



# **Communication Server 1000M and Meridian 1**

## **51C to CS 1000M SG CP PIV Upgrade**

Avaya Communication Server 1000  
Release 7.5

Document Status: **Standard**

Document Version: **05.04**

Document Number: **NN43021-459**

Date: **March 2012**



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## New in this release

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This chapter contains information about Avaya Communication Server 1000 (Avaya CS 1000) Release 7.5 new features.

### Features

There are no updates to the feature descriptions in this document.

### Other

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

### Revision History

#### March 2012

Standard 05.04. This document is up-issued to include updates to the Installing a Signaling Server chapter.

#### September 2011

Standard 05.03. This document is up-issued to support the removal of content for outdated features, hardware, and system types.

#### September 2011

Standard 05.02. This document is up-issued to support the removal of content for outdated features, hardware, and system types.

#### November 2010

Standard 05.01. This document is published to support Avaya Communication Server 1000 Release 7.5.

**June 2010**

Standard 04.02. This document is upissued to update the Avaya CS 1000M task flow graphic and to include CP PM version 2 content.

**June 2010**

Standard 04.01. This document is upissued to support Avaya Communication Server 1000 Release 7.0.

**June 2009**

Standard 03.03. This document is upissued to update the CP PM BIOS upgrade procedure.

**May 2009**

Standard 03.02. This document is upissued to include task flow graphics for Communication Server 1000 Release 6.0.

**May 2009**

Standard 03.01. This document is issued for Communication Server 1000 Release 6.0.

**November 2007**

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

**July 2007**

Standard 01.03. This document is upissued with corrections for invoking the install menu during CP PIV and CP P4 upgrades.

**June 2007**

Standard 01.02. This document is upissued with corrections to links for software upgrades.

**May 2007**

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

**May 2006**

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

**January 2006**

Standard 4.00. This document is upissued with corrections to various upgrade procedures.

**August 2005**

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

**September 2004**

Standard 2.00. This document is upissued for Communication Server 1000 Release 4.0.

**October 2003**

Standard 1.00. This document is a new technical document 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).



## Customer service

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### Navigation

- “Getting technical documentation” on [page 11](#)
- “Getting product training” on [page 11](#)
- “Getting help from a distributor or reseller” on [page 11](#)
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## System information

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This document is a global document. Contact your system supplier or your Avaya 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 about database transfers, Call Processor card upgrades, and network group upgrades.

This document also contains information about converting Release 3.0 or later software to Avaya Communication Server 1000 (Avaya CS 1000) Release 7.5 on Meridian 1 Options 51C, 61C, 81C, Avaya CS 1000M SG and Avaya CS 1000M MG systems. For software conversion procedures prior to Release 3.0, see the *Software conversion procedures* (553-2001-320) technical document for software Release 24.



#### **IMPORTANT!**

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

#### **Note on legacy products and releases**

This technical document contains information about systems, components, and features that are compatible with Avaya CS 1000 software. For more information about legacy products and releases, go to Avaya home page:

[www.avaya.com](http://www.avaya.com)

## Applicable systems

This document applies to the following systems:

- Communication Server 1000M Single Group (CS 1000M SG)
- Communication Server 1000M Multi Group (CS 1000M MG)
- Meridian 1 Option 51C
- Meridian 1 Option 61C
- Meridian 1 Option 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 7.5 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**

<b>This Meridian 1 system...</b>	<b>Maps to this CS 1000M system</b>
Meridian 1 Option 51C	CS 1000M Single Group
Meridian 1 Option 61C	CS 1000M Single Group
Meridian 1 Option 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 7.5:

- CP PM Signaling Server
- Common Processor Dual Core (CP DC)

- Commercial off-the-shelf (COTS) Signaling Server

For detailed Signaling Server configuration information see “Installing a Signaling Server” on [page 143](#).

## Upgrade paths

This document contains information about the following Large System upgrades:

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

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

## Intended audience

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

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

## Conventions

### Terminology

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

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

- Meridian 1 Option 61C
- Meridian 1 Option 81C
- Commercial off-the-shelf (COTS) servers
  - IBM x306m server (COTS1)
  - HP DL320 G4 server (COTS1)
  - IBM x3350 server (COTS2)
  - Dell R300 server (COTS2)

In this document, the generic term COTS refers to all COTS servers. The term COTS1 or COTS2 refers to the specific servers in the preceding list.

The Common Processor Pentium Mobile, Common Processor Dual Core (CP DC), and Commercial off-the-Shelf (COTS) platforms are referred to as server.

## Related information



### **CAUTION — Data Loss**

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

Read the applicable procedures carefully before beginning any the conversion.

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



### **CAUTION WITH ESDS DEVICES**

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

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

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

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

**CAUTION — Data Loss**

Read “General software conversion information” in *CS 1000M and Meridian 1 Large System Upgrades Overview* (NN43021-458) before performing any operations.

It contains information vital to the conversion process.

## Technical documents

The following technical documents are referenced in this document:

- *Product Compatibility* (NN43001-256)
- *Converging the Data Network with VoIP* (NN43001-260)
- *Circuit Card Reference* (NN43001-311)
- *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)
- *IP Peer Networking Installation and Commissioning* (NN43001-313)
- *Features and Services* (NN43001-106)
- *Software Input/Output: Administration* (NN43001-611)
- *Element Manager System Reference - Administration* (NN43001-632)
- *IP Trunk: Description, Installation, and Operation* (NN43001-563)
- *Signaling Server IP Line Applications Fundamentals* (NN3001-125)
- *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 Installation and Commissioning* (NN43021-310)

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# Introduction

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## Contents

This chapter contains the following topic:

[Meridian 1 Option 51C upgrade to Avaya CS 1000M SG CP PIV ...](#) 19

## **Meridian 1 Option 51C upgrade to Avaya CS 1000M SG CP PIV**

Complete this procedure when upgrading from Meridian 1 Option 51C systems to Avaya Communication Server 1000M SG CP PIV.

This procedure is for a stacked or side-by-side configuration. This procedure requires installing a new pedestal with an NT4N41 Core/Net module next to or above the existing shelf.



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# Preparing and planning for the upgrade

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This chapter contains the following topics:

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## Introduction

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

Each upgrade features check boxes that indicate the necessary system condition at each stage of the upgrade. If the system is not in the proper condition, you must take corrective action.

Each upgrade is designed to maintain dial tone where possible and limit service interruptions.



**DANGER OF ELECTRIC SHOCK**

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

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

**Table 2**  
**Prepare for upgrade steps**

<b>Procedure Step</b>	<b>Page</b>
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Identify two unique IP addresses	46

## Planning

Planning for an upgrade includes the following details:

- 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 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 the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Avaya Alerts that impact the site.
- Determine if software can be converted on site or must be sent to Avaya.
- 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.

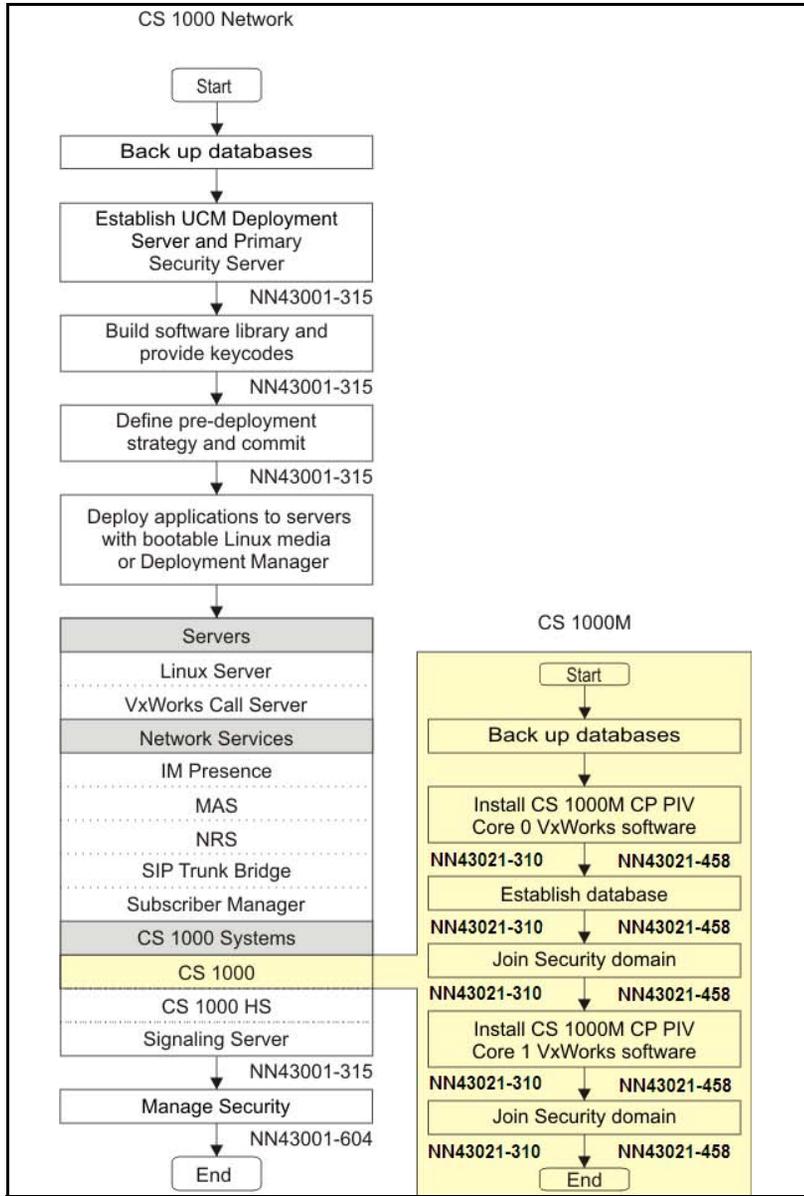
## Avaya Communication Server 1000 task flow

This section provides a high-level task flow for the installation or upgrade of an Avaya CS 1000 system. The task flow indicates the recommended sequence of events to follow when configuring a system and provides the technical document number that contains the detailed procedures required for the task.

For more information refer to the following technical documents, which are referenced in Figure 1 on [page 25](#):

- *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)
- *Communication Server 1000M and Meridian 1 Large System Installation and Commissioning* (NN43021-310)
- *CS 1000M and Meridian 1 Large System Upgrades Overview* (NN43021-458)

**Figure 1**  
**Avaya Communication Server 1000M task flow**



## Upgrade checklists

Upgrade checklists can be found in “Upgrade checklists” on [page 185](#). Engineers can print this section for reference during the upgrade.

## Pre-upgrade tasks

Preparing for an upgrade includes the following tasks:

- Identify and become familiar with all procedures.
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Current patch or Dep lists installed at the source platform.
- Required patch or Dep lists at the target platform.
- Determine and communicate the required maintenance window, contingency plan, and the impact to the customer to complete the procedure.
- Perform an inventory on required software and hardware.
- Secure the source software and keycode.
- Secure the target software and keycode.
- Verify the new keycode using the DKA program.
- Print site data.



### **IMPORTANT!**

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

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

## Identifying the proper procedure

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

## Connect a terminal

### Procedure 1 Connecting a terminal

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

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2 Use the following values when setting the terminal:
  - a. 9600 baud
  - b. 8 data
  - c. parity none
  - d. 1 stop bit
  - e. full duplex
  - f. XOFF
- 3 If only one terminal is used for both Core or Core/Net modules, connect the terminal from side-to-side to access each module. An A/B switch box can also be installed to switch the terminal from side to side.

---

**End of Procedure**

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## Check the Core ID switches

### Procedure 2 Checking the Core ID switches

Each CP NT4N40 Core/Net card cage or module is identified as Core 0 or Core 1 (see Figure 2 on [page 29](#)). This setting is made by a set of option switches on the SU card (see Figure 3 on [page 30](#)). The Core ID switches are set in the factory. Confirm that these settings match the identification labels for the module into which they will be installed.



#### **CAUTION — Service Interruption**

The CP Core/Net card cages **MUST** be installed in the correct Core 0 or Core 1 module.

- 1 Pull the SU card (NT4N48) far enough out of its slot so you can see the ID switch settings.
- 2 Check and confirm the switch settings according to Table 3 on [page 28](#).
- 3 Reinstall the SU card.
  - a. Gently slide the SU card into the slot until it makes contact with the backplane. Never force a card into the slot.
  - b. Push in the top and bottom latches on the card to lock it in place.

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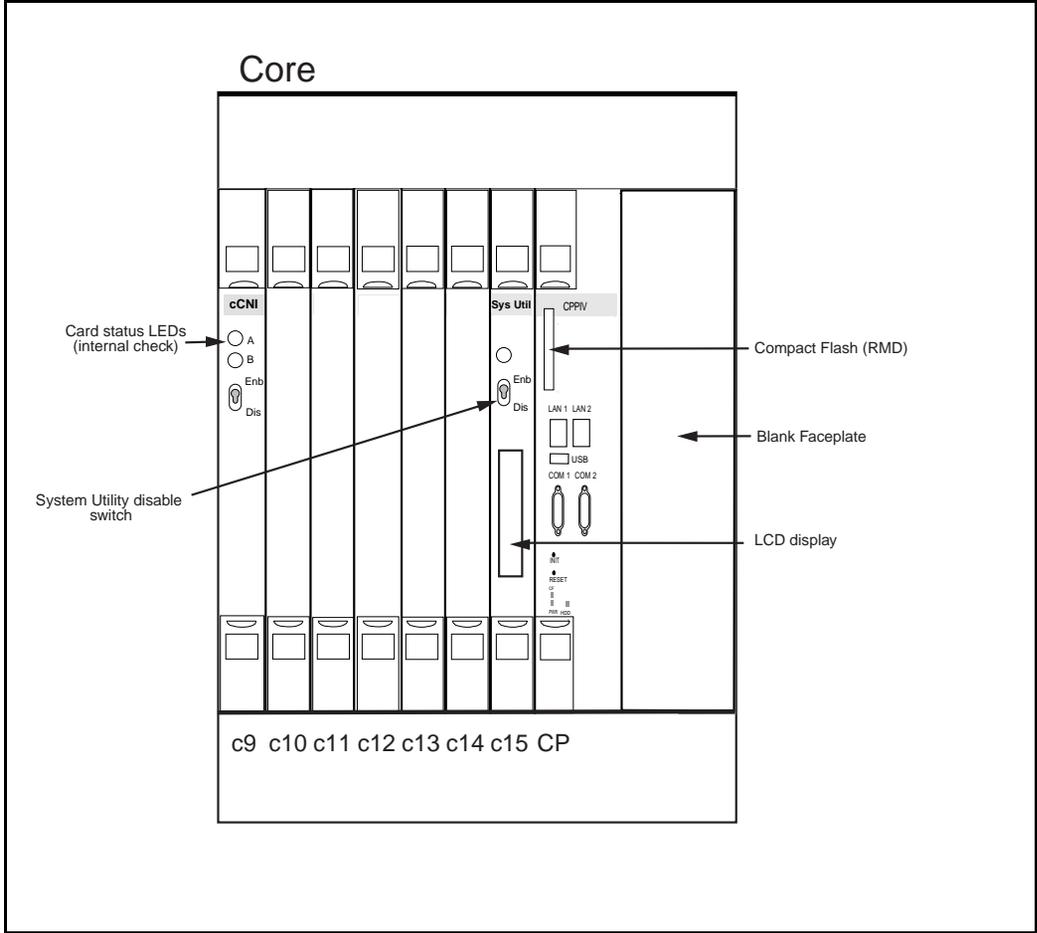
**End of Procedure**

---

**Table 3**  
Core module ID switch settings (SU card)

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

**Figure 2**  
**Core card placement in the NT4N40 Core/Net card cage (front)**



**Figure 3**  
**Core Module ID switch**



## Print site data

Print site data to preserve a record of the system configuration (Table 4 on [page 31](#)). Verify that all information is correct. Make corrections as necessary.

*Note:* Items marked with an asterisk (\*) are required. Avaya recommends other items for a total system status.

**Table 4**  
**Print site data (Part 1 of 3)**

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

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

Site data	Print command	
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	REQ            CHG TYPE          SUPL SUPL          Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop.  xxx = 0-252 in multiples of four for MG 1000E
<b>Note:</b> 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. Refer to the following list for an example of the information generated during the audit.

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



### **CAUTION — Data Loss**

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

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

**TEMPLATE AUDIT**

**STARTING PBX TEMPLATE SCAN**

**TEMPLATE 0001 USER COUNT LOW CHECKSUM OK**

**TEMPLATE 0002 USER COUNT HIGH CHECKSUM OK**

**TEMPLATE 0003 NO USERS FOUND**

**STARTING SL1 TEMPLATE SCAN**

**TEMPLATE 0001 USER COUNT OK CHECKSUM OK**

- 
- 

**TEMPLATE 0120 USER COUNT OK CHECKSUM OK**

**TEMPLATE AUDIT COMPLETE**

## **Back up the database (data dump and ABKO)**

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

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

### **Procedure 3 Performing a data dump**

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

**LD 43** Load program

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

**EDD**                    Begin the data dump



**CAUTION**

**Loss of Data**

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

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

\*\*\*\*                    Exit program

---

**End of Procedure**

---

**Procedure 4**  
**Performing an ABKO**  
**(save the database to floppies)**

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

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

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

**LD 143**                    Load program

- 3 Run the ABKO backup (LD 143).

**ABKO**                    Run backup

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

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



**CAUTION — Service Interruption**

**Loss of Data**

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

- 5 Once the backup is complete, type:

\*\*\*\* Exit program

---

**End of Procedure**

---

**Procedure 5**  
**Converting the 4 Mbyte database media to 2 Mbyte database media**



**IMPORTANT!**

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

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 Avaya in the software conversion lab.

Before the system is upgraded to CP PIV, 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 4 Mbyte customer database must be transferred to 2 MB media.

- 1 Split the Cores and transfer call processing to Core 0.
- 2 Install the Database Transfer Utility diskette into the floppy drive.
- 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. 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**

---

## Making the RMD bootable



### CAUTION — Data Loss

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

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.

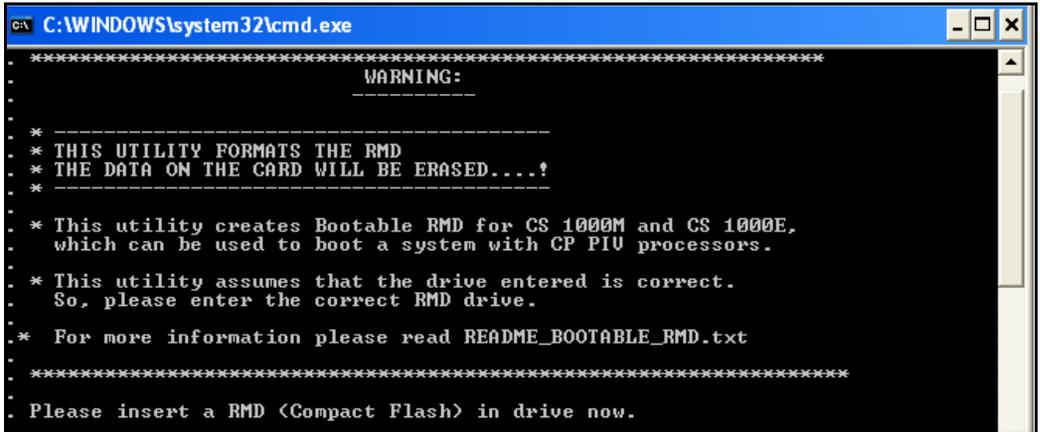
The installation RMD CF card must come pre-formatted and bootable from Avaya. Consumer CF cards are not bootable by default and must be made bootable as outlined in Procedure 6 on [page 38](#).

### Procedure 6 Making the RMD bootable

- 1 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the utilities folder.

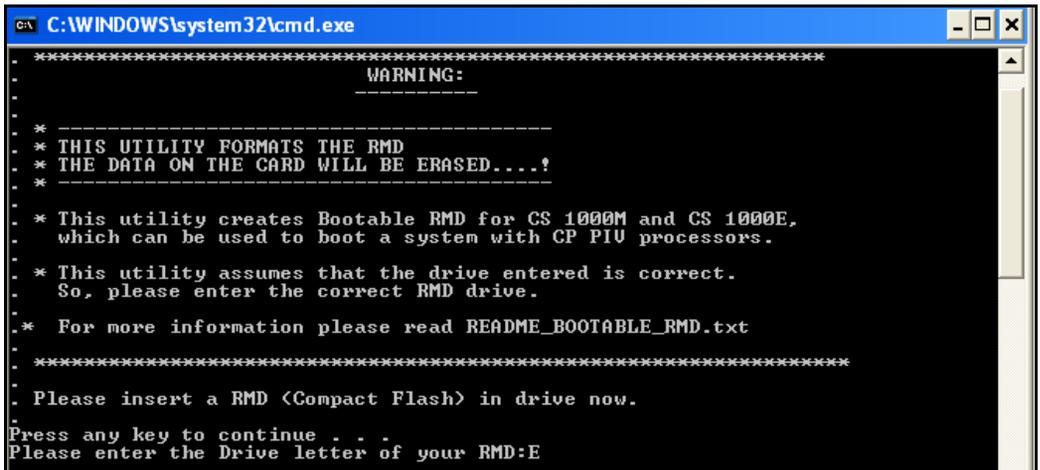
- 3 Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 4).

Figure 4  
mkbootrmd.bat



- 4 Enter the correct drive letter of the RMD (see Figure 5).

Figure 5  
mkbootrmd.bat



- 5 The boot sector files (bootrom.sys and nvr.am.sys) are successfully copied making the CF card bootable (see Figure 6).

**Figure 6**  
**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

---

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



### IMPORTANT!

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

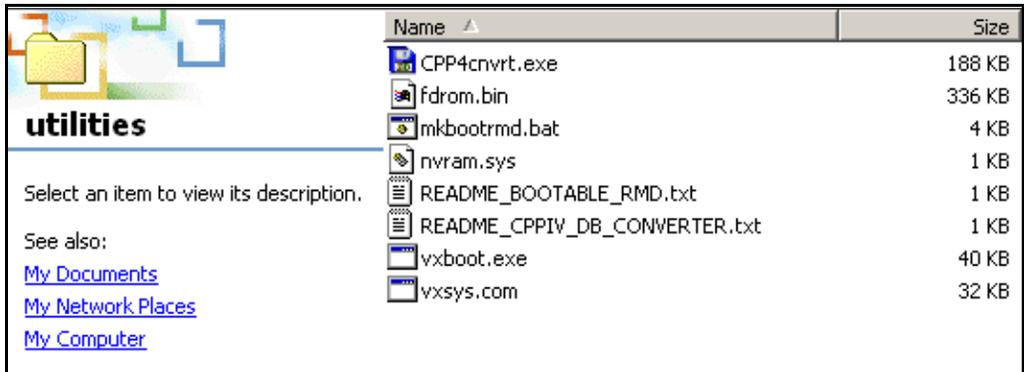
The floppy disk that contains the backed-up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MByte floppy disk to a CF card, which is restored during the CS 1000 Release 7.5 software upgrade later in this section. Avaya recommends using the extra CF card included with the Software Install Kit.

### Procedure 7 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).

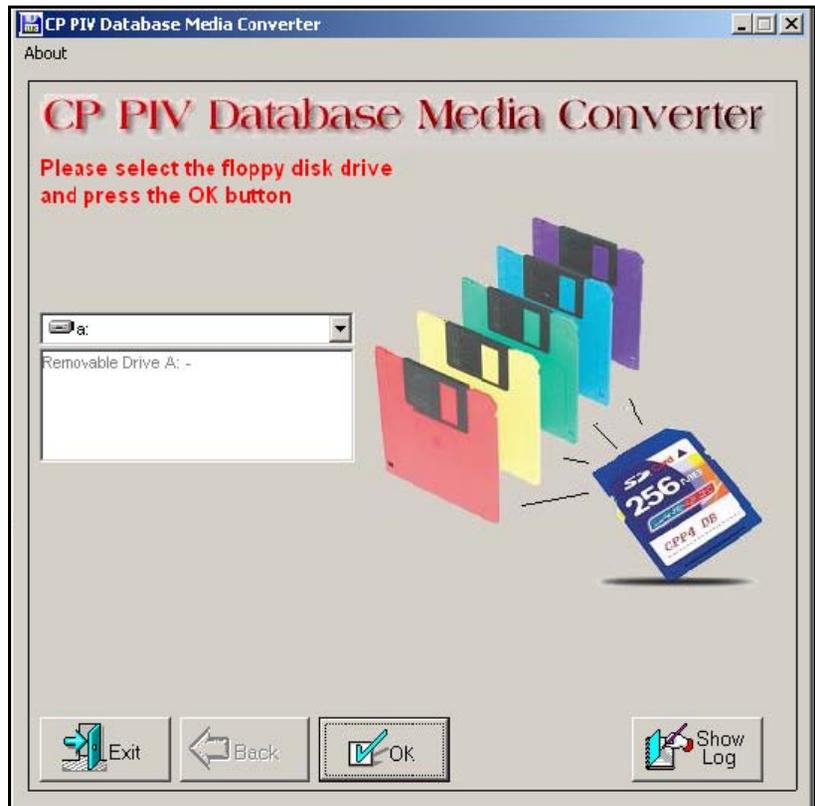
- 1 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the Utilities folder. See Figure 7 on [page 41](#).

**Figure 7**  
**Utilities folder**



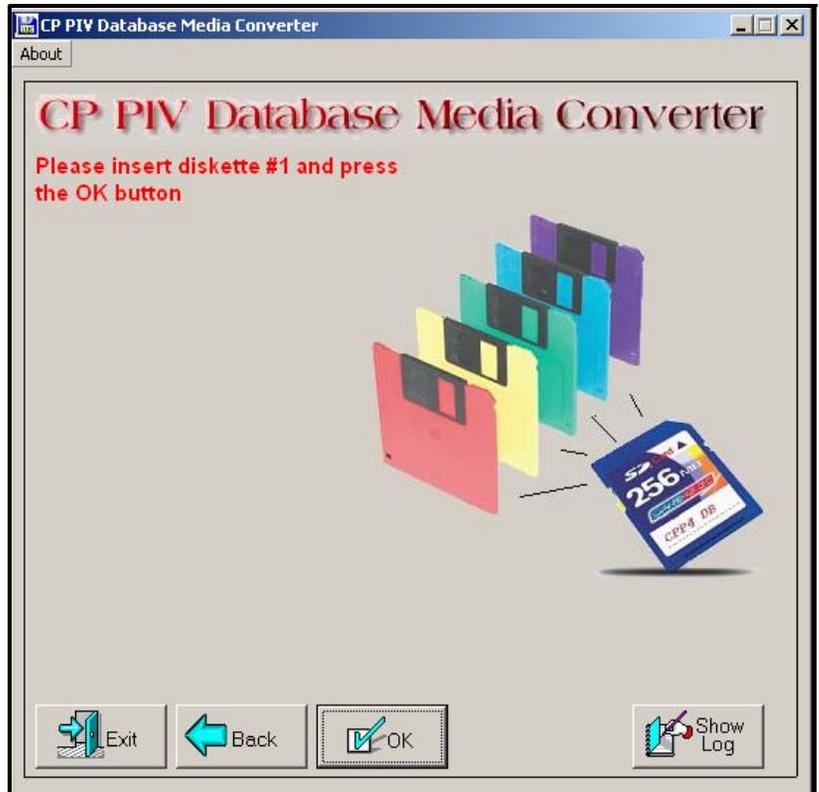
- 3 Insert the floppy disk containing the backed up customer database from Procedure 3 on [page 34](#).
- 4 Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
- 5 Start the Database Media Converter utility by double clicking the CPP4cnvrt.exe file. The first screen (Figure 8 on [page 42](#)) prompts you to select the correct drive letter for the floppy disk drive.

**Figure 8**  
**Select the floppy disk drive**



- 6 The utility then prompts you to insert the floppy disk (diskette 1) and click **OK** (see Figure 9 on [page 43](#)).

**Figure 9**  
**Insert diskette 1**



- 7 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 10 on [page 44](#)).

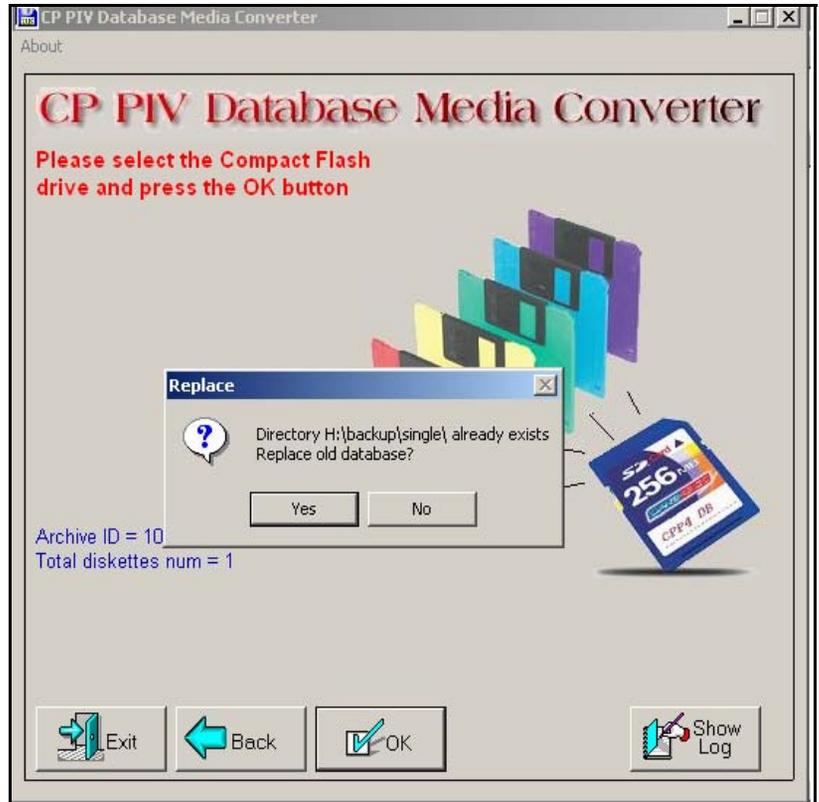
**Note:** If the database is on more than one floppy, the utility prompts you to insert the next floppy until the entire database is read.

**Figure 10**  
**Select the CF drive**



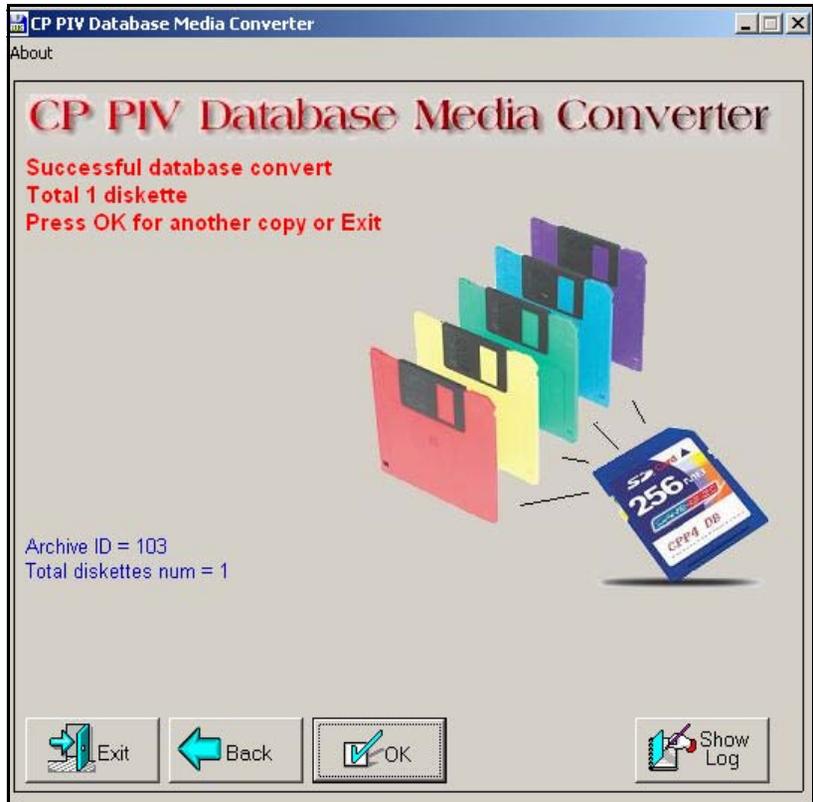
- 8 At this point, two options are available:
- If the CF card already contains a previously backed-up database, a dialog box appears (see Figure 11 on [page 45](#)). Click **yes** to replace the old database.
  - If the CF card is blank, the database is backed up to the CF card.

**Figure 11**  
**Replace database on CF drive**



- 9 The utility completes the transfer to CF and prompts you to copy another or **EXIT** (see Figure 12 on [page 46](#)).

**Figure 12**  
**Copy another or exit**



End of Procedure

## Identify two unique IP addresses

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

processing is always identified by the same IP address. Contact your systems administrator to identify two unique IP addresses before the upgrade.



---

# Performing the upgrade

---

## Contents

This chapter contains the following topics:

<a href="#">Review upgrade requirements</a> . . . . .	53
<a href="#">Install Core 1 hardware</a> . . . . .	58
<a href="#">Install Core 0 hardware</a> . . . . .	88
<a href="#">Making the system redundant</a> . . . . .	129
<a href="#">Completing the CP PIV upgrade</a> . . . . .	133

## Introduction

Figure 13 on [page 50](#) shows an upgrade to a stacked Meridian 1 Option 61C CP PIV system.

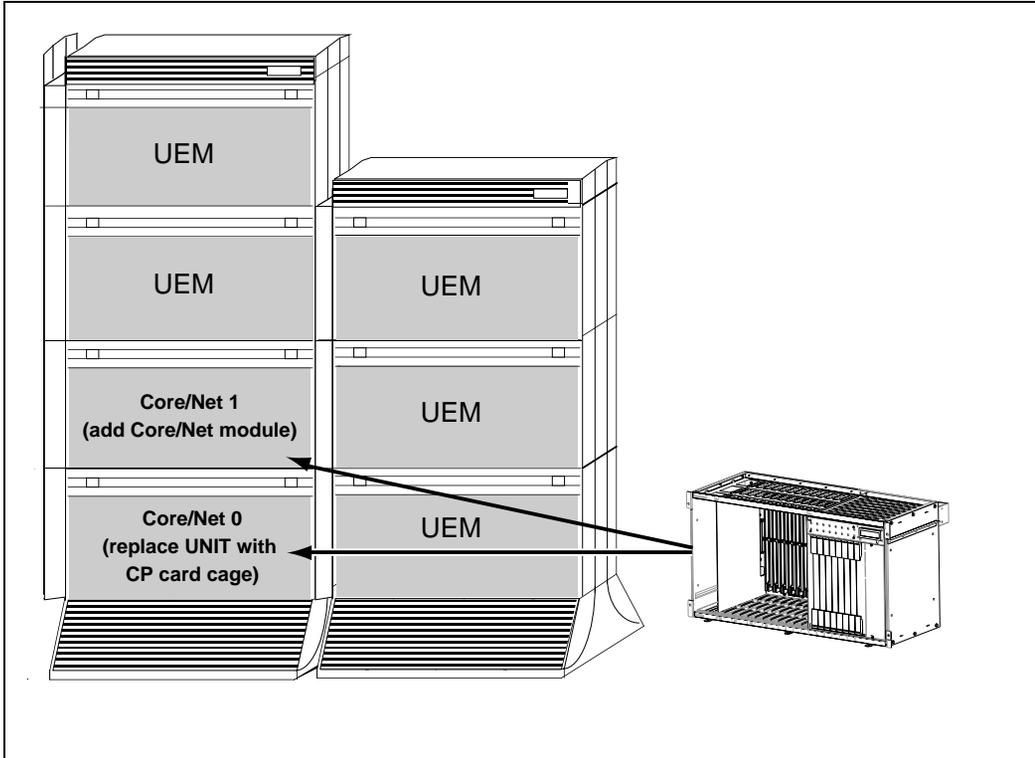
Figure 14 on [page 51](#) shows an upgrade to a side-by-side Meridian 1 Option 61C CP PIV system.



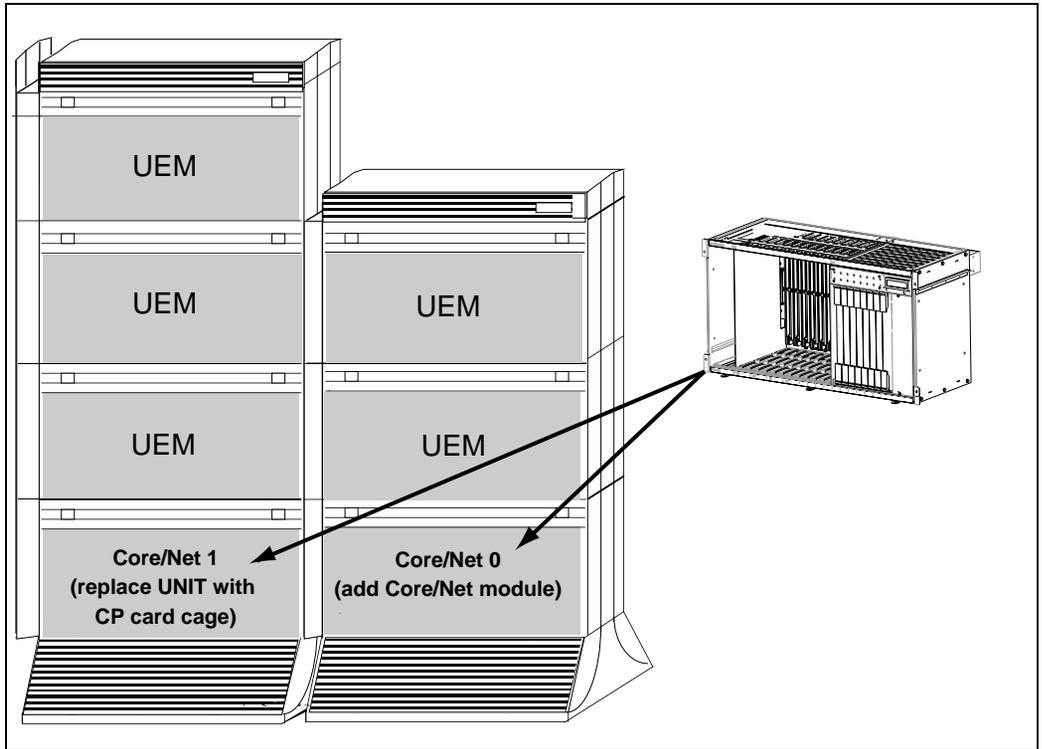
### **DANGER OF ELECTRIC SHOCK**

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

**Figure 13**  
**Meridian 1 Option 61C CP PIV stacked upgrade**



**Figure 14**  
**Meridian 1 Option 61C CP PIV side-by-side upgrade**



This upgrade takes a Meridian 1 Option 51/51C to a Single Group Meridian 1 Option 61C with CP PIV. CP PIV cards are located in the Core/Net modules or card cage.

One card cage in the existing Core/Net module is replaced with an NT4N40 CP card cage (see Figure 15 on [page 52](#)). A new NT4N41 Core/Net module is also required.

Existing network cards are relocated to the NT4N40 CP card cage. The following additional cards are required for the NT4N41 Core/Net module:

- Peripheral Signaling cards (PS pack).
- 3 Port Extender (3PE).

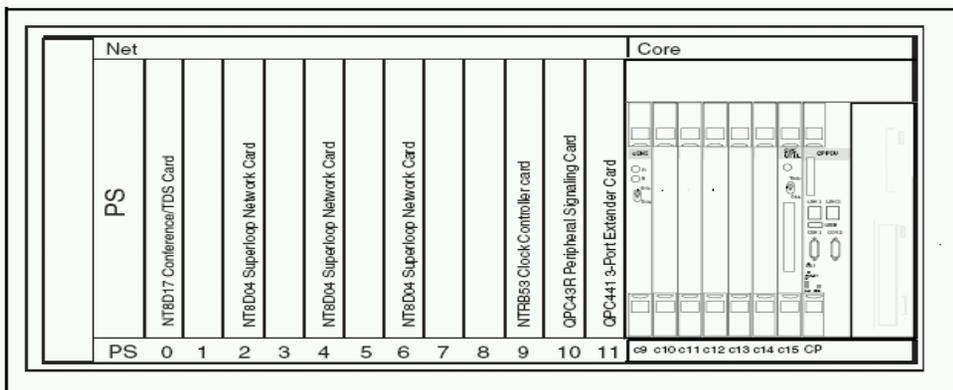
- Clock Controller card.
- Conference/XCT.



**WARNING**

Clock controller cards must be of the same part number for any single system. For instance, a QPC471 card cannot be used with an NTRB53 card.

**Figure 15**  
**CP PIV Core/Net Module**



## Upgrading to Avaya Communication Server 1000M

The upgrade to Avaya CS 1000M (installing a Signaling Server) occurs after completing the procedures in this section. See “Installing a Signaling Server” on [page 143](#).

## Review upgrade requirements

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

### Check equipment received

Meridian 1 Option 61C CP PIV equipment is configured at the factory according to customer requirements. Some cards and power supplies are shipped in separate packages to prevent damage to the cards.

Before the upgrade, check that the equipment on the order form is also on the packing slip. Check that all equipment has been received. If any items are missing, contact your supplier for replacements before you begin the upgrade.



#### **CAUTION — Service Interruption**

DO NOT proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

### Check required software

The following software packages are required to upgrade a system to Meridian 1 Option 61C with CP PIV.

- CORENET Core Network Module Package 299
- CPP\_CNI CP Pentium Backplane for Intel Machine Package 368
- The Compact Flash Software Install Kit, containing the following items:
  - One CF (512 MByte) card containing:
    - Install Software files
    - CS 1000 Release 7.5 software
    - Dep. Lists (PEPs)
    - Key code File

- One blank CF card for database backup
- One Avaya CS 1000 Release 7.5 Documentation CD

## Check vintage requirements for existing hardware

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

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



### CAUTION — Service Interruption

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



### WARNING

Clock Controller cards must be of the same part number for any single system. For instance, a QPC471 card cannot be used with an NTRB53 card.

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53 Clock Controller cards must be minimum vintage AA.
- The QPC471 Clock Controller cards must be minimum vintage H.
- The QPC775 Clock Controller cards (all countries except USA) must be minimum vintage E.
- QPC720 PRI cards require NT8D79 cables. NT5D12 Dual PRI/DTI cards require NTCG03 cables.
- The QPC43 Peripheral Signaling cards must be minimum vintage R.

## Check required hardware (AC and DC)

Table 5 lists the equipment required for DC-powered systems. Table 6 lists the equipment required for AC-powered systems.



