



Nortel CallPilot

# Fundamentals Guide

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# Chapter 1

## How to get help

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

### Getting help from the Nortel Web site

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

[www.nortel.com/support](http://www.nortel.com/support)

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

- download software, documentation, and product bulletins
- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues
- sign up for automatic notification of new software and documentation for Nortel equipment
- open and manage technical support cases

### Getting help over the phone from a Nortel Solutions Center

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

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

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

[www.nortel.com/callus](http://www.nortel.com/callus)

### **Getting help from a specialist by using an Express Routing Code**

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

[www.nortel.com/erc](http://www.nortel.com/erc)

### **Getting help through a Nortel distributor or reseller**

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

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## Chapter 2

# Introduction

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Welcome to CallPilot\*!

CallPilot is a powerful unified messaging system that offers a single solution for managing many types of information, including:

- voice messages
- e-mail messages
- telephone calls
- fax messages
- directories

CallPilot users can send and receive both voice and fax messages through display-based telephone sets, wireless sets, Windows desktop computers, or a speech-recognition interface.

Whether you are new to CallPilot or have previous experience with the product, this guide is the place to start.

The *CallPilot Fundamentals Guide* provides an overview of the CallPilot product. It is your introduction to the CallPilot hardware, software, and documentation.

In addition to providing overviews of the CallPilot components, this guide describes the roles of various personnel involved with the installation, configuration, administration, and maintenance of the system. The guide also examines the end-user perspective and various regulatory and environmental requirements.

One of the principal roles of this guide is to serve as your roadmap to the CallPilot documentation suite. The entire suite is extensive, comprising dozens of individual volumes, reference cards, and detailed online Help information. All the text volumes and reference cards are available in Adobe

Acrobat PDF format. Refer to [Chapter 3 "CallPilot documentation" \(page 15\)](#) and [Chapter 6 "CallPilot and personnel roles" \(page 41\)](#) for detailed information about the CallPilot documentation suite and its uses.

For previous CallPilot customers and users, this guide also contains a "New in this release" section (see [Chapter 4 "New in this release" \(page 21\)](#)). This section provides a brief overview of the new functionality introduced in this release of the product.

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## Chapter 3

# CallPilot documentation

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### **In this chapter**

"Introduction to the CallPilot documentation " (page 15)

"Customer Documentation Map " (page 16)

"Using online Help sources " (page 18)

"Contacting technical support " (page 19)

"Contacting Nortel " (page 20)

### ***Introduction to the CallPilot documentation***

The CallPilot documentation suite is stored on the DVD-ROM that you receive with your system. The suite is organized into six main categories:

- Fundamentals
- Planning and Engineering
- Installation and Configuration
- Administration and Support Tools Guides
- Maintenance
- End-user Information

This structure relates to the main task groups involved in installing, administering, maintaining, and using CallPilot. The documents are supplied in Adobe Acrobat PDF format. You can print part, or all, of a guide, as required.

In addition to the various guides, CallPilot contains extensive online Help information. The Help topics can be accessed from various CallPilot interface screens, such as the CallPilot Manager and the Web-based My CallPilot. The entire Help collection is also available offline. This facilitates conducting searches if you want to probe the entire body of the online text.

The PDF documents are also available from the Nortel Partner Information Center (PIC) at:

<http://www.nortel.com/pic>

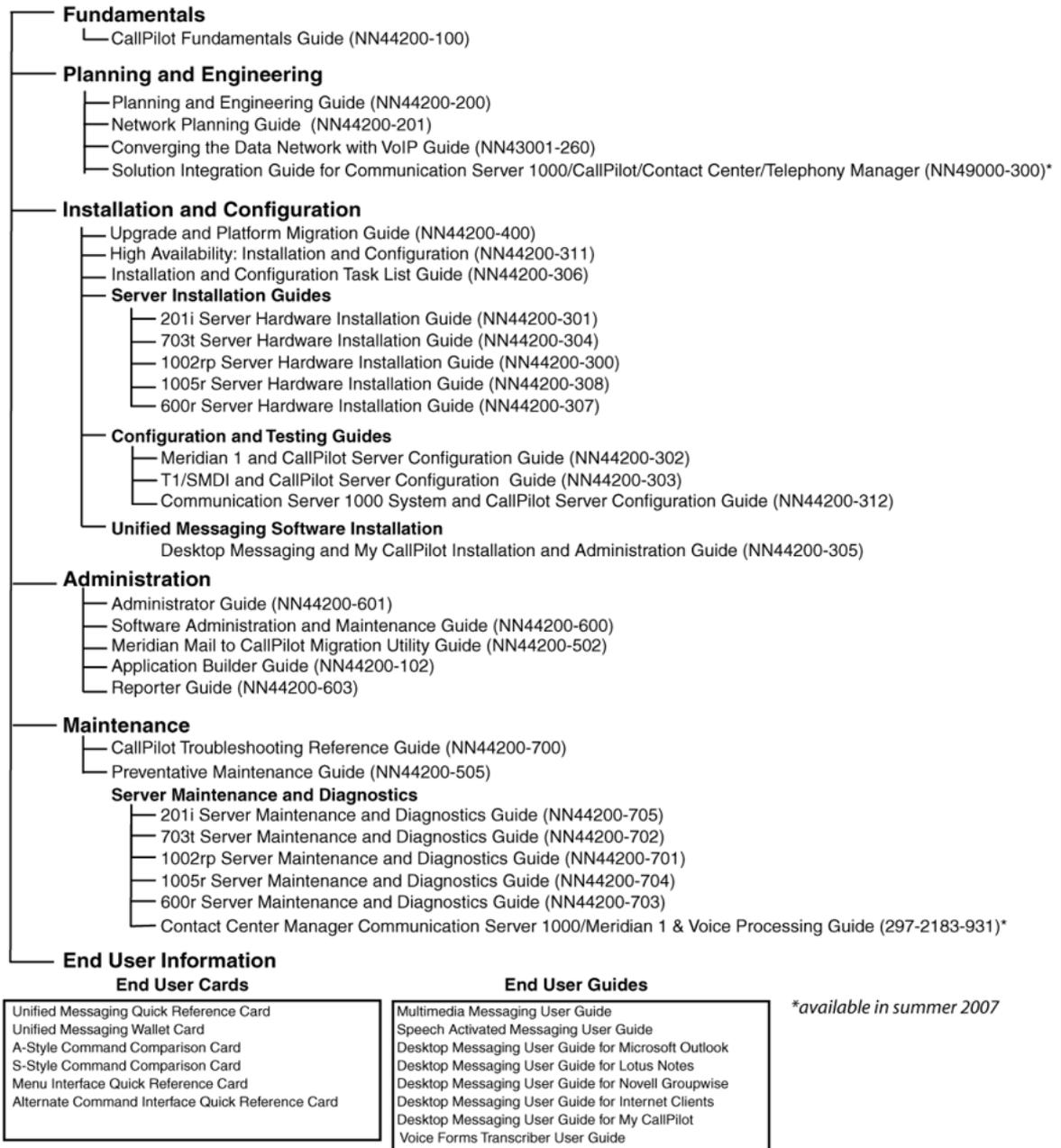
You require a user ID and password to access the PIC. If you do not have a PIC account, click Register to request an account. Note that processing your account request can take up to 72 hours.

### ***Customer Documentation Map***

The following diagram shows the overall organization and content of the CallPilot documentation suite.



## CallPilot Customer Documentation Map



\*available in summer 2007

The Map was created to facilitate navigation through the suite by showing the main task groups and the documents contained in each category. It appears near the beginning of each guide, showing that guide's location within the suite.

Descriptions of the suite's documents are provided in [Chapter 6 "CallPilot and personnel roles" \(page 41\)](#) That chapter examines the roles of various personnel within an organization with respect to installing, maintaining, administering, and using CallPilot. It directs you to the appropriate guides for the tasks you want to perform.

## ***Using online Help sources***

### **CallPilot administration online Help**

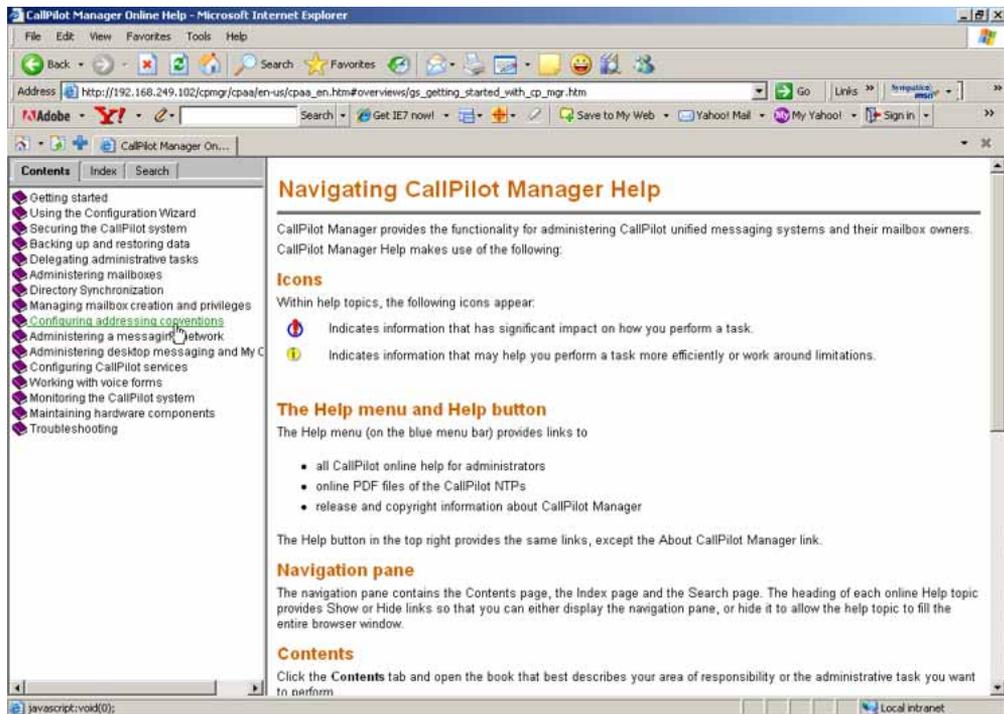
The CallPilot Manager and CallPilot Reporter software contain administration online Help areas that provide access to:

- technical documentation in Acrobat PDF format
- online Help topics in HTML format

To access online information, use either of the following methods:

- Click the white Help button at the top of any page to access the Administration Help area.
- Click the grey Help button on any page to display a topic that relates to the contents of the page.

For more information about using these Help systems, access the CallPilot Manager Help, open the Getting Started book, and click Navigating CallPilot Manager Help.



The Application Builder software contains a Windows Help system as well as context-sensitive help (available by clicking the ? button and then a field or label).

### CallPilot end-user online Help

The My CallPilot software contains a Useful Information area that provides access to the end-user guides in HTML format. Online user guides in Acrobat PDF format are also available from the Useful Information online Help.

To access online Help for the currently selected My CallPilot tab, click the Help button on the upper-right corner of the My CallPilot page.

Desktop Messaging provides product-specific Windows Help for groupware clients (Microsoft Outlook, Novell GroupWise, and Lotus Notes). The stand-alone version of CallPilot Player also provides addressing and troubleshooting information for Internet mail clients.

## Contacting technical support

Contact your distributor's technical support organization to obtain any required assistance with your system.

### ***Contacting Nortel***

If you have comments or suggestions for improving CallPilot and its documentation, contact Nortel at the following Web site address:

<http://www.nortel.com/contactus>

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## Chapter 4

# New in this release

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### In this chapter

"New in CallPilot 5.0 " (page 21)

### ***New in CallPilot 5.0***

This chapter, "New in this release", provides an overview of the new functionality introduced in the software release, CallPilot 5.0.

#### **New platforms**

- The 600r rack-mount server is a new platform that is used with CallPilot 5.0. The 600r is a multimedia telephony server with a low-end capacity. The 600r server has a fixed capacity of 96 voice channels and 1200 hours of storage.
- The 1005r hardware platform is a long-life industrial server in a standard rack-mount 2U form factor. It utilizes dual Xeon technology and proven, reliable SCSI hard-drive technology.

#### **RoHS compliance**

The new 600r and 1005r servers meet the requirements of the Restriction of Hazardous Substances (RoHS) Directive 2002/95/EC, applicable in countries affected by the European Union Environmental Directives (EUED). RoHS requirements impose restrictions on the type and quantity of materials used in the manufacturing and construction of Electronic and Electrical Equipment (EEE).

To comply with the RoHS directive, some of the part numbers now contain an E5 or E6 suffix. For example, part number NTRH2014 is now NTRH2014E6. The part numbers in this guide do not contain the suffix.

### **High Availability feature**

In a High Availability configuration, a pair of peer CallPilot 1005r servers is used instead of a single server. Both servers are connected to the same switch and are configured so that one CallPilot server is active and the other is standing by, ready to take over for the first server if the active server fails due to a predetermined failure condition. The High Availability feature supports both automatic failovers and manual failovers. The High Availability configuration is only supported on the 1005r platform. Also, High Availability is only available with Application Module Link (AML) connectivity.

### **Voice Forms**

CallPilot Voice Forms is a new application in CallPilot that provides a simple, yet powerful, means of collecting information electronically. A voice form is an electronic equivalent of a paper form or questionnaire and is used for services such as credit card applications, registration forms, and customer complaints. A voice form contains a series of questions that is played to callers when they dial into the voice form service. Callers listen to each question and provide an answer. The set of answers is saved to the system in the form of a response. Transcribers can transcribe the responses by using the telephone or My CallPilot. An administrator can create an integrated voice form that callers can access through a menu in Application Builder. Voice form functionality is only available with Application Module Link (AML) connectivity.

### **New splash screens**

CallPilot 5.0 displays new splash screens and banners in the following applications: Desktop Messaging, My CallPilot, Reporter, Application Builder, CallPilot Manager, CallPilot Setup Wizard, CallPilot Upgrade Wizard, and CallPilot Server.

### **Enhanced security**

The following list outlines security enhancements for CallPilot 5.0:

- The Upgrade Wizard and Setup Wizard issue warning messages with the removal of the Challenge/Response authentication.
- The Configuration Wizard offers a more streamlined procedure with the removal of the following Windows accounts: NGenSys, NGenDist, and NGenDesign.
- CallPilot Manager security is streamlined in the following ways:
  - removal of the Challenge/Response authentication
  - placement of the Password Master Key Reset function in the Security Administration page

- The Reporter report, Administrator Action Report, lists new entries describing the actions of an administrator with regard to mailboxes and exchange servers.
- The Windows Event Log lists application logon and logoff activities.
- The My CallPilot home page displays last logon and the number of invalid logon attempts.
- CallPilot Desktop Messaging displays the last logon and the number of invalid logon attempts when a user logs on.
- In the Application Builder module, security is improved in the following ways:
  - The default security setting for Secure Sockets Layer (SSL) communication is for the entire session.
  - The system removes the User ID/Password entries and does not store in the log.
- The password encryption procedure is improved in the following ways:
  - Users must change their passwords after their first successful logon.
  - Password encryption algorithms are modified.
- Operating system offers increased security in the following ways:
  - The operating system does not allow unauthorized personnel to install software. For example, the system blocks Media Player from installing new codecs.
  - DCOM ports are allocated to port 5000.
  - Internet Explorer per-user zone settings are disabled.
  - Database software is stored on a separate drive from database data.

### **Global Address Book (GAB)**

If your organization has two or more networked CallPilot servers, users of Desktop Messaging and My CallPilot can access multiple address books using one of two methods:

- client-side searching method

The client software is configured to search the address books of all networked CallPilot systems.
- Nortel Common Network Directory (NCND) method

Users can connect to a single, centralized directory on a separate computer. Using the Common Network Directory software, the directory is created and address books are synchronized as required over time.

Consider using the NCND solution if your organization has 10 or more CallPilot systems.

### **Enhanced Names across the Network (NAN) feature**

For sites using name dialing and name addressing on networked servers, the Enhanced Names Across the Network feature offers an automated means of propagating user information throughout the network. When Enhanced NAN is enabled on a server, this feature automatically sends user information to each supported remote server. As a result, each local user becomes a temporary remote user (TRU) in the database of the remote server. User information is available on the remote servers for the name dialing and name addressing feature. Over time, when changes occur to a local user's name, mailbox number, or personal verification, or if the user is deleted, these changes are automatically updated on the remote servers.

The Enhanced NAN feature is implemented as an extension to the existing VPIM Names Across the Network (NAN) feature.

### **Shared distribution list (SDL) enhancements**

Five shared distribution list (SDL) enhancements are introduced in CallPilot 5.0:

- **Nested SDLs**

An SDL is a list of mailbox numbers that an administrator uses to distribute information to a group of people. With the Nested SDLs feature, the administrator can create an SDL that contains other existing SDLs. The facility to nest SDLs reduces the time that it takes to maintain large SDLs, because one SDL is built from smaller SDLs that are already maintained.

- **Dynamic SDLs**

There are two types of shared distribution lists (SDLs): static and dynamic.

- A static SDL contains a static list of users. An administrator creates a static SDL by searching for users or other SDLs on the system and manually adding them.

- A dynamic SDL, unlike a static SDL, does not contain a list of users; instead, it is a set of criteria that is used to define users. An administrator creates a dynamic SDL by defining the set of criteria. When a message is sent using a dynamic SDL, the message is deposited in the mailbox of all local users who match the criteria at the time the message is delivered.

- **SDL Notify Option**

This feature provides the option to restrict notifications for messages sent to specific SDLs.

- **SDL Administrator Access**

A partial administrator is a user with selected administration rights. SDL Administrator Access provides an administrator the capacity to restrict or allow access to a partial administrator.

- **Network SDLs**

With the Network SDLs feature, the system sends messages to all recipients (not just to local users), regardless of where the message originated. SDLs are created and maintained in one place, not on each system in the network.

Combining the SDL enhancements provides even more versatility.

### **Message Forwarding Rule (MFR) enhancements**

CallPilot 5.0 provides three Message Forwarding Rule (MFR) enhancements:

- New voice prompts let users enable or disable their Message Forwarding Rule from the telephone.
- Users are notified when their Message Forwarding Rule is disabled by the system or the administrator. Users can receive the notification from the telephone, the desktop, or My CallPilot.
- Users can automatically delete a forwarded message from CallPilot when they read the message. This feature requires that the e-mail server supports Read Receipts.

### **Message Waiting Indicator (MWI) icon enhancements**

The Message Waiting Indicator (MWI) icon is a telephone handset icon that appears in the system tray of the Windows task bar and notifies users of My CallPilot and the desktop client when a new message arrives. With CallPilot 5.0, users can position the pointer over the MWI icon to display their mailbox number, the server address, and the number of messages waiting in their inbox. The MWI icon can also display tool tips and pop-up balloons that alert users of the status of the CallPilot server, for example. Users can right-click the MWI icon to display a shortcut menu with options to open My CallPilot, configure the MWI, log on or log off, or exit from the MWI so it no longer appears. Users can also open the latest new message through My CallPilot by double-clicking on the MWI icon.

Users can also configure the MWI through the MFR Configuration dialog box in My CallPilot; administrators can configure the MWI through CallPilot Manager.

## **CPTrace**

With CallPilot 5.0, CPTrace replaces Webtrace as a troubleshooting tool. CPTrace can gather debugging information, such as information about the MWI icon, while the desktop clients and My CallPilot clients are running. CPTrace is located in the root directory of CallPilot Desktop Messaging, which is typically \Program Files\Nortel\CallPilot. CPTrace is also typically located on the My CallPilot server in the following directory: \Program Files\Nortel\My CallPilot.

## **Reporter enhancements**

The following enhancements are new in Reporter for CallPilot 5.0.

### **Refresh Crystal Reports in Reporter**

CallPilot 5.0 supports the latest release of Crystal Reports, Crystal Reports XI. Nortel strongly recommends that customers upgrade Crystal Reports to version XI as previous versions do not officially support the Windows 2003 operating system.

### **New and improved backup and restore procedure**

With CallPilot 5.0, the Backup Utility for Reporter enhancement provides the administrator with a streamlined set of procedures to back up and restore the Reporter database. The Backup Utility for Reporter enhancement is installed as part of CallPilot Reporter.

## **Database enhancements**

### **Upgrade of Sybase database**

The database is upgraded to Sybase 9.0.2. The upgrade is integrated into the CallPilot 5.0 installation and is transparent to all users.

### **Decouple database name from computer name**

The CallPilot server has a database service whose name is referenced by several components during CallPilot installation and configuration tasks. When you install CallPilot 5.0, the synchronization of the database service name and the computer name is no longer necessary. Administrators access the database through the database service name, not the computer name.

## **New browser support**

Two new browsers are supported with CallPilot 5.0:

- for Windows: Mozilla Firefox 1.5
- for Macintosh: Safari 1.3 or later for Macintosh OS X

### **1000 Network Management System (NMS) Locations**

With the 1000 Network Management System (NMS) Locations feature, customers can configure up to 999 NMS locations for each CallPilot server on the network. The system sets the location ID ranges from 0 to 999. Because the system reserves 0 for the Prime Location ID, this leaves 999 NMS locations available.

### **The user privacy feature**

Some CallPilot users do not want their directory information (e-mail address, telephone number/extension DN, and so on) published to other users. Through CallPilot Manager, the administrator can withhold the publication of this information for individual mailbox owners.

### **Text capability Class of Service (COS) feature**

An administrator can prevent Desktop Messaging and My CallPilot users from sending or receiving text messages or text attachments through the CallPilot system. This setting is controlled at the mailbox class level and applies to all users that are members of the mailbox class.

### **PING on startup COS feature**

By default, the CallPilot desktop client issues an automatic PING command to the server prior to logon. When networks are configured to block PING commands, users can receive an error message that incorrectly informs them that the network is not present. The PING on startup COS feature lets an administrator turn off the automatic PING command so that users do not receive this error message. This setting is controlled at the mailbox class level and applies to all users that are members of the mailbox class.

### **Call processing features**

#### **One Number Voice Fax Call Answering feature**

The One Number Voice/Fax Call Answering feature allows the system to process incoming fax calls without user intervention. When a user receives a fax call, the call is automatically forwarded to an Service Directory Number (SDN) configured with the One Number Voice Fax Call Answering feature. When an administrator configures this feature, and a user receives a fax call, the system automatically forwards the call to the fax call answering service and deposits a fax message into the user's mailbox.

#### **Composed Messages Block feature**

The Composed Messages Block feature lets the administrator block composed messages from being delivered to a specific mailbox class. For example, an administrator can block messages to the executive mailbox class of an organization if these messages are intended for the general employee base.

## Telephone user interface (TUI) features

### Near end warning beep

The near end warning beep feature applies to two kinds of messages: call answering messages and composed messages.

- When a caller records a call answering message, the caller hears a beep when a specified percentage of available recording time is reached, warning the user that the record time is near end.
- In the case of composed messages, the system notifies the user with a warning beep when the user uses up a preset percentage of the recording time.

In both cases, this percentage, or time threshold value, is set by the administrator. An administrator can use the near end warning beep feature when considering the amount of server space allocated to each mailbox class member.

### Eliminate system prompt after TAG feature

If an individual user's mailbox is configured properly, the eliminate system prompt after TAG feature lets the administrator eliminate the playing of the system prompt after the user's temporary absence greeting (TAG). This reduces the amount of information the caller hears before the caller is transferred. An example of a system prompt is: "Your call is being transferred to an attendant because the owner of this mailbox is not accepting messages. One moment please."

### Telephone remote service activation (TRSA) feature

With the telephone remote service activation (TRSA) feature, the administrator can change the menu announcement assigned to an SDN using a telephone from a remote location. This feature is useful in emergency situations when the administrator cannot come into the office to make the change using CallPilot Manager.

### Dual language prompting

An administrator can configure CallPilot Manager to play system prompts in two languages for the following services:

- call answering service
- voice messaging service and logon
- express voice messaging service
- outcalling services
- Application Builder applications

The system must have a primary and secondary language installed to take advantage of this feature.

### **Message addressing enhancement**

An administrator can choose whether users address messages before or after composing. This feature is configured in CallPilot Manager on the Mailbox Class Details page and applies to all users within the mailbox class.

### **AutoPlay feature**

The AutoPlay feature provides the following enhancements:

- time interval between messages  
An administrator can configure the time interval or the length of a pause that plays between each message. The default is 3.5 seconds; the time interval can be changed within the range of .5 seconds to 5 seconds.
- play to end of mailbox  
The system plays only new messages to the end of the mailbox, not archived messages.

### **Shared telephone messaging feature**

When more than one person share a telephone, an administrator can set up separate mailboxes for each person through CallPilot Manager. For example, in a university residence, students sharing a room often share a telephone. Using the shared telephone messaging feature, each student has a separate mailbox for personal voice messages.

### **License reduction feature**

Your organization can request a keycode with a reduced number of reserved seats for the following capacities: voice messaging seats, fax messaging seats, desktop messaging seats, speech-activated messaging seats, and e-mail by telephone (TTS) seats. If an organization's requirements are less than the maximum number of seats preset by Nortel, customers can reduce costs associated with seats. With CallPilot 5.0, the administrator can set the maximum number of seats through the Configuration Wizard.

### **Desktop Messaging enhancements**

This section lists the Desktop Messaging enhancements for CallPilot 5.0.

#### **Desktop user interface (UI) enhancements**

- CallPilot Player facelift  
CallPilot 5.0 introduces a new look to the CallPilot Player.
- Update existing Outlook contacts  
Microsoft Outlook users can update an existing Outlook contact from the address of an incoming CallPilot message.
- Add recipient to contact list

Microsoft Outlook users can add senders and recipients of incoming CallPilot messages to their contact list.

- Contacting the sender or recipient of a voice message (Outlook, Novell, Lotus)

Users can respond to a voice message with a telephone call instead of a recorded message by dialing the sender's telephone number with the Contact Sender command.

- Spell checker

In the CallPilot Desktop Messaging 5.0 custom form, users who use Microsoft Word (Microsoft Office 2000 or 2003) can run spell check when composing CallPilot text messages.

- Link to MFR

CallPilot 5.0 introduces a desktop link to My CallPilot to configure an MFR. To configure a rule, users can link directly from Desktop Messaging to the configuration windows in My CallPilot from the CallPilot Desktop Messaging Properties page.

- Path to greetings

CallPilot 5.0 introduces a link from Desktop Messaging to the greetings menu in My CallPilot.

### **Mark messages as unread or read**

With Desktop Messaging, users can mark their CallPilot messages as unread, in addition to marking messages as read.

### **Resolve sender and recipients with personal address book set as default**

With the resolve sender and recipients with personal address book option, users can send a message to an address that appears unknown, or receive a message that include other recipients appear unknown, and the system searches for the names in their personal address book. The Desktop Messaging for Microsoft Outlook application for CallPilot 5.0 sets this option as a default. This option cannot be changed.

### **Deliver to location (Outlook)**

CallPilot 5.0 supports the delivery of CallPilot messages to the user's default e-mail inbox, thereby merging CallPilot messages with regular Outlook e-mail. Users can choose whether the system delivers their messages to the default e-mail inbox or to the CallPilot inbox. An administrator can restrict this selection at the mailbox class level.

**Automatic notification of My CallPilot URL update**

An administrator can define a global My CallPilot URL through CallPilot Manager. This URL automatically propagates the desktop client and the MWI icon. Users do not need to add or update their My CallPilot URL manually.

**WAV-GSM support for outgoing messages**

For CallPilot 5.0 running on new platforms, the 1005r and 600r, all outgoing WAV files are converted to Microsoft WAV-GSM 6.10. This feature helps reduce the storage space required on e-mail servers.

**Address field enhancements**

The CallPilot Desktop Messaging custom form lets users right-click on the recipient and sender to perform the following actions: view address properties, add to the contact list, update an existing contact, and contact using the telephone or Instant Messaging. The availability of these enhancements depend on the client software used.

**Check Names icon**

The Check Names icon in CallPilot Player checks the name of a recipient of a CallPilot e-mail message against the user's default address book. If CallPilot Desktop Messaging fails to resolve the name, the system informs the user and the user can modify the name.

**Convenient change of playback type**

If a user is listening to voice mail and a call comes in, the user can switch from the telephone playback to computer playback without clicking on the disconnect button first.

**Access to Lotus Notes Public Address Book COS (Lotus notes)**

Users, by default, can access the Public Address Book. An administrator can restrict access to this address book at the mailbox class level. An administrator can do this, for example, if users take too much time searching the Public Address Book when they send a message because this address book can become very large.

**Printing desktop client COS settings**

The system administrator can print the current desktop client COS settings.

**My CallPilot enhancements****Voice Forms transcription tab**

The My CallPilot home page displays a new tab, the Voice Forms transcription tab, which is used to retrieve and transcribe callers' responses to voice forms. The administrator grants users transcription capabilities according to your organization's needs. Transcribers use My CallPilot

to retrieve the responses, play back the recordings, and transcribe them as required by their site. Alternatively, users can transcribe using the telephone, without My CallPilot.

**CallPilot Player and MWI bundled together**

If users download the CallPilot Player software, the MWI icon with CallPilot 5.0 enhancements is included in the download.

**Allow user to select session timeout that is longer than 1 hour**

With the My CallPilot Administration Utility, an administrator can restrict or let users modify their session timeout delay before My CallPilot automatically logs off from an inactive My CallPilot session. The default maximum timeout value is 1 hour.

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## Chapter 5

# Safety guidelines

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### In this chapter

"General safety" (page 33)

"Avoiding electrostatic discharge " (page 35)

"Handling components " (page 36)

"Handling hard drives " (page 37)

"Handling CD-ROMs and DVD-ROMs " (page 37)

"Single-point grounding requirements " (page 38)

### General safety

When installing, replacing, or upgrading any system parts, follow Nortel safety guidelines to prevent personal injury and damage to the server or replacement parts.



#### WARNING

Field maintenance must always be performed by fully qualified, trained personnel.

#### ATTENTION

The guidelines discussed in this chapter are common to all server models. Ensure that you comply with any safety guidelines that are also discussed in the *CallPilot Installation and Configuration* guides.

### Precautionary messages

This guide provides warnings when risks related to hardware installation and handling are known. Do not ignore these warnings!

### Symbols description

You encounter the following symbols in the CallPilot guides. Their meanings are given here. Do not ignore these symbols!



#### **DANGER**

Warns you of an immediate electrical hazard which, if not avoided, can result in shock, serious injury, or death.



#### **WARNING**

Warns you of a situation in which you can be injured if instructions are not followed exactly as stated.



#### **CAUTION**

Alerts you to situations where data can be lost or damaged, equipment can be damaged, actions can result in service interruption, and productive time can be lost.

#### **ATTENTION**

Provides information that is essential to the completion of a task.

### General precautions

Nortel recommends the following safety guidelines for performing installation and maintenance procedures:

- To prevent electric shock, *do not* plug computer and peripheral devices into power sources that are not properly grounded.
- Use a surge protector or uninterruptible power supply to protect your system from sudden increases and decreases in electrical power.
- If your server is a tower or rack-mount server, you must shut down and power off the server and peripheral devices, and then unplug the server power cable before you remove the server cover.
- Ensure that nothing rests on the peripheral cables, and that you cannot trip over or step on the cables.
- Do not push any foreign objects into any server opening.

- When handling components, protect the server from electrostatic discharge by wearing an antistatic wrist strap that is attached to an unpainted metal surface, as described in the following table:

<b>IF your server is a</b>	<b>THEN attach the antistatic wrist strap to</b>
tower or rack-mount server	any unpainted metal surface on the server chassis.
IPE server	any unpainted metal surface on the switch.

- To prevent data loss, keep magnetic screwdrivers away from backup tapes, floppy disks, and hard drives.

### **Avoiding electrostatic discharge**

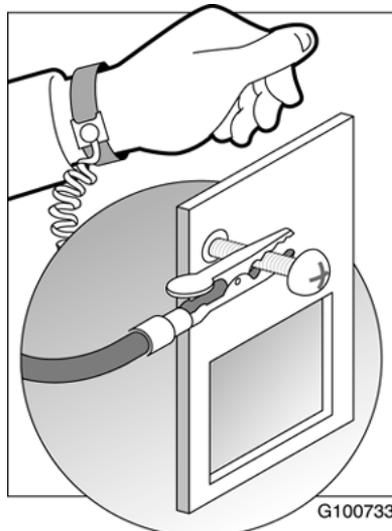
Electrostatic discharge (ESD) can seriously damage component parts, such as boards, disk drives, and other parts.

**ATTENTION**

Nortel recommends performing all hardware installation and maintenance procedures at an ESD workstation whenever possible.

#### **Antistatic wrist strap**

If an ESD workstation is not available, provide some ESD protection by wearing an antistatic wrist strap. Ground the ESD wrist strap by attaching it to any unpainted metal surface on the chassis. The following diagram shows the lead from the ESD wrist strap clipped to an exposed screw.



### To discharge static

When working with server components, periodically touch a nearby unpainted metal surface to discharge any accumulated static.

### Handling components

Incorrect handling or installation of server components can cause damage to your server.

### Cooling and airflow

For proper cooling and airflow, observe the following precautions:

- If you removed any system fans, ensure that you reinstall them so that air flows in the correct direction for system cooling. For more information, refer to the *CallPilot Installation and Configuration* binder.
- If you removed the upper fan holder foam in the 703t server to perform component maintenance, ensure that you replace it when you are done. The upper fan holder foam ensures that:
  - fans are secure in their sockets
  - correct spacing between add-in boards is maintained
- Always install the tower or rack-mount server cover before turning on the system. You risk damaging system parts if you operate the system without the cover in place.

### Handling boards

Nortel recommends the following precautions for any procedure that includes handling component boards:

- Store boards in their original antistatic shipping packages until you are ready to inspect or use them.
- After you remove a board from its protective wrapper or from the server, place the board component-side up on a conductive foam pad.  
If possible, use antistatic floor pads and workbench pads as well.
- Do not slide a board over any surface.
- Do not touch board components or gold-edge connectors on the board.
- Hold a board by the top edge or by the side edges.

### Installing boards

When installing boards on the server, remember the following details:

- The backplane is flexible and supported with stand-offs.
- Board slots resist connector insertion.
- Firm, steady force seats a board in its slot properly.

- Boards seat with friction followed by a solid stop.
- External connector plates, attached to add-in boards, are seated in the rear panel and secured with a screw.

## **Handling hard drives**

Hard drives are extremely sensitive to vibration and physical shock. To protect equipment and prolong the useful life of hard drives, Nortel recommends the following precautions:

### **Avoid vibration or physical shock**

Hard drives are susceptible to even slight vibrations. A hard drive can be damaged if it is placed on a table that is accidentally knocked or moved. Use caution when handling hard drives to prevent damage.

### **Handle hard drives with care**

After removing a hard drive from its protective wrapper or from the server, place it on an antistatic padded workbench or workstation to avoid movement or jarring. After removing a 201i card, wait approximately one minute until the hard disk stops spinning before transporting the card.

### **Check for shipping damage**

If a replacement hard drive is shipped alone as an upgrade or replacement, determine if the item has been damaged during shipping. Note any dents or damage on the padded container and packaging. If the container and packaging are damaged, keep the container as proof that the part was damaged during shipping and handling.

### **Store hard drives carefully**

Store hard drives in padded containers. Store the packaged drives away from places where they can be moved, jarred, or damaged by the environment.

### **Detailed procedures**

Refer to the *CallPilot Installation and Configuration* guides for detailed instructions on how to remove the hard drive.

## **Handling CD-ROMs and DVD-ROMs**

When removing a CD-ROM or DVD-ROM from its protective case or loading it into a drive, hold the disc by its center hole and outer edge. Avoid touching the data surface of the disc (the nonlabeled side.)

To protect the CD-ROM or DVD-ROM against scratches and dirt when not in use, keep it in its protective case.

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### To load a CD-ROM or DVD-ROM

Step	Action
1	Press the eject button on the CD-ROM or DVD-ROM drive to eject the disc tray.
2	Place the CD-ROM or DVD-ROM on the tray with its labeled side facing up.
3	Press the eject button, or gently press the front of the disc tray to retract the tray back into the drive.

---

—End—

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### To eject a CD-ROM or DVD-ROM

Step	Action
1	Press the eject button on the CD-ROM or DVD-ROM drive to eject the disc tray.
2	Remove the CD-ROM or DVD-ROM from the tray and put it in its protective case.
3	Press the eject button or gently press the front of the disc tray to retract the tray back into the drive.

---

—End—

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### ***Single-point grounding requirements***

Switches used with CallPilot (such as Meridian 1\* or Communication Server\* 1000) require a single-point ground (SPG) topology to which the CallPilot server and its peripherals (such as the monitor, modem, external DVD-ROM drive or tape drive, ELAN (embedded LAN)/CLAN (customer LAN) switches or hubs, and UPS) must also be grounded. The SPG is typically a copper bar or plate (a bus). In its simplest form, the SPG can be an isolated ground bus or an ACEG bus in the service panel or transformer.

**WARNING**

Power outlets used by the CallPilot server and its peripheral devices must be connected to the same single-point ground reference used by the switch (such as the Meridian 1 switch or CS 1000 system). If this requirement is not met, power transients can cause personal injury or hardware failure, or both.

Before the CallPilot server installation, a qualified electrician must implement the single-point ground reference as required between the power outlets of the CallPilot server and the power outlets of the switch.

**Requirements for the SPG**

Follow these requirements for the SPG:

- All ground conductors must be identified according to local codes and terminated permanently.
- Terminations must be accessible for inspection and maintenance during the life of the installation.
- All grounding conductors must be continuous, with no splices or junctions, tagged "Do not remove or disconnect", and insulated against contact with foreign grounds.
- Grounding conductors must be no-load, non-current carrying cables, under normal operating conditions.
- The ground interface in a steel-framed building must have a single connecting reference, located at the service panel, to the building steel on the same floor as the switch (or within one floor from the switch).

**Note:** Nortel does not recommend the use of building steel as an integral part of the switch ground system. The building steel is a reference point only.

**Detailed procedures**

For detailed information about the SPG requirements, refer to the *Installation and Configuration Guide* and the grounding and power requirements section in the *CallPilot Planning and Engineering Guide*.

Additionally, refer to the documentation associated with the PBX switch configured with your CallPilot for further information about grounding requirements. For example, refer to the following NTPs:

- |             |  |
|-------------|--|
| NN43021-220 | <i>Communication Server 1000M and Meridian 1 Large System Planning and Engineering</i>       |
| NN43021-310 | <i>Communication Server 1000M and Meridian 1 Large System Installation and Commissioning</i> |

NN43011-220	<i>Communication Server 1000M and Meridian 1 Small System Planning and Engineering</i>
NN43011-310	<i>Communication Server 1000M and Meridian 1 Small System Installation and Commissioning</i>
NN43011-110	<i>Communication Server 1000M and Meridian 1 Small System Overview</i>
NN43041-220	<i>Communication Server 1000E Planning and Engineering</i>
NN43041-310	<i>Communication Server 1000E Installation and Commissioning</i>

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Also refer to the ANSI-J-STD-607-A-2002 standard *Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications*.

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## Chapter 6

# CallPilot and personnel roles

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### **In this chapter**

"Introduction" (page 41)

"Skills and knowledge you need " (page 42)

"Configuration Planners and Managers " (page 43)

"Installers and Technicians " (page 44)

"Administrators " (page 46)

"Maintenance personnel " (page 48)

"End users " (page 49)

### **Introduction**

Implementing a CallPilot solution requires a sequential series of tasks to be performed by a variety of personnel in your organization. These tasks include the following:

- planning and managing a CallPilot solution
- installing CallPilot hardware
- installing CallPilot software
- migrating to CallPilot from other systems, if applicable
- configuring a CallPilot server and your telephone switching system
- administering a CallPilot system
- using desktop client software

As newer versions of CallPilot software become available, there is also the additional task of:

- upgrading CallPilot software

This chapter examines each of these tasks from a personnel point of view. It directs you to the appropriate manuals and guides in the CallPilot documentation suite to enable you to perform the specific function.

Each of the referenced guides contains detailed information regarding the specific task. In addition, CallPilot has a content-rich online Help facility that provides further information, including extensive procedural instructions. You can easily search the online Help to find any particular topic.

**Note:** The personnel roles cited in this chapter are intended as general guidelines only. The roles may overlap in your organization, or different titles may be in use. However, the descriptions of the guide contents assist you in identifying the document you require for a specific task.

### ***Skills and knowledge you need***

You need certain skills and knowledge to install, maintain, and administer a CallPilot installation.

#### **Nortel product knowledge**

Knowledge of, or experience with, the following Nortel products assist you:

- previous releases of CallPilot
- Meridian Mail\*

#### ***PC knowledge***

You require knowledge of the following operating systems, Web browsers, and e-mail or Internet clients before beginning the CallPilot installation. The CallPilot documentation suite does not include references for these products.

- one or more of the following operating systems:
  - Microsoft Windows 98 SE
  - Microsoft Windows 2000 Professional
  - Microsoft Windows XP
  - Microsoft Windows NT
  - Microsoft Windows Server 2003
  - Microsoft Windows Vista
- Internet Explorer 5 or later

- one or more of the following e-mail or Internet mail clients:
  - Microsoft Outlook
  - Microsoft Outlook Express
  - Lotus Notes
  - Novell Groupwise
  - Qualcomm Eudora Pro

### ***Switch technology knowledge***

You need knowledge of the switch connected to the CallPilot server, including:

- a strong understanding of how the switch routes and processes calls
- switch configuration and operation (especially trunk group access restrictions [TGARs] and network classes of service [NCOS])
- how to establish the switch cabling connections

### ***Other experience or knowledge***

Other types of experience or knowledge that are recommended include the following:

- networking and network management/administration
- database management
- client-server systems and architecture
- TCP/IP protocols
- T1 carrier connectivity
- RS-232 and the SMDI link
- Web server setup and maintenance
- software installation and maintenance
- hardware installation and maintenance
- flowcharting
- troubleshooting

## ***Configuration Planners and Managers***

For those personnel involved in planning, engineering, and managing network configurations, the *CallPilot Planning and Engineering Guide* (NN44200-200) and the *Network Planning Guide* (NN44200-201) are the place to start.

The *CallPilot Planning and Engineering Guide* provides information and instructions for selecting and planning your CallPilot system. The process of planning and engineering results in determining the best size, platform, and location for your CallPilot system. This guide examines various system configurations, and includes coverage of:

- hardware and software configurations
- connectivity requirements
- system requirements
- server engineering
- site selection

This guide also provides information about the various tools available to help you plan and engineer your CallPilot system.

The *Networking Planning Guide* provides an overview of key concepts and terminology necessary to implement a messaging network. This guide introduces the networking solutions offered with CallPilot and describes specific feature interactions. It includes coverage of:

- dialing plans
- security and encryption
- gathering information
- configuring switches and your CallPilot hardware
- testing and maintenance

The guide explains the process that you follow to implement one or more networking solutions. Specific procedural information is provided in the CallPilot Manager online Help.

## ***Installers and Technicians***

If you are involved with the installation and configuration of CallPilot hardware and software, the *CallPilot Installation and Configuration Task List* (NN44200-306) is the first document to consult. It provides an overview of installing system hardware and software, including:

- installing a new CallPilot server
- connecting your switch to the CallPilot server
- configuring the switch and CallPilot server
- testing CallPilot
- Desktop messaging and My CallPilot software installation tasks
- configuring and administering the CallPilot system

The task list guide also describes additional system tasks that are done during the initial installation of the system or after a system is installed. These additional system tasks include:

- migrating data
- upgrading CallPilot
- expanding CallPilot features
- installing additional software components such as the Application Builder and Desktop Messaging software

When you consult the task list for the particular task to be performed, detailed information is available in the following set of related guides:

- Server Installation Guides

Supported CallPilot servers currently include the following models: 600r, 1005r, 201i, 703t, and 1002rp. CallPilot 5.0 is delivered on the following servers: 600r, 1005r, and 1002rp. However, customers can upgrade to CallPilot 5.0 on the following servers: 201i, 703t and 1002rp. All servers have a corresponding hardware installation guide:

- *600r Server Hardware Installation Guide* (NN44200-307)
- *1005r Server Hardware Installation Guide* (NN44200-308)
- *201i Server Hardware Installation Guide* (NN44200-301)
- *703t Server Hardware Installation Guide* (NN44200-304)
- *1002rp Server Hardware Installation Guide* (NN44200-300)

These guides cover initial preparation, specific installation procedures, power supply installation (1002rp only), and connecting peripheral devices.

- Software Installation

The *Desktop Messaging and My CallPilot Installation Guide* (NN44200-305) describes how to install the Desktop Messaging and My CallPilot software. *Desktop Messaging* is the CallPilot unified messaging application that works with an e-mail client. It provides a single graphical interface to manage CallPilot voice, fax, text, and e-mail messages. *My CallPilot* is a Web-based portal that provides access to CallPilot messages and mailbox configuration over the Internet.

The *Software Administration and Maintenance Guide* (NN44200-600) provides information and instructions for expanding, upgrading, and reinstalling CallPilot software. Note that the CallPilot system software and the server operating system are typically installed at the factory. The CD-ROMs shipped with the equipment contain a disk image of the system and other software components. The use of these discs is

detailed in this guide, because they can facilitate the recovery of the operating system and the CallPilot server software as a result of a software or hardware rebuild.

- Configuration and Testing Guides

These guides describe the CallPilot server configuration steps and switch setup for CallPilot systems that are connected to either a Meridian 1 switch (the *Meridian 1 and CallPilot Server Configuration Guide*(NN44200-302) or a CS 1000 system (the *Succession Communication Server Configuration Guide* (NN44200-312).

Specific coverage is provided for:

- configuring the system switch for correct operation with CallPilot
- connecting the CallPilot system to the system switch and the Nortel server subnet
- configuring the CallPilot server software
- testing the CallPilot installation

## **Administrators**

The *CallPilot Installation and Configuration Task List* (NN44200-306) provides a task list overview of the initial configuration and administration of the CallPilot system.

Detailed information about each task is provided in the following set of referenced guides:

- The *CallPilot Administrator's Guide* (NN44200-601) covers the typical tasks performed by a CallPilot administrator. These include:
  - assigning administrative privileges
  - mailbox administration
  - setting up user groups and permissions
  - security issues
  - backing up and restoring CallPilot information
  - configuring addressing conventions and messaging service defaults
  - configuring CallPilot services
  - maintenance and diagnostics

These tasks are usually performed using CallPilot Manager, the Web-based application used to connect to a CallPilot server. When you connect to the server, you can create and maintain the information the server uses to provide CallPilot messaging services to authorized mailbox owners. In the event that your IP service is not available, this

guide also includes information about using pcAnywhere from Symantec Corporation to control the CallPilot server over a dial-up connection or a LAN connection.

- The *Software Administration and Maintenance Guide* (NN44200-600) provides information and instructions for:
  - expanding and upgrading CallPilot software
  - performing server platform migrations
  - recovering from system failures
  - installing CallPilot administrative software on a stand-alone Web server
- The *Desktop Messaging and My CallPilot Administration Guide* (NN44200-602) is intended for the CallPilot system administrator. It provides instructions for:
  - configuring Desktop Messaging e-mail clients
  - configuring servers for Desktop Messaging and My CallPilot after installation
  - troubleshooting information.
- The *Meridian Mail to CallPilot Migration Guide* (NN44200-502) provides guidelines and detailed information for the migration of a Meridian Mail system to a CallPilot system. Troubleshooting information related to this process is also included.
- The *Application Builder Guide* (NN44200-102) details the use of Application Builder, a graphical program used to create CallPilot applications that callers access as dialable services. An application in this context is a set of functions (such as announcements, menus, and transfers) that determines the way CallPilot treats a call. When a CallPilot system receives a call, an application handles the call flow. The automated attendant application is a typical example. With Application Builder, you can:
  - specify the call functions that you want to include in an application, such as menus, announcements, and transfers
  - design the call flow (the path calls follow) in an application
- The *Reporter Guide* (NN44200-603) details the use of the Reporter application. Reporter is a Web-based application that helps you analyze and manage your CallPilot system. Reporter converts raw statistics from your server into easy-to-read reports.
- The document *Data Networking for Voice over IP* (NN43001-260) provides the guidelines for implementing the ELAN subnet shared by

CallPilot, CS 1000, and Contact Center\*. It is intended for network deployment personnel responsible for ensuring that their data network is properly provisioned to support IP Telephony services. The document discusses a number of areas that must be addressed when building a converged multimedia network. These include: network design, performance, Quality of Service (QoS), and operations.

### ***Maintenance personnel***

For personnel involved in maintaining the CallPilot system and diagnosing the system when problems occur, the documentation suite includes the following guides:

- *Troubleshooting Reference Guide* (NN44200-700)

This guide describes symptoms that can appear on all CallPilot server platforms, and provides basic step-by-step troubleshooting procedures. Each troubleshooting area contains symptom tables outlining basic checks that include diagnostics and resolutions for each check. You can find more troubleshooting information in the CallPilot documents that are referenced throughout this document.

This guide is applicable to all CallPilot servers. The exceptions are noted for each server, where necessary.

- Server maintenance and diagnostics guides

The documentation suite contains a maintenance and diagnostics guide for each model of CallPilot server. The guides are:

- *600r Server Maintenance and Diagnostics Guide* (NN44200-703)
- *1005r Server Maintenance and Diagnostics Guide* (NN44200-704)
- *201i Server Maintenance and Diagnostics Guide* (NN44200-705)
- *703t Server Maintenance and Diagnostics Guide* (NN44200-702)
- *1002rp Server Maintenance and Diagnostics Guide* (NN44200-701)

The actions discussed in these guides are divided into two groups of activities. The first activity is troubleshooting and diagnostics, where you try to identify and resolve the cause of the system problem. To facilitate this, the guides discuss the use of the operating system online diagnostic tools and the use of CallPilot Manager system utilities. The second activity is the performance of hardware maintenance. Actions such as removing and replacing the server, replacing the hard drive, and replacing the multimedia processing cards are covered.

## End users

The end user of CallPilot has a number of reference documents available. Guides are available for the particular desktop client they are using, such as Microsoft Outlook or Lotus Notes, as well as for the speech-activated messaging and telephone keypad abilities of CallPilot. In addition, a number of reference cards are available for quick access to the CallPilot features.

In summary, the documentation suite includes:

- *Desktop Messaging Guide for Microsoft Outlook*
- *Desktop Messaging Guide for Lotus Notes*
- *Desktop Messaging Guide for Novell Groupwise*

These guides are specific to the stated e-mail programs. They cover all aspects of accessing the CallPilot functionality using these clients: playing and composing voice messages, sending and receiving fax and text messages, calling the sender of a message, addressing issues, sending batch messages, and more.

CallPilot also supports other e-mail programs, although with less functionality. These include Outlook Express and Qualcomm Eudora Pro. For more information about these e-mail programs, refer to *Desktop Messaging Guide for Internet Clients*.

An additional guide is included for the Web-based My CallPilot application. You can work with My CallPilot from any computer that has Internet access and a Web browser configured for My CallPilot. The relevant guide is the *My CallPilot User Guide*.

Two other guides are provided that detail additional CallPilot functionality. They are the:

- *Multimedia Messaging User Guide*
- *Speech-Activated Messaging User Guide*

The *Multimedia Messaging User Guide* describes how to work with CallPilot from the keypad of your touchtone telephone. Your CallPilot mailbox stores your messages, recorded greetings, distribution lists, and other personal settings. You can log in to your mailbox at any time using the keypad to play your messages and use all of the available CallPilot features and services.

The *Speech-Activated Messaging User Guide* describes how to work with CallPilot by using speech commands with your touchtone telephone. You can log in to your mailbox at any time using spoken commands and then access the available CallPilot features and services.

The end user also has access to a variety of quick reference cards. These are especially useful when using keypad and voice commands, because they can be kept close at hand beside your telephone and workstation.

The cards include:

- *Unified Messaging Quick Reference Card*
- *Unified Messaging Wallet Card*
- *Command Comparison Card A-Style*
- *Command Comparison Card S-Style*
- *Menu Interface Quick Reference Card*
- *Alternate Command Interface Quick Reference Card*

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## Chapter 7

# CallPilot server hardware

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This chapter provides a brief summary of the servers currently available with CallPilot.

### **In this chapter**

"600r rack-mount server" (page 51)

"1005r rack-mount server" (page 54)

"201i server " (page 57)

"703t tower server " (page 59)

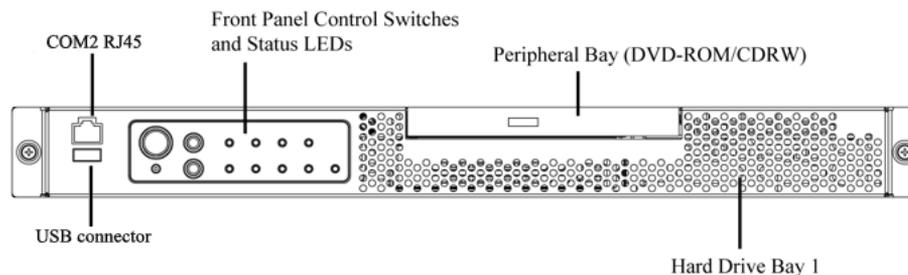
"1002rp rack-mount server " (page 62)

### **600r rack-mount server**

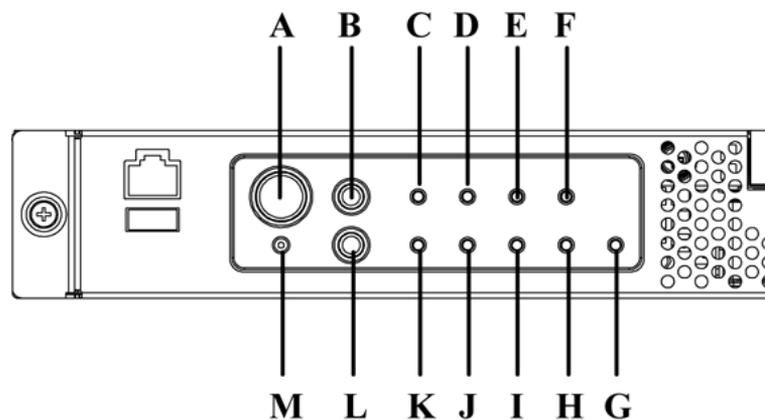
The 600r server is the low-end capacity multimedia server. The 600r is a long-life industrial computer server in a standard rack-mount 1U form factor measuring approximately 1.75 in. (44.4 mm) high by 17.5 in. (444.3 mm) wide by 20 in. (507.8 mm) deep and weighing 10 kg (23 lb.) This server utilizes current Intel P4 hyper-threading technology and proven, reliable SCSI hard-drive technology. The 600r server has a fixed capacity of 96 voice channels and 1200 hours of storage.

### **Front panel features**

The following diagram shows the front view of the server chassis with the bezel cover in place. When the bezel cover is removed, drive bay 1 is accessible.

**Front panel**

The following diagram shows the front panel controls and status LEDs. For more information about the front panel controls and status LEDs, see *CallPilot 600r Server Maintenance and Diagnostics* (NN44200-703).

**Front panel control switches and status LEDs**

**Note:** The faults described in the following table are hardware faults and are independent of CallPilot application faults.

**Front panel**

Label	Description	Label	Description
A	Power button	M	NMI button (not used)
B	Reset button	L	ID button
C	Critical fault LED	K	System ID LED (white)
D	Major fault LED	J	NIC activity LED (green)

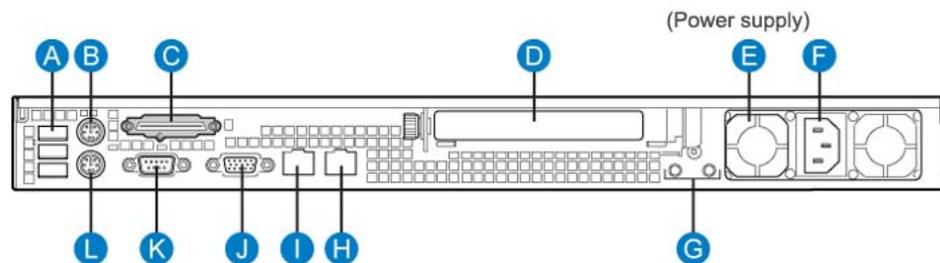
Label	Description	Label	Description
E	Minor fault LED	I	Main power LED (green)
F	Power LED	H	not used
G	Disk 0 Activity/Fault LED (green/amber)		

### Rear panel controls and features

The following diagram shows the back panel controls and features. On the right is the AC power supply bank. The PCI card bracket is in the middle of the back panel, while the connectors and ports are along the bottom and the left side.

**Note:** Nortel provides only AC power supply. The server works with a DC-to-AC converter, however, you must ensure the converter meets AC requirements as specified on the label of the power supply cover. To access the power supply cover, remove the server cover.

### Rear panel



### Rear panel

Label	Description	Label	Description
A	USB 0, USB 1, USB 2 (labelled 0, 1, 2 on the server)	G	Ground studs (used with system with DC input power supply)
B	PS/2 Mouse	H	RJ45 NIC 2 Embedded Local Area Network (ELAN) connector for the ELAN subnet (engraved 2 on server)
C	SCSI port	I	RJ45 NIC 1 Customer Local Area Network (CLAN) connector for Nortel server subnet (engraved 1 on server)

Label	Description	Label	Description
D	PCI card bracket (full-height) for MPB96	J	Video connector
E	Power supply	K	COM1 DB-9 serial port
F	AC power input	L	PS/2 keyboard connector

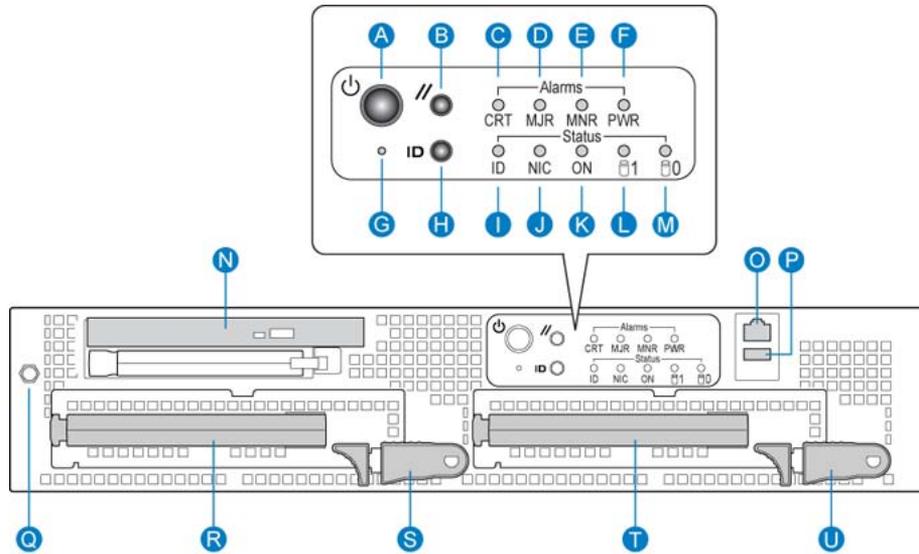
### **1005r rack-mount server**

The 1005r server is the CallPilot high-end capacity multimedia telephony server. It is a rack-mounted unit, measuring approximately 87.6mm (3.45 in.) high by 435.3 mm (17.4 in.) wide by 508 mm (20 in.) deep and weighing 20 kg (44 lb.) when fully loaded. The 1005r server has a capacity of up to 192 voice channels and 2,400 hours of storage.

Your server configuration depends on what was ordered from Nortel. There are six PCI card slots; three low-profile and three full-size.

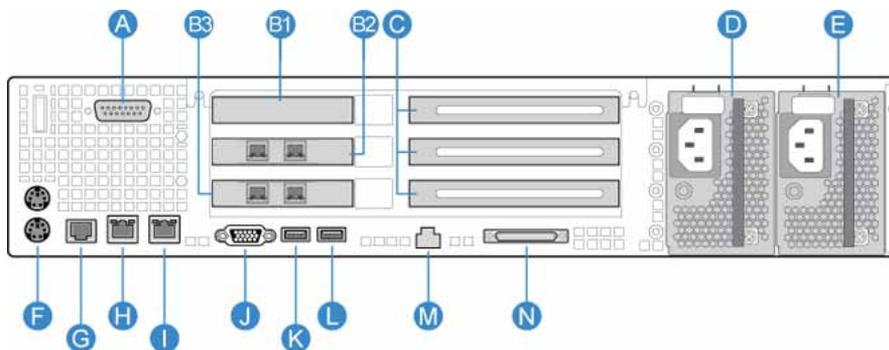
- One MPB96 card (in a PCI slot) for 96 MPU of DSP capacity. No additional MPB96 cards are required.
- For high capacity, three MPB96 cards are installed in a 1005r, providing a maximum of 192 channels and 288 MPUs.
- One RAID controller (in a PCI slot).

The front view of the 1005r server chassis (with the bezel cover removed) shows both hard drives, the peripheral DVD/CD/CDRW drive, the anti-static connection, and the front serial ports. When the bezel cover is on, only the DVD and USB connections, controls alarm LEDs, and status LEDs are visible.



Label	Control or feature	Label	Control or feature
A	Power switch	L	HDD1 activity
B	Reset switch	M	HDD0 activity
C	Critical alarm LED	N	DVD/CD/CDRW LED and eject button
D	Major alarm LED	O	Front serial port
E	Minor Alarm LED	P	USB 2
F	Power Alarm LED	Q	Electrostatic Discharge (ESD) connection
G	NMI switch (not used)	R	Hard drive 1 pull handle
H	ID switch	S	Hard drive 1 release lever
I	ID LED	T	Hard drive 0 pull handle
J	NIC activity LED	U	Hard drive 0 release lever
K	Status LED		

The following diagram shows the back panel controls and features. On the right are the AC power supply banks. The PCI card brackets are in the middle of the back panel, while the connectors and ports are along the bottom and left side.



Label	Control or feature	Label	Control or feature
A	DB15 Telco alarm connector (not used)	G	Rear connection to Comm 2 serial port
B1	PCI low-profile card #1 bracket	H	RJ45 NIC 1 connector
B2	PCI card #2 dual NIC for High Availability (HA) configuration. For more information about HA, see <i>High Availability: Installation and Configuration</i> (NN44200-311).	I	RJ45 NIC 2 connector
B3	PCI card #3 dual NIC for HA configuration. For more information about HA, see <i>High Availability: Installation and Configuration</i> (NN44200-311).	J	Video connector
C	PCI full-size card brackets. Numbered (1, 2, 3) from top to bottom.	K	USB 1
D	Power Supply 1	L	USB 0
E	Power Supply 2	M	Server management LAN port
F	PS/2 mouse and keyboard connectors	N	External SCSI tape drive

For a more detailed description of the 1005r server and its components, and how the server can be integrated into your network, see *1005r Server Hardware Installation* (NN44200-308).

## 201i server

The 201i server is the CallPilot lower-end capacity range server. It is a flexible multimedia telephony server designed to integrate with Meridian 1 and Communication Server 1000 (CS 1000) products. The server occupies two slots of a Meridian 1 IPE shelf or CS 1000 Media Gateway or Media Gateway Expansion. When it is locked into position, the server connectors attach to the backplane, which provides power and communications links.

The 201i can handle up to 40 voice channels (less if fax or speech recognition channels are provisioned) and 350 hours of storage. The base model comes with two MPC-8 cards for 24 MPU of DSP capacity. Two more MPC-8 can be added to bring the DSP capacity up to 40 MPU.

### Primary components

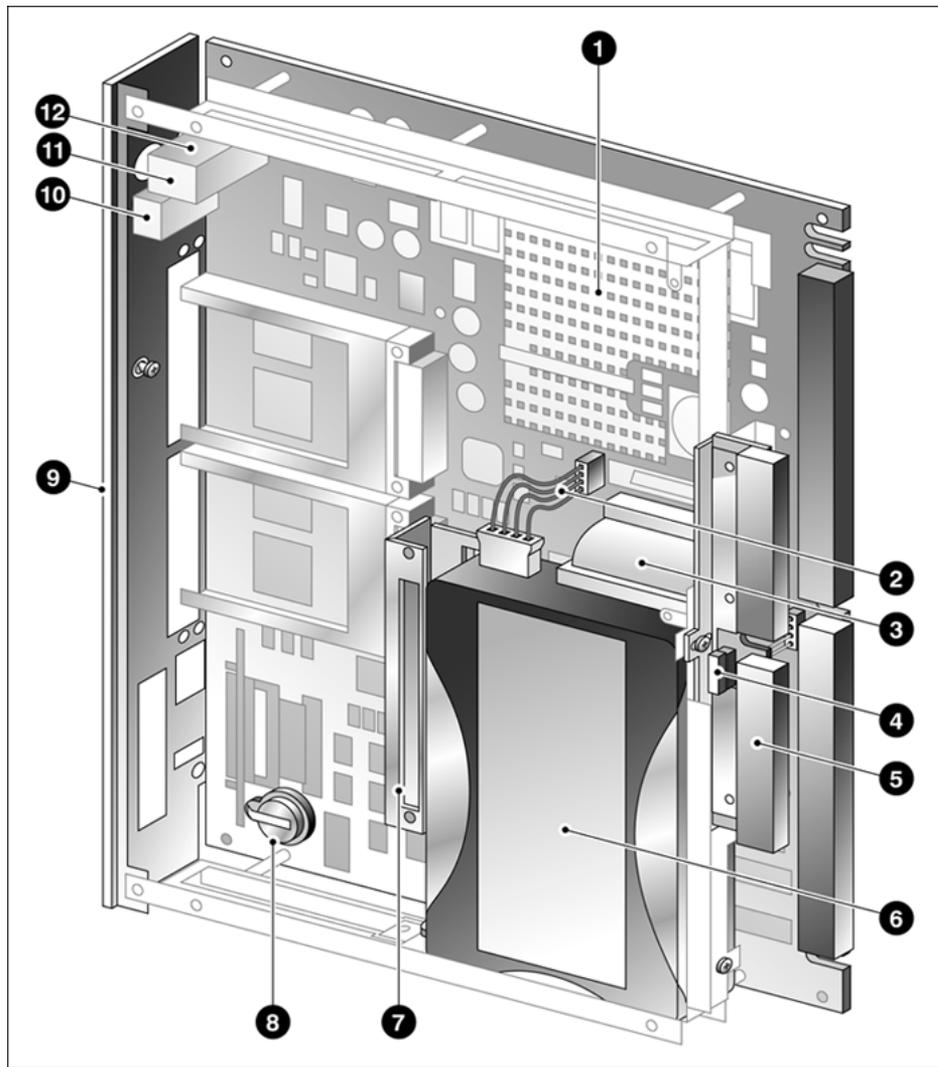
The server's motherboard houses the interfaces needed:

- to communicate with the Meridian 1 switch or CS 1000 system
- to facilitate data communications on Ethernet networks

Two Ethernet controllers on the server's motherboard provide Ethernet capability. These controllers provide the network interfaces for both the ELAN subnet and Nortel server subnet.

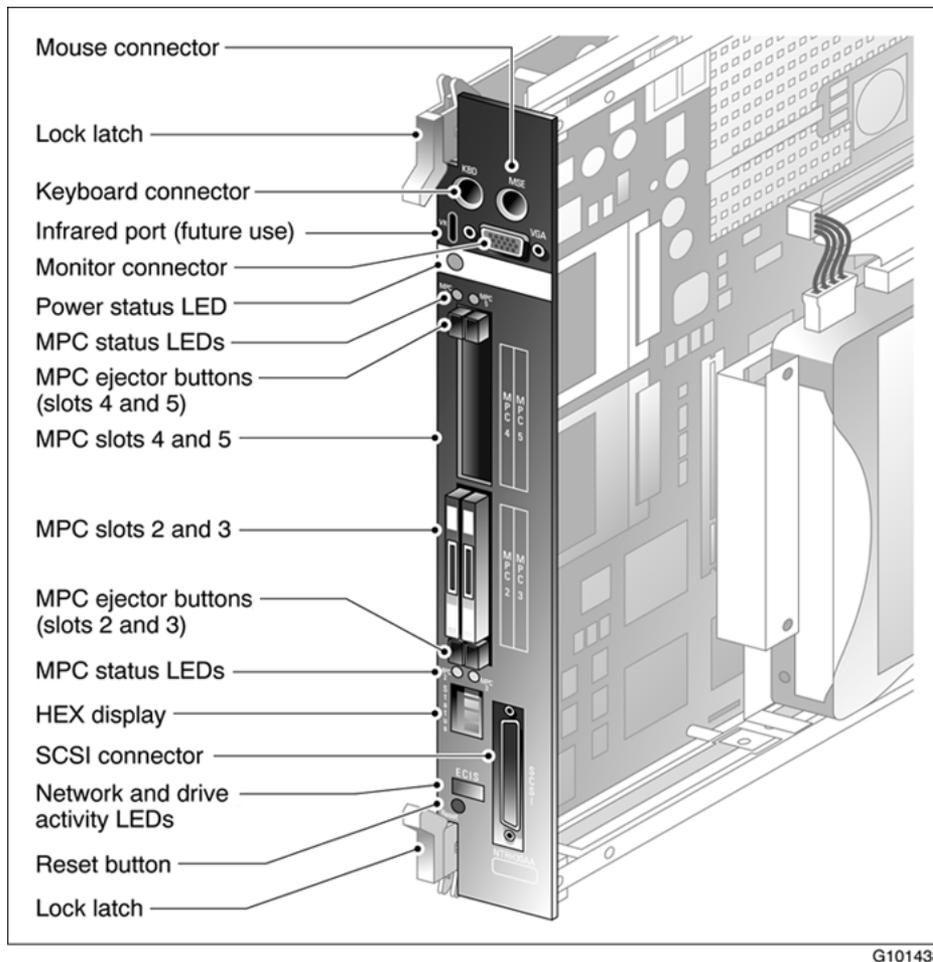
The following legend and the diagram identify the 201i main components

Item	Description
1	Heat sink
2	Hard drive power cable
3	Hard drive data cable
4	Secondary backplane connector pin
5	Secondary backplane connector. This connector provides access to voice channels on the second slot of the IPE shelf.
6	3.5" IDE hard drive
7	Hard drive mounting bracket
8	Software feature key
9	Faceplate
10	Monitor connector
11	Mouse connector
12	Keyboard connector



G101544

The following diagram shows the front faceplate of the 201i server. The faceplate provides LEDs, MPC card slots, and connectors for peripheral devices:.

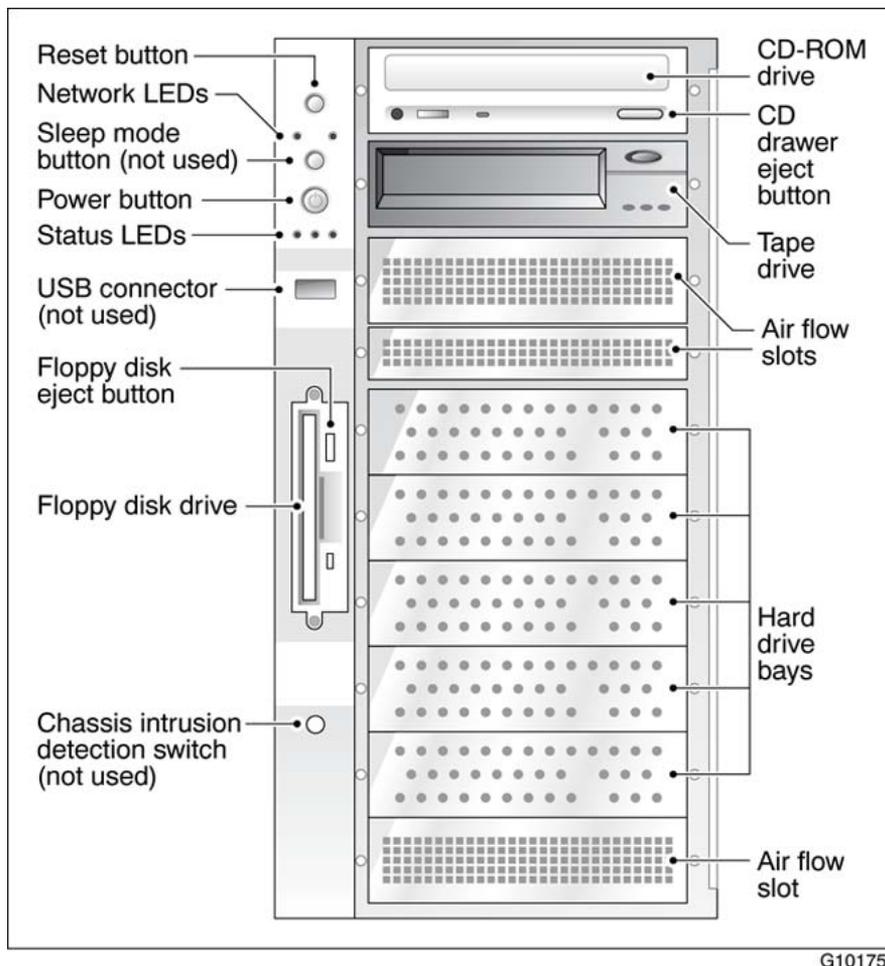


For a more detailed description of the 201i server and its components, and how the server can be integrated into your network, refer to the *201i Server Hardware Installation Guide* (NN44200-301).

### **703t tower server**

The 703t server is the CallPilot midrange-capacity multimedia telephony server. It is a stand-alone unit, measuring approximately 44 cm (17.5 in.) high by 32 cm (12.7 in.) wide by 65 cm (26 in.) deep and weighing 22 kg (46 lb.) when fully loaded.

The following diagram shows the 703t front panel layout and features.



The following table describes the parts that are identified in the preceding 703t diagram.

Part	Function
Reset button	Triggers a hardware (cold) reset. Do not use this button to perform a server restart. Restart the server as described in the <i>Installation and Configuration Task List</i> (NN44200-306.)
Network controller LEDs (green)	Left: 10/100Base-T controller LED (NIC1 10/100 MB: ELAN for Meridian 1/CS 1000 connection)  Right: 10/100/1000Base-T controller LED (NIC2 1 GB: CLAN for Customer LAN connection)
Sleep mode button	Not used

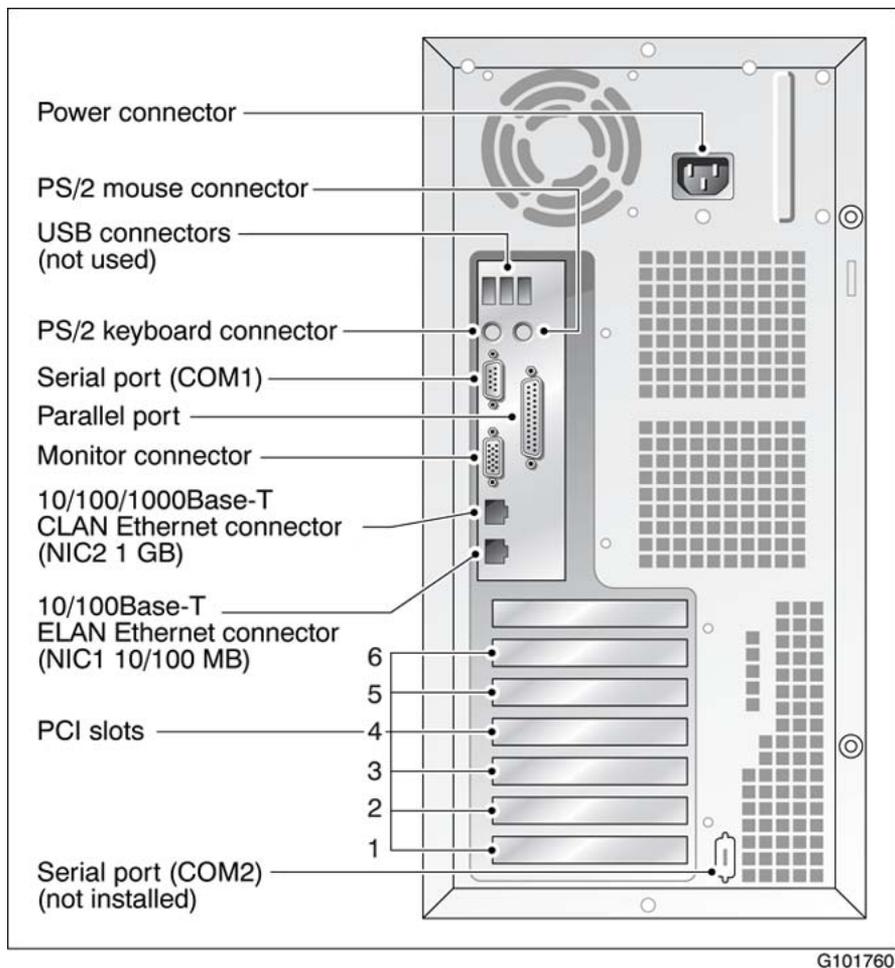
Part	Function
Power button	Turns the power to the server on or off.
Status LEDs	Indicate when the server is powered up and the disk drives are active. <ul style="list-style-type: none"> <li>• Left: hard drive activity LED (not used)</li> <li>• Center: power/sleep LED (green)</li> <li>• Right: status LED (bi-color) indicates whether the server is functioning properly, or whether a hardware event has occurred.</li> </ul>
USB connector	For future use.
Floppy disk eject button	Ejects the floppy disk.
Floppy drive	Drive for 3-1/2 inch diskettes.
IDE CD-ROM drive (5.25 in.)	Enables you to use the CallPilot software and documentation CD-ROMs.
CD drive eject button	Opens the CD-ROM drawer. Push the button again to close the drawer.
Backup tape drive	Allows backup of hard drive data.
Hard drive 1	10,000 rpm hard drive
Hard drive 2	10,000 rpm hard drive
Drive bay	Vacant
Drive bay	Vacant
Drive bay	Vacant
Air flow slot	Must remain empty for proper system cooling

The 703t server has a capacity of up to 96 voice channels (less if fax or speech recognition channels are provisioned) and 1,200 hours of storage.

The 703t base model comes populated with:

- One MPB96 card (in a PCI slot) for 96 MPU of DSP capacity. No additional MPB96 cards are required.
- One RAID controller (in a PCI slot).

The following diagram shows the 703t server's rear panel layout and features:.



For a more detailed description of the 703t server and its components, and how the server can be integrated into your network, refer to the *703t Server Hardware Installation Guide* (NN44200-304).

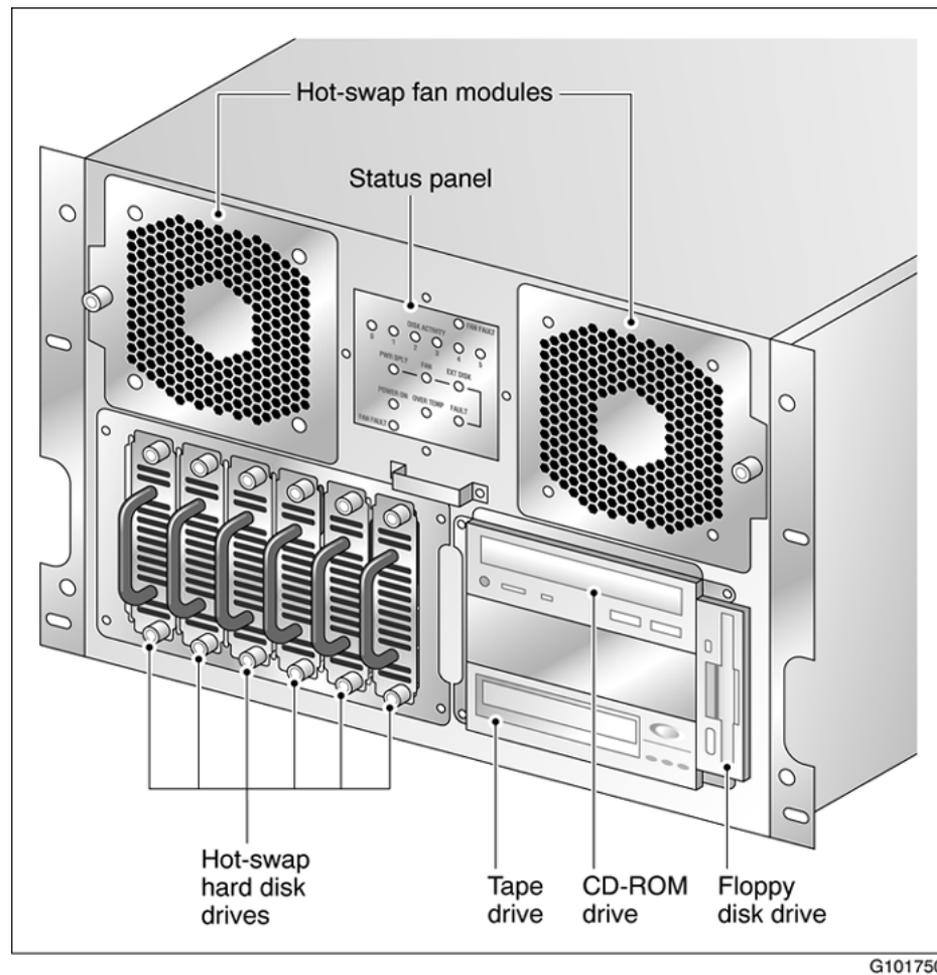
### **1002rp rack-mount server**

The 1002rp rack-mount server is the CallPilot high-end capacity multimedia telephony server. It is a rack-mounted unit, measuring approximately 32 cm (12.5 in.) high by 48.3 cm (19 in.) wide by 53.3 cm (21 in.) deep and weighing 45.5 kg (100 lb.) when fully loaded. Both AC- and DC-powered versions are available. The 1002rp server has a capacity of up to 192 voice channels and 2,400 hours of storage. The base model comes populated with:

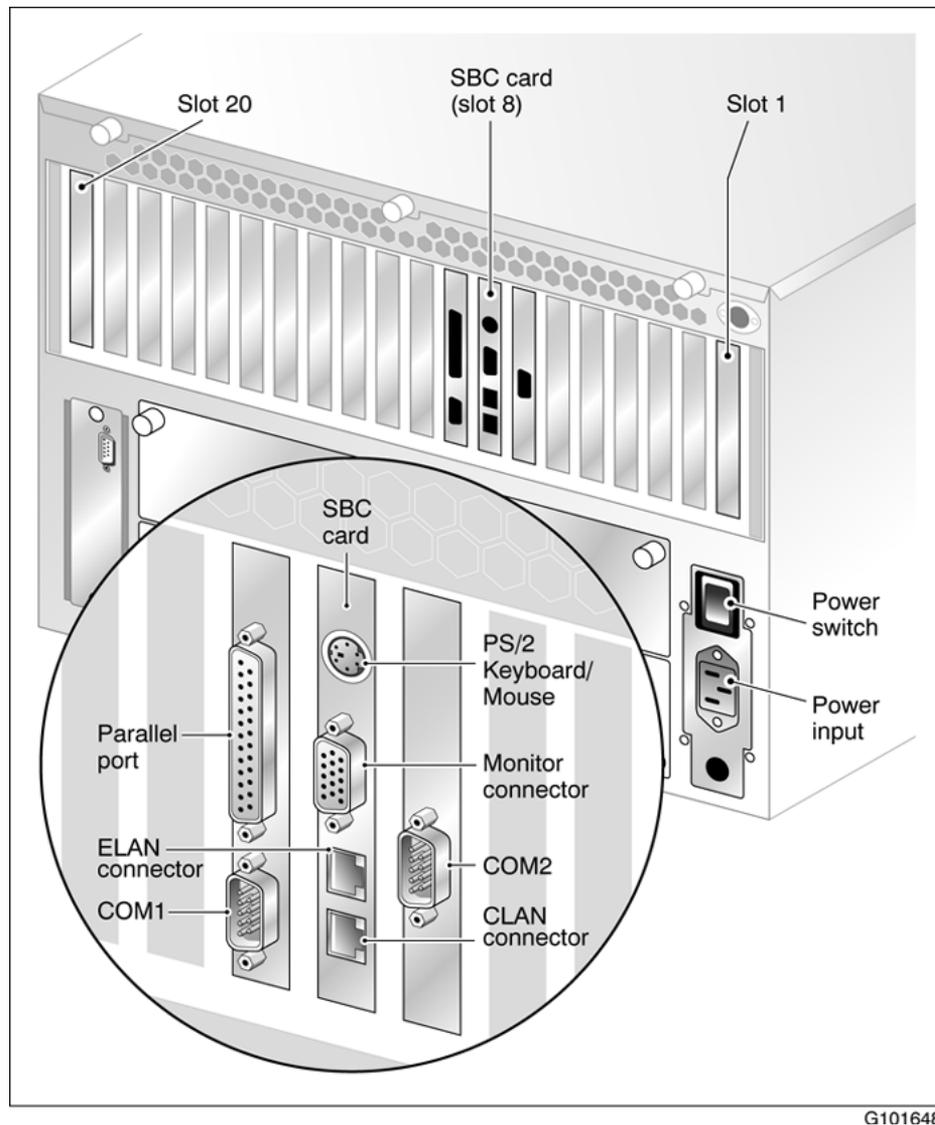
- One MPB96 card (in a PCI slot) for 96 MPU of DSP capacity. No additional MPB96 cards are required. For high capacity, up to three MPB96 cards can be installed in a 1002rp, providing a maximum of 192 channels and 288 MPUs.

- One RAID controller (in a PCI slot).

The front view of the server chassis (without the bezel) shows redundant dual fans to the left and the right of the status panel. The left drive bay holds six SCSI hard drives with hot-pluggable carriers. The media drive bay, located to the right, houses the CD-ROM, tape drive, and floppy disk drive.



The following diagram shows the slot locations in the 1002rp rear panel, and the power switch and power input for the AC server. The remainder of the diagram is the same for both the AC and DC versions of the server.



For a more detailed description of the 1002rp server and its components, and how the server can be integrated into your network, refer to the *1002rp Server Hardware Installation Guide* (NN44200-300.)

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## Chapter 8

# CallPilot software

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This chapter provides a brief summary of the major software components of CallPilot.

For detailed information about supported environments, operating systems, and client software, consult the *CallPilot Planning and Engineering Guide* (NN44200-200).

### In this chapter

"CallPilot Manager " (page 65)

"CallPilot Reporter " (page 67)

"CallPilot Application Builder " (page 68)

"Desktop Messaging software " (page 70)

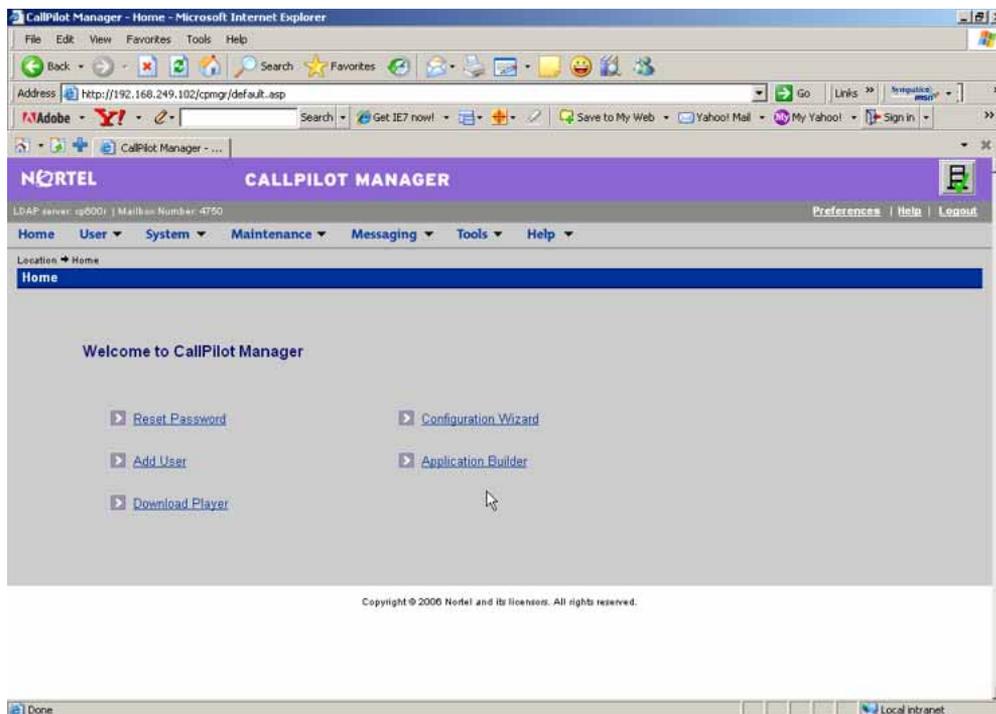
"My CallPilot " (page 72)

"CallPilot server software " (page 75)

### **CallPilot Manager**

CallPilot Manager is the Web-based application used by the administrator to connect to and manage a CallPilot server. The application is installed on a Web server, which can be configured to run either directly on the CallPilot server or on a separate customer-supplied server.

You typically administer and maintain the CallPilot server over an IP connection between the server and one or more personal computers (PC). You log on to the CallPilot server using a URL, with a user ID (mailbox number) and a password. The following Web page shows the welcome page for CallPilot Manager.



When you connect to the CallPilot server, you can monitor its status, and you can create and maintain the information the server uses to provide CallPilot messaging services to authorized mailbox owners. CallPilot Manager, through its Configuration Wizard, lets you configure:

- user groups and permissions
- system settings (including security options, network solutions, and so on)
- messaging service settings (voice, text, fax)
- maintenance and diagnostics (including backup and restore)

You can also access the "[CallPilot Application Builder](#)" (page 68) utility by downloading it from the CallPilot Manager opening screen.

Use one of the following Web browsers to administer CallPilot:

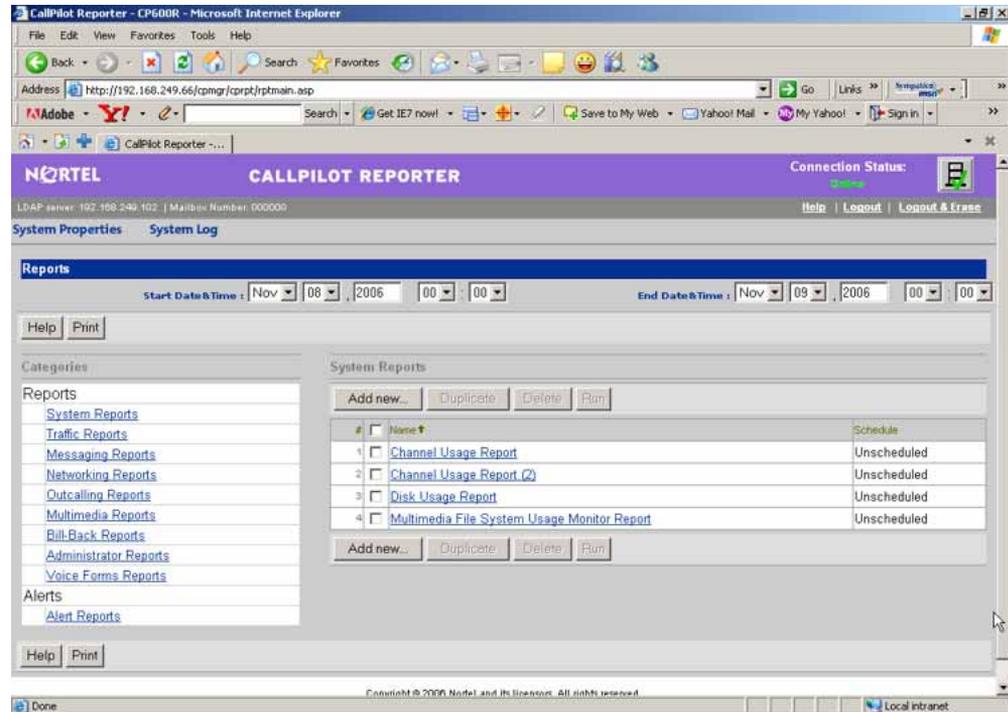
- Internet Explorer 5.0 or later
- Mozilla Firefox 1.5 for Windows
- Safari 1.3 or later for Macintosh OS X

You can use Internet Explorer to administer CallPilot either at the local computer or from a PC on the LAN.

You can also use third-party software such as pcAnywhere from Symantec Corporation to control the CallPilot server over a dial-up connection or a LAN connection.

## CallPilot Reporter

CallPilot Reporter is a Web-based application that helps you analyze and manage your CallPilot system. Reporter converts raw statistics from your server into easy-to-read reports. The following Web page appears when you log on to Reporter:



Reports organize the operational measurements (OMs) collected by your server into a format that you can study and analyze. When you study reports over a period of time, you can identify trends and patterns related to system usage. With this information, you can improve the overall efficiency of your system, increase system security, and troubleshoot potential problems.

Reporter also includes alerts. Alerts are special reports that warn you about potential problems with the server's hardware, software, or security. Alerts are automatically triggered when a predefined threshold is exceeded.

The *CallPilot Reporter Guide* (NN44200-603) provides information required to generate reports and alerts and then to analyze and interpret the data. Note that to use Reporter, you must have Full Administrator rights or Reporter Administration rights enabled in CallPilot Manager.

The main functionality of CallPilot Reporter includes:

- **View on demand**-View reports and alerts at any time for a period that you specify.
- **Customize**-Customize reports to include relevant data only. For example, you can filter the data in a report to show activities that occur in a particular department.
- **Print**-Schedule reports to print on a regular basis, or print reports on demand. When you use a print schedule, you can monitor system usage over a period of time and identify patterns and trends. You can also set up alerts to print when they are triggered.
- **Export**-Export report information to a variety of file formats so that you can easily distribute the information to others who need it. For example, you can display exported reports on the World Wide Web, over an organizational intranet, or in a spreadsheet program.

**Note:** CallPilot Reporter must be installed on a stand-alone Web server. The Reporter is not available for installation when you install CallPilot Manager on a CallPilot server.

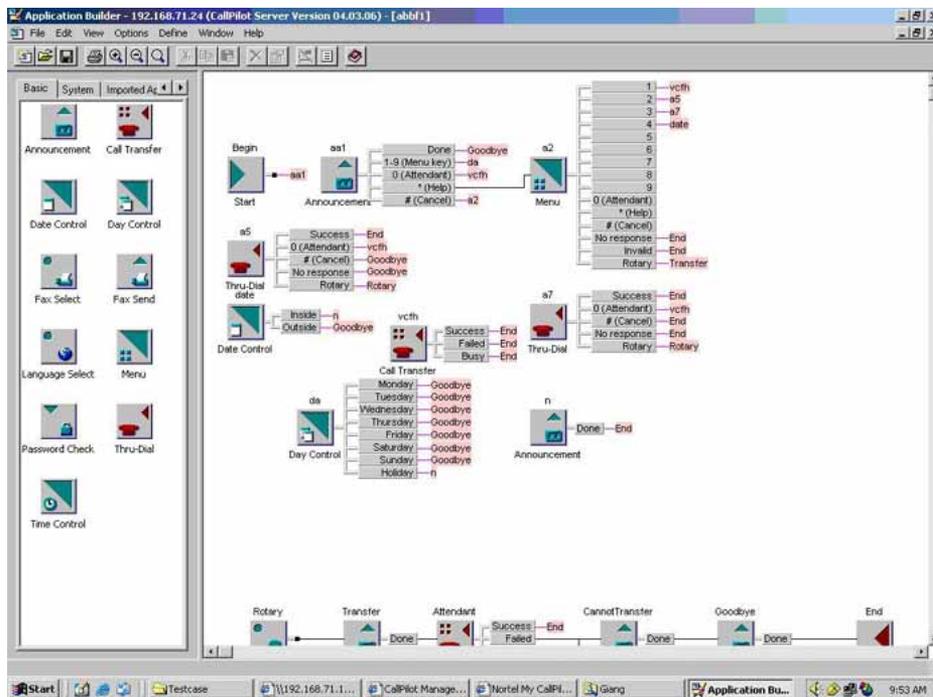
For information about Web server requirements, consult the *CallPilot Planning and Engineering Guide* (NN44200-200.)

## ***CallPilot Application Builder***

Application Builder is a graphical program that you use to create CallPilot applications that callers access as dialable services. You select the required call functions (blocks) from palettes. You then arrange blocks in the desired call flow sequence, and then create the connections between the blocks.

In this context, an application is a set of functions that determines the way CallPilot treats a call. When a CallPilot system receives a call, an application handles the call flow. The automated attendant application is a typical example. This application greets callers to the organization and lets them transfer to a department or to a specific individual. An automated attendant can also handle calls differently, depending on the day of the week or the time of day.

The following screen shows the Application Builder main interface.



With Application Builder, you can:

- specify the call functions that you want to include in an application, such as menus, announcements, and transfers
- design the call flow or, in other words, the path calls follow
- include fax functions in your CallPilot applications, if your CallPilot system includes fax messaging

Application Builder provides the following benefits and capabilities:

- It enables you to plan your CallPilot services online rather than on paper.
- It provides a simple graphical interface for adding functions to the application and connecting functions to create the call flow.
- It lets you record voice items while you create your application. After you create a new voice item, such as a menu or an announcement, the application prompts you to record the new voice item.
- It shows the call flow graphically. The application window shows you, at a glance, how calls are handled by the system.
- It enables you to import an application into other applications. This lets you save a group of functions that you want to share among multiple applications.

The *CallPilot Application Builder Guide* (NN44200-102) provides overview information about using Application Builder, including planning considerations, design guidelines, and requirements. It also provides lessons that guide you through the process of developing an application. Each subsequent lesson builds on the lesson in the previous chapter.

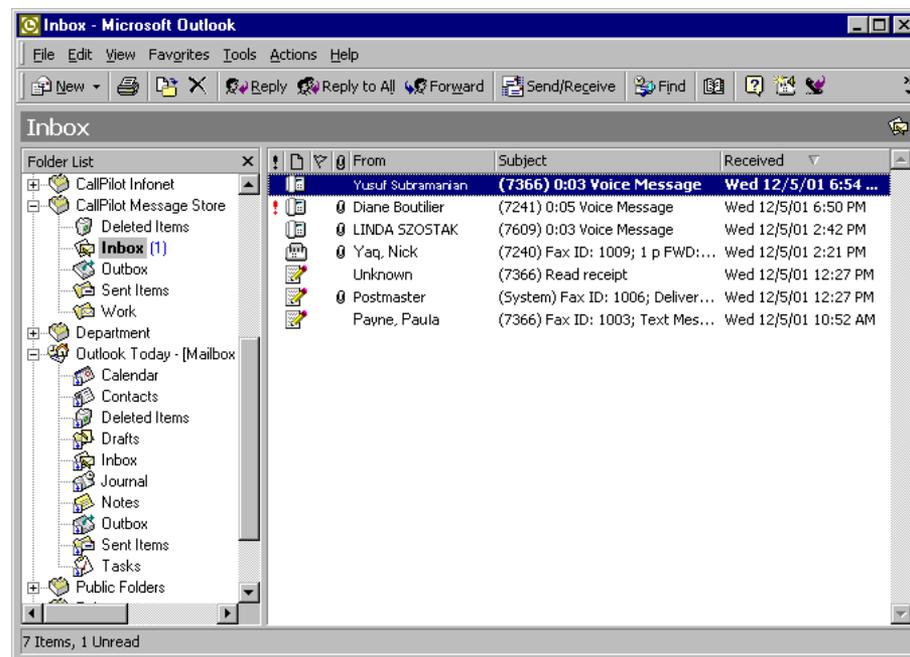
## Desktop Messaging software

You can work with CallPilot from your telephone or your computer. Desktop Messaging gives you access to your CallPilot mailbox through your e-mail software application.

CallPilot supports market-leading e-mail clients such as Microsoft Outlook, Lotus Notes, and Novell Groupwise. A variety of other e-mail clients is also supported.

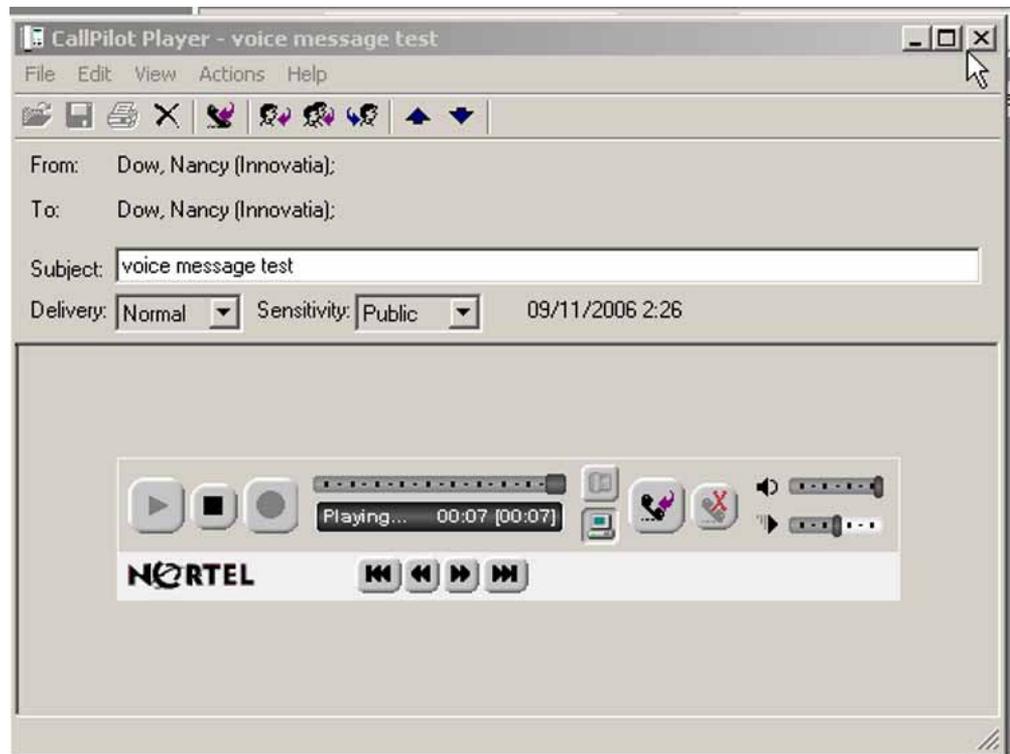
For a detailed listing of the supported e-mail clients, consult the *CallPilot Planning and Engineering Guide* (NN44200-200.)

This view shows the CallPilot message mailbox location in the main interface of the Microsoft Outlook e-mail client.



CallPilot's Desktop Messaging lets you use your e-mail to:

- view your e-mail messages
- listen to, record, and send voice messages (using the CallPilot player, shown in the following screen)



- view and print fax messages
- create and send fax messages, including batch faxes
- forward and reply to voice and fax messages
- contact the sender of a message
- add message options such as urgent and private
- add voice, fax, or text file attachments to messages
- create personal distribution lists
- change your CallPilot password
- access Web-based My CallPilot to view user information and change your feature settings

Note that not all of the supported e-mail clients support the full Desktop Messaging feature set. Consult the applicable *Desktop Messaging User Guide* for your e-mail client for details on the specific features supported.

## My CallPilot

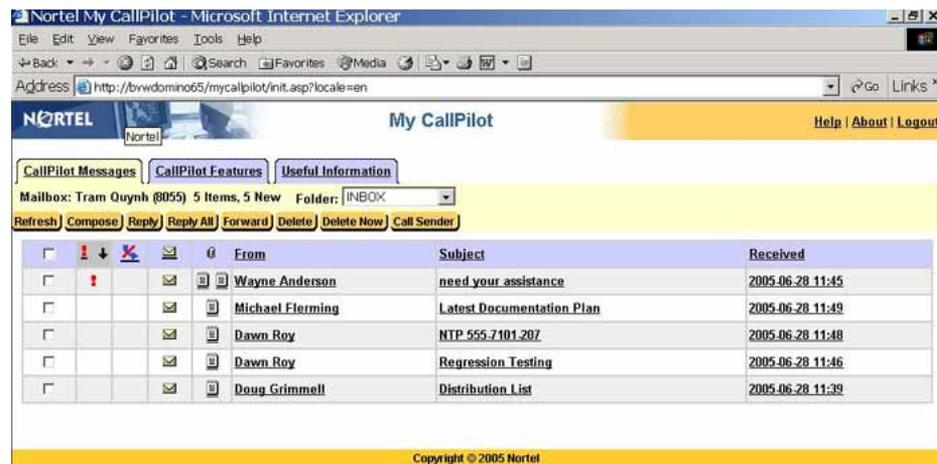
My CallPilot is the Web-based software interface to CallPilot. It offers the end user exceptional flexibility for managing messaging needs. You can work with My CallPilot from any computer that has Internet access and a Web browser configured for the application. My CallPilot lets you:

- View useful information about your mailbox.
- Receive, forward, reply to, and send voice messages, faxes, and e-mails.
- Change the setup of your mailbox features.
- Transcribe responses for Voice Forms Transcription application (Note that Voice Forms is a keycoded application.)
- Change your CallPilot password.
- Create personal distribution lists.
- Set up remote notification to a telephone or pager.
- Set up text message notification for a wireless e-mail device.

The following sections describe the interface tabs that provide access to the CallPilot functionality.

### CallPilot Messages tab

You can use the CallPilot Messages tab to access voice messages and view faxes; delete, forward, and reply to messages; and compose new messages.



To use the CallPilot Messages tab, desktop messaging must be enabled for your mailbox.

You can compose a message that is any combination of voice, fax, or text. To record voice messages, you use the embedded or the downloaded CallPilot Player.

Note also that your CallPilot administrator must enable fax capability for your mailbox in order for you to receive faxes.

### ***Voice Forms Transcription tab***

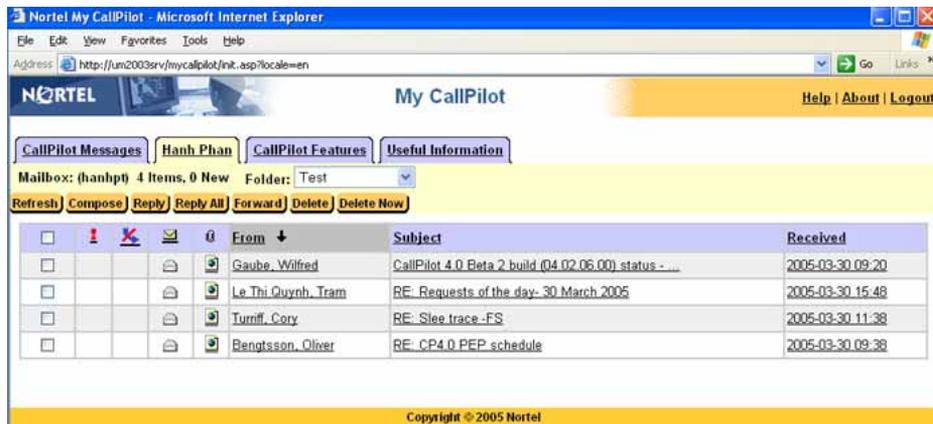
You can use the Voice Forms Transcription tab to retrieve and transcribe caller responses archived in the Voice Forms application.

Field ID	Field Name	DTMF Field
2	Catalog Number	1111
3	Quantity	1111
4	first and last name	

Because Voice Forms is a keyed feature, this tab appears only if your organization purchases the appropriate keycode. Also, to use the Voice Forms Transcription tab, the administrator must grant the user transcription privileges.

### ***E-mail Account tab***

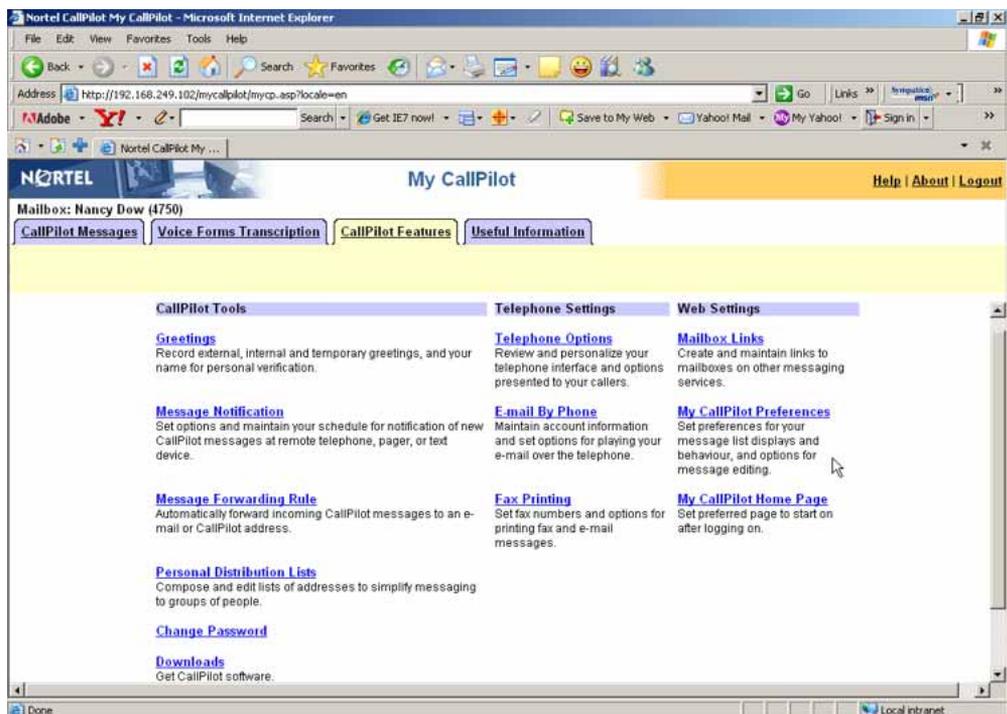
While you are logged in to My CallPilot, you can check your e-mail messages through the E-mail Account tab. You can also forward and reply, and send new e-mails, if appropriately configured.



You can access up to five IMAP e-mail accounts, or other CallPilot mailboxes. One of these accounts can be set up for access from your telephone. You can also set up access to a second CallPilot mailbox, which can be on another server.

### **CallPilot Features tab**

You can use the CallPilot Features tab to change the settings for your CallPilot features and telephone options, and to set preferences for Web-based access.

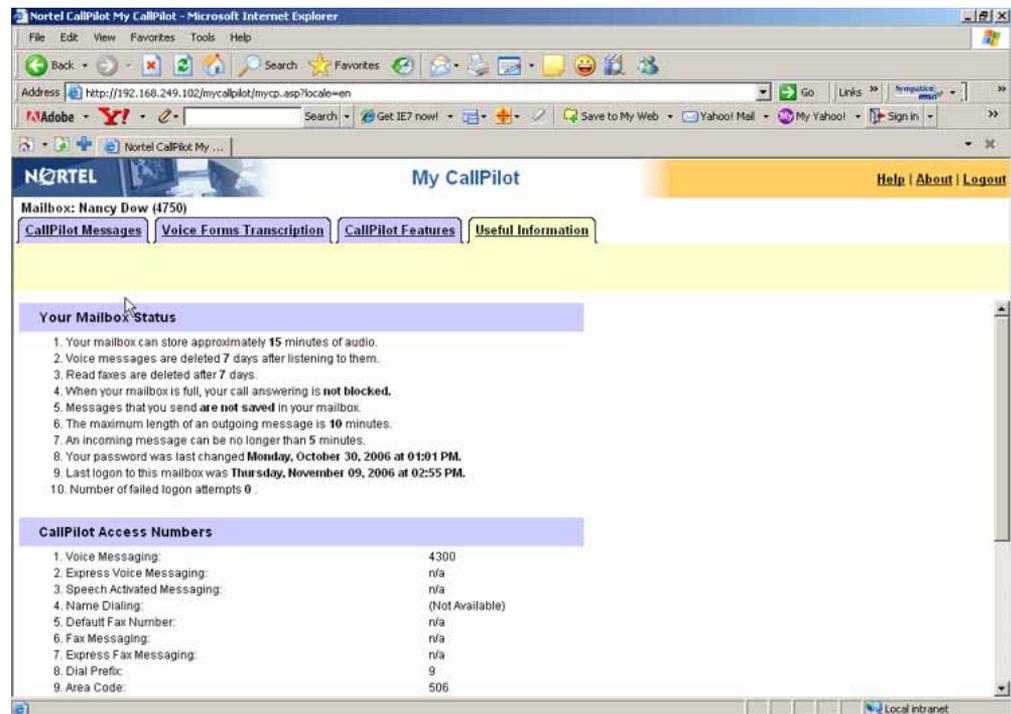


The top page of the CallPilot Features tab displays only the features that are available for you to use. You can then click any title to open its settings page.

### **Useful Information tab**

The CallPilot Useful Information tab lets you:

- View status and details about your mailbox.
- View online user guides.
- Print online user guide files on your laser printer.



## **CallPilot server software**

The software running on the CallPilot server drives the core functionality of the server. This software is factory-installed on your server, along with the Windows operating system. The CallPilot Manager Configuration Wizard is then used to configure the server software for your switch after the CallPilot system is installed in your location.

Depending on your server, a number of CallPilot software CD-ROMs and DVD-ROMs are supplied with your system. These discs include:

- CallPilot Image discs

These two discs contain an exact initial image of the operating system and server software. If a catastrophic hard disk failure occurs, you can use these discs to reinstall these components as they were at the factory

when your system was shipped. You can then also use the regularly scheduled backups you make of your system to restore your current specific operational configurations.

- CallPilot Applications disc

This disc contains setup software to reinstall or add various CallPilot software components, including the following: the CallPilot server software; the Manager, Reporter, and Application Builder applications; pcAnywhere; and Adobe Acrobat Reader.

- Other CD-ROMs and DVD-ROMs

Other supplied discs include CallPilot software for Service Updates and PEPs, Desktop Client and My CallPilot software, CallPilot language prompts, and CallPilot documentation.

For a complete list of CallPilot software, see the *Installation and Configuration Task List* (NN44200-306) and the *CallPilot Planning and Engineering Guide* (NN44200-200.)

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# Chapter 9

## CallPilot networking

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### In this chapter

"Overview " (page 77)

"CallPilot networking solutions " (page 77)

" Audio Messaging Interchange Specification (AMIS) networking " (page 79)

"Enterprise networking " (page 80)

"VPIM networking " (page 81)

"Network Message Service " (page 81)

"Combining networking solutions " (page 82)

### Overview

CallPilot offers a range of coordinated messaging networking solutions that provide great flexibility and service. In this context, a networking solution is the Nortel implementation of a specific messaging protocol.

A brief synopsis of each networking solution is provided in this chapter. The *Network Planning Guide* (NN44200-201) and the CallPilot Manager online Help system provide detailed conceptual and procedural information about the implementation process for each solution.

### CallPilot networking solutions

CallPilot currently offers three networking solutions:

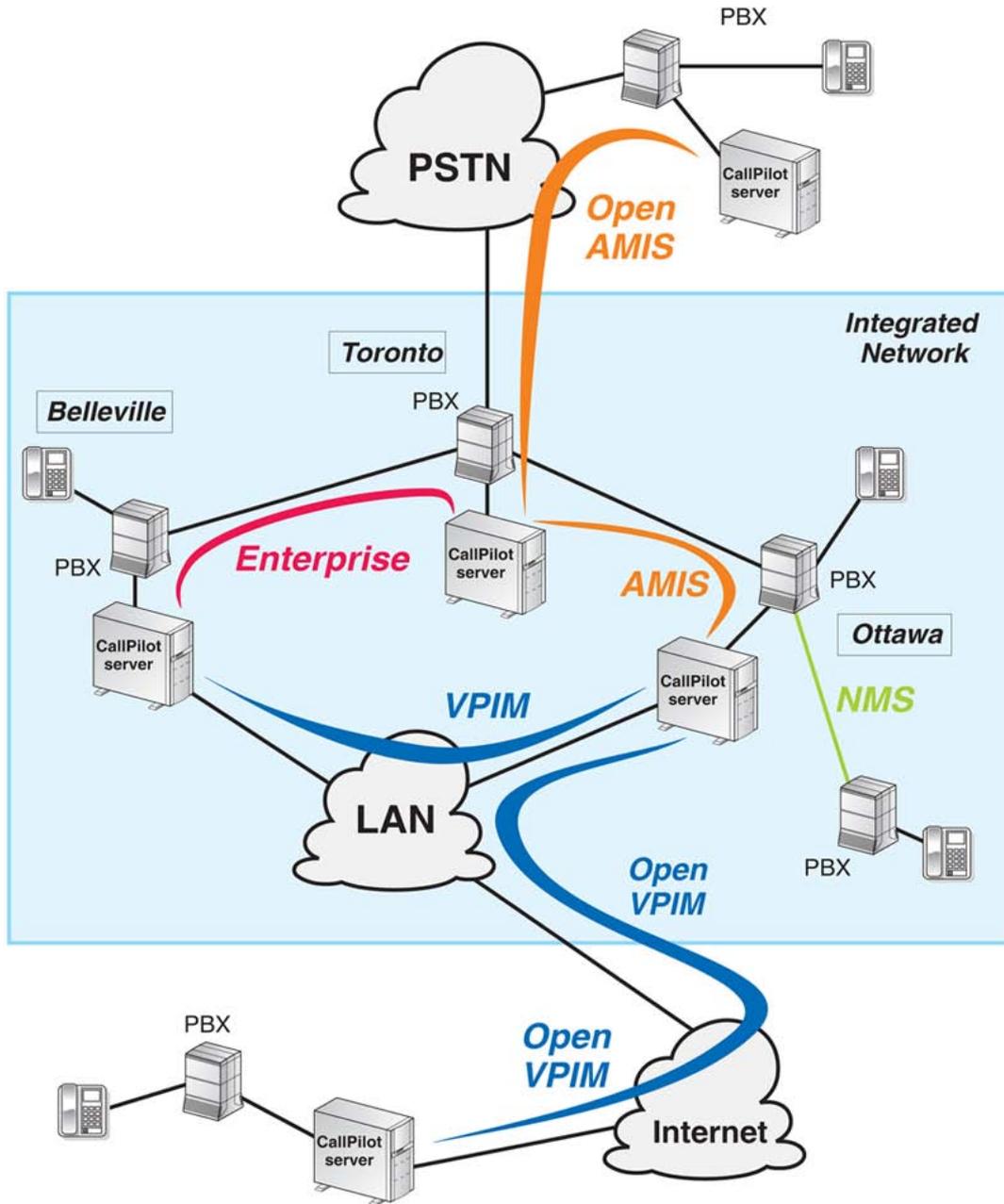
- AMIS Networking
- Enterprise Networking

- VPIM Networking

These solutions are available through a single software option.

In addition, CallPilot supports switches that are networked using Network Message Service (NMS). This is implemented by its own software option.

The following diagram shows a hypothetical network that makes use of all the available CallPilot networking solutions. Different solutions are implemented between different sites, depending on the corporate requirements.



### Audio Messaging Interchange Specification (AMIS) networking

Audio Messaging Interchange Specification (AMIS) networking provides voice messaging to different mailboxes located at different sites over a voice network. A network, as it is referred to here, is a collection of offices, locations, or sites connected by a telecommunication link.

AMIS uses the industry-standard analog AMIS-A protocol. AMIS networking lets users exchange messages with users of any voice messaging systems that support the AMIS-A protocol. AMIS networking uses dual-tone multi-frequency (DTMF) tones to send information. AMIS supports voice messages, but not fax and text messages.

AMIS networking can be integrated or open.

### **Integrated AMIS networking**

Integrated AMIS networking is used to exchange messages between sites within an integrated network. When a remote site that uses the AMIS-A protocol is defined within the local network database, it is called an integrated site. For integrated AMIS, the CallPilot administrator is responsible for configuring the remote site's System Access Number (SAN).

### **Open AMIS networking**

Open AMIS networking is used to exchange messages between a site within the integrated network and a site outside the integrated network. For open AMIS, the remote site is not defined within the local network database; therefore, the sender must enter the SAN for the remote site.

## ***Enterprise networking***

Enterprise networking is an analog networking protocol that works over a voice network. It uses the Enterprise Networking protocol. This protocol is based on proprietary Nortel extensions to the AMIS protocol and, as such, offers many advantages over AMIS Networking.

Enterprise Networking also uses DTMF tones to send information. Enterprise Networking supports voice messages but does not support fax and text messages.

### **Enterprise advantages over AMIS**

The Enterprise Networking protocol offers several advantages over the AMIS protocol.

<b>Feature</b>	<b>AMIS protocol</b>	<b>Enterprise Networking protocol</b>
Multiple recipients	Sends one message to each recipient; requires greater system resources and long-distance toll charges	Sends a single message to multiple recipients; requires less system resources and lowers long-distance toll charges.
Message length	8-minute maximum	120-minute maximum of all parts, where any individual part can be up to 99 minutes in length.

Feature	AMIS protocol	Enterprise Networking protocol
Security	Uses no special security features	Uses initiating and responding passwords between the sending and receiving sites before exchanging messages.
Increased features	Limited feature availability	Supports additional features such as message privacy, message read acknowledgments, sending Username and Subject information, and Names Across the Network.

### ***VPIM networking***

With VPIM networking, CallPilot can exchange multimedia messages (voice, text and fax) using a standard data communications network. VPIM Networking can exchange messages with any other system that uses the same data communications protocol, regardless of vendor.

VPIM Networking formats and sends messages using the standard Internet Simple Mail Transfer Protocol (SMTP) protocol. Messages are sent across either a private data network, such as an intranet, or a public data network, such as the Internet, for delivery.

### **Integrated and open VPIM networking**

VPIM Networking also lets users exchange messages between open and integrated sites. For VPIM Networking to work within an integrated network, the destination must support VPIM and be in the local network database.

In addition, because VPIM Networking transmits messages over data networks, the messages do not incur long-distance toll charges.

### ***Network Message Service***

Network Message Service (NMS) permits one CallPilot messaging server to provide messaging services to users on more than one switch location. The CallPilot messaging server is directly connected to a prime switch location. Up to 999 satellite switch locations can be attached to the prime switch location. The CallPilot messaging server provides messaging services to all switch locations.

NMS is transparent to users. A user whose telephone or desktop is attached to a satellite switch location can receive the same services as a user attached to the prime switch location. All users dial the same way to reach the same services.

The collection of switch locations, connections, and the messaging server is known as an NMS network. If an NMS network is a site in a private messaging network, it is called an NMS site.

**Note:** There is no support for an NMS network in T1 connectivity solutions.

### ***Combining networking solutions***

A messaging network can combine the available networking solutions. Many messaging networks are combinations of several solutions at various sites. In addition, one or more of the sites in a messaging network can be NMS sites. This ability to combine networking solutions lets you optimize your messaging network and create a customized solution for different business requirements.

However, to exchange messages between any two sites in a messaging network, both sites must have a common networking solution implemented and must agree to use it.

The *Network Planning Guide* (NN44200-201) provides detailed information about these solutions and how to implement and combine them.

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## Chapter 10

# Regulatory information

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This chapter includes regulatory information for international installations pertinent to applications such as CallPilot.

### In this chapter

"Grounding " (page 83)

"General compliance and safety information for specific countries " (page 84)

"Electromagnetic compatibility " (page 86)

"Radio and TV interference " (page 87)

### **Grounding**

Ensure that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, connect together. This precaution is for the users' protection, and is particularly important in rural areas. Nortel recommends that the CallPilot server and peripherals be grounded to a common single-point ground with the M1 IPE shelf or CS 1000 media gateway.



#### **CAUTION**

The CallPilot system frame ground of each system cabinet or chassis must be tied to a reliable building ground reference.

**WARNING**

Do not attempt to make electrical ground connections yourself. Contact your local electrical inspection authority or electrician to make electrical ground connections.

For more information about the preceding issues, refer to the *Planning and Engineering Guide*.

### **General compliance and safety information for specific countries**

If insufficient planning or technical information is available for your country of operation, contact your regional telecommunications distributor or authority for assistance.

#### **Information for European countries**

##### **Safety specifications**

The CallPilot system meets the following European safety specifications: EN 60825 and EN 60950.

##### **RoHS compliance**

Certain Nortel servers meet requirements of the Restriction of Hazardous Substances Directive 2002/95/EC, applicable in countries affected by the EUED (European Union Environmental Directives). RoHS requirements impose restrictions on the type and quantity of materials used in the manufacturing and construction of Electronic and Electrical Equipment (EEE). The following table outlines which servers are RoHS compliant.

<b>Server model</b>	<b>Notes</b>
600r	This server is RoHS compliant.
1005r	This server is RoHS compliant.
201i	Nortel is phasing in RoHS-compliant 201i servers in countries affected by the EUED. This hardware replaces or supplements the non-RoHS version. In general, the RoHS parts are backward compatible with the supported software, and they have equivalent functionality to the parts they are replacing.

#### **Information for North America**

CallPilot server models 1005r, 703t, and 1002rp comply with the following standards:

- UL 60950-1 Information Technology Equipment Safety Part 1- General Requirements (U.S.A.)

- CSA-C22.2 No. 60950-1-03 Safety Telecom Information Technology Equipment Safety, Part 1- General Requirements (Canada)

**Note:** Because the 201i server is housed in the CS 1000 Media Gateway, its safety compliance falls under the standards the CS 1000 supports.

### Information for Japan

The following applies to server models 600r, 1005r, 703t, and 1002rp:

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## Warning

Please be aware of the following while installing the equipment:

- Please use the connecting cables, power cord, and AC adaptors shipped with the equipment or specified by Nortel to be used with the equipment. If you use any other equipment, it may cause failures, malfunctioning or fire.
- Power cords shipped with this equipment must not be used with any other equipment. If the above guidelines are not followed, it may lead to death or severe injury.

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## 警告

本製品を安全にご使用頂くため、以下のことにご注意ください。

- 接続ケーブル、電源コード、ACアダプタなどの部品は、必ず製品に同梱されております。添付品または指定品をご使用ください。添付品・指定品以外の部品をご使用になると故障や動作不良、火災の原因となることがあります。
- 同梱されております付属の電源コードを他の機器には使用しないでください。上記注意事項を守らないと、死亡や大怪我など人身事故の原因となることがあります。



## Electromagnetic compatibility

The following table summarizes the electromagnetic compatibility (EMC) specifications for Class A devices.

Jurisdiction	Standard	Title
United States	FCC CFR 47 Part 15	FCC Rules for Radio Frequency Devices (see Note 1)
Canada	ICES-003	Interference-Causing Equipment Standard: Digital Apparatus
Europe	EN 55022/CISPR R 22	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement (see Note 2)
	EN 55024	Information technology equipment - Immunity characteristics - Limits and methods of measurement
	EN 61000-3-2	Limits for harmonic current emissions (equipment input current $\leq$ 16 A per phase)
	EN 61000-3-3	Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current $\leq$ 16 A
Australia	CISPR 22/AS/N ZS 3548	Limits and methods of measurement of radio disturbance characteristics of information technology equipment (see Note 2)
Korea	KN22	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement

**Note:** FCC CFR 47 Part 15.21 statement:

"Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense."

**Note:** EN 55022/CISPR 22 statement:

"WARNING

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures."

Jurisdiction	Standard	Title
Korea (continued)	KN24	Information technology equipment - Immunity characteristics - Limits and methods of measurement
Taiwan	CNS 13438	Limits and methods of measurement of radio disturbance characteristics of information technology equipment

**Note:** FCC CFR 47 Part 15.21 statement:

"Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense."

**Note:** EN 55022/CISPR 22 statement:

"WARNING

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures."

## Radio and TV interference

### ATTENTION

The user must not make changes to the CallPilot system that are not expressly approved by Nortel. Any such changes can void the user's authority to operate the equipment.

### Information for the United States

The CallPilot systems comply with Part 15 of the FCC rules in the United States. Operation is subject to the following two conditions:

- The system must not cause harmful interference.
- The system must accept any interference received, including interference that can cause undesirable operation.

If the CallPilot system causes interference to radio or television reception, which can be determined by placing a telephone call while monitoring, the user is encouraged to try to correct the interference by the following measures:

- Reorient the receiving TV or radio antenna where this can be done safely.
- Move the TV or radio in relation to the telephone equipment.

If necessary, ask a qualified radio or television technician or supplier for additional information. Also, you can refer to the document "How to Identify and Resolve Radio-TV Interference", prepared by the Federal Communications Commission. This document is available from:

U.S. Government Printing Office  
Washington DC 20402

### Information for Canada

The CallPilot systems do not exceed Class A limits for radio noise emissions from digital apparatus, as set out in the radio interference regulations of Industry Canada.

**This equipment complies with the CE Marking requirements.**



### Information for Japan

The following applies to server models 600r, 1005r, 703t, and 1002rp:

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may occur, in which case, the user may be required to take corrective action.

この装置は、情報処理装置等電波障害自主規制協議会 (VCCI) の規定に基づくクラス A 装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を取るよう要求されることがあります。

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# Glossary

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This glossary of terms is applicable for all items contained within the CallPilot documentation suite.

## A

### AC

See [alternating current](#).

### ACD

See [Automatic Call Distribution](#).

### ACD call

An automatic call distribution (ACD) call enters the system through one or more central lines, and then is presented to an agent within the ACD queue according to the service required by the caller.

### ACD queue

A queue of callers to an ACD-DN who are waiting for service.

### adapter

Hardware required to support a particular device. For example, network adapters provide a port for the network wire. Adapters can be expansion boards or part of the main circuitry of the computer.

### administrator

A user who maintains the CallPilot server.

### alternating current

AC electrical power, the raw power supplied by all utility companies, must be converted to direct current (DC) for use in computer systems.

### AML

See [Application Module Link](#).

**analog**

The type of signal used by most telephone connections. A modem converts a digital signal to analog (and vice versa) so that the signal can travel through telephone lines.

**API**

See [application program interface](#).

**APIC**

Advanced Peripheral Interrupt Controller

**application**

This term is generally used to refer to a program that is run to do various types of work on a computer. Although applications carry out many functions, the user can see (and use) only the graphical user interface. Common applications include word processors, databases, and multimedia software. In CallPilot, this term is reserved for an entity (typically a voice menu or service) built by Application Builder. Some of these applications are put into service when they appear in the SDN table.

**Application Builder**

A graphical program that you use to create CallPilot applications. With Application Builder, you can drag and drop functions (such as menus, announcements, and transfers) into your application and create the call flow (that is, the path that calls follow through your system).

**Application Module Link**

The signaling protocol (call control) between the CallPilot and the Meridian 1 switch or CS 1000 system. The AML runs over an Ethernet connection (part of the ELAN subnet).

**application program interface**

A set of routines, protocols, and tools that programmers use to develop software applications. APIs simplify the development process by providing commonly used programming procedures.

**Automatic Call Distribution**

A feature on the Meridian 1 or CS 1000 system that allows a number of programmed phone sets, 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.

**average required bandwidth**

The amount of bandwidth that the Capacity Assessment Tool analysis determines is required for the CallPilot server recommended configuration. See *also* [bandwidth](#).

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## B

**bandwidth**

The amount of data that the network can transmit, usually expressed in Mbytes per second. See also [average required bandwidth](#).

**baseboard**

See [motherboard](#).

**Basic Input/Output System**

Flash ROM-based code that runs the Power-On Self-Test (POST) and bootstrap loader. BIOS contains low-level access routines for hardware that may be called from DOS.

**baud rate**

Refers to signaling rate. The baud rate indicates the number of bits per second (bps) that are transmitted. For example, a baud rate of 300 means that 300 bits are transmitted each second (300 bps).

**BIOS**

See [Basic Input/Output System](#).

**bits**

Short for binary digit, the smallest unit of information on a computer. A single bit can hold only one of two values: 0 or 1. A byte is composed of eight consecutive bits.

**bits per second**

The standard measure of data transmission speeds. For asynchronous communication (which requires 10 bits per character), a baud rate of 300 bits per second (bps) translates to 30 characters per second (cps).

**Blue Call Router**

An internal software component that routes calls from the control DN (CDN) on the switch to the multimedia application or service. The Blue Call Router (BCR) applies the rules set up for the service in the SDN table, and, thus, determines how and to what service/application the call is offered.

**bps**

See [bits per second](#).

**bridge**

A protocol-independent device that connects two LANs or two segments of the same LAN. Bridges are faster (and less versatile) than routers because they forward packets without analyzing and rerouting messages.

**bus**

A collection of wires that connects the microprocessor and main memory to internal computer components. All buses consist of an address bus that transfers data and a data bus that transfers information about where the data should go. In a network, a bus (also called the backbone) is a main cable that connects all devices on a LAN.

**byte**

Abbreviation for binary term, a unit of storage capable of holding a single character. On almost all modern computers, a byte is equal to eight bits. Large amounts of memory are indicated in terms of kbytes (1024 bytes), Mbytes (1 048 576 bytes), and Gbytes (1 073 741 824 bytes).

**C****cache**

A read cache attempts to anticipate and store required data in memory so that it can be retrieved quickly (electronically, rather than mechanically). A write cache electronically holds the data you want to write to disk and slowly writes it to the disk (mechanically).

**call channel**

A channel on the CallPilot server that carries digital voice, fax, and speech recognition data from the switch to the server. When the data reaches the server, multimedia channels provide various services to the data. Call channels run on links between the switch and the server.

**card**

A thin, rectangular plate on which chips and other electronic components are placed. Examples of cards include motherboards, expansion boards, daughterboards, controller boards, Network Interface cards, and video adapters.

**CAS**

Channel associated signalling for T1 links.

**CDN**

See [Controlled Directory Number](#).

**CD-ROM**

A type of optical disc capable of storing large amounts of data (up to 1 Gbyte), although the most common size is 630 Mbytes. A single CD-ROM has the storage capacity of 700 floppy disks and is particularly well-suited to information that requires large storage capacity.

**central processing unit**

Sometimes referred to as the microprocessor, the central processing unit (CPU) more often describes the system unit, which is the box that holds the essential components of a PC (except the keyboard and monitor).

**chip**

Typically, a chip refers to the small flake of silicon crystal that makes up the microprocessor or some other type of controller.

**CLAN**

See also Nortel server subnet. Customer local area network—a network set up by a customer for its data network. CLAN is used by CallPilot for desktop messaging and potentially for system administration. Typically, a CLAN exists before CallPilot is installed at a customer site. See *also* [ELAN](#).

**client**

The client part of a client-server architecture. Typically, a client is an application that runs on a personal computer or workstation and relies on a server to perform some operations. For example, an e-mail client is an application that lets you send and receive e-mail.

**CMOS**

See [Complementary Metal-Oxide Semiconductor](#).

**COM or COMM**

Communications port. Usually refers to the Logical Device name of PC serial ports as defined by DOS.

**Complementary Metal-Oxide Semiconductor**

A commonly used type of semiconductor that is well-suited for use in battery powered devices, such as portable computers, because they require less power than NMOS.

**computer name**

The name that identifies the CallPilot server on the customer's network.

**Controlled Directory Number**

Directory number controlled by the BCR subsystem of CallPilot to route callers to available channel resources. A typical configuration for CallPilot requires two CDNs to be set up: one for voice call answering, and one for fax call answering. All other services can use a phantom DN, which maps to one of the two CDNs.

**controller board**

A special type of expansion board that contains a controller for a peripheral device. When you attach new devices to a computer, such as a disk drive, often you must add a controller board.

**Courtesy Stop**

An action that takes a channel or component out of service only after the channel or component has finished processing the active call. Courtesy Stop is preferred over a regular Stop. See *also* [Stop](#).

**CPU**

See [central processing unit](#).

**crash**

A serious computer failure during which the computer stops working or a program closes unexpectedly. A crash indicates a hardware malfunction or a serious software bug.

**D**

**DAT**

See [digital audio tape](#).

**data bits**

The bits in a byte of data that contain information, as opposed to bits used for starting, stopping, or error checking.

**data types**

The types of data that you can use to create variables.

**daughterboard**

Usually used as a synonym for an expansion board, a daughterboard is any printed circuit board that directly or indirectly attaches to a motherboard.

**DBMS**

Database Management System

**DC**

See [direct current](#).

**DDS**

See [digital data storage](#).

**desktop messaging**

A CallPilot feature that permits mailbox owners to use a computer to access CallPilot messages in the same way that they access e-mail messages. The desktop messaging license also permits the mailbox owner to view and manage the mailbox on the Web.

**desktop users**

Mailbox owners who are granted the ability to access their CallPilot voice mailbox, and then send, receive, and process messages with their desktop computer.

**DHCP**

See [dynamic host configuration protocol](#).

**digital audio tape**

A type of magnetic tape that uses a helical scan scheme to record data. Digital data storage (DDS) is the most common format for digital audio tape (DAT) cartridges.

**digital data storage**

DDS is the industry standard for 4 mm helical scan digital audio tape (DAT) cartridges. See also [DAT](#).

**digital linear tape**

A high-capacity 1/2-inch streaming tape cartridge format.

**digital signal processor**

A special type of coprocessor that manipulates analog data, such as sound, that has been converted to digital form. In CallPilot, digital signal processors (DSPs) are provided in one of the following forms:

- embedded in an MPC section on an MPB16-4 board
- embedded in an MPC section on the motherboard of an IPE (200i or 201i) server
- embedded in a removable MPC-8 card that is inserted into an MPB board or IPE (200i or 201i) server

Each embedded DSP or MPC-8 card provides eight multimedia processing units (MPUs).

**DIMM**

The protective packaging for microprocessor chips that provides a safe and convenient means of installing and removing the chip.

**DIP**

A type of protective packaging for silicon memory chips that provides a safe and convenient means of installing and removing the chip.

**DIP switch**

A series of tiny switches built into circuit boards that enable you to configure a circuit board for a particular type of computer or application. DIP switches are always toggle switches, which means they have two possible positions—on or off (or 1 or 0).

**direct current**

DC, the electrical power used by computers, comes from a single source (such as a battery) that provides a single voltage that stays at a constant level. AC, the power provided by utility companies, must be converted to DC before it can be used in computer systems.

**direct memory access**

DMA speeds up system performance by moving blocks of memory around inside the computer (typically, between I/O devices and memory). This process enables the microprocessor to spend its time performing other functions.

**directory number**

The number that identifies a telephone set on a PBX or in the public network. The directory number can be a local PBX extension (local DN), a public network telephone number, or an automatic call distribution directory number (ACD-DN) (the pilot or group number for an ACD queue).

**Disk Operating System**

Originally developed by Microsoft, Disk Operating System (DOS) is the standard, IBM-compatible, 16-bit operating system. New operating systems (including Windows 95) do not rely on DOS.

**display**

The device you look at when you work with a computer (for example, a CRT monitor in desktop systems or a liquid crystal display in notebooks).

**DLL**

See [dynamic link library](#).

**DLT**

See [digital linear tape](#).

**DMA**

See [direct memory access](#).

**DN**

See [directory number](#).

**DOS**

See [Disk Operating System](#).

**driver**

A program that controls a device. Every device, whether it is a printer, disk drive, or keyboard, must have a driver program. A driver acts like a translator between the device and programs that use the device.

**DS0**

An industry standard term for a single 64 kbs PCM-encoded voice path or channel.

**DS30X**

A Meridian 1 or CS 1000 proprietary TDM bus with 32 DS0 bearer channels.

**DSP**

See [digital signal processor](#).

**dual in-line memory module**

The protective packaging for microprocessor chips that provides a safe and convenient means of installing and removing the chip.

**dual in-line pin**

A type of protective packaging for silicon memory chips that provides a safe and convenient means of installing and removing the chip.

**dynamic host configuration protocol**

A protocol for assigning dynamic IP addresses to devices on a network.

**dynamic link library**

A library of executable functions or data that can be used by a Windows application. Typically, a dynamic link library (DLL) provides one or more particular functions, and a program accesses the functions by creating either a static or dynamic link to the DLL. Several applications can use a DLL at the same time.

**E****ECC**

See [error correction code](#).

**ECP**

See [extended capabilities port](#).

**EEPROM**

See [electronically erasable programmable read-only media](#).

**EIDE**

See [enhanced IDE](#).

**EISA**

See [extended industry standard architecture bus](#).

**ELAN subnet**

Embedded local area network subnet. A network connection from the switch to the CallPilot server. The ELAN subnet is an Ethernet LAN that is segmented from the Nortel server subnet and enables signaling and administration access to applications related to the Meridian 1 switch or CS 1000 system. A number of configurations are available to the customer, depending on whether the switch has an address on the Nortel server subnet. See *also* [CLAN](#).

**electronically erasable programmable read-only media**

A memory chip that needs only a higher-than-normal voltage and current to erase its contents. Electronically erasable programmable read-only media (EEPROM) can be erased and reprogrammed without taking it out of its socket. EEPROM gives computers and their peripherals a means of storing data without the need for a constant supply of electricity.

**EMI**

Electromagnetic interference

**enhanced IDE**

An IDE hard disk interface enhanced with hardware and firmware changes to support disks larger than 540 Mbytes, four disks instead of two, and faster transfer rates. See *also* [IDE](#).

**enhanced parallel port**

A parallel port standard for PCs that supports bidirectional communication between the PC and attached devices (such as a printer).

**EPP**

See [enhanced parallel port](#).

**error correction code**

A scheme that can detect and fix single-bit memory errors without crashing the system. Also known as Error Detection and Correction (EDAC).

**Ethernet**

A widely used LAN protocol that uses a bus topology and supports data transfer rates of 10 Mbps.

**expansion board**

Any board that plugs into one of the computer expansion slots. Expansion boards include controller boards, LAN cards, and video adapters.

**expansion bus**

Enables expansion boards to access the microprocessor and memory. See *also* [bus](#).

**extended capabilities port**

A parallel-port standard for PCs that supports bidirectional communication between the PC and attached devices (such as a printer).

**extended industry standard architecture bus**

A 32-bit bus that accommodates ISA PC boards.

**F****FAT**

See [file allocation table](#).

**FIFO**

First in, first out

**file allocation table**

A table that the operating system uses to locate files on a disk.

**FITS**

Failures in ten to the ninth hours. The number of failures expected in one million hours.

**FQDN**

See [fully qualified domain name](#).

**full system backup**

A complete server backup that consists of a single backup for each logical disk drive installed on the CallPilot server.

**fully qualified domain name**

The full site name of a system. The full site name consists of a host name and a domain name, including the top-level domain. For example, callpilot.yourcompany.com is a fully qualified domain name (FQDN). "Callpilot" is the host name, "yourcompany" is the second-level domain name, and "com" is the top-level domain name.

**G**

**gateway**

Software or a computer running software that enables two different networks to communicate.

**Gbyte**

Two to the 30th power (1 073 741 824) bytes. One Gbyte is equal to 1024 megabytes.

**general protection fault**

A computer condition that causes a Windows application to crash. General protection faults (GPFs) are commonly caused when one application attempts to use memory assigned to another application.

**gigabyte**

See [Gbyte](#).

**GPCP**

General purpose computing platform

**GPF**

See [general protection fault](#).

**graphical user interface**

What is seen on the monitor when a Windows application (or another noncommand-based application) runs. A graphical user interface uses features such as pointers, icons, I-beams, and menus to make the program easier to use.

**GUI**

See [graphical user interface](#).

**H**

**HAL**

See [hardware abstraction layer](#).

**handshaking**

A process involved in establishing a valid connection or signal between two pieces of hardware or communications software.

**hardware abstraction layer**

The software layer between the operating system and the hardware.

**hub**

A common connection point for all 10Base-T or 100Base-T cables connected to a small network. A hub enables data to go from one device to another.

**icon**

A small picture that represents an object or program in a graphical user interface.

**IDE**

Commonly used to describe the AT attachment design, the dominant hard disk interface. IDE is a cost-effective interface technology for mass storage devices in which the controller is integrated into the disk or CD-ROM drive.

**IMAP**

See [Internet Message Access Protocol](#).

**Industry Standard Architecture**

A 16-bit standard interface for add-in cards.

**input/output**

Refers to any operation, program, or device that enters data into a computer or extracts data from a computer.

**integrated client**

An e-mail client that desktop messaging supports, which provides access to desktop messaging commands, configuration options, and online Help directly from the e-mail client interface. During desktop messaging installation, integrated clients are automatically configured with CallPilot mailbox information, and customized to include desktop messaging features. Integrated clients include Microsoft Outlook, Novell GroupWise, and Lotus Notes.

**interactive voice response**

An application that allows telephone callers to interact with a host computer through prerecorded messages and prompts.

**Internet client**

An e-mail client that desktop messaging supports, which does not provide access to desktop messaging commands, configuration options, and online Help directly from the e-mail client interface. You must manually configure this type of e-mail client to work with desktop messaging. See *also* [integrated client](#).

**Internet Message Access Protocol**

A protocol for retrieving e-mail messages from a server. Internet Message Access Protocol (IMAP) enables mailbox owners to retrieve CallPilot messages from the CallPilot server.

**inter-process communication**

IPC enables one process to communicate with another process. It allows one application to control the other, and permits several applications to share the same data without interfering with one another. Also, a generic term for the communication of commands, events, or data between software processes.

**interrupt request**

Hardware lines used by devices to send interrupt signals to the microprocessor, temporarily shifting program execution to another section of code. When a new device is added to a PC, often the IRQ number must be set to specify which interrupt line the device may use.

**I/O**

See [input/output](#).

**IP address**

An identifier for a computer or device on a TCP/IP network. Networks use the TCP/IP protocol to route messages based on the IP address of the destination. The format of an IP address is a 32-bit numeric address written as four numbers separated by periods. Each number can be 0–255. For example, 1.160.10.240 can be an IP address.

**IPE**

Intelligent peripheral equipment.

**IPC**

See [inter-process communication](#).

**IRQ**

See [interrupt request](#).

**ISA**

See [Industry Standard Architecture](#).

**IVR\***

See [interactive voice response](#).

**IVR ACD-DN**

A directory number that routes a caller to a specific IVR application. An IVR ACD-DN must be acquired for non-integrated IVR systems.

**J****jumper**

A metal bridge that closes an electrical circuit. Typically, a jumper consists of a plastic plug that fits over a pair of protruding pins. Jumpers are sometimes used to configure expansion boards. By placing a jumper plug over a different set of pins, you can change the parameters of a board.

**K****kbyte**

When used to describe data storage, a kbyte represents 1024 bytes. When used to describe data transfer rates, a kbyte represents 1000 bytes.

**keycoded features**

Features that are packaged and priced in a license agreement between Nortel and the customer. The terms of the agreement are specified in a keycode calculation. The keycode calculation specifies parameters such as

- feature enablement
- the maximum number of feature-capable ports
- the maximum number of mailbox owners

**kilobyte**

See [kbyte](#).

**L****LAN**

See [local area network](#).

**LCD**

Liquid crystal display

**LDAP**

See [Lightweight Directory Access Protocol](#).

**LED**

Light-emitting diode

**Lightweight Directory Access Protocol**

A set of protocols that enables e-mail clients to access a directory. In CallPilot, LDAP settings control access to the CallPilot address book.

**local area network**

A computer network that spans a relatively small area. Most LANs connect workstations and personal computers, and are confined to a single building or group of buildings. LANs can transmit data at very fast rates, but the distances are limited.

**M**

**M1**

Meridian 1 switch

**Mbyte**

When used to describe data storage, a megabyte represents 1 048 576 (2 to the 20th power) bytes. When used to describe data transfer rates, as in Mbps, a megabyte represents one million bytes.

**media bus**

The signal pathway used to route voice or fax between DSPs (that is, MPCs) and telephony interfaces (for example, a DS30x link).

**megabyte**

See [Mbyte](#).

**megahertz**

One megahertz (MHz) represents one million cycles per second.

**Meridian Mail**

A Nortel product that provides voice messaging and other voice and fax services.

**Message Waiting Indication**

An indicator that is activated whenever the mailbox receives a message that meets the criteria specified in the mailbox owner's message waiting indication options. On the phoneset, the message waiting indicator is a red light that lights up. On the desktop, the message waiting indicator is an icon in the form of a red phone.

**MHz**

See [megahertz](#).

**MMFS**

See [Multi-Media File System](#).

**motherboard**

The principal board that has connectors for attaching devices to the bus. Typically, the motherboard contains the CPU, memory, and basic controllers for the system. On PCs, the motherboard is often called the system board.

**MPB board**

A Nortel proprietary voice processing board that is installed inside the CallPilot tower or rack-mount server. For Meridian 1 and CS 1000 systems, it also provides the hardware connection between the CallPilot server and the MGate card on the switch.

**MPC**

See [multimedia processing card](#).

**MPU**

See [Multimedia Processing Unit](#).

**MTBF**

Mean time between failures

**Multi-Media File System**

A proprietary file system used by CallPilot to store user mailboxes, voice messages, fax messages, and other application data. The Multi-Media File System (MMFS) data resides in several large files (VS1T, VS1V, and so on) stored within the file system provided by the Windows 2003 server operating system.

**multimedia channel**

A channel on the CallPilot server that processes the call data according to the transmission type of a call (voice, fax, or speech recognition).

Multimedia channels are provided in two forms:

- in embedded multimedia processing card (MPC) sections on an MPB16-4 board or IPE (200i or 201i) server
- in removable MPC-8 cards, which are inserted into an MPB16-4 board

Each MPC or MPC-8 card supports up to eight multimedia channels.

**multimedia processing card**

Nortel proprietary hardware that processes the voice and data signals that arrive from the switch. A multimedia processing card (MPC) can be in one of the following forms:

- embedded on an MPB16-4 board
- embedded on the motherboard of an IPE (200i or 201i) server

- a removable MPC-8 card that is inserted into an MPB board or IPE (200i or 201i) server

Each MPC contains one embedded DSP and provides eight multimedia processing units (MPUs).

### **Multimedia Processing Unit**

A measure of DSP processing power. A Multimedia Processing Unit (MPU) supports a session or connection of different media types (for example, voice, fax, and automated speech recognition). The number of MPUs required on the CallPilot server is based on the types of channels used by CallPilot.

### **MWI**

See [Message Waiting Indication](#).

### **MWI DN**

The directory number to which the message waiting indicator is directed.

### **My CallPilot**

A suite of Web-based applications for CallPilot mailbox owners. It provides a central graphical interface for managing messages, mailbox and messaging options, and audio conferences. It includes the following tools:

- Web Messaging
- Mailbox Manager
- CallPilot Conferencing

The applications and features in My CallPilot that are available to mailbox owners are determined by the software installed on the system and privileges assigned by the CallPilot administrator.

## **N**

### **NetBEUI**

See [NetBIOS enhanced user interface](#).

### **NetBIOS**

See [Network Basic Input Output System](#).

### **NetBIOS enhanced user interface**

An enhanced version of the NetBIOS protocol used by network operating systems, such as LAN Manager, LAN Server, Windows for Workgroups, Windows 95, and Windows NT.

**Network Basic Input Output System**

An application programming interface (API) that augments the DOS BIOS by adding special functions for local area networks (LANs). Almost all LANs for PCs are based on the NetBIOS. Some LAN manufacturers have even extended it, adding additional network capabilities.

**network interface card**

An expansion board that enables a PC to be connected to a local area network (LAN).

**New Technology File System**

The file system introduced as part of the Windows 2003 server operating system.

**NIC**

See [network interface card](#).

**NTFS**

See [New Technology File System](#).

**NTLDR**

Windows 2003 server bootstrap loader program.

**NVRAM**

Non-Volatile Random Access Memory

**O****OA&M**

Operations, administration, and maintenance

**object linking and embedding**

A compound document standard that enables you to create objects with one application, and then link or embed them in a second application.

**ODBC**

See [Open Database Connectivity](#).

**OEM**

Original equipment manufacturer

**OLE**

See [object linking and embedding](#).

**Open Database Connectivity**

A Microsoft-defined database API standard.

**Open System Interconnection**

A worldwide communications standard that defines a framework for implementing protocols in seven layers.

**operational measurements**

Data is used for reporting system activity and usage. Many activities within a CallPilot system generate operational measurements (OMs). Reports generated using OM data allow the administrator to monitor traffic and billing on the system.

**OS**

Operating System

**OSA**

Operating System Abstraction Layer

**OSI**

See [Open System Interconnection](#).

**P**

**parallel port**

A parallel interface for connecting an external device, such as a printer. Most personal computers have both a parallel port and at least one serial port.

**parity**

The type of bit used to evaluate the accuracy of data transmission. A parity bit is a unit of data and is used to verify whether the data was transmitted accurately. This verification technique is called parity checking. The sending and receiving devices must use the same method of parity checking for data transmission.

**PBX**

See [private branch exchange](#).

**PC**

See [personal computer](#).

**PCEB**

PCI to EISA Bus Controller

**PCI**

See [Peripheral Component Interconnect Bus](#).

**PCMCIA**

See [Personal Computer Memory Card International Association](#).

**Peripheral Component Interconnect Bus**

A new 32- or 64-bit local bus standard for PCs.

**personal computer**

A computer having an architecture that is compatible with the IBM PC.

**Personal Computer Memory Card International Association**

An industry group dedicated to promoting the new PCMCIA/PC Card Standard (credit-card-sized peripherals for PCs).

**phantom TN**

Terminal numbers that have no associated physical hardware. They enable the definition of directory numbers without the need for line cards. They are typically used with services and applications on CallPilot. See *also* [terminal number](#).

**PMC**

PCI and Memory Controller

**POST**

See [Power-on self-test](#).

**Power-on self-test**

Initializes and performs rudimentary tests on baseboard hardware, including CPU, floating point unit, interrupts, memory, real-time clock, video, and auto-initializing PCI and EISA bus.

**private branch exchange**

A telephone switch typically used by a business to service its internal telephone needs. A private branch exchange (PBX) usually offers more advanced features than are generally available on the public network. A PBX interfaces with the public network central office using circuits known as trunks.

**protocol**

An agreed-upon format for transmitting data between two devices. The protocol determines the type of error checking to be used, the data compression method (if any), how the sending device indicates that it has finished sending a message, and how the receiving device indicates that it has received a message.

**R****RAID**

See [Redundant Array of Inexpensive Disks](#).

**RAM**

See [random access memory](#).

**random access memory**

The most common type of memory found in computers and other devices, such as printers. The term random access memory (RAM) is usually synonymous with main memory, the memory available to programs. For example, a computer with 8 Mbytes RAM has approximately 8 million bytes of memory that programs can use.

**RAS**

See [Remote Access Services](#).

**read-only memory**

Computer memory on which data is prerecorded and cannot be removed.

**real-time clock**

A clock that keeps track of the time even when the computer is turned off. Do not confuse a computer's real-time clock with its CPU clock. The CPU clock regulates the execution of instructions.

**Redundant Array of Inexpensive Disks**

A system of redundant hard drives organized as a pack, which is defined as a logical drive that allows continuous functionality and data to be fully recovered if a crash of any of the hard drives within that pack.

**registry**

Windows 2003 server central database for storing services, defaults, and so on.

**Remote Access Services**

A feature built into Windows 2003 server that enables users to log on to an NT-based LAN using a modem, X.25 connection, or WAN link.

**Reporter**

A CallPilot Web-based application that helps you analyze and manage your CallPilot system. Reporter converts raw statistics from your server into easy-to-read reports and alerts, which you can then

- view on screen
- print on a daily, weekly, or monthly basis
- export to a variety of file formats
- customize for easier reading

**ROM**

See [read-only memory](#).

**route**

Defines a group of trunks. Each trunk carries either incoming or outgoing calls to the switch.

**router**

A device that connects two LANs. Routers are similar to bridges but provide additional functionality, such as the ability to filter messages and forward them to different places based on various criteria.

**RPM**

Revolutions per minute

**RTC**

See [real-time clock](#).

**S****SCA**

See [single connector architecture](#).

**SCM**

See [Service Control Manager](#).

**SCSI**

See [Small Computer System Interface](#).

**SCU**

See [Software Configuration Utility](#).

**SDN table**

The CallPilot equivalent of the Meridian Mail VSDN table. From the SDN table, an administrator

- associates dialable numbers (DNs) with applications and services
- specifies the channel media type
- configures the minimum and maximum number of channels associated with a service

See *also* [Service Directory Number](#).

**serial port**

A general-purpose interface that can be used for almost any type of device, including modems, mice, and printers (although most printers are connected to a parallel port). Most serial ports on personal computers conform to the RS-232C or RS-422 standards.

**server**

A computer or device on a network that manages network resources. Examples of servers include file servers, print servers, network servers, and database servers.

**service**

Process that adheres to a Windows 2003 server structure and requirements. It provides system functionality. In CallPilot, a service is functionality that is made available to mailbox callers through a Service Directory Number (SDN).

**Service Control Manager**

A Windows 2003 server process that manages the different services on the computer.

**Service Directory Number**

The number that callers dial to access a CallPilot service. Each SDN must be unique so that when a caller dials a number, the system can identify which service is being requested. SDNs are defined on the server and stored in the SDN table. When a caller dials a number to access a service, the system looks up the number in the SDN table and activates the appropriate service.

**SIMM**

Single In-line Memory Module

**Simple Network Management Protocol**

A set of protocols for managing complex networks. SNMP works by sending messages, called protocol data units (PDUs), to different parts of a network, and then analyzing the responses.

**single connector architecture**

A method for supplying power and data lines in one connector on hard disks. It provides hot-swap capability.

**Small Computer System Interface**

A standard for connecting and controlling mass storage devices, such as CD-ROMS, tape drives, and hard disks.

**CallPilot System Controller**

The CallPilot System Controller pack consists of the CPU, memory, network conference, and Ethernet controller.

**SMDI**

Station message desktop interface.

**SMI**

System Management Interrupt

**SNMP**

See [Simple Network Management Protocol](#).

**Software Configuration Utility**

A utility used to configure PCI and EISA cards. It can also set BIOS parameters.

**Speech Activated Messaging**

A CallPilot feature that substitutes DTMF commands (generated when the phoneset keys are pressed) with speech recognition technology. Speech Activated Messaging allows mailbox owners to speak commands for mailbox navigation, playback of messages, recording, composing, and sending of messages. It is particularly useful for areas with low DTMF penetration, and when performing tasks that require undivided attention (for example, driving). **Note:** Speech Activated Messaging requires four times the resources required by voice messaging.

**SRAM**

Static Random Access Memory

**Stop**

An action that takes a channel or component out of service immediately, regardless of whether the channel or component is currently processing calls. All active calls are dropped immediately. See *also* [Courtesy Stop](#).

**stop bit**

In asynchronous communications, a bit that indicates that a byte has just been transmitted. Every byte of data is preceded by a start bit and followed by a stop bit.

**Succession 1000**

See also Communication Server 1000 (CS 1000) An IP PBX that provides telephony and data capabilities over an IP network. The Succession 1000 system consists of the following major components:

- Call Server

- Media Gateway
- Media Gateway Expansion

**SVGA**

Super Video Graphics Adapter

**switch**

In data networks, a device that filters and forwards frames, or packets of information. In telephone networks, a switch is the device that processes and routes telephone calls.

**switch resource**

Devices that are configured on the switch through overlays.

**system pack**

A logical drive created from two or more physical hard disks using the RAID software configuration utility.

**T**

**TCP/IP**

See [Transmission Control Protocol/Internet Protocol](#).

**telephony**

The science of translating sound into electrical signals, transmitting them, and then converting them back to sound. The term is used frequently to refer to computer hardware and software that performs functions traditionally performed by telephone equipment.

**terminal number**

A configuration value on the Meridian 1 or CS 1000 system that defines the location of a phoneset (or ACD agent) or trunk. The terminal number refers to a specific unit on a card that is installed in the switch.

**time switch**

An application-controlled hardware entity that is responsible for routing voice and fax traffic to and from the [media bus](#).

**TN**

See [terminal number](#).

**Transmission Control Protocol/Internet Protocol**

The suite of communications protocols used to connect hosts on the Internet. TCP/IP is the standard for transmitting data over networks.

**trunk**

A communications link between a PBX and the public central office, or between PBXs. There are various trunk types that provide services, such as Direct Inward Dialing (DID trunks), ISDN, and Central Office connectivity.

**U****unicode**

A worldwide 16-bit character-encoding standard that allows text to be displayed in a wide choice of international languages.

**uninterruptible power supply**

A power supply that includes a battery to maintain power in the event of a power outage. Typically, an uninterruptible power supply (UPS) keeps a computer running for several minutes after a power outage, enabling you to save data that is in RAM and shut down the computer safely.

**UPS**

See [uninterruptible power supply](#).

**utility**

A program that performs a very specific task, usually related to managing system resources. Operating systems contain a number of utilities for managing disk drives, printers, and other devices.

**V****VGA**

See [video graphics adapter](#).

**video adapter**

An expansion board that contains a controller for a graphics monitor.

**video graphics adapter**

A standard video interface for computers.

**Voice Messaging**

The basic component of any messaging system, including the CallPilot unified messaging system.

**voice port**

A channel within an IVR system. A voice port is defined as a 2500 phoneset for third-party IVR systems, or as an RCS (517 or 2009) phoneset for Meridian Mail.

## W

### WAN

See [wide area network](#).

### Web Messaging

See My CallPilot. The new name for Web Messaging is My CallPilot, which is a Web-based tool for managing CallPilot and e-mail messages. It lets mailbox owners:

- access their CallPilot mailbox anywhere Internet access is available
- view and play messages
- send text, voice, and fax messages
- view e-mail messages from external IMAP e-mail accounts

### wide area network

A computer network that spans a relatively large geographical area. Typically, a wide area network (WAN) consists of two or more local area networks (LANs). The largest WAN in existence is the Internet.

### workload scenarios

The workload scenarios define typical patterns of system operations, and are not directly related to the various hardware configurations of the system. There are five typical workload scenarios (entry, small, medium, large, and upper end) that are used in performance evaluation for CallPilot.

## X

### XBUS

Two parallel bus structures, one for DMA-compatible devices, and one for memory devices that do not support DMA cycles. XBUS connects the real-time clock, flash memory, NVRAM, and keyboard/mouse controller.

## Z

### zero insertion force

A type of socket.

### ZIF

See [zero insertion force](#).

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Nortel CallPilot

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