555-7101-222

# CallPilot

Installation and Configuration

Part 3: Meridian 1 and CallPilot Server Configuration

Product release 2.0 Standard 1.0 October 2002

NORTEL NETWORKS™

P0949443

# CallPilot

## Installation and Configuration
## Part 3: Meridian 1 and CallPilot Server Configuration


| | |
|---|---|
| Publication number: | 555-7101-222 |
| Product release: | 2.0 |
| Document release: | Standard 1.0 |
| Date: | October 2002 |



Copyright © 2002 Nortel Networks, All Rights Reserved

Printed in Canada

Information is subject to change without notice. Nortel Networks reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.

The process of transmitting data and call messaging between the CallPilot server and the Meridian 1 switch or Succession CSE 1000 system is proprietary to Nortel Networks. Any other use of the data and the transmission process is a violation of the user license unless specifically authorized in writing by Nortel Networks prior to such use. Violations of the license by alternative usage of any portion of this process or the related hardware constitutes grounds for an immediate termination of the license and Nortel Networks reserves the right to seek all allowable remedies for such breach.

This page and the following page are considered the title page, and contain Nortel Networks and third-party trademarks.

*Nortel Networks, the Nortel Networks logo, the Globemark, and Unified Networks, BNR, CallPilot, DMS, DMS-100, DMS-250, DMS-MTX, DMS-SCP, DPN, Dualmode, Helmsman, IVR, MAP, Meridian, Meridian 1, Meridian Link, Meridian Mail, Norstar, SL-1, SL-100, Succession, Supernode, Symposium, Telesis, and Unity are trademarks of Nortel Networks.

3COM is a trademark of 3Com Corporation.

ACCENT is a trademark of Accent Software International Ltd.

AMDEK is a trademark of Amdek Corporation.

AT&T is a trademark of American Telephone andTelegraph Corporation.

ATLAS is a trademark of Quantum Corporation.

ATRIA is a trademark of Pure Atria Corporation.

BLACKBERRY is a trademark of Research in Motion Limited.

CASEWARE is a trademark of Caseware International, Inc.

CONTINUUS is a trademark of Continuus Software Corporation.

CRYSTAL REPORTS is a trademark of Seagate Software Inc.

DEFINITY is a trademark of Avaya Inc.

DIALOGIC is a trademark of Dialogic Corporation.

EUDORA is a trademark of Qualcomm.

EXCHANGE.NET, INTERNET EXPLORER, LINKEXCHANGE, MICROSOFT, MICROSOFT EXCHANGE SERVER, MS-DOS, OUTLOOK, POWERPOINT, WINDOWS, WINDOWS MEDIA, and WINDOWS NT are trademarks of Microsoft Corporation.

GROUPWISE and NOVELL are trademarks of Novell Inc.

HITACHI is a trademark of Hitachi Limited.

INTEL is a trademark of Intel Corporation.

LOGITECH is a trademark of Logitech, Inc.

NETSCAPE COMMUNICATOR is a trademark of Netscape Communications Corporation.

NOTES is a trademark of Lotus Development Corporation.

PCANYWHERE is a trademark of Symantec Corporation.

PROMARK and RHOBOT are trademarks of DMI Promark, Inc.

RADISYS is a trademark of Radisys Corporation.

SLR4, SLR5, and TANDBERG are trademarks of Tandberg Data ASA.

SYBASE is a trademark of Sybase, Inc.

TEAC is a trademark of TEAC Corporation.

UNIX is a trademark of X/Open Company Limited.

US ROBOTICS, the US ROBOTICS logo, and SPORTSTER are trademarks of US Robotics.

VOICEBRIDGE is a trademark of Voice Technologies Group Inc.

WINRUNNER is a trademark of Mercury Interactive Corporation.

# Publication history

**October 2002**

Standard 1.0 of *CallPilot Installation and Configuration, Meridian 1 and CallPilot Server Configuration* is issued for general release.

# Contents


**1 CallPilot and Meridian 1 switch connectivity overview 9**

Overview . . . . . 10
Symposium Voice Services Support . . . . . 14

**Section A: CallPilot network setup 17**

CallPilot and Meridian 1 integration . . . . . 18

**Section B: Understanding call routing 23**

Meridian 1 call routing components . . . . . 24
Phantom DNs . . . . . 27
CallPilot Service Directory Numbers and the SDN Table . . . . . 29
How calls are routed . . . . . 31
Multimedia channels in the CallPilot server . . . . . 35
How multimedia channels are acquired by callers . . . . . 36

**2 Connecting the CallPilot server to the Meridian 1 switch 39**

About the MGate card . . . . . 40
Installing the MGate card . . . . . 42
Connecting the CallPilot server to the MGate card . . . . . 49

**3 Configuring the Meridian 1 switch 61**

Meridian 1 hardware and software requirements . . . . . 62
Meridian 1 configuration checklist . . . . . 65
Provisioning the ELAN . . . . . 69
Defining the Message Register for AML message tracing . . . . . 72
Configuring Meridian 1 IP addresses and enabling the Ethernet interface 73
Defining CallPilot in the customer data block . . . . . 78
Configuring the ACD agent queue . . . . . 84
Configuring ACD agents . . . . . 86
Enabling the card slots . . . . . 89
Defining the default ACD DN . . . . . 90
Configuring CDN queues for messaging services . . . . . 92
Configuring phantom DNs . . . . . 94
Configuring dummy ACD DNs . . . . . 99
Provisioning user phonesets . . . . . 101
Configuring the route data block for Network Message Service . . . . . 105
Saving Meridian 1 changes . . . . . 107

**4 Configuring the CallPilot server software 109**

Overview . . . . . 110
Logging on to Windows NT on the CallPilot server . . . . . 112
Logging on to the CallPilot server with CallPilot Manager . . . . . 114
Running the Configuration Wizard . . . . . 119
Changing pcAnywhere caller passwords . . . . . 121

**5 Testing the CallPilot installation 123**

Checking that CallPilot is ready to accept calls . . . . . 124
Testing the connection to the ELAN . . . . . 130
Testing the connection to the CLAN . . . . . 131
Verifying that CallPilot can receive calls . . . . . 132
Testing the CallPilot software and channels . . . . . 133

**Index 147**

# Chapter 1

# CallPilot and Meridian 1 switch connectivity overview

## In this chapter


| | |
|---|---|
| Overview | 10 |
| Symposium Voice Services Support | 14 |
| **Section A: CallPilot network setup** | **17** |
| CallPilot and Meridian 1 integration | 18 |
| **Section B: Understanding call routing** | **23** |
| Meridian 1 call routing components | 24 |
| Phantom DNs | 27 |
| CallPilot Service Directory Numbers and the SDN Table | 29 |
| How calls are routed | 31 |
| Multimedia channels in the CallPilot server | 35 |
| How multimedia channels are acquired by callers | 36 |

# Overview

## Introduction

This guide describes the Meridian 1 switch setup and CallPilot server configuration steps of the CallPilot installation. This includes

- configuring the Meridian 1 switch for correct operation with CallPilot
- connecting the CallPilot system to the Meridian 1 switch and the CLAN
- configuring the CallPilot server

## Before you begin

Before you proceed with configuring the Meridian 1 switch and CallPilot server, review the "Installing CallPilot" section in Part 1 of the *CallPilot Installation and Configuration* binder, and complete stage 2 of the "Installation checklist." This includes completing the worksheets provided in Part 1 of the *CallPilot Installation and Configuration* binder.

**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 as follows:

- for tower or rackmount servers: at Chapter 2, "Connecting the CallPilot server to the Meridian 1 switch," on page 39
- for the 200i or 201i server: at Chapter 3, "Configuring the Meridian 1 switch," on page 61

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

## Glossary and related information products

Refer to Part 1 of the *CallPilot Installation and Configuration* binder for the glossary and the list of related information products.

## Installation and configuration checklist

| Step | Description | Check |
|---|---|---|
| **Stage 1: Install the connectivity hardware.** | | |
| | **Note:** For the 200i or 201i server, this stage is not applicable. Hardware connectivity is established when the 200i or 201i server is installed in the Meridian 1 switch, as described in Part 2 of the *CallPilot Installation and Configuration* binder. | |
| 1 | If your server is a tower or rackmount server, install the MGate card in the Meridian 1 switch.<br>For instructions, see Chapter 2, "Connecting the CallPilot server to the Meridian 1 switch," on page 39. | ❒ |
| 2 | Connect the tower or rackmount server to the Meridian 1 switch.<br>For instructions, see Chapter 2, "Connecting the CallPilot server to the Meridian 1 switch," on page 39. | ❒ |
| **Stage 2: Configure the Meridian 1 switch and CallPilot server.** | | |
| 3 | Configure the Meridian 1 switch.<br>Use the "Switch configuration worksheet" that you completed in Part 1 of the *CallPilot Installation and Configuration* binder.<br>For configuration instructions, see Chapter 3, "Configuring the Meridian 1 switch," on page 61. | ❒ |
| 4 | Run the Configuration Wizard and configure the CallPilot server.<br>Use the "Configuration Wizard worksheet" that you completed in Part 1 of the *CallPilot Installation and Configuration* binder.<br>For configuration instructions, see Chapter 4, "Configuring the CallPilot server software," on page 109. | ❒ |

| Step | Description | Check |
|---|---|---|
| 5 | Change the pcAnywhere passwords.<br>For instructions, see "Changing pcAnywhere caller passwords" on page 121. | ❒ |
| **Stage 3: Test CallPilot connectivity.**<br>**Note:** For instructions, see Chapter 5, "Testing the CallPilot installation," on page 123. | | |
| 6 | Check CallPilot's system ready indicators to see if CallPilot is ready to accept calls. | ❒ |
| 7 | Test the connection to the ELAN, if applicable. | ❒ |
| 8 | Test the connection to the CLAN. | ❒ |
| 9 | Verify that CallPilot answers when you dial the Voice Messaging DN. | ❒ |
| **Stage 4: Test the CallPilot services and channels.**<br>**Note:** For instructions, see Chapter 5, "Testing the CallPilot installation," on page 123. | | |
| 10 | Check the system-ready indicators. | ❒ |
| 11 | Verify network connectivity to the CallPilot server over the ELAN and CLAN. | ❒ |
| 12 | Verify that CallPilot can receive calls. | ❒ |
| 13 | Verify that you can leave a message. | ❒ |
| 14 | Verify that you can retrieve a message. | ❒ |
| 15 | Verify that each call channel and multimedia channel is functioning correctly. | ❒ |

| Step | Description | Check |
|---|---|---|
| **Stage 5: Install CallPilot Manager on a stand-alone web server (optional).** | | |
| 16 | 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.<br>For instructions, refer to Part 4 of the *CallPilot Installation and Configuration* binder. | ❒ |

# Symposium Voice Services Support

## Introduction

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

## Configuring the Meridian 1 switch to support CallPilot and Symposium Call Center Server

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 Symposium 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” on page 69), 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” on page 84.
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 Symposium Voice Services Support

1. In the Configuration Wizard, you must specify the following information for the Symposium Voice Services Support feature:
   - On the Meridian 1 Information web page, you must specify the Symposium Call Center Server CLAN 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 Symposium 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 Symposium Voice Services Support feature.
   - Define treatment IDs used by Symposium Call Center Server as voice menus or announcements.

## See also

Refer to the Symposium Call Center Server documentation for additional Meridian 1 switch instructions related to Symposium Call Center Server configuration.

# Section A: CallPilot network setup

## In this section

CallPilot and Meridian 1 integration 18

# CallPilot and Meridian 1 integration

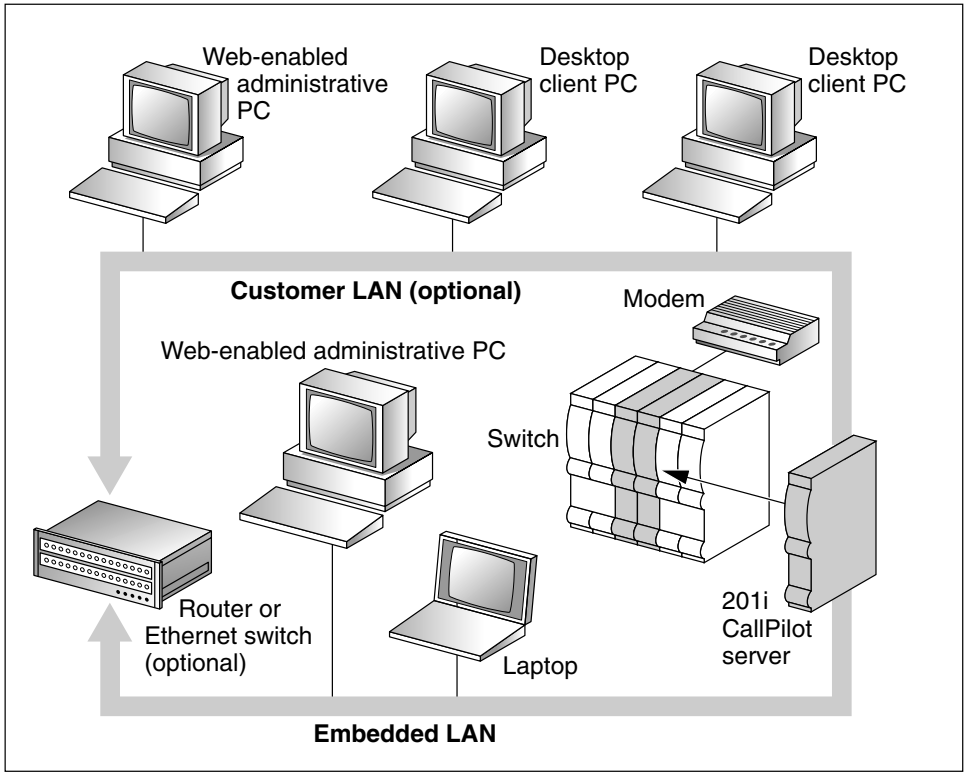
## Introduction

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

## Sample network diagrams

### 200i or 201i server

The following diagram shows an example of how the 200i or 201i server can be integrated with the Meridian 1 switch in your network:

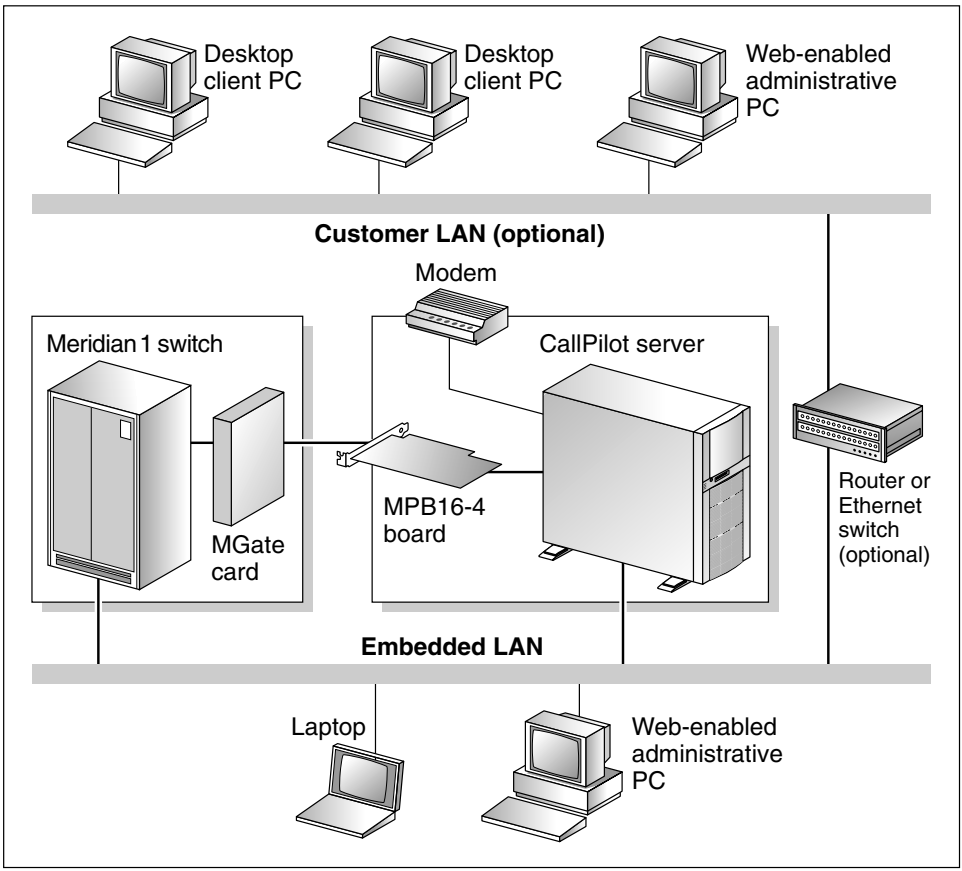



G101631

**Note:** Although a 201i server is illustrated, the above diagram also applies to the 200i server.

### Tower or rackmount servers

The following diagram shows an example of how a tower or rackmount server 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, the customer LAN (CLAN). If your server is a 201i server, it resides inside the Meridian 1 switch.

### MGate card (for tower and rackmount servers only)

The MGate card is a line card that is installed inside the Meridian 1 switch. The MGate card sends the voice and data signals to the MPB16-4 boards in the CallPilot server.

### MPB16-4 board (for tower and rackmount servers only)

An MPB16-4 board has two integrated MPC-8 cards and four bays for additional optional MPC-8 cards.

Each tower or rackmount CallPilot server ships with at least one MPB16-4 board.

### MPC-8 cards

The MPC-8 cards reside in slots in the 200i or 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” on page 35.

### 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 Installation Guide* (NTP 555-7101-505).

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

# Section B: Understanding call routing

## In this section

Meridian 1 call routing components 24
Phantom DNs 27
CallPilot Service Directory Numbers and the SDN Table 29
How calls are routed 31
Multimedia channels in the CallPilot server 35
How multimedia channels are acquired by callers 36

# 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 phonesets, 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 Symposium Voice Services Support feature; see “How multimedia channels are acquired by callers” on page 36). 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 phonesets. 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 (that is, 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” on page 27
- “CallPilot Service Directory Numbers and the SDN Table” on page 29

# Phantom DNs

## Introduction

Instead of using phonesets 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 define a TN within that loop. The system knows 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 Networks strongly recommends that you use either phantom DNs or dummy ACD DNs (see “Configuring dummy ACD DNs” on page 99) 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 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 either 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 need DNs on the Meridian 1 switch

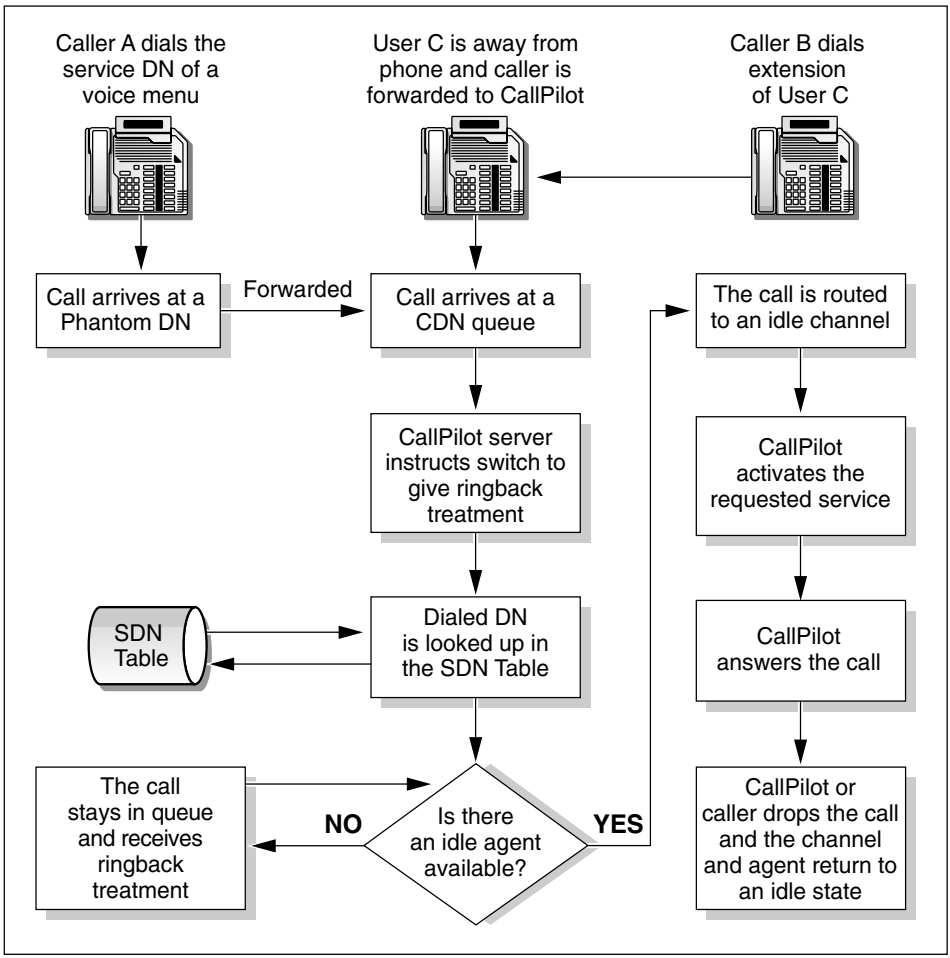
Callers do not dial outbound SDNs. The system uses outbound SDNs to place outbound calls. Since outbound SDNs do not accept incoming calls, a corresponding CDN, phantom DN, or dummy ACD DN is not necessary on the Meridian 1 switch.

The following services use outbound SDNs:

- outcalling services (Remote Notification, Delivery to Telephone, Delivery to Fax)
- networking services (AMIS and Enterprise)

# How calls are routed

## Call flow example




**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

**ATTENTION** The example below uses phantom DNs. The same call flow occurs when a caller dials a dummy ACD DN.

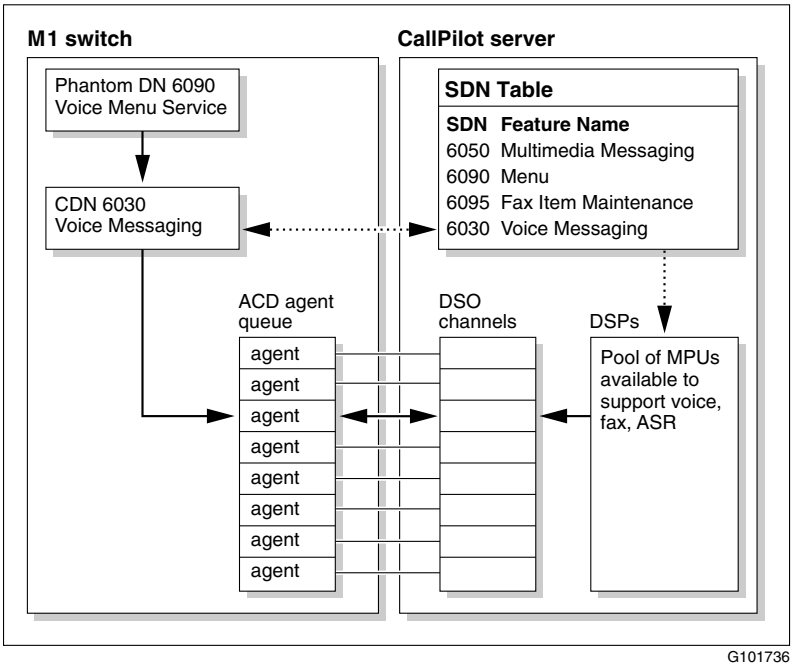
Two CDN queues have been configured:

- 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:




## 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

Calls that come in to CallPilot need processing power to support the voice, fax, and speech recognition features. This processing power is provided by Multimedia Processing Units (MPUs) in the CallPilot server. The MPB16-4 board and the MPC-8 cards in the CallPilot server provide the MPUs.

## Types of multimedia channels

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

# 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 there is an idle multimedia channel of the type required by the service.

## What happens if no channels are idle

If there is an idle channel (of the needed media type), the system passes the call to CallPilot.

If there are no idle channels that meet the requirements defined in the SDN Table, the call remains in the CDN queue and the system applies a delay treatment.

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

Once 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

Once 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's next?

| IF your server is a | THEN |
|---|---|
| tower or rackmount server | continue with Chapter 2, "Connecting the CallPilot server to the Meridian 1 switch," on page 39. |
| 200i or 201i server | continue with Chapter 3, "Configuring the Meridian 1 switch," on page 61. |

# Chapter 2

# Connecting the CallPilot server to the Meridian 1 switch

## In this chapter


About the MGate card 40

Installing the MGate card 42

Connecting the CallPilot server to the MGate card 49

# About the MGate card

## 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 200i or 201i server. For the 200i or 201i server, the connection to the Meridian 1 switch is established in Part 2 of the *CallPilot Installation and Configuration* binder when the server is installed in the Meridian 1 switch.

## The number of channels supported

Each MGate card 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, additional DSP MPUs are required to support fax or automated speech recognition channels, but this does not affect the number of channels supported by the MGate card.

## The impact of a faulty MGate card

When an MGate card is faulty, the Meridian 1 switch may or may not recognize that the card is faulty. If the Meridian 1 switch recognizes that the MGate card is faulty, 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 card is faulty, it does not automatically disable the faulty MGate card. 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. |
| DS30X cable (for MPB16-4)<br>■ Single cable<br>■ Dual cable | <br>NTRH2012<br>NTRH2013 | Connects the MPB16-4 boards in the CallPilot server to the MGate cards in the Meridian 1 switch. |



**CAUTION**

**Risk of data loss**

The MGate card 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

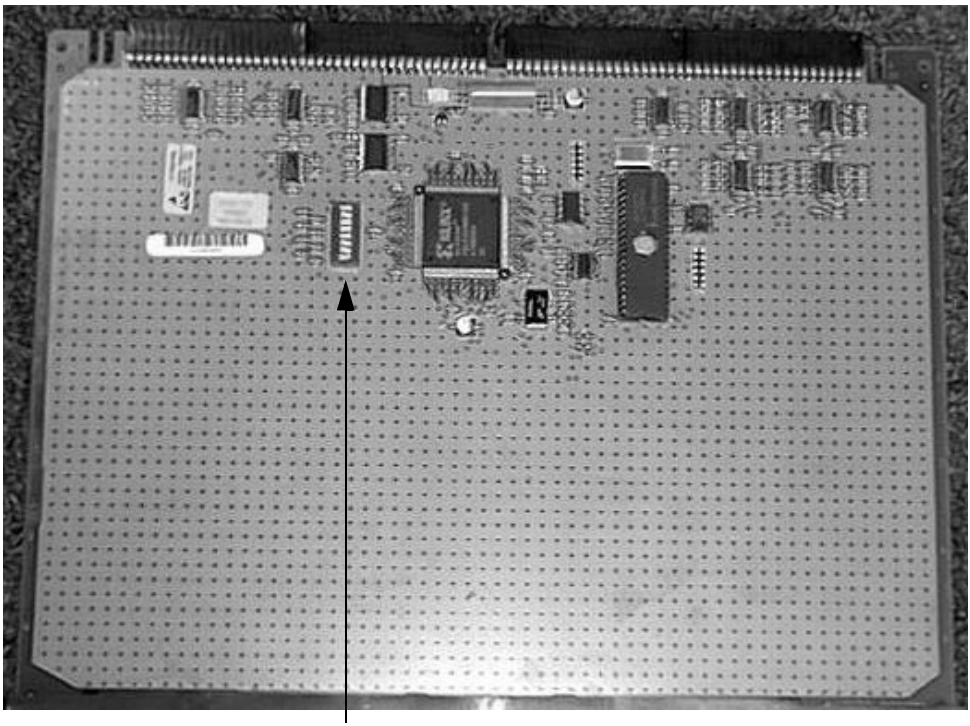
## Introduction

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

## The MGate card

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



## To set the MGate card's DIP switches

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:

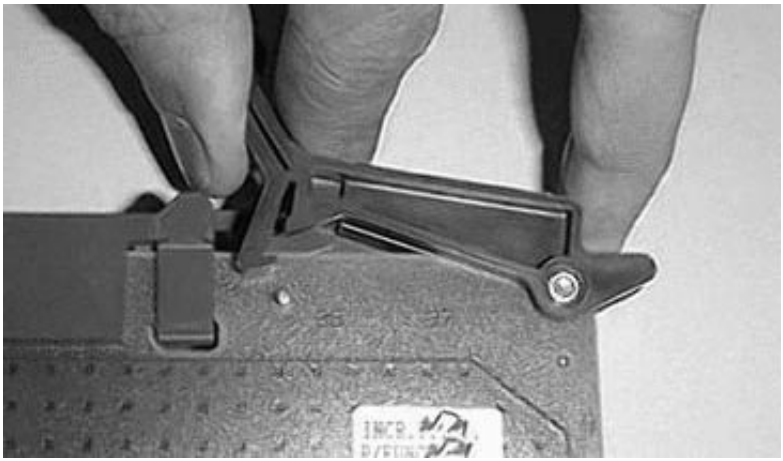
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| **ON** | X | X | X | | | | X | |
| **OFF** | | | | X | X | X | | X |

## To install the MGate card

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

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.



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 *Meridian 1, System Installation and Maintenance Guide*.

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.

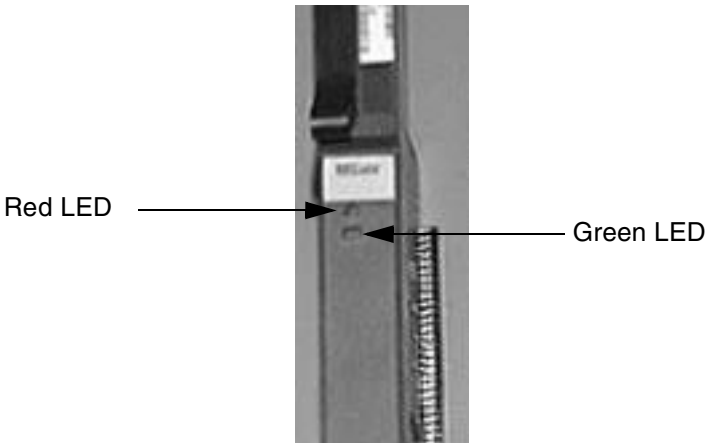
5 View the status of the LED indicators to ensure that

- 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” on page 46, and “Combined LED states” on page 47.

## LED indicators

The MGate card has red and green LED indicators on the faceplate.



## Combined LED states

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. |

## What's next?

Continue with "Connecting the CallPilot server to the MGate card" on page 49.

## To replace an MGate card

1. Courtesy down 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 Part 5 of the *CallPilot Installation and Configuration* binder.

   **Note:** If your system has multiple MGate cards, you can choose to courtesy stop only the DS30X channels that belong to the MGate 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.

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

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 reprogram the switch to account for the new slot number, move the DS30X cable to the new slot, and 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 Part 5 of the *CallPilot Installation and Configuration* binder.

# Connecting the CallPilot server to the MGate card

## Introduction

The MGate card ships from the factory with the appropriate MPB16-4 and DS30X cables, as follows:

- The NTRH2012 cable is a single DS30X cable that connects one MPB16-4 board to one MGate card.
- The NTRH2013 cable 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.



**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.

**ATTENTION**

The CallPilot server must be located within 10 m (30 ft) of the Meridian 1 switch.

## MGate card cabling diagrams

Install the appropriate DS30X cable (NTRH2012 or NTRH2013) as shown in the supported configuration examples that follow.

The table below 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 | page 52 |
| 32 or less | 2 | 1 | page 53 |
| 48 or less | 1 | 2 | page 55 |
| 64 or less | 2 | 2 | page 56 |
| 96 or less | 2 | 3 | page 58 |

### 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 | | |
|---|---|---|---|
| | 702t server | 1001rp server | 1002rp server |
| MPB16-4 #1[a] | slot 2 | slot 12 | slot 11 |
| MPB16-4 #2 | slot 3 | slot 13 | slot 12 |

a. For the 702t server, slots are numbered from the bottom of the server to the top. For the 1001rp and 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 Part 2 of the *CallPilot Installation and Configuration* binder.

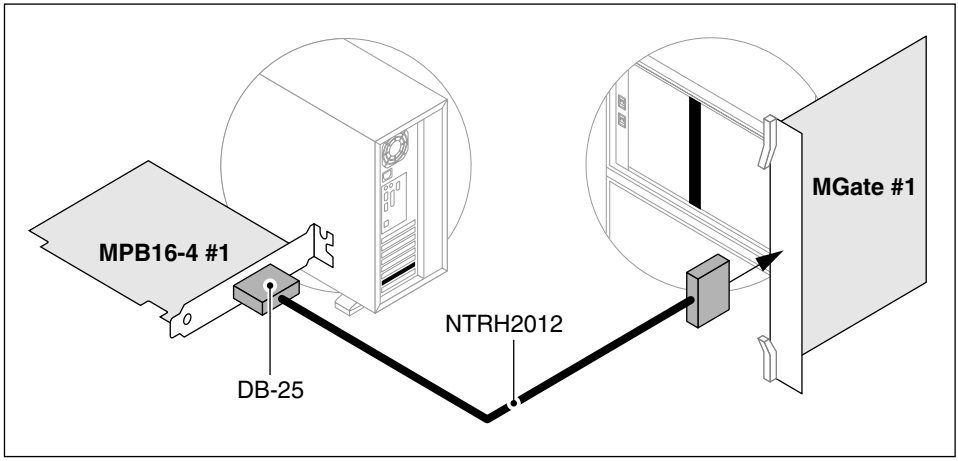
### Identifying the location of MGate #1, #2, and #3

In the cabling diagrams, the terms MGate #1, MGate #2, and MGate #3 are used to 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)

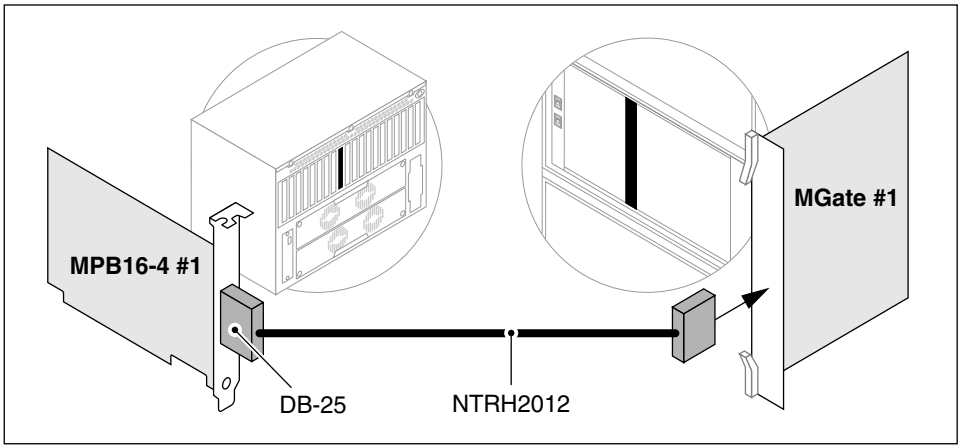
Use the single cable (NTRH2012) to connect the MPB16-4 board to the MGate card.

### MGate cabling for the 702t server




G101724

### MGate cabling for the 1001rp or 1002rp server



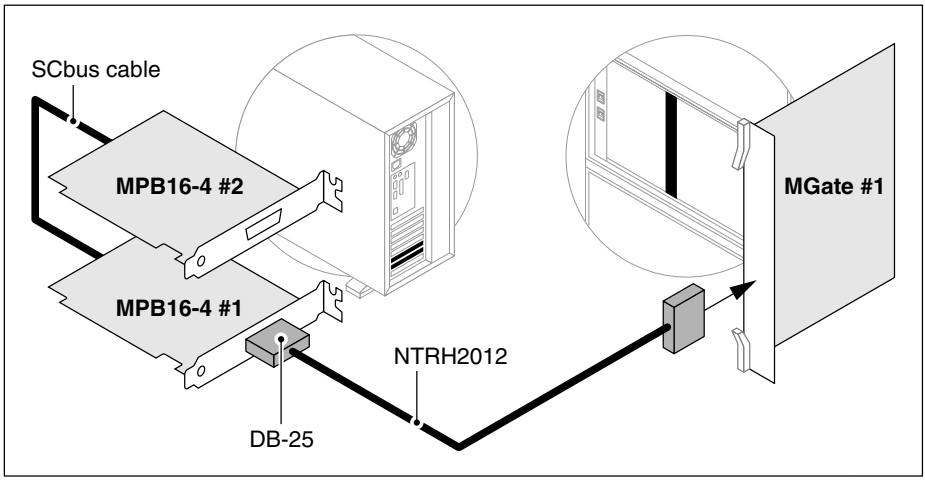

G101716

## 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.

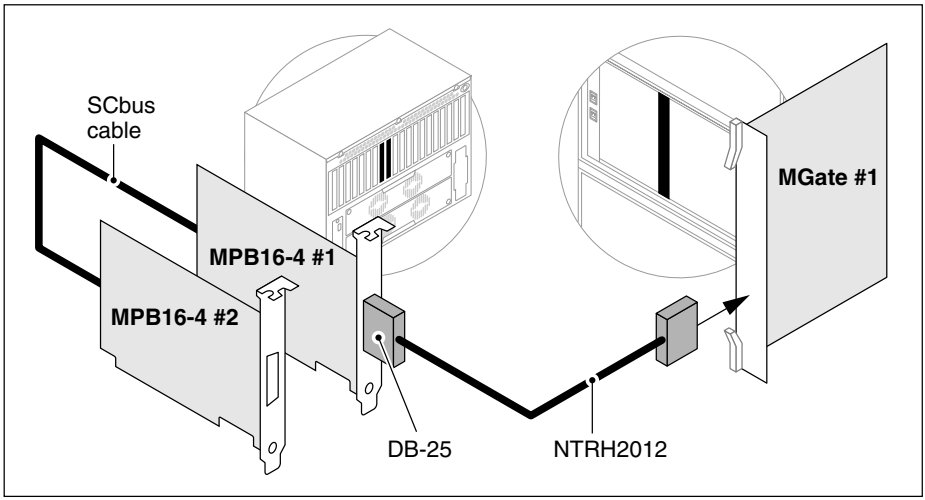
**Note:** The MPB number is determined by the bootup software. Therefore, the DS30X cable must be connected to the MPB assigned the lower bus number by the software.

## MGate cabling for the 702t server




G101713

## MGate cabling for the 1001rp or 1002rp server



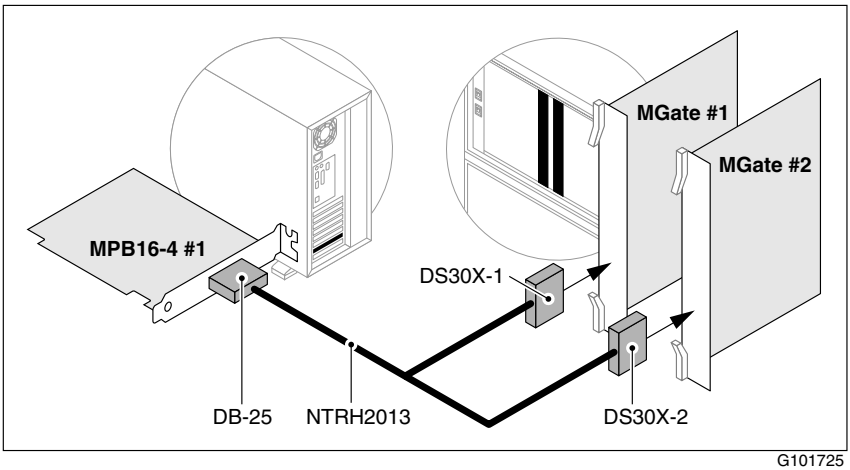

G101721

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

Use the NTRH2013 cable, as shown below. Ensure that

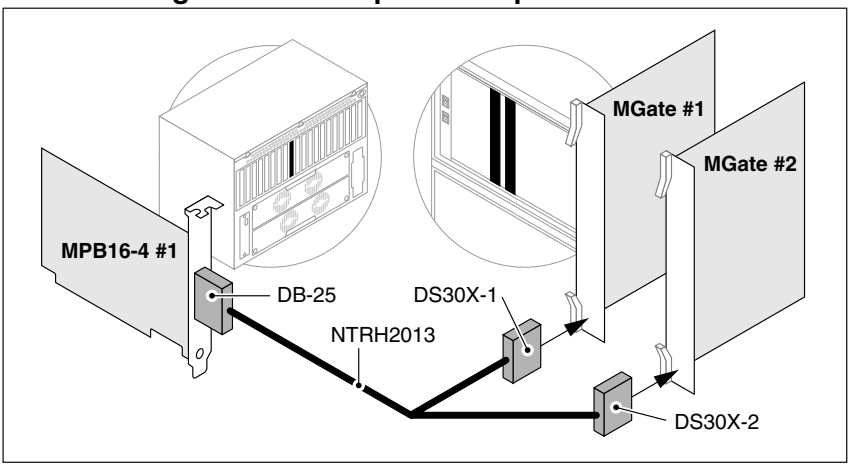
- the connector labeled DS30X-1 is connected to MGate #1
- the connector labeled DS30X-2 is connected to MGate #2

### MGate cabling for the 702t server




G101725

### MGate cabling for the 1001rp or 1002rp server



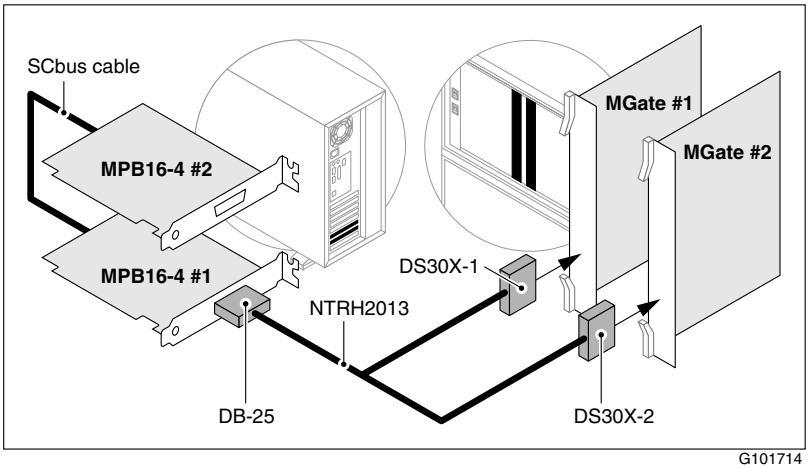

G101717

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

Use the NTRH2013 cable, as shown below. Ensure that

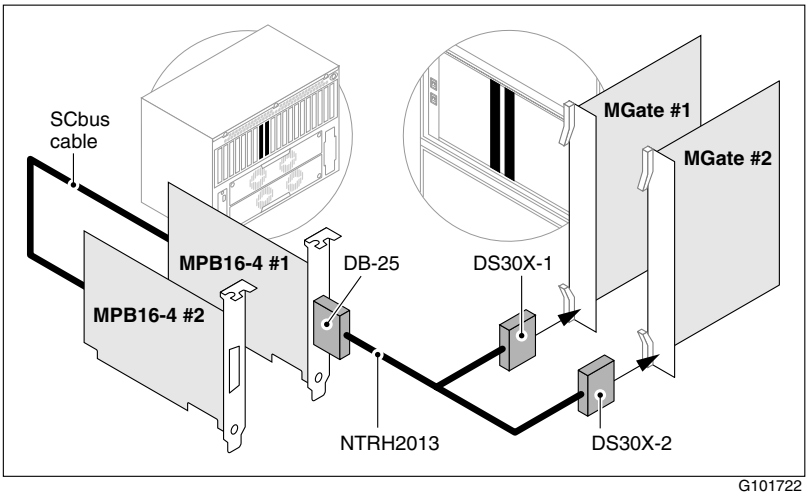
- the connector labeled DS30X-1 is connected to MGate #1
- the connector labeled DS30X-2 is connected to MGate #2

## MGate cabling for the 702t server




G101714

## MGate cabling for the 1001rp or 1002rp server




G101722

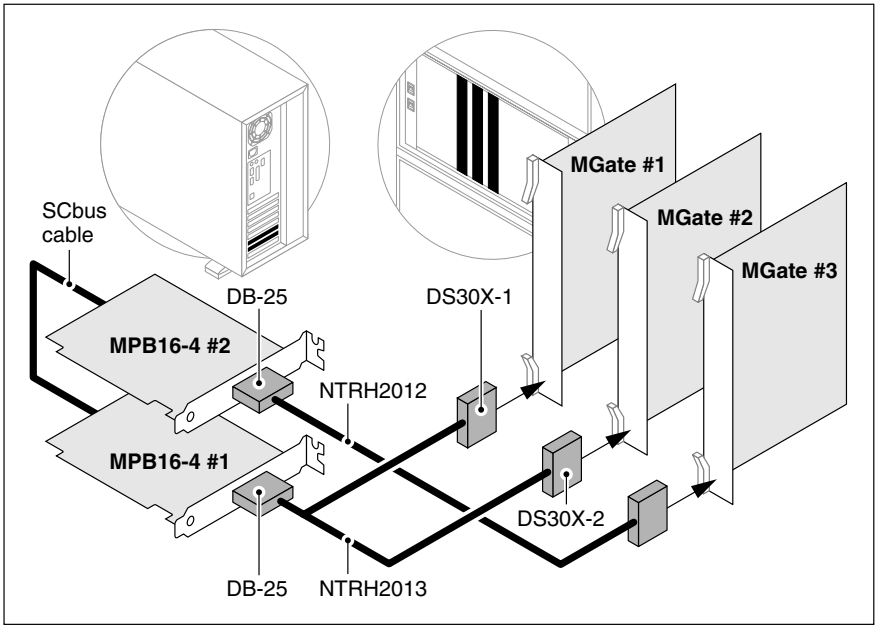
## Two MPB16-4 boards and three MGate cards (96 channels or less)

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

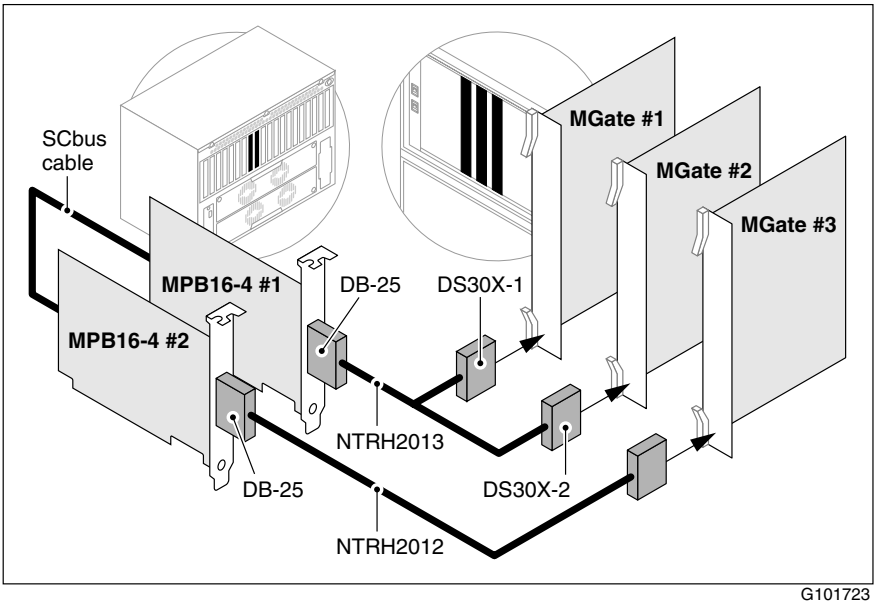
- the connector labeled DS30X-1 is connected to MGate #1
- the connector labeled DS30X-2 is connected to MGate #2

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

### MGate cabling for the 702t server



### MGate cabling for the 1001rp or 1002rp server




## To connect the DS30X cables

Before you begin, review the supported cabling configurations illustrated in "MGate card cabling diagrams" on page 50.

1 On the rear of the Meridian 1 switch, locate the connector associated with the slot occupied by the MGate card.

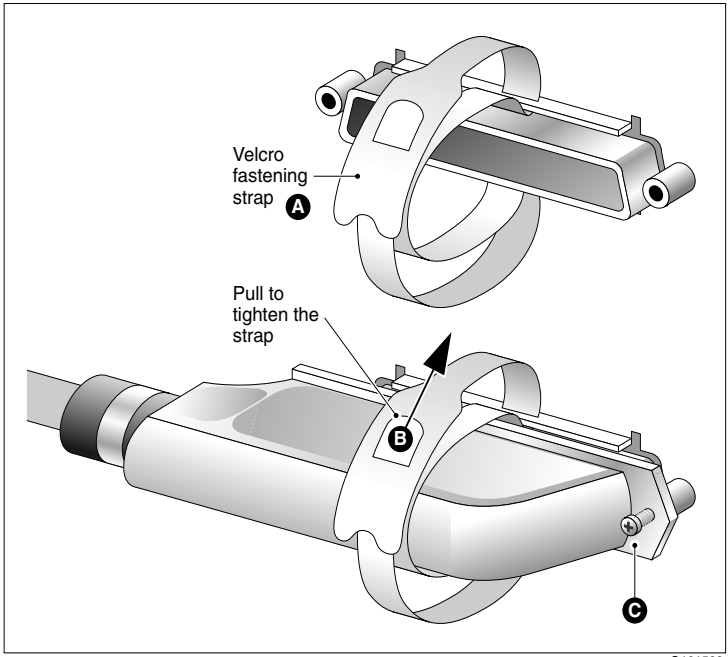
2 Connect the MGate cable (NTRH2012 or NTRH2013) as follows:

   **a.** Loosen the connector's Velcro fastening strap.

   **b.** Connect the amphenol connector on the MGate cable to the connector on the back of the Meridian 1 switch.

**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:




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

## What's next?

Continue with Chapter 3, "Configuring the Meridian 1 switch" on page 61.

# Chapter 3

# Configuring the Meridian 1 switch

## In this chapter


Meridian 1 hardware and software requirements 62

Meridian 1 configuration checklist 65

Provisioning the ELAN 69

Defining the Message Register for AML message tracing 72

Configuring Meridian 1 IP addresses and enabling the Ethernet interface 73

Defining CallPilot in the customer data block 78

Configuring the ACD agent queue 84

Configuring ACD agents 86

Enabling the card slots 89

Defining the default ACD DN 90

Configuring CDN queues for messaging services 92

Configuring phantom DNs 94

Configuring dummy ACD DNs 99

Provisioning user phonesets 101

Configuring the route data block for Network Message Service 105

Saving Meridian 1 changes 107

# Meridian 1 hardware and software requirements

## Supported Meridian 1 systems

The following Meridian 1 systems 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, which is required for CallPilot.

## Required hardware

To support connectivity to tower and rackmount CallPilot servers, one or more MGate cards must be installed in the Meridian 1 switch, as described in Chapter 2, "Connecting the CallPilot server to the Meridian 1 switch," on page 39.

**ATTENTION**

An MGate card is not used with the 200i or 201i server.

## Required X11 software

CallPilot requires software release X11 Release 23.55 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 prompts may be different.

## 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 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.nortelnetworks.com. You require a username and password to access this site.

X11 PEPs are available only on the Meridian PEP library (MPL) web site. North American customers can go to http://www43.nortelnetworks.com/MPL. All other customers should check the *General Release Bulletin* for the correct web site (the web site URL may vary by region). You require a username and password to access this site.

# Meridian 1 configuration checklist

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, in the order shown below, in the remainder of this chapter.

| Step | | Overlay | See page | Check |
|---|---|---|---|---|
| 1 | Ensure that the ELAN for the AML link and its associated VSID in the configuration record is defined.<br>This provides the Ethernet connection over which AML messages are exchanged between the Meridian 1 switch and CallPilot. | 17 | page 69 | ❒ |
| 2 | Define the Message Register for AML message tracing. | 17 | page 72 | ❒ |
| 3 | If the Meridian 1 switch has not been defined with an IP address, configure it for the ELAN interface. | 117 | page 73 | ❒ |
| 4 | Enable the ELAN link. | 137 | page 73 | ❒ |
| 5 | Enable the ELAN connection. | 48 | page 73 | ❒ |
| 6 | Define CallPilot in the customer data block with the Call Park Allowed (CPA) and Message Center Included (MCI) options enabled.<br>Also define in the customer data block how unanswered and busy calls are routed. | 15 | page 78 | ❒ |

| Step | | Overlay | See page | Check |
|---|---|---|---|---|
| 7 | Define the Call Forward by Call Type feature. | 16 | page 78 | ❒ |
| 8 | Create an ACD agent queue to hold the agents that service CallPilot. If you are enabling the Symposium Voice Services Support feature, you must also set up two additional ACD agent queues: one for ACCESS ports, and one for IVR ports. | 23 | page 84 | ❒ |
| 9 | Create an agent for each CallPilot channel.<br>All agents belong to the ACD agent queue(s) that you created in step 8. | 11 | page 86 | ❒ |
| 10 | Enable the slots in which the MGate card, 200i server, or 201i server is installed. | 32 | page 89 | ❒ |
| 11 | Define the default ACD DN that will be referenced in each CDN queue.<br>Set this ACD DN as night call forward to the attendant. | 23 | page 90 | ❒ |
| 12 | Create two CDN queues as follows:<br>■ Create a primary CDN for Voice Messaging.<br>■ Create a secondary CDN for Multimedia Messaging. | 23 | page 92 | ❒ |
| 13 | If required, create a phantom loop. | 97 | page 94 | ❒ |
| 14 | Create a phantom DN or dummy ACD DN for each service that must be directly dialable. | 10 or 23 | page 94 or page 99 | ❒ |

| Step | | Overlay | See page | Check |
|---|---|---|---|---|
| 15 | Provision user phonesets to support CallPilot. | 11 or 10 | page 101 | ❒ |
| 16 | If you purchased Network Message Service, configure the route data block. | 16 | page 105 | ❒ |
| 17 | Save the configuration changes. | 43 | page 107 | ❒ |
| 18 | If you made changes to the ELAN interface configuration in step 3 of this checklist, perform a Meridian 1 INI after you have saved the configuration changes (as instructed in step 17 of this checklist). | n/a | n/a | ❒ |

**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" on page 107.

## 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 only be provided 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

## Introduction

Define and configure the ELAN 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

Load overlay 17. 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 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. |
| 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 link (in response to the ADAN prompt). |
| ELAN | xx | This should be the same number defined in ADAN. |
| SECU | x...x | If you are enabling the SymposiumVoice Services Support feature, set to YES. Otherwise, set to NO. |
| REQ | CHG | Change |
| TYPE | PARM | System parameters |
| NCR | x...x | Number of call registers (range depends on system type).<br>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.<br>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.<br>Set this parameter to 2 x the number of CallPilot DS0 channels. For example, if there are 24 DS0 channels, enter 48. |

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

# 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.

**ATTENTION**

The MGCR parameter is used by your Nortel Networks 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

Load overlay 17. 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.<br>The recommended value for CallPilot is 25. |
| REQ | **** | Exits the overlay. |

# 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.
- If the Meridian 1 switch is also connected to a CLAN, a gateway IP address must be defined.

**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 |

1 Load overlay 117.

2 Perform the following substeps to check the current IP addresses to see if they already match what you have planned 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 CLAN, 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 commands:

**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, 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**

**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.

# 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 phoneset 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 phoneset 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" on page 62:

- minimum software release of X11 Release 24
- package 56 (AOP - Attendant Overflow Position)

## To modify the customer data block

Load overlay 15. 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<br>Set to YES if Call Forward by Call Type feature (CFCT) is enabled on the Meridian 1 switch. |
| Load overlay 15 again. For each prompt listed below, enter the response indicated: | | |
| 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.<br>If NMS has been purchased, set the primary Meridian 1 switch to YES and all secondary systems to NO. |

| Prompt | Response | Description |
|---|---|---|
| AQTT | 1–255 (30) | Attendant Queue Timing Threshold in seconds<br><br>**Note:** 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.<br><br>**Note:** 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.<br><br>**Note:** This option requires a minimum of X11 Release 24 as well as the 56 (AOP) package. |

Load overlay 15 again. For each prompt listed below, enter the response indicated:

| | | |
|---|---|---|
| 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. |

| Prompt | Response | Description |
|---|---|---|
| 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 documentation for details. |
| Load overlay 15 again. For each prompt listed below, enter the response indicated: | | |
| 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. |
| Load overlay 15 again. For each prompt listed below, enter the response indicated: | | |
| 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. |

| Prompt | Response | Description |
|---|---|---|
| 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. |

## 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 X11 software.

Load overlay 16. 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" on page 79).

| Prompt | Response | Description |
|---|---|---|
| REQ | NEW or CHG | |
| TYPE | RDB | Route data block |
| CUST | xx | Customer number (0–99) |

| Prompt | Response | Description |
|---|---|---|
| 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. |

# Configuring the ACD agent queue

## Introduction

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

**Note:** The ACD DN is not normally used as a Service DN. However, in applications where calls are to be overflowed into CallPilot, you must define the ACD DN as a Service DN.

## Symposium Voice Services Support additional requirements

If you are enabling the Symposium 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 Symposium Voice Services Support feature.

## To configure an ACD agent queue

Load overlay 23. 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) |

| Prompt | Response | Description |
|---|---|---|
| ACDN | yyyy | This is the ACD DN for CallPilot. |
| MWC | NO<br>**Note:** For a 201i server, set one ACD queue to YES (does not have to be a CallPilot ACD queue). | Message Waiting Center. Set to NO. (Set to YES for 201i server). |
| 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 |
| ALOG | YES | Provide automatic logon for ACD agents. |
| | <Enter> | Press Enter until you reach the REQ prompt. |
| REQ | **** | Exits the overlay. |

# Configuring ACD agents

## Introduction

For CallPilot, you must define channels as ACD agents on M2008 digital sets. All agents are added to the ACD queue(s) that you have configured.

Each agent must have the VCE, WTA, UNR, 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 (200i or 201i server)

For the 200i or 201i server, ACD agents use TNs associated with the slot location of the 200i or 201i server.

### 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.

## 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

Load overlay 11. 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. |
| TN | l s c u | Terminal Number of the MGate card (tower and rack server), or the 200i or 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.) |
| CUST | xx | Customer number (0–99) |
| CLS | VCE WTA UNR MMA (units 0–15)<br>FLXA VCE WTA UNR MMA (units 16–31) | Voice terminal, Warning tone allowed, Unrestricted, 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 |

| Prompt | Response | Description |
|---|---|---|
| key | 3 nrd | Not Ready |
| key | 4 trn | Transfer |
| key | 5 ao3 | Three-Party Conference |
| AST | 0 1 | If you are enabling the Symposium Voice Services Support feature, you must define 0 and 1 as the AST key 0 and key 1 values.<br>If you are not enabling the Symposium Voice Services Support feature, then press Enter to skip this prompt. |
| | <Enter> | Press Enter to the end of the overlay (the REQ prompt). |
| REQ | | If you are finished adding agents, enter **** to exit the overlay.<br>To add another agent, return to the top of the table. |

# 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, 200i server, 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.

1. Load overlay 32.
2. Type **STAT *n*** and press Enter, where *n* is the card slot used by an MGate card, 200i server, 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, 200i server, 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, 200i server, 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, 200i server, or 201i server.

# 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

Load overlay 23. 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) |

| Prompt | Response | Description |
|---|---|---|
| ACDN | xxxx | The ACD DN. Enter this DN as the DFDN in the CDN configuration. |
| MWC | NO | Message Waiting Center. Set to NO. |
| 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 to the end of the overlay (the REQ prompt). |
| REQ | **** | Exits the overlay. |

# 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 Networks strongly recommends that you use either a phantom DN or a dummy ACD DN for all other messaging services.

## To configure a CDN queue

Load overlay 23. 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) |
| CDN | yyyy | The Control DN of the queue. This number must be entered as the SDN for the messaging service in the SDN Table. |

| Prompt | Response | Description |
|---|---|---|
| DFDN | zzzz | The default ACD DN (see page 90). Calls to the CDN are directed to this ACD DN if the link or CallPilot goes down.<br>Nortel Networks 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 link is established. |
| | <Enter> | Press Enter to the end of the overlay (the REQ prompt). |
| REQ | | To configure another CDN, return to the top of the table.<br>To exit, enter ****. |

# 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” on page 99.

## Supporting multiple languages

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

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 need to 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” on page 101. The user’s phone must be forwarded to the Multimedia Messaging CDN.

However, some users may need 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 phoneset. Instead, you must set up a TN as the virtual fax DN. Since physical TNs are more costly, Nortel Networks recommends that you configure phantom DNs instead.

A separate TN is necessary because a single TN (the telephone) can only be call forwarded to 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 "To configure a phantom superloop" on page 96. If a phantom loop is configured, then go to "To configure a phantom DN" on page 97.

## To configure a phantom superloop

If no phantom loops are configured, use load overlay 97. 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.<br>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.<br>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). |
| | <Enter> | Press Enter to the end of the overlay (the REQ prompt). |
| REQ | **** | Exits the overlay. |

## To configure a phantom DN

Load overlay 10. 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.)<br>PHANTOM is echoed by the switch when the specified loop is phantom. |
| CDEN | xx | The card density supported by the loop, where xx can be<br>SS - single density<br>DD - double density<br>4D - quadruple density |
| DN | yyyy | The DN must be single appearance. |
| CLS | UNR | Unrestricted. Phantom DNs cannot originate calls, so this option is secure. |

| Prompt | Response | Description |
|---|---|---|
| FTR | DCFW nn xxxx | DCFW = Default Call Forward<br>nn = maximum number of digits in the DCFW DN<br>xxxx = the CDN to which this DN forwards<br>If this phantom DN is for a voice service, enter the Voice Messaging CDN.<br>If this phantom DN is for a fax service, enter the Multimedia Messaging CDN.<br>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.<br>To add another DN, return to the top of the table. |

# 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

Load overlay 23. 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. |

| Prompt | Response | Description |
|---|---|---|
| NCFW | yyyy | Specify the appropriate CDN depending on multimedia channel type required (Voice Messaging CDN or Multimedia Messaging CDN). |
| | <Enter> | Press Enter to the end of the overlay (the REQ prompt). |
| REQ | **** | Exits the overlay. |

# Provisioning user phonesets

## Introduction

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

## Required features

You must set up phonesets to support the following features:

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

  **Note:** You cannot forward users' phonesets 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 phonesets

Load overlay 11. 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. |
| 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.) |
| 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 theVoice Messaging or Multimedia Messaging CDN queue. |
| CLS | 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 phoneset user. |
| KEY | 3 MSB | Make set busy |

| Prompt | Response | Description |
|---|---|---|
| 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 = 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. |
| | <Enter> | Press Enter to the end of the overlay (the REQ prompt). |
| REQ | | If you are finished adding phonesets, enter **** to exit.<br>To add another phoneset, return to the top of the table. |

## To provision 500/2500 phonesets

Load overlay 10. For each prompt listed below, enter the response indicated in overlay 10. For those prompts that are not listed, you can accept the default by pressing Enter.

| Prompt | Response | Description |
|---|---|---|
| REQ | NEW | |
| TYPE | 500 | 500 phoneset |

| 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.) |
| CUST | xx | Customer number (0–99) |
| DN | yyyy | Directory number |
| HUNT | zzzz | Hunt (internal). Set this to the CDN of theVoice Messaging or Multimedia Messaging CDN queue. |
| CLS | 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 to the end of the overlay (the REQ prompt). |
| REQ | | If you are finished adding phonesets, enter **** to exit.<br>To add another phoneset, return to the top of the table. |

# 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. Instructions for this step are provided in this section.

For details on additional switch configuration for NMS, refer to the "Configuring the switches" chapter in the *CallPilot 1.0 NMS Implementation and Administration Guide* (NTP 555-7101-302).

**Note:** Make sure 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

Load overlay 16. 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 |

| Prompt | Response | Description |
|---|---|---|
| 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. |

# Saving Meridian 1 changes

## Introduction

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

## To save your configuration

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. Return to step 2, and repeat this step two more times. Use a new disk each time.

**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.

## What's next?

Continue with Chapter 4, "Configuring the CallPilot server software," on page 109.

# Chapter 4

# Configuring the CallPilot server software

## In this chapter


Overview 110

Logging on to Windows NT on the CallPilot server 112

Logging on to the CallPilot server with CallPilot Manager 114

Running the Configuration Wizard 119

Changing pcAnywhere caller passwords 121

# 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 Windows NT on the CallPilot server
- log on to the CallPilot server with CallPilot Manager
- run the Configuration Wizard
- change the pcAnywhere caller passwords



**CAUTION**

**Risk of improper configuration**

You must use the Configuration Wizard to change the computer name. If you use the Windows NT 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 Part 1 of the *CallPilot Installation and Configuration* binder.

## 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.

## Recovering Configuration Wizard changes if there is a system interruption

If a system interruption prevents the Configuration Wizard from finishing or applying the configuration changes, you may be able to recover the entries you made in the Configuration Wizard prior to the system problem. If CallPilot can save a recovery file, then, when you rerun the Configuration Wizard, you are asked if you want to recover your changes. Select Yes and step through the Configuration Wizard.

## Running the Configuration Wizard to detect replacement boards

When you replace MPB16-4 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 NT on the CallPilot server

## Introduction

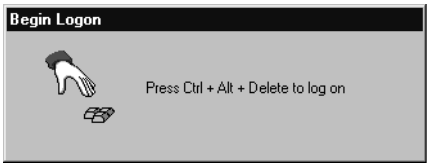
If you want to access CallPilot Manager from the web browser embedded on the CallPilot server, you must first log on to Windows NT on the CallPilot server. Alternatively, you can access CallPilot Manager from any PC that has network access to the CallPilot server.

**ATTENTION**

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

## To log on to Windows NT on the CallPilot server

1 Ensure that the CallPilot server has started and the Windows NT logon prompt appears.




2 Press Ctrl+Alt+Delete.

**Result:** The Logon Information dialog box appears.



3 Type **Administrator** as the user ID.

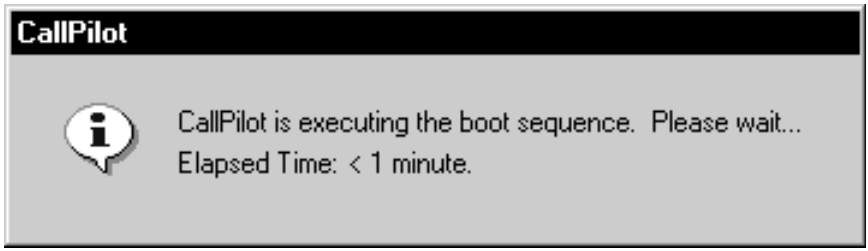
**Note:** You can choose to log on with a different user ID that has local administrative privileges.

4 Type the default password **abc123** (or the current Administrator password if it has been changed already).

**Note:** All passwords to Windows NT accounts should be changed from their default values to strong values known only to the customer. This includes the “gamroot” account used for the AR352 RAID card. CallPilot security is ultimately only as good as the passwords used.

5 Click OK.

**Note:** If the Configuration Wizard has previously been run on the CallPilot server, the following dialog box may appear:




Other dialog boxes may also appear that state if CallPilot is ready to accept calls. These dialog boxes are part of the CallPilot system ready indicator feature and are not applicable until you have run the Configuration Wizard.

Ignore these dialog boxes and continue with “Running the Configuration Wizard” on page 119. See “Checking that CallPilot is ready to accept calls” on page 124 for more information about the system-ready indicator dialog boxes.

# 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.

## To log on to the CallPilot server with CallPilot Manager

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

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

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

   If you have 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/

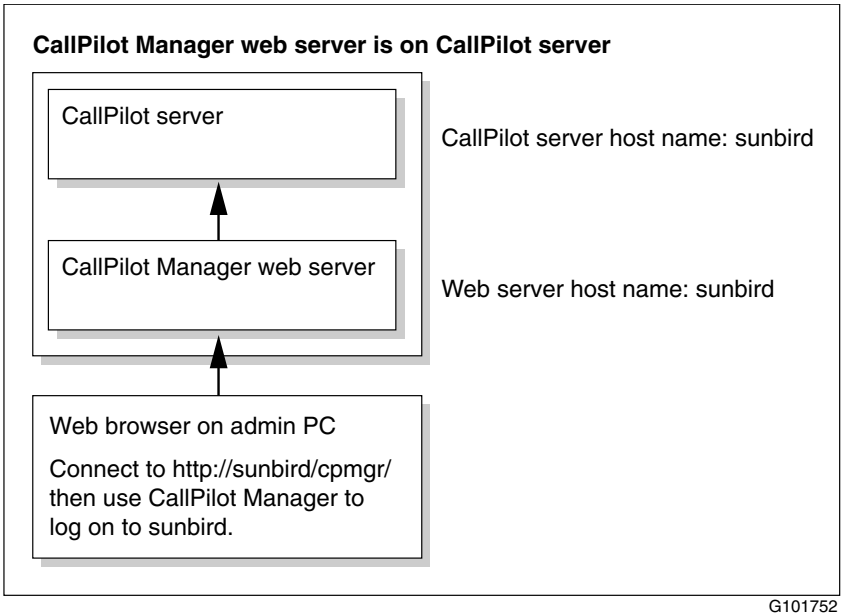
**Note:** For more details, see "Relationship of the CallPilot Manager web server to the CallPilot server" below.

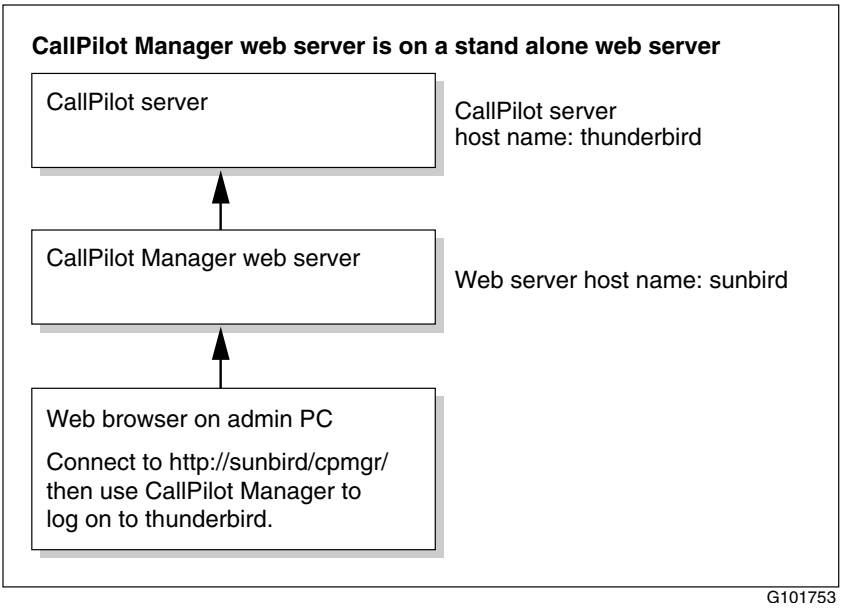
2. Log on to the CallPilot server with an administrator's mailbox number and password.

## 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 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/ then use CallPilot Manager to log on to sunbird.
G101752

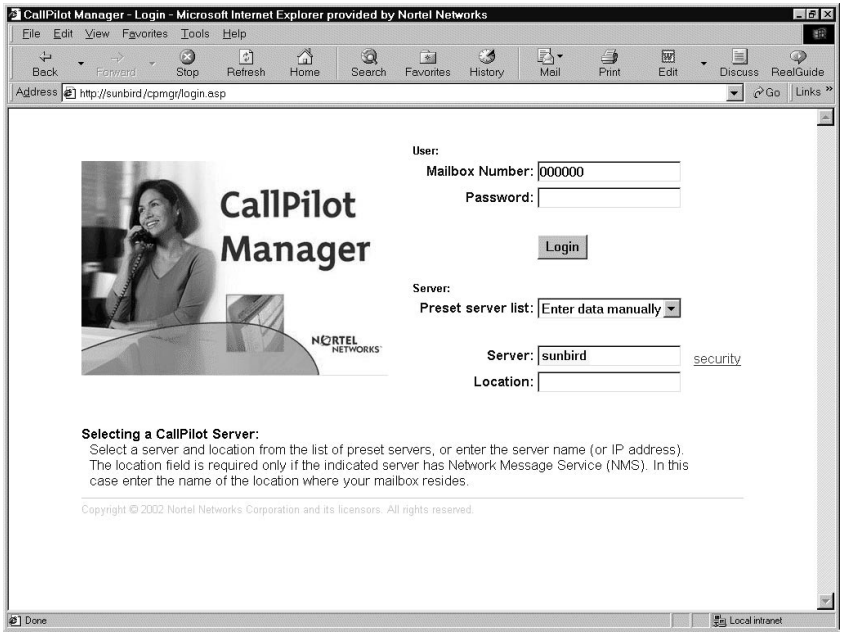

CallPilot Manager web server is on a stand alone web server
CallPilot server
CallPilot server host name: thunderbird
CallPilot Manager web server
Web server host name: sunbird
Web browser on admin PC
Connect to http://sunbird/cpmgr/ then use CallPilot Manager to log on to thunderbird.
G101753

## To log on to the CallPilot server

1. Launch the web browser on your PC or on the CallPilot server.
2. Type the URL to connect to CallPilot Manager in the Address or Location box of your web browser, and then press Enter.

   **Example:** http://sunbird/cpmgr/

   **Result:** When the connection is established, the CallPilot Manager Login page appears.




   **Note:** The URL automatically appears as http://*web server host name or IP address*/cpmgr/login.asp.

3. Type the administration mailbox number and password.
4. Do one of the following:
   - Choose a server or location from the list of preconfigured servers or locations in the Preset server list box.
   - Type the CallPilot server's host name or IP address in the Server box.

- If the CallPilot server to which you are connecting has Network Message Service (NMS) installed, type the CallPilot server's 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.

**Note:** Internet Explorer retains information that you have used before for each box except the Password. To reuse the information, do the following:

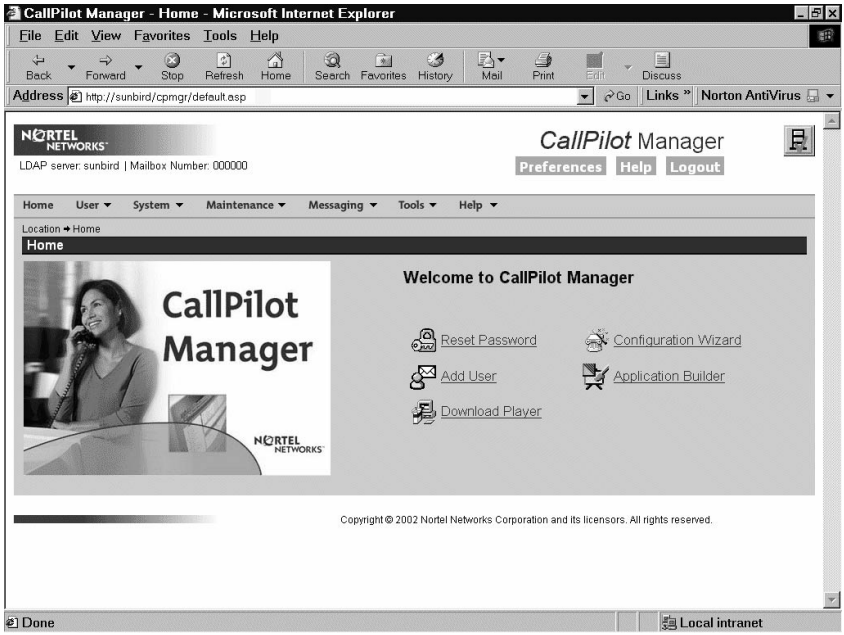
**a.** Clear the contents in the box.

**b.** Click once inside the box.

**c.** Choose the item you need from the list that appears.

**5** Click Login.

**Result:** The main CallPilot Manager page appears.




**6** Continue with "Running the Configuration Wizard" on page 119.

# 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 Part 1 of the *CallPilot Installation and Configuration* binder
- CallPilot keycode and serial number

## To run the Configuration Wizard

**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 Part 1 of the *CallPilot Installation and Configuration* binder. 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 "Logging on to the CallPilot server with CallPilot Manager" on page 114.
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.

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 Part 1 of the *CallPilot Installation and Configuration* binder.

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

## What's next?

Continue with "Changing pcAnywhere caller passwords" on page 121.

# 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.

One licensed copy of pcAnywhere is provided for the server on the CP 2.0 OS Recovery CD (or Upgrade CD). pcAnywhere is installed and configured on the server at the factory.

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 *Administrator's Guide*.

To simplify the remote logon process, Nortel Networks recommends that you match the pcAnywhere caller password for CallPilotDist to the Nortel Networks user account password for NGenDist. Therefore, Nortel Networks recommends that you change the pcAnywhere caller CallPilotDist password and the Windows NT NGenDist account password at the same time.

## To change pcAnywhere caller passwords

1. Stop the pcAnywhere session, if one is running.
2. Click Start → Programs → Symantec pcAnywhere.

   **Result:** The pcAnywhere Manager opens.
3. Right-click the CallPilot icon, and then select Properties from the pop-up menu.

   **Result:** The "pcAnywhere Host Properties: CallPilot" dialog box appears.
4. Click the Callers tab.
5. Right-click the CallPilotDist icon, and then select Properties from the pop-up menu.

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

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

8 Click Apply.

9 Click OK.

10 Click OK to return to the main pcAnywhere Manager window.

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

## What's next?

Continue with Chapter 5, "Testing the CallPilot installation," on page 123.

# Chapter 5

# Testing the CallPilot installation

## In this chapter


Checking that CallPilot is ready to accept calls 124

Testing the connection to the ELAN 130

Testing the connection to the CLAN 131

Verifying that CallPilot can receive calls 132

Testing the CallPilot software and channels 133

# 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; 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 200i or 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.

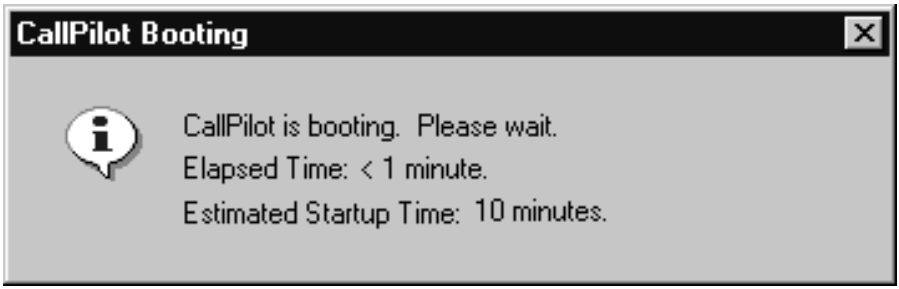
**Note:** The Configuration Wizard may have been run at the factory or distributor's site prior to shipment to the customer site. If so, then system-ready indicators are visible even the first time you start up CallPilot at the customer site.

## 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) appears after a few seconds that states the current status.

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.

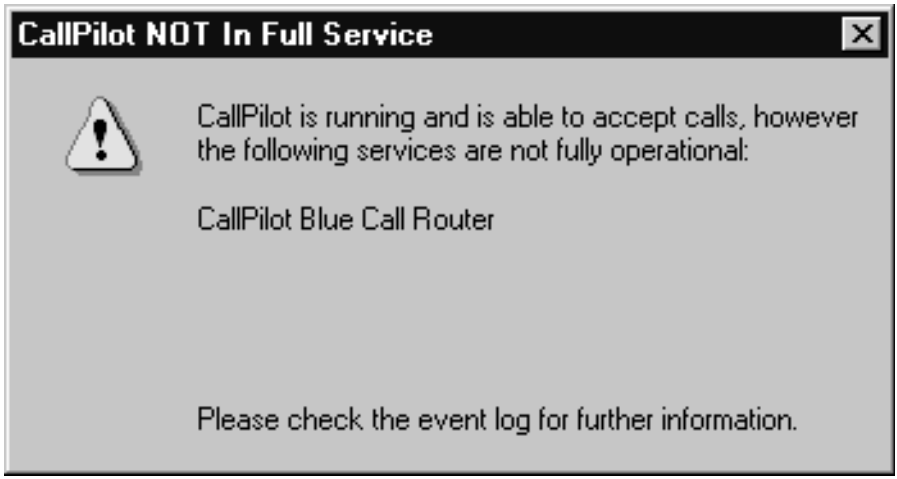
If the CallPilot start sequence is passed successfully (that is, CallPilot services are fully operational), the following dialog box appears:




Click OK to close the dialog box.

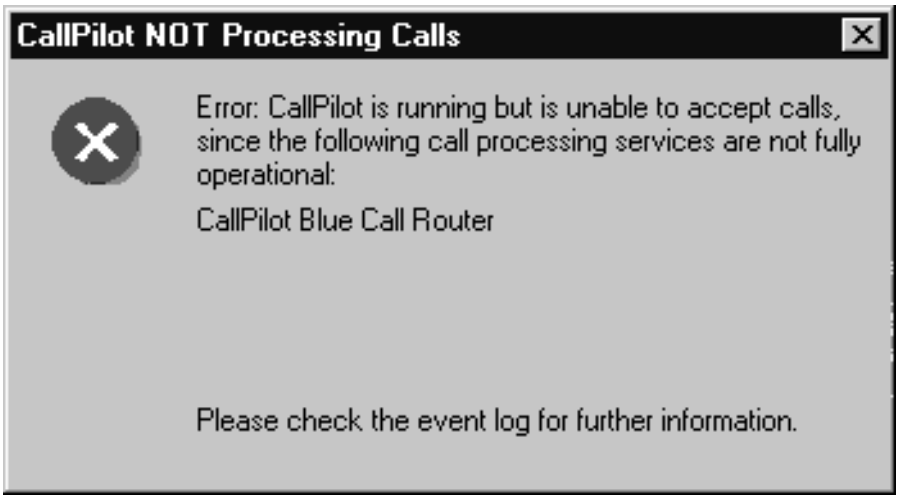
If there are errors, one of the following two dialog boxes appears (depending on the severity of the problem):

### 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 online Help in CallPilot Manager.

### 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 online Help in CallPilot Manager.

## Alternative methods for verifying that CallPilot is ready to accept calls

### View events in CallPilot Manager or in the Windows NT 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 Windows NT Event Viewer on the server.

The Event Browser and Alarm Monitor show only the latest 100 events by default (this default can be adjusted), so it is possible for the system-ready indicator events to be removed from the Event Browser and Alarm Monitor windows.

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

### Observe the HEX display (for the 200i or 201i server only)

The HEX display on the 200i or 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. |
| MAJ | A major alarm has occurred. Check the event log for further information. |

| IPE CallPilot server HEX display | Description |
|---|---|
| CRI | A critical alarm has occurred. Check the event log for further information. |
| ??? | This indicates that 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

## Introduction

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

## To test the connection to the ELAN

1 Click Start → Programs → Command Prompt.

**Result:** The Command Prompt window appears.

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

**Note:** Refer to the Configuration Wizard worksheets that you completed in Part 1 of the *CallPilot Installation and Configuration* binder for the IP address. This is also the ELAN IP address specified for the Meridian 1 switch in “Configuring Meridian 1 IP addresses and enabling the Ethernet interface” on page 73.

**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 card to the Meridian 1 switch.

3 If the CallPilot server is also connected to a CLAN, then continue with “Testing the connection to the CLAN” on page 131.

If the CallPilot server is not connected to a CLAN, then type **exit** and press Enter to close the Command Prompt window. Then continue with “Verifying that CallPilot can receive calls” on page 132.

# Testing the connection to the CLAN

## Introduction

This procedure tests the network connection between the server and the Customer LAN (CLAN). This applies only if CallPilot has a CLAN card and is connected to a CLAN.

## To test the connection to the CLAN

1. Click Start → Programs → Command Prompt.

   **Result:** The Command Prompt window appears.

2. Type **ping** followed by the CLAN IP address of another PC on the CLAN, 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.

# 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" on page 133.

## To verify that CallPilot can receive calls

1. Ensure that CallPilot services are fully operational before you begin. See "Checking that CallPilot is ready to accept calls" on page 124.
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 Networks ..."), 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 Part 5 of the *CallPilot Installation and Configuration* binder for troubleshooting instructions.

## What's next?

Continue with "Testing the CallPilot software and channels" on page 133.

# Testing the CallPilot software and channels

## Introduction

This section includes 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.
- Identify a phoneset 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” on page 134
- “To configure the Voice Messaging DN” on page 135
- “To leave a message” on page 135

### To add a user for testing purposes

1 Log on to Windows NT on the CallPilot server. See “Logging on to Windows NT on the CallPilot server” on page 112.

**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. See “Logging on to the CallPilot server with CallPilot Manager” on page 114.

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. Write down 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.

### To configure the Voice Messaging DN

**Note:** If you have already configured aVoice 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.

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.

### To leave a message

1 From any active phoneset 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: “Nortel CallPilot. 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” on page 138.

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. 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…*

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

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

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

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

## To verify that you can retrieve a message

**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 Networks 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 Networks customer support representative.

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

## Verifying that each call channel and multimedia channel is functioning properly

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

The call channel is the channel that carries the call signal from the Meridian 1 switch to CallPilot. The multimedia channel is the channel in CallPilot 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" on page 139 (Skip this procedure if you do not have voice channels installed.)
- "To test call channels and fax channels" on page 141 (Skip this procedure if you do not have fax channels installed.)
- "To test call channels and speech recognition channels" on page 143 (Skip this procedure if you do not have speech recognition channels installed.)
- "To restore the SDN Table and put all channels back in service" on page 145

**Note:** These tests require that you access the Channel Monitor, Multimedia Monitor, and Service Directory Number applications in CallPilot Manager. If you need additional instructions for these programs, refer to the online Help in CallPilot Manager, or to the *CallPilot Administrator's Guide* (NTP 555-7101-301). You also are required to access the System Monitor utility. The System Monitor utility is described in the chapter "Using CallPilot system utilities" in Part 5 of the *CallPilot Installation and Configuration* binder.

### To test call channels and voice channels

**Note:** If CallPilot has no voice channels, go to "To test call channels and fax channels" on page 141. If CallPilot also has no fax channels, go to "To test call channels and speech recognition channels" on page 143.

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.

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

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

5. Click Maintenance → Multimedia Monitor.

   **Result:** The Multimedia Monitor appears.

6. Select and start a maximum of 8 voice channels for testing.

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

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

8. Verify that all voice channels are in Idle state.

**9** In CallPilot Manager, click Maintenance → Channel Monitor.

**Result:** The Channel Monitor appears.

**10** Select the whole system and stop all channels.

**11** Select and start the same number of call channels as voice channels that you have started. For example, if you have started 8 voice channels, then start 8 call channels.

**12** 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.

**13** 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).

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

**15** Verify that CallPilot answers the call and that the CallPilot greeting plays.

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

**17** Hang up the telephone.

**18** Repeat steps 14 to 17 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 to a 1 minute standby mode so they are ready for the next call.

**19** Stop the voice and call channels that have been tested. Then repeat steps 5 to 18 until all voice channels and the same number of call channels are tested.

### To test call channels and fax channels

**Note:** If CallPilot has no fax channels, go to "To test call channels and speech recognition channels" on page 143.

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 Media Type box, select Fax.

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

4 Click Save.

5 Click Maintenance → Multimedia Monitor.

**Result:** The Multimedia Monitor appears.

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

**Note:** Nortel Networks 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.

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

8 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.

9 In CallPilot Manager, click Maintenance → Channel Monitor.

**Result:** The Channel Monitor appears.

10 Select the whole system and stop all channels.

**11** Select and start the same number of call channels as fax channels that you have started. For example, if you have started 8 fax 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 channel test).

**12** 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.

**13** 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).

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

**15** Verify that CallPilot answers the call and that the CallPilot greeting plays.

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

**17** Hang up the phone.

**18** Repeat steps 14 to 17 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 to a 1 minute standby mode so they are ready for the next call.

**19** Stop the fax and call channels that have been tested. Then repeat steps 5 to 18 until all fax channels and the same number of call channels are tested.

### To test call channels and speech recognition channels

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 Media Type box, select Speech Recognition.

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

4 Click Save.

5 Click Maintenance → Multimedia Monitor.

**Result:** The Multimedia Monitor appears.

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

**Note:** Nortel Networks 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 speech recognition channels are tested, stop them and start another set of speech recognition channels.

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

8 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.

9 In CallPilot Manager, click Maintenance → Channel Monitor.

**Result:** The Channel Monitor appears.

10 Select the whole system and stop all channels.

11 Select and start the same number of call channels as speech recognition channels that you have started. For example, if you have 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).

**12** 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.

**13** 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).

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

**15** Verify that CallPilot answers the call and that the CallPilot greeting plays.

**16** 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.

**17** Hang up the phone.

**18** Repeat steps 14 to 17 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 to a 1 minute standby mode so they are ready for the next call.

**19** Stop the speech recognition and call channels that have been tested. Then repeat steps 5 to 18 until all speech recognition channels and the same number of call channels are tested.

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

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, 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.

## What's 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" of the *Administration Guide* for more information.

# Index

## Numerics

1001rp
MGate cabling diagram 52, 54, 55, 57, 59
1002rp
MGate cabling diagram 52, 54, 55, 57, 59
200i server
network diagram 19
201i server
network diagram 19
702t
MGate cabling diagram 52, 54, 55, 57, 58

## A

ACD
creating 90
defining the default DN 90
*See* Automatic Call Distribution
ACD agent
queue
configuring 84
ACD agents 24
configuring 86
ACD agents and overlay 11 24
adding a user 134
AML message tracing 72
Attendant Overflow Position
defining CallPilot as 78
Automatic Call Distribution, definition 24

## B

boards, replacement
detecting 111

## C

call channels
test 139, 141, 143
call dropped 37
Call Forward by Call Type 82
Call Park Allowed 65
call queuing, definition for Meridian 1 switch 25
call routing
definition for Meridian 1 switch 25
diagram 31
CallPilot
verifying that services are fully operational 124
CallPilot Manager 117
log on to CallPilot server with 114
viewing events 127
CallPilot server
log on instructions 114, 117
CallPilot server and MGate card
connecting 49
CallPilot software
testing 133
CallPilot, configuring for
Symposium Call Center Services 14
calls, verification 132
card slots
enabling 89
CDN
control mode 25
default mode 25

queue 25
configuring for messaging services 92
*See* Control Directory Number
channel verification 138
channels
back in service 145
testing 133
checklists
Meridian 1 system configuration 65
CLAN
connection test 131
Configuration Wizard 124
online help 111
overview 110
recovering changes 111
running 119
using to detect replacement boards 111
configuring
CallPilot 110
CallPilot channels as ACD agents 86
CDNs for messaging services 92
Phantom DNs 94
the Meridian 1 switch 65
connection test
ELAN 130
Control Directory Number
definition 24
customer data block
defining CallPilot 78
modifying 79
customer number 68

# D

desktop client PCs 21
diagrams
call routing 31
DS30X cable 50
MGate card cabling 50
network, 200i server 19
network, 201i server 19
network, rackmount server 20
network, tower server 20
securing the MGate cable connection 60
Digit Manipulation 105
DS30X cables
connecting 59
overview 41
dual DS30X cable (NTRH2013) 49

# E

ELAN
connection test 130
*See* Embedded LAN
Equipment LAN
*See* Embedded LAN
ELAN range 69
ELAN, provisioning
overlay 17 69
Embedded LAN
provisioning 69
Ethernet
connection 65, 69
interface 73, 74
subnet mask 76

# F

faulty MGate card
impact 41
fax channels 141

# H

HEX display
descriptions 128
HEX display, 200i and 201i server 128

# I

inbound SDN 30
IP address

changing after CallPilot install 73
IP addresses
configuring 74

# L

language, support
multiple 94
LED indicators
MGate card 45
LED states
combined 47
logging on to CallPilot server 112
logging on to Windows NT 112

# M

Meridian 1 switch
configuration task checklist 65
dual CPU 73
single CPU 73
Meridian 1 switch and CLAN
connected 73
Meridian 1 switch, configuration
saving 107
Meridian 1 switch, configuring for
CallPilot and Symposium Call Center Services 14
message
leaving 135
retrieving 137
Message Center Included 65
Message Register for AML
defining 65
Message Register, defining 72
messaging services
configuring CDNs for 92
MGate #1, #2, and #3, location
identification 51
MGate cabling diagram
1001rp 52, 54, 55, 57, 59
1002rp 52, 54, 55, 57, 59
702t 52, 54, 55, 57, 58
MGate card 21
cables 41
LED indicators 45
replacing 48
MGCR
*See* Message Register
MGCR parameter 72
modem 21
MPB #1 and MPB #2, location table 50
MPB16-4 board 21
MPB16-4 board and MGate card
connecting 52, 54, 55, 57, 58
MPC-8 card 21
MPUs 35
multimedia channel
definition 35
how acquired from ACD queue 36
types 35
multimedia channel verification 138
multimedia channels
caller acquired 36
multimedia channels, idle 36
multimedia channels, not idle 36

# N

Network Message Service
configuring the route data block for 105
NMS
*See* Network Messaging Service
NTRH2012
single DS30X cable 49
NTRH2013
dual DS30X cable 49

# O

outbound SDN 30
Overlays
guidelines for working with 68

# P

password
pcAnywhere 121
pcAnywhere caller passwords
changing 121
PCs
desktop client 21
Phantom DN 27
configuring 94, 97
creating 27
definition 27
forwarding to a CDN queue 27
networking services and 28
Phantom DNs
services requiring 27
phantom loops
checking for 95
phantom superloop
configuring 96
phoneset
required features 101
phoneset, user
provisioning 101
phonset, users with fax capabilities 94
ping command 130, 131
Position IDs 86

# R

rackmount server
network diagram 20

# S

SDN
inbound SDN 30
outbound SDN 30
*See* Service Directory Number
SDN Table
restoring 145
SDN Table controls 29
Service Directory Number
overview 29
types 30
single DS30X cable (NTRH2012) 49
speech recognition channels 143
subnet mask 76
system readiness
checking 125
system-ready indicators 124

# T

Terminal number
for 200i, 201i
for tower, rackmount 86
testing
adding a user for 134
testing call channels 139, 141, 143
testing fax channels 141
testing speech recognition channels 143
testing voice channels 139
TNs
*See* Terminal numbers
tower server
network diagram 20

# V

verifying that CallPilot services are fully operational 124
virtual fax DNs 94
voice channels 139
Voice Messaging DN
configuring 135

# W

Windows NT
viewing events 127

# CallPilot

## Installation and Configuration
## Meridian 1 and CallPilot Server Configuration

Copyright © 2002 Nortel Networks, All Rights Reserved

Information is subject to change without notice. Nortel Networks reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.

The process of transmitting data and call messaging between the CallPilot server and the Meridian 1 switch or Succession CSE 1000 system is proprietary to Nortel Networks. Any other use of the data and the transmission process is a violation of the user license unless specifically authorized in writing by Nortel Networks prior to such use. Violations of the license by alternative usage of any portion of this process or the related hardware constitutes grounds for an immediate termination of the license and Nortel Networks reserves the right to seek all allowable remedies for such breach.


| | |
|---|---|
| Publication number: | 555-7101-222 |
| Product release: | 2.0 |
| Document release: | Standard 1.0 |
| Date: | October 2002 |

Printed in Canada


NORTEL NETWORKS™