
IP Telephony parameter configuration

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

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

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

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

        Enter Choice>
```

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

The example in Figure 163 on page 1200 is for a Leader Signaling Server configured with an Alternate H.323 and SIP NRS. The confirmation screens for a Follower and stand-alone Signaling Server are similar, showing the same list of parameters, specifically:

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

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

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

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

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

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

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

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

17 To complete the installation, the Installation Status Summary screen appears as shown in Figure 164 on page 1202.

Figure 164
Installation Status Summary

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

+=================+========+========+=======================================+
|      Option     | Choice | Status |                Comment                |
+=================+========+========+=======================================+
| software        |  yes   |   ok   | new install x.xx.xx                   |
+-----------------+--------+--------+---------------------------------------+
| Dependency Lists|  yes   | ignore | copy NONE                             |
+-----------------+--------+--------+---------------------------------------+
| firmware        |  yes   |   ok   | copy Ixxxx version x.xx               |
| firmware        |  yes   |   ok   | copy Ixxxx version x.xx               |
| firmware        |  yes   |   ok   | copy PhaseX IP Firmware version x.xx  |
| firmware        |  yes   |   ok   | copy Ixxxx IP Firmware version x.xx   |
| firmware        |  yes   |   ok   | copy Ixxxx IP Firmware version x.xx   |
| firmware        |  yes   |   ok   | copy Ixxxx IP Firmware version x.xx   |
| firmware        |  yes   |   ok   | copy Ixxxx IP Firmware version x.xx   |
+-----------------+--------+--------+---------------------------------------+
| loadware        |  yes   |   ok   | copy IP Line x.xx.xx for P2           |
| loadware        |  yes   |   ok   | copy IP Line x.xx.xx for SA           |
| loadware        |  yes   |   ok   | copy IP Line x.xx.xx for MC32S        |
+-----------------+--------+--------+---------------------------------------+
| configuration   |  no    |   no   | set as Leader                         |
+-----------------+--------+--------+---------------------------------------+

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

18 Press <CR> to exit to the Main Menu (see Figure 165 on page 1203). Enter q at the Main Menu to quit the installation process. Figure 166 on page 1204 appears. Enter q again.

Figure 165
Install Tool Main Menu

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

                       M A I N   M E N U

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

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

        Enter Choice>
```

Figure 166
Quit

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

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

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

        Enter Choice> q
```

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

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

Rebooting system ....
```

End of Procedure

First boot of a new Nortel CP PM Signaling Server

Nortel CP PM Signaling Servers have CS 1000 Release 5.5 software, applications, operating system, and Web files preloaded on the hard drive when they are shipped. On the first boot of a Nortel CP PM Signaling Server, the Signaling Server Software Installation Tool prompts you to enter basic system configuration parameters.

Before you begin

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

- Install and connect the Signaling Server (refer to “Installing the CP PM Signaling Server hardware” on page 1145).

- Obtain the network and IP Telephony data for the Signaling Server from your Planning and Engineering group:
  - node ID for the IP Telephony node
  - node IP address for the IP Telephony node
  - hostname for the Signaling Server
  - ELAN network interface IP address, Subnet mask, and Gateway
  - TLAN network interface IP address, Subnet mask, and Gateway
  - ELAN network interface IP address of the Call Server
  - Primary and Alternate NRS IP addresses for this networked system. Refer to *IP Peer Networking: Installation and Commissioning* (NN43001-313)
  - NRS role, if applicable. Refer to *IP Peer Networking: Installation and Commissioning* (NN43001-313)

Entering basic system parameters

Procedure 359
Entering basic system configuration parameters

1. Press the RST button on the faceplate of the CP PM Signaling Server. This cold-reboots the Signaling Server and triggers the Install Tool on the hard drive (see Figure 167)

Figure 167
Install Tool banner screen

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


         #####
       #########   ########
      ########`` `############
     ########      ``     `#############
    #######`         ######```####
    #######      ######``     `###          NORTEL NETWORKS
   #######    #####``          ####
   ####### #####`              #### Communication Server 1000 Software
   `#########`                ####`
    #######`                 #####      Copyright 2002 - 2006
    `#######               #####'
    ##########           `###`
   ##``##########           #
  ##   `########################
  `#     `########################
    ###########################``
     `````````  ````####````


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

2. Press <CR> to continue with the configuration. The Restore IP configuration screen appears (Figure 168).
```

Figure 168
Restore IP configuration

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

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

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

        Enter Choice> b
```

3 Enter b at the prompt to bypass the restore of IP configuration data. The CP PM board location screen appears (Figure 169).