### WARNING

Ensure that power supplies NT6D41CA (DC) or NT8D29BA (AC) are used in the Core/Net shelf.

**Table 5**  
**DC requirements for Meridian 1 Option 61C CP PIV system**

Order number	Description	Quantity per system
NTHU46DA	Option 61C from 51/51C Upgrade to CP-PIV Single Group (DC)	1

**Table 6**  
**AC requirements for Meridian 1 Option 61C CP PIV system**

Order number	Description	Quantity per system
NTHU46AA	Option 61C from 51/51C Upgrade to CP-PIV Single Group (AC)	1

The equipment room must provide the appropriate number of 30 Ampere outlets. One 175-264 VAC, 47-63 Hz, 30 Ampere outlet is required for every pedestal or column.

If supporting additional Meridian 1 modules, order additional top cap and pedestal packages (NTWB15BA). One top cap and pedestal package supports up to four modules.

To cover all exposed module sides and to connect modules side-to-side, additional NT9D18AA module side covers and NT8D49AA column spacer kits must be ordered separately. The NTHU44AA and DA packages contain

common equipment hardware only, including two CP PIV Pentium call processor cards and two NTRB53 Clock Controller cards.

The NTHU44AA and DA packages contain common equipment hardware only, including two CP PIV Pentium call processor cards and two NTRB53 Clock Controller cards.

These packages are designed for computer floor installation, with all cables exiting from the pedestal. If the installation requires overhead cabling, order NT7D0009 top egress panel, one per column.

An NT8D49AA Spacer kit is provided to allow for a side-by-side installation of core/network modules. This arrangement requires an additional top cap and pedestal package and must be ordered separately.

Intelligent peripheral equipment must be ordered separately. Order NTWB15DA for any additional AC IPE Modules required.

Peripheral equipment (PE) or Enhanced peripheral equipment (EPE) is not supported on systems with Pentium Processors.

### Check required power equipment

Table 7 on [page 56](#) lists the equipment required for DC-powered systems.

Table 8 on [page 57](#) lists the equipment required for AC-powered systems.

	<p><b>WARNING</b></p> <p>Ensure that power supplies NT6D41CA (DC) or NT8D29BA (AC) are used in the Core/Net shelf.</p>
---	--

**Table 7**  
**DC power requirements for Meridian 1 Option 51 upgrades**

Order number	Description	Quantity per system
NT6D41CA	Core/Network Power Supply DC	2

**Table 8**  
**AC power requirements for Meridian 1 Option 51 upgrades**

Order number	Description	Quantity per system
NT8D29BA	Core/Network Power Supply AC	2

## Check personnel requirements

Avaya recommends that a minimum of two people perform the card cage upgrade.

## Database requirements

If the system is running pre-release 3.0 software or the source platform is a Meridian 1 Option 21E, 51, 61, 71, STE, NT or XT, the database must be sent to Avaya for conversion.

## System requirements



### IMPORTANT!

Systems and components delivered to customer sites may include pre-installed software. However, the pre-installed software versions are typically older and are included only for manufacturing and order management purposes. **Do not attempt to operate the system with the pre-installed software.** Download the latest software from the Avaya Software Downloads web site and installed as part of the upgrade process.

## Avaya CS 1000 compatibility

Consult *Communication Server 1000M and Meridian 1 Large System Planning and Engineering* (NN43021-220) for CS 1000 Release 7.5 product compatibility.

## Install Core 1 hardware

Install the NT4N41 Core/Net module and pedestal next to the existing column, or on top of the column if you are installing a stacked configuration. For information about AC/DC power, side panels, and EMI spacers (placing the fourth module on a column), see the appropriate chapters in *Communication Server 1000M and Meridian 1 Large System Installation and Commissioning* (NN43021-310)

### Procedure 8 Checking main Core card installation

The main Core cards are installed in the factory as shown in Figure 16 on [page 59](#).

- 1 NT4N65AC CP Core Network Interface (cCNI) cards:  
Each system contains one NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots c10-c12, which do not contain cCNIs.  
  
**Note:** In the NT4N41 Core/Net module, port 0 on the NT4N65 Core to Network Interface (cCNI) Card in slot c9 can only be configured as group 0. The cCNI and 3PE cards for group 0 communicate through the NT4N29 cable. Only one cCNI card is required for group 0 in a Meridian 1 Option 61C CP PIV.
- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 The NT4N48 System Utility (Sys Util) card is located in slot c15. Check the side ID switch settings for the SU card in Core/Net 1 according to Table 9.

**Table 9**  
Core module ID switch settings (System Utility card)

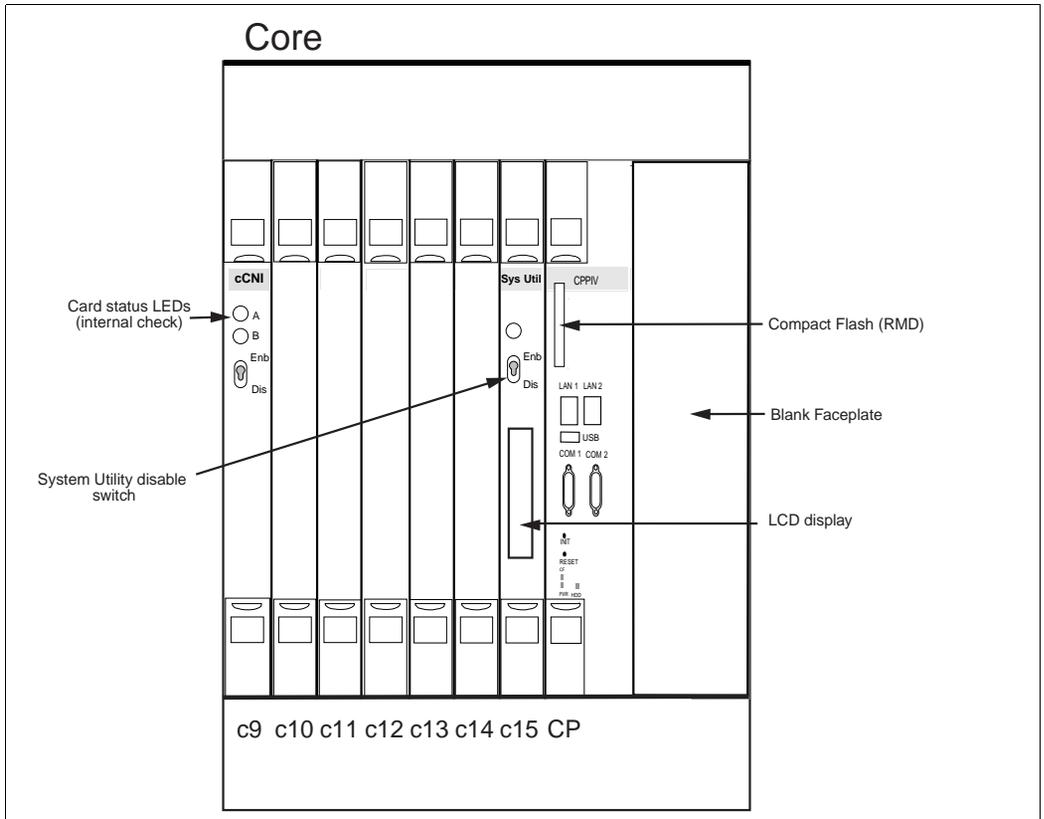
	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 4 NT4N39 CP PIV is located in the Call Processor slot.

- 5 The N0026096 blank faceplate is located in the extreme right-hand slot next to the CP PIV card.

————— End of Procedure —————

**Figure 16**  
**Core card placement in the NT4N41 Core/Net Module (front)**



## Install the Security Device for Core/Net 1

### Procedure 9

#### Installing the Security Device for Core/Net 1

The Security Device fits into the SU card (see Figure 17 on [page 61](#)).

To install the Security Device for Core/Net 1:

- 1 Locate the new Security Device included with the Software Upgrade kit.
- 2 Insert the Security Device into the Security Device holder on the SU card with the Avaya 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 17**  
**Security Device**



**Check for the shelf power cable**

Check that the NT4N4405 Shelf Power Cable is installed in the CP PIV card cage backplane. See Figure 18 on [page 63](#) for the cable location.

## Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply

### Procedure 10 Installing the power supply

- 1 Unpack the power supply.
- 2 Faceplate-disable the power supply.
- 3 Insert the power supply into the Core/Net module power supply slot.

---

End of Procedure

---

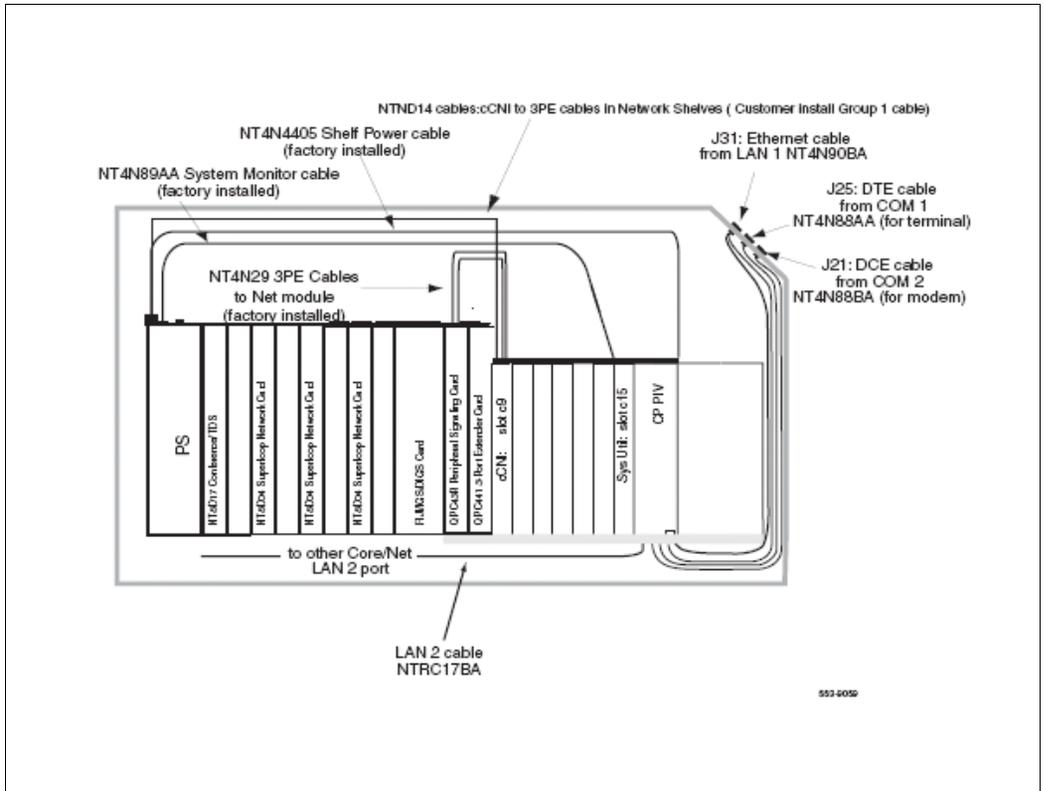
## Check factory-installed cables

Table 10 lists factory-installed cables (see Figure 18 on [page 63](#)).

**Table 10**  
**Factory-installed cables**

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

**Figure 18**  
**Core/Net cable connections (top view)**



## Install network cards in Core/Net 1

### Procedure 11

#### Installing the network cards in Core/Net 1

1 Check the switch settings and jumpers. See Table 11.

- a. All 3PE cards must be vintage F or later.
- b. Check that the RN27 Jumper is set to A.

**Note:** The settings for 3PE cards in Core/Net shelves are different from those in all other shelves. Table 11 shows the 3PE settings for cards installed in CP PIV Core/Net Modules.

- c. install QPC441 3PE card to slot 11.

**Note:** For 3PE settings for cards installed in Network Modules, see Table 12 on [page 65](#).

**Table 11**  
**QPC441 (QPC440) 3PE Card installed in the CP PIV Core/Net modules**

Jumper settings. Set Jumper RN27 at E35 to A.									
Switch Settings									
Module		D20 switch position							
CP PIV Core/Net modules only		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off

- 2 Installing the QPC43R Per Sig card in slot 10.
- 3 Set the Clock Controller 1 switch settings according to Table 12 on [page 65](#) and to Table 13 on [page 65](#).
- 4 Install the Conference TDS pack (XCT) into slot 0

5 Install the Clock Controller in slot 9.

————— End of Procedure —————

**Table 12**  
**Clock Controller switch settings for QPC471H, QPC771H**

Systems upgraded to CP PIV must use the Meridian 1 Option 61C CP PIV switch settings to enable Clock Hunt software. Use the settings in this table.											
SW1				SW2				SW4			
1	2	3	4	1	2	3	4	1	2	3	4
on	on	on	on	off	off	off	off	**	on	*	*
*Total cable length between the J3 faceplate connectors:											
0–4.3 m (0–14 ft.)									off	off	
4.6–6.1 m (15–20 ft.)									off	on	
6.4–10.1 m (21–33 ft.)									on	off	
10.4–15.2 m (34–50 ft.)									on	on	
\\** Set to ON for Clock Controller 0. Set to OFF for Clock Controller 1.											

**Table 13**  
**Clock Controller switch settings for NTRB53 (Part 1 of 2)**

Multi Group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		3	4			
1	2	3	4		5	6
Multi Group = Off  Single group = On	21E = Off  51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On  Side 1 = Off	71,81 = Off  21E, 51, 51C, 61. 61C, 81C = On

**Table 13**  
**Clock Controller switch settings for NTRB53 (Part 2 of 2)**

Multi Group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		Off	On	4.6–6.1 m (15–20 ft.)		
		On	Off	6.4–10.1 m (21–33 ft.)		
		On	On	10.4–15.2 m (34–50 ft.)		
<b>Note:</b> Switches 7 and 8 are not used.						

## Power up Core/Net 1

### Procedure 12 Preparing for power up

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

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

- 2 Connect a terminal to the J25 port on the I/O panel in Core/Net 1.
- 3 Check the terminal settings as follows.
  - a. 9600 baud
  - b. 8 data
  - c. parity none
  - d. 1 stop bit
  - e. full duplex

f. XOFF

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

---

**End of Procedure**

---

**Procedure 13**  
**Powering up Core/Net 1**

- 1 Faceplate-enable all Core and Network cards in Core/Net 1.
- 2 For AC-powered systems (NT8D29BA), set the MPDU circuit breaker located at the left end of the module to ON (top position.)
- 3 Set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).
- 4 For DC-powered systems, faceplate-enable the NT6D41CA power supply and then set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).
- 5 Check that the Network and I/O cards have working power.
- 6 Allow the system Load/initialize before beginning the software installation.

---

**End of Procedure**

---

## CS 1000 Release 7.5 upgrade

### Upgrading the software

Procedure 14 outlines the steps involved in installing CS 1000 Release 7.5 for the CP PIV processor.

**Procedure 14**  
**Upgrading the software**

- 1 Check that a terminal is now connected to COM 1port in CP 1. The settings for the terminal are:
  - a. Terminal type: VT100
  - b. 9600 Baud

- c. Data bits: 8
  - d. Parity: none
  - e. Stop bits: 1
  - f. Flow control: none
- 2 Insert the RMD into the CF card slot on Call Processor 1 (inactive).
  - 3 Perform a KDIF in LD 143.
  - 4 Press the manual RESET button the Call Processor 1 (inactive) card faceplate.
  - 5 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, the **F** must be in uppercase.

**6** Enter <CR> at the Install Tool Menu.*Note:* Blank CF prompts begin here.

```
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys

                               Selecting nvram file from 2
sources

Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive

  10 [F]

Press <CR> when ready

Reading boot parameters from /boot/nvram.sys

Press any key to stop auto-boot...
```

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

                Avaya

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
```

- 7 The system then enters the Main Menu for keycode authorization.

```

                M A I N   M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu
        <t> - To Tools menu.
        <q> - Quit.

Enter Choice> <u>
```

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

```

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

No keycode files are available on the removable
media.

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

Please enter:

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

Enter choice>
```

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

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

=====
=====

You selected to quit. Please confirm.

Please enter:

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

      <n> - No, DON'T quit.

Enter choice>
```

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

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

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

Name                               Size   Date       Time
-----
<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min
<2> - KCport60430m.kcd  1114 mon-d-year hr:min
<q> - Quit

Enter choice> 2
```

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

- 8 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 (CP PIV processor on <system>).
```

**Note:** The software release displayed depends on the keycode file content. The system requests keycode validation.

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

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

Please enter:

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

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

Enter choice>

- 9 If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. Select option "<a>".

**Note:** Option A uses the existing db from the FMD. External database backup is 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> <a>

- 10** The system requires the insertion of the RMD containing the software to be installed.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====  
Please insert the Removable Media Device into the  
drive on Core x.  
  
Please enter:  
  
        <CR> -> <a> - RMD is now in drive.  
Continue with s/w checking.  
  
        <q> - Quit.  
  
Enter choice> <CR>
```

- 11 If the RMD containing the software is already in the drive, select option "<a> - RMD is now in drive. Continue with s/w checking." (or simply press <CR>) to continue. If the RMD is not yet in the drive, insert it and then press <CR>.
- 12 The system displays the release of the software found on RMD under the "swload" directory and requests confirmation to continue the installation.

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

The RMD contains System S/W version xxxx.

Please enter:

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

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

Enter choice> <CR>

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

**13** Choosing Yes for the Dependency Lists installation.

**Note:** If Dependency Lists are not installed on media, the following prompts do not appear. Proceed to step 14 on [page 78](#).

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.

Enable Automatic Centralized Software Upgrade (CSU) Feature?

Please enter:

<CR> -> <y> - Yes

<n> - No

Enter choice>

**14** Select to enable/disable CSU option.

**Note:** if Sequential is selected <1>, upgrades to the MG 1000Es are performed across the LAN in a sequential manner. One MG 1000E is upgraded at a time. No other MG 1000E upgrades are initiated until the current MG 1000E completes its installation.

If Simultaneous is selected <2>, upgrades to the MG 1000Es are performed simultaneously across the LAN. Up to eight MG 1000Es are upgraded at the same time. If there are more than eight MG 1000Es, the upgrade to the next MG 1000E begins after the upgrade of one MG 1000E is complete. The following warning is presented to the installer:

```
WARNING:
Call Processing is not guaranteed to operate on the call server
during simultaneous upgrades.
Do you wish to proceed? (y/n)
```

```
Set Automatic Centralized Software Upgrade Mode to:

Please enter:
<CR> -> <1> - Sequential
        <2> - Simultaneous
Enter choice>
>Processing the install control file ...
>Installing release 0600x
```

- 15** The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
*****
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

*****
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

- 16** The installation summary screen appears. Verify the parameters and enter <CR> when ready.

- 17 Enter <CR> to confirm and continue upgrade.

**Note:** After entering yes below, the system copies the software from RMD to FMD (the files copied are listed). This file copy takes between 5 and 10 minutes to complete.

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

           Enter choice>

>Checking system configuration

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

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

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

Please enter:

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

           Enter choice>
```

- 18** 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 ...

- 19** Press "Enter" after checking the Installation summary.

