Nortel CallPilot

Meridian 1 and CallPilot Server Configuration

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Contents

Chapter 1
How to get help

This section explains how to get help for Nortel products and services.

Getting help from the Nortel Web site

The best way to get technical support for Nortel products is from the Nortel Technical Support Web site:

http://www.nortel.com/support

This site provides quick access to software, documentation, bulletins, and tools to address issues with Nortel products. More specifically, the site enables you to:

- download software, documentation, and product bulletins

- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues

- sign up for automatic notification of new software and documentation for Nortel equipment

- open and manage technical support cases

Getting help over the phone from a Nortel Solutions Center

If you don't find the information you require on the Nortel Technical Support Web site, and have a Nortel support contract, you can also get help over the phone from a Nortel Solutions Center.

In North America, call 1-800-4NORTEL (1-800-466-7835).

Outside North America, go to the following Web site to obtain the phone number for your region:

http://www.nortel.com/callus

Getting help from a specialist by using an Express Routing Code

To access some Nortel Technical Solutions Centers, you can use an Express Routing Code (ERC) to quickly route your call to a specialist in your Nortel product or service. To locate the ERC for your product or service, go to:

http://www.nortel.com/erc

Getting help through a Nortel distributor or reseller

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller.

Chapter 2
CallPilot and Meridian 1 switch connectivity overview

In this chapter

Overview
Introduction
This guide describes the Meridian 1* setup and CallPilot* server configuration steps of the CallPilot installation. The steps include:

- configuring the Meridian 1 switch for correct operation with CallPilot

- connecting the CallPilot system to the Meridian 1 switch and the Nortel server subnet

- configuring the CallPilot server

  Note: To configure the CallPilot server with a Communication Server 1000, refer to NTP NN44200-312 Communication Server 1000 and CallPilot Server Configuration.

Before you begin

Before configuring the Meridian 1 switch and CallPilot server:

- review the "Installing CallPilot" section in the *CallPilot Installation and Configuration Task List*

- complete stage 2 of the "Installation checklist"

- complete the worksheets in the *CallPilot Installation and Configuration Task List*

  Note: If you need a high-level overview of CallPilot and Meridian 1 connectivity, then read the remainder of this chapter. Otherwise, the installation steps begin in the following chapters:

- For tower or rackmount servers, in Chapter 3 "Connecting the CallPilot server to the M1 Switch" (page 31).

- For the 201i server, in Chapter 4 "Configuring the Meridian 1 switch" (page 55).

Complete the steps in each chapter before you continue to the next chapter.

Installation and configuration checklist

Step	Description	Check
Stage 1: Install the connectivity hardware.		

Note: For the 201i server, this stage is not applicable. Hardware connectivity is established when the 201i server is installed in the Meridian 1 switch, as described in the *CallPilot 201i Server Hardware Installation* guide.

Step	Description	Check
1	If your server is a tower or rackmount server, install the MGate card (NTRB18CA) in the Meridian 1 switch. For instructions, see Chapter 3 "Connecting the CallPilot server to the M1 Switch" (page 31).	r
2	Connect the tower or rackmount server to the Meridian 1 switch. For instructions, see Chapter 3 "Connecting the CallPilot server to the M1 Switch" (page 31).	r

Stage 2: Configure the Meridian 1 switch and CallPilot server.

Step	Description	Check
3	Configure the Meridian 1 switch. Use the "Switch configuration worksheet" that you completed in the *CallPilot Installation and Configuration Task List*. For configuration instructions, see Chapter 4 "Configuring the Meridian 1 switch" (page 55).	r
4	Run the Configuration Wizard and configure the CallPilot server. Use the "Configuration Wizard worksheet" that you completed in the *CallPilot Installation and Configuration Task List*. For configuration instructions, see Chapter 2 "CallPilot and Meridian 1 switch connectivity overview" (page 11).	r
5	Change pcAnywhere password or set Remote Desktop Policy. • If you are using pcAnywhere, continue to "Changing pcAnywhere caller passwords" (page 103). *Note:* pcAnywhere is not supported on the CallPilot 201i system. Continue to "Setting Remote Desktop Policy on a Server" (page 104). • If you are using Remote Desktop Connection, continue to "Setting Remote Desktop Policy on a Server" (page 104).	r

Step	Description	Check
	Stage 3: Test CallPilot connectivity.	
	Note: For instructions, see Chapter 6 "Testing the CallPilot installation" (page 117).	
6	Check CallPilot's system ready indicators to see if CallPilot is ready to accept calls.	r
7	Test the connection to the ELAN subnet, if applicable.	r
8	Test the connection to the Nortel server subnet.	r
9	Verify that CallPilot answers when you dial the Voice Messaging DN.	r
	Stage 4: Test the CallPilot services and channels.	
	Note: For instructions, see Chapter 6 "Testing the CallPilot installation" (page 117).	
10	Check the system-ready indicators.	r
11	Verify network connectivity to the CallPilot server over the ELAN subnet and Nortel server subnet.	r
12	Verify that CallPilot can receive calls.	r
13	Verify that you can leave a message.	r
14	Verify that you can retrieve a message.	r
15	Verify that each call channel and multimedia channel is functioning correctly.	r
16	Check for CallPilot alarms using the Alarm Monitor in CallPilot Manager.	r
	Upon confirmation that CallPilot is operating correctly, clear all alarms.	
	Stage 5: Install CallPilot Manager on a stand-alone web server (optional).	
17	Perform this step only if you want to set up a separate web server for CallPilot administration. This is necessary if the customer wants to use the Reporter application, or if high administration traffic is expected.	r
	For instructions, refer to the *CallPilot Software Administration Guide.*	

Reference Documents

For a list of all CallPilot documents, see the following CallPilot Customer Documentation Map.

NORTEL

CallPilot Customer Documentation Map

Fundamentals
- CallPilot Fundamentals Guide (NN44200-100)

Planning and Engineering
- Planning and Engineering Guide (NN44200-200)
- Network Planning Guide (NN44200-201)
- Converging the Data Network with VoIP Guide (NN43001-260)
- Solution Integration Guide for Communication Server 1000/CallPilot/Contact Center/Telephony Manager (NN49000-300)*

Installation and Configuration
- Upgrade and Platform Migration Guide (NN44200-400)
- High Availability: Installation and Configuration (NN44200-311)
- Installation and Configuration Task List Guide (NN44200-306)
- **Server Installation Guides**
  - 201i Server Hardware Installation Guide (NN44200-301)
  - 703t Server Hardware Installation Guide (NN44200-304)
  - 1002rp Server Hardware Installation Guide (NN44200-300)
  - 1005r Server Hardware Installation Guide (NN44200-308)
  - 600r Server Hardware Installation Guide (NN44200-307)
- **Configuration and Testing Guides**
  - Meridian 1 and CallPilot Server Configuration Guide (NN44200-302)
  - T1/SMDI and CallPilot Server Configuration Guide (NN44200-303)
  - Communication Server 1000 System and CallPilot Server Configuration Guide (NN44200-312)
- **Unified Messaging Software Installation**
  - Desktop Messaging and My CallPilot Installation and Administration Guide (NN44200-305)

Administration
- Administrator Guide (NN44200-601)
- Software Administration and Maintenance Guide (NN44200-600)
- Meridian Mail to CallPilot Migration Utility Guide (NN44200-502)
- Application Builder Guide (NN44200-102)
- Reporter Guide (NN44200-603)

Maintenance
- CallPilot Troubleshooting Reference Guide (NN44200-700)
- Preventative Maintenance Guide (NN44200-505)
- **Server Maintenance and Diagnostics**
  - 201i Server Maintenance and Diagnostics Guide (NN44200-705)
  - 703t Server Maintenance and Diagnostics Guide (NN44200-702)
  - 1002rp Server Maintenance and Diagnostics Guide (NN44200-701)
  - 1005r Server Maintenance and Diagnostics Guide (NN44200-704)
  - 600r Server Maintenance and Diagnostics Guide (NN44200-703)
  - Contact Center Manager Communication Server 1000/Meridian 1 & Voice Processing Guide (297-2183-931)*

End User Information

End User Cards	**End User Guides**
Unified Messaging Quick Reference Card	Multimedia Messaging User Guide
Unified Messaging Wallet Card	Speech Activated Messaging User Guide
A-Style Command Comparison Card	Desktop Messaging User Guide for Microsoft Outlook
S-Style Command Comparison Card	Desktop Messaging User Guide for Lotus Notes
Menu Interface Quick Reference Card	Desktop Messaging User Guide for Novell Groupwise
Alternate Command Interface Quick Reference Card	Desktop Messaging User Guide for Internet Clients
	Desktop Messaging User Guide for My CallPilot
	Voice Forms Transcriber User Guide

*available in summer 2007

Contact Center Voice Services Support

Introduction

This section is applicable only if you are enabling the Contact Center* Voice Services Support feature. This section provides an overview of the specific Meridian 1 configuration steps required for the Contact Center Voice Services Support feature.

> *Note 1:* For Contact Center integration with CallPilot, Contact Center channels can only be voice channels.

> *Note 2:* ACD overflow is not supported.

Configuring the Meridian 1 switch to support CallPilot and Contact Center

This guide provides the specific Meridian 1 switch configuration instructions required to support CallPilot. Where there is an exception or additional step required for the Contact Center Voice Services Support feature, this information is also provided. A list of these exceptions and additional steps is provided below:

1. In overlay 17 (see "Provisioning the ELAN subnet" (page 62)), the SECU prompt must be set to YES.

2. You must set up two additional ACD agent queues: one for ACCESS ports, and one for IVR* ports. See "Configuring the ACD agent queue" (page 73).

3. In overlay 11, you must specify AST 0 1, where 0 is the number for key 0, and 1 is the number for key 1.

Configuring CallPilot for Contact Center Voice Services Support

1. In the Configuration Wizard, you must specify the following information for the Contact Center Voice Services Support feature:

   - On the Meridian 1 Information web page, you must specify the Contact Center server Nortel server subnet IP address.

   - In the Channel Detail Information dialog box, you must select the check box for ACCESS or IVR for channels that are to be used for the Contact Center Voice Services Support feature. These are the same channels that you must program on the Meridian 1 switch in an ACCESS ACD queue or IVR ACD queue.

     Also specify the Class ID for the channel.

2. In the CallPilot Manager Service Directory Number page, do the following:

   - Use the ACCESS ACD-DN to create an SDN for the Contact Center Voice Services Support feature.

 • Define treatment IDs used by Contact Center server as voice menus or announcements.

See also
Refer to the Contact Center server documentation for additional Meridian 1 switch instructions related to Contact Center server configuration.

For additional information on Contact Center to CallPilot integration, refer to the *CallPilot Distributor Technical Reference.*

Section A: CallPilot network setup

In this section

CallPilot and Meridian 1 integration
Introduction
This section describes how the CallPilot server is integrated into your network with the Meridian 1 switch.

Sample network diagrams
201i server
The following diagram shows an example of how the 201i server can be integrated with the Meridian 1 switch in your network:
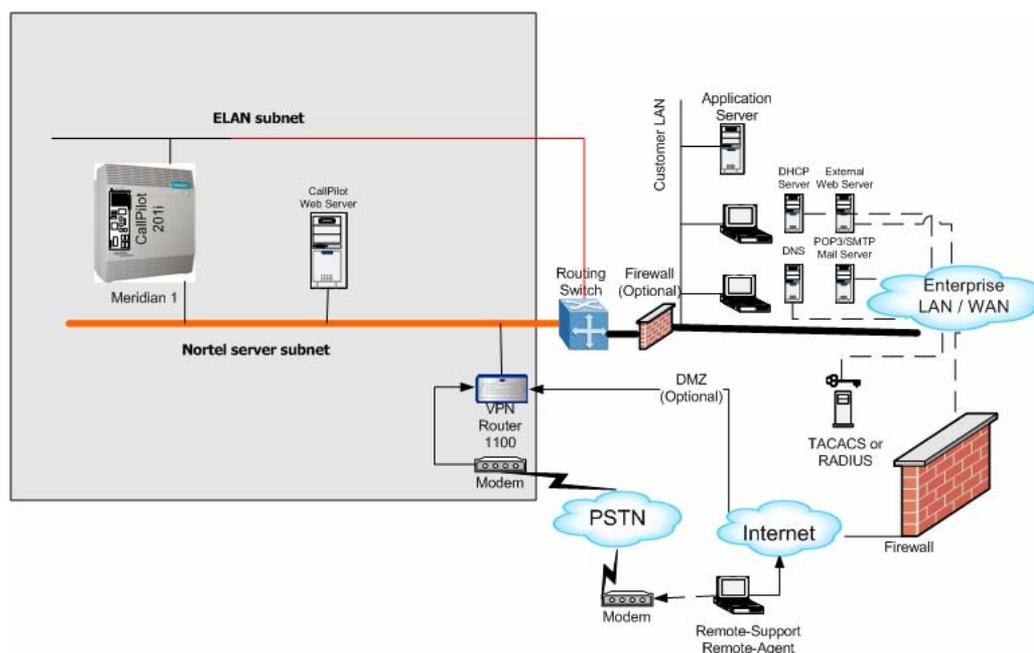
Tower or rackmount servers

The following diagram shows an example of how a tower or rackmount server (for example, 703t, or 1005r) can be integrated with the Meridian 1 switch in your network:
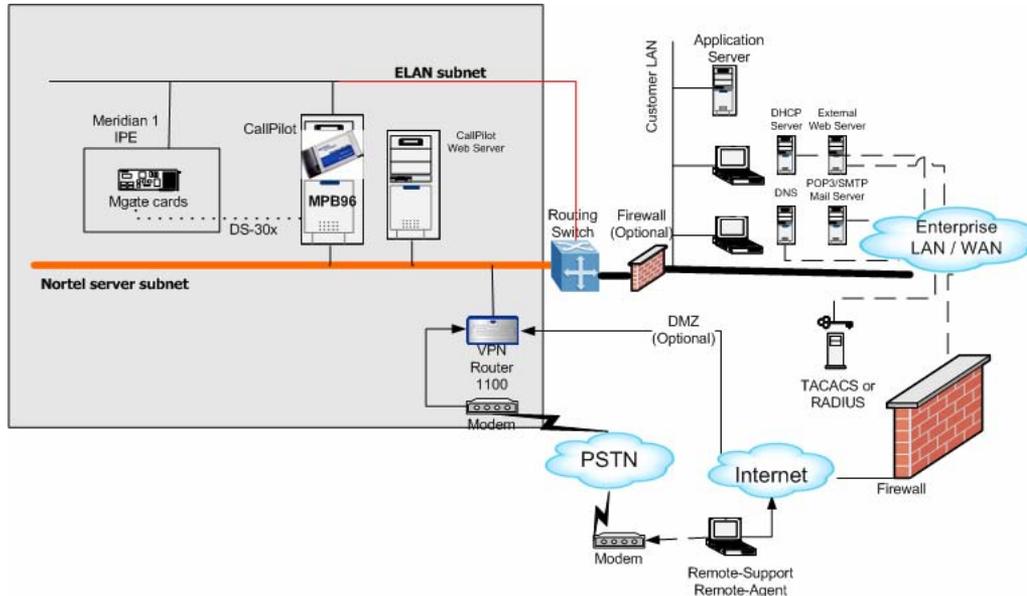
Note: The above diagram shows a tower server. However, the same configuration applies to a rackmount server.

CallPilot components

CallPilot server

The CallPilot server connects to the Meridian 1 switch and, where desktop messaging is enabled, to the Nortel server subnet. If your server is a 201i server, it resides inside the Meridian 1 switch.

MGate card (NTRB18CA) tower and rackmount servers only

The MGate card (NTRB18CA) is a line card that is installed inside the Meridian 1 switch. The MGate card sends the voice and data signals to the MPB boards in the CallPilot server.

MPB boards (for tower and rackmount servers only)

The CallPilot server is equipped with one of the following types of MPB boards:

* MPB16-4 boards

    DSPs are provided on the MPB16-4 board in the form of two integrated MPCs and up to four optional MPC-8 cards. (For more information about MPC-8 cards,see ""MPC-8 cards" (page 20)" below see "MPC-8 cards" (page 20) .) MPB16-4 boards are no longer shipped with CallPilot

servers, but are still supported on systems which have been upgraded to 5.0. The MPB16-4 has been replaced by the MPB96.

- MPB96 boards

    DSPs are provided on the MPB96 board in the form of 12 integrated MPCs. MPC-8 cards are not required on the MPB96 board.

Each tower or rackmount CallPilot server ships with at least one MPB96 board.

MPC-8 cards
The MPC-8 cards reside in slots in the 201i server, or in the MPB16-4 board for tower or rackmount servers. These cards process the voice and data signals that arrive from the Meridian 1 switch.

See also "Multimedia channels in the CallPilot server" (page 28).

Modem
The server connects to a modem to allow remote access by a support PC for installation, maintenance, and diagnostics.

Desktop client PCs
You can install desktop client messaging software on client PCs to enable mailbox users to receive phone, fax, and voice mail on their PCs. For more information, refer to the *Desktop Messaging and My CallPilot Installation and Administration Guide* (NTP NN44200-305).

Any PC that has network access to the CallPilot server and has a web browser installed can be used to administer CallPilot. These PCs are called web-enabled PCs.The CallPilot administration software is web-based.

Section B: Understanding call routing

In this section

Meridian 1 call routing components

Introduction

The Meridian 1 switch uses the following components to route calls:

- Automatic Call Distribution (ACD)
- Control Directory Number (CDN)

Automatic Call Distribution

Automatic Call Distribution (ACD) is a feature on the Meridian 1 switch that allows a number of programmed telephones, known as ACD agents, to share equally in answering incoming calls. In the case of CallPilot, the call-queuing capability of ACD is not used, but the call-handling capability of ACD agents is used.

How CallPilot uses ACD virtual agents

All ACD agents that service CallPilot are put into a single ACD agent queue (unless you are enabling the Contact Center Voice Services Support feature; see "How multimedia channels are acquired by callers" (page 28)). These agents correspond to DS0 channels on the CallPilot server. Agents are programmed in overlay 11 as 2008 Digital (Aries) sets with Multimedia Messaging Allowed (MMA) class of service. These are not, however, physical telephones. These are Terminal numbers (TNs) that are programmed to look like real digital sets to the Meridian 1 switch.

Control Directory Number

For CallPilot, you configure one Control Directory Number (CDN) on the Meridian 1 switch for each of the following services:

- a primary CDN for Voice Messaging
- a secondary CDN for Multimedia Messaging

A CDN queue is like an ACD queue. The key difference is that calls in the CDN queue are managed by CallPilot, while calls in an ACD queue are managed by the Meridian 1 switch.

Calls are routed to the CDN queue directly or by terminating on a phantom DN or dummy ACD queue, which is forwarded to the CDN.

How CallPilot uses CDNs

A CDN can operate in one of two modes:

- control mode
- default mode

Normally, a CDN operates in control mode. In control mode, call treatment and call routing are under the control of the CallPilot server. The Meridian 1 switch simply provides routing to CallPilot. The server specifies the type of treatment to be given to waiting calls. The server processes the calls on a first-come, first-served basis and determines to which DS0 channel the call is routed. DS0 channels are configured as agents of an ACD queue.

A CDN can also operate in default mode (for example, when CallPilot is offline or the AML is down). In default mode, the Meridian 1 switch takes over call-routing control. Incoming calls receive default treatment provided by the default ACD DN associated with the CDN.

Call queuing

Incoming calls to the CDN are queued in the order of arrival. If calls cannot be processed immediately and must wait in the queue until resources are available, the first caller in the queue is handled first.

Call routing

The CallPilot server determines which DS0 channel can provide the dialed service requested by a waiting call, and instructs the Meridian 1 switch to route the call to the associated ACD agent.

See also

- "Phantom DNs" (page 22).
- "CallPilot Service Directory Numbers and the SDN Table" (page 23).

Phantom DNs

Introduction

Instead of using telephones or dummy ACD DNs to route calls, CallPilot can use "virtual telephones" that exist only in software and have no associated hardware. The DN associated with one of these phantom phones is called a phantom DN.

Creating a Phantom DN

To create a phantom DN, you first create a phantom loop, and then you define a TN within that loop. The system recognizes that any TN defined within that loop is a phantom TN. Each phantom TN is assigned a DN (the phantom DN). When the DN is entered in the CallPilot Service Directory Number page, it becomes the dialable number of a CallPilot service.

Phantom DNs forward to a CDN queue

Incoming calls cannot queue up in the phantom TN as they arrive. When a call arrives at a phantom DN, the system forwards it to a CDN queue before it is routed to a multimedia channel for further call handling. However, the system remembers the phantom DN to keep track of the requested service.

Services that should use phantom DNs

Nortel strongly recommends that you use either phantom DNs or dummy ACD DNs (see "Configuring dummy ACD DNs" (page 85)) for the following services:

- all services created with Application Builder that are directly dialable by callers
- Speech Activated Messaging
- Paced Speech Messaging
- Voice Item Maintenance
- Fax Item Maintenance
- Express Voice Messaging
- Express Fax Messaging

Networking services

The following Networking services can either have a unique phantom DN configured on the Meridian 1 switch, or they can share the phantom DN (and SDN) of another service:

- Enterprise Networking
- AMIS Networking
- Integrated AMIS Networking

Share DNs when your supply of available DNs on the Meridian 1 switch is low. Create a unique DN when you need to closely monitor each service (for example, so that each service generates its own traffic data in Reporter).

Note: After you configure the SDN in CallPilot, specify with which service you are sharing the SDN.

Example

You are ready to put a new menu application into service. Phantom DN 6120 is available on the Meridian 1 switch. In the Service Directory Number page, you enter 6120 as the SDN for this service. This is the number that callers dial to access the menu.

CallPilot Service Directory Numbers and the SDN Table

Introduction

When a call arrives at a CDN queue either directly or indirectly from a phantom DN or dummy ACD DN, the Meridian 1 switch gives the caller ringback treatment. While this happens, the dialed DN is looked up in the SDN Table in CallPilot to determine what service is required.

What is the SDN Table?

The SDN Table is where the CDNs, phantom DNs, or dummy ACD DNs that have been configured on the Meridian 1 switch for your CallPilot services are recorded. In this table, the DN (now called an SDN) is associated with a specific service. You use the CallPilot Manager Service Directory Number page to administer the SDN Table.

What the SDN Table controls

In addition to specifying which service should be activated when a number is dialed, the SDN Table also controls:

- the type of channel the service acquires (voice, fax, or speech recognition)

- the number of channels allocated to the service

  The SDN configuration determines the minimum number of channels guaranteed to a service for simultaneous use and the maximum number of channels that you can use at one time.

- the session behavior for certain services, such as those created with Application Builder (including the maximum session length and a number of fax options)

Types of SDNs

There are two types of SDNs—inbound SDNs and outbound SDNs.

Inbound SDNs require DNs on the Meridian 1 switch

Services that callers dial need inbound SDNs. An inbound SDN corresponds to a CDN, a phantom DN, or a dummy ACD DN on the Meridian 1 switch, since callers must be able to dial in to the Meridian 1 switch with a unique number.

Outbound SDNs do not require DNs on the Meridian 1 switch

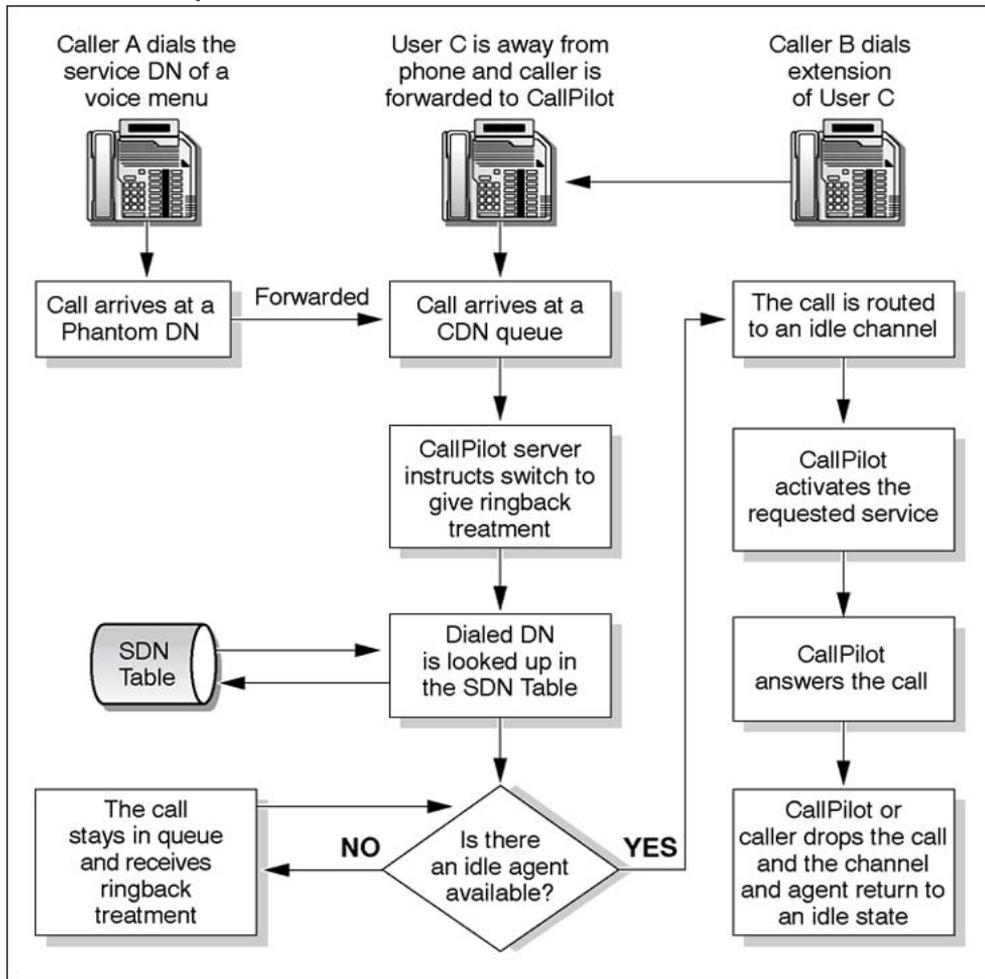Callers do not dial outbound SDNs. The system uses outbound SDNs to place outbound calls. Because outbound SDNs do not accept incoming calls, a corresponding CDN, phantom DN, or dummy ACD DN is not necessary on the Meridian 1 switch.

The following services use outbound SDNs:

- outcalling services (Remote Notification, Delivery to Telephone, Delivery to Fax)

- networking services (AMIS Networking and Enterprise Networking)

How calls are routed
Call flow example

```
Caller A dials the          User C is away from         Caller B dials
service DN of a             phone and caller is         extension
voice menu                  forwarded to CallPilot      of User C

      │                            │  ◄─────────────────────── │
      ▼               Forwarded    ▼                           │
┌──────────────┐  ───────────► ┌──────────────┐         ┌────────────────┐
│ Call arrives │              │ Call arrives │  ──────► │ The call is routed │
│ at a         │              │ at a         │         │ to an idle channel │
│ Phantom DN   │              │ CDN queue    │         └────────────────┘
└──────────────┘              └──────────────┘                 │
                                     │                         ▼
                                     ▼                  ┌────────────────┐
                              ┌──────────────┐          │ CallPilot      │
                              │ CallPilot    │          │ activates the  │
                              │ server       │          │ requested service │
                              │ instructs    │          └────────────────┘
                              │ switch to    │                 │
                              │ give ringback│                 ▼
                              │ treatment    │          ┌────────────────┐
                              └──────────────┘          │ CallPilot      │
   ┌───────┐                         │                  │ answers the call │
   │ SDN   │ ─────────►       ┌──────────────┐          └────────────────┘
   │ Table │                  │ Dialed DN    │                 │
   │       │ ◄─────────       │ is looked up │                 ▼
   └───────┘                  │ in the SDN   │          ┌────────────────┐
                              │ Table        │          │ CallPilot or   │
                              └──────────────┘          │ caller drops the call │
                                     │                  │ and the channel │
┌──────────────┐                     ▼                  │ and agent return to │
│ The call     │            ◄ Is there ►                │ an idle state  │
│ stays in     │    NO    │ an idle agent │  YES         └────────────────┘
│ queue and    │ ◄─────────│ available?   │ ──────►
│ receives     │            ◄           ►
│ ringback     │
│ treatment    │
└──────────────┘
```

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Note: The example above uses a phantom DN. The same call flow occurs when a caller dials a dummy ACD DN.

## Example of phantom DN or dummy ACD DN usage
Two CDN queues have been configured:

- Voice Messaging (6030)

- Multimedia Messaging (6050)

Two phantom DNs have been configured (the same scenario applies if these are set up as dummy ACD DNs):

- 6090 is the DN for a menu service (without fax items)

- 6095 is the DN for Fax Item Maintenance

In this example, when the calls come in to the Meridian 1 switch, there are no available channels, and the calls are queued as a result:

G101736

G101749
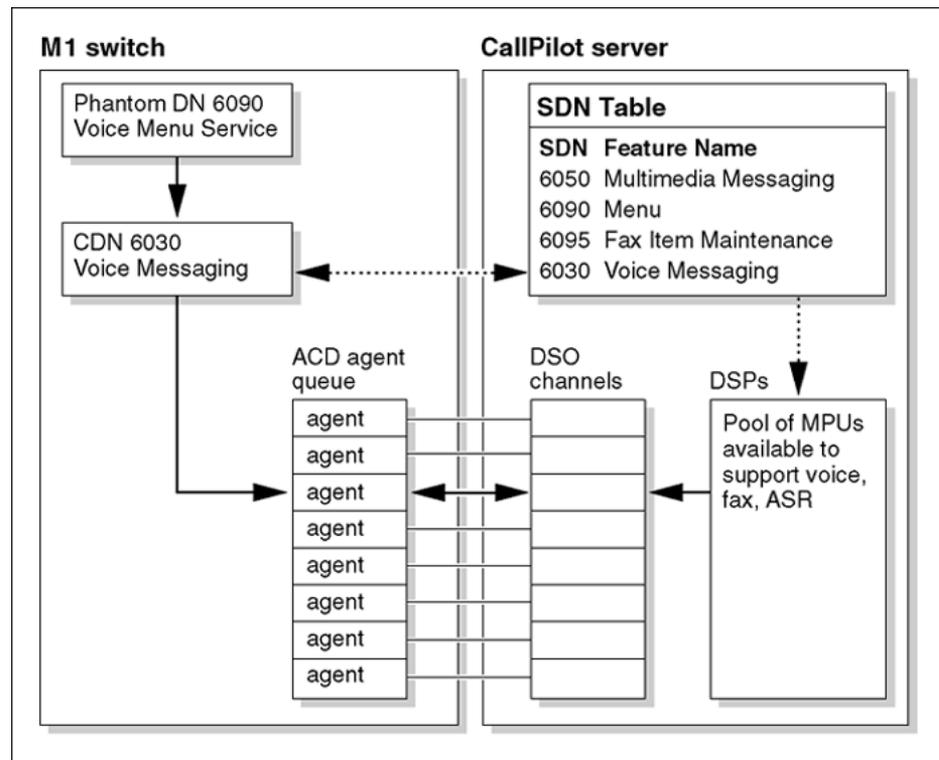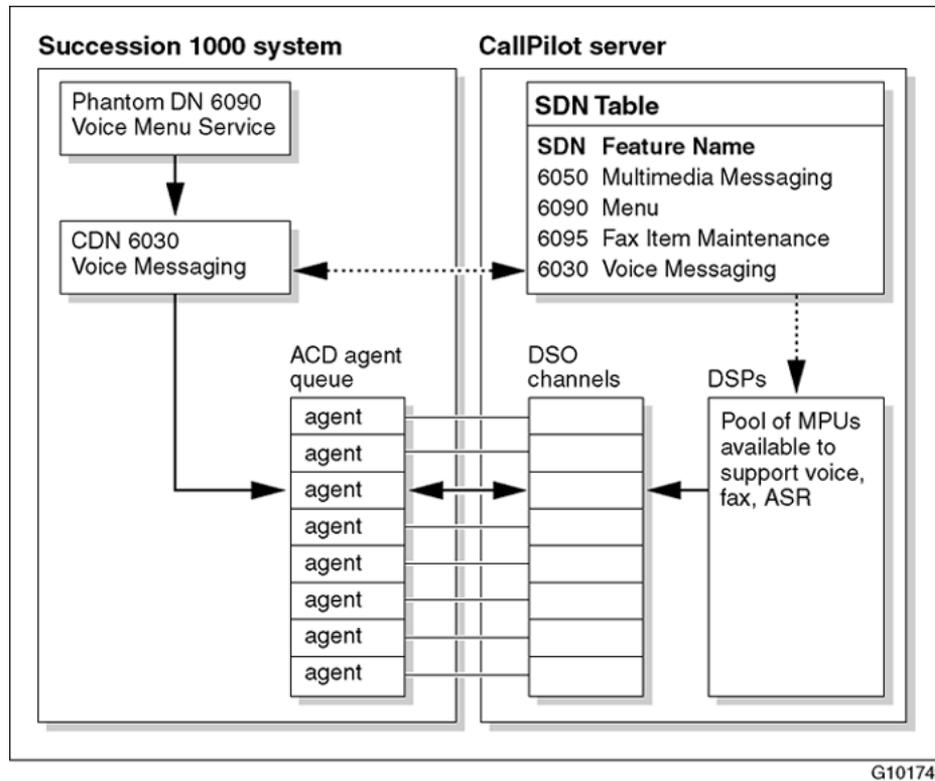
What happens when users dial the service DNs

1. A caller dials 6090 to access a menu service. This phantom DN forwards to CDN 6030 because the menu contains no fax or speech recognition capability.

2. Another caller dials 6095 to access the Fax Item Maintenance service. The call is forwarded to CDN 6050.

3. CallPilot looks up the DNs in the SDN Table on the server to check which service is being requested, the media type required, and the channel allocations for each service.

4. Call 1, to the menu service that contains only voice functions (no fax items), is routed to an ACD agent that is available to handle voice.

5. Call 2, to the Fax Item Maintenance service, is routed to an ACD agent that is available to handle fax.

Multimedia channels in the CallPilot server

Multimedia Processing Units

In addition to the CPU processing power required by CallPilot, calls that are received by CallPilot require DSP processing power to support the voice, fax, and speech recognition features. DSP processing power is provided by Multimedia Processing Units (MPUs) in the CallPilot server. MPUs are provided by the following CallPilot hardware:

- MPB boards (MPB 16-4 for the 1002rp server only, or MPB96)
- MPC-8 cards (if MPB16-4 boards are used)

Types of multimedia channels

Certain types of media require more channel resources to process them. As a result, three types of multimedia channels handle the various types of CallPilot services.

Each type of channel terminates on a different number of MPUs, based on how much processing power is required. For example, integrated fax and voice data takes twice as much processing power as voice-only media. A fax channel, therefore, terminates on two MPUs.

Channel type	# of MPUs	Description
Voice	1	One voice channel requires one MPU.
Fax	2	Fax requires twice as much processing power as voice-only media, and, therefore, requires two MPUs for one fax channel.
ASR (automated speech recognition)	4	Speech recognition requires four times as much processing power as voice-only media, and, therefore, requires four MPUs for one speech recognition channel.

How multimedia channels are acquired by callers

Introduction

The system uses the information gathered from the SDN configuration to check the ACD agent queue to determine if an idle multimedia channel of the type required by the service is available.

IF	THEN
an idle channel (of the required media type) is available	the system passes the call to CallPilot.
idle channels that meet the requirements defined in the SDN Table are not available	the call remains in the CDN queue and the system applies a delay treatment.

IF	THEN
	The server specifies a default delay treatment of ringback. This means that while a call waits in a queue, the caller hears the phone ringing.

What happens when the call is answered

When a multimedia channel of the appropriate type becomes idle, the call arrives at the multimedia channel and is passed to CallPilot.

Since the SDN Table has already been checked, the requested service is known and is activated. The service also answers the call.

Based on which service is activated, one of the following results happens:

*   The appropriate prompt is played.

*   CallPilot receives a fax.

*   CallPilot records a message.

What happens when the call is dropped

When CallPilot or the caller drops the call (hangs up), the multimedia channel returns to an idle state, ready to be acquired by another call.

What is next?

IF your server is a	THEN
tower or rackmount server (703t ,1002rp, 600r, 1005rp)	continue with Chapter 3 "Connecting the CallPilot server to the M1 Switch" (page 31).
201i server	continue with Chapter 4 "Configuring the Meridian 1 switch" (page 55).

Chapter 3
Connecting the CallPilot server to the M1 Switch

In this chapter

Section A: Installing the MGate card (NTRB18CA)

In this section

About the MGate card (NTRB18CA)

Introduction

The MGate card (NTRB18CA) is the line interface card in the Meridian 1 switch that supports the call channels for CallPilot. A DS30X cable connects the MGate card to the CallPilot server.

> *Note:* The MGate card is hot-swappable. Therefore, you do not need to power down the Meridian 1 switch before installing or removing an MGate card.

ATTENTION

An MGate card is not used with the 201i server. For the 201i server, the connection to the Meridian 1 switch is established in the Meridian 1 switch when the server is installed . For more information, see the *CallPilot 201i Server Hardware Installation* guide.


Number of channels supported

Each MGate card (NTRB18CA) supports 32 channels. These 32 channels can be any combination of voice, fax, and automated speech recognition channels. For example, you can have 16 voice, 8 fax, and 8 automated speech recognition channels supported by a single MGate card.

On the CallPilot server side, you require additional DSP MPUs to support fax or automated speech recognition channels, but this does not affect the number of channels supported by the MGate card.

LED indicators

The MGate card (NTRB18CA) has red and green LED indicators on the faceplate.
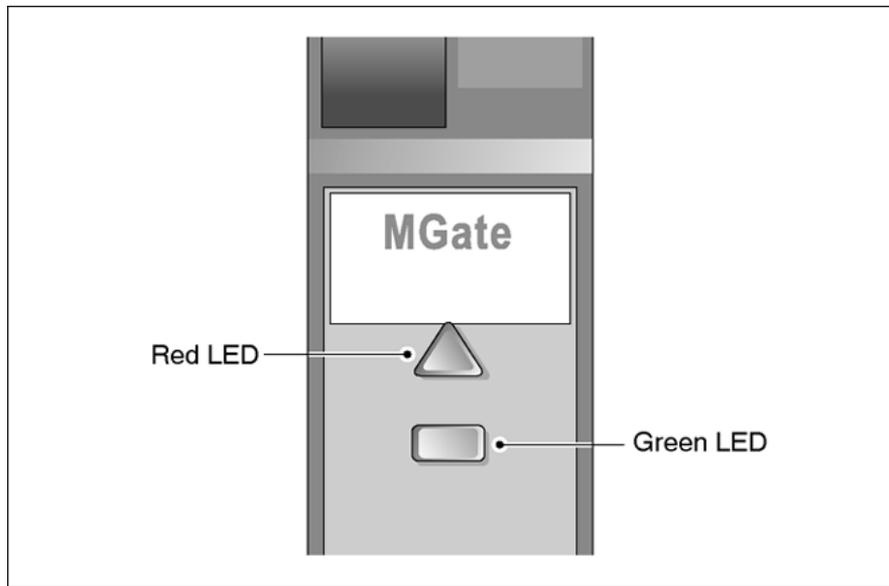
G101794

The combined state of the red and green LEDs provides important indicators of the MGate card's status.

Red LED	Green LED	Description
OFF	ON	The MGate card is enabled in the Meridian 1 switch software, and the MGate card is operational.
OFF	OFF	The MGate card is not receiving power, or the MGate card is faulty.
ON	ON	The MGate card is disabled in the Meridian 1 switch software, but the MGate card is operational.
ON	OFF	The MGate card is disabled in the Meridian 1 switch software, and the MGate card is faulty.
Blinking	Blinking	The MGate card is executing self-test diagnostics.

Impact of a faulty MGate card (NTRB18CA)

The Meridian 1 switch may or may not recognize when an MGate card is faulty. If the Meridian 1 switch does recognize the problem, then it automatically disables the MGate card and informs CallPilot that the MGate card is faulty.

If the Meridian 1 switch does not recognize that the MGate card is faulty, it does not automatically disable it. In this situation, you must use overlay 32 to manually disable the MGate card slot.

The DS0 channels associated with the disabled MGate card are taken out of service by CallPilot and assigned a Remote Off Duty status. If there are multiple MGate cards, then CallPilot continues to use the DS0 channels associated with the functioning MGate cards.

Required components

Component	Part number	Description
MGate card	NTRB18CA	Installed in the Meridian 1 switch in a standard IPE slot. .
DS30X cable (MPB16-4) • Single cable • Dual cable	NTRH2012 NTRH2013	Connects the MPB16-4 boards in the CallPilot server to the MGate cards in the Meridian 1 switch .
Triple cable (MPB96)	NTRH2014	Connects the MPB96 boards in the CallPilot server to the MGate cards in the Meridian 1 switch .

> **CAUTION**
> **Risk of data loss**
> The MGate card (NTRB18CA) is shipped from the factory with the appropriate DS30X cables. Do not substitute other versions of these boards and cables in the configurations specified in this documentation, as this can result in data loss.

Installing the MGate card (NTRB18CA)
Introduction
This section describes how to:

- set the MGate card's DIP switches

- install the MGate card in the Meridian 1 switch

- replace the MGate card

Before you begin
Determine which slot you will use to house the MGate card. The Mgate card can be installed in any standard IPE slot.

Note: If you are installing more than one MGate card, they do not have to be installed adjacent to one another within a single cabinet. You do not have to install all MGate cards inside the same cabinet.

For more information about card slots, refer to the *CS 1000 Planning and Installation Guide*

ATTENTION

If you install more than 3 Mgate cards in the same superloop, channel blocking may occur. Nortel recommends that M1 traffic engineering and configuration rules be re-checked whenever adding or moving MGate cards. (Refer to the Planning and Engineering guide for your switch type). This may be helpful to ensure that channel blocking to MGate cards does not occur due to inappropriate M1 superloop provisioning,

MGate Card (NTRB18CA) DIP switches

The following photograph of an MGate card shows the location of the DIP switches:

To set the DIP switches on the Mgate card

Step	Action

1   Remove the MGate card from its protective sleeve.

2   Set the DIP switches on the MGate card as shown in the following table. These DIP switch settings are used for all MGate cards and all system configurations:

|	1	2	3	4	5	6	7	8
ON	X	X	X				X	
OFF				X	X	X		X

—End—

To install the MGate card

Note: The MGate card is hot-swappable. You do not need to power down the switch for this procedure.

Step	Action

1   Remove the switch's front cover to expose the shelf slots.

2   Press and pull the top and bottom latches on the MGate card outward to open the latches for installation of the card. A hook on the bottom of the latch must clear a small pin to open.

G101793
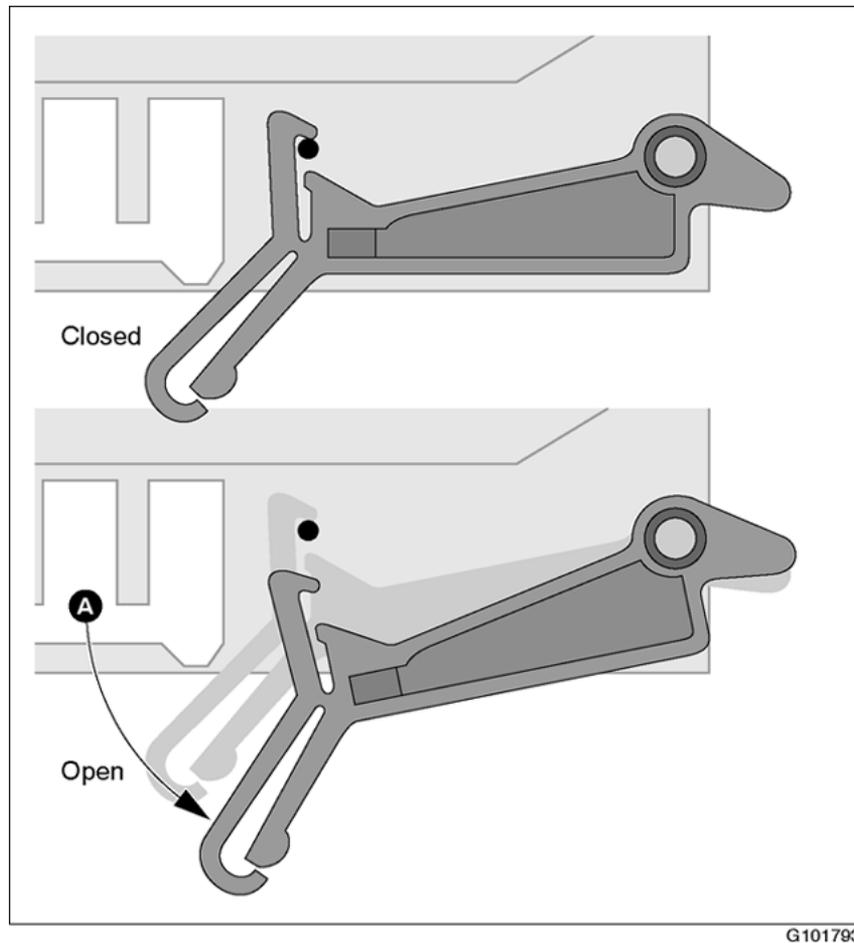
3   Slide the MGate card into the assigned slot on the switch.

Ensure that the slot you choose is consistent with the switch programming (for example, the slot identified in the TN configurations).

> *Note:* You can place MGate cards in any slot on any shelf in Option 11C, Option 61C, and Option 81C switches that possess 24-tip and ring pair wiring connections to the I/O connector panel.

Slots that possess 16-tip and ring pair wiring connections require a cable kit extension to be used with MGate cards (16-tip and ring pair wiring is present on older vintage 8D37 backplanes).

It is *not* required that cards be placed adjacent to one another within a single shelf or cabinet. It is not required that all cards be placed within a single common shelf or cabinet.

To determine whether a slot possesses 16- or 24-tip and ring pair wiring, refer to the *Meridian 1 System Installation Procedures*

4 Press the latches on the top and bottom of the MGate card to close them.

Result: This locks the card into position against the backplane.

5 View the status of the LED indicators to ensure that:

- the card is software-enabled (red LED is OFF)

- the card is operational (green LED is ON)

For more information about the LEDs, see "LED indicators" (page 32).

**—End—**

To install the MGate card

Step	Action
1	Ensure that the slot in which you are installing the MGate does not already have a cable connected.
2	Press and pull the top and bottom latches on the MGate card outward to open the latches for installation of the card. A hook on the bottom of the latch must clear a small pin to open. See the following diagram.

G101793
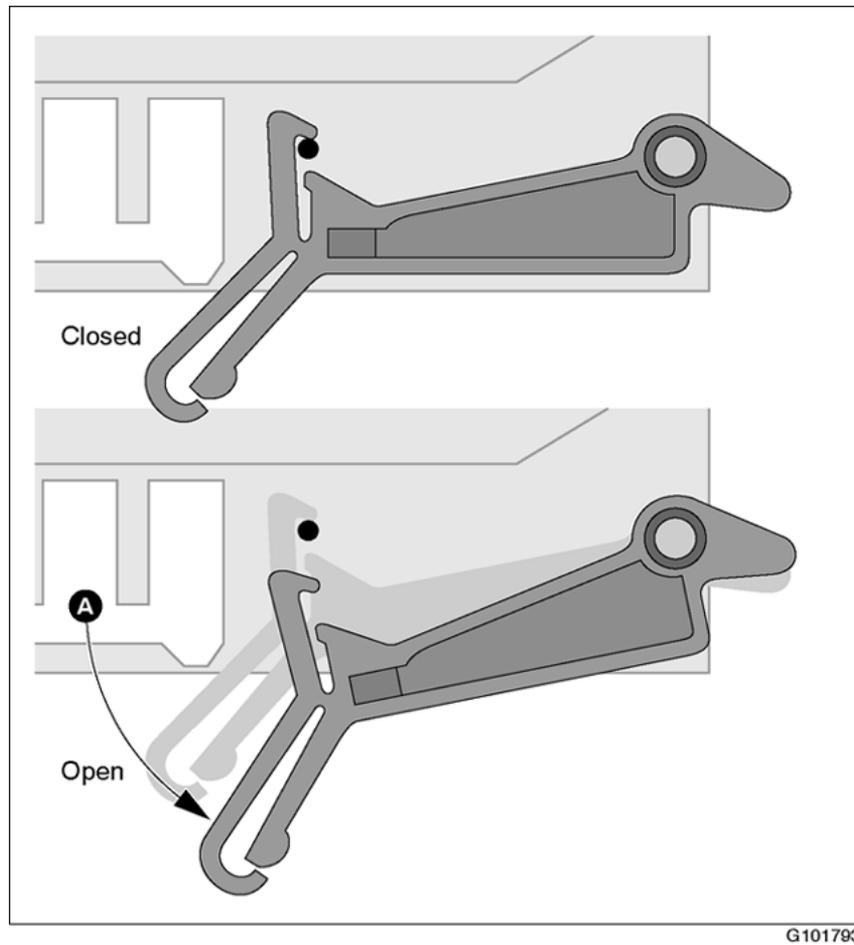
3   Slide the MGate card into an unoccupied slot.

When correctly inserted, the top of the MGate card is on the left. See the following diagram:

MGate card
NTRB18CA

G101597
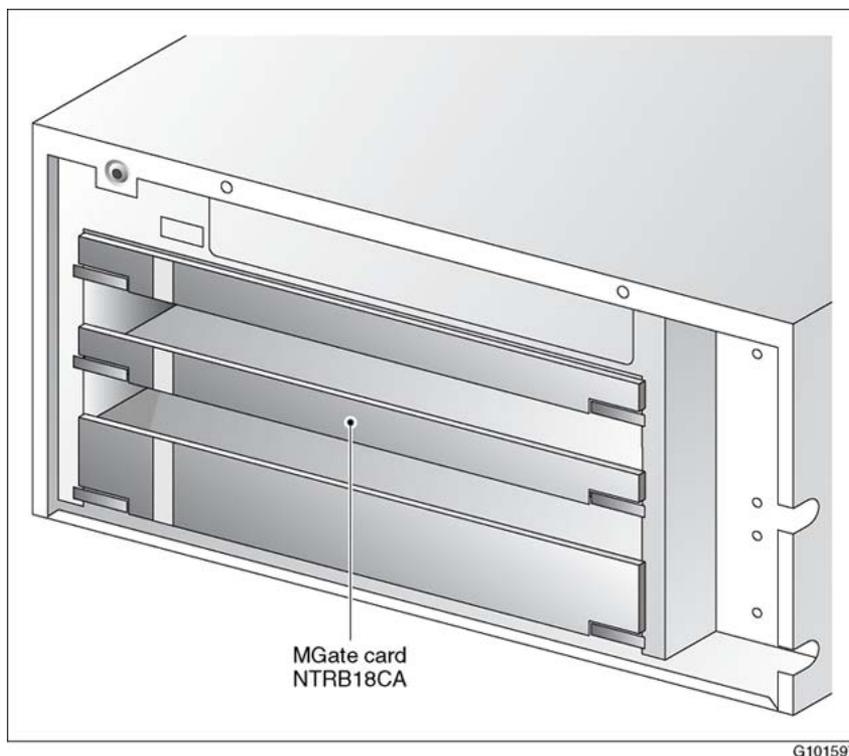
4 Press the lock latches to close them.

This locks the MGate card into position against the backplane.

5 View the status of the LED indicators to ensure that

* the card is software-enabled (red LED is OFF)

* the card is operational (green LED is ON)

For more information about the LEDs, see "LED indicators" (page 32).

—End—

What is next?
Continue with "Section B: Connecting the CallPilot server to the switch" (page 42).

Replacing an MGate card (NTRB18CA)
Introduction
If the MGate card becomes faulty, follow this procedure to replace it.

To replace an MGate card

Note: You do not need to power down the switch for this procedure as the MGate card is hot-swappable.

Step	Action
1	Courtesy stop the DS0 channels from the CallPilot administrative PC to stop all call processing gracefully. To do this, use the Channel Monitor or the Maintenance page in CallPilot Manager, as described in the *CallPilot <server model> Server Maintenance and Diagnostics* guide for your server. *Note:* If your system has multiple MGate cards, you can choose to courtesy stop only the DS30X channels that belong to the MGate card that is being replaced.
2	Remove the switch's front cover to expose the shelf slots.
3	Open the latches to unlock the faulty MGate card.
4	Remove the faulty MGate card from the switch.
5	Press the replacement MGate into the same slot that the faulty MGate card occupied. *Note:* If you place the MGate card in a new slot, then you must do the following: a. Reprogram the switch to account for the new slot number. b. Move the DS30X cable to the new slot. c. Reconfigure the software from the CallPilot administrative client PC.
6	Press the latches on the top and bottom of the MGate card to close them. **Result:** This locks the card into position against the backplane.
7	View the status of the LED indicators to ensure that the card is software-enabled (red LED is OFF), and the card is operational (green LED is ON).
8	Reenable the DS0 channels that were disabled before the card was removed. To do this, use the Channel Monitor or the Maintenance page in CallPilot Manager, as described in the *CallPilot <server model> Server Maintenance and Diagnostics* guide for your server.

—End—

Section B: Connecting the CallPilot server to the switch

In this section

About the DS30X cable
Introduction
The MGate card (NTRB18CA) ships from the factory with the DS30X cables required by the MPB board that is installed in the server.

	CAUTION
⚠	**Risk of data loss**
	Do not substitute other versions of these boards and cables in the configurations specified in this documentation, as this can result in data loss.

DS30X cables supported by MPB16-4 boards
The DS30X cable that establishes the connection between the MPB16-4 boards and the MGate cards is 10 m (30 ft) long. Therefore, the CallPilot server must be placed within 10 m (30 ft) of the Meridian 1 switch.

IF the server is equipped with	THEN the DS30X cable is an
one MPB16-4 board	NTRH2012 cable.
	This is a single DS30X cable that connects one MPB16-4 board to one MGate card.
more than one MPB16-4 board	NTRH2013 cable.

IF the server is equipped with	THEN the DS30X cable is an
	This is a dual DS30X cable that connects the first of two MPB16-4 boards to two MGate cards. The connectors on the NTRH2013 dual DS30X cable are labeled DS30X-1 and DS30X-2.

> *Note:* The NTRH2012 and NTRH2013 cables contain ferrites that control EMC emission levels. Do not remove them.

DS30X cable supported by the MPB96 board s

The NTRH2014 cable is a triple DS30X cable that connects the first MPB96 board to up to three MGate cards. The cable is 20 m (60 ft) long, which allows you to install the CallPilot server in a different room from the Meridian 1 switch. .

One end of the cable has a 44-pin connector that connects to the MPB96 board's faceplate. If the server is equipped with more than one MPB96 board, the cable connects to the first board (the board in the lowest numbered slot of the server).

The other end of the cable has three 50-pin connectors that connect to MGate cards. The MGate connectors are labeled DS30X-1, DS30X-2, and DS30X-3.

The following diagram illustrates:

G101786
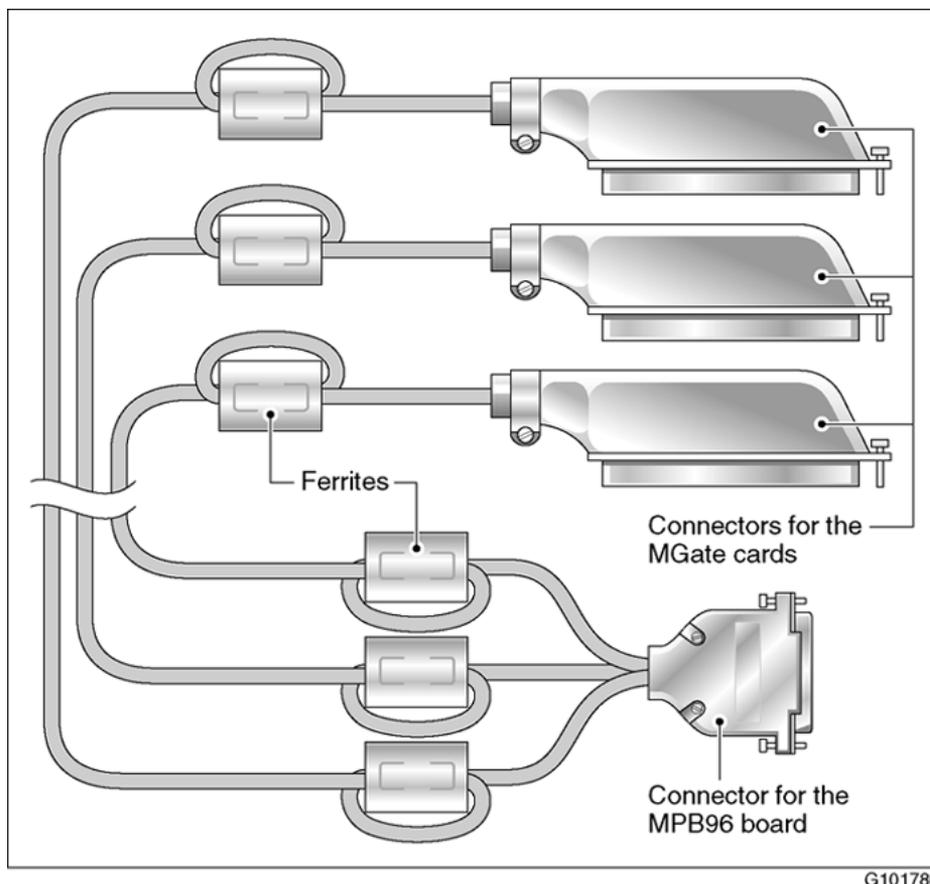
Note: The ferrites on this cable control EMC emission levels. Do not
remove them.

Connecting MPB16-4 boards to MGate cards (NTRB18CA)

Introduction

The MPB16-4 board has been replaced by the MPB96 board, and is no
longer shipped with the CallPilot server. References to the MPB16-4 board
are only for systems that were upgraded to CallPilot 5.0. Since the MPB16-4
boards are already installed in the server, you only need to connect them to
the MGate cards in the Meridian 1 switch with the appropriate DS30X cable.

This section describes the MPB16-4 board and MGate card connection
scenarios that your CallPilot server supports. You must use the appropriate
DS30X cable for the connection scenario—either the NTRH2012 or the
NTRH2013 cable.

Note: For a description of the MPB16-4 board, refer to the *CallPilot
<server model> Server Maintenance and Diagnostics* guide for your
server.

Cabling diagrams

The following table lists the supported configurations and the page number that illustrates the configuration:

Number of channels	Number of MPB16-4 boards	Number of MGate cards	See
32 or less	1	1	"One MPB16-4 board and one MGate card (32 channels or less)" (page 46)
32 or less	2	1	"Two MPB16-4 boards and one MGate card (32 channels or less)" (page 46)
48 or less	1	2	"One MPB16-4 board and two MGate cards (64 channels or less)" (page 47)
64 48 or less	2	2	"Two MPB16-4 boards and two MGate cards (64 48 channels or less)" (page 47)
96 or less	2	3	"Two MPB16-4 boards and three MGate cards (96 channels or less)" (page 48)

Identifying the location of MPB 1 and MPB 2

In the cabling diagrams, the terms MPB16-4 #1 and MPB16-4 #2 are used to identify the two MPB16-4 boards. The table below indicates the location of these boards:

MPB #	Slot number in 1002rp
MPB16-4 #1	slot 11
MPB16-4 #2	slot 12

a. For the 1002rp servers, MPB16-4#1 is the MPB16-4 board closest to the SBC card. For more information on slot assignments, refer to the slot assignment tables in the *CallPilot <server model> Server Hardware Installation* guide for your server.

Identifying the location of MGate 1, 2, and 3

In the cabling diagrams, the terms MGate #1, MGate #2, and MGate #3 identify the MGate cards. MGate #1 is in the lowest-numbered slot in the Meridian 1 switch. . MGate #2 and MGate #3 are in the next available higher slots.

One MPB16-4 board and one MGate card (32 channels or less)

Use the single cable (NTRH2012) to connect the MPB16-4 board to the MGate card.

MGate cabling for the 1002rp server

G101716
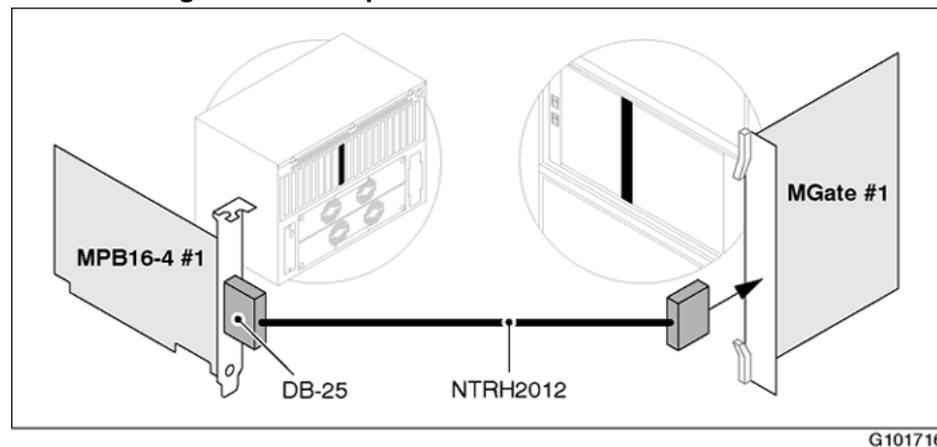
Two MPB16-4 boards and one MGate card (32 channels or less)

Use the DS30X single cable (NTRH2012) to connect the MPB16-4 #1 to the MGate card.

> *Note:* The MPB number is identified during system startup. Therefore, you must connect the DS30X cable to the MPB assigned the lower bus number by the software.

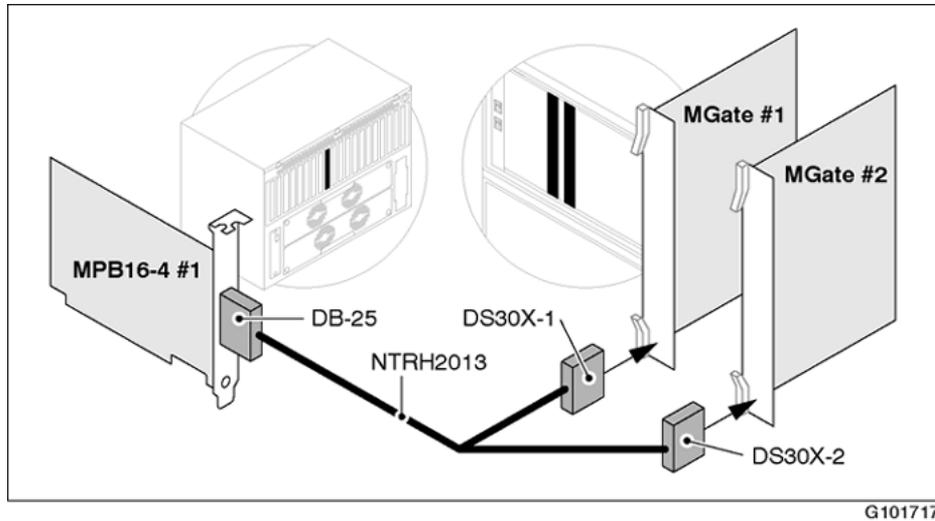**MGate cabling for the 1002rp server**

G101721
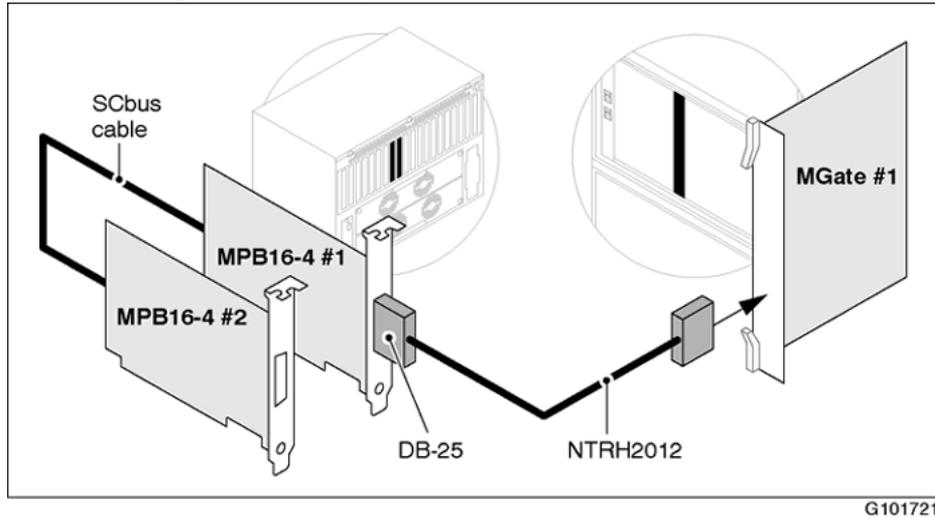
One MPB16-4 board and two MGate cards (48 channels or less)

Use the NTRH2013 cable, as shown in the diagrams that follow. Ensure that:

- the connector labeled DS30X-1 is connected to MGate #1

- the connector labeled DS30X-2 is connected to MGate #2

MGate cabling for the 1002rp server

G101717

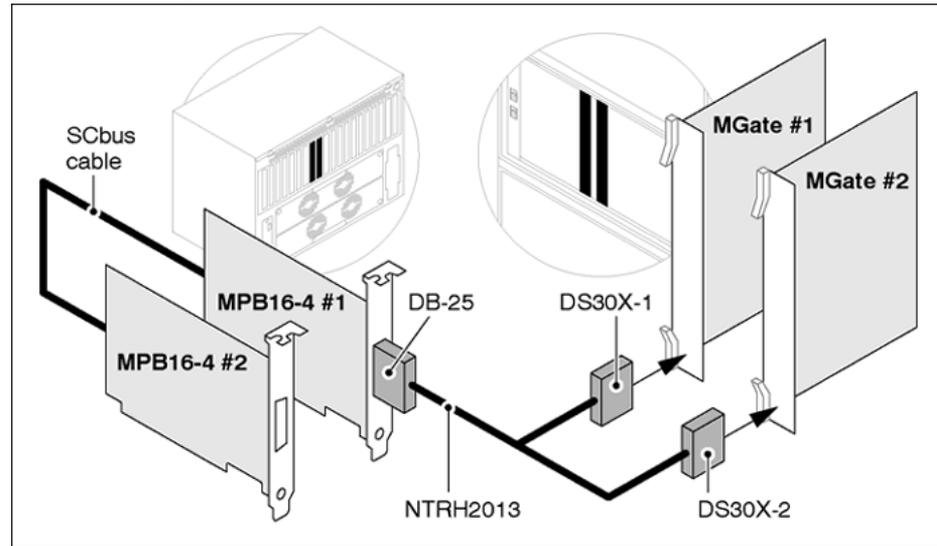## Two MPB16-4 boards and two MGate cards (64 channels or less)

ATTENTION
Due to CPU limitations, the CS 1000 system can support only 48 CallPilot multimedia channels.

Use the NTRH2013 cable, as shown below. Ensure that:

- the connector labeled DS30X-1 is connected to MGate #1

- the connector labeled DS30X-2 is connected to MGate #2

**MGate cabling for the 1002rp server**

Two MPB16-4 boards and three MGate cards (96 channels or less)

Connect the MPB16-4 #1 to MGate card #1 and #2 with the NTRH2013 dual DS30X cable. Ensure that:

- the connector labeled DS30X-1 is connected to MGate #1

- the connector labeled DS30X-2 is connected to MGate #2

Connect the MPB16-4 #2 to MGate card #3 with a single cable (NTRH2012).

MGate cabling for the 1002rp server

G101723
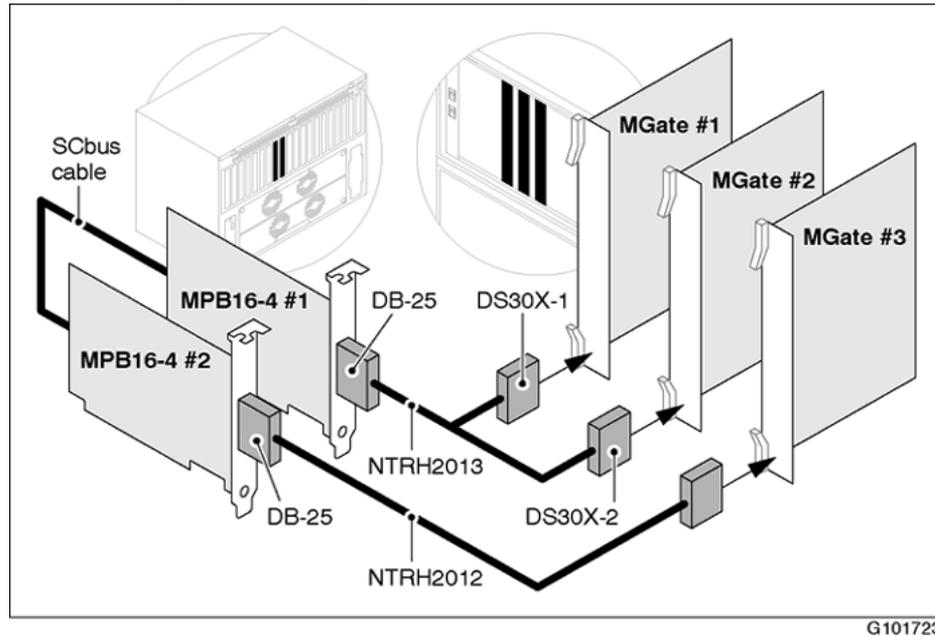
To connect the DS30X cable

Before you begin, review the supported cabling configurations illustrated in .

Step	Action

1   Locate the connector associated with the Mgate card slot.

2   Attach the DS30X connector on the NTRH2012 or NTRH2013 cable to the slot connector as shown in the previous diagrams.

       a.   Loosen the connector's Velcro fastening strap.

       b.   Connect the amphenol connector on the MGate cable to the connector located in step 1.

       c.   Secure the connection by tightening the connector's retaining screw and Velcro fastening strap.

          The following diagram shows how to secure the MGate cable connection:

Velcro fastening strap **A**

Pull to tighten the strap **B**

C

G101592
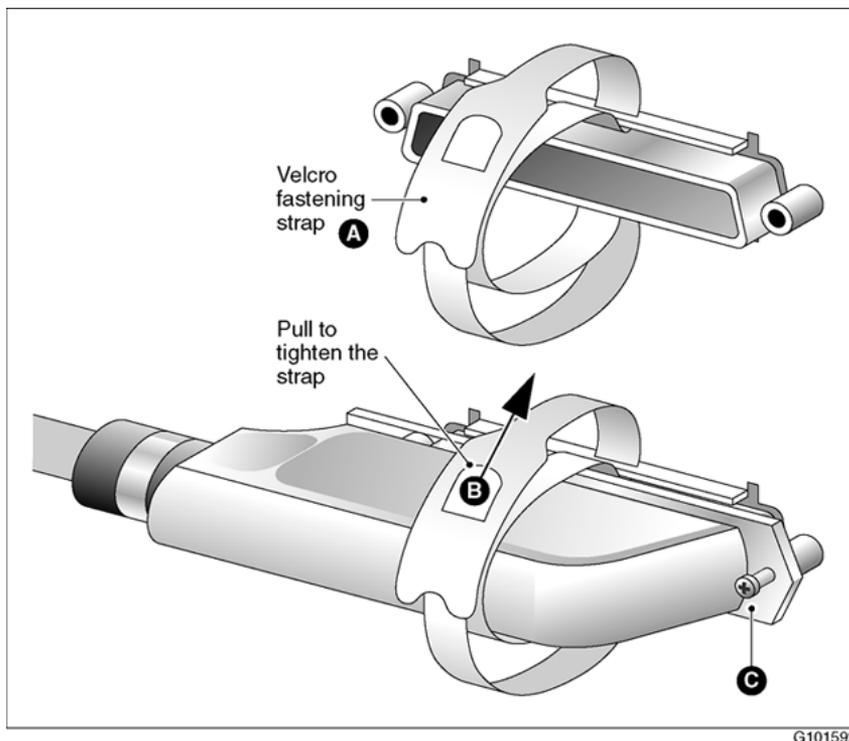
> **3**   Connect the other end of the MGate cable to the MPB16-4 board's connector on the bottom of the CallPilot server.

—End—

What is next?
Continue with .

Connecting the MPB96 boards to MGate cards (NTRB18CA)
### Introduction
The CallPilot server ships from the factory with one or three MPB96 boards already installed. Since the MPB96 board is already installed in the server, you only need to connect it to the MGate card in the Meridian 1 switch with the NTRH2014 DS30X cable.

You connect the MPB96 board to up to three MGate cards depending on the number of DS0 channels. If fewer than three MGate cards are present, you can leave the unused parts of the NTRH2014 cable unconnected.

Note: For a description of the MPB96 board, refer to the *CallPilot <server model> Server Maintenance and Diagnostics* guide for your server.
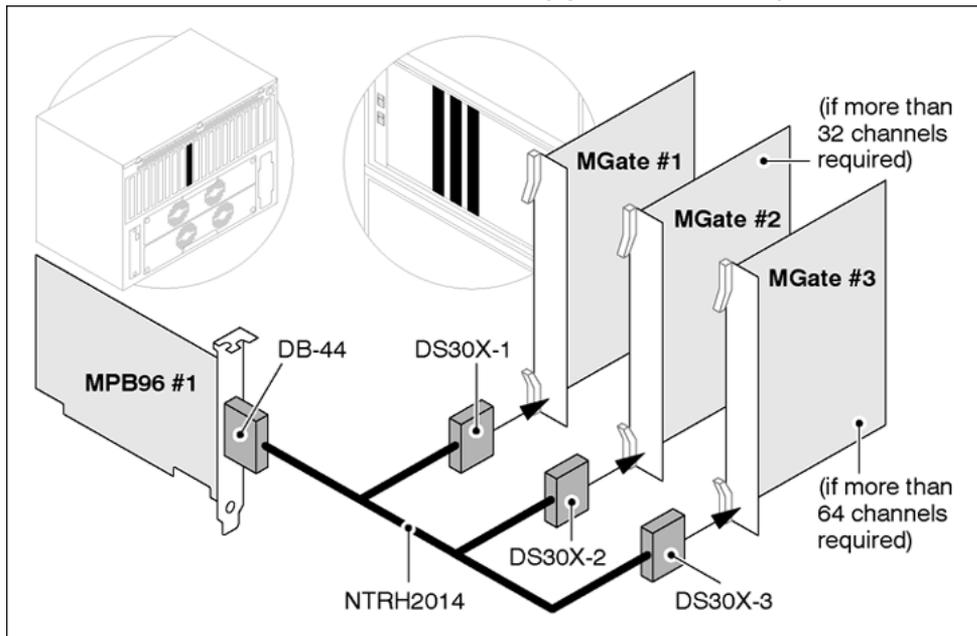
MGate cabling for the 703t server

One MPB96 board and two MGate cards (up to 64 channels)
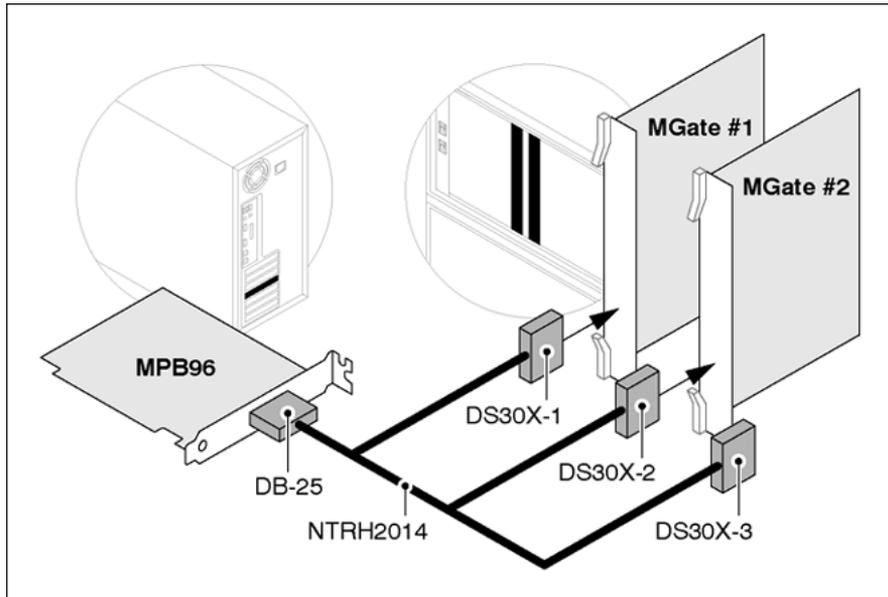
G101787

One MPB96 board and three MGate cards (up to 96 channels)

G101718

MGate cabling for the 1002rp, 600r, and 1005r servers
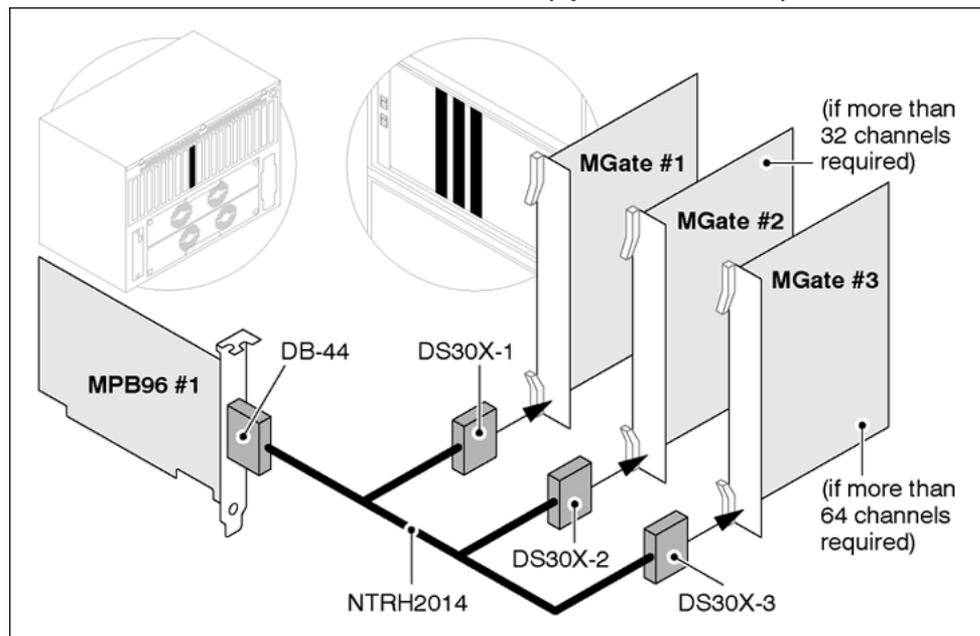
One MPB96 board and two MGate cards (up to 64 channels)
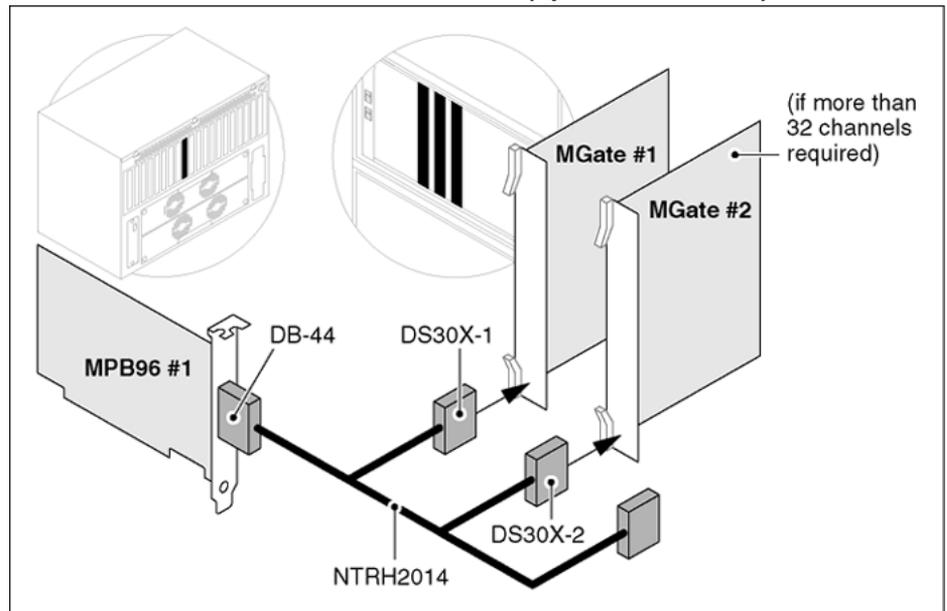
G101718 48

One MPB96 board and three MGate cards (up to 96 channels)

G101718

High-capacity - three MPB96 boards and six MGate cards (1002rp and 1005r only)

Three MPB96 boards, installed with six MGate cards, provides a capacity of up to 192 channels and 288 MPUs.

1002rp_196_4mpb96_3
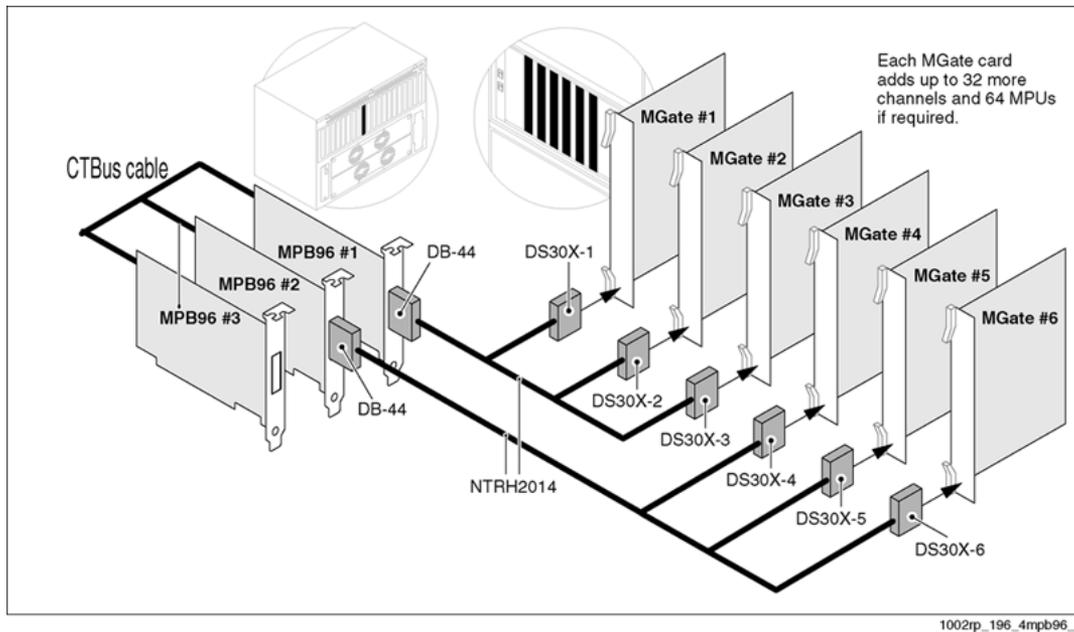
Installing the DS30X cable

To install the DS30X cable for the MPB96 board

Step	Action
1	On theMeridian 1 switch, locate the connector associated with the slot occupied by the MGate card.
2	Attach the DS30X connector on the NTRH2014 cable to the slot connector as shown in the previous diagrams.

    a. Loosen the connector's Velcro fastening strap.

    b. Connect the amphenol connector on the MGate cable to the connector located in step 1.

    c. Secure the connection by tightening the connector's retaining screw and Velcro fastening strap.

       The following diagram shows how to secure the MGate cable connection:

Velcro fastening strap **A**

Pull to tighten the strap **B**

C

G101592
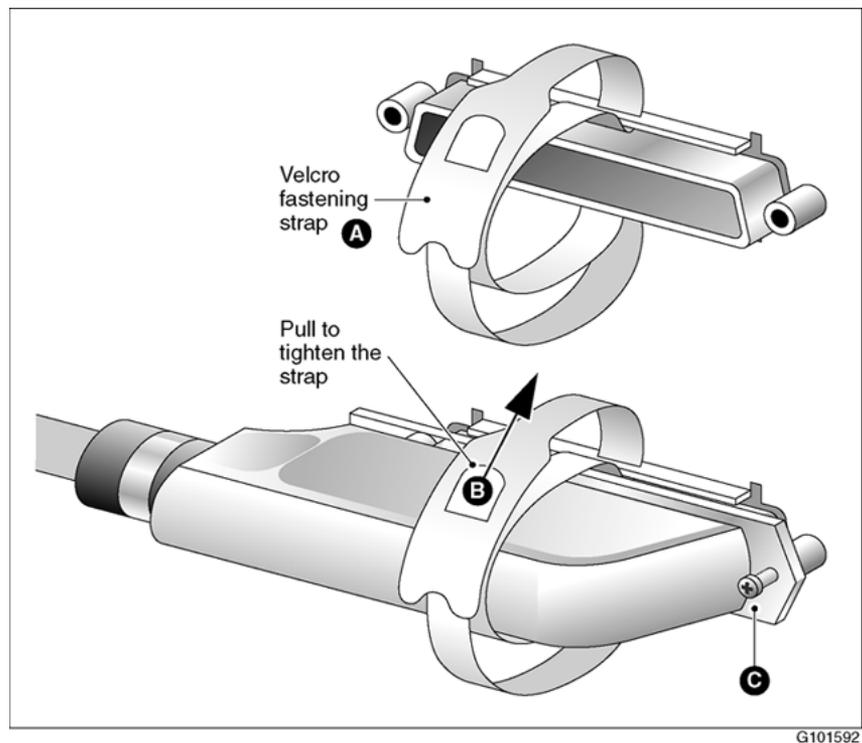
3 Connect the other end of the MGate cable to the MPB96 board's connector on the bottom of the CallPilot server.

—End—

What is next?

Continue with Chapter 4 "Configuring the Meridian 1 switch" (page 55).

Chapter 4
Configuring the Meridian 1 switch

In this chapter

Meridian 1 hardware and software requirements

Supported Meridian 1 switches

The following Meridian 1 switches are supported:

- Option 11C
- Option 11C Mini (for the 201i server only)
- 51C
- 61C
- 81
- 81C

   Note: The copper-connected Option 11C does not support the ELAN subnet, which is required for CallPilot.

Required hardware

To support connectivity to tower and rackmount CallPilot servers, you must install one or more MGate cards (NTRB18CA) in the Meridian 1 switch, as described in Chapter 3 "Connecting the CallPilot server to the M1 Switch" (page 31).

ATTENTION

An MGate card (NTRB18CA) is not used with the 201i server.

Required X11 software

CallPilot requires software release X11 Release 25.40 or later.

ATTENTION

This chapter describes the required responses for overlays in X11 Release 23.55. Later X11 releases may have additional prompts, and the order of the prompts may vary.

Required CS 1000 system software

To support the CallPilot 201i server, the CS 1000 system requires software release X21 Release 3.0 or later.

To support the CallPilot 703t, 1002rp, 600r, or 1005r servers, the CS 1000 system requires software release X21 Release 3.0 or later.

Required X11 packages

The following packages are required to support CallPilot:

- 41 - ACDB (ACD Package B)

- 46 - MWC (Message Waiting Center)
- 214 - EAR (Enhanced ACD Routing)
- 215 - ECT (Enhanced Call Treatment)
- 218 - IVR (Hold in Queue for IVR)
- 247 - Call ID
- 324 - NGEN (CallPilot Connectivity)
- 364 - NMCE (CallPilot)
- 254 - PHTN (Phantom TN)

    Package 324, listed above, has the following dependencies:

    — 77 - CSL (Command Status Link)

    — 153 - X25AP (Application Module Link - AML)

    — 164 - LAPW (Limited Access to Overlays)

    — 242 - MULI (Multi User Login)

    — 243 - Alarm Filtering

    — 296 - MAT (Meridian* Administration Tool)

Optional X11 packages

- 56 - AOP (Attendant Overflow Position)

Required X11 X21 PEPs

X11 requires a number of PEPs to support CallPilot.

For complete information about required software PEPs, refer to the section on "Switch Requirements" in the most recent issue of the General Release Bulletin, available at http://my.nortel.com. You require a user name and password to access this site.

If X21 PEPs are required, the *CallPilot Distributor Technical Reference* (DTR) provides this information and is available at http://my.nortelnetworks.com. You require a user name and password to access this site.

X11 X21 PEPs are available only on the Meridian PEP library (MPL) web site at:

https://transportvo.nortel.com/mpl/mpl

If you cannot access the Meridian PEP Library, or if you cannot find the SUs, check the *CallPilot Distributor Technical Reference*, or contact your Nortel representative.

The Meridian PEP Library is a secure web site requiring a user name and a password to log on. If you do not have an account, you must apply for one. It can take up to 72 hours to process your account request.

Meridian 1 configuration checklist

Introduction

The following checklist provides a list of the tasks you must complete for correct CallPilot and Meridian 1 switch interoperation. Detailed instructions are provided for each task, as indicated, in the remainder of this chapter.

Configuration checklist

Step		Overlay	See page	Check
1	Ensure that the ELAN subnet for the AML link and its associated VSID in the configuration record is defined. This provides the Ethernet connection over which AML messages are exchanged between the Meridian 1 switch and CallPilot.	17	"Provisioning the ELAN subnet" (page 62)	r
2	Define the Message Register for AML message tracing.	17	"Defining the Message Register for AML message tracing" (page 64)	r
3	If the Meridian 1 switch has not been defined with an IP address, configure it for the ELAN subnet interface.	117	"Configuring Meridian 1 IP addresses and enabling the Ethernet interface" (page 65)	r
4	Enable the ELAN subnet link.	137	"Configuring Meridian 1 IP addresses and enabling the Ethernet interface" (page 65)	r

Step		Overlay	See page	Check
5	Enable the ELAN subnet connection.	48	"Configuring Meridian 1 IP addresses and enabling the Ethernet interface" (page 65)	r
6	Define CallPilot in the customer data block with the Call Park Allowed (CPA) and Message Center Included (MCI) options enabled. Also define in the customer data block how unanswered and busy calls are routed.	15	"Defining CallPilot in the customer data block" (page 68)	r
7	Define the Call Forward by Call Type feature.	16	"Additional steps to support the Call Forward by Call Type feature" (page 72)	r
8	Create an ACD agent queue to hold the agents that service CallPilot. If you are enabling the Contact Center Voice Services Support feature, you must also set up two additional ACD agent queues-one for ACCESS ports, and one for IVR ports.	23	"Configuring the ACD agent queue" (page 73)	r
9	Create an agent for each CallPilot channel. All agents belong to the ACD agent queues that you created in step 8.	11	"Configuring ACD agents" (page 74)	r
10	Enable the slots in which the MGate card (NTRB18CA) or 201i server is installed.	32	"Enabling the card slots" (page 77)	r

Step		Overlay	See page	Check
11	Define the default ACD DN that will be referenced in each CDN queue. Set this ACD DN as night call forward to the attendant.	23	"Defining the default ACD DN" (page 78)	r
12	Create two CDN queues as follows: • Create a primary CDN for Voice Messaging. • Create a secondary CDN for Multimedia Messaging.	23	"Configuring CDN queues for messaging services" (page 79)	r
13	If required, create a phantom loop.	97	"Configuring phantom DNs" (page 80)	r
14	Create a phantom DN or dummy ACD DN for each service that must be directly dialable.	10 or 23	"About the DS30X cable" (page 42) or "Provisioning user phonesets" (page 86)	r
15	Provision user telephones to support CallPilot. **Notes:** • To determine which telephones are supported by the Meridian 1 switch, refer to the *CS 1000 Planning and Installation Guide* For instructions on provisioning i2004 telephones, refer to *CS 1000 Input/Output X21 Administration*	11 or 10	"Provisioning user phonesets" (page 86)	r

Step		Overlay	See page	Check
16	If you purchased Network Message Service, configure the route data block.	16	"Configuring the route data block for Network Message Service" (page 89)	r
17	Save the configuration changes.	43	"Saving Meridian 1 changes" (page 90)	r
18	If you made changes to the ELAN subnet interface configuration in step 3 of this checklist, perform a Meridian 1 INI after you save the configuration changes (as instructed in step 17 of this checklist).	n/a	n/a	r

Note: You can also print configuration information from overlay 20 at any time.

How the overlays are presented in this chapter

Overlays are programmed by responding to a series of prompts. The procedures in this section mention only those prompts that require a specific entry for CallPilot.

You can program other prompts if necessary for your site. To accept the default value for other prompts, press Enter.

ATTENTION

Ensure that you update the Meridian 1 database when you finish making changes, as described in "Saving Meridian 1 changes" (page 90).

Working with overlays

When you work with overlays, follow these general steps:

1. Load the appropriate overlay.

2. Respond to the prompts as shown in the tables in this section. Press Enter after each prompt until you reach the next one that you must define for CallPilot.

3. When you complete the configuration, enter **** in response to the REQ prompt.

The customer number

CallPilot can be provided only on a per customer basis on the Meridian 1 switch. AML messages used for communications between the Meridian 1 switch and CallPilot contain a customer number to which CallPilot belongs.

ATTENTION

When you enter the customer number in the overlays, ensure that it is the correct customer number.

Provisioning the ELAN subnet

Introduction

Define and configure the ELAN subnet for the AML link and its associated VSID in the configuration record. This provides the Ethernet connection over which AML messages are exchanged between the Meridian 1 switch and CallPilot.

To provision the ELAN subnet

Step	Action
1	Load overlay 17.
2	For each prompt listed below, enter the response indicated.
	For those prompts that are not listed, you can accept the default by pressing Enter.

Prompt	Response	Description
REQ	CHG	Change
TYPE	ADAN	Action device and number
ADAN	NEW ELAN xx	Configure a new link and assign it a number, where xx is within the ELAN subnet range (16-31). You can use any number in this range as long as it is not already used.
CTYP	ELAN	Card type
DES	x...x	Enter a designator to identify this ELAN subnet.
REQ	CHG	Change
TYPE	VAS	Value added server configuration
VAS	new	Configure a new AML link or change the existing link configuration.

Prompt	Response	Description
VSID	yy	The VAS identifier can be in the range of 16-31. For convenience, this can be the same number you assigned to the new ELAN subnet link (in response to the ADAN prompt).
ELAN	xx	This should be the same number defined in ADAN.
SECU	x...x	If you have Contact Center connected to your switch, choose YES (even if you are not using Contact Center Voice Services Support).
REQ	CHG	Change
TYPE	PARM	System parameters
NCR	x...x	Number of call registers (range depends on system type). Increment the current value by 2 x the number of CallPilot DS0 channels. For example, if the current NCR value is 500 and there are 24 DS0 channels, change the NCR value to 548.
CSQI	(20) to 255	Maximum number of call registers for CSL input queues. Set this parameter to 2 x the number of CallPilot DS0 channels. For example, if there are 24 DS0 channels, enter 48.
CSQO	(20) to 255	Maximum number of call registers for CSL/AML output queues. Set this parameter to 2 x the number of CallPilot DS0 channels. For example, if there are 24 DS0 channels, enter 48.
	<Enter>	Press Enter until you reach the end of the overlay (REQ prompt).
REQ	****	Exits the overlay.

—End—

Defining the Message Register for AML message tracing

Introduction

This section provides instructions for updating the Message Register (MGCR) parameter.

The MGCR parameter affects the AML output when message tracing is turned on for the ELAN subnet.

ATTENTION
The MGCR parameter is used by your Nortel customer support representative to troubleshoot your CallPilot Meridian 1. This parameter is not required for normal day-to-day CallPilot operation.

To define the MGCR parameter

Step	Action

1   Load overlay 17.

2   For each prompt listed below, enter the response indicated.

For those prompts that are not listed, you can accept the default by pressing Enter.

Prompt	Response	Description
REQ	CHG	Change
TYPE	PARM	System parameters
MGCR	0 to NCR	Maximum number of call registers used by AUX messaging. The recommended value for CallPilot is 25.
REQ	****	Exits the overlay.

—End—

Configuring Meridian 1 IP addresses and enabling the Ethernet interface

Introduction

If the Meridian 1 switch has not been defined with the necessary IP address information (see below), configure the IP addresses for the Ethernet interface. You must also enable the Ethernet interface, as described in this section.

Notes

- For a single CPU Meridian 1 switch (for example, Option 11C), there is only one Ethernet interface and a primary IP address.

- For a redundant or dual CPU Meridian 1 switch (for example, Option 81C), you must define a primary and secondary IP address.

- The CS 1000 system has a single CPU and, therefore, only one Ethernet interface and a primary IP address.

- If the If the Meridian 1 switch is also connected to a Nortel server subnet, you must define a gateway IP address.

ATTENTION

To change an IP address *after* CallPilot is installed and running, you must do the following:

1. Courtesy stop and shut down CallPilot.

2. Change the IP addresses on the switch, as described in this section.

3. Restart CallPilot.

4. Rerun the CallPilot Configuration Wizard to update the switch IP address information.

To configure the IP addresses and enable the Ethernet interface

The following data is used in examples in this procedure:

Data	Value (examples only)
Primary IP address	47.1.1.10
Primary Host Name	PRIMARY_HOST
Secondary IP address	47.1.1.11
Secondary Host Name	SECONDARY_HOST
Subnet mask	255.255.255.0
Default gateway IP address	47.1.1.1
Network IP address	0.0.0.0

Step	Action
1	Load overlay 117.
2	Perform the following substeps to check the current IP addresses to see if they already match what you plan to configure for CallPilot. If the current values displayed by the following commands must be updated, then continue with the remaining steps in this procedure. Otherwise, go to step 16. a. Type **PRT HOST** and press Enter. b. Type **STAT HOST** and press Enter. c. Type **PRT MASK** and press Enter. d. Type **PRT ELNK** and press Enter.
3	Load overlay 137.
4	Type **DIS ELNK** and press Enter.
5	Type **STAT ELNK** and press Enter.
6	Confirm that the system displays ELNK DISABLED.
7	Load overlay 117.
8	Create a host entry for the primary IP address by entering the following command: **NEW HOST NAME xxx.xxx.xxx.xxx** (where *NAME* is the host name for the primary IP address, and *xxx.xxx.xxx.xxx* is the primary IP address) **Example:** NEW HOST PRIMARY_HOST 47.1.1.10
9	If the Meridian 1 switch has a dual CPU system, create a host entry for the secondary IP address by entering the following command: **NEW HOST NAME xxx.xxx.xxx.xxx** (where *NAME* is the host name for the secondary IP address, and *xxx.xxx.xxx.xxx* is the secondary IP address) **Example:** NEW HOST SECONDARY_HOST 47.1.1.11
10	If the Meridian 1 switch is connected to a Nortel Server Subnet, create a host entry for the gateway IP address by entering the following command:

NEW HOST *NAME* **xxx.xxx.xxx.xxx** (where *NAME* is the host name for the gateway IP address, and *xxx.xxx.xxx.xxx* is the gateway IP address)

Example:

NEW HOST GATEWAY 47.1.1.1

11 Assign a host to the primary IP address and secondary IP address (if applicable) by entering one or both of the following commandscommand:

CHG ELNK ACTIVE *NAME* (where *NAME* is the host name for the primary IP address)

CHG ELNK INACTIVE *NAME* (this is applicable only if the Meridian 1 switch has a dual CPU system; in this example, *NAME* is the host name for the secondary IP address)

Example:

CHG ELNK ACTIVE PRIMARY_HOST (entry for primary host)

CHG ELNK INACTIVE SECONDARY_HOST (entry for secondary host, if the Meridian 1 switch has a dual CPU system)

12 Set up the Ethernet subnet mask by entering the following command:

CHG MASK **xxx.xxx.xxx.xxx** (where *xxx.xxx.xxx.xxx* is the subnet mask)

Example:

CHG MASK 255.255.255.0

13 If using a gateway, ensure that the routing entry is set up and enabled.

If the route has been set up previously (due to an existing Ethernet-connected solution), go to step 14. Otherwise, set up and enable the routing entry as follows:

a. Set up the routing entry by entering the following command:

NEW ROUTE **xxx.xxx.xxx.xxx** **yyy.yyy.yyy.yyy** (where *xxx.xxx.xxx.xxx* is the network IP address and *yyy.yyy.yyy.yyy* is the gateway IP address; put one space between the network IP address and the gateway IP address)

Example:

NEW ROUTE 0.0.0.0 47.1.1.1

b. Enable the route by entering the following command:

ENL ROUTE **x** (where *x* is the number assigned to the ROUTE entry)

14 Update the INET database by entering the following command:

UPDATE DBS

15 Type **** and press Enter to exit the overlay.

16 Load overlay 137.

17 Type **STAT ELNK** and press Enter.

18 If the system displays ELNK ENABLED, then go to step 19.

If the system displays ELNK DISABLED, then do the following substeps:

   a. Type **ENL ELNK** and press Enter.

   b. Type **STAT ELNK** and press Enter.

   c. Confirm that the system displays ELNK ENABLED. Then go to step 19.

19 Load overlay 48.

20 Type **STAT ELAN** and press Enter.

21 If the system displays ELAN ENABLED, then go to step 22.

If the system displays ELAN DISABLED, then do the following substeps:

   a. Type **ENL ELAN** and press Enter.

   b. Type **STAT ELAN** and press Enter.

   c. Confirm that the system displays ELAN ENABLED. Then go to step 22.

22 Load overlay 117.

23 Verify the changes as follows:

   a. Type **PRT HOST** and press Enter.

   b. Type **STAT HOST** and press Enter.

   c. Type **PRT MASK** and press Enter.

—End—

Defining CallPilot in the customer data block
Introduction

You must define the CallPilot service in the customer data block, with the Call Park Allowed (CPA) and Message Center Included (MCI) options enabled.

During this configuration, you also define how unanswered and busy calls are routed:

- Flexible Call Forward (FNAD/FNAN/FNAL) is set on a per customer basis. Define the call forward DN in the user's telephone data.

- Call Forward No Answer/Busy (MDID/NDID/MWFB) is set on a per customer basis. All no answer and busy calls are routed to the flexible call forward DN, provided that the called telephone has the Message Waiting Allowed (MWA) class of service enabled.

Normally, non-Direct Inward Dialing (DID) calls are routed to CallPilot when a no answer or busy condition is encountered. As an option, you can route DID calls to the attendant's or user's Hunt DN.

Meridian 1 software requirements to define CallPilot as an Attendant Overflow Position

The following requirements are in addition to the hardware and software requirements that are listed in "Meridian 1 hardware and software requirements" (page 56):

- minimum software release of X11 Release 24

- package 56 (AOP - Attendant Overflow Position)

To modify the customer data block

Step	Action
1	Load overlay 15.
2	For each prompt listed below, enter the response indicated.
	For those prompts that are not listed, you can accept the default by pressing Enter.

Prompt	Response	Description
REQ	CHG	Change
TYPE	FTR	Customer features and options
CUST	xx	Customer number (0-99)
OPT	CPA MCI	Call Park Allowed and Message Center Included are enabled for the customer.
IDEF	YES or NO	Internal/External Definition Set to YES if Call Forward by Call Type feature (CFCT) is enabled on the Meridian 1 switch.

3 Load overlay 15 again, and then for each prompt listed below, enter the response indicated:

Prompt	Response	Description
REQ	CHG	Change
TYPE	ATT	Attendant consoles
CUST	xx	Customer number (0-99)
ATDN	(0) yyyy	Attendant DN
MATT	NO (YES)	Set to YES if Network Message Service (NMS) has not been purchased. If NMS has been purchased, set the primary Meridian 1 switch to YES and all secondary systems to NO.
AQTT	1-255 (30)	Attendant Queue Timing Threshold in seconds This option requires a minimum of X11 Release 24 as well as the 56 (AOP) package.
AODN	CallPilot CDN	Attendant Overflow DN. Set this prompt to a CallPilot CDN to launch a CallPilot service when the attendant overflows. The SDN Table in CallPilot must have the desired AODN service defined for DN 0. The Meridian 1 switch issues an SCH1872 error, but accepts the DN. This error is a warning that the DN must be a CallPilot CDN. This option requires a minimum of X11 Release 24 as well as the 56 (AOP) package.

4   Load overlay 15 again, and then for each prompt listed below, enter
the response indicated:

Prompt	Response	Description
REQ	CHG	Change
TYPE	RDR	Call Redirection
CUST	xx	Customer number (0-99)
FNAD	FDN	Call forward no answer DID calls are routed to flexible CFNA DN.
FNAN	FDN	Call forward no answer non-DID calls are routed to flexible CFNA DN.
FNAL	FDN	Call forward no answer local calls (with CFCT enabled) are routed to flexible CFNA DN.
CFNA, CFN0, CFN1, CFN2	4	The number of ring cycles before the call is forwarded. The prompts CFN0, CFN1, and CFN2 may appear instead of CFNA, depending on the release installed on the Meridian 1 switch. Refer to your Meridian 1 X11 CS 1000 system X21 documentation for details.
MDID	NO	No answer DID calls are routed to CallPilot.
NDID	NO	No answer non-DID calls are routed to CallPilot.
MWFB	NO	DID calls that encounter a busy condition are routed to CallPilot.

5   Load overlay 15 again, and then for each prompt listed below, enter
the response indicated:

Prompt	Response	Description
REQ	CHG	Change
TYPE	FTR	Customer features and options
CUST	xx	Customer number (0-99)
EEST	(NO) YES	The originating party does not receive DTMF feedback. Set remote Meridian 1 sites to NO.

6 Load overlay 15 again, and then for each prompt listed below, enter the response indicated:

Prompt	Response	Description
REQ	CHG	Change
TYPE	NET	Networking
CUST	xx	Customer number (0-99)
ISDN	(NO) YES	Set to YES only if NMS has been purchased. Otherwise, set to NO.
PNI		NMS only. The Private Network Identifier. Within one network, use the same PNI value in overlays 15 and 16. When you interwork with different networks, enter the PNI of this Meridian 1 switch in overlay 15, and the PNI of the remote Meridian 1 switch in overlay 16.
HLOC		NMS only. Home Location Code (ESN) of the Meridian 1 switch. This can be in the range 100-999.
LSC		NMS only. Local Steering Code (established in the Coordinated Dialing Plan, or CDP) of the Meridian 1 switch. This prompt only appears for 5- or 6-digit dialing plans.
	<Enter>	Press Enter until you reach the end of the overlay (REQ prompt).
REQ	****	Exits the overlay.

—End—

Additional steps to support the Call Forward by Call Type feature

The Call Forward by Call Type (CFCT) feature is installed as part of the base X11X21 software.

Step	Action

1 Load overlay 16.

2 For each prompt listed below, enter the response indicated.

For those prompts that are not listed, you can accept the default by pressing Enter.

Note: IDEF must be set to YES in overlay 15 to support CFCT and for the IDEF prompt to appear in overlay 16 (see "To modify the customer data block" (page 69)).

Prompt	Response	Description
REQ	NEW or CHG	
TYPE	RDB	Route data block
CUST	xx	Customer number (0-99)
ROUTE		Route number
RCLS	EXT	Route class is marked as external.
IDEF	LOC	Use local data to define a call as internal or external.
	<Enter>	Press Enter until you reach the end of the overlay (REQ prompt).
REQ	****	Exits the overlay.

—End—

Configuring the ACD agent queue
Introduction
You must set up only one ACD agent queue to service CallPilot, unless you are enabling the Contact Center Voice Services Support feature (see ""Contact Center Voice Services Support additional requirements" (page 73)" below). This queue holds all the agents that correspond to DS0 channels on the CallPilot server.

Contact Center Voice Services Support additional requirements
If you are enabling the Contact Center Voice Services Support feature, you must set up two additional ACD agent queues: one for ACCESS ports, and one for IVR ports. A segment of the CallPilot ports must be dedicated to the Contact Center Voice Services Support feature.

To configure an ACD agent queue

Step	Action
1	Load overlay 23.
2	For each prompt listed below, enter the response indicated.

For those prompts that are not listed, you can accept the default by pressing Enter.

Prompt	Response	Description
REQ	NEW	Add new data.
TYPE	ACD	Indicates this is an ACD queue.
CUST	xx	Customer number (0–99)
ACDN	yyyy	This is the ACD DN for CallPilot.
MWC	NO	Message Waiting Center
MAXP	zzzz	Maximum number of agents. MAXP must be equal to or greater than the total number of multimedia channels installed on your system.
IVR	YES	Interactive Voice Response queue
CALP	POS or TER	Called Party DN POS - Sends the POSID+DNIS in the called Party DN field in the PCI message TER - Sends the terminating DN in the called Party DN field in the PCI message
ALOG	YES	Provide automatic logon for ACD agents.
	<Enter>	Press Enter until you reach the REQ prompt.
REQ	****	Exits the overlay.

—End—

Configuring ACD agents
Introduction
For CallPilot, you must define channels as ACD agents on M2008 digital sets. All agents are added to the ACD queues that you have configured.

Each agent must have the VCE and MMA class of service. To get the VCE class of service on the upper 16 units (15 to 31), you must first specify the FLXA class of service. Each agent must be provisioned with the following feature keys: ACD, SCN, NRD, MSB, TRN, and AO3.

> *Note:* You can define a more restrictive class of service for the agents (for example, Conditionally Toll Denied [CTD]). Call restrictions in effect for the class of service take precedence over the dialing restriction/permission provided by CallPilot.

Terminal numbers

A Terminal number (TN) is required for each agent.

Integrated server (201i server)
For the 201i server, ACD agents use TNs associated with the slot locations of the 201i server.

> *Note:* The left card slot used by the TNs must be used first.

Tower or rackmount servers
For the tower and rack versions of the CallPilot server, ACD agents use TNs associated with the slot location of the MGate card (NTRB18CA).

Position IDs

You also need a Position ID for each agent. The server uses the position ID to inform the Meridian 1 switch to which agent an incoming call should be routed.

For ease of maintenance, assign sequential numbers to the IDs that are not already in use.

To configure agents

Step	Action

1   Load overlay 11.

2   For each prompt listed below, enter the response indicated.

   For those prompts that are not listed, you can accept the default by pressing Enter.

Prompt	Response	Description
REQ	NEW	
TYPE	2008	ARIES digital set with 8 programmable keys.

Prompt	Response	Description
TN	l s c u	Terminal number of the MGate card (NTRB18CA) (tower and rack server), or the 201i unit, where **l** is the loop, **s** is the shelf, **c** is the card, and **u** is the unit. (For the Option 11C, the TN is **cu** only.)
TN	c u	Terminal number of the MGate card (tower and rack server), or the 201i server, where **c** is the card, and **u** is the unit.
CUST	xx	Customer number (0–99)
CLS	WTA UNR VCE MMA (units 0–15) FLXA VCE MMA (units 16–31)	Voice terminal, Multimedia Agent, Flexible voice/data allowed.
key	0 acd xxxx 0 yyyy	where xxxx is the ACD DN of the CallPilot agent queue, and yyyy is the Position ID of the agent.
key	1 scn zzzz	where zzzz is the single-call non-ringing DN used to make outbound calls.
key	2 msb	Make Set Busy
key	3 nrd	Not Ready
key	4 trn	Transfer
key	5 ao3	Three-Party Conference
AST (For IVR & Access Agents only)	0 1	If you are enabling the Contact Center Voice Services Support feature, you must define 0 and 1 as the AST key 0 and key 1 values. If you are not enabling the Contact Center Voice Services Support feature, then press Enter to skip this prompt.

Prompt	Response	Description
	<Enter>	Press Enter until you reach the end of the overlay (the REQ prompt).
REQ		If you are finished adding agents, enter **** to exit the overlay.
		To add another agent, return to the top of the table.

—End—

Enabling the card slots
Introduction

After you have configured the ACD agents, use overlay 32 to ensure that the card slots used by an MGate card (NTRB18CA) or 201i server are enabled.

Note: The 201i server occupies two slots. Both slots must be enabled to use all ports supported by the 201i server.

To enable the card slots

Note: This procedure uses the syntax **STAT n** and **ENLC n**. This is correct for an Option 11 switch. For larger systems, use the syntax STAT l s c and ENLC l s c, where l is the loop, s is the shelf, and c is the card slot.

Step	Action
1	Load overlay 32.
2	Type **STAT n** and press Enter, where n is the card slot used by an MGate card or 201i server.
	Result: The status of the ACD agents defined for this slot appears. If the ACD agents are disabled, then enable the card slot.
3	Type **ENLC n** and press Enter, where n is the card slot used by an MGate card or 201i server.
4	To verify that the card slot and the ACD agents are enabled, type **STAT n** and press Enter, where *n* is the card slot used by an MGate card or 201i server.

Result: The status of the ACD agents defined for this slot appears.

5 Repeat this procedure for all other card slots used by an MGate card or 201i server.

—End—

Defining the default ACD DN
Introduction

Before you configure the CDN queue, define the default ACD DN that needs to be referenced in the CDN. During normal operation, the CDN is in control mode, and callers are queued to be routed and then answered by CallPilot services. Under error conditions (for example, if the AML link is down), the CDN operates in default mode and calls are routed to the default ACD DN defined for the CDN. This section describes how to set up the default ACD DN so that these calls are handled by the attendant.

For the attendant to process incoming calls to CallPilot when the CDN is in default mode, define a dummy ACD DN and set it to night call forward to the attendant.

Note: This section describes one possible setup for the default ACD DN. The default ACD DN can be defined as an ACD queue with live agents, a Meridian Mail* ACD-DN, or a dummy ACD-DN that is night call forwarded to a phone set.

To create a default ACD DN

Step	Action

1 Load overlay 23.

2 For each prompt listed below, enter the response indicated.

For those prompts that are not listed, you can accept the default by pressing Enter.

Prompt	Response	Description
REQ	NEW	
TYPE	ACD	
CUST	0	Customer number (0–99)
ACDN	xxxx	The ACD DN. Enter this DN as the DFDN in the CDN configuration.
MWC	NO	Message Waiting Center. Set to NO.

Prompt	Response	Description
MAXP	1	This indicates that there are no agents in this queue and it is, therefore, a dummy queue.
NCFW	0	Night call forward to the attendant.
	<Enter>	Press Enter until you reach the end of the overlay (the REQ prompt).
REQ	****	Exits the overlay.

—End—

Configuring CDN queues for messaging services

Introduction

Configure the following CDN queues:

- Configure a primary CDN for Voice Messaging. This becomes the main CDN queue.

- Configure a secondary CDN for Multimedia Messaging, if you want to provide users with fax capability.

  Note: Nortel strongly recommends that you use either a phantom DN or a dummy ACD DN for all other messaging services.

To configure a CDN queue

Step	Action

1   Load overlay 23.

2   For each prompt listed below, enter the response indicated.

For those prompts that are not listed, you can accept the default by pressing Enter.

Prompt	Response	Description
REQ	NEW	
TYPE	CDN	Control DN queue
CUST	xx	Customer number (0–99)

Prompt	Response	Description
CDN	yyyy	The Control DN of the queue. This number must be entered as the SDN for the messaging service in the SDN Table.
DFDN	zzzz	The default ACD DN (see page "Defining the default ACD DN" (page 78)). Calls to the CDN are directed to this ACD DN if the link or CallPilot goes down. Nortel recommends that this is not defined as the ACD DN of the CallPilot ACD queue.
VSID	<Enter>	Press Enter so that the ID is dynamically assigned to the CDN when the ELAN subnet link is established.
	<Enter>	Press Enter until you reach the end of the overlay (the REQ prompt).
REQ		To configure another CDN, return to the top of the table. To exit, enter ****.

—End—

Configuring phantom DNs

Introduction

There are two reasons for configuring phantom DNs on the switch:

- to create dialable numbers for CallPilot services

- to create virtual fax DNs for users who want a separate fax number

---

ATTENTION

Another option is to configure dummy ACD DNs instead of phantom DNs. See "Configuring dummy ACD DNs" (page 85).

Supporting multiple languages

For Fax Item Maintenance, Voice Item Maintenance, Speech Activated Messaging, and Paced Speech Messaging, you might have purchased multiple language support.

This means that, for example, you can create an English and a Spanish version of Voice Item Maintenance if you have these languages installed. To support this, you must create a phantom DN for each supported language. Therefore, in this case, you need two phantom DNs (one for English Voice Item Maintenance and one for Spanish Voice Item Maintenance). This also means that callers must dial a different number to access the service, based on the language they prefer.

Virtual fax DNs for users with fax capabilities

Users who have fax capabilities can have one DN that serves as both their regular extension number and their fax number. In this case, you set up a phone for the user as described in "Provisioning user phonesets" (page 86). The user's phone must be forwarded to the Multimedia Messaging CDN.

However, some users may require two separate DNs—one DN that serves as their regular telephone number, and a second DN that serves as their fax number. For these users, you cannot simply define the virtual fax DN as another DN on the user's telephone. Instead, you must set up a TN as the virtual fax DN. Since physical TNs are more costly, Nortel recommends that you configure phantom DNs instead.

A separate TN is necessary because a single TN (the telephone) can be call forwarded to only one DN (regardless of how many DNs appear on that phone). For these users, you must ensure that their telephone number (the mailbox DN) forwards to the Voice Messaging CDN, whereas their fax number (the virtual fax DN) forwards to the Multimedia Messaging CDN.

> *Note:* When you add the user to CallPilot (as a mailbox owner), you must define this virtual fax DN as one of the user's extension DNs.

To check for existing phantom loops

A phantom loop must exist before you begin to configure phantom DNs. Use overlay 22 to print the configuration record to see if any phantom loops are already configured. A phantom loop is shown with the prefix "P", illustrated in this example:

> *Note:* You can use superloops as phantom loops.

.
CEQU
MPED 8D
SUPL 000 004 008 012
016 032 036 040
048 P064 P068 (phantom loops 64 and 68)
DDCS
.
.

If no phantom loops are configured, then continue with . If a phantom loop is configured, then go to .

To configure a phantom superloop

Step	Action

1   If no phantom loops are configured, load overlay 97.

2   For each prompt listed below, enter the response indicated.

For those prompts that are not listed, you can accept the default by pressing Enter.

Prompt	Response	Description
REQ	CHG	
TYPE	SUPL	Superloop
SUPL	Nxxx	Prefix the loop number with N to create a phantom loop.
		The loop number range is 0–156 on Option 51C/61C/81C. On Option 81/81C, the loop range is 0–252 on Release 25 or later.
		On the Option 11C on X11 Release 23.55, the phantom loop number range is 64–80 in multiples of 4 (corresponds to slots 41–60). On the Option 11C on X11 Release 24 or higher, the range is 96–112 in multiples of 4 (corresponds to slots 61–80).
SUPL	Nxxx	Prefix the loop number with N to create a phantom loop.
		The loop number range is 96–112 in multiples of 4 (corresponds to slots 61–80).

Prompt	Response	Description
	<Enter>	Press Enter until you reach the end of the overlay (the REQ prompt).
REQ	****	Exits the overlay.

—End—

To configure a phantom DN

Step	Action

1   Load overlay 10.

2   For each prompt listed below, enter the response indicated.

For those prompts that are not listed, you can accept the default by pressing Enter.

Prompt	Response	Description
REQ	NEW	
TYPE	500	PBX set type
TN	l s c u	Terminal number, where **l** is the loop, **s** is the shelf, **c** is the card, and **u** is the unit. (For the Option 11C, the TN is **cu** only.) PHANTOM is echoed by the switch when the specified loop is phantom.
TN	c u	Terminal number, where **c** is the card, and **u** is the unit. PHANTOM is echoed by the switch when the specified loop is phantom.

Prompt	Response	Description
CDEN	xx	The card density supported by the loop, where xx can be DD - double density 4D - quadruple density
DN	yyyy	The DN must be single appearance.
CLS	WTA UNR	Unrestricted. Phantom DNs cannot originate calls, so this option is secure.
FTR	DCFW nn xxxx	DCFW = Default Call Forward nn = maximum number of digits in the DCFW DN xxxx = the CDN to which this DN forwards If this phantom DN is for a voice service, enter the Voice Messaging CDN. If this phantom DN is for a fax service, enter the Multimedia Messaging CDN. If this phantom DN is a virtual fax DN for a user, enter the Multimedia Messaging CDN.
	<Enter>	Press Enter until you reach the end of the overlay (REQ prompt).
REQ		If you are finished adding phantom DNs, enter **** to exit. To add another DN, return to the top of the table.

—End—

Configuring dummy ACD DNs

Introduction

As an alternative to creating phantom DNs for directly dialable services, you can create a dummy ACD DN that is set up to call forward to the appropriate CDN depending on the multimedia channel type required.

Example

*   For a service that requires only voice capability, forward the dummy ACD DN to the Voice Messaging CDN.

*   For a service that requires fax capability, forward the dummy ACD DN to the Multimedia Messaging CDN.

To configure dummy ACD DNs

Step	Action
1	Load overlay 23.
2	For each prompt listed below, enter the response indicated.

For those prompts that are not listed, you can accept the default by pressing Enter.

Prompt	Response	Description
REQ	NEW	
TYPE	ACD	
CUST	xx	Customer number (0–99)
ACDN	xxxx	Enter the DN for the service.
MWC	YES or NO	Message Waiting Center. If the CallPilot server is a Network Message Service (NMS) satellite site, set to YES. Otherwise, set to NO.
MAXP	1	This indicates that there are no agents in this queue and it is, therefore, a dummy queue.
NCFW	yyyy	Specify the appropriate CDN depending on multimedia channel type required (Voice Messaging CDN or Multimedia Messaging CDN).
	<Enter>	Press Enter until you reach the end of the overlay (the REQ prompt).
REQ	****	Exits the overlay.

—End—

Provisioning user telephones

Introduction

You must set up users' telephones in a certain way to support CallPilot. The procedure depends on whether you are provisioning a digital telephone or a 500 telephone.

Required features

You must set up telephones to support the following features:

- Call forward no answer to the appropriate CDN (voice or multimedia)

    Note: You cannot forward users' telephones to the Speech Activated Messaging CDN since this service does not provide call answering functionality.

- Call forward busy to the appropriate CDN

- Call forward all calls to the appropriate CDN

- Message Waiting key with the appropriate CDN as the Message Center DN

    Note: If you do not plan to give fax capability to the user's mailbox, use the Voice Messaging CDN. If you plan to give fax capability to the user's mailbox, then use the Multimedia Messaging CDN.

To provision digital telephones

Step	Action
1	Load overlay 11.
2	For each prompt listed below, enter the response indicated in overlay 11.

For those prompts that are not listed, you can accept the default by pressing Enter.

Prompt	Response	Description
REQ	NEW or CHG	
TYPE	2317, 2008, and so on	Type of set.

Prompt	Response	Description
TN	l s c u	Terminal number of the phone, where **l** is the loop, **s** is the shelf, **c** is the card, and **u** is the unit. (For the Option 11C, the TN is **cu** only.)
TN	c u	Terminal number of the phone, where c is the card, and u is the unit.
CUST	xx	Customer number (0–99)
FDN	yyyy	Flexible call forward no answer DN. Set this to the CDN of the Voice Messaging or Multimedia Messaging CDN queue.
HUNT	zzzz	Hunt (internal). Set this to the CDN of the Voice Messaging or Multimedia Messaging CDN queue.
CLS	WTA, UNR, FNA, FBA, HTA, MWA	Call forward no answer allowed. Call forward busy allowed. Hunt allowed. Message waiting allowed.
KEY	0 SCR xxxx	Single call ringing DN, where xxxx is the user's DN.
CPND	New	Calling Party Name Display (if adding a new set).
NAME	First,Last	The name of the telephone user.
KEY	3 MSB	Make set busy
KEY	4 TRN	Transfer
KEY	5 AO3	Three-party conference. Required by the Call Sender feature.
KEY	6 CFW nn xxxx	Call forward all calls, where nn is maximum number of digits in the Call Forward DN, and xxxx is the Voice Messaging or Multimedia Messaging CDN.
KEY	8 MWK yyyy	Add a message waiting key/lamp, where yyyy is the Voice Messaging or Multimedia Messaging CDN.

Prompt	Response	Description
	<Enter>	Press Enter until you reach the end of the overlay (the REQ prompt).
REQ		If you are finished adding telephones, enter **** to exit. To add another telephone, return to the top of the table.

—End—

To provision 500/2500 telephones

Step	Action
1	Load overlay 10.
2	For each prompt listed below, enter the response indicated.

For those prompts that are not listed, you can accept the default by pressing Enter.

Prompt	Response	Description
REQ	NEW	
TYPE	500	500 telephone
TN	l s c u	Terminal number of the phone, where **l** is the loop, **s** is the shelf, **c** is the card, and **u** is the unit. (For the Option 11C, the TN is **cu** only.)
TN	c u	Terminal number of the phone, where **c** is the card, and **u** is the unit.
CUST	xx	Customer number (0–99)
DN	yyyy	Directory number
HUNT	zzzz	Hunt (internal). Set this to the CDN of the Voice Messaging or Multimedia Messaging CDN queue.

Prompt	Response	Description
CLS	WTA, UNR, HTA, MWA, FNA, FBA, XFA, LPA, DTN	Hunt allowed. Message waiting allowed. Call forward no answer allowed. Call forward busy allowed. MWI lamp is equipped (if not equipped, users are notified of new messages by interrupted dial tone).
FTR	FDN xxxx	Flexible call forward no answer. Set this to the Voice Messaging or Multimedia Messaging CDN.
FTR	CFW yy	Call forward all calls, where yy is the maximum DN length that users can specify as the call forward DN.
	<Enter>	Press Enter until you reach the end of the overlay (the REQ prompt).
REQ		If you are finished adding telephones, enter **** to exit.
		To add another telephone, return to the top of the table.

—End—

Configuring the route data block for Network Message Service
Introduction
If you have purchased Network Message Service (NMS) to allow a number of switches to share CallPilot (installed on only one switch), then configure the route data block. This section provides instructions for this step.

For details on additional switch configuration for NMS, refer to the "Configuring the switches" chapter in the CallPilot *Network Planning Guide* (NTP NN44200-201).

Note: Ensure that Digit Manipulation (DMI in overlay 86) is not used to insert ESN access codes at the sending switch. ESN access code insertion must be done at the receiving switch (INAC in overlay 16).

To modify the route data block

Step	Action

1 Load overlay 16.

2 For each prompt listed below, enter the response indicated.

For those prompts that are not listed, you can accept the default by pressing Enter.

Prompt	Response	Description
REQ	NEW or CHG	
TYPE	RDB	Route data block
CUST	xx	Customer number (0–99)
ROUTE		Route number
PNI		Customer Private Network ID of the non-local target Meridian 1 switch
NCRD	Yes	Network call redirection provides the CLID display information.
TRO	Yes	Optimize trunk usage on this route.
INAC	Yes	Insert an ESN access code to incoming private network calls.
	<Enter>	Press Enter until you reach the end of the overlay (REQ prompt).
REQ	****	Exits the overlay.

—End—

Saving Meridian 1 changes

Introduction

Once you modify the switch configuration to support CallPilot, save all changes to disk.

To save the configuration

Step	Action

1 Load overlay 43.

2   At the next "." prompt, type **EDD** to dump the data to disk.

Result: The system displays the data being saved. The following
message appears:
```
RECORD COUNT=xxxx
DATADUMP COMPLETE
```

3   *If you are on a 61C or 81C*, return to step 2, and repeat this step two
more times. Use a new disk each time.

If you are on an 11C, continue to What is next?.

ATTENTION
Do not remove the disk while the LED is lit. As long as the LED is on, the disk is still being written to.

—End—

What is next?

Continue with

Chapter 5
Configuring the CallPilot server software

In this chapter

Overview

Introduction

The Configuration Wizard enables you to configure the CallPilot server software. You can rerun the Configuration Wizard to update or review the server configuration.

The Configuration Wizard is accessible from CallPilot Manager (a web-based user interface). This chapter describes how to

- log on to the operating system on the CallPilot server

- log on to the CallPilot server with CallPilot Manager

- run the Configuration Wizard

- change the pcAnywhere caller passwords or set the Remote Desktop Policy

- configure CallPilot to operate in a Windows 2000 or 2003 domain

> **CAUTION**
> **Risk of improper configuration**
> You must use the Configuration Wizard to change the computer name. If you use the operating system method to change the computer name, it is not properly updated in the CallPilot software.

Plan your responses to the Configuration Wizard
Ensure you have planned your responses to the Configuration Wizard by completing the "Configuration Wizard worksheet" in the *CallPilot Installation and Configuration Task List*.

Online Help for the Configuration Wizard
Each page in the Configuration Wizard contains a Help button and provides detailed instructions regarding the selection or data entry required. Click Help at any time to get additional instructions.

Running the Configuration Wizard to detect replacement boards
When you replace MPB boards or MPC-8 cards, you must rerun the Configuration Wizard to detect and initialize the hardware. You do not need to change any data in the Configuration Wizard to perform this operation, but you do need to apply the configuration changes as instructed on the last page of the Configuration Wizard.

Logging on to Windows 2003 on the CallPilot server
Introduction
If you want to access CallPilot Manager from the web browser embedded on the CallPilot server, you must first log on to Windows 2003 on the CallPilot server. Alternatively, you can access CallPilot Manager from any PC that has network access to the CallPilot server.

> **ATTENTION**
> When the system starts up, a mini-setup process launches which consists of a number of restarts. When this process is completed, the Windows Logon screen appears.

> **ATTENTION**
> When logging on, ensure that the CAPS key is not on. The password is case-sensitive.

To log on to Windows 2003 on the CallPilot server

Step	Action
1	Ensure that the CallPilot server has started and the operating system logon dialog box appears.
2	Enter the user ID and password.

User ID	**Administrator**	You can choose to log on with a different user ID that has local administrative privileges.
Password (default)	**Bvw250** (or current Administrator password if it has been changed)	Change passwords for operating system accounts from default values to strong values known only to the customer. CallPilot security is ultimately only as secure as the passwords used.

Step	Action
3	Click **OK**.
4	Continue with "Running the Setup Wizard" (page 95).

—End—

Running the Setup Wizard

After you enter the user ID and password, the CallPilot Setup Wizard welcome screen appears.

Note: For more information on the Setup Wizard, please refer to the *Upgrade and Platform Migration Guide* (NTP NN44200-400).

To run the Setup Wizard

Step	Action
1	Read the information displayed on the screen and click Next. **Result:** The Need SU/PEP Installation? screen appears.
2	If there are Service Updates (SUs) or PEPs available, you can choose to install them now. Select Yes or No and click Next. *If you choose Yes, install SU/PEPs:* **Result:** The Installing SU/PEP screen appears. a. Install all the required SUs and PEPs.

> *Note:* Restart your computer (if required) after all SUs and PEPs are installed.

b. Click Next to continue if no restart is required. Otherwise, restart the Wizard.

If you choose No, do not install SU/PEPs now.
Result: The Platform Validity Check screen appears.

3 View the items on the validity check and click Next.

4 When the system asks you if you have data to restore, select No.

5 Click Next to complete the Setup Wizard.

Result: The Finished screen appears.

6 Read the information displayed on the Finished screen and click Finish.

7 Continue with .

—End—

Logging on to the CallPilot server with CallPilot Manager
Introduction
The Configuration Wizard is a menu item in CallPilot Manager. CallPilot Manager is the web-based CallPilot management tool, and can be accessed from any PC that has network access to the CallPilot server.

You can also access CallPilot Manager from the web browser on the CallPilot server. This may be the simplest method when installing CallPilot for the first time.

Logon process overview
The process for logging on to the CallPilot server with CallPilot Manager is the same for remote or local CallPilot servers. The logon process is completed in two stages:

1. Launch the web browser (on the CallPilot server, or on any PC that has network access to the CallPilot server), and then connect to CallPilot Manager.

   For new installations, CallPilot Manager is located on the CallPilot server. The URL syntax is

   http://*CallPilot server host name or IP address*/cpmgr/

Example: http://sunbird/cpmgr/, where sunbird is the host name.

If you installed CallPilot Manager on a stand-alone web server (a separate PC that functions as a web server for CallPilot), the URL syntax is http://*web server host name or IP address*/cpmgr/

> *Note:* For more details, see "Relationship of the CallPilot Manager web server to the CallPilot server" (page 97).

2. Log on to the CallPilot server with an administrator's mailbox number and password.

Relationship of the CallPilot Manager web server to the CallPilot server

The CallPilot Manager web server software can be installed on the CallPilot server or on a stand-alone server. If the CallPilot Manager web server software is installed on a stand-alone server, you must know the CallPilot Manager server's host name or IP address, as well as the CallPilot server's host name or IP address.

See the following diagrams:

```
CallPilot Manager web server is on the CallPilot server

  ┌─────────────────────────────┐
  │  CallPilot server           │      CallPilot server host name: sunbird
  └─────────────────────────────┘
                ▲
  ┌─────────────────────────────┐
  │  CallPilot Manager web server│     Web server host name: sunbird
  └─────────────────────────────┘
                ▲
  ┌─────────────────────────────┐
  │  Web browser on admin PC    │
  │                             │
  │  Connect to http://sunbird/cpmgr/,
  │  and then use CallPilot Manager
  │  to log on to sunbird.      │
  └─────────────────────────────┘
```
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CallPilot Manager web server is on a stand-alone web server

CallPilot server — CallPilot server host name: thunderbird

CallPilot Manager web server — Web server host name: sunbird

Web browser on admin PC

Connect to http://sunbird/cpmgr/, and then use CallPilot Manager to log on to thunderbird.

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To log on to the CallPilot server

Step	Action

1 Launch the web browser on your PC or on the CallPilot server.

IF you are launching the web browser on	THEN
the CallPilot server	the CallPilot Manager - Login page appears automatically. Continue with step 2.
your PC	enter the CallPilot Manager web server's URL in the Address or Location box of your web browser, and then press Enter. **Example:** http://sunbird/cpmgr/ When the connection is established, the CallPilot Manager - Login page appears. Continue with step 2.
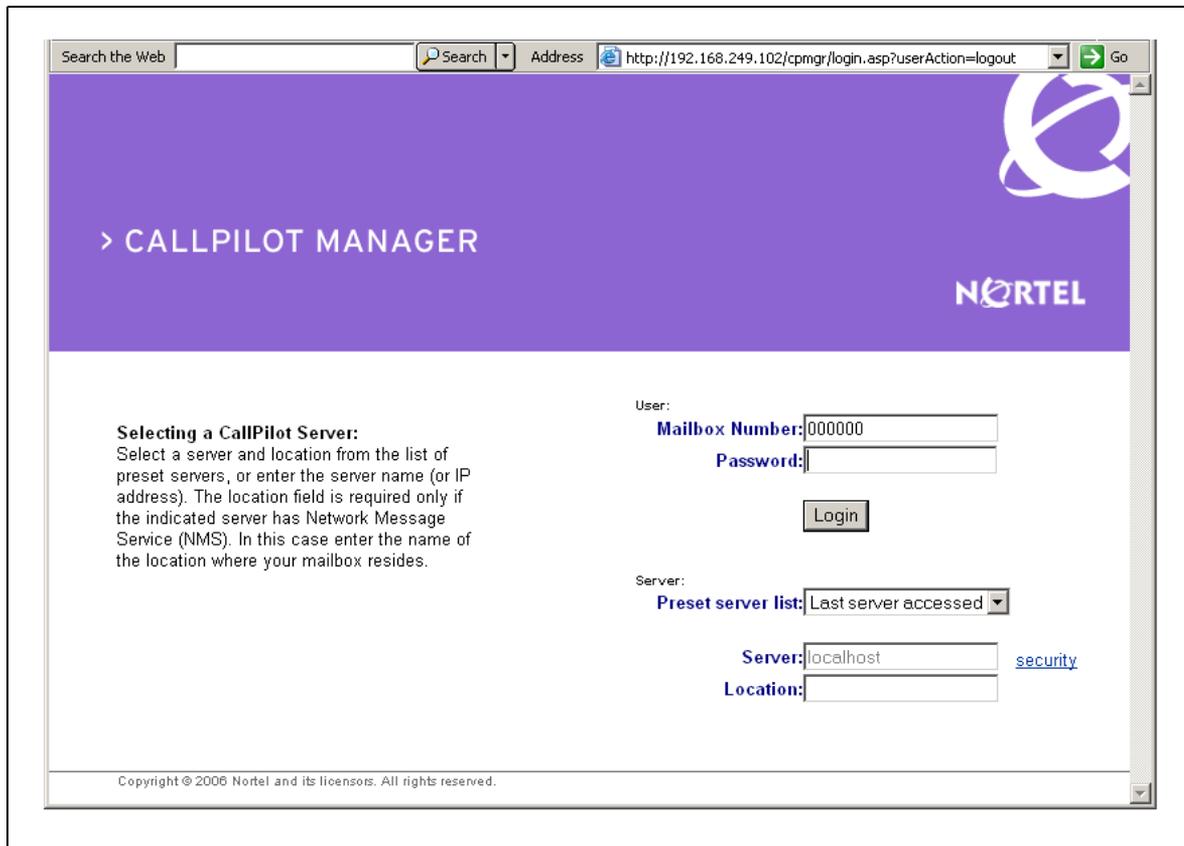
Note: The URL automatically appears as http://<host name or IP address>/cpmgr/login.asp. On the CallPilot server, the URL is http://localhost/cpmgr/login.asp.

2   Enter the administration mailbox number and password.

The administrator mailbox number is **000000**. The default password is **124578**.

3   Do one of the following:

- Enter a server or location by one of the following methods:

    — choosing the list of preconfigured servers or locations in the Preset server list box

    — choosing the Last Server Accessed item

    — entering the address manually

- Type the CallPilot server host name or IP address in the Server box.

    Note: If you are logging on to the CallPilot server from a PC, type the actual CallPilot server name or IP address

in the Server box. If you type local host instead of the CallPilot server name or IP address, you cannot establish an Application Builder connection to the CallPilot server from CallPilot Manager or make calls to the telephone to play or record greetings.

* If the CallPilot server that you are connecting to has Network Message Service (NMS) installed, type the CallPilot server host name or IP address in the Server box, and then type the name of the switch location on which the administration mailbox resides in the Location box.

4 Click Login.

Result: The main CallPilot Manager page appears.
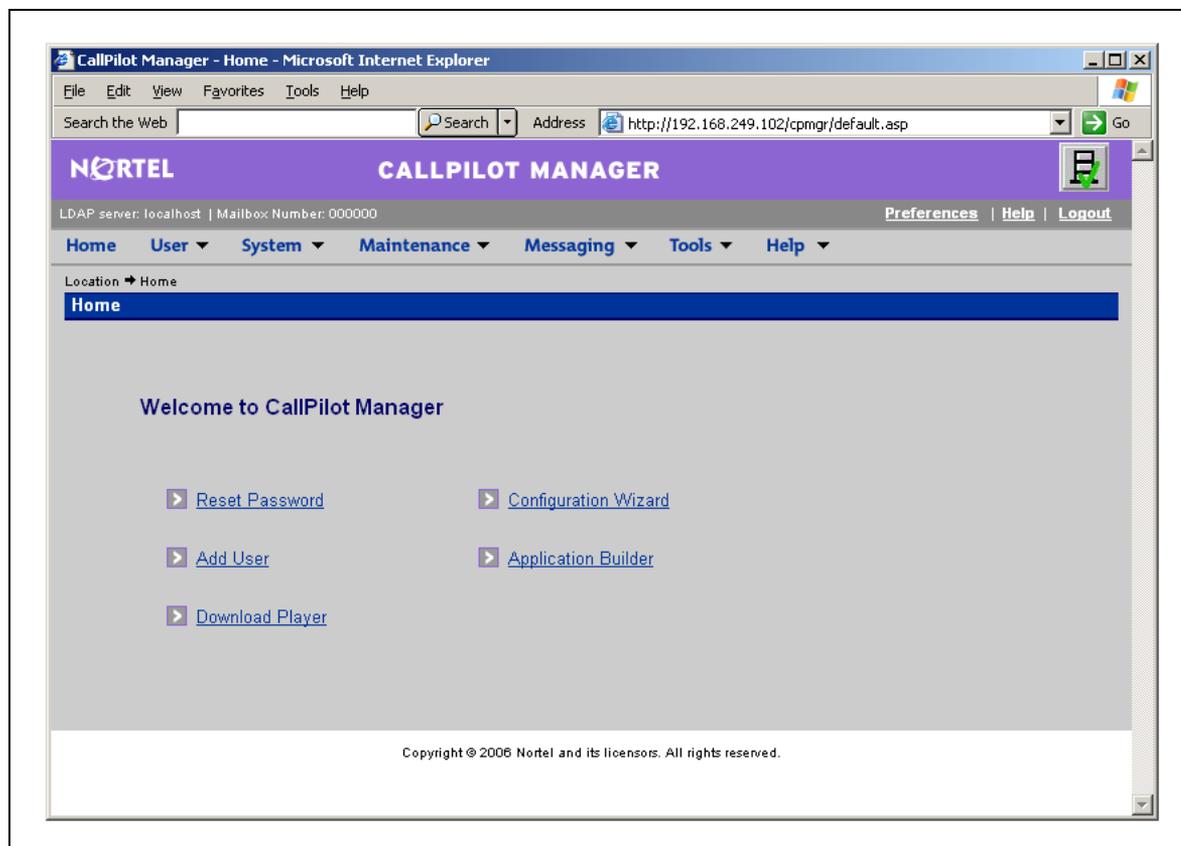
Note: Logging on for the first time forces you to change the password using numeric characters. (This is not a strong password, as described in the *CallPilot Fundamentals Guide.*)

5 Continue with "Running the Configuration Wizard" (page 101).

—End—

Running the Configuration Wizard

Introduction

This section describes how to access and run the Configuration Wizard.

Requirements

- CallPilot language CD, if you are installing, adding, or upgrading languages
- completed "Configuration Wizard worksheet" from the *CallPilot Installation and Configuration Task List*
- CallPilot keycode and dongle ID (serial number)

To run the Configuration Wizard

Step	Action

> ### ATTENTION
>
> For each page in the Configuration Wizard, follow the instructions on the page. Use the information you recorded in the "Configuration Wizard worksheet" in the CallPilot Installation and Configuration Task List. If you need additional instructions, click Help.
>
> If you are rerunning the Configuration Wizard, some pages may be prefilled. Some pages also contain default values. If the prefilled information does not match the information planned for this server, then update any prefilled values as required.

1   Log on to CallPilot Manager. See .

2   Click the Configuration Wizard shortcut on the main CallPilot Manager page, or select Tools → Configuration Wizard.

   Result: The Welcome page of the Configuration Wizard appears.

3   Click Next to go to the next page.

4   Read the instructions carefully on each page. Click Help on the Configuration Wizard page if you need additional instructions. When you are finished with a page, click Next to continue.

   Note: If you would like to change the CallPilot administrator account password while the CallPilot server is in a domain, follow the below steps:

   a.   Log on with one of the CallPilot local accounts.

   b.   Right-click on My Computer and select Properties.

c. Select Computer Name.

d. Click Change and select Workgroup.

e. Enter WORKGROUP as the workgroup name.

f. Restart and log on with one of the CallPilot local accounts.

g. Run the Configuration Wizard to change the CallPilot passwords or the CallPilot server host name.

5 When you reach the end of the Configuration Wizard, click Finish to save the Configuration Wizard changes, or click Cancel to discard any changes. No changes are implemented unless you click Finish.

Result: The Configuration Wizard requires up to an hour to apply changes, depending on the number of languages you are installing or updating, and the size of the system. When CallPilot completes the configuration changes, you are prompted to restart the server.

6 Restart the server.

Note: Ensure you use the restart procedure documented in the *CallPilot Installation and Configuration Task List.*

Result: The server restarts and the configuration changes are in effect.

Note: If you run the Configuration Wizard after your CallPilot server is added to a domain, two procedures do not work until you remove the server from the domain. The two procedures are: changing the computer name, and changing the local administrator account. For more information, refer to "Configuring CallPilot to operate in a Windows 2000 or 2003 domain" (page 106).

—End—

Considerations on configuring STI links for the CallPilot tower and rackmount servers

The Configuration Wizard application is used to configure the switch telephony interface (STI) links and the DS0 channels between the MGate cards in the Meridian 1 Meridian 1 switch and the MPB16-4 or MPB96 boards in the CallPilot server. Each MPB16-4 board can have two STI links and each STI link can have a maximum of 32 DS0 channels. Each MPB96 board can have three STI links. Refer to the Configuration Wizard online help for more information on configuring the STI links and the DS0 channels.

If your CallPilot server contains two MPB16-4 boards connected to two MGate cards and you need more than 32 DS0 channels between the CallPilot server and the switch, then you must configure both STI links on MPB16-4 #1 before starting to configure the STI links on MPB16-4 #2. Start configuring the STI links on MPB16-4 #2 only when you need more that 64 DS0 channels. Make sure that you are always able to identify the MPB16-4 boards.

If you configure an STI link on MPB16-4 #2 before configuring both STI links on MPB16-4 #1, the DS0 channels on MPB16-4 #2 are not functional. As a result, you experience no voice in the slot that holds the MPB16-4 #2 board.

What is next?

Your next step will depend on your choice of a remote support tool.

- If you are using pcAnywhere, continue to "Changing pcAnywhere caller passwords" (page 103).

    Note: pcAnywhere is not supported on the CallPilot 201i system. Continue to "Setting Remote Desktop Policy on a Server" (page 104).

- If you are using Remote Desktop Connection, continue to "Setting Remote Desktop Policy on a Server" (page 104).

Changing pcAnywhere caller passwords

Introduction

With pcAnywhere, you can perform advanced administrative tasks on the server from a remote PC. You can control the server as though you were directly connected to the server.

pcAnywhere is installed and configured on the server at the factory. One licensed copy of pcAnywhere is provided for the server on the CallPilot Application CD-ROM.

To install pcAnywhere on another PC, you must purchase a separate license. For instructions on how to install and configure pcAnywhere on another PC, refer to the *CallPilot Administrator's Guide* (NTP NN44200-601).

To change pcAnywhere caller passwords

Step	Action
1	Stop the pcAnywhere session, if one is running.
2	Click Start → Programs → Symantec pcAnywhere. **Result:** The Symantec pcAnywhere window opens.
3	Click the Hosts icon in the pcAnywhere section of the Symantec pcAnywhere window.

Result: The list of hosts is displayed.

4 Right-click the CallPilot Support icon, and then choose Properties from the pop-up menu.

Result: The Host Properties: CallPilot Support dialog box appears.

5 Click the Callers tab.

6 Right-click the CallPilotDist icon, and then choose Properties from the pop-up menu.

7 In the Password box, type a new CallPilotDist password.

8 In the Confirm Password box, type the CallPilotDist password again.

9 Click Apply.

10 Click OK.

11 Click OK to return to the main Symantec pcAnywhere window.

12 Double-click the CallPilot icon to restart the pcAnywhere session.

—End—

What is next?
Continue to .

Setting Remote Desktop Policy on a Server

CallPilot server comes with the Remote Desktop server enabled and configured for use by default. If necessary, remote desktop access can be enabled or disabled as follows:

To enable or disable remote desktop access

Step	Action
1	From the CallPilot server desktop, right-click My Computer, then choose Properties, and click on the Remote tab.

Result: The System Properties screen appears.

2   Ensure the Allow users to connect remotely to this computer option
is selected. Click OK to close the window.

3   Open the Group Policy Snap-in to choose from the five options
available for remote control settings. Open a command prompt
window by clicking Start > Run.

Result: The Open window appears.

4   Type `gpedit.msc` and click OK or press Enter.

Result: The Group Policy Object Editor window appears.
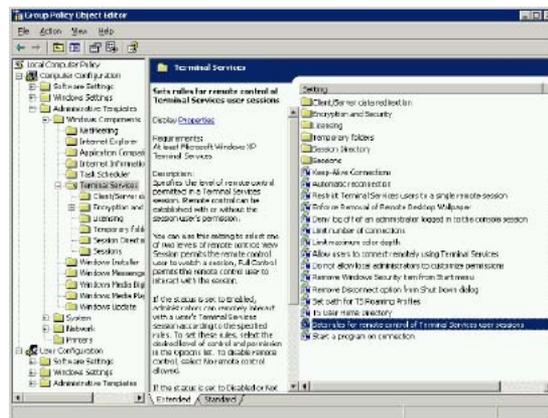
5   On the left side of the window, expand Computer Configuration,
Administrative Templates, Windows Components, and then select
Terminal Services.

6   On the right side of the window, double-click Sets Rules for Remote
Control Terminal Services User Sessions.

7   The Sets Rules for Remote Control Terminal Services User Sessions window appears.

8   Select Enabled to load options into the box.

9   The default and recommended setting for CallPilot is Enabled with Full Control without User's Permission selected. This setting allows for RDC sessions without requiring interaction or consent from a local console user.

Adjust the settings as required, and click OK to close the screen.

10   Click File > Close to close the Group Policy Object Editor.

—End—

Note: For instructions on installing and configuring Remote Desktop Connection (RDC), refer to the *CallPilot Troubleshooting Reference Guide* (NN44200-700).

What is next?
Continue to "Configuring CallPilot to operate in a Windows 2000 or 2003 domain" (page 106).

Configuring CallPilot to operate in a Windows 2000 or 2003 domain
Introduction
Nortel supports CallPilot as a member in a Windows 2000 or 2003 domain. Customers can add their server machine to a Windows 2000 or 2003 domain for added security and manageability. Whether you are upgrading to CallPilot 5.0 or installing a new CallPilot 5.0 system, you can move your server from a Windows workgroup to a Windows 2000 or 2003 domain.

Note: You do not need to add CallPilot to a domain. This procedure is optional. Nortel will continue to support CallPilot 5.0 in a workgroup. If you do not want to add your server to a domain, continue with Chapter 6 "Testing the CallPilot installation" (page 117).

To add your CallPilot server to a domain, you require network administrator privileges. To perform this procedure, you can either work with your network administrator, or ask your network administrator to create a user account with network administrator privileges.

When you add your CallPilot server to a domain, Nortel recommends that you refer to the latest Distributor Technical Reference (DTR), available on the PIC web site (www.nortel.com/pic).

This section describes how to:

*   set domain group policy

- add your CallPilot server to the domain

- stop and disable Win32 Time Service on the CallPilot server

- set up user accounts for remote access

- run Configuration Wizard in a domain

To set domain group policy

When you install Release 5.0 of CallPilot, the installation creates local accounts that contain default strong passwords of six characters. As a result, your local domain group policy can conflict with these default settings. The administrator account can be affected. Refer to "Running the Configuration Wizard" (page 101) for information on how to change these user accounts.

If you identify conflicts, you can adjust your group policies for CallPilot, or you can exclude the CallPilot server machine from a specific group policy.

When you add your CallPilot server to a domain, you must also consider that the Windows 2003 Domain Controller determines the security policy that applies to the server.

>   *Note:* Nortel strongly recommends that you add the server to a domain *after* running the Configuration Wizard.

To add CallPilot server to a domain

After you install and configure your CallPilot server, and you confirm that your network administrator has set up a Domain Controller and a DNS server on the network, you can add your server as a member of an existing domain.

To add the server as a member of an existing domain

Step	Action
1	On the CallPilot server, courtesy stop all CallPilot channels. Refer to the *Installation and Configuration Task List Guide* (NTP NN44200-306), for more information.
2	Compare the M1/CS 1000 time to the time on the Domain Controller, or the time on any existing Domain member computer.

>   *Note 1:* Nortel recommends that the difference between the M1/CS 1000 time and the Domain Controller time does not exceed 10 seconds.

>   *Note 2:* The CallPilot server time is updated by the M1/CS 1000 time, so when you change the M1/CS 1000 time, the CallPilot server time is also updated.

    a. If the difference in the M1/CS 1000 time and the Domain Controller time is greater than 10 seconds, go to Step 3 to change the M1/CS 1000 time to match the Domain Controller time.

    b. If the difference in the M1/CS 1000 time and the Domain Controller time is less than 10 seconds, go to Step 4. You do not need to adjust the time.

3 To change M1/CS 1000 time to match the Domain controller time, perform the following steps:

    a. Log on to the M1/CS 1000 server and go to LD 2.

    b. Enter TTAD and press **Return**.

    Result: The current M1/CS 1000 format for the time and the time appear. An example is:

    <day> <month> <year> <hour> <minute> <sec> 12 01 2005 22 35 00

    c. Enter STAD and press **Return**.

    Result: The time and date appear. An example is:

    <day> <month> <year> <hour> <minute> <sec> 12 01 2005 22 35 00

    d. Change the time to match the Domain Controller time.

    Note 1: Nortel recommends that you keep the time difference between the M1 and the Domain Controller time to within a few seconds (+/- 10 seconds). The maximum difference can be up to five minutes before Kerberos authentication problems can arise. Once a month, check the times on the M1/CS 1000 and the domain to ensure that the five minute tolerance is not exceeded. If the time difference is exceeded by five minutes, you can experience problems with Event Viewer, audit logs, and local system network shares. You can also receive messages on the local server that indicate that the CallPilot server time is out of synchronization with the Domain Controller. Day-to-day operation of the CallPilot server, however, should not be affected.

    Note 2: For normal CallPilot operation, support, and maintenance, you must create a domain user account. In order for you to receive administrator privileges on the local server, the CallPilot administrator must add the domain user account to the CallPilot local administrator group.

4 Exit the pcAnywhere session if it is running.

5 On the CallPilot server Windows desktop, right-click on **My Computer**, and then select **Properties**.

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6   In the **System Properties** window, click the **Computer Name** tab.

Result: The following System Properties window appears.
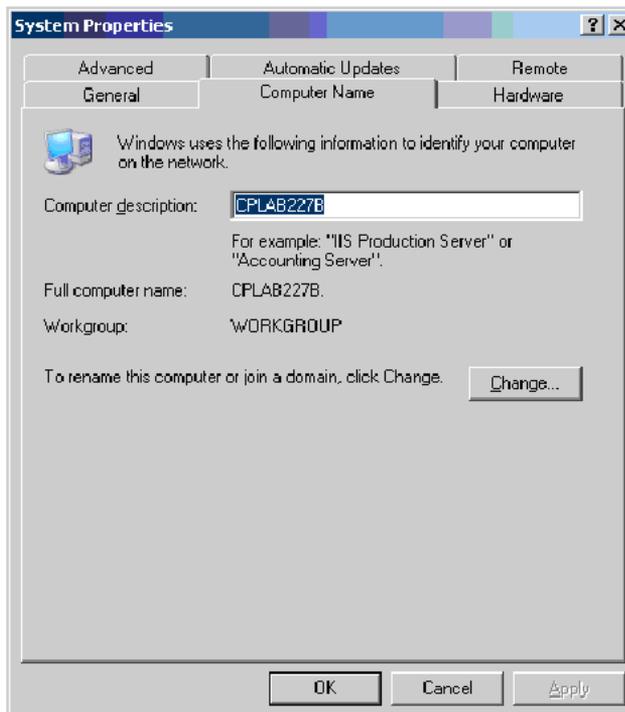
7   Click **Change**.

Result: The Computer Name Changes window appears.

8   To add the server to an existing domain, click the **Domain** option button in the **Member of** pane, and then type the name of the domain.

9 Click **OK**.

Result: The Domain Username And Password window appears.

10 Enter the username and password from the user account on the Domain Controller that has remote access privileges.

Note: You need a domain administrator username and password.

11 Click **OK**.

Result: When the system processes your change successfully, the following dialog box appears, notifying you that the server now belongs to the specified domain.

12 Click **OK**.

13 Click **Yes** to restart your computer.

—End—

To stop and disable the Win32 Time Service

Note: If you are on a T1/SMDI switch, this procedure does not apply to a T1/SMDI system.

To prevent the Domain Controller from controlling the CallPilot server time, you must disable the Win32 time Service on the CallPilot server. This allows the M1 or CS 1000 switch to continue to control the CallPilot server time.

To stop and disable the Win 32 Time Service

Step	Action
1	Log on to the CallPilot server.

2   Right-click on **My Computer** and select **Manage > Services and Applications > Services**.

Result: The Computer Management window appears:
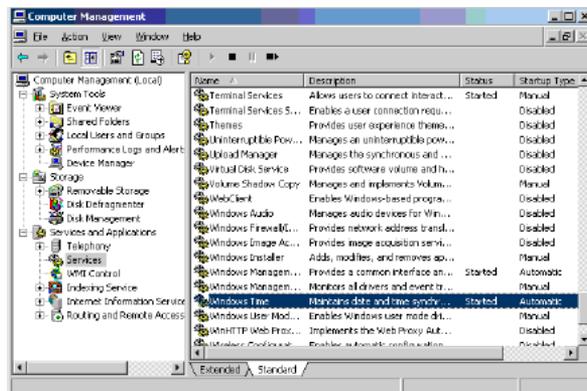
a.   In the right pane, right-click on **Windows Time** and select **Stop**.

b.   When the Service stops, right-click on **Windows Time** and select **Properties > General tab**.

Result: The Windows Time Properties (Local Computer) window appears:
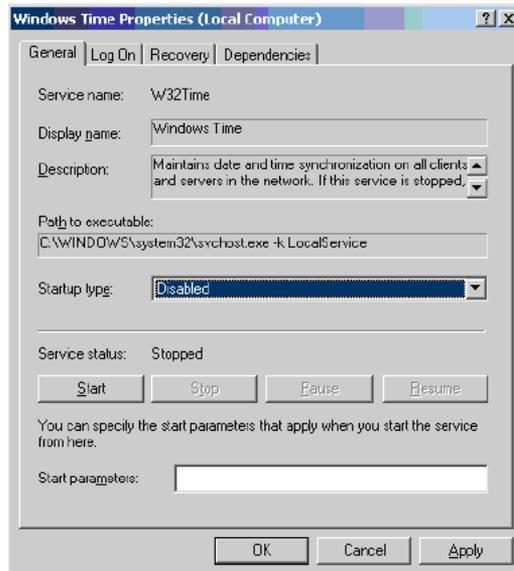
c.   Select **Disabled** from the **Startup type** menu.

d.   Click **Apply**, and then click **OK**.

e.   On the **Computer Management** window, verify that the Windows Time service is disabled.

f. Close the **Computer Management** window.

—End—

To set up user accounts for remote access domain

In a Windows Server 2003 domain environment, you must create a dial-up user as a Domain user on the Domain Controller and assign dial-in access permissions to this user. When dialing in to the RAS configuration CallPilot Release 5.0 server, the Domain controller authenticates the username and password.

Note: Local dial-in access is no longer available for the local administrator account through Routing and Remote Access server (RRAS). You can obtain remote dial-in access to the CallPilot system by setting up a domain account with dial-in permissions.

After you set up a domain user account and assign dial-in access permission, you have two options to log on to the local CallPilot system using dial-in access permission.

See below an example of a Domain user account with dial-in access:
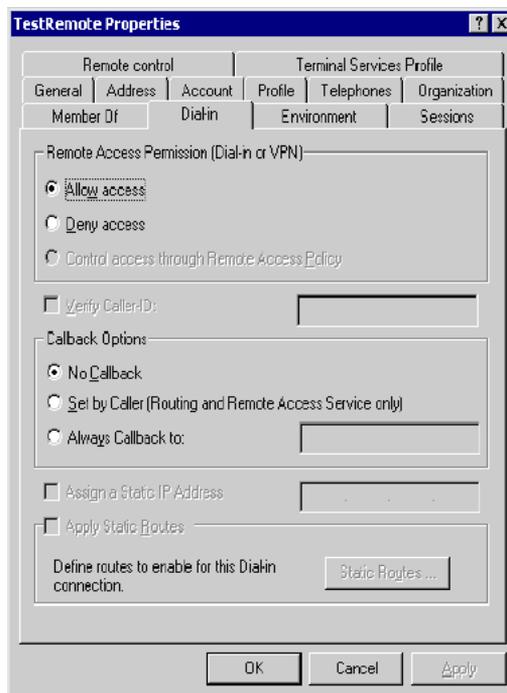
Option 1: Use the local Administrator account for remote logon.

To perform Option 1, follow the steps below:

Step	Action
1	Ask the network administrator for a user account allowing dial-in access permission.
	Note: Ask the network administrator for a username and password that is different from the username and password for your local CallPilot Administrator account. Record the username and password carefully as it will be required for remote support of the CallPilot server.
2	When you dial in to the server, you are prompted for a dial-in Domain user account and password. Enter the username and password that you received in Step 1.
3	Initiate a pcAnywhere or a Remote Desktop Client (RDC) session.
4	Enter the local CallPilot account to log on to the CallPilot server:
	Note: Since there is no local record for the Domain user account, two user accounts must be maintained: the Domain user account, and the local account.

—End—

Option 2: Use the Domain user account for remote logon
To perform Option 2, follow the steps below:

Step	Action
1	Ask the network administrator for a user account allowing dial-in access permission.
	Note: Ask the network administrator for a username and password that is different from the username and password for your local CallPilot Administrator account. Record the username and password carefully as it will be required for remote support of the CallPilot server. The dial-in account must be added to the CallPilot local Administrator group to grant administrator privileges to support personnel.
2	Initiate a pcAnywhere or a RDC session.
3	When you dial in to the server, the system prompts you for a dial-in domain user account and password. Enter the username and password that you received in **Step 1**.

Note: This option manages the user account in one location, for both dial-in access through pcAnywhere or RDC.

—End—

To run Configuration Wizard in a domain

After you add the CallPilot server to a domain, the domain account that is used to log on to the CallPilot server does not have network administrator privileges. As a result, if you run the Configuration Wizard after you add your CallPilot server to the domain, two procedures do not work until you remove the server from the domain. The two procedures are: changing the computer name, and changing the local administrator account. To perform these two procedures when your server is in a domain, you must remove the server from the domain, perform the procedure, and then add the server to the domain again.

To change the computer name

To change the computer name when you run Configuration Wizard and CallPilot is a member of a domain, perform the following steps:

Step	Action
1	Ask your network administrator to remove the CallPilot server from the domain and add the server to a workgroup. You can also perform this step on your own, if you acquire network administrator privileges from your network administrator.
2	Shut down and restart the CallPilot system.
3	Run the Configuration Wizard and select the option to change the computer name.
4	Shutdown and restart the CallPilot system.
5	Ask your network administrator to add the CallPilot server to the domain. You can also perform this step on your own, if you acquire network administrator privileges from your network administrator.
6	Shutdown and restart the CallPilot system.

—End—

To change the local account passwords
To change the local account passwords when you run Configuration Wizard and CallPilot is a member of a domain, perform the following steps:

Step	Action
1	Ask your network administrator to remove the CallPilot server from the domain and add the server to a workgroup. You can also perform this step on your own, if you acquire network administrator privileges from your network administrator.
2	Shut down and restart the CallPilot system.
3	Run the Configuration Wizard and select the option to change the account passwords.
4	Shutdown and restart the CallPilot system.
5	Ask your network administrator to add the CallPilot server to the domain. You can also perform this step on your own, if you acquire network administrator privileges from your network administrator.
6	Shutdown and restart the CallPilot system.

—End—

What is next?
Continue with Chapter 6 "Testing the CallPilot installation" (page 117).

Chapter 6
Testing the CallPilot installation

In this chapter

Checking that CallPilot is ready to accept calls

> **ATTENTION**
> CallPilot is not ready to accept calls until the CallPilot services are fully operational. CallPilot services require approximately 10 minutes after starting up the CallPilot server to become fully operational.

Introduction

CallPilot uses various system-ready indicators to indicate when it is ready to accept calls, including

- displaying messages in dialog boxes on the CallPilot server monitor after logon

  It also displays a status icon in the top right corner of the CallPilot Manager window.

- generating events that can be viewed in the Event Browser or Alarm Monitor in CallPilot Manager

- displaying status using the hex display (applies only to the 201i server)

The system-ready indicators described in this section appear when you restart the server, and also when CallPilot is running if a change in system readiness status occurs.

The system-ready indicators appear only if the Configuration Wizard has previously been run on the server. The CallPilot server is not ready to accept calls if the Configuration Wizard has not been run.

> **Note:** It is possible that the Configuration Wizard was run at the factory or channel partner's site before it was shipped to the customer site. If this is the case, then system-ready indicators are visible when the CallPilot server is started for the first time at the customer site.

Checking system readiness by observing the dialog box messages

A system-ready indicator dialog box appears on the screen any time there is a change in system readiness status. You can close these dialog boxes at any time. If the status changes, a dialog box appears again.

At all times, a system-ready indicator icon appears in the task bar in the bottom right corner of the screen. To view the system-ready indicator dialog box after you close it, double-click the system-ready indicator icon. To view the current status (boot, pass, warn, or fail), place the mouse pointer over the system-ready indicator icon. Help text (roll-over text), which states the current status, appears after a few seconds.

Immediately after you log on to the server, the following dialog box appears on the screen if CallPilot services are not yet fully operational. It can take approximately 1 minute after logon for this dialog box to appear:
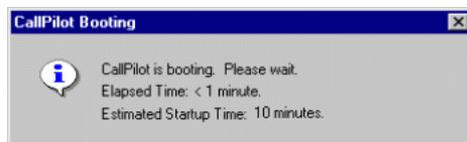
The Elapsed Time indicates how much time has passed since the CallPilot application began its boot sequence.

> **Note:** This dialog box may not appear if enough time has passed between starting up the CallPilot server and logging on for CallPilot services to become fully operational. It takes approximately 10 minutes after starting up the CallPilot server for CallPilot services to become fully operational.

If the CallPilot start sequence is passed successfully (that is, CallPilot services are fully operational), the following dialog box appears:

Click OK to close the dialog box.

If there are errors, one of the following two dialog boxes appears (depending on the severity of the problem):

Warning message

Close the dialog box by clicking the X in the upper right corner. Check the Event Browser or Alarm Monitor in CallPilot Manager for more details. For instructions, refer to the CallPilot Manager online Help.

Error message
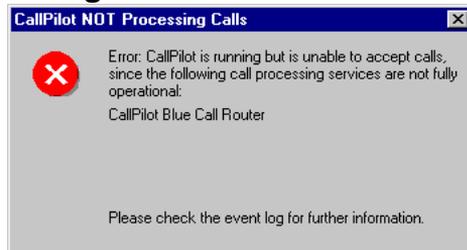
Close the dialog box by clicking the X in the upper right corner. Check the Event Browser or Alarm Monitor in CallPilot Manager for more details. For instructions, refer to the CallPilot Manager online Help.

Alternative methods for verifying that CallPilot is ready to accept calls

View events in CallPilot Manager or in the operating system Event Viewer on the server

The Pass, Warning, and Error system-ready indicator messages appear as events in the Event Browser and Alarm Monitor in CallPilot Manager, and in the operating system Event Viewer on the server.

By default

- the Event Browser and Alarm Monitor show only the latest 100 events

    It is possible for the system-ready indicator events to be removed from the Event Browser and Alarm Monitor windows. You can change the default.

- the Event Browser lists only Critical events

    You can change the Filter Criteria so that Major, Minor, and Information events are listed as well.

For detailed instructions on viewing events, refer to the CallPilot Manager online Help.

Observe the HEX display (for the 201i server only)

The HEX display on the 201i server faceplate displays the following messages:

Note: The DOWN, OK, MIN, MAJ, CRI, and "???" messages can appear regardless of whether the Configuration Wizard has been run. Some MIN, MAJ, and CRI events may appear because the server has not been configured. These events may be resolved after running the Configuration Wizard. The BOOT, PASS, WARN, and FAIL messages are system-ready indicator messages; they do not appear if the Configuration Wizard has not been run.

IPE CallPilot server HEX display	Description
DOWN	The operating system is starting.
OK	The operating system start sequence has passed.
BOOT	CallPilot is starting and is not yet fully operational. Please wait.
PASS	CallPilot is fully operational and ready to accept calls.
WARN	CallPilot is ready to accept calls; however, some services failed the start sequence. Check the event log for further information.
FAIL	CallPilot failed the start sequence and cannot accept calls. Check the event log for further information.
MIN	A minor alarm has occurred. Check the event log for further information.

IPE CallPilot server HEX display	Description
MAJ	A major alarm has occurred. Check the event log for further information.
CRI	A critical alarm has occurred. Check the event log for further information.
???	An alarm of unknown severity occurred. This error should not occur on a properly installed system. The severity of this event is treated as higher-than-critical.

Testing the connection to the ELAN subnet

Introduction

This procedure tests the network connection between the server and the Meridian 1 switch over the ELAN subnet.

ATTENTION

Disconnect the Nortel Server Subnet from the ELAN subnet before testing to ensure that the ping is testing only the ELAN subnet.

To test the connection to the ELAN subnet

Step	Action

1   Click Start → Programs → Accessories → Command Prompt.

   Result: The Command Prompt window appears.

2   Type `ping` followed by the ELAN subnet IP address for the Meridian 1 switch, and then press Enter.

   Note: This is the ELAN subnet IP address specified for the Meridian 1 switch in "To configure the IP addresses and enable the Ethernet interface" (page 65). Refer to the Configuration Wizard worksheets that you completed in the *CallPilot Installation and Configuration Task List* for the IP address.

   Example: ping 255.255.255.255

   Result: The display should indicate a successful ping. If the ping is not successful, check the connection from the CallPilot server's ELAN subnet card to the Meridian 1 switch.

3   If the CallPilot server is also connected to a Nortel Server Subnet, then continue with "Testing the connection to the NNS Subnet" (page 122).

If the CallPilot server is not connected to a Nortel Server Subnet, then type **exit** and press Enter to close the Command Prompt window. Then continue with "Verifying that CallPilot can receive calls" (page 122).

—End—

Testing the connection to the Nortel server subnet
Introduction
This procedure tests the network connection between the server and the Nortel Server Subnet. This applies only if CallPilot is connected to a Nortel server subnet.

> **ATTENTION**
> Disconnect the Nortel server subnet from the ELAN subnet before testing to ensure that the ping is testing only the Nortel server subnet.

To test the connection to the Nortel server subnet

Step	Action
1	Click Start → Programs → Accessories → Command Prompt. **Result:** The Command Prompt window appears.
2	Type **ping** followed by the NSS IP address of another PC on the Nortel server subnet, and then press Enter. **Example:** ping 255.255.255.255 **Result:** The display should indicate a successful ping.
3	Type **exit**, and then press Enter to close the Command Prompt window.

—End—

Verifying that CallPilot can receive calls
Introduction
The following procedure is a basic test to verify that CallPilot is able to receive calls from the Meridian 1 switch and answer those calls. A more thorough test that requires the use of CallPilot Manager is described in "Testing the CallPilot software and channels" (page 123).

To verify that CallPilot can receive calls

Step	Action
1	Ensure that CallPilot services are fully operational before you begin.
	For instructions, see "Checking that CallPilot is ready to accept calls" (page 117).
2	Dial the main Voice Messaging DN that you defined in the Configuration Wizard.
3	Listen for a response from CallPilot (for example, "CallPilot from Nortel ..."), and then hang up.
	If you do not get a response, then do the following:
	a. Check the cabling between the server and the Meridian 1 switch.
	b. Verify that the Meridian 1 switch is processing calls to other extensions.
	c. Refer to the CallPilot *<server model> Server Maintenance and Diagnostics* guide for your server.

—End—

What is next?

Continue with "Testing the CallPilot software and channels" (page 123).

Testing the CallPilot software and channels

Introduction

This section provides a series of tests of the CallPilot installation, including verifying that

- you can leave a message

- you can retrieve a message

- each call channel and multimedia (DSP) channel is functioning properly

Before you begin

- Ensure that you have configured the Meridian 1 switch and CallPilot server, as described in this guide.

- Obtain the ACD DN for CallPilot.

- Obtain the appropriate DN information, as indicated in this table:

Switch	Required information
Meridian 1 or CS 1000	ACD DN
MSL-100/DMS-100	UCD Group DNs (Primary DNs)

- Identify a telephone DN that exists on the Meridian 1 switch that you can use for testing.

- Have a pencil and paper ready to record the results of the tests.

To verify that you can leave a message

Complete the following procedures to perform this test:

- "To add a user for testing purposes" (page 124)

- "To configure the Voice Messaging DN" (page 125)

- "To leave a message" (page 126)

To add a user for testing purposes

Step	Action

1   Log on to the operating system on the CallPilot server.

For instructions, see "Logging on to Windows 2003 on the CallPilot server" (page 94).

> *Note:* Although you can access CallPilot Manager from any PC that has network access to the CallPilot server, later tests require that you be logged on to the CallPilot server.

2   Log on to CallPilot Manager.

For instructions, see "Logging on to the CallPilot server with CallPilot Manager" (page 96).

3   Click Users → Add User.

Result: The Express Add page appears.

4   Type the required information.

Each required field is marked with an asterisk (*). Accept the default values for other fields.

For example, create a user named TEST USER.

ATTENTION

The tests in this section use the mailbox number 8050 as an example. Ensure that you specify a DN that is defined on the Meridian 1 switch.

---

5   Click Advanced User Add.

      Result: The Advanced User Add page appears, and the information you have already entered appears.

6   Scroll down to the Security section of the page and specify a mailbox password.

      Record the password. Leave all other fields at their default values.

7   Click Express Add.

      Result: The Express Add page appears.

8   Click Add.

      Result: CallPilot Manager displays a summary of the user just added.

—End—

To configure the Voice Messaging DN

Note: If you have already configured a Voice Messaging CDN in the Configuration Wizard, then you can skip this procedure. If you are not sure, continue with this procedure to verify that a Voice Messaging CDN is present, or to configure one if necessary.

Step	Action

1   Click System → Service Directory Number.

      Result: The Service Directory Number page appears.

2   Click New.

      Result: The SDN Detail page appears.

3   In the Service DN box, type the primary Voice Messaging DN for CallPilot.

      Note: If there are no voice channels installed on CallPilot, then use the Fax or Speech Recognition primary DN as the Voice Messaging DN for these tests. You can still use the Voice Messaging application as described in this procedure.

4   In the Application Name box, select Voice Messaging.

5   In the Media Type box, select Voice.

> *Note:* If there are no voice channels installed on CallPilot, then select Fax or Speech Recognition based on the DN that you specified in step 3.

6 Click Save.

—End—

To leave a message

Step	Action

1 From any active telephone that is connected to the Meridian 1 switch, dial the Voice Messaging Service DN that you have just created.

Result: CallPilot plays the following prompt: "CallPilot from Nortel. Mailbox?"

> *Note:* If CallPilot does not answer the call or you do not hear a prompt, then check that the call channels and multimedia channels are in Idle state, as described in "Verifying that each call channel and multimedia channel is functioning properly (for Meridian 1, Suc" (page 128).

2 Enter the mailbox number followed by number sign (#) (for example, 8050#).

Result: CallPilot plays the following prompt: *Password?*

3 Enter the mailbox password `135246#`.

Result: CallPilot plays the following prompt: *The temporary password assigned by your administrator must be changed. To access your mailbox, please press 84 and change your password.*

4 Press **84**.

Result: CallPilot plays the following prompt: *Password change. To authorize the change, please enter your old password followed by number sign.*

5 Enter `135246#`.

Result: CallPilot plays the following prompt: *Please enter your new password followed by number sign.*

6 Enter a new mailbox password followed by number sign (#) (for example, 805011#).

Result: CallPilot plays the following prompt: *Please enter your new password again followed by number sign.*

---

7   Enter the new mailbox password again to confirm (for example, 805011#).

Result: CallPilot plays the following prompt: *Your password has been changed. Your mailbox is empty.*

8   Press **75** to compose a message.

Result: CallPilot plays the following prompt: *Compose...*

9   Enter the mailbox number, followed by number sign (#) twice (for example, 8050##).

Result: CallPilot plays the following prompt: *To begin recording, Press 5. To end recording, press number sign.*

10   Press **5** to record a message.

11   Record a message, and then press number sign (#) to stop.

Result: CallPilot plays the following prompt: Recording Stopped. There is a brief pause, followed by the prompt: *To review the message, press 2, to send it, press 79...*

12   Press **79** to send the message.

Result: CallPilot plays the following prompt: *Message sent and deleted.*

13   Press **83**, and then hang up the phone.

14   Verify that the Message Waiting Indicator (MWI) is on.

—End—

To verify that you can retrieve a message

Step	Action

1   Pick up the telephone handset and dial the same Voice Messaging Service DN again.

2   When prompted, enter the mailbox number where the message was left (for example, 8050#).

Result: CallPilot plays the following prompt: *Password?*

3   Enter the mailbox password (for example, 805011#).

Result: CallPilot plays the following prompt: *You have one new message. Message one. New. From...* .

ATTENTION

If you do not hear the exact message, *You have one new message...,* this indicates that the wrong prompts have been installed or that CallPilot did not install properly.

If you did not hear the correct message, contact your Nortel customer support representative.

---

4   Press **2** to play the message, and then listen to it.

5   Press **76** to delete the message.

    Result: CallPilot plays the following prompt: *Message 1 deleted.*

ATTENTION

If you do not hear the exact message, *Message 1 deleted*, this indicates that the wrong prompts have been installed or that CallPilot did not install properly.

If you do not hear the correct message, contact your Nortel customer support representative.

---

6   Press **83** and then hang up the phone.

—End—

Verifying that each call channel and multimedia channel is functioning properly (for Meridian 1, CS 1000 and MSL-100/DMS-100 systems only)

These tests verify that the call channels and multimedia (DSP) channels are functioning properly.

> *Note:* On other systems besides Meridian 1, CS1000 or MSL-100/DMS-100, the calls do not cycle through the multimedia channels. As a result, these tests can be run properly only on Meridian 1, CS 1000 or MSL-100/DMS-100 systems.

The call channel is the channel that carries the call signal from the Meridian 1 switch to CallPilot. The multimedia channel is the CallPilot channel that processes the call and provides voice, fax, or speech recognition capability.

These tests consist of the following procedures:

- "To test call channels and voice channels" (page 129) (Skip this procedure if you do not have voice channels installed.)

- "To test call channels and fax channels" (page 131) (Skip this procedure if you do not have fax channels installed.)

- "To test call channels and speech recognition channels" (page 133) (Skip this procedure if you do not have speech recognition channels installed.)

- "To restore the SDN Table and put all channels back in service" (page 135)

Note: These tests require that you access the Channel Monitor, Multimedia Monitor, and Service Directory Number pages in CallPilot Manager. If you need additional instructions for these CallPilot Manager pages, refer to the CallPilot Manager online Help, or to the *CallPilot Administrator's Guide* (NTP NN44200-601). You must also access the System Monitor utility. The System Monitor utility is described in the chapter "Using CallPilot system utilities" in the *CallPilot <server model> Server Maintenance and Diagnostics* guide for your server.

To test call channels and voice channels

Note: If CallPilot has no voice channels, go to "To test call channels and fax channels" (page 131). If CallPilot also has no fax channels, go to "To test call channels and speech recognition channels" (page 133).

Step	Action
1	In CallPilot Manager, click System → Service Directory Number. **Result:** The Service Directory Number page appears.
2	Ensure that the Voice Messaging Service DN is set to the ACD DN. *Note:* If the Voice Messaging Service DN is not set to the ACD DN, then select the defined Service DN and click File → Properties. Make the required changes, and then click Save.

—End—

Step	Action
1	In the earlier tests, you created a Voice Messaging Service DN. Ensure that the Voice Messaging Service DN is defined as indicated in the table below. *Note:* For the Meridian 1 switch, change the Service DN to the ACD DN (not the CDN) for the call channel and multimedia channel tests.

Switch	Service DN entry
Meridian 1 or CS 1000	ACD DN (not the CDN)
MSL-100/DMS-100	Primary DN for the Voice UCD group

> *Note:* If the Voice Messaging Service DN is not set properly, then select the defined Service DN and click File → Properties. Make the required changes, and then click Save.

2   In the Application Name box, ensure that Voice Messaging is selected.

3   In the Media Type box, ensure that Voice is selected.

4   Click Maintenance → Multimedia Monitor.

Result: The Multimedia Monitor appears.

5   Select and start a maximum of eight voice channels for testing.

> *Note:* Nortel recommends that you test a maximum of eight voice channels at one time. For example, if you have a 96-channel system, start only eight voice channels. When those eight voice channels are tested, stop them and start another set of voice channels.

6   Stop all fax and speech recognition channels, if these channels are present.

7   Verify that all voice channels are in Idle state.

8   In CallPilot Manager, click Maintenance → Channel Monitor.

Result: The Channel Monitor appears.

9   Select the whole system and stop all channels.

10   Select and start the same number of call channels as voice channels that you started.

Example: If you have started 8 voice channels, then start 8 call channels.

11   On the CallPilot server desktop, click Start → Programs → CallPilot → System Utilities → System Monitor.

Result: The CallPilot System Monitor window appears. By default, the Channel Monitor tab appears on top.

12   Observe the System Monitor window and verify that all the required multimedia (DSP) and call channels are in Idle state, and that all other channels are Off Duty (out of service).

13   Use a telephone to dial the service DN that you entered in the SDN table for Voice Messaging.

14   Verify that CallPilot answers the call and that the CallPilot greeting plays.

15   Observe the System Monitor and record which call channel and which voice channel changes to Active state.

16   Hang up the telephone.

17   Repeat steps 13 to 16 until all the selected voice and call channels are tested.

> *Note:* If the calls are not cycling through all voice and call channels, then stop the tested voice and call channels. This forces the next call to go to the untested voice and call channels. When you stop the channels, there may be a short delay before the channels go to Off Duty state. This is because stopped channels go into a 1-minute standby mode so they are ready for the next call.

18   Stop the voice and call channels that were tested.

19   Repeat steps 4 to 18 until all voice channels and the same number of call channels are tested.

—End—

To test call channels and fax channels

Note: If CallPilot has no fax channels, go to "To test call channels and speech recognition channels" (page 133).

Step	Action

1   In CallPilot Manager, click System → Service Directory Number.

Result: The Service Directory Number page appears.

2   In the Service Directory Number page, click the Voice Messaging Service DN that you have been using for testing.

Result: The SDN Detail page appears showing the properties of the Voice Messaging Service DN.

3   In the Service DN box, type one of the following entries, depending on the switch type:

Note: For the Meridian 1 switch, change the Service DN to the ACD DN (not the CDN) for the call channel and multimedia channel tests.

Switch	Service DN entry
Meridian 1 or CS 1000	ACD DN (not the CDN)
MSL-100/DMS-100	Primary DN for the Fax UCD group

4   In the Media Type box, select Fax.

Note: You can leave the Application Name as Voice Messaging.

5   Click Save.

6   Click Maintenance → Multimedia Monitor.

Result: The Multimedia Monitor appears.

7   In the Multimedia Monitor page, select and start a maximum of 8 fax channels for testing.

Note: Nortel recommends that you test a maximum of 8 fax channels at one time. For example, if you have a 96-channel system, start only 8 fax channels. When those 8 fax channels are tested, stop them and start another set of fax channels.

8   Stop all voice and speech recognition channels, if these channels are present.

9   Verify that all fax channels are in Idle state, and leave the Multimedia Monitor page open so that you can observe when channels change to Active state.

10   In CallPilot Manager, click Maintenance → Channel Monitor.

Result: The Channel Monitor appears.

11   Select the whole system and stop all channels.

12   Select and start the same number of call channels as fax channels that you started.

Example: If you have started 8 fax channels, then start 8 call channels.

Note: Ensure that you select and start call channels that have not already been tested (for example, as part of the voice channel test).

13   On the CallPilot server desktop, click Start → Programs → CallPilot → System Utilities → System Monitor.

Result: The CallPilot System Monitor window appears. By default, the Channel Monitor tab appears on top.

14   Observe the System Monitor window and verify that all the required multimedia (DSP) and call channels are in Idle state, and that all other channels are Off Duty (out of service).

15   Use a telephone to dial the service DN that you entered in the SDN table.

16   Verify that CallPilot answers the call and that the CallPilot greeting plays.

17   Observe the System Monitor and record which call channel and which fax channel changes to Active state.

18   Hang up the phone.

19   Repeat steps 15 to 18 until all the selected fax and call channels are tested.

> *Note:* If the calls are not cycling through all fax and call channels, then stop the tested fax and call channels. This forces the next call to go to the untested fax and call channels. When you stop the channels, there may be a short delay before the channels go to Off Duty state. This is because stopped channels go into a 1-minute standby mode so they are ready for the next call.

20   Stop the fax and call channels that were tested.

21   Repeat steps 6 to 20 until all fax channels and the same number of call channels are tested.

—End—

To test call channels and speech recognition channels

Step	Action

1   In CallPilot Manager, click System → Service Directory Number.

Result: The Service Directory Number page appears.

2   In the Service Directory Number page, click the Voice Messaging Service DN that you have been using for testing.

Result: The SDN Detail page appears showing the properties of the Voice Messaging Service DN.

3   In the Service DN box, type one of the following entries, depending on the switch type:

> *Note:* For the Meridian 1 switch, change the Service DN to the ACD DN (not the CDN) for the call channel and multimedia channel tests.

Switch	Service DN entry
Meridian 1 or CS 1000	ACD DN (not the CDN)
MSL-100/DMS-100	Primary DN for the Speech Recognition UCD group

4   In the Media Type box, select Speech Recognition.

> *Note:* You can leave the Application Name as Voice Messaging.

5   Click Save.

6   Click Maintenance → Multimedia Monitor.

Result: The Multimedia Monitor appears.

7   In the Multimedia Monitor page, select and start a maximum of 8 speech recognition channels for testing.

> *Note:* Nortel recommends that you test a maximum of 8 speech recognition channels at one time. For example, if you have a 96-channel system, start only 8 speech recognition channels. When those 8 channels are tested, stop them and start another set of speech recognition channels.

8   Stop all fax and voice channels, if these channels are present.

9   Verify that all speech recognition channels are in Idle state, and leave the Multimedia Monitor page open so that you can observe when channels change to Active state.

10   In CallPilot Manager, click Maintenance → Channel Monitor.

Result: The Channel Monitor appears.

11   Select the whole system and stop all channels.

12   Select and start the same number of call channels as speech recognition channels that you have started.

Example: If you started 8 speech recognition channels, then start 8 call channels.

Note: Ensure you select and start call channels that have not already been tested (for example, as part of the voice or fax channel test).

13   On the CallPilot server desktop, click Start → Programs → CallPilot → System Utilities → System Monitor.

   Result: The CallPilot System Monitor window appears. By default, the Channel Monitor tab appears on top.

14   Observe the System Monitor window and verify that all the required multimedia (DSP) and call channels are in Idle state, and that all other channels are Off Duty (out of service).

15   Use a telephone to dial the service DN that you entered in the SDN table.

16   Verify that CallPilot answers the call and that the CallPilot greeting plays.

17   Observe the System Monitor and record which call channel (on the Channel Monitor page) and which speech recognition channel (on the Multimedia Monitor page) changes to Active state.

18   Hang up the phone.

19   Repeat steps 15 to 18 until all the selected speech recognition and call channels are tested.

   Note: If the calls are not cycling through all speech recognition and call channels, then stop the tested speech recognition and call channels. This forces the next call to go to the untested speech recognition and call channels. When you stop the channels, there may be a short delay before the channels go to Off Duty state. This is because stopped channels go into a 1-minute standby mode so they are ready for the next call.

20   Stop the speech recognition and call channels that were tested.

21   Repeat steps 6 to 20 until all speech recognition channels and the same number of call channels are tested.

—End—

To restore the SDN Table and put all channels back in service

Step	Action

1   In CallPilot Manager, click System → Service Directory Number.

Result: The Service Directory Number page appears.

2   In the Service Directory Number page, select the check box for the Voice Messaging Service DN that you have been using for testing.

3   Click Delete Selected.

    Result: The Service DN is deleted.

       Note: If you are ready to begin CallPilot administration, you can choose to keep this Service DN. However, ensure that the Service DN is configured as required for normal operation. For example, for Meridian 1, do not leave the Service DN set to the ACD DN.

4   In CallPilot Manager, click Maintenance → Channel Monitor.

    Result: The Channel Monitor appears.

5   In the Channel Monitor page, select the whole system and start all channels.

6   Verify that all call channels are in Idle state.

7   Click Maintenance → Multimedia Monitor.

    Result: The Multimedia Monitor appears.

8   In the Multimedia Monitor page, select the whole system and start all channels.

9   Verify that all multimedia channels are in Idle state.

    Result: The CallPilot tests are completed.

—End—

What is next?

Once your testing indicates that the server upgrade, new installation/configuration, platform migration, or system rebuild is successful, perform a full system backup. Refer to Chapter 8, "Backing up and restoring CallPilot information," in the *CallPilot Administrator's Guide* (NTP NN44200-601) for more information.

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Index

Symbols/Numerics

1002rp server, MGate cabling diagrams 46, 47, 48
   and MPB96 52
   and MPB96 high capacity 52
201i server, network diagram 18
2500 telephones, configuring 88, 89
500 telephones, configuring 88, 89
703t server, MGate cabling diagram, and MPB96 51

A

Automatic Call Distribution See ACD 21
   agent queue, configuring 73, 74
   agents 21
   agents, configuring 74
   description 21
ACD DN
   creating default 78, 79
   description 78
   dummy, configuring 85
   usage example 25
AML message tracing 64
Attendant Overflow Position, defining CallPilot as 69

B

board replacement, detecting in software 94

C

call channels, verifying operation 131, 133, 135
Call Forward by Call Type, configuring 72

call queuing, description 22
call receipt, verifying 123
call routing
   description 22
   diagram 25
   examples 25, 28
CallPilot
   services, verifying operation 117, 121
      dialog boxes 118, 119
      events 119, 120
      HEX display (IPE server) 120, 121
   software, testing 123, 136
      call channels, verifying operation 129, 131, 133
      channels 128, 135
      fax channels, verifying operation 131, 133
      message 126, 127, 128
      SDN table, restoring 135
      speech recognition channels, verifying operation 133, 135
      user, adding 124, 125
      voice channels, verifying operation 129, 131
      Voice Messaging DN, adding 125
CallPilot configuration for Contact Center server 17
CallPilot Manager
   and CallPilot, logging on 96, 101
   viewing events 119, 120
   web server and CallPilot 97, 98
CallPilot server, logging on 96, 101

Meridian 1 and CallPilot Server Configuration

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