Figure 169
CP PM board location

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

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

Please enter new IPMG location for this CPPM SS, or press <CR> to skip.

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


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

4 Enter the location of the loop and shelf card.

5 The Leader/Follower configuration screen appears (Figure 170).

Figure 170
Leader/Follower Signaling Server configuration

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

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

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


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

        Enter Choice>
```

6 Configure the Signaling Server as a Leader or Follower. If there is already a Leader Signaling Server in the IP Telephony node, enter b at the prompt to configure this Signaling Server as Follower. The Follower Signaling Server configuration screen appears (Figure 171). Go to step 15 on page 1199.

Figure 171
Follower Signaling Server configuration

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

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

To identify this Signaling Server, please enter a Hostname.

Hostname : SS_Node276_Ldr
```

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

8 Configure the application configuration for this Signaling Server. See Figure 172.

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

Figure 172
Application configuration

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

Please select the application configuration for this Signaling Server.

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

        Enter Choice>
```

Depending on the application configuration selected, either the NRS type: co-resident Signaling Server screen (Figure 173 on page 1210) or the NRS type: standalone Signaling Server screen (Figure 174 on page 1210) appears.

Figure 173
Standalone Signaling Server - NRS

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

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

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

        Enter Choice>
```

Figure 174
NRS type — co-resident Signaling Server

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

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

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

        Enter Choice>
```

9 Select the type of NRS to be provided by this Signaling Server. See Figure 174 for a co-resident Signaling Server. See Figure 173 for a stand-alone Signaling Server.

- If this Signaling Server is to be the Primary NRS, enter **a**.
- If this Signaling Server is to be the Alternate NRS, enter **b**.
- If this Signaling Server is not a stand-alone Signaling Server and is to be the Fail-safe NRS, enter **c**.

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

Depending on whether the Signaling Server is configured as Leader, Follower or Stand-alone, the Leader Signaling Server configuration screen (Figure 175), the Follower Signaling Server configuration screen (Figure 176) or the Stand-alone Signaling Server configuration screen (Figure 177) appears.

Figure 175
Leader Signaling Server configuration

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

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

Node ID          : 276

Hostname         : SS_Node276_Ldr

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

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

Node IP          : 192.168.10.20

Call Server IP   : 192.168.10.10
```

Figure 176
Follower Signaling Server configuration

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

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

To identify this Signaling Server, please enter a Hostname.

Hostname : SS_Node276_Ldr
```

Figure 177
Stand-alone Signaling Server configuration

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

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

Hostname         : SS_SA

ELAN IP          : 192.168.10.20
ELAN subnet mask: 255.255.255.0
ELAN gateway IP : 192.168.10.1

TLAN IP          : 192.168.20.20
TLAN subnet mask: 255.255.255.0
TLAN gateway IP : 192.168.20.1
```

10 Enter the data networking and IP telephony parameters for the Signaling Server, as prompted.

- If this is a Leader Signaling Server, enter the parameters for the Node, ELAN network interface, TLAN network interface, and Call Server as required. See Figure 159 on page 1197. For the Call Server:
  - — If installing the Signaling Server at an office that is not a branch office, enter the ELAN network interface IP address of the Call Server.

— If installing the Signaling Server at a branch office, enter the ELAN network interface IP address of the MG 1000B Core.

- If this is a Follower Signaling Server, enter the Hostname of the Leader Signaling Server. The IP telephony parameter configuration screen appears (Figure 178 on page 1213).

Figure 178
IP Telephony parameter configuration

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
------------------------------------------------------------

You have entered the following parameters for this Leader SS :
(Press <a>-<l> to correct, <y> to proceed, <n> to reconfigure all.)

        Please enter:
<CR> -> <y> - Yes, these parameters are correct.
        <n> - Re-enter all of the parameters

        <a> - Node ID              : 9
        <b> - Hostname             : CS1000E_PIV
        <c> - ELAN IP              : 192.167.102.4
        <d> - ELAN subnet mask     : 255.255.255.0
        <e> - ELAN gateway IP      : 192.167.102.1
        <f> - TLAN IP              : 192.167.103.2
        <g> - TLAN subnet mask     : 255.255.255.0
        <h> - TLAN gateway IP      : 192.167.103.1
        <i> - Node IP              : 192.167.103.3
        <j> - Call Server IP       : 192.167.102.3
              NRS configuration    : Primary GK + SIP
        <k> - Primary NRS IP       : 192.167.103.2
        <l> - Alternate NRS IP     :

        Enter Choice>
```

- Proceed to step 16 on page 1200.

- If this is a stand-alone Signaling Server and not associated with a Call Server (that is, **b** was selected in step 11 on page 1193), enter the TLAN subnet parameters as required. The Call Server IP address is automatically set to 0.0.0.0.

The IP information applies to a temporary IP Telephony node. This ensures that the existing node is not impacted. This also preconfigures the IP Telephony node files. In *Signaling Server: Installation and Commissioning* (NN43001-312), the node files are imported to Element Manager for further configuration.

Depending on whether the Signaling Server is configured as Primary, Alternate or Stand-alone, the Primary NRS IP address screen (Figure 179), the Alternate NRS IP address screen (Figure 180), or both in succession (for a Stand-alone Signaling Server) appear.

Figure 179
Primary NRS IP address

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====================================================================

Please enter the Primary NRS IP Address:

Primary NRS IP    :
```

Figure 180
Alternate NRS IP address

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====================================================================

Please enter the Alternate NRS IP Address:

Alternate NRS IP :
```

11 Enter the Primary NRS (Gatekeeper) IP address or the Alternate NRS IP address, depending on the option entered in step 12 on page 1195 or step 13 on page 1196.

- If **a** was entered in step 13, you can enter the address of the Alternate NRS if you know it, but it is not required. See Figure 162 on page 1199.
- If **b** was entered in step 13, enter the address of the Primary NRS. See Figure 161 on page 1198.

- If **c** was entered in step 13:
  - — Enter the address of the Primary NRS. See Figure 161.
  - — Enter the address of the Alternate NRS. See Figure 162.
- If **d** was entered in step 12:
  - — Enter the address of the Primary NRS (optional).
  - — If you did enter the address of the Primary NRS, enter the address of the Alternate NRS (also optional).

The NRS configuration can be updated later using Element Manager. The IP telephony parameter configuration screen appears (Figure 181).

Figure 181
IP Telephony parameter configuration

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
------------------------------------------------------------

You have entered the following parameters for this Leader SS :
(Press <a>-<l> to correct, <y> to proceed, <n> to reconfigure all.)

        Please enter:
<CR> -> <y> - Yes, these parameters are correct.
        <n> - Re-enter all of the parameters

        <a> - Node ID             : 9
        <b> - Hostname            : CS1000E_PIV
        <c> - ELAN IP             : 192.167.102.4
        <d> - ELAN subnet mask    : 255.255.255.0
        <e> - ELAN gateway IP     : 192.167.102.1
        <f> - TLAN IP             : 192.167.103.2
        <g> - TLAN subnet mask    : 255.255.255.0
        <h> - TLAN gateway IP     : 192.167.103.1
        <i> - Node IP             : 192.167.103.3
        <j> - Call Server IP      : 192.167.102.3
              NRS configuration : Primary GK + SIP
        <k> - Primary NRS IP      : 192.167.103.2
        <l> - Alternate NRS IP    :

        Enter Choice>
```

12 Press <CR> or enter y to confirm all parameters entered, n to re-enter all parameters, or a letter **a** through **l** to change the value of the corresponding system parameter. The configuration screens for a Follower and Standalone Signaling Server - NRS are similar, showing the same list of parameters, specifically:

- The screen for the Follower Signaling Server displays only the value for the Hostname parameter; all other values are blank.
- The screen for the stand-alone Signaling Server displays values for the Hostname, ELAN network interface, TLAN network interface, and NRS parameters. The Node ID field is set to 0. The Call Server IP field is set to 0.0.0.0.

The following message is displayed:

`For future reference, the ELAN MAC address is: "00:02:b3:c5:51:c6"`.

Note: The ELAN network interface MAC address must be configured in the Element Manager node configuration Web page.

The Install Tool Main Menu screen appears (Figure 182).

Figure 182
Install tool

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
============================================================

                        M A I N   M E N U

The Install Tool will install Signaling Server software and related
files. You will be prompted throughout the installation.

        Please enter:
<CR> -> <a> - To perform a complete installation/upgrade (Signaling
              Server s/w, Internet Telephone f/w, Voice Gateway Media
              Card l/w, basic Signaling Server configuration).
        <b> - To install/upgrade Signaling Server software only.
        <c> - To copy Internet Telephone firmware only.
        <d> - To copy Voice Gateway Media Card loadware only.
        <e> - To perform basic Signaling Server configuration only.
        <f> - To selectively change initial system parameters.
        <g> - To change board location information (CPPM only).
        <t> - To go to the Tools Menu.
        <q> - Quit.

        Enter Choice> q
```

13 Enter **q** to quit the Install Tool. Confirm to reboot the system. The Installation Tool quit confirmation screen appears (Figure 183).

Figure 183
Installation Tool quit confirmation

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
======================================================================
You have selected to quit the Install Tool.

Before quitting and rebooting the system, remove all disks (floppy,
CDROM) from the drives.

        Please enter:
<CR> -> <m> - Return to previous menu.
        <q> - Quit and reboot the system.

        Enter Choice> q
```

14 Enter **q** to close/terminate the Installation Tool and reboot the Signaling Server.

End of Procedure

Adding a follower Signaling Server

After configuration and reboot, a Follower Signaling Server sends out BOOTP requests and waits for a response. Since the Follower Signaling Server is not yet configured in an IP Telephony node, there is no BOOTP response. Do not wait for this response. Complete Procedure 361, "Adding a Follower Signaling Server to an IP Telephony node," on page 1221.

Creating a node

You must create the node in EM before you can add a follower Signalling Servers. Complete the following procedure before completing Procedure 361 on page 1221.

This section contains instructions for managing IP Telephony nodes from the perspective of a Signaling Server.

> **WARNING**
> Before and after you make a change to an IP Telephony node, perform a datadump (EDD command in LD 43 - see *Software Input/Output: Maintenance (NN43001-711)*). The datadump backs up the IP Telephony node files on the Call Server.

Use the following procedure to import a temporary IP Telephony node created during the installation and configuration of Signaling Server software on the first Leader Signaling Server in your CS 1000 network.

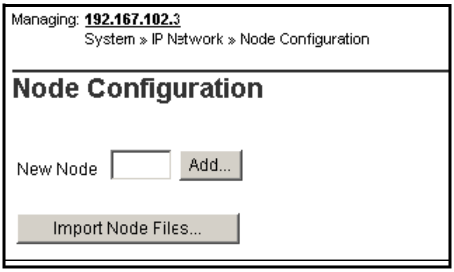
Procedure 360
Importing a temporary IP Telephony Node

1 Log on to EM on your new Leader Signaling Server.

2 Select I**P Network > Nodes: Servers, Media Cards** from the navigator.

The Node Configuration Web page appears.

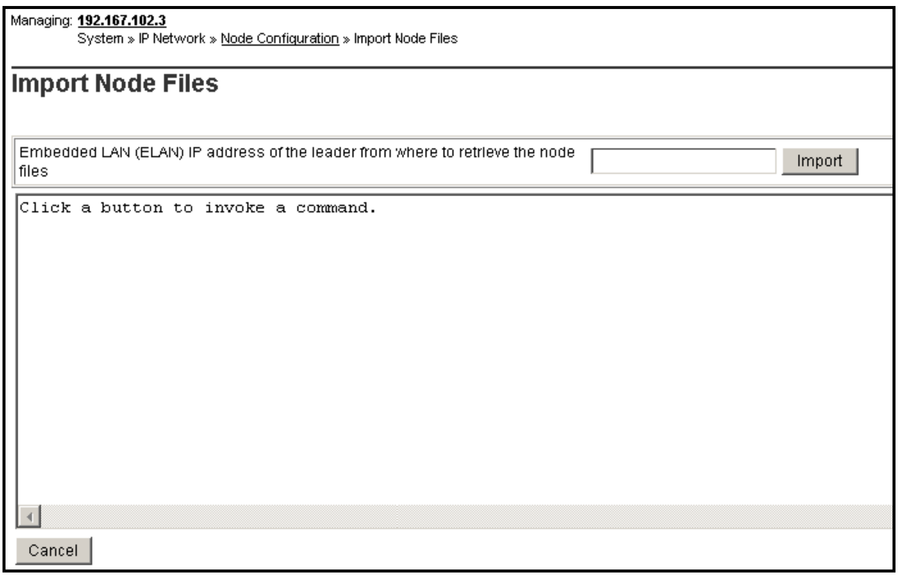
Figure 184
Node configuration - import node



3 Click the **Import Node Files...** option.

The Import Node Files Web page appears.

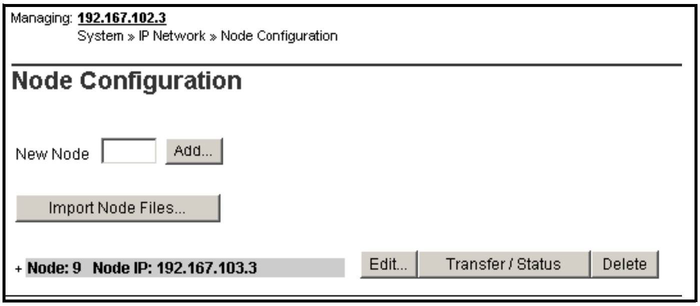
Figure 185
Import Node Files



4 Enter the ELAN IP address of the new Leader Signaling Server.

The system retrieves the configuration files for the temporary IP Telephony node from the new Leader Signaling server. The Node configuration Web page reappears with the temporary node listed.

Figure 186
Node configuration - edit node



5 Log off of EM on your new Signaling Server.

Procedure 361
Adding a Follower Signaling Server to an IP Telephony node

Note: The first time the Follower Signaling Server is installed, it cannot obtain the system login and password, and does not have the current CONFIG.INI file with the Call Server IP address, therefore the FTP fails. In subsequent Follower installations, FTP succeeds.

1 Open the Web browser.

2 Enter the **Signaling Server Node IP address** in the Address Bar of the browser window and press Enter on the keyboard.

Note: The ELAN network interface IP address can be required, instead of the Node IP address, to access the Element Manager login Web page in secure environments.

3 The Element Manager **Login** Web page opens.

a. Enter a valid **User ID** and **Password** combination.

— A valid User Id and Password combination is one that is defined on the Call Server.

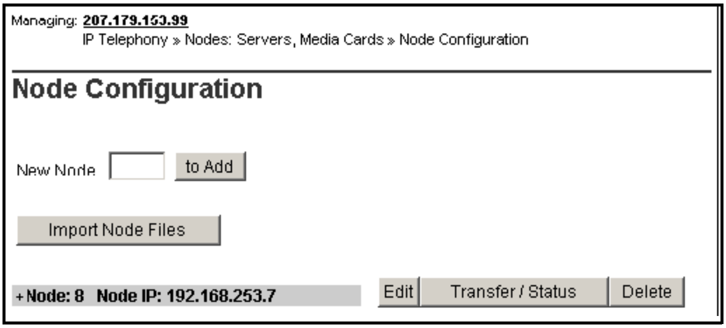
The IP Address of the Call Server appears in the Call Server IP Address field.

b. Click **Login**.

The System Overview Web page appears.

4 Select **IP Network** > **Nodes: Servers**, **Media Cards** from the navigator. The Node Configuration Web page opens, as shown in Figure 187.

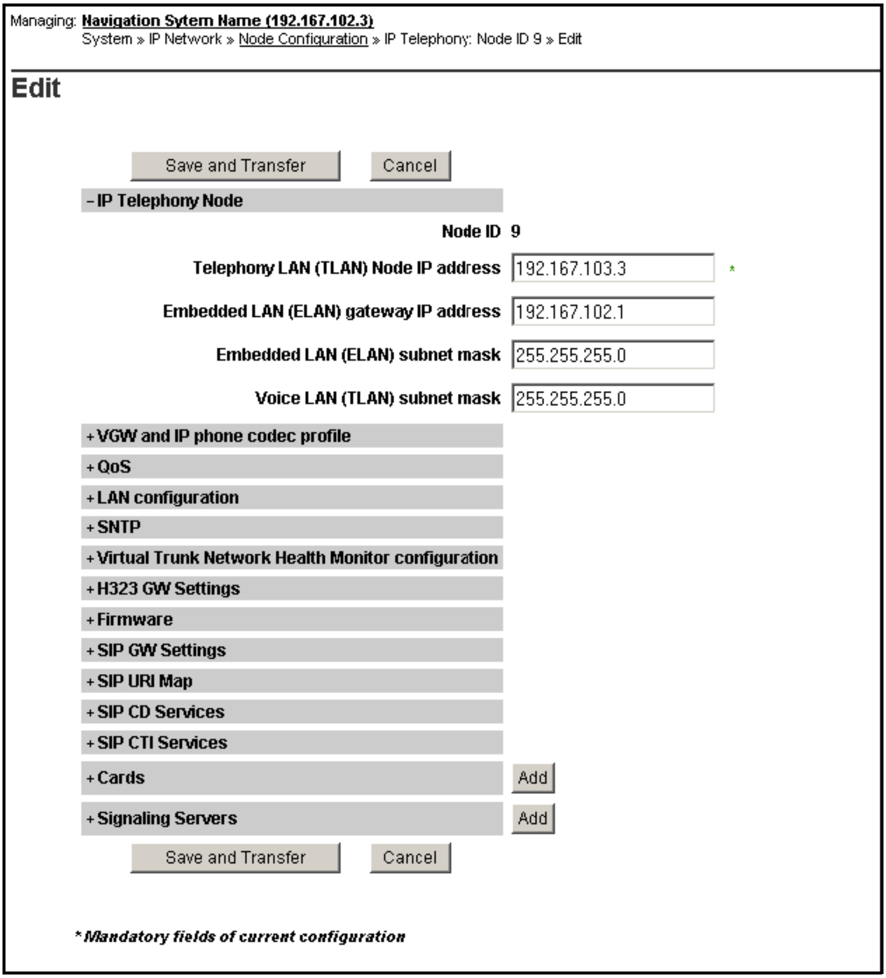
Figure 187
Node Configuration Web page



5 Click **Edit** next to the node to which the Follower Signaling Server is to be added.

The Edit Web page opens, as shown in Figure 188.

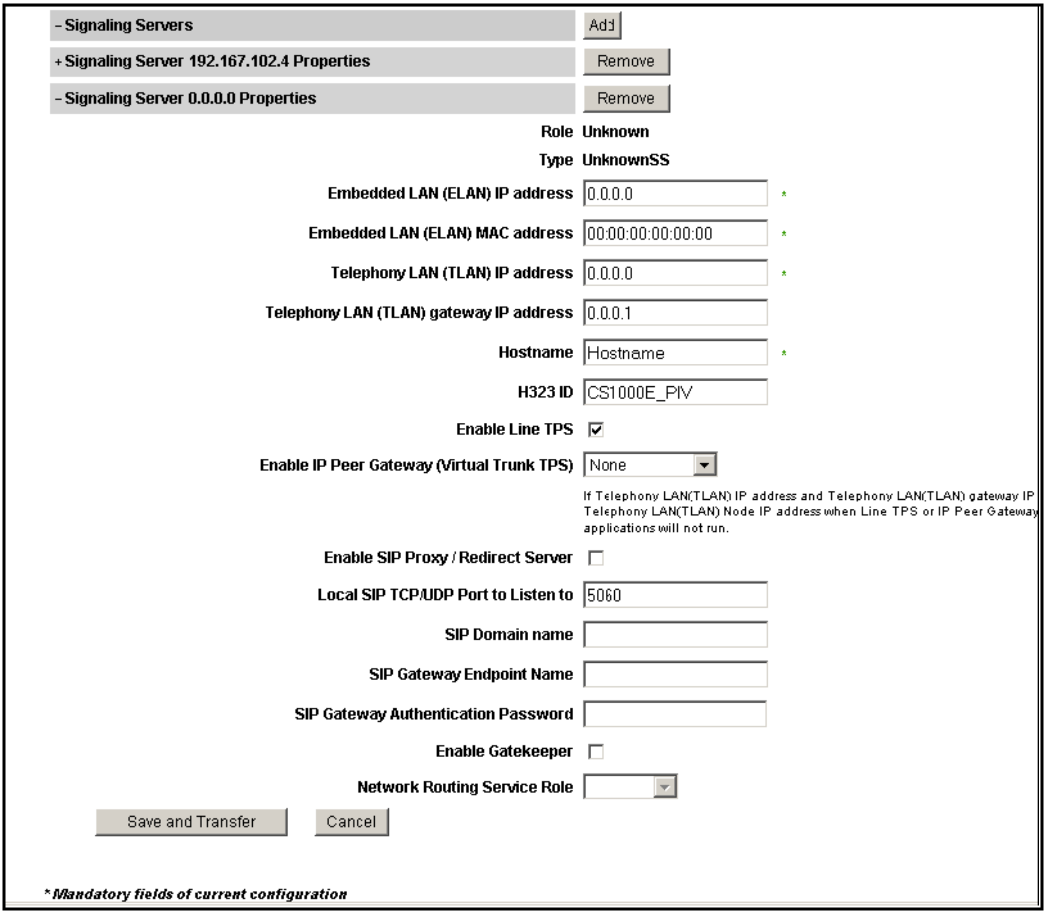
Figure 188
Edit Web page



6 Click **Add** next to Signaling Servers.

The section expands to show a list of Signaling Servers and a blank template for entering Signaling Server xxx.xxx.xxx.xxx properties, as shown in Figure 189.

Figure 189
Signaling Server properties template



7 Enter the information corresponding to the Follower Signaling Server.

The Role field will automatically revert to Follower once the Follower Signaling Server has been added.

8 Click **Save and Transfer** to transfer the updated IP Telephony node information to the other elements of the node.

Refer to Transferring IP Telephony files, and *IP Line: Description, Installation, and Operation* (NN43001-500) for detailed instructions on transferring IP Telephony node information.

End of Procedure

Unpacking Help files for Virtual Terminal Emulator

Help files for the Virtual Terminal Emulator (VTE) component of Element Manager are copied to the Signaling Server as compressed files during installation of the Signaling Server software.

Unpacking the Help files is optional. However, they can be unpacked at any time after the Signaling Server software is installed. To unpack the files, refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

> **IMPORTANT!**
>
> Unpacking the Help files takes approximately 20 to 30 minutes. Nortel recommends that you unpack the files during a service outage.

Refer to *Element Manager: System Administration* (NN43001-632) for more information on Element Manager and the Virtual Terminal Emulator.

Logging in to the Signaling Server

Use Procedure 362 on page 1225 to log in to the vxWorks™ shell to access the Signaling Server from a maintenance terminal.

Procedure 362
Logging in to the Signaling Server

Before you begin, make sure the DTE–DTE null modem cable (supplied with the Signaling Server) runs between the serial port on the back of the Signaling Server and the maintenance terminal.

1 Make sure the Signaling Server is powered up and connected to the maintenance terminal. Refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

   The Signaling Server must boot successfully before the user can log in.

2 Press <CR> to invoke the login prompt.

3 Enter the login credentials by doing one of the following:.

- If the Signaling Server has connected to the Call Server (the startup messages indicate if the PBX link is up), use the PWD1 login to access the Signaling Server.
- If the Signaling Server is not connected to the Call Server:

  a. Enter the default Signaling Server Command Line Interface (CLI) login **`admin`**.

  b. Enter the Signaling Server Command Line Interface (CLI) password.

    - If this Signaling Server has just been installed and you are logging in for the first time, enter the default password **`admin 1 or admin 2`**.

      The system immediately prompts you to change the default password.

    - If this is not the first login to the Signaling Server, enter the appropriate password.

      If you have forgotten the password, reset it from the Tools Menu (see *Signaling Server: Installation and Commissioning* (NN43001-312)).

End of Procedure

To log out of the Signaling Server, enter **`exit`** at the command line.

Verifying a successful configuration

To ensure that the Signaling Server Ethernet connections (for the ELAN and TLAN subnets) are configured correctly, perform a ping test to one or more of the other devices connected to the network, particularly the Call Server.

Procedure 363
Verifying the Signaling Server Ethernet connection

1 Log in to the Signaling Server, using Procedure 362 on page 1225.

2 Ping the IP address of the Signaling Server. Enter the command:

ping x.x.x.x

Where **x.x.x.x** is the Signaling Server ELAN network interface IP address.

3 Ping the IP address of the Call Server. Enter the command:

ping x.x.x.x,3

Where **x.x.x.x** is the Call Server ELAN network interface IP address.

4 If desired, repeat step 3 for other devices connected to the network.

End of Procedure

Testing the Leader Signaling Server

Configure two IP Phones to register to the Signaling Server on its temporary node. These IP Phones must be provisioned on the Call Server. Refer to *Communication Server 1000E: Installation and Commissioning* (NN43041-310), *Communication Server 1000M and Meridian 1: Large System Installation and Commissioning* (NN43021-310), or *Communication Server 1000M and Meridian 1: Small System Installation and Configuration* (NN43011-310) for the procedure appropriate to the system. After provisioning, the telephones can call each other.

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* (NN43001-712).

Troubleshooting procedures

Find the symptom listed below, and perform the appropriate corrective procedure.

If the NT5D20 IOP/CMDU or NT4N43 MMDU card fails the self-test, complete Procedure 364 on page 1229.

Procedure 364
Replace the card

1 Replace the card with a spare IOP/CMDU or MMDU card.

2 Look for bent pins on the backplane connectors.

3 Replace the card cage.

End of Procedure

Procedure 365
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 366
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 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 card, the original IOP/ CMDU card is defective.

5 If the Call Processor card still fails to find the IOP/CMDU card, replace the card cage.

End of Procedure

If the system points to file corruption (such as "Error in file diskos" type messages) while the software was loading, complete Procedure 367 on page 1231.

Procedure 367
Re-load the software

1 Place the A1 disk (IOP/CMDU) 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 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: 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 145 on page 1234 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 145
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 145
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 146 and 147 describe the service classifications.

Table 146
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 147
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 148 before you call for service.

Table 148
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 146 and 147)	
Description of assistance required	

Appendix B: 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. Refer to the current price book for rates.

> ***Note:*** This service requires that a service request be opened in advance of the upgrade.

Site details

Table 149
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 150
Upgrade details

Current Software - Generic	
Target Software - Generic	
Hardware being added	
Feature Upgrade	
License Upgrade	

Pre-upgrade checklists

Software Upgrade

Software audit

Table 151
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 152
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 153
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 154
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 154
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 155
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 156
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 156
Pre-conversion steps (Part 2 of 2)

LD 30 LDIS (Verify what Is disabled if any)
Get Software Information from LD 22
ISSP - Patches in service - Future Reference if required LD 143 - MDP ISSP -Prints all in service patches and patch handle numbers (includes all DepList patches)
TID/SLT - License Parameters - To compare with converted database
LD 21 - PRT CFN
LD 97 - PRT SUPL/XPEC
Run a Template Audit
LD 1 - Auto Run
Perform a Datadump
Backup at least two copies of the current database, retain the copies.
Print History File or System Event Log
LD 22 - Print AHST - Capture Systems Events to compare will new software if required
LD 117 - PRT SEL 500 - Same as above

Post-conversion checks

Table 157
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 158
IGS cabling chart (Part 1 of 2)

Net Group	Net Shelf	IGS Connector	IGS Net	Slot	Net	DIGS	Slot Connector	Intergroup connector	IGS	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 158
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	10	0
2	1	1	2	9	2	9	TOP	J15	11	1
2	1	0	3	8	2	9	BOTTOM	J20	9	
3	0	0	3	8	2	9	BOTTOM	J4	12	
3	0	1	2	9	2	9	TOP	J9	14	0
3	1	1	2	9	2	9	TOP	J14	15	1
3	1	0	3	8	2	9	BOTTOM	J19	13	
4	0	0	3	8	2	9	BOTTOM	J5	16	
4	0	1	2	9	2	9	TOP	J10	18	0
4	1	1	2	9	2	9	TOP	J14	19	1
4	1	0	3	8	2	9	BOTTOM	J18	17	

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 159
Switch settings

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	10	160-175	5 0	off on on on off on off on	off on on off off on off on
5	1	11	176-191	5 1	off on on on off on off off	off on on off off on off off
6	0	12	192-207	6 0	off on on on off off on on	off on on off off off on on
6	1	13	208-233	6 1	off on on on off off on off	off on on off off off on off
7	0	14	224-239	7 0	off on on on off off off on	off on on off off off off on
7	1	15	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 160
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			

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Nortel Communication Server 1000

Communication Server 1000M and Meridian 1

Large System Upgrades Overview

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