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

```

                I N S T A L L   M E N U

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

Please enter:

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

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

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

                For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

Enter Choice> q
```

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

```
You selected to quit. Please confirm.

Please enter:

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

        <n> - No, DON'T quit.

Enter choice> <CR>

You selected to quit the Install Tool.

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

-----

DO NOT REBOOT USING RESET BUTTON!!!

-----

Please enter:

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

        <m> - Return to the Main menu.

Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```

At this point the system reloads and initializes.

————— **End of Procedure** —————

## Configuring IP addresses

### Procedure 15 Configuring the IP addresses

Two unique IP address are required for the CP PIV system to communicate with the LAN. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core.

- 1 Use the following command to check the status of the system's IP address:

**LD 117**                    Load program

**prt host**                Print the configured host information

If the system returns with host names active and inactive, go to "Check for Peripheral Software Download to Core 1" on [page 85](#). If the system returns no host names, complete the following steps:

- 2 Contact your System Administrator to identify IP address and subnet mask information.
- 3 Configure the primary (*active*) and secondary (*inactive*) IP addresses:

**LD 117**                    Load the program

**new host name 1 IP address**    Define the first IP address: "name 1" is an alias for the IP address such as "primary". The IP address is the IP number.

**chg elnk active name 1**        Assign the "name 1" address to the *active* Core.

**new host 'name 2' 'IP address'**    Define the second IP address: "name 2" is an alias for the IP address such as "secondary". The IP address is the IP number.

**chg elnk inactive name 2** Assign the “name 2” address to the *inactive* Core.

**chg mask xxx.xxx.xxx.xxx** Set the sub-net per local site. This number allows external sub-nets to connect to the system.

4 Enable the new Ethernet interface.

**LD 137** Load program

**update dbs** Update the ELINK database

**dis elnk** *Disable* the old IP interface values

**enl elnk** *Enable* the new IP interface values

---

**End of Procedure**

---

## Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 30](#). If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

Access LD 22 and print Target peripheral software version.

**LD 22** Load program

**REQ** PRT

**TYPE** PSWV

<b>ISSP</b>	Print System, DepList, and Patch information
<b>SLT</b>	Print System Limits
<b>TID</b>	Print the Tape ID
<b>****</b>	Exit program

## Reconfigure I/O ports and call registers

### Procedure 16

#### Reconfiguring I/O ports and call registers

- 1 Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 20,000 and 1000 respectively). If changes are required, reconfigure the values in LD 17:

<b>LD 17</b>	Load program
--------------	--------------

**CHG**

**CFN**

**PARM YES**

<b>500B 1000</b>	Use 1000 as a minimum value
------------------	-----------------------------

<b>NCR 20000</b>	Use 20000 as a minimum value
------------------	------------------------------

<b>****</b>	Exit program
-------------	--------------

- 2 Print the Configuration Record to confirm the changes made above:

<b>LD 22</b>	Load program
--------------	--------------

<b>REQ PRT</b>	Set the print Option
----------------	----------------------

<b>TYPE CFN</b>	Print the configuration
-----------------	-------------------------

<b>****</b>	Exit program
-------------	--------------

---

**End of Procedure**

---

---

## Performing a data dump

### Procedure 17

#### Performing a data dump to backup the customer database:

- 1 Log in to the system.
- 2 Insert a CF card into the active Core/Net RMD slot to back up the database.
- 3 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

**LD 43**            Load program.

**.**                EDD

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

**EDD**            Begin the data dump.



#### **CAUTION**

##### **Loss of Data**

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

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

**\*\*\*\***            Exit program

---

**End of Procedure**

---

## Install Core 0 hardware

### Power down Core/Net 0



#### CAUTION

##### Service Interruption

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



#### DANGER OF ELECTRIC SHOCK

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

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 0 module in the back of the column pedestal to OFF (down position).

### Remove Core 0 cables and card cage

#### Procedure 18

##### Removing Core 0 cables and card cage

- 1 Label and disconnect all cables to the front of the module.
- 2 Tape over the contacts to avoid grounding.
- 3 Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4 Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5 Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6 Tag and disconnect all plugs, wires, and cables to the backplane.

**Note 1:** Leave the network cards in the card cage. You will relocate them to the CP card cage later in the upgrade procedure.

**Note 2:** Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

- 7 At the bottom rear of the card cage, remove the two mounting screws that secure the card cage to the module casting.



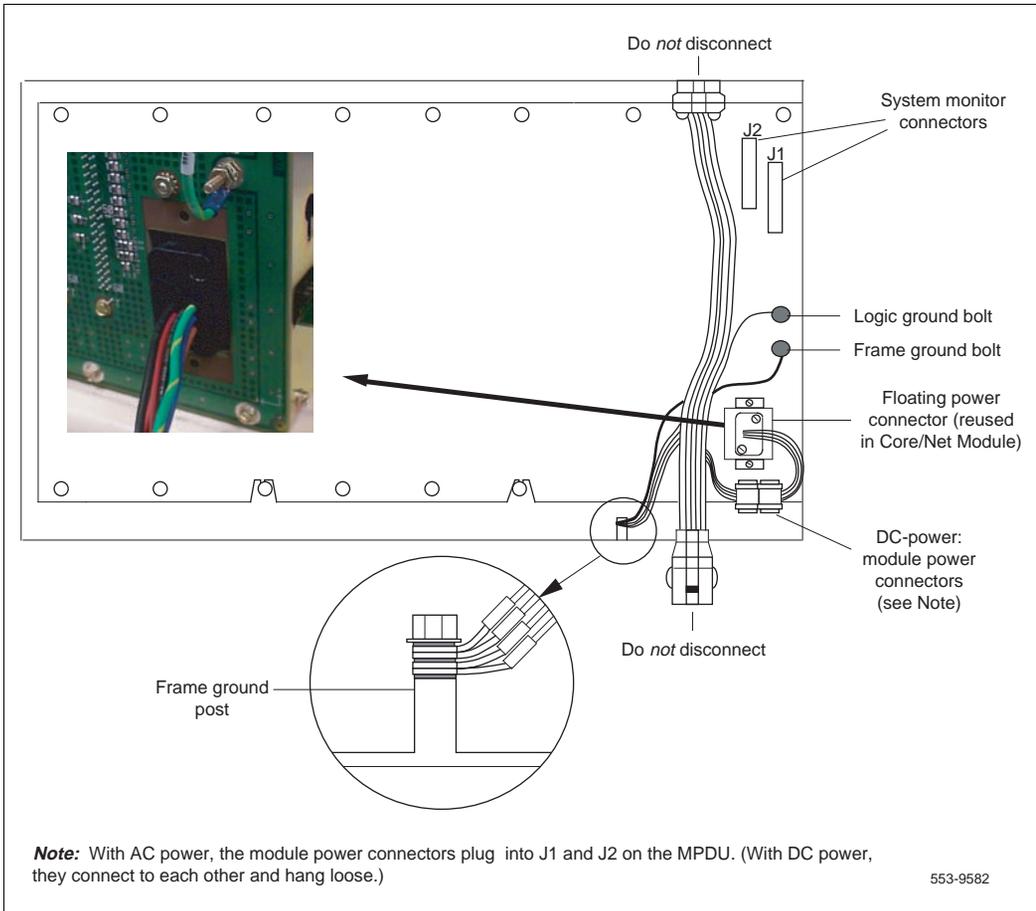
#### CAUTION

Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

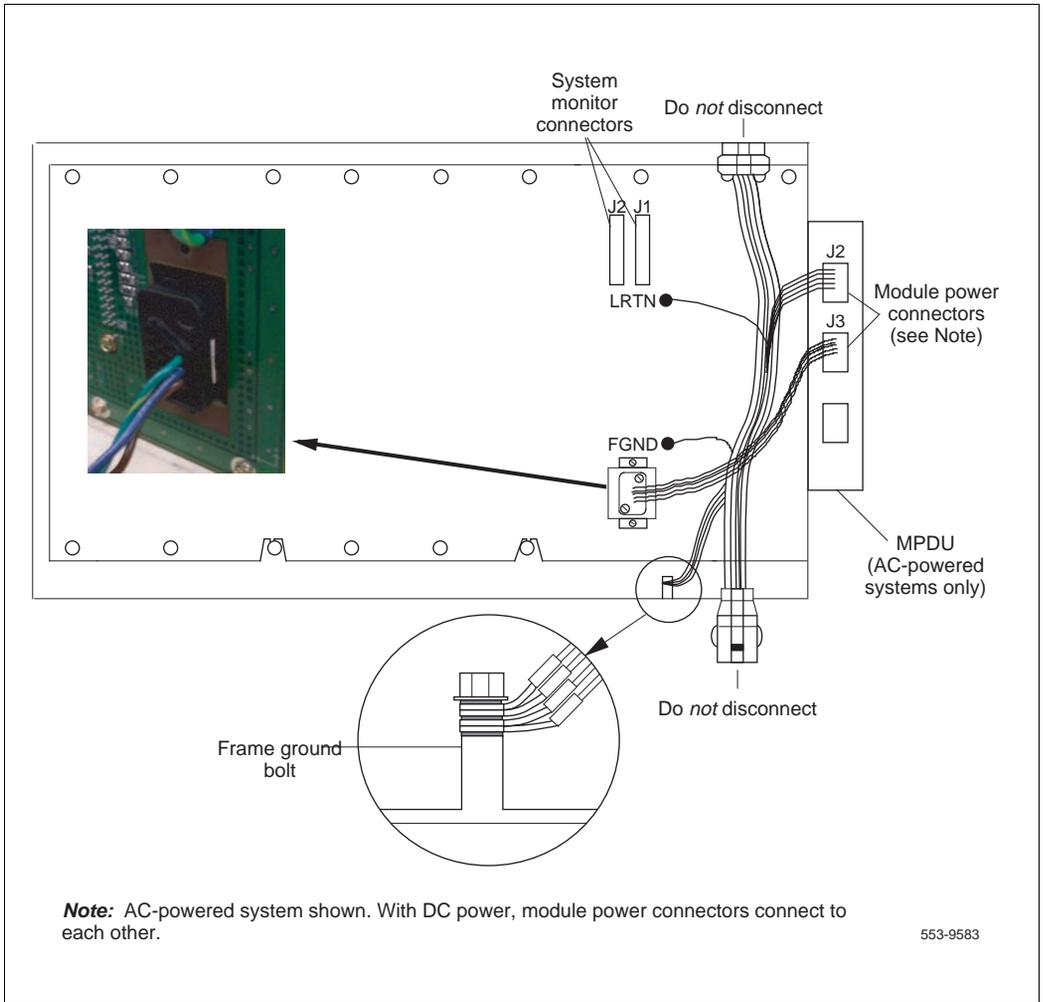
Keep the screws for use with the CP card cage. (You need a 1/4" nut driver to remove the screws.)

- 8 Remove the front trim panels on both sides of the card cage.
- 9 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Save the screws for use with the CP card cage.
- 10 Pull the card cage forward until it is halfway out of the module.
- 11 Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful; do not drop the nut or lock washer into the pedestal. For DC power connectors, see Figure 19 on [page 90](#). For AC power connectors, see Figure 20 on [page 91](#).
- 13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.
- 14 Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15 Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16 Remove the Core card cage from the module.

**Figure 19**  
**DC power connectors on the Core module backplane**



**Figure 20**  
**AC power connectors on the Core module backplane**



- 17 Remove the power harness and reserve it for reinstallation as part of installing the NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
- For AC systems, relocate power harness NT8D40.
  - For DC systems, relocate power harness NT7D11.



**WARNING**

Be sure to perform the following step. If you do not tape the EMI shield in position, you cannot install the card cage in the module correctly.

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



**CAUTION**

**Damage to Equipment**

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

---

**End of Procedure**

---

## Upgrade Core 0 hardware

### Procedure 19

#### Checking main Core card installation

The main Core cards (including the cables for power and data), are installed in the factory as shown in Figure 21 on [page 94](#).

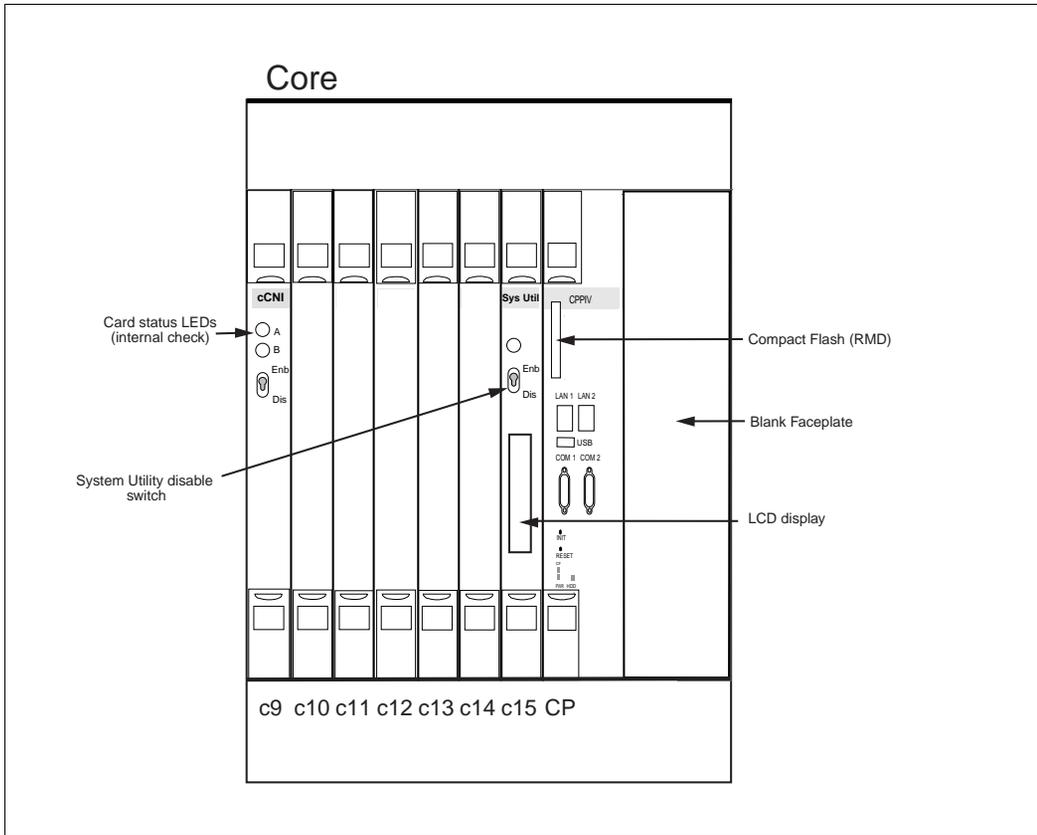
- 1 NT4N65AC CP Core Network Interface (cCNI) cards:  
Each system contains one NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots c10 - c12, which do not contain cCNIs.  
  
**Note:** In the NT4N41 Core/Net module, port 0 on the NT4N65 Core to Network Interface (cCNI) Card can only be configured as “group 0.” The cCNI and 3PE cards for group 0 communicate through the NT4N29 cable. Only one cCNI card is required for group 0 in a Meridian 1 Option 61C CP PIV.
- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.
  - a. Check side ID switch settings for the SU card in Core/Net 1 according to Table 14.

**Table 14**  
**Core module ID switch settings (System Utility card)**

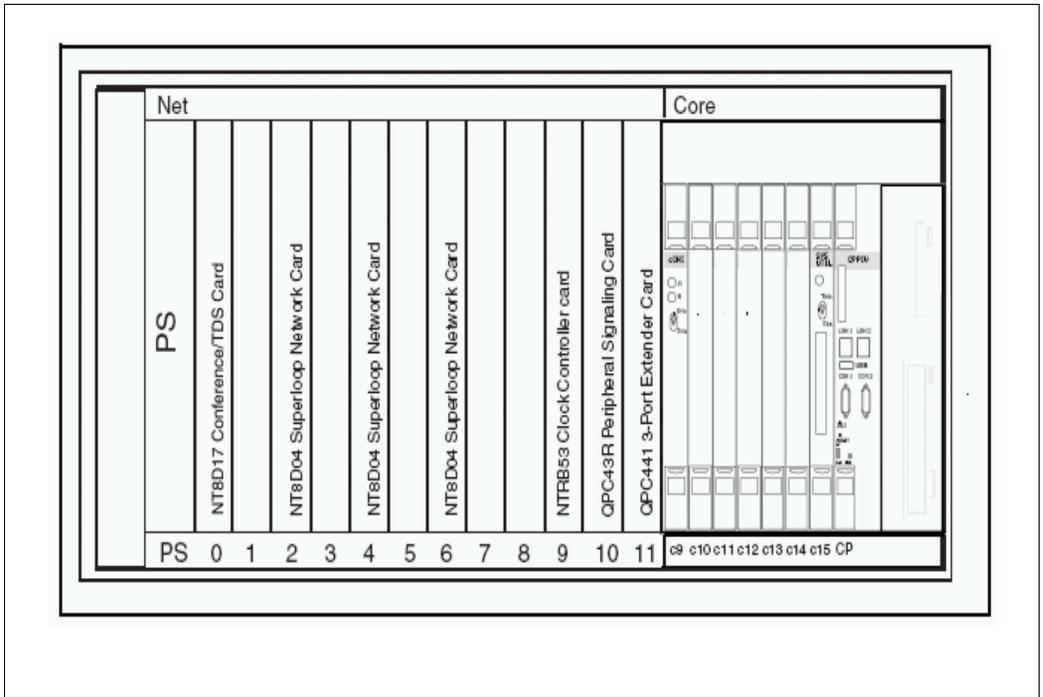
	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 4 The NT4N39 CP PIV is located in the Call Processor slot.
- 5 The N0026096 blank faceplate is located in the extreme right-hand slot next to the CP PIV card. Check that the NT4N4405 shelf power cable is installed in the CP card cage backplane. See Figure 22 on [page 95](#) for the cable location.

**Figure 21**  
**Core card placement in the NT4N41 Core/Net Module (front)**



**Figure 22**  
**Core/Net cable connections (top view)**



## Install the CP card cage in Core 0

### Procedure 20 Installing the CP card cage in Core 0

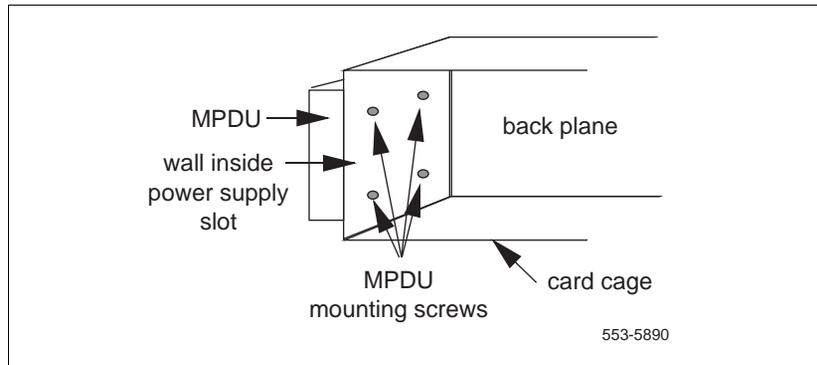
- 1 Check that the card cage is configured as Core 0. See Table 15 for instructions.

**Table 15**  
**Core module ID switch settings (System Utility card)**

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

- 2 For AC-powered systems only, install the new MPDU, which is part of the CP PIV Upgrade kit, to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 23.

**Figure 23**  
**Location of the screws for the MPDU**



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

- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP card cage.



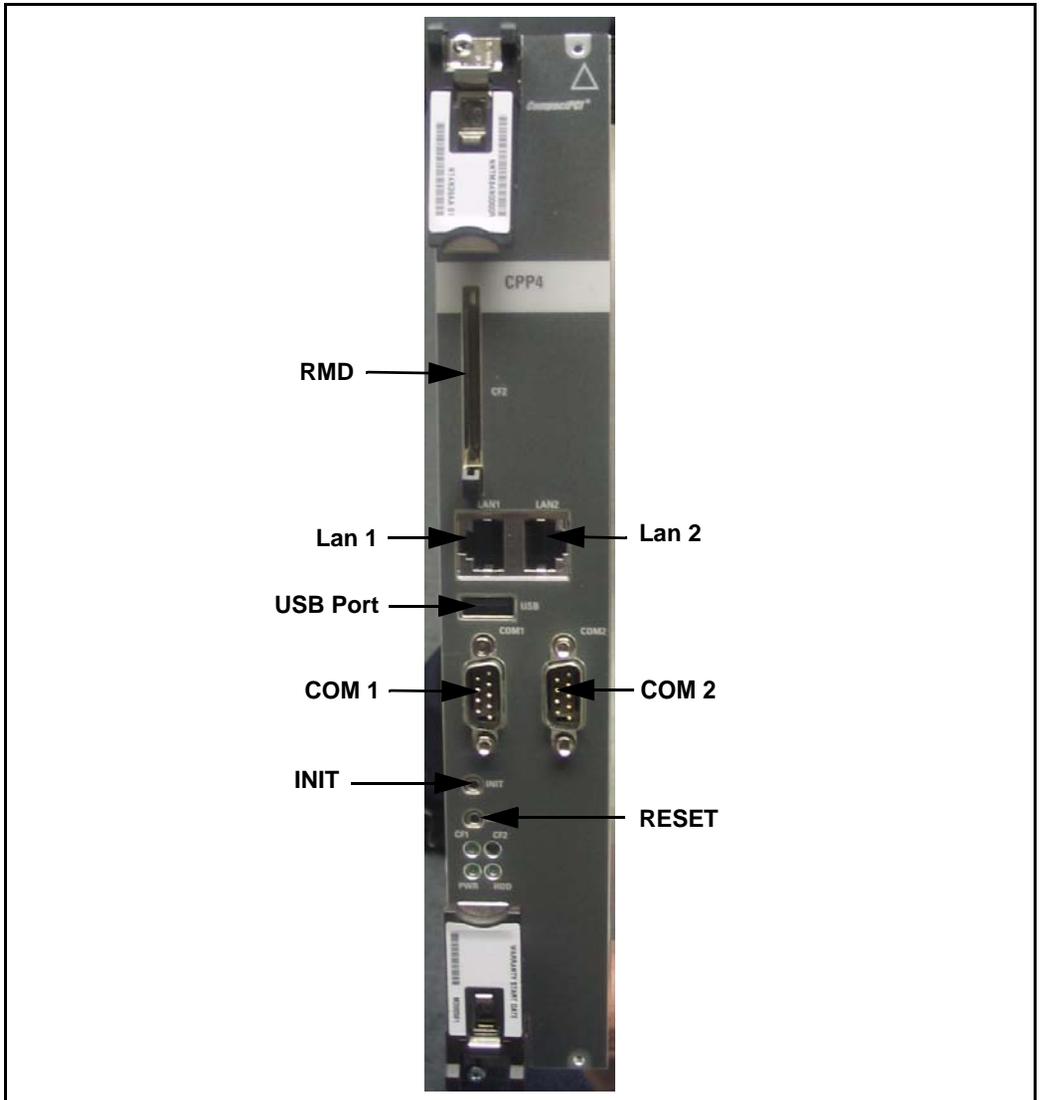
- 7** Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.
- 8** Secure the card cage and EMI shield to the module re-using the existing screws.
- 9** Secure the card cage and EMI shield to the module re-using the existing screws.
- 10** Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.

---

**End of Procedure**

---

Figure 24  
CP PIV call processor card (front)



## Install the Security Device

### Procedure 21 Installing the Security Device

The Security Device fits into the System Utility card (see Figure 25 on [page 101](#)).

To install the Security Device:

- 1 If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
  - a. Unlock the latches and remove the IODU/C card.
  - b. Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

OR

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

Insert the Security Device into the Security Device holder on the System Utility card with the "Avaya" side facing up. Do not bend the clip more than necessary.

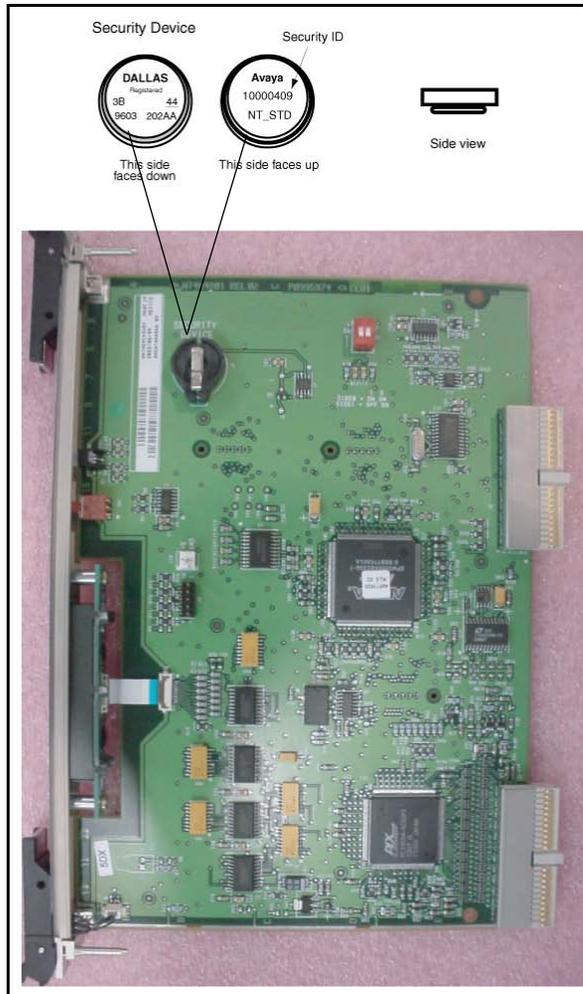
- 2 Check that the Security Device is securely in place.

---

**End of Procedure**

---

**Figure 25**  
**Security Device**



## Relocate network cards to Core/Net 0

### Procedure 22

#### Relocating Network cards to CP Core 0

- 1 Remove all network cards from the previous Core 0 Core/Net shelf
- 2 When you move the 3PE card, check the switch settings and jumpers. See Table 16.
  - a. All 3PE cards must be vintage F or later.
  - b. Check that the RN27 Jumper is set to "A".
  - c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 16 shows the 3PE settings for cards installed in CP PIV Core/Net Modules.
- 3 Reinstall each removed card in the same network slot in the CP PIV Core/Net 0.
- 4 Connect the tagged cables to the relocated cards.

**Table 16**

**QPC441 (QPC440) 3PE Card installed in the CP PIV Core/Net modules**

<b>Jumper Settings:</b> Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
CP PIV Core/Net modules only		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off

————— **End of Procedure** —————

**Procedure 23**  
**Moving Clock Controller 0****CAUTION****Service Interruption**

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

- 1 Label and disconnect the Clock Controller 0.
- 2 Disconnect the NT8D76AC cable from the Clock Controller 0 faceplate card.
- 3 If primary and secondary clock reference cables are connected to the Clock Controller 0 faceplate, disconnect them last.
- 4 Set the Clock Controller 0 switch settings according to Table 17 on [page 104](#) (QPC471H, QPC771H) and Table 18 on [page 105](#) (NTRB53).
- 5 Disable any ISDN PRI card in the Core module.



The active side Core/Net 1 registers all Network cards in Core/Net 0 as disabled.

- 6 Place Clock Controller 0 in Group 0 Network Shelf 0, slot 9.
- 7 Seat the Clock Controller 0 and faceplate-enable the card.

8 Reconnect all reference cables and clock-to-clock cables.

**Table 17**  
**Clock Controller switch settings for QPC471H, QPC771H**

Systems upgraded to CP PIV must use the Meridian 1 Option 61C CP PIV switch settings to enable Clock Hunt software. Use the settings in this table.											
SW1				SW2				SW4			
1	2	3	4	1	2	3	4	1	2	3	4
on	on	on	on	off	off	off	off	**	on	*	*
*Total cable length between the J3 faceplate connectors:											
0–4.3 m (0–14 ft.)										off	off
4.6–6.1 m (15–20 ft.)										off	on
6.4–10.1 m (21–33 ft.)										on	off
10.4–15.2 m (34–50 ft.)										on	on
** Set to ON for Clock Controller 0. Set to OFF for Clock Controller 1.											

**Table 18**  
**Clock Controller switch settings for NTRB53**

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		3	4			
1	2	3	4		5	6
Multi-group = Off  Single group = On	21E = Off  51, 61, 51C, 61C  71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On  Side 1 = Off	71,81 = Off  21E, 51, 51C, 61. 61C, 81C = On
		Off	On			
		On	Off			
		On	On			

————— **End of Procedure** —————

## Cable Core 0

### Inspect the NT4N29 cables

The NT4N29 cables must be installed for existing Network group 0. If the system has XSDI cards, reinstall the cards and attach the cables. See Figure 26 on [page 106](#).

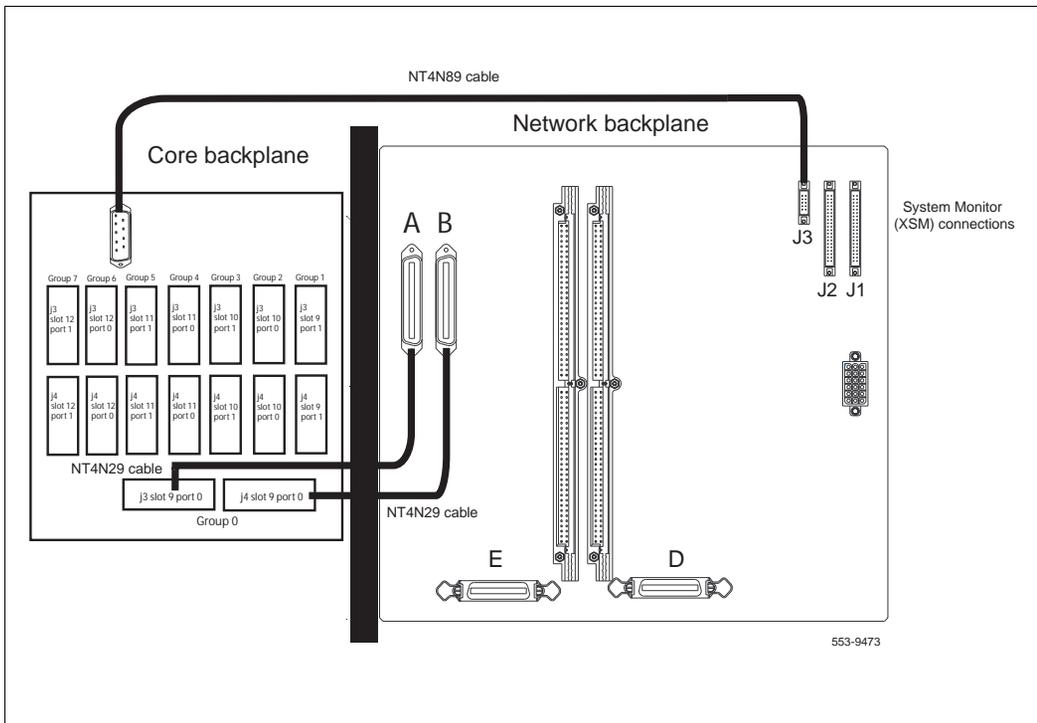
### Install intermodule cables

#### Procedure 24

#### Installing intermodule cables

- 1 Locate and unpack the NT8D99AD and NT8D80BZ cables.
- 2 Install NT8D99AD cables between the D connectors on the backplane of each Core/Net module. Install another NT8D99AD cable between the E connectors on the backplane of each Core/Net module (see Figure 26 on [page 106](#)).

**Figure 26**  
**Fanout Panel connections on the CP Core/Net backplane**



- 3 Install an NT8D80BZ cable between the J3 connector on the 3PE card in Core/Net 0 and the J3 connector on the 3PE card in Core/Net 1. Install another cable between the J4 connectors on the 3PE cards (see Figure 27 on [page 107](#)).

**End of Procedure**



### **Procedure 26**

#### **If the system is connected to a LAN**

- 1** Connect the Dual Ethernet Adapter (RJ-45) for I/O Panel (NTRE40AA) to J31. Secure the adapter to J31 with the two screws included in the shipment. Insert the adapter from the inside of the I/O panel.
- 2** Connect LAN 1 (Ethernet) on the CP PIV faceplate to J31 (top) of the I/O panel with cable NT4N90BA. This connection can only be made *after* the Dual Ethernet Adapter is installed (see step 1 above).
- 3** Connect J31 to a LAN switch.

**Note:** If a LAN switch is not available, connect J31 of Core 0 to J31 of Core 1 by the NTRC17BA cable.

---

**End of Procedure**

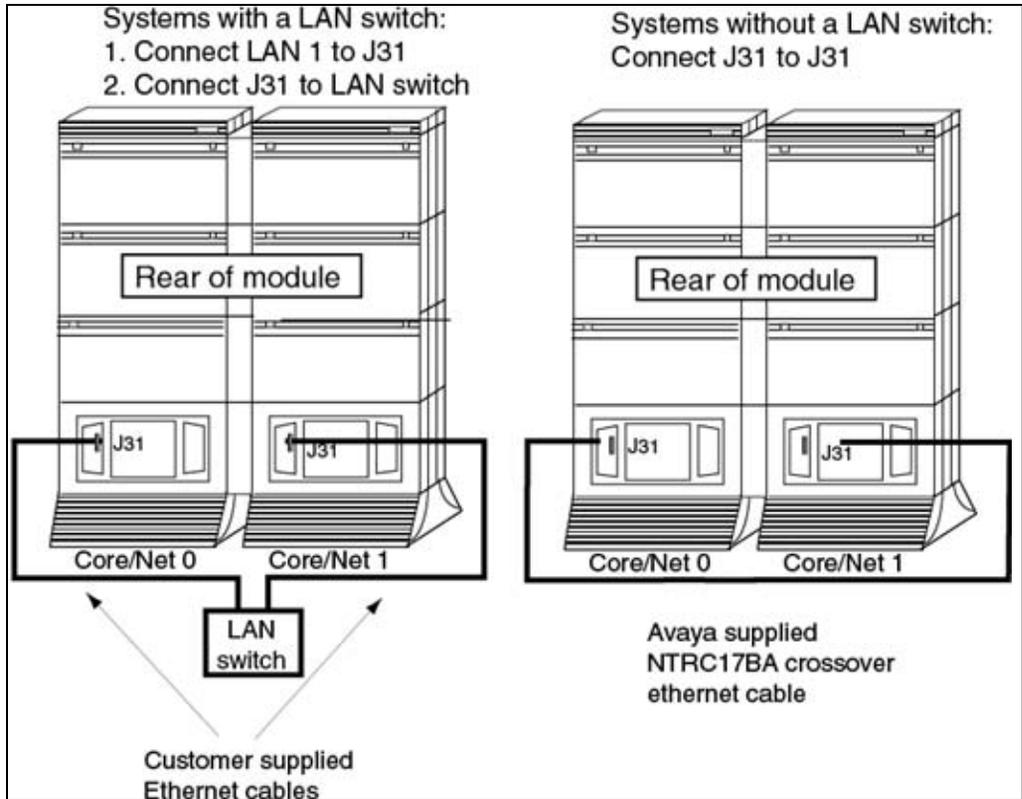
---

## **Connect LAN 2**

Connect the NTR17BA Ethernet crossover cable from LAN 2 on the CP PIV card in Core 0 to the LAN 2 connection of the CP PIV card on Core 1.

This NTR17BA cable runs between the faceplates of the CP PIV cards and is run through the front cable tray.

**Figure 28**  
Options for LAN 1 connection



## Power up Core 0

### Procedure 27 Preparing for power up

- 1 Confirm that a terminal is connected to the J25 I/O panel connector on Core/Net 0.

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

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

- 3 Check the terminal settings as follows:
  - a. 9600 baud
  - b. 8 data
  - c. parity none
  - d. 1 stop bit
  - e. full duplex
  - f. XOFF

**Note:** If only one terminal is used for both Cores, the terminal will have to be switched from side-to-side to access each module. An “A/B” switch box can also be installed to switch the terminal from side to side.

- 4 Faceplate-enable all core and network cards.

---

**End of Procedure**

---

## Power up Core cards

### Procedure 28

#### Powering up core cards

- 1 For AC-powered systems (NT8D29BA): set the MPDU circuit breaker located at the left end of the module to ON (top position).
- 2 For DC-powered systems: faceplate-enable the NT6D41CA power supply and then set the breaker for the Core 0 module in the back of the column pedestal to ON (top position).
- 3 10 seconds after power up of Core/Net 0, press the INI button on Core/Net 1.
- 4 Wait for the system to load and initialize.



Core/Net 1 is now active. All network cards in Core/Net 0 and Core/Net 1 are enabled. Call processing is resumed.

---

**End of Procedure**

---

**Test Core/Net 1****Procedure 29****Testing Core/Net 1**

1 Check dial-tone.

2 Test the clocks:

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

**LD 60** Load program

**SSCK *x*** Get the status of the clock controllers (*x* is “0” or “1” for Clock 0 or Clock 1)

**SWCK** To switch the Clock (if necessary)

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

b. Verify that the clock controllers are switching correctly.

**SWCK** Switch the Clock

**Note:** You must wait a minimum of one minute for clocks to synchronize.

**SWCK** Switch the Clock again

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

3 Stat D-channels:

**LD 96**

**STAT DCH** Stat all D-channels

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

4 Stat all T1 interfaces:

**LD 60**

**STAT** Stat all DTI and PRI

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

5 Stat network cards:

**LD 32**

**STAT x**            x = loop number

**\*\*\*\***            Exit program

6 Print status of all controllers:

**LD 97**

**REQ**            PRT

**TYPE**            XPE (returns status of all controller cards)

**\*\*\*\***            Exit program

7 Make internal, external and network calls.

8 Check attendant console activity.

9 Check DID trunks.

10 Check applications.

---

**End of Procedure**

---

## CS 1000 Release 7.5 upgrade

### Upgrading the software on Core/Net 1

Procedure 30 on [page 112](#) outlines the steps involved in installing CS 1000 Release 7.5 for the CP PIV processor.

#### Procedure 30

##### Upgrading the software

- 1 Check that a terminal is now connected to COM 1port in CP 1. The settings for the terminal are:
  - a. Terminal type: VT100
  - b. 9600 Baud
  - c. Data bits: 8

- d. Parity: none
  - e. Stop bits: 1
  - f. Flow control: none
- 2 Insert the RMD into the CF card slot on Call Processor 1 (inactive).
  - 3 Perform a KDIF in LD 143.
  - 4 Press the manual RESET button the Call Processor 1 (inactive) card faceplate.
  - 5 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, the **F** must be in uppercase.

- 6 Enter <CR> at the Install Tool Menu.

*Note:* Blank CF prompts begin here.

```
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys

                               Selecting nvram file from 2
sources

Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive

  10 [F]

Press <CR> when ready

Reading boot parameters from /boot/nvram.sys

Press any key to stop auto-boot...
```

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

Avaya

Communication Server 1000 Software

Install Tool version 29

Copyright 1992 - 2007

Please press <CR> when ready ...

*****
WARNING:

This software does not support TMS configured on PE/EPE
shelves. Upgrading to this software release will permanently
disable all TMS configured on PE/EPE and will not allow new
TMS 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 PPT passwords being reset to default.

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

- 7 The system then enters the Main Menu for keycode authorization.

```
                M A I N   M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu
        <t> - To Tools menu.
        <q> - Quit.
Enter Choice> <u>
```

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

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

No keycode files are available on the removable
media.

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

Please enter:

        <CR> -> <a> - RMD is now in the drive.
        <q> - Quit.
Enter choice>
```

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

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

You selected to quit. Please confirm.

Please enter:

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

<n> - No, DON'T quit.

Enter choice>

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

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

```
The following keycode files are available on the  
removable media:  
  
Name                               Size   Date       Time  
-----
```

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

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

<q> - Quit

Enter choice> 2

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

- 8 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 (CP PIV processor on <system>).
```

**Note:** The software release displayed depends on the keycode file content. The system requests keycode validation.

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

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

Please enter:

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

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

Enter choice>

- 9 If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. Select option "<a>".

**Note:** Option A uses the existing db from the FMD. External database backup is 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> <a>

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

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

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

Please enter:

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

                  <q> - Quit.

Enter choice> <CR>

- 11 If the RMD containing the software is already in the drive, select option “<a> - RMD is now in drive. Continue with s/w checking.” (or simply press <CR>) to continue. If the RMD is not yet in the drive, insert it and then press <CR>.
- 12 The system displays the release of the software found on RMD under the “swload” directory and requests confirmation to continue the installation.

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

The RMD contains System S/W version xxxx.

Please enter:

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

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

Enter choice> <CR>

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

13 Choosing Yes for the Dependency Lists installation.

**Note:** If Dependency Lists are not installed on media, the following prompts do not appear. Proceed to step 14 on [page 123](#).

```
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.

Enable Automatic Centralized Software Upgrade (CSU) Feature?
Please enter:
<CR> -> <y> - Yes
    <n> - No
    Enter choice>
```

**14** Select to enable/disable CSU option.

**Note:** if Sequential is selected <1>, upgrades to the MG 1000Es are performed across the LAN in a sequential manner. One MG 1000E is upgraded at a time. No other MG 1000E upgrades are initiated until the current MG 1000E completes its installation.

If Simultaneous is selected <2>, upgrades to the MG 1000Es are performed simultaneously across the LAN. Up to eight MG 1000Es are upgraded at the same time. If there are more than eight MG 1000Es, the upgrade to the next MG 1000E begins after the upgrade of one MG 1000E is complete. The following warning is presented to the installer:

WARNING:  
Call Processing is not guaranteed to operate on the call server during simultaneous upgrades.  
Do you wish to proceed? (y/n)

Set Automatic Centralized Software Upgrade Mode to:

Please enter:

<CR> -> <1> - Sequential

<2> - Simultaneous

Enter choice>

>Processing the install control file ...

>Installing release 0600x

- 15 The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
*****
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

*****
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

- 16 The installation summary screen appears. Verify the parameters and enter <CR> when ready.

- 17 Enter <CR> to confirm and continue upgrade.

**Note:** After entering yes below, the system copies the software from RMD to FMD (the files copied are listed). This file copy takes between 5 and 10 minutes to complete.

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

          Enter choice>

>Checking system configuration

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

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

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

Please enter:

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

          Enter choice>
```

- 18** 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 ...

- 19** Press "Enter" after checking the Installation summary.

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

```

                I N S T A L L   M E N U

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

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.
        <b> - To install Software, Database,
CP-BOOTROM.
        <c> - To install Database only.
        <d> - To install CP-BOOTROM only.
        <t> - To go to the Tools menu.
        <k> - To install Keycode only.

                For Feature Expansion, use OVL143.
        <p> - To install 3900 set Languages.
        <q> - Quit.

Enter Choice> q
```

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

```
You selected to quit. Please confirm.

Please enter:

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

        <n> - No, DON'T quit.

Enter choice> <CR>

You selected to quit the Install Tool.

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

-----

DO NOT REBOOT USING RESET BUTTON!!!

-----

Please enter:

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

        <m> - Return to the Main menu.

Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```

---

At this point the system reloads and initializes.

————— **End of Procedure** —————

## Verifying the upgraded database

### Procedure 31

#### Verifying the upgraded database

- 1 Print ISSP (system software issue and patches)

**LD 22**                      Load program

**REQ**                        ISSP

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



Core 1 is now active, clock 1 is active, FIJI 1 is half/half, CNI is disabled in Core 0. The system is in split mode.

————— **End of Procedure** —————

## Making the system redundant

At this point, Core/Net 0 is ready to be synchronized with Core/Net 1.

### Procedure 32

#### Making the system redundant

- 1 Attach the LAN 1 and LAN 2 cables to the CP PIV faceplate connectors on Call Server 0 and Call Server 1.
- 2 Enter LD 135 and issue the JOIN command. The high speed pipe (HSP) status is now up. This begins the synchronization of the Call Servers.

**LD 135**                      Load program

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

- 3 Once the synchronization of memories and drives is complete, STAT the CPU and verify that the CPUs are in a true redundant state.

**LD 135**

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

\*\*\*\*              Exit the program

```
.stat cpu

cp 0 16 PASS -- STDBY

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH = 20
VERSION = Mar 3 2005, 16:26:40
  Side = 0, DRAM SIZE = 512 MBytes

cp 1 16 PASS -- ENBL

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH = 20
VERSION = Mar 3 2005, 16:26:40
  Side = 1, DRAM SIZE = 512 MBytes
```

- 4 Tier 1 and Tier 2 health of both Cores must be identical in order to successfully switch service from Core 1 to Core 0 CPUs.

**LD 135**

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

\*\*\*\* Exit the program

```
.stat health
Local (Side 0, Active, Redundant):
Components without TIER 1 Health contribution:
=====
    disp 0 15 1:In Service
    sio2 0 15 1:In Service
        cp 0 16:In Service
            ipb 0:In Service
TIER 1 Health Count Breakdown:
=====
    sio8 0 16 1: 0002
    sio8 0 16 2: 0002
        sutl 0 15: 0002
            strn 0 15: 0002
    xsmp 0 15 1: 0002
    cmdu 0 16 1: 0008
        eth 0 16 0: 0002
Local TIER 1 Health Total: 20
```

```
TIER 2 Health Count Breakdown:
=====
ELAN 16 IP : 47.11.138.150 Health = 2
ELAN 17 IP : 47.11.138.153 Health = 2

Local AML over ELAN Total Health:4
Local Total IPL Health = 6

IPL connection history:3 3 3 3 3 3 3 3 3 3 3 3 3 3
3 3 3 3 3 3

Local TIER 2 Health Total:10

Remote (Side 1, Inactive, Redundant):
Components without TIER 1 Health contribution:
    disp 1 15 1:In Service
    sio2 1 15 1:In Service
        cp 1 16:In Service
            ipb 1:In Service

TIER 1 Health Count Breakdown:
    sio8 1 16 1: 0002
    sio8 1 16 2: 0002
    sutl 1 15: 0002
    strn 1 15: 0002
    xsmp 1 15 1: 0002
    cmdu 1 16 1: 0008
    eth 1 16 0: 0002

Remote TIER 1 Health Total: 20
```

```
TIER 2 Health Count Breakdown:
=====
ELAN 16 IP : 47.11.138.150 Health = 2
ELAN 17 IP : 47.11.138.153 Health = 2

Remote AML over ELAN Total Health:4
Remote Total IPL health = 6

Remote TIER 2 Health Total:10
```



The system is now operating in full redundant mode with Core/Net 1 active.

## Completing the CP PIV upgrade

### LD 137

The MMDU commands are not applicable to CP PIV. Instead, the following commands are introduced in LD 137.

- STAT FMD  
display text: **Status of Fixed Media Device (FMD)**  
command parameter: none
- STAT RMD  
display text: **Status of Removable Media Device(RMD)**  
command parameter: none

## Testing the Cores

### Procedure 33 Testing Core/Net 1

At this point in the upgrade, Core/Net 0 is tested from active Core/Net 1. Upon successful completion of these tests, call processing is switched and the same tests are performed on Core/Net 1 from active Core/Net 0. As a final step, call processing is then switched again to Core/Net 1.

From Core/Net 1, perform these tests:

**1** Perform a redundancy sanity test:

- LD 135**            Load program
- STAT CPU**        Get status of CPU and memory
- TEST CPU**        Test CPU

**2** Check the LCD states:

- a.** Perform a visual check of the LCDs.
- b.** Test LCDs:

- LD 135**            Load program
- DSPL ALL**

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

- LD 135**            Load program
- STAT SUTL**        Get the status of the System Utility card
- TEST SUTL**        Test the System Utility card
- STAT CNI c s**      Get status of cCNI cards (core, slot)
- TEST CNI c s**      Test cCNI (core, slot)

**4** Test system redundancy:

**LD 137**            Load program  
**TEST RDUN**      Test redundancy  
**DATA RDUN**      Test database integrity

**5** Install the two system monitors. Test that the system monitors are working:

**LD 37**            Load program  
**ENL TTY x**        Enable the XMS, where x= system XMS  
**STAT XSM**        Check the system monitors  
**\*\*\*\***            Exit program

**6** Clear the display and minor alarms on both Cores:

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

7 Test the clocks:

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

**LD 60** Load program

**SSCK *x*** Get status of the clock controllers (*x* is “0” or “1”  
for Clock 0 or Clock 1)

**SWCK** Switch the Clock (if necessary)

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

8 Verify that the Clock Controllers are switching correctly:

**SWCK** Switch Clock

**Note:** You must wait a minimum of one minute for  
clocks to synchronize.

**SWCK** Switch Clock again

9 Check applications.

10 Check dial tone.

---

**End of Procedure**

---

## Switch call processing

### Procedure 34 Switching call processing

- 1 Enter LD 135 on Core/Net 1 and issue the SCPU command. Call processing switches to Call Server 0 and service is interrupted.

#### LD 135

SCPU	Switch cores
****	Exit program

- 2 After Call Server 0 initializes, log in to Call Server 0 and verify that the cutover was successful and that all hardware is operational. Perform acceptance testing as required.



Core/Net 0 is now the active call processor.

### Procedure 35 Testing Core/Net 0

From Core/Net 0, perform these tests:

- 1 Perform a redundancy sanity test:

LD 135	Load program
STAT CPU	Get status of CPU and memory
TEST CPU	Test CPU

- 2 Check the LCD states:

a. Perform a visual check of the LCDs.

3 Test the System Utility cards and the cCNI cards:

**LD 135** Load program

**STAT SUTL** Get the status of the System Utility card

**TEST SUTL** Test the System Utility card

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

**TEST CNI c s** Test cCNI (core, slot)

4 Test system redundancy:

**LD 137** Load program

**TEST RDUN** Test redundancy

**DATA RDUN** Test database integrity

**STAT FMD** Status of Fixed Media Device (FMD)

**STAT RMD** Status of Removable Media Device (RMD)

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

**LD 37** Load program

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

**STAT XSM** Check the system monitors

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

6 Clear the display and minor alarms on both Cores:

**LD 135** Load program

**CDSP** Clear displays on the cores

**CMAJ** Clear major alarms

**CMIN ALL** Clear minor alarms

**7** Test the clocks:

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

<b>LD 60</b>	Load program
<b>SSCK <i>x</i></b>	Get status of the clock controllers ( <i>x</i> is “0” or “1” for Clock 0 or Clock 1)
<b>SWCK</b>	Switch the Clock (if necessary)
<b>****</b>	Exit program

**8** Verify that the Clock Controllers are switching correctly:**SWCK** Switch Clock

**Note:** You must wait a minimum of one minute for clocks to synchronize.

**SWCK** Switch Clock again**9** Check applications.**10** Check dial tone.

---

**End of Procedure**

---

## Switch call processing

### Procedure 36 Switching call processing

- 1 Enter LD 135 on Core/Net 1 and issue the SCPUR command. Call processing switches to Call Server 1 and service is interrupted.

#### LD 135

```
SCPUR          Switch cores
****          Exit program
```

- 2 After Core/Net 1 initializes, log in to Core/Net 1 and verify that the cutover was successful and that all hardware is operational. Perform acceptance testing as required.



Core/Net 1 is now the active call processor.

### Perform a customer backup data dump (upgraded release)

#### Procedure 37 Performing a data dump to back up the customer database:

- 1 Log in to the system.
- 2 Insert a CF card into the active Core/Net RMD slot to back up the database.
- 3 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

```
LD 43          Load program.
.              EDD
```

- 4 When EDD000 appears on the terminal, enter:

```
EDD           Begin the data dump.
```



**CAUTION**

**Loss of Data**

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

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

\*\*\*\*                   Exit program

---

**End of Procedure**

---



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# Installing a Signaling Server

---

## Contents

This chapter contains the following topics:

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Connections . . . . .	163
Upgrading and reconfiguring the software . . . . .	171

## Introduction

This chapter contains general instructions to install and connect Server card hardware. This chapter also contains general instructions to connect Commercial off-the-shelf (COTS) servers.

The Avaya Communication Server 1000M (Avaya CS 1000M) system supports the Common Processor Pentium Mobile (CP PM) card model NTDW66, the Common Processor Dual Core (CP DC) model NTDW54, and the Commercial off-the-shelf (COTS) servers.

A CP PM, CP DC or COTS server that you deploy with Signaling Server applications is referred to as a Signaling Server. A CP PM or COTS server that you deploy with SIP Line can be referred to as a SIP Line Gateway.

**IMPORTANT!**

Instructions to install an IBM X306m, IBM x3350, or HP DL320-G4, or Dell R300 COTS server are not included in this chapter. Detailed installation instructions are in the IBM xSeries 306m User Guide, IBM x3350 User Guide, HP ProLiant DL320 Generation 4 Server User Guide, or the Dell PowerEdge R300 User Guide shipped with the server.

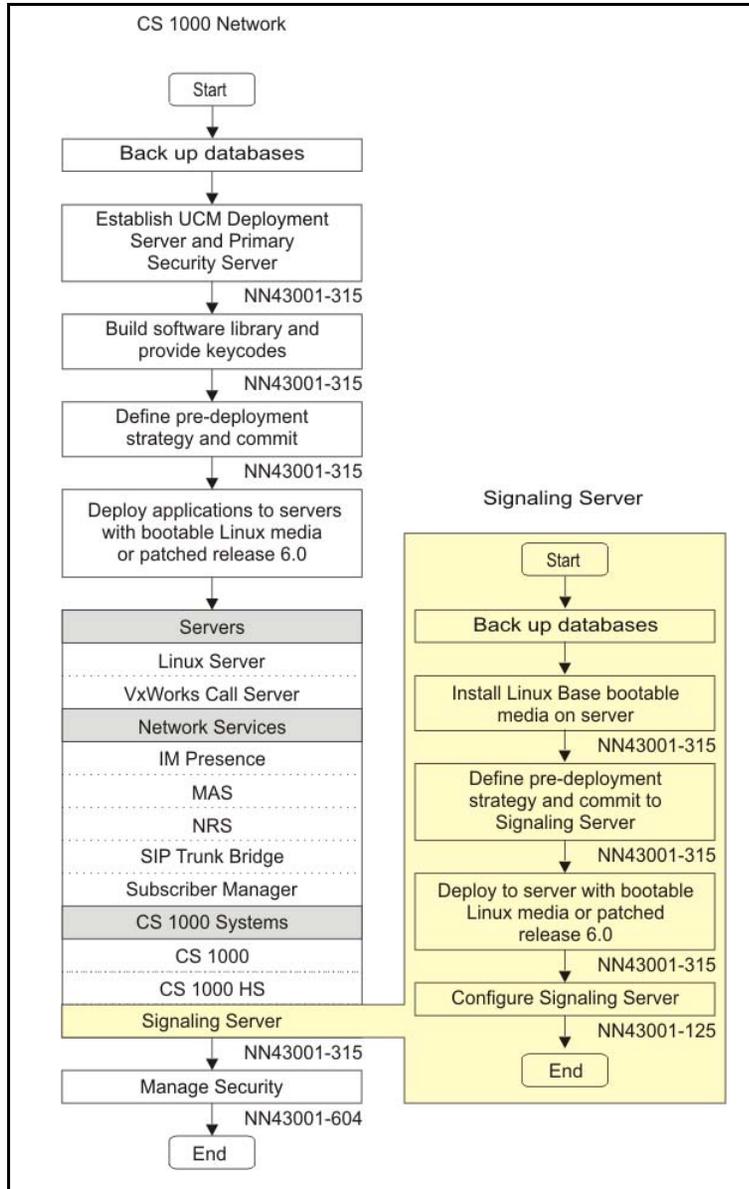
## Signaling Server task flow

This section provides a high-level task flow for the installation or upgrade of an Avaya Communication Server 1000 (Avaya CS 1000) system. The task flow indicates the recommended sequence of events to follow when configuring a system and provides the document number that contains the detailed procedures required for the task.

For more information refer to the following documents, which are referenced in Figure 29 on [page 145](#):

- *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)
- *Avaya Element Manager: System Administration* (NN43001-632)
- *Avaya Signaling Server IP Line Applications Fundamentals* (NN3001-125)

**Figure 29**  
**Signaling Server task flow**



## Readiness checklist

Before installing a Signaling Server in a Communication Server 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 you install and use the Signaling Server. Be sure to replace the cord with the correct type.

**Table 19**  
**Readiness checklist (Part 1 of 2)**

<b>Have you:</b>	
Read all safety instructions in <i>Communication Server 1000M and Meridian 1 Large System Installation and Commissioning</i> (NN43021-310), as appropriate for your Communication Server 1000 system?	
<p>Do you have all equipment and peripherals?</p> <p><b>For COTS servers:</b></p> <ul style="list-style-type: none"> <li>• installation accessories for rack-mounting the server</li> <li>• AC-power cord</li> <li>• a DTE-DTE null modem cable (supplied)</li> </ul> <p>NTE90672: Linux Signaling Server software DVD for COTS servers</p> <p><b>For Server cards (NTDW66 CP PM, and NTDW54 CP DC)</b></p> <ul style="list-style-type: none"> <li>• (CP PM only) CP PM Signaling Server Linux Upgrade kit, which includes <ul style="list-style-type: none"> <li>— Linux OS preloaded hard drive kit (Optional, provided if required)</li> <li>— 2 GB Compact Flash (CF) with Linux software, 2 GB blank CF</li> <li>— 1 GB DDR SO-DIMM memory upgrade (Optional, provided if required)</li> </ul> </li> <li>• 2 port SDI Cable assembly kit</li> <li>• Large System Cabling kit</li> <li>• Large System Cabling</li> <li>• a DTE-DTE null modem cable (supplied)</li> </ul> <p><b>Note:</b> Save the packaging container and packing materials in case you must ship the product.</p>	
Confirmed the area meets all environmental requirements?	
Checked for all power requirements?	
Verified the CP PM meets all required specifications (2GB ram, 40GB hard drive, NTDW66AAE6 CP PM BIOS version 18 or higher)?	

**Table 19**  
**Readiness checklist (Part 2 of 2)**

Have you:	
Checked for correct grounding facilities?	
Obtained the following <ul style="list-style-type: none"> <li>• screwdrivers</li> <li>• an ECOS 1023 POW-R-MATE or similar type of multimeter</li> <li>• appropriate cable terminating tools</li> <li>• a computer (maintenance terminal) to connect directly to the Signaling Server, with               <ul style="list-style-type: none"> <li>— teletype terminal (ANSI-W emulation, serial port, 9600 bps)</li> <li>— 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)</li> </ul> </li> </ul>	
Prepared the network data as suggested in <i>Converging the Data Network with VoIP</i> (NN43001-260) or <i>Communication Server 1000M and Meridian 1 Large System Planning and Engineering</i> (NN43021-220), as appropriate for your Communication Server 1000 system?	
Read all safety instructions in <i>Communication Server 1000M and Meridian 1 Large System Installation and Commissioning</i> (NN43021-310), as appropriate for your Communication Server 1000 system?	

## Server card hardware installation

This section contains instructions for installing a Server in a Communication Server 1000M system. The Communication Server 1000M system supports the NTDW66 CP PM card, NTDW54 CP DC card, and Commercial off-the-shelf (COTS) servers.

This section contains only general instructions to install the Server card in Communication Server 1000M systems. For more detailed installation

instructions, see *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

**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 in position 2 to support the internal hard drive used on the CP PM Signaling Server circuit card.

## **Installation in a Communication Server 1000M system**

For CP PM cards, the first task that you must perform is to install the hard drive shipped with the server or Linux upgrade kit. For instructions, see *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

The NTDW66 CP PM card and NTDW54 CP DC card are double wide faceplate cards designed for use in a CS 1000M Universal Equipment Module (UEM). You can insert the double wide CP PM or CP DC card into any slot of a CS 1000M UEM except slot 7. When upgrading from a CS 1000M system to CS 1000E, the slot next to slot 7 is occupied by the External Peripheral Equipment Controller (XPEC). This prevents the CP PM or CP DC double wide faceplate 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 Communication Server 1000M UEM. These ports are used to connect your Server to the ELAN and TLAN Ethernet subnets of your Communication Server 1000M system.

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

**IMPORTANT!**

Installing ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M Universal Equipment Module (UEM) disrupts service. You must turn off power to the shelf during this procedure.

**Procedure 38**  
**Installing ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M UEM**

- 1 Obtain the special cabling kit (NTDW69AAE5). The NTDW69AAE5 cabling kit includes the items shown in Figure 30.

**Figure 30**  
**NTDW69AAE5 Cabling Kit contents**

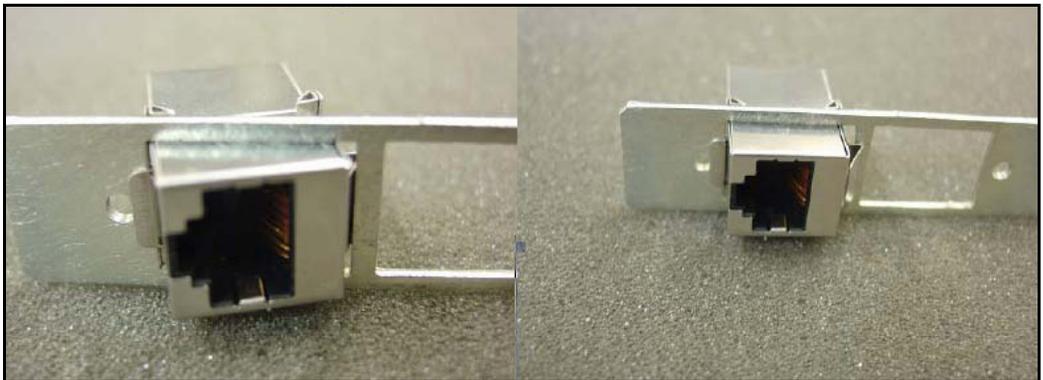


The following is a list of items in the NTDW69AAE5 cabling kit:

- 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

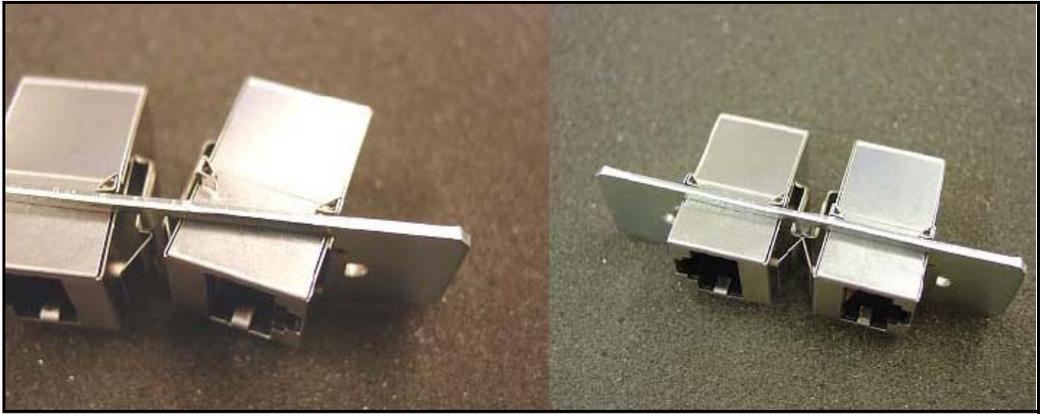
2 Insert an Ethernet port coupler into the adapter plate. See Figure 31.

**Figure 31**  
**One Ethernet port coupler in adapter plate**



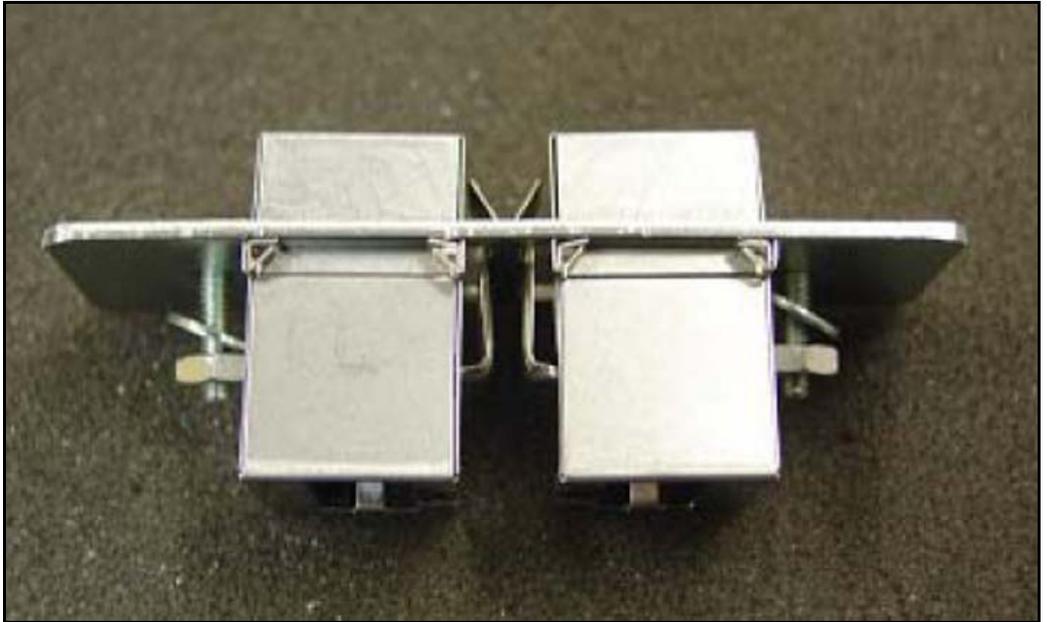
3 Insert the other Ethernet port coupler into the adapter plate. See Figure 32 on page 152.

**Figure 32**  
**Two Ethernet port couplers in adapter plate**



- 4 Loosely attach screws, washers, and nuts to the Ethernet port adapter plate. See Figure 33.

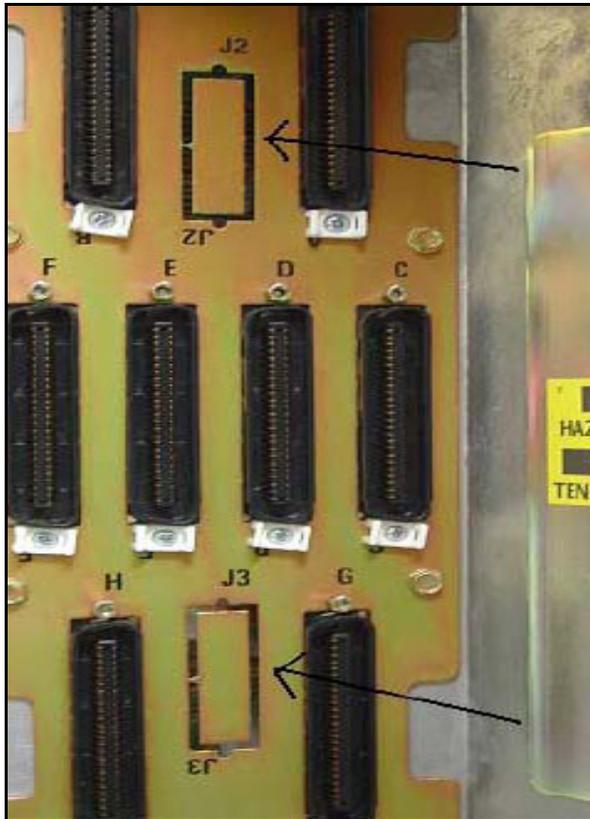
**Figure 33**  
**One Ethernet port coupler in adapter plate**



- 5 Switch off the UEM power supplies. See Figure 34.

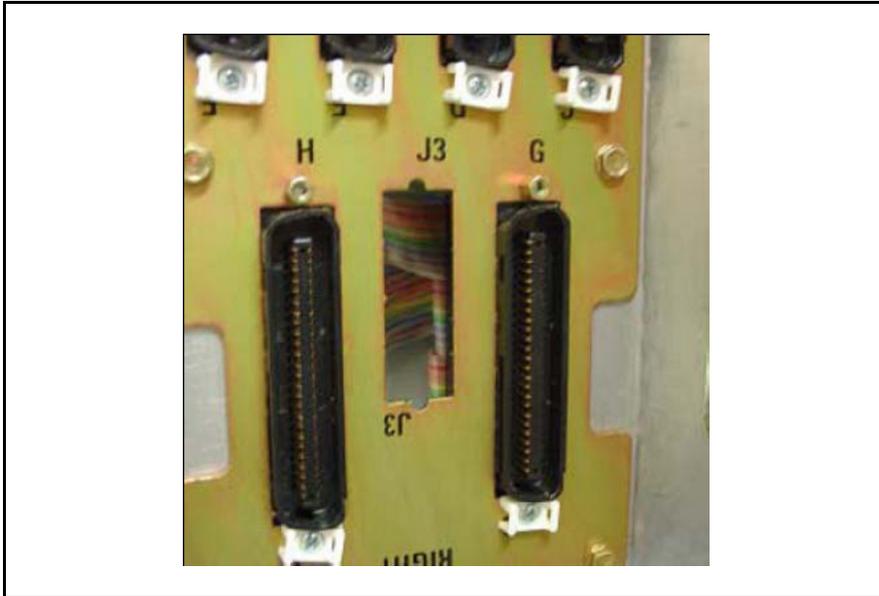


**Figure 35**  
**J2-J5 plates on back panel of UEM**



- 7 Knock out the metal plate from the selected J2-J5 location to provide a hole through which the Ethernet patch cables are routed and to which the Ethernet port adapter plate is attached. See Figure 36.

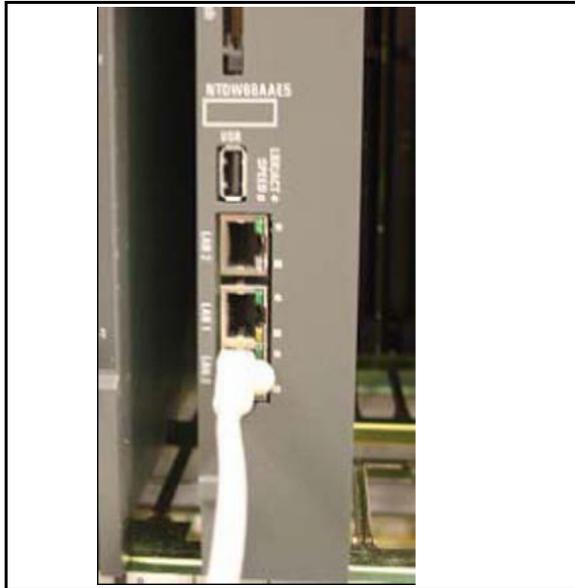
**Figure 36**  
**Selected J2-J5 plate on back panel of UEM**



- 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 Server faceplate.
  - 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 37 and Figure 38.

**Figure 37**  
**ELAN connection on CP PM faceplate**



**Figure 38**  
**ELAN connection on Ethernet port coupler**



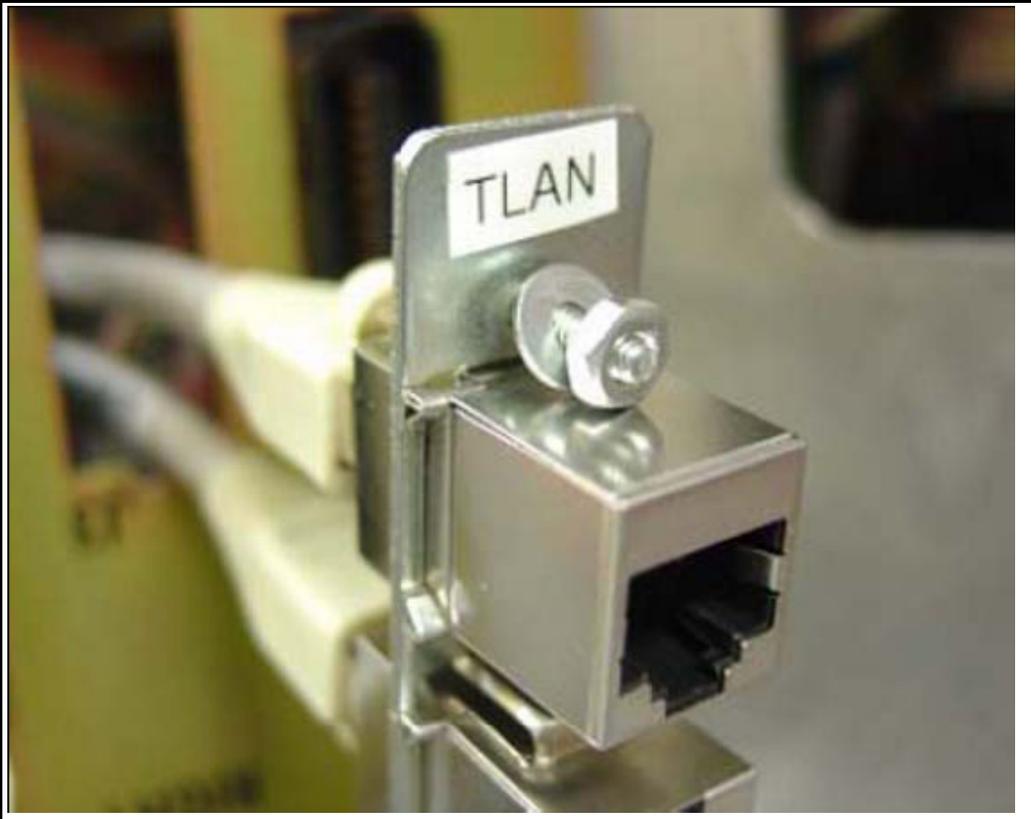
- 9** Connect the server to the TLAN subnet.
  - a.** Insert one end of the remaining RJ-45 CAT5 Ethernet patch cable (supplied) into the TLAN network interface (TLAN port) on the Server faceplate.
  - b.** Route the Ethernet patch cable through the hole you made in the back panel of the UEM.
  - c.** 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 39 and Figure 40.

**Figure 39**  
**TLAN connection on CP PM faceplate**



**Figure 40**  
**TLAN connection on Ethernet port coupler**



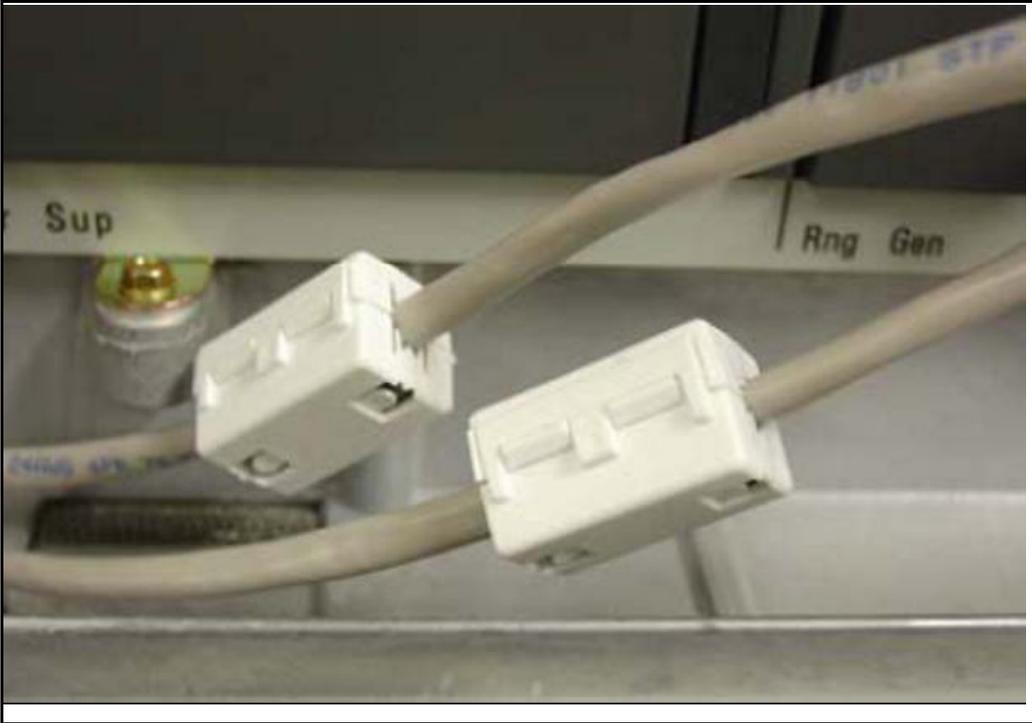
- 10** Fit the Ethernet port adapter plate into the hole on the back of the UEM and tighten the screws. See Figure 41.

**Figure 41**  
**Installed Ethernet port adapter plate**



11 Attach the ferrite beads to the Ethernet patch cables. See Figure 42.

**Figure 42**  
**Attached Ethernet patch cable ferrite beads**



————— End of Procedure —————

## Connections

This section contains information about server 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!

Server cards are powered through the backplane of the Media Gateway, Universal Equipment Module, or Media Gateway cabinet into which they are installed and do not require a power cord.

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

**Table 20**  
**Connections checklist**

<b>Do you have:</b>	
A serial cable (DTE-DTE null modem cable) to connect the server to a maintenance terminal? The IBM x3350 requires a NTRX26NPE6 9 pin female to 9 pin female null modem cable.	
An NTAK19EC cable for each CP PM or CP DC card? 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.	
Shielded CAT5 cables (or better) to connect the server to the ELAN and TLAN subnets?	

## Connecting a Signaling Server

This section contains instructions for connecting a Server to the ELAN and TLAN subnet of a CS 1000M system. It also contains instructions for connecting a maintenance terminal to the Server.

A Server card is inserted into a slot of a Universal Equipment Module (UEM). UEMs do not have built-in ELAN and TLAN Ethernet ports. You must install Ethernet ports on the back of the UEM to enable the Server to connect to the ELAN and TLAN subnets of your Communication Server 1000 system (see Procedure 38: "Installing ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M UEM" on [page 150](#).)

Perform Procedure 39 to connect a Server card to the ELAN and TLAN subnets of a Communication Server 1000M system.

### **IMPORTANT!**

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

#### **Procedure 39**

#### **Connecting a Server Card to the ELAN and TLAN subnets of a Communication Server 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 Communication Server 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 38: "Installing ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M UEM" on [page 150](#).)
- 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 Communication Server 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 38: "Installing ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M UEM" on [page 150](#).)

- 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 an Avaya CP PM Signaling Server, see *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

## Connecting an IBM COTS server

In geographic regions that are susceptible to electrical storms, Avaya recommends that you plug the IBM COTS server into an AC surge suppressor.

Figure 43 shows the rear view of the IBM X306m server.

**Figure 43**  
**IBM X306m (rear view)**

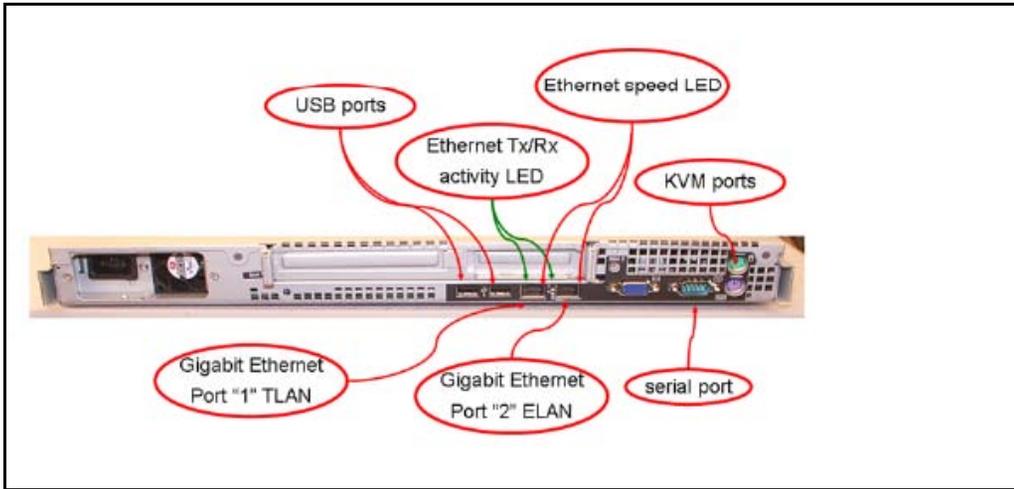
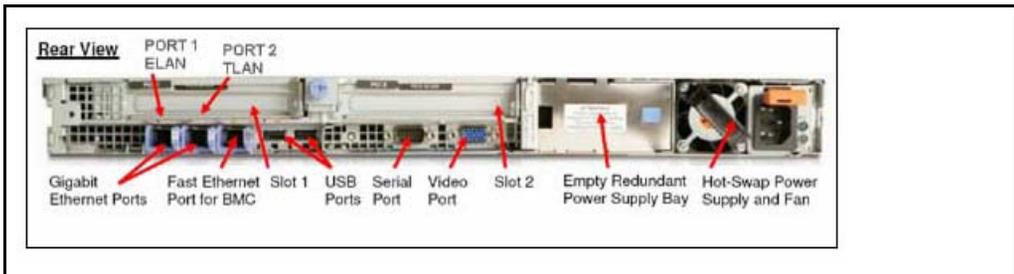


Figure 44 shows the rear view of the IBM x3350 server.

**Figure 44**  
**IBM x3350 (rear view)**



**Note:** When you perform Procedure 40, “Connecting an IBM COTS server,” on [page 167](#), see Figure 43 or Figure 44.

**Procedure 40**  
**Connecting an IBM COTS server**

- 1 Connect the IBM server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable into the TLAN Ethernet port on the back of the server. Insert the other end of the cable into the TLAN subnet of the Layer 2 switch.
- 2 Connect the IBM server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable into the ELAN Ethernet port on the back of the server. Insert the other end of the cable into the ELAN subnet of the Layer 2 switch.
- 3 Connect a DTE–DTE null modem serial cable from the serial port on the back of the server to the serial port on a maintenance terminal. The IBM x3350 requires a NTRX26NPE6 9 pin female to 9 pin female null modem cable.
- 4 Connect the IBM server power cord.
  - a. Check that the power cord is the type required in the region where you use the server. 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 server 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 server to 9600 b/ps. See *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

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

- 6 Configure the connected maintenance terminal. See *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).
- 7 Press the Power switch.

**Note:** For more information about operating information, see the IBM User Guide for your IBM server.

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**End of Procedure**

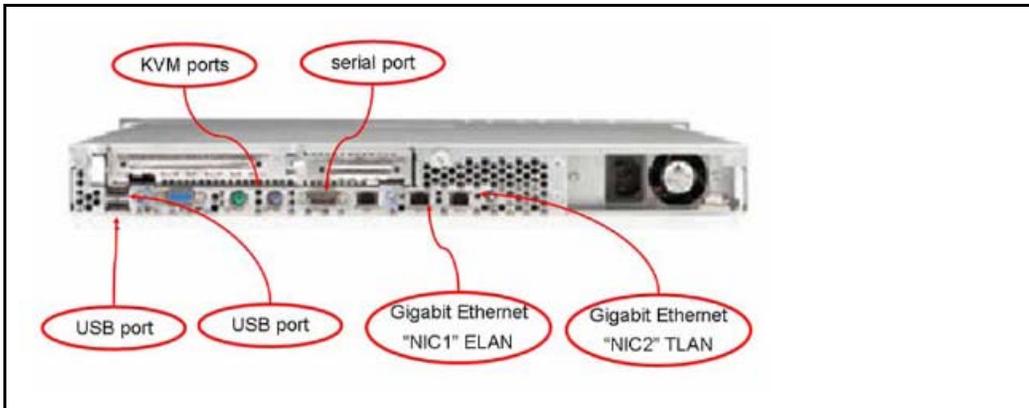
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## Connecting an HP COTS server

In geographic regions that are susceptible to electrical storms, Avaya recommends that you plug the HP server into an AC surge suppressor.

Figure 45 shows the rear view of the HP DL320-G4 server.

**Figure 45**  
**HP DL320-G4 (rear view)**



*Note:* When you perform Procedure 41, “Connecting an HP COTS server,” on [page 168](#), see Figure 45.

### **Procedure 41** **Connecting an HP COTS server**

- 1 Connect the HP server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable into the TLAN Ethernet port on the back of the server. Insert the other end of the cable into the TLAN subnet of the Layer 2 switch.
- 2 Connect the HP server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable into the ELAN Ethernet port on the back of the server. Insert the other end of the cable into the ELAN subnet of the Layer 2 switch.
- 3 Connect a DTE–DTE null modem serial cable from the Serial Port on the back of the server to a maintenance terminal.
- 4 Connect the HP server power cord.

- a. Check that the power cord is the type required in the region where you use the server. 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 server 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. Configure the COM 1 baud rate for the serial port on the server to 9600 b/ps. See *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).
- 6 Configure the connected maintenance terminal. See *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).
- 7 Press the Power switch.

---

**End of Procedure**

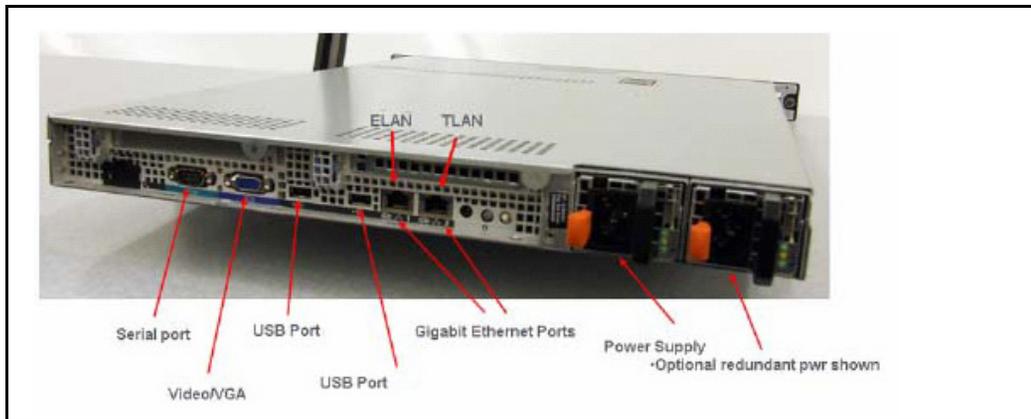
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## Connecting a Dell COTS server

In geographic regions that are susceptible to electrical storms, Avaya recommends that you plug the Dell server into an AC surge suppressor.

Figure 46 shows the rear view of the Dell R300 server.

**Figure 46**  
**Dell R300 server (rear view)**



**Note:** When you perform Procedure 42, “Connecting a Dell COTS server,” on [page 170](#), see Figure 46.

### **Procedure 42** **Connecting a Dell COTS server**

- 1 Connect the Dell server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable into the TLAN Ethernet port on the back of the server. Insert the other end of the cable into the TLAN subnet of the Layer 2 switch.
- 2 Connect the Dell server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable into the ELAN Ethernet port on the back of the server. Insert the other end of the cable into the ELAN subnet of the Layer 2 switch.
- 3 Connect a DTE–DTE null modem serial cable from the Serial Port on the back of the server to a maintenance terminal.
- 4 Connect the Dell server power cord.

- a. Check that the power cord is the type required in the region where you use the server. 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 server 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. Configure the COM 1 baud rate for the serial port on the server to 9600 b/ps. See *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).
- 6 Configure the connected maintenance terminal. See *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).
- 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 *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

## IP subnet configuration

CS 1000 Release 7.5 Signaling Servers support IPv6 and IPv4 addresses. If the Signaling Server and Call Server reside in different IP subnets, you must manually add a route from Base Manager in order for Element Manager to communicate and interact with the Call Server. For more information, see *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

## Upgrading and reconfiguring the software

This section contains information and references for upgrading the Signaling Server software from a previous release to CS 1000 Release 7.5. Signaling Server applications in CS 1000 Release 7.5 require Linux. You must install

CS 1000 Linux Base on your CP PM, CP DC or COTS server before you can install any Signaling Server applications.

CS 1000 Release 7.5 supports the following Signaling Server hardware:

- CP PM server
- CP DC server
- IBM X306m server
- IBM x3350 server
- HP DL320-G4 server
- Dell R300 server



**IMPORTANT!**

Avaya CS 1000 Release 7.5 does not support the ISP1100 Signaling Server. You must replace the ISP1100 with a CP PM, CP DC, or COTS Signaling Server.

If you are upgrading from a Vxworks Signaling Server, Avaya recommends that you backup your IP Phone database and Network Routing Service (NRS) database on your current software release before upgrading to CS 1000 Linux Base and installing applications. You can restore your IP Phone database and NRS backups after you complete the Signaling Server upgrade.

CS 1000 Release 7.5 requires a Signaling Server to have at least 2 GB of RAM memory, and at least 40 GB of hard drive capacity. You must upgrade Signaling Servers with less than 2GB of RAM before installing CS 1000 Release 7.5 Linux Base and Signaling Server software. For detailed instructions on performing this memory upgrade, see *Avaya Circuit Card: Description and Installation* (NN43001-311).

You can upgrade a CP PM Signaling Server to support the CS 1000 Linux Base and applications for Communication Server 1000 with a CP PM Signaling Server Linux upgrade kit. The upgrade kit includes the following components.

- Linux OS preloaded hard drive kit (optional, provided if required)

- 2 GB Compact Flash (CF) with Linux software, 2 GB blank CF
- 1 GB DDR SO-DIMM memory upgrade (optional, provided if required)

## Overview

An upgrade of the Signaling Server software consists of the following steps:

- Back up application databases using Element Manager
- Install CS 1000 Linux Base and configure parameters
- Use Centralized Deployment manager to deploy and install Signaling Server applications
- Configure the system or import backup node files in Element Manager
- Use Element Manager to restore backups of application databases

Avaya recommends that you back up the application databases before performing the upgrade. The application databases consist of the IP Phone database and the NRS database.

If you do not know whether the Signaling Server being upgraded has an NRS, use Procedure 43, “Verifying the presence of an NRS,” on [page 174](#) to make this determination.

If you have an NRS database on the Signaling Server and want to back it up before performing the upgrade, you must use the backup tool in NRS Manager. After the Signaling Server is upgraded, use NRS Manager to restore the NRS database (from your local PC) and activate it for use by the NRS.

For instructions on backing up and restoring an NRS database, see *Avaya Network Routing Service Fundamentals* (NN43001-130).

For instructions on backing up and restoring the IP Phone database, see *Avaya Signaling Server IP Line Applications Fundamentals* (NN3001-125).

**Procedure 43**  
**Verifying the presence of an NRS**

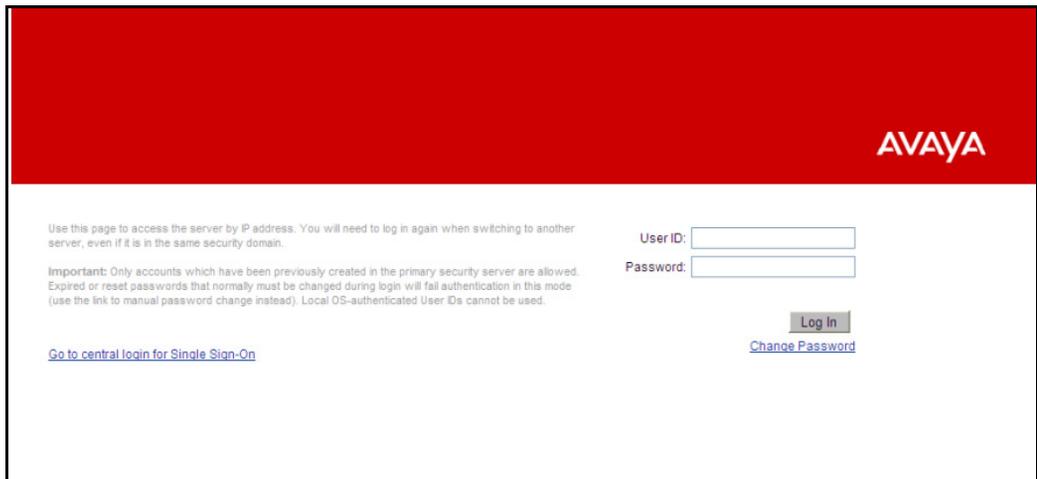
- 1 Open Internet Explorer.
- 2 Enter the ELAN or TLAN network interface IP Address of the primary Signaling Server as the URL.

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

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

The Element Manager logon web page appears.

**Figure 47**  
**Element Manager logon page**



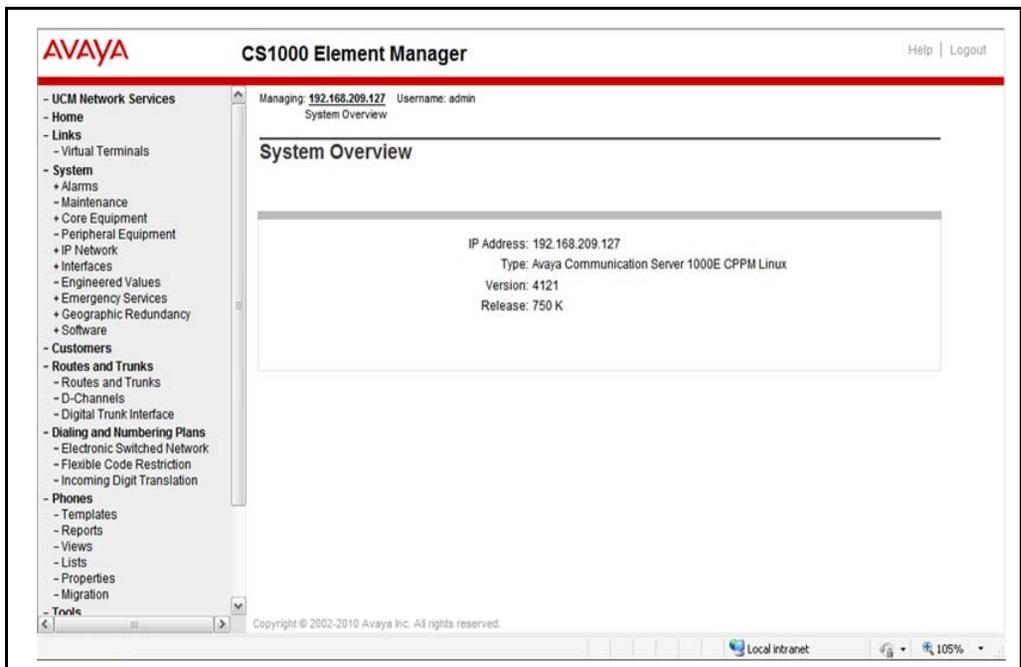
Initially, you can be prompted to enter the Call Server IP address, because the Call Server is used for web logon authorization. The Call Server IP address is a requirement, because unless you entered additional configuration parameters during the Signaling Server installation, the node configuration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

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

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

If the logon is successful, the Element Manager “Home - System Overview” screen appears (see Figure 48 on [page 175](#)).

**Figure 48**  
**Element manager: Home - System Overview**

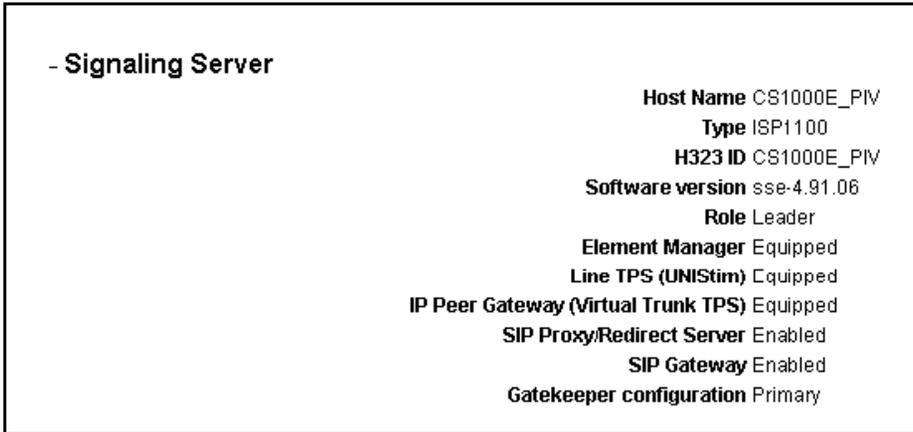


This screen identifies the components of your CS 1000 system.

- 4 Click the “+” symbol in front of the Signaling Server component.

The Signaling Server component expands to display the properties of the Signaling Server (see Figure 49 on [page 176](#)).

**Figure 49**  
**Signaling Server properties**



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

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

---

**End of Procedure**

---

## Before you begin

Before upgrading the software, you must do the following:

- Connect the Signaling Server. For details, see “Connections” on page 163 or refer to *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).
- Take a precautionary backup of the IP Phones application database.
- Take a precautionary backup of the NRS database.

- Obtain the CS 1000 Release 7.5 version of the Signaling Server Software Install media. For details, see *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).
- Ensure that there is 2 GB of RAM and at least 40 GB of hard drive capacity on your CP PM or COTS Signaling Server.

## Upgrade the CP PM BIOS

The NTDW66CAE6 CP PM card (CP PM version 2) does not require a BIOS upgrade. The CP PM version 2 uses an updated design, BIOS, and boot manager. Older NTDW66 CP PM cards (CP PM version 1) might require a BIOS upgrade to support Linux.

The Communication Server 1000 Linux Platform Base installer requires that a CP PM version 1 card runs BIOS version 18 or higher. If the installer detects a lower version on the CP PM card it automatically loads software for you to upgrade the CP PM BIOS. Perform the steps in Procedure 44 to upgrade the CP PM BIOS to version 18.

For information about manually upgrading the CP PM BIOS with VxWorks software, see *Avaya Communications Server 1000E Maintenance* (NN43041-700).

### Procedure 44

#### Upgrading the CP PM BIOS with the CS 1000 Linux Base installer

- 1 Connect to serial port 1 on the CP PM.
- 2 Insert the CS 1000 Linux Base installation CF card into the faceplate CF slot.
- 3 Power on the system.
- 4 Once the initial boot and memory check completes for a CP PM version 1 card, Figure 50 appears. Press the **F** key to boot from the CS 1000 Linux Base installation faceplate CF card.

**Note:** For CP PM version 2 cards, press the **F** key to enter the boot menu, select Faceplate RMD, and press **Enter** to boot from the faceplate CF card.

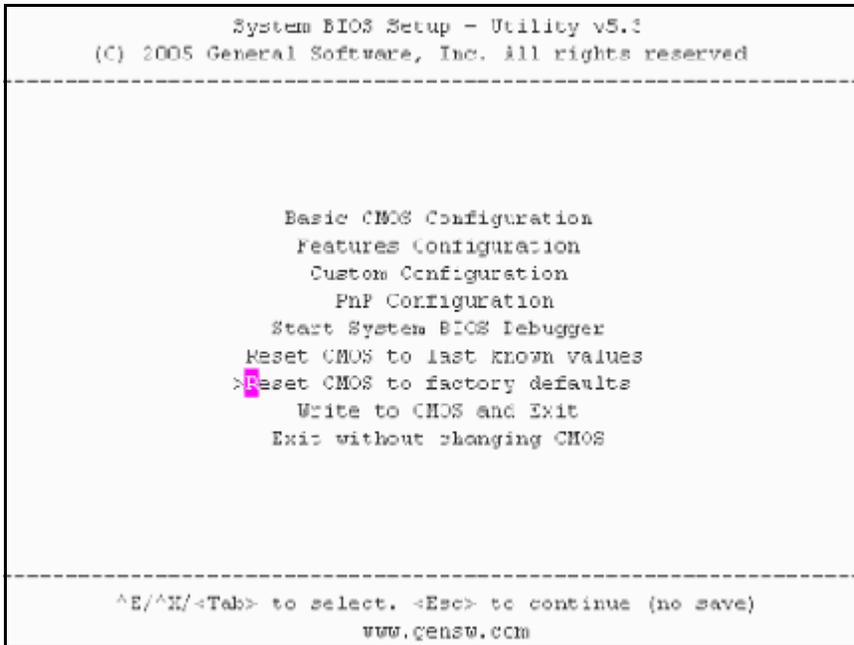


**Figure 51**  
**CP PM BIOS automatic upgrade**

```
#####  
#  
#   CP-PM BIOS version is less than 18. BIOS upgrade is required.  #  
#  
# To complete the upgrade, BIOS settings must be changed to defaults. #  
#   Please refer to the documentation for more information.      #  
#  
#####  
  
Do you want to upgrade BIOS ROM up to the version 18? (yes/no): yes  
BIOS ROM upgrade. Please wait...  
  
BIOS ROM upgrade is finished.  
Machine will be rebooted right now... Press Enter key to continue
```

- 7 Verify that the BIOS upgrade is finished. Press **Enter** to reboot.
- 8 During the reboot memory check, press **Ctrl c** to access the CP PM BIOS setup menu.  
  
**Note:** If you miss the timing to press **Ctrl c** you must reboot the system and try again. The Linux Platform Base installation software will display a warning if you do not reset the CP PM BIOS to factory defaults.
- 9 Figure 52 appears. Select **Reset CMOS to factory defaults** from the menu.

**Figure 52**  
**CP PM BIOS setup**



**10** Figure 53 appears. Press **y** to reset CMOS to factory defaults.

**Figure 53**  
**CP PM BIOS reset**

```
System BIOS Setup - Utility v5.3
(C) 2005 General Software, Inc. All rights reserved
-----

Basic CMOS Configuration
Features Configuration
+-----+
| Reset CMOS to factory defaults? (Y/N): y |
|                                           |
| Reset CMOS to last known values         |
| Reset CMOS to factory defaults         |
| Write to CMOS and Exit                  |
| Exit without changing CMOS             |
|                                           |
+-----+

^E/^X/<Tab> to select. <Esc> to continue (no save)
www.gensw.com
```

- 11 The system reboots. After the initial boot, Figure 50 appears and the new BIOS version displays. Verify the BIOS version is 18. You can now press the **F** key to boot from the faceplate CF card and proceed with the Linux Platform Base software installation.

————— **End of Procedure** —————

## Installing the CS 1000 Linux Base

You must install CS 1000 Linux Base if your Signaling Server is not running the latest CS 1000 Linux Base software release. The CP PM Linux upgrade kit contains a hard drive with CS 1000 Linux Base preloaded. You can install CS 1000 Linux Base from the command line interface (CLI) using a bootable CF card on CP PM, and using a bootable optical disk on COTS.

Configure the ELAN, TLAN, IP address, Gateway, subnet masks, date, and time settings during the CS 1000 Linux Base installation.

For information about installing or upgrading CS 1000 Linux Base, see *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

## Installing Linux applications

Avaya CS 1000 Release 7.5 Signaling Server and SIP line software are Linux applications. Linux applications install on CS 1000 Linux Base and interact with the CS 1000 Linux Base application framework. You can deploy and install Linux applications with the CS 1000 Linux Base Centralized Deployment Manager. You can configure and deploy SIP Line with Element Manager (EM).

For information about Linux applications and Centralized Deployment Manager, see *Avaya Signaling Server IP Line Applications Fundamentals* (NN3001-125) and *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

For information about Element Manager, see *Avaya Element Manager: System Administration* (NN43001-632).

## Joining the UCM security domain

The UCM Primary Security Server acts as the RADIUS server that CS 1000 devices use to obtain authentication and access control parameters for CLI access. The UCM Primary Security Server sends RADIUS related parameters to CS 1000 devices using the SSH protocol.

When a device joins the UCM security domain, a mutually-trusted SSH channel is created. You must manually confirm the fingerprint of the public key before the UCM Primary Security Server RSA public key is added to the authorized key file. This verification prevents third-party intercepts.

When a mutually-trusted SSH tunnel establishes a connection to a CS 1000 device, the UCM Primary Security Server can send SSH remote commands to the device using RSA public key-based authentication.

For more information about joining the UCM security domain, see *Avaya Security Management* (NN43001-604).



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# Appendix A: Upgrade checklists

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## Contents

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## Introduction

The following section provides Large System upgrade checklists.

### Technical Support

Avaya can provide an Installation and Upgrade Support team to assist with PBX upgrades on a scheduled bases. This service is billable and a purchase order is required. Please refer to current price book for rates.

*Note:* This service requires that a service request be opened in advance of the upgrade.

## Site details

**Table 21**  
**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 22**  
**Upgrade details**

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

## Pre-upgrade checklists

### Software Upgrade

#### Software audit

**Table 23**  
**Software audit**

<b>Software Audit</b>		
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 24**  
**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 25**  
**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 26**  
**Typical Storage Media Changes Between machine Types (Part 1 of 2)**

Typical Storage Media Changes Between machine Types		
Source	Target	Procedure Required

**Table 26**  
**Typical Storage Media Changes Between machine Types (Part 2 of 2)**

IODUC	MMDU	Disk to new Drive both use 2M Floppy Drives
MMDU	MMDU	Disk to new Drive

## Hardware Upgrade

### Hardware audit

**Table 27**  
**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 technical document Procedures completely		

## Pre-conversion steps

**Table 28**  
**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
LD 96 STAT DCH
LD 48 STAT AML
LD 32 STAT

**Table 28**  
**Pre-conversion steps (Part 2 of 2)**

LD 60 STAT
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 with new software if required
LD 117 - PRT SEL 500 - Same as above

## Post-conversion checks

**Table 29**  
**Post-conversion checks**

<b>Post Conversion Checks</b>
Perform these checks after a successful INI.
Test for dial tone
Stat D Channels for proper operation
Ensure that all XPEC's are in service via visual inspection
Ensure that all AUX applications are working
LD 30 LDIS (Verify that output is the same prior to upgrade)

## Quick reference

### IGS Cabling Chart - MultiGroup PBX - Opt 81/81C/CP (5 Groups Maximum)

**Table 30**  
**IGS cabling chart (Part 1 of 2)**

Net Group	Net Shelf	IGS Connector	IGS Net	Slot	Net	DIGS	Slot Connector	Intergroup connector	I G S	Clock
0	0	0	3	8	2	9	BOTTOM	J1	0	
0	0	1	2	9	2	9	TOP	J6	2	0
0	1	1	2	9	2	9	TOP	J17	3	1
0	1	0	3	8	2	9	BOTTOM	J22	1	
1	0	0	3	8	2	9	BOTTOM	J2	4	

**Table 30**  
**IGS cabling chart (Part 2 of 2)**

1	0	1	2	9	2	9	TOP	J7	6	0
1	1	1	2	9	2	9	TOP	J16	7	1
1	1	0	3	8	2	9	BOTTOM	J21	5	
2	0	0	3	8	2	9	BOTTOM	J3	8	
2	0	1	2	9	2	9	TOP	J8	1	0
									0	
2	1	1	2	9	2	9	TOP	J15	1	1
									1	
2	1	0	3	8	2	9	BOTTOM	J20	9	
3	0	0	3	8	2	9	BOTTOM	J4	1	
									2	
3	0	1	2	9	2	9	TOP	J9	1	0
									4	
3	1	1	2	9	2	9	TOP	J14	1	1
									5	
3	1	0	3	8	2	9	BOTTOM	J19	1	
									3	
4	0	0	3	8	2	9	BOTTOM	J5	1	
									6	
4	0	1	2	9	2	9	TOP	J10	1	0
									8	
4	1	1	2	9	2	9	TOP	J14	1	1
									9	
4	1	0	3	8	2	9	BOTTOM	J18	1	
									7	

**Note:** A DIGS Card is located in the card slot position for IGS 1 in all network shelves. The IGS 1 slot detects the clock signals from the active clock controller and distributes the clock to the entire group. Three out of four IGS cards can be disabled at any given time via LD 39, the IGS 1 that is associated with the active clock cannot be disabled via software, e.g. if clock 1 is active then IGS's 3,7,11,15 and 19 can never be disabled as they are providing clock for their respective network groups.

**Group/Loop/PS/FIJI/3PE Switch Settings**

**Table 31**  
**Switch settings (Part 1 of 2)**

Group	Shelf	P S	Loops	FIJI*	3PE NT8D35 Net**	3PE NT5D21 Core Net**
0	0	0	0-16	0 0	off on on on on on on on	off on on off on on on on
0	1	1	16-31	0 1	off on on on on on on off	off on on off on on on off
1	0	2	32-47	1 0	off on on on on on off on	off on on off on on off on
1	1	3	48-63	1 1	off on on on on on off off	off on on off on on off off
2	0	4	64-79	2 0	off on on on on off on on	off on on off on off on on
2	1	5	80-95	2 1	off on on on on off on off	off on on off on off on off
3	0	6	96-111	3 0	off on on on on off off on	off on on off on off off on
3	1	7	112-127	3 1	off on on on on off off off	off on on off on off off off
4	0	8	128-143	4 0	off on on on off on on on	off on on off off on on on
4	1	9	144-159	4 1	off on on on off on on off	off on on off off on on off
5	0	10	160-175	5 0	off on on on off on off on	off on on off off on off on
5	1	11	176-191	5 1	off on on on off on off off	off on on off off on off off

**Table 31**  
**Switch settings (Part 2 of 2)**

6	0	1 2	192-20 7	6 0	off on on on off off on on	off on on off off off on on
6	1	1 3	208-23 3	6 1	off on on on off off on off	off on on off off off on off
7	0	1 4	224-23 9	7 0	off on on on off off off on	off on on off off off off on
7	1	1 5	240-25 5	7 1	off on on on off off off off	off on on off off off off off



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