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# **Nortel Contact Center Manager**

Contact Center, Communication Server 1000/Meridian 1 and  
Voice Processing Guide

Product release 6.0

Standard 6.0

February 2007

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**NORTEL**



# Nortel Contact Center Manager

## Contact Center, Communication Server 1000/Meridian 1 and Voice Processing Guide

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# Chapter 1

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## Getting started

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# New in this release

The following sections detail what is new in the Nortel Contact Center Manager Contact Center, Communication Server 1000/Meridian 1 and Voice Processing Guide (297-2183-931) for release 6.0.

- “Features” on page 10
- “Other changes” on page 10

## Features

See the following sections for information about feature changes:

- “Give Controlled Broadcast” on page 10
- “Universal Networking” on page 10

### **Give Controlled Broadcast**

Nortel does not support the Give Controlled Broadcast feature on the CS 1000E platform. The following sections were updated to include this information:

- “Give Controlled Broadcast Announcement and Open Voice Session checklists” on page 55
- “Script commands” on page 134

### **Universal Networking**

Universal Network Skill-Based Routing (UNSBR) is a non-switch specific networking capability introduced in Contact Center 6.0. Universal Networking affects the following sections:

- “To configure NSBR networking” on page 40
- “To configure CDNs on the switch” on page 86

## Other changes

See the following section for information about changes that are not feature-related.

- “Phantom TNs” on page 11

- “Updating CallPilot configuration” on page 11
- “Resource acquisition” on page 11
- “CSQO/CSQI settings” on page 11

### **Phantom TNs**

The section “To configure phantom TNs on the switch” on page 109 is new content.

### **Updating CallPilot configuration**

The procedure “Updating CallPilot configuration” on page 146 was updated.

### **Resource acquisition**

Nortel recommends that you do not configure extra voice ports that Contact Center Manager Server does not access or acquire. See “Resource acquisition” on page 140.

### **CSQO/CSQI settings**

The maximum values for CSQO and CSQI were updated. See “Defining the ELAN subnet with LD 17” on page 73.

# Overview

The *Contact Center, Communication Server 1000/Meridian 1 and Voice Processing Guide* provides descriptive information and instructions for how to set up and configure the following components for use with Contact Center Manager Server:

- Communication Server 1000 or Meridian 1 PBX switches  
**Note:** Unless otherwise specified, references in this guide to the Communication Server 1000 switch are also applicable to the Meridian 1 PBX switch.
- Meridian Link Services (MLS)
- CallPilot, Meridian Mail, or a third-party voice-processing system  
**Note:** The Meridian Mail voice-processing system is not available on the Communication Server 1000 switch.
- Meridian Integrated Recorded Announcement (MIRAN)

## Assumptions

This guide is based on the following assumptions:

- You installed and made operational the Contact Center Manager Server. If Contact Center Manager Server is not installed, install it. For more information, see the *Contact Center Manager Server Installation and Maintenance Guide*.
- You installed and made operational the switch. You applied all current Service Updates (SU). For information about which SU to install on the switch, check the following Web site:
  - [www.nortel.com](http://www.nortel.com)
- The switch is running X11 Release 25.40B or Communication Server 1000 Release 3.0, 4.0, or 4.5.

# About Contact Center 6.0

The following components comprise the Contact Center 6.0 product.

## Contact Center Manager Server

Contact Center Manager Server is the core contact center component that provides the intelligent routing capability for telephony calls and multimedia contacts. Use Contact Center Manager Server to route calls and contacts to the most qualified agent. The most qualified agent is the agent with the appropriate capability for handling the type of call or contact and who has the appropriate skillset or unique abilities. Rules for contact treatment (what happens while the customer is waiting for a response) and routing (the contact response) can be simple or complex.

Contact Center Manager Server manages multimedia contacts using the Open Queue feature introduced in Contact Center 6.0. The Open Queue is a licensed feature that provides seamless integration between the Contact Center Manager Server, Administrator, Multimedia, and Communication Control Toolkit products. It provides true workflow, queuing, routing, reporting, and management of contacts of multiple types, such as e-mail. It provides a truly integrated multimedia contact center.

## Network Control Center server

The server in a Contact Center Manager network that manages the Network Skill-Based Routing (NSBR) configuration and communication between servers is the Network Control Center server. The Network Control Center server is required when servers in multiple Contact Center Manager Server sites are networked and operating as a single distributed contact center. The Network Control Center server runs the Network Control Center (NCC) software application, a feature of the Contact Center Manager Server application software.

## Standby and Replication server

The Replication server is a third-party software server that replicates data and outputs it to the Standby server. If the active Contact Center Manager Server fails, the standby server can be quickly deployed.

## Contact Center Manager Administration

Contact Center Manager Administration is a browser-based tool for contact center administrators and supervisors. You can use Contact Center Manager Administration to manage and configure a contact center and its users, define access to data, and view real-time and historical reports. You can install the Contact Center Manager Administration component on the same machine as Contact Center Manager Server, or on a separate networked machine.

With the Contact Center Manager Administration award-winning Web-based platform, you can perform the following functions:

- **Contact Center Management**—Assign agents to supervisors and skillsets to agents.
- **Access and Partition Management**—Create a Contact Center Manager Administrator, and partitions and access classes for agents and supervisors. Partitions define what a user can view, and access classes define what the user is allowed to create, change or modify.
- **Configuration**—Configure the contact center data such as users and skillsets for the contact center. You can use templates in Microsoft Excel spreadsheets to upload Contact Center Manager information.
- **Scripting**—Create, modify, and validate contact routing instructions for the contact center.
- **Real-Time Reporting**—View the dynamics of contact activity, agent activity, skillset performance, nodal performance, and application performance for both networked and single-node contact centers.
- **Historical Reporting**—Gather and present information about the past performance of the contact center.
- **Report Creation Wizard**—Create, maintain, and modify customized reports with a user-friendly interface.

- **Emergency Help**—View notifications of agent emergencies. Agents can click an Emergency button on the Contact Center Agent Desktop to alert supervisors of contact emergencies.
- **Audit Trail**—View a record of all actions performed in the Administration configuration.
- **Outbound**—Configure outbound campaigns if the Multimedia/Outbound server software is installed. For more information about the Multimedia/Outbound server, see “Contact Center Multimedia” on page 16.

### Agent Desktop Display

The Agent Desktop Display application is a separate application that can be run along with the Agent Desktop application to view real-time skillset monitoring on agent desktops.

## Communication Control Toolkit

The Communication Control Toolkit server is a server/client application that helps you implement Computer Telephony Integration (CTI) for installed and browser-based client integrations. It facilitates the integration of contact center, knowledge worker, and self-service solutions with your client applications.

The Communication Control Toolkit contains the following elements:

- **Communication Control Toolkit server**—The component responsible for managing client sessions consists of the following subcomponents:
- **Contact Management Framework**—An infrastructure component that manages the states of contacts, agents, terminals, and addresses.
- **Telephony Application Program Interface (TAPI) Connector**—An application that converts Communication Control Toolkit requests to TAPI Application Program Interface (API) calls, and TAPI events to Communication Control Toolkit events. The TAPI Connector sits between the Nortel TAPI Service Provider and the Contact Management Framework.
- **TAPI Service Provider**—A Microsoft TAPI client responsible for CTI operations of all lines controlled by the Communication Control Toolkit platform that are initialized by TAPI.

- **Communication Control Toolkit API**—An API that controls voice resources. The API is published as Microsoft .NET types and distributed as a Windows assembly, which is referenced by application developers.
- **Client applications**—Third-party components including software phones, agent telephony toolbars, or call management applications. The Contact Center Agent Desktop is a Nortel software application that provides the agent telephony toolbar functionality.

## Contact Center Multimedia

The Contact Center Multimedia server contains contact center applications that expand the contact center to allow agents to view, respond to, and track requests over the Internet. E-mail and outbound contacts are directed to the first available agent in the skillset who can handle the contact type. If more than one agent is available, the contact is routed to the agent with the highest priority for the skillset. Supervisors and administrators view real-time displays and run historical reports to determine volume and completion statistics.

The Contact Center Multimedia server contains the following components:

- **Multimedia/Outbound database**— The server component includes the Caché database, or multimedia database, that stores all incoming e-mail contacts, outbound campaigns, and associated responses in a structured format within the database. The Multimedia Administrator, the Outbound Campaign Management Tool, the Contact Center Agent Desktop, and additional utilities are stored on the Contact Center Multimedia server.
- **Contact Center Redundancy server**—You can optionally install a warm standby server, or Redundancy server, to shadow the Caché database and provide a quick recovery if the primary Contact Center Multimedia server fails. All multimedia services are disabled on the Redundancy server, until the Redundancy server is required to run as the primary server.
- **Contact Center Multimedia Administrator**—Use the Multimedia Administrator application to configure the properties required for routing contacts. For outbound contacts, you must configure skillsets. For e-mail messages, you must configure E-mail Manager settings such as recipient mailboxes, rules for routing e-mail messages, and skillsets. You can use the Multimedia Administrator application for administration and data management such as backing up data in the database.

- **Outbound Campaign Management Tool**—You access the Outbound Campaign Management Tool from Contact Center Manager Administration application. Administrators use the Outbound Campaign Management Tool to create, modify, and monitor outbound campaigns. An outbound campaign is a series of outbound calls to customers for one specific purpose, such as a customer survey or a sales promotion.
- **Contact Center Agent Desktop**—Agents use Internet Explorer to connect to the Contact Center Multimedia server to access the Agent Desktop interface. The Communication Control Toolkit pushes e-mail, Web requests, outbound contacts, and voice calls to the Agent Desktop interface. Agents use the Agent Desktop interface to retrieve e-mail and outbound campaign information, and customer details and history from the Multimedia database. Agents also use the Agent Desktop application to send e-mail replies and save outbound call details in the multimedia database.
- **Migration Utility**—A utility that you use to migrate the data from the Symposium Web Center Portal database to the new Contact Center Multimedia database.

## Server Utility

Server Utility lets you to monitor and maintain Contact Center Manager Server Release 6.0. The Server Utility provides functionality that is not available through Contact Center Manager Administration.

The Server Utility is primarily used to do the following:

- Monitor and maintain desktop user accounts and access classes, serial ports, switch resources, the Voice Prompt Editor, server settings, and connected sessions, backup scheduler, and alarm monitor.
- Use the Provider application to receive Contact Center script information over the Host Data Exchange (HDX) interface. Additionally, it can be configured to return information to the Contact Center script.
- Use the Service Monitor application to monitor the status of Contact Center Manager Server 6.0 services from a standalone computer. The information returned is similar to the information provided by SMONW.

- Use PC Event Browser to view events that occur on the client machine where Contact Center Manager Administration is running. Events that occur on the server cannot be viewed in the PC Event Browser window.

## License Manager

Nortel uses a License Manager for the centralized licensing and control of all Contact Center Suite 6.0 components and features across the Contact Center suite (Contact Center Manager (nodal and Network Control Center), Contact Center Manager Administration, Communication Control Toolkit, and Contact Center Multimedia).

You must install the License Manager on the Contact Center Manager Server or on the primary Contact Center Manager Server in a Network Control Center. If you work in a direct connect environment, where there is no Contact Center Manager Server, you must install the License Manager on the Communications Control Toolkit server.

A Corporate License feature is available with Contact Center Suite 6.0, where licensing for the entire contact center network is administered on a centralized License Manager server thereby reducing administration overhead. With Corporate Licensing, you can enable the concurrent agent licenses across a contact center network. For example, if an agent logs off in California, the seat (agent license) becomes available for use by an agent based in Texas thereby maximizing the corporate license investment.

You can install a backup License Manager server on another Contact Center Manager Server to ensure business continuity if the primary License Manager server fails.

## Network architecture

The Contact Center Manager Server network architecture includes three components:

- Routed ELAN subnet
- Nortel server subnet
- Single network interface card (NIC) Contact Center Manager Server configuration

The ELAN subnet must be routed to the Nortel server subnet with one router.

Contact Center Manager Server now requires only a single network interface card (NIC) configuration to connect to the Nortel server subnet. A second NIC connected directly to the ELAN subnet is optional to accommodate delayed legacy data network design changes. The single-NIC configuration is encouraged as future Contact Center Manager Server releases and features (such as SIP Contact Center) do not support the dual-NIC configuration.

## **Other software that works with Contact Center**

You can install other software available through Nortel to work with the components of Contact Center:

- Use the Host Data Exchange (HDX) application server as an optional host computer to run a third-party provider application that receives data from Contact Center Manager Server and returns data (such as an account balance) to Contact Center Manager Server. Contact Center Manager Server supports up to 10 HDX applications.
- Use CallPilot/Meridian Mail Client voice mail system as a front-end interactive voice response (IVR) or voice service for Contact Center Manager Server.
- Use Interactive Voice Response (IVR) to allow telephone callers to interact with a host computer using prerecorded messages and prompts. You can use Nortel IVR or third-party IVR systems to provide front-end IVR to calls before they are handed over to Contact Center Manager Server.

## Communication Server 1000/Meridian 1 PBX changes

You now configure the following items through the Contact Center Manager Administration Launchpad (in addition to configuring them on the switch and voice-processing system):

- controlled directory numbers (CDN)
- Interactive voice response (IVR) Automatic call distribution directory number (ACD-DN)
- agent phones (TN)
- voice ports (virtual agents)
- global settings
- script variables

## Landing Pads

A Landing Pad in the first instance is a unique dialable number.

- Landing Pads are employed in the absence of the ability to tag a call reference directly to the call, for example, no means of conveying a Network Call ID along with the call to target (in the voice call signaling).
- Landing Pads are employed so that agents can dial a unique number on a per call basis, to create a unique call reference.
- A unique call reference is used to match a source routed call to a previously reserved target agent, or more generally to track a call from source to destination, where regular telephony information provided at source and target for that call is not enough to uniquely differentiate between all calls arriving.
- Landing Pads are normally grouped together as a pool of resources, constantly reused.

# How to use this guide

This guide covers the configuration procedures for:

- the ELAN subnet
- the ACCESS link
- switch subsystems
- Meridian Link Services (MLS)
- voice-processing systems

If the task you want to perform is not listed here, use the table of contents or index to find the information you need.

## Where to start in this guide

The following table provides some pointers on where to start for common procedures.

<b>If you want to do this</b>	<b>Start here</b>
Configure the ELAN subnet	Chapter 3, “To configure the ELAN subnet.”
Configure the ACCESS link	Chapter 3, “To configure the ACCESS link.”
Configure the following switch subsystems: <ul style="list-style-type: none"> <li>■ CDNs</li> <li>■ NACD-DNs</li> <li>■ IVR ACD-DNs</li> <li>■ voice ports</li> <li>■ agent and supervisor TNs</li> <li>■ routes</li> <li>■ Multiple Queue Assignments</li> </ul>	Chapter 4, “Switch subsystem configuration.”

<b>If you want to do this</b>	<b>Start here</b>
Configure MLS	Chapter 5, “Meridian Link Services configuration.”
Configure voice processing	Chapter 6, “Voice-processing subsystem configuration.”
Test voice services	Chapter 9, “Testing integration.”
Migrate from Meridian Mail to CallPilot	Chapter , “To migrate from Meridian Mail to CallPilot.”
Migrate from Meridian MAX to Contact Center Manager Server	Chapter , “To migrate from Meridian MAX to Contact Center Manager Server.”

## Skills you need

This guide is intended for individuals responsible for configuring, administering, and maintaining the switch, CallPilot, Meridian Mail, or a third-party voice-processing system.

This section describes the skills and knowledge that you need to use this guide effectively. This guide is directed at the moderately experienced user and does not detail the basics of the switch, CallPilot, Meridian Mail, or Contact Center Manager Server operation, features, or administration.

The examples in this document are based on the following releases (with most or all packages equipped):

- X11 Release 25.40B or Communication Server 1000 Release 3.0 or later
- CallPilot 4.0 or Meridian Mail Release 13.2 or later  
**Note:** CallPilot Release 3.1 continues to be supported in Contact Center Manager Server 6.0. Any references to CallPilot in this guide also apply to CallPilot 3.1.
- Contact Center Manager Server Release 6.0

Prompts, menus, and windows can look different for different releases of the subsystems, or for subsystem equipped with different versions of the packages.

### Nortel product knowledge

Knowledge of, or experience with, the following Nortel products can be of assistance when administering Contact Center Manager Server:

- the appropriate switch type:
  - Meridian 1 PBX 11, 11C–Chassis, 51C, 61C, 81, or 81C (X11 Release 25.40B or later)
  - Communication Server 1000 Release 3.0 or later
- CallPilot Release 4.0 or CallPilot Release 3.1
- Meridian Mail Release 13.2 or later

## **PC experience or knowledge**

Knowledge of, or experience with, the following PC products can be of assistance when administering Contact Center Manager Server:

- Microsoft Windows 2003 Server (Standard or Enterprise edition)
- Microsoft Windows 2003 (Standard or Enterprise edition)
- client/server architecture
- Internet Protocol (IP)

## **Other experience or knowledge**

Other types of experience or knowledge that may be of use include:

- database management
- flowcharting
- programming

## Related documents

The following guides are available on the Contact Center portfolio DVD or on the Nortel Web site ([www.nortel.com](http://www.nortel.com)).

<b>For information about</b>	<b>Refer to</b>	<b>NTP number</b>
Planning and engineering guidelines, and server requirements	<i>Contact Center Planning and Engineering Guide</i>	297-2183-934
	<i>Contact Center Manager CapTool User's Guide</i>	297-2183-935
Server requirements	<i>Contact Center Server and Operating System Requirements Guide</i>	297-2183-263
The Contact Center portfolio	<i>Contact Center What's New in Release 6.0</i>	297-2183-903
Switch configuration	<i>Contact Center Communication Server 1000/Meridian 1 and Voice Processing Guide</i>	297-2183-931
	<i>SIP Contact Center Switch Guide</i>	297-2183-962
	<i>Contact Center 6.0 Security Guide</i> <i>Contact Center Portfolio Service Packs Compatibility and Security Hotfixes Applicability List</i>	
Installation, upgrades, migration, and maintenance	<i>Contact Center Manager Server Installation and Maintenance Guide</i>	297-2183-925
	<i>Contact Center Manager Administration Installation and Maintenance Guide</i>	297-2183-926
	<i>Nortel Media Application Server Installation and Configuration Guide for Contact Center 6.0</i>	297-2183-227

<b>For information about</b>	<b>Refer to</b>	<b>NTP number</b>
Scripting	<i>Contact Center Manager Scripting Guide for Communication Server 1000/Meridian 1 PBX</i>	297-2183-930
	<i>Contact Center Manager Database Integration User Guide</i>	297-2183-940
Administering contact centers	<i>Contact Center Manager Administrator's Guide</i>	297-2183-927
Handling contacts	<i>Contact Center Agent Desktop User Guide</i>	297-2183-945
	<i>CallPilot Application Builder Guide</i>	555-7101-325
	<i>Host Data Exchange Programmer's Guide</i>	297-2183-939
	<i>Contact Center Manager Meridian Link Services Interface Specification</i>	297-2183-941

# How to get help

This section explains how to get help for Nortel products and services. However, before contacting Nortel for support, consult “Troubleshooting” on page 261 of this guide.

## Finding the latest updates on the Nortel Web site

The content of this documentation was current at the time the product was released. To check for updates to the latest documentation and software for Contact Center 6.0, click one of the following links:

Link to	Takes you directly to
<a href="#">Latest software</a>	The Nortel page for Contact Center located at <a href="http://www.nortel.com/espl">www.nortel.com/espl</a> .
<a href="#">Latest documentation</a>	The Nortel page for Contact Center documentation located at <a href="http://www.nortel.com/helmsman">www.nortel.com/helmsman</a> .

## Getting help from the Nortel Web site

The best way to get technical support for Nortel products is 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. From this site, you can:

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

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

If you do not find the information you require on the Nortel Technical Support Web site, and you 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

You can use an Express Routing Code (ERC) to more quickly route your call to the appropriate support specialist. 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, you can contact the technical support staff for that distributor or reseller.

# Chapter 2

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## Configuration overview

### In this chapter

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# Overview

The following subsystems work together to provide processing for a call:

- Communication Server 1000 or Meridian 1 PBX switch
- Contact Center Manager Server
- voice-processing system (CallPilot, Meridian Mail, or a third-party voice-processing system)

**Note:** Meridian Mail and CallPilot can coexist in the same environment. For example, you can choose to use a legacy Meridian Mail for voice mailboxes or to provide IVR (Interactive Voice Response) services, and use CallPilot for advanced voice processing. However, Contact Center Manager Server cannot use advanced voice-processing services from both Meridian Mail and CallPilot.

- Meridian Link Services

The following sections describe each of the subsystems.

## Switch

The switch provides a speech path for a call between its source (usually a trunk) and its destination (a RAN trunk, voice port, or agent). Two connections to the switch interact with voice-processing systems: voice paths and signaling links.

### Voice paths

Voice paths are connections that carry speech (phone calls). They are configured as Terminal Numbers (TN) on the switch. The following table shows the voice paths types used for different voice-processing systems.

Voice path type	Voice-processing system
virtual ACD (Automatic Call Distribution) agent phones	CallPilot or Meridian Mail
2500 phone TNs	usually third-party voice-processing systems
2500 phone ACD agent TNs	usually third-party voice-processing systems

<b>Voice path type</b>	<b>Voice-processing system</b>
T1 TNs	usually third-party voice-processing systems
E1 TNs	usually third-party voice-processing systems

### **Signaling links**

Signaling links are connections that carry auxiliary information (such as treatment directory numbers [DN]) between the switch and a voice-processing system. Signaling links are optional, but they allow greater cooperation and control between the switch and the voice-processing system.

## **Contact Center Manager Server**

The server communicates with the switch and the voice-processing system.

### **Communicating with the switch**

The server executes scripts and instructs the switch to set up the speech paths necessary to connect calls to voice ports, agents, or RAN trunks, and to provide tone treatments (such as ringback and busy) to calls. The server communicates with the switch over the ELAN (Embedded Local Area Network) subnet and the Nortel server subnet using the AML (Application Module Link) protocol.

### **Communicating with CallPilot**

Contact Center Manager Server also communicates with CallPilot to instruct it to play prompts, collect digits input by callers, or both.

For basic voice processing (Give IVR), the server communicates with CallPilot over the Nortel server subnet, using the Meridian Link interface.

For advanced voice processing (Give Controlled Broadcast Announcement and Voice Session commands), the server tells CallPilot which prompts to play using the ACCESS protocol over the ELAN subnet. Messages from the switch to CallPilot (call arrival messages) travel on the ELAN subnet to Contact Center Manager Server, which sends them over the Nortel server subnet (using the MLS protocol) to CallPilot.

## Communicating with Meridian Mail

Contact Center Manager Server also communicates with Meridian Mail to instruct it to play prompts, collect digits input by callers, or both.

For basic voice processing (Give IVR), the server communicates with Meridian Mail over the ELAN subnet.

For advanced voice processing (Give Controlled Broadcast Announcement and Voice Session commands), the server tells Meridian Mail which prompts to play using the ACCESS link. Meridian Mail and the switch communicate using the CSL (Command and Status Link).

## CallPilot

The CallPilot voice channels connect to the switch by a DS30 cable. On the switch side, you configure this card as an SL1 phone TN (virtual agent).

Contact Center Manager Server can access the voice services provided by CallPilot through the following commands:

- Give IVR
- Give Controlled Broadcast Announcement
- Open Voice Session

When the Give IVR script command is used, Contact Center Manager Server sends the command, the ACD-DN (Automatic Call Distribution Directory Number), and a treatment DN (if specified) to the switch. It sends this information over the ELAN subnet and the Nortel server subnet, using the AML protocol. When the call arrives at a CallPilot voice port, the switch alerts CallPilot using Contact Center Manager. The alert is sent over the Nortel server subnet, using the Meridian Link interface.

When the Give Controlled Broadcast Announcement or Open Voice Session script commands are used, Contact Center Manager Server sends the command and the ACD-DN to the switch. It sends this information over the ELAN subnet and the Nortel server subnet, using the AML protocol. When the call arrives at a CallPilot voice port, the switch alerts CallPilot using Contact Center Manager through the Nortel server subnet, using the Meridian Link interface.

## Meridian Mail

The Meridian Mail voice channels connect to the switch by means of a special network loop card. On the switch side, you configure this card as either an SL1 phone TN (virtual agent) or, for the Option 11, a 2008 phone TN.

Contact Center Manager Server can access the voice services provided by Meridian Mail through the following commands:

- Give IVR
- Give Controlled Broadcast Announcement
- Open Voice Session

When the Give IVR script command is used, Contact Center Manager Server sends the command and a treatment DN (if specified) to the switch over the ELAN subnet. The switch passes the treatment DN to Meridian Mail.

When the Give Controlled Broadcast Announcement or Open Voice Session script commands are used, the server uses the ACCESS link to communicate the Play Prompt segment list (specified in the Play Prompt script command) to Meridian Mail. For the Open Voice Session script command, the server can also instruct Meridian Mail to collect digits (using the Collect Digits command).

## Meridian Link

Meridian Link (MLink) is an interface used for communication between a host application and the switch. The interface facilitates the integration of the computer and the switch. In this integrated environment, the host processor interacts with the switch by exchanging application layer messages.

You can develop Meridian Link applications, which allow you to use information taken from the switch (such as Caller ID), connect to another application to retrieve a matching record from a database, and then provide screen populated information to help agents prepare for the call.

## Meridian Link Services

Meridian Link Services (MLS) is a process running on Contact Center Manager Server that gives the customer Computer Telephony Integration (CTI) server access to the Meridian Link interface. Through MLS, the server can connect to Meridian Link applications over the Nortel server subnet.

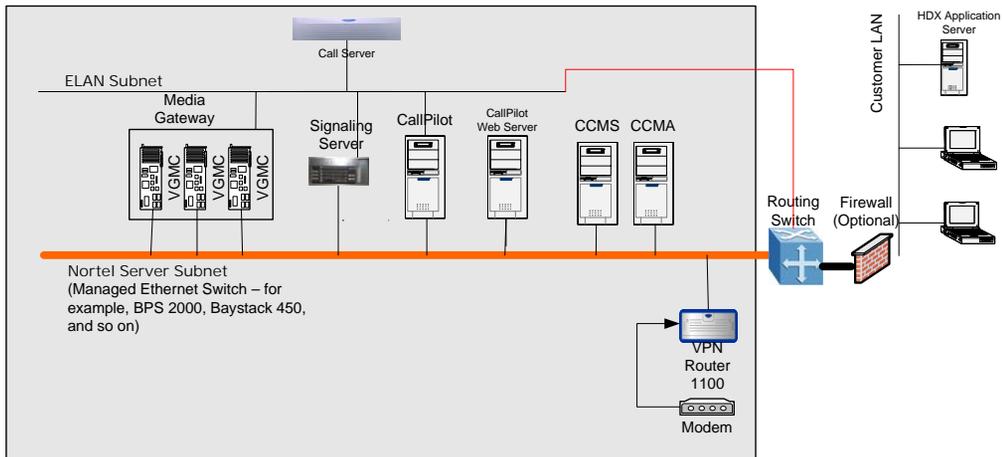
External applications register with MLS to obtain access to application layer messages. MLS commands that result in call processing requests are sent over the ELAN subnet to the switch. Examples of external applications that can register with MLS include Telephony Application Program Interface (TAPI) Service Provider and CTI.

## Connections between the subsystems

The subsystems communicate across local area networks (LAN) and serial links.

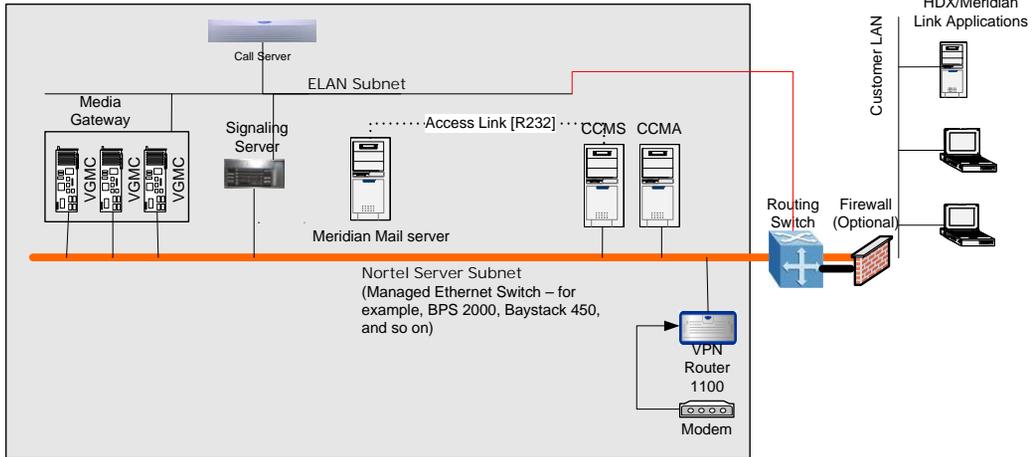
### CallPilot

The following illustration shows connections using Contact Center Manager Server and CallPilot.



## Meridian Mail

The following illustration shows connections using Contact Center Manager Server and Meridian Mail.



## Subnets

The subsystems require the following types of subnets for communication:

- **ELAN (Embedded Local Area Network) subnet**—A dedicated Ethernet TCP/IP LAN that connects the server in Contact Center Manager Server and the switch.
- **Nortel server subnet**—The LAN to which your corporate services and resources connect. The server in Contact Center Manager Server and client both connect to the Nortel server subnet. Third-party applications that interact with the server also connect to this LAN.

## Serial links

The subsystems communicate using the following serial links:

- **ACCESS Link**—This is an RS-232 asynchronous connection between Meridian Mail and ACCESS applications, such as Contact Center Manager Server.

- **CSL (Command and Status Link)**—This is an RS-232 asynchronous connection between the switch and Meridian Mail.

## Subsystems

Upon arrival of a call, control of the call passes from one subsystem to another. Each subsystem provides a specific set of features or services.

To use these features, you must configure the following subsystems correctly:

- the Communication Server 1000 or Meridian 1 PBX switch
- the voice-processing system (CallPilot, Meridian Mail, or a third-party voice-processing system)
- Contact Center Manager Administration
- the links between Contact Center Manager Administration, the switch, and the voice-processing system (if applicable)

You must also configure the switch for MLS if any of the following conditions apply:

- you use Symposium Voice Services on CallPilot
- you use another MLS

As with any interlinked configuration, you must configure many parameters consistently across these subsystems.

This chapter lists the entities that you must configure in each of the subsystems. It provides a recommended configuration sequence to ensure that you configure each entity correctly. It also provides checklists to use during configuration.

# Subsystem configuration reference information

The following table shows the entities that you must configure on the different subsystems. When you configure an entity on more than one subsystem, you must ensure that the parameters are consistent across the subsystems.

<b>Configuration element</b>	<b>Switch</b>	<b>CallPilot voice-processing system</b>	<b>Meridian Mail voice-processing system</b>	<b>Contact Center Manager Server</b>
ACD-DNs	x	x	x	
Contact Center Manager CDNs	x			x
CallPilot Voice Messaging Primary CDN (Controlled Directory Number)	x	x		
IVR ACD-DNs (ACCESS and IVR)	x	x	x	x
Landing pads	x			x
Mailboxes and passwords (Meridian Mail)			x	x
Phones	x			x
Routes	x			
Scripts				x
Treatment DNs	x (optional)	x (SDN)	x	x

<b>Configuration element</b>	<b>Switch</b>	<b>CallPilot voice-processing system</b>	<b>Meridian Mail voice-processing system</b>	<b>Contact Center Manager Server</b>
Voice files and segments		x	x	x
Voice ports (Virtual Agent TNs)/voice channels	x	x	x	x
Voice service DNS (VSDNs)		x	x	

Meridian Mail refers to voice ports as voice channels.

To configure these entities on the switch, see Chapter 4, “Switch subsystem configuration.” To configure these entities in CallPilot or Meridian Mail, see Chapter 6, “Voice-processing subsystem configuration.” To configure these entities on Contact Center Manager Server, see Chapter 7, “Contact Center Manager configuration.”

## Recommended configuration sequence

Before you configure the subsystems, create a system design based on your contact center requirements. Use the Capacity Assessment Tool (CapTool) to determine the capacity requirements for your contact center.

Your design must take the following information into consideration:

- network design (ELAN subnet, Nortel server subnet, and remote access service [RAS] IP requirements)
- projected peak call traffic
- number of agents, shifts, days of operation
- projected call flow and scripting requirements
- voice messaging port requirements (number of ports required for Give IVR and ACCESS services, such as Voice Sessions, Give Controlled Broadcast Announcement, and collect digits sessions)

For more information, see the *Contact Center Planning and Engineering Guide*.

### Configuration sequence

Nortel recommends that you complete the configuration in the following sequence:

1. Install all subsystems using the associated documentation.
2. Ensure that the links between subsystems are configured, connected, and functioning (see Chapter 3, “Subsystem connections configuration”).
3. Configure the switch (see Chapter 4, “Switch subsystem configuration”).
4. Configure the switch for MLS if any of the following conditions apply (see Chapter 5, “Meridian Link Services configuration”):
  - you use CallPilot as your voice-processing system
  - you use another MLS
5. Configure CallPilot, Meridian Mail, or the third-party voice-processing system (see Chapter 6, “Voice-processing subsystem configuration”).

6. Configure Contact Center Manager Server (see Chapter 7, “Contact Center Manager configuration”).
7. Install and configure third-party applications.

## To configure NSBR networking

If you use Network Skill-Based Routing (NSBR), you must also configure networking.

You can network multiple servers using Universal Networking.

Configure networking after you configure and make operational each of the individual servers in your network.

Release 1.1 of the Communication Server 1000 switch only supports IP line and trunk networking. IP peer networking is supported on Release 2.0.

To configure networking, you must configure the following components:

- **the switch**—Install and configure the NACD (Network Automatic Call Distribution) package, and create the CDNs to which networked calls for each server are routed.
  - For Universal Networking, you must provision Landing Pad CDNs or Dialed Number Identification Services (DNIS) on the switch. For more information, see “Landing Pads” on page 86.
- **the Network Control Center (NCC)**—Install and configure the NCC software.
- **the servers**—Define the network CDNs, configure the communication parameters, assign agents to network skillsets, and modify the scripts to use the Network Skill-Based Routing feature.

**ATTENTION**

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In Contact Center Manager Server, if you use switches that are networked together (calls transferred or routed from one switch to another switch) regardless of whether or not Network Skilled-Based Routing (NSBR) is used, you must define a Home Location Code (HLOC) in LD 15 that is distinct for each of the switches on the network.

Nortel suggests that you set the HLOC equal to the Local Steering Code (LSC) or, if you do not use a seven-digit Coordinated Dialing Plan (CDP) and there is no LSC, set it equal to the Network Numbering Exchange (NXX) or Number Plan Area (NPA) of the local calling area.

For more information, see the *Contact Center Manager Network Control Center Administrator's Guide*.

Release 1.1 of the Communication Server 1000 switch only supports networking over Integrated Services Digital Network (ISDN) trunks. IP networking is supported on Release 2.0. For more information, see the Communication Server 1000 documentation.

# Configuration checklists

The checklists in this section assume an understanding of the configuration elements and how to check their status on the switch, CallPilot or Meridian Mail, and Contact Center Manager Administration. If you do not know how to check the status of a particular element, consult the appropriate section in this guide or the appropriate guide for the subsystem.

In the following checklists, the subsystem Switch refers to both the Communication Server 1000 and Meridian 1 PBX switches unless otherwise indicated.

## General checklist

Before proceeding to the command-specific setups, complete the following checklist.

Subsystem	Description	✓
Switch	Verify that Communication Server 1000/Meridian 1 PBX switch is up and running correctly.	
Switch	Install required Communication Server 1000/Meridian 1 PBX software packages (use LD 22 to verify the packages). (See “Before you begin” on page 83 for more information.)	
Switch	The following additional switch requirements are available: <ul style="list-style-type: none"> <li>■ Meridian 1 PBX dependency PEPs for Contact Center Manager Server</li> <li>■ Meridian 1 PBX dependency PEPs for the specific voice-processing subsystem you use</li> <li>■ provisioning of sufficient Call Registers</li> </ul>	

<b>Subsystem</b>	<b>Description</b>	✓
Switch	<p>Verify that the ELAN subnet connection between Contact Center Manager Server and Communication Server 1000/Meridian 1 PBX switch is functioning.</p> <p>Note the current ELAN subnet/VSID number using LD 48. (This is useful for troubleshooting.)</p> <p>Ensure that the default gateway is configured in the switch using LD 117. (See “Default Gateway,” on page 76.)</p>	
Switch	<p>Configure Contact Center Manager Server CDNs on the switch. (See “To configure CDNs on the switch” on page 86.)</p>	
Switch	<p>Configure the Active Directory Services (ADS) or SCB block on the switch with LD 23. (See “Creating a CallPilot ACD-DN in LD 23,” on page 97.) Nortel recommends that you use an ADS block.</p> <p><b>CAUTION</b></p> <p><b>Risk of ACD block corruption</b></p> <p>Before performing this task, ensure that all agents log off. Failure to do so can result in corruption of the ACD block.</p> <p>If you configure the ADS block, you must configure DCUS in the PARM data block with LD 17. See “Defining the ELAN subnet with LD 17,” on page 73.</p>	
Switch	<p>Configure Agent ACD queues in LD 23. (See “Creating a CallPilot ACD-DN in LD 23,” on page 97.)</p> <p>When you configure the ADS or SCB block, the values for HOML and RPRT are set to YES for existing ACD queues. If HOML=YES, agents are logged off when they replace the handset after a call. If this is not appropriate for your environment, modify the HOML parameter for existing ACD queues.</p>	

<b>Subsystem</b>	<b>Description</b>	<b>✓</b>
Switch	Configure the agent and supervisor TNs on the switch. (See “To configure agent and supervisor TNs on the switch” on page 103.)	
Switch	Configure the trunk, music, and RAN routes on the switch. (See “To configure routes on the switch” on page 111.)	

## Give IVR checklists

If you use:

- CallPilot, use the “CallPilot checklist” on page 44
- Meridian Mail, use the “Meridian Mail checklist” on page 49
- a third-party voice processing engine, use the “Third-party voice-processing engine checklist” on page 53

### CallPilot checklist

Complete the following checklist if you use the Give IVR command with CallPilot.

<b>Subsystem</b>	<b>Description</b>	<b>✓</b>
	Complete the general checklist.	
CallPilot	Verify that CallPilot is up and running for voice messaging.	
Switch and CallPilot	Verify that CallPilot is in communication with the switch.	
Switch	Enable the link between the switch and the CallPilot server for CTI operations (LD 48).	

Subsystem	Description	✓
Switch	<p>Configure the IVR ACD-DN (for IVR voice ports) on the switch (LD 23). For more information, see “To configure IVR ACD-DNs on the switch” on page 96.</p> <p>When you configure the IVR ACD-DN on the switch, set the IVR and ALOG prompts to YES.</p>	
Switch	<p>Configure the IVR voice ports on the switch as virtual agents (LD 11). For more information, see “To configure voice ports on the switch” on page 100.</p> <p>You must dedicate voice ports to Contact Center Manager Server Give IVR voice service.</p>	
Contact Center Manager Server	<p>Configure the CallPilot connection parameters for TCP voice connection as follows:</p> <ul style="list-style-type: none"> <li>■ CallPilot connection IP (ELAN network interface IP address) is set.</li> <li>■ CallPilot connection port is set (Set TCP port to 10008).</li> </ul> <p>See “To configure voice connections” on page 181 for more information.</p>	
CallPilot	<p>Configure the CallPilot server configuration and enable integration.</p> <p>In the CallPilot Configuration Wizard, review all CallPilot configuration information up to and including the Switch Information page. On the Switch Information page:</p> <ul style="list-style-type: none"> <li>■ Select <b>Enable Contact Center Manager Server Integration</b>.</li> <li>■ Enter the customer number in the Switch Customer Number box.</li> <li>■ Enter the Nortel server subnet address of Contact Center Manager Server in the Contact Center Manager Server CLAN (Customer Local Area Network) IP Address field.</li> </ul>	

<b>Subsystem</b>	<b>Description</b>	✓
CallPilot	<p>Configure voice ports (IVR voice channels) in the CallPilot server configuration.</p> <p>In the CallPilot Configuration Wizard, identify and configure the channels that provide IVR services to Contact Center Manager Server. (See “Non-ACCESS ports” on page 145 for more information.)</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ TN of the voice channel in CallPilot Mail = TN of the virtual agent on the switch = Telephony/Port Address of the phone on Contact Center Manager Server.</li> <li>■ ACD-DN defined for the voice channel in CallPilot = ACD-DN on the switch = IVR ACD-DN on Contact Center Manager Server.</li> </ul>	
CallPilot	<p>Verify that the SDN table contains the CallPilot Primary CDN.</p> <ul style="list-style-type: none"> <li>■ Application name is Voice Messaging.</li> <li>■ Media type is Voice.</li> </ul>	
CallPilot	<p>Verify the SDN table contains Contact Center Manager Server IVR ACD-DNs. Configure the IVR ACD-DNs as follows:</p> <ul style="list-style-type: none"> <li>■ Application name is Symposium Voice Services.</li> <li>■ Media type is Voice.</li> </ul>	

<b>Subsystem</b>	<b>Description</b>	✓
CallPilot	<p>Define Contact Center Manager Server Treatment DN's as Service DN entries in the SDN table. Each application is named and the media type is Voice. (Use meaningful application names because CallPilot can store a large number of applications.)</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ Applications with the media type of Voice contain voice items that are actually announcements and menus played to callers (Give IVR script commands).</li> <li>■ Use CallPilot Application Builder to create, record, and manage voice menus and announcements.</li> <li>■ Complete applications before they are selected in the CallPilot SDN table.</li> </ul>	
Contact Center Manager Server	Configure and acquire IVR ACD-DN on the Contact Center Manager Server (see “To configure IVR ACD-DNs on the server” on page 188).	
Contact Center Manager Server	Verify in Contact Center Manager Server that VSM and Meridian Link Services Manager (MLSM) services are running. (Use the VSM Status window if it is configured.)	
Contact Center Manager Server	<p>Configure and acquire the voice ports on the Contact Center Manager Server (see “To configure voice ports on the server” on page 196).</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ IVR voice ports are defined with a TN with no channel number.</li> <li>■ All TNs in the switch belonging to the IVR ACD-DNs in the switch are acquired by Contact Center Manager Server as voice ports.</li> </ul>	

Subsystem	Description	✓
CallPilot	<p>Verify the acquired voice ports are idle in CallPilot.</p> <p>Use the Channel Monitor in CallPilot Manager to check voice port status. If the voice ports are not initialized, restart CallPilot.</p>	
Contact Center Manager Server	<p>Implement and activate the Give IVR test script before activating the rest of the voice-processing scripts.</p> <p>The voice-processing script command uses both the IVR ACD-DN and a Treatment DN, as in the following examples:</p> <pre> GIVE IVR ivr_queue WITH TREATMENT welcome_msg GIVE IVR 6000 WITH TREATMENT 1001 </pre> <p>(See “To define scripts” on page 207 for more information.)</p> <p>If you do not specify the Treatment DN that is in the script, the server uses the default Treatment DN (TRDN) defined for the IVR ACD-DN on the switch. Ensure that the default treatment is also configured in the SDN table in CallPilot for proper operation.</p>	
Contact Center Manager Server	<p>Activate the Master Script.</p> <p>Activate scripts containing voice processing instructions after all relevant subsystem configurations.</p>	
Contact Center Manager Server	<p>Verify the Give IVR test script is working:</p> <ul style="list-style-type: none"> <li>■ Other scripts are verified and any additional voice-processing scripts are implemented.</li> <li>■ The SDN table is updated as new treatments are required.</li> </ul> <p>If the test script is not working:</p> <ul style="list-style-type: none"> <li>■ Start troubleshooting procedures.</li> </ul>	

## Meridian Mail checklist

Meridian Mail is not available on the Communication Server 1000 switch.

Complete the following checklist if you use the Give IVR command with Meridian Mail:

Subsystem	Description	✓
	Complete the general checklist.	
Meridian Mail	Verify that Meridian Mail is up and running for voice messaging.	
Switch and Meridian Mail	Verify that Meridian Mail is in communication with the switch.	
Switch	Configure the IVR ACD-DN (for IVR voice ports) on the switch (see “To configure IVR ACD-DNs on the switch” on page 96). When you configure the IVR ACD-DN on the switch, set the IVR and ALOG prompts to YES.	
Switch	Configure the IVR voice ports on the switch as virtual agents (see “To configure voice ports on the switch” on page 100). Dedicate voice ports to Contact Center Manager Server Give IVR voice service.	
Meridian Mail	Configure Contact Center Manager Server IVR ACD-DNs in the VSDN table. Associate them with a Voice Messaging service type.	

<b>Subsystem</b>	<b>Description</b>	✓
Meridian Mail	<p>Configure Contact Center Manager Server Treatment DNs in the VSDN table.</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ Associate treatment DNs with the desired voice application (for example, a voice menu or an announcement).</li> <li>■ Create Menus and Announcement Services before associating with a Treatment DN entry in the VSDN table.</li> <li>■ See “To configure Meridian Mail for Give IVR” on page 169 for more information.</li> </ul>	
Meridian Mail	<p>Define IVR ACD-DN and IVR ports in the Channel Allocation Table (see “To configure IVR voice ports” on page 172).</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ TN of the voice channel in Meridian Mail = TN of the virtual agent on the switch = Telephony/Port Address of the phone on Contact Center Manager Server.</li> <li>■ ACD-DN defined for the voice channel in Meridian Mail = ACD-DN of the TN on the switch = number of IVR ACD-DN on Contact Center Manager Server.</li> </ul>	
Contact Center Manager Server	<p>Configure and acquire IVR ACD-DN on Contact Center Manager Server (see “To configure IVR ACD-DNs on the server” on page 188).</p>	
Contact Center Manager Server	<p>Verify in Contact Center Manager Server that the VSM service is running. (Use the VSM Status window if it is configured.)</p>	

<b>Subsystem</b>	<b>Description</b>	✓
Contact Center Manager Server	<p>Configure and acquire voice ports on the Contact Center Manager Server (see “To configure voice ports on the server” on page 196).</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ Define IVR voice ports with a TN with no channel number.</li> <li>■ Contact Center Manager Server acquires all TNs in the switch belonging to the IVR ACD-DNs in the switch as voice ports.</li> </ul>	
Meridian Mail	<p>Verify the acquired voice ports are idle in Meridian Mail.</p> <p>Use the Digital Signal Processing (DSP) Port Status (in the Meridian Mail Administration Terminal) to check voice port status.</p>	
Contact Center Manager Server	<p>Implement and activate the Give IVR test script before activating the rest of the voice-processing scripts.</p> <p>The voice-processing script command uses both the IVR ACD-DN and a Treatment DN, as in the following examples:</p> <pre>GIVE IVR ivr_queue WITH TREATMENT welcome_msg GIVE IVR 6000 WITH TREATMENT 1001</pre> <p>(See “To define scripts” on page 207 for more information.)</p> <p>If the Treatment DN is not specified in the script, the server uses the default Treatment DN (TRDN) defined for the IVR ACD-DN on the switch. Ensure that the default treatment is also configured in the VSDN table in Meridian Mail for proper operation.</p>	

<b>Subsystem</b>	<b>Description</b>	✓
Contact Center Manager Server	Activate the Master Script. Activate scripts containing voice processing instructions after all relevant subsystem configurations.	
Contact Center Manager Server	Verify that the Give IVR test script is working: <ul style="list-style-type: none"><li>■ Other scripts are verified and any additional voice-processing scripts are implemented.</li><li>■ The VSDN table is updated as new treatments are required.</li></ul> If the test script is not working: <ul style="list-style-type: none"><li>■ Start troubleshooting procedures.</li></ul>	

### Third-party voice-processing engine checklist

If you use the Give IVR command with a third-party voice-processing engine, complete the tasks in the following checklist in the order listed.

The Give IVR script statement can use only voice ports defined on the switch as ACD agents. If the voice-processing engine connects to the switch as any other type of device, only the Route Call command is used in a script to hand off the call to the voice-processing engine.

Subsystem	Description	✓
	Complete the general checklist.	
Switch	Configure the IVR ACD-DN on the switch (see the documentation provided with your IVR system). When you configure the IVR ACD-DN on the switch, set the IVR prompt to YES.	
Switch	Configure voice ports on the switch as analog agents (see the documentation provided with your IVR system). You must use dedicated voice ports.	
Switch	Verify that the third-party voice-processing system is up and communicating properly with the switch.	
Voice processing	Configure voice ports in the third-party voice-processing system.	
Contact Center Manager Server	Configure and acquire the IVR ACD-DN on the server (see “To configure IVR ACD-DNs on the server” on page 188).	

Subsystem	Description	✓
Contact Center Manager Server	<p>Configure and acquire the voice ports on the server (see “To configure voice ports on the server” on page 196).</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ Define voice ports with a TN only (the channel number field is blank).</li> <li>■ TN of virtual agent on switch = Telephony/Port Address of phone on server.</li> <li>■ The server acquires all TNs in the switch ACD-DN as voice ports.</li> </ul>	
Contact Center Manager Server	Verify that the script command refers to the IVR ACD-DN that is acquired.	
Contact Center Manager Server	<p>If an APL link exists, specify a treatment DN one of the following ways:</p> <ul style="list-style-type: none"> <li>■ A treatment DN is explicitly specified in the script.</li> <li>■ The Default Treatment DN for the IVR ACD-DN is set correctly on the switch.</li> <li>■ If IPML (Inter-Peripheral Message Link) exists, the treatment DN is specified in the script.</li> </ul> <p>If the treatment DN is not specified in the script, the server uses the default treatment DN defined for the IVR ACD-DN on the switch.</p>	
Contact Center Manager Server	<p>Verify that voice ports behind the IVR ACD-DN acquired by the server are indicated by the switch and show their state as either Logged In or Logged Out.</p> <p>Ports must be Logged In for the switch to connect calls to the port for voice processing.</p>	

## Give Controlled Broadcast Announcement and Open Voice Session checklists

If you use:

- CallPilot, use the “CallPilot checklist” on page 55.
- Meridian Mail, use the “Meridian Mail checklist” on page 62.

### ATTENTION

The Give Controlled Broadcast feature is not supported on the Communication Server 1000E. Nortel recommends using Open Voice Session with Play Prompt or Collect Digits with this switch type. For more detailed information, see *Bulletin Number P-2006-0312-Global*.

### CallPilot checklist

If you use the Give Controlled Broadcast Announcement or Open Voice Session commands with Symposium Voice Services on CallPilot, complete the tasks in the following checklist in the order listed:

Subsystem	Description	✓
	Complete the general checklist.	
CallPilot	Verify that CallPilot is up and running for voice messaging.	
Switch and CallPilot	Verify that CallPilot is in communication with the switch.	
Switch	Verify that the link between the switch and the CallPilot server is enabled for CTI operations.	
Switch	Configure the ACCESS ACD-DN (for ACCESS voice ports) on the switch (see “To configure IVR ACD-DNs on the switch” on page 96).  When you configure the ACD-DN on the switch, set the IVR and ALOG prompts to YES.	

<b>Subsystem</b>	<b>Description</b>	✓
Switch	<p>Verify that ACCESS voice ports are configured on the switch as virtual agents (see “To configure voice ports on the switch” on page 100).</p> <p>Voice ports must be dedicated to Contact Center Manager Server ACCESS voice service.</p>	
Contact Center Manager Server	<p>Configure the CallPilot connection parameters for TCP voice connection as follows:</p> <ul style="list-style-type: none"> <li>■ CallPilot connection IP (CLAN network interface IP address) is set.</li> <li>■ CallPilot connection port is set (Set the TCP port to 10008).</li> </ul> <p>See “To configure voice connections” on page 181 for more information.</p>	
Meridian Mail	<p>If you change voice services from Meridian Mail to CallPilot, ensure that the following conditions are met:</p> <ul style="list-style-type: none"> <li>■ Meridian Mail resources are deacquired on Contact Center Manager Server (IVR and ACCESS ACD-DNs, TNs, voice ports).</li> <li>■ The ACCESS cable is physically disconnected from the Contact Center Manager Server COM port.</li> <li>■ The other end of the cable is disconnected from the Meridian Mail utility card.</li> </ul>	

<b>Subsystem</b>	<b>Description</b>	✓
CallPilot	<p>Verify that the CallPilot server configuration is updated and integration is enabled.</p> <p>In the CallPilot Configuration Wizard, review all CallPilot configuration information up to and including the Switch Information page. On the Switch Information page:</p> <ul style="list-style-type: none"> <li>■ Select Enable Contact Center Manager Server Integration.</li> <li>■ Enter the customer number in the Switch Customer Number box.</li> <li>■ Enter the Nortel server subnet address of Contact Center Manager Server in the Contact Center Manager Server CLAN IP Address field.</li> </ul>	
CallPilot	<p>Verify that Voice ports (ACCESS channels) are configured in the CallPilot server configuration.</p> <p>In the CallPilot Configuration Wizard, identify and configure the channels that provide ACCESS services to Contact Center Manager Server. (See “ACCESS voice ports” on page 144 for more information.)</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ Voice port channel number on Contact Center Manager Server = Class ID of the TN on CallPilot.</li> <li>■ TN of voice channel in CallPilot = TN of virtual agent on switch = Telephony/Port Address of phone on Contact Center Manager Server (with the voice port option selected).</li> <li>■ ACD-DN defined for the voice channel in CallPilot = ACD-DN on switch = ACCESS ACD-DN on Contact Center Manager Server.</li> </ul>	

<b>Subsystem</b>	<b>Description</b>	✓
CallPilot	Verify that the SDN table contains the CallPilot Primary CDN. <ul style="list-style-type: none"> <li>■ Application name is Voice Messaging.</li> <li>■ Media type is Voice.</li> </ul>	
CallPilot	Update the SDN table in CallPilot with Contact Center Manager Server ACCESS ACD-DNs. ACD-DNs are configured as follows: <ul style="list-style-type: none"> <li>■ Application name is Symposium Voice Services.</li> <li>■ Media type is Voice.</li> </ul>	
Contact Center Manager Server	Configure and acquire ACCESS ACD-DN on the Contact Center Manager Server (see “To configure the ACCESS IVR ACD-DN” on page 157).	
Contact Center Manager Server	Configure the global settings on Contact Center Manager Server (see “To configure Global settings” on page 199) to specify the following: <ul style="list-style-type: none"> <li>■ default ACCESS Treatment DN and ACCESS ACD-DN (these have the same value)</li> <li>■ number of ACCESS ports reserved for broadcasts</li> <li>■ Broadcast Voice Port Wait Timer</li> <li>■ the mailbox number and password are not used—leave at default values</li> </ul>	

<b>Subsystem</b>	<b>Description</b>	✓
Contact Center Manager Server	<p>Configure and acquire the voice ports on Contact Center Manager Server (see “To configure voice ports on the server” on page 196).</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ ACCESS voice ports are defined with both a TN and a channel.</li> <li>■ All TNs in the switch belonging to the ACCESS ACD-DNs in the switch are acquired by Contact Center Manager Server as voice ports.</li> </ul>	
Contact Center Manager Server	<p>Verify that the ACCESS link between Contact Center Manager Server and CallPilot is functioning correctly.</p> <p>In Contact Center Manager Server, verify that VSM and MLSM services are running. (Use the VSM Status window if it is configured.)</p>	
CallPilot	<p>Verify that the acquired voice ports are idle. Use the Channel Monitor in CallPilot Manager to check voice port status. If the voice ports are not initialized, restart CallPilot.</p>	

<b>Subsystem</b>	<b>Description</b>	✓
Contact Center Manager Server, CallPilot	<p>Define voice segments as follows:</p> <ul style="list-style-type: none"> <li>■ System predefined voice segments (file 1, which contains all the number prompts) are updated. (Make a list of the segment IDs referenced in the Contact Center Manager Server variable table.)</li> <li>■ New user voice segments are defined.</li> </ul> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ Use Application Builder to define voice items (referred to in Contact Center Manager Server as voice segments or prompts). In Contact Center Manager Server, the variables are defined as  <code>&lt;application name&gt; : &lt;segment ID&gt;</code>                      (For more information, see “Test scripts” on page 242.) Application names are case-sensitive.</li> <li>■ Create voice items or voice prompts first in Application Builder before you define the voice segment variables used in Contact Center Manager Server scripts.</li> </ul> <p>For more information, see the <i>CallPilot Application Builder Guide</i> and “To define voice segment variables” on page 205.</p>	

<b>Subsystem</b>	<b>Description</b>	✓
Contact Center Manager Server	<p>Implement and activate the ACCESS test script before activating the rest of the voice-processing scripts.</p> <p>The voice-processing script command uses both the ACCESS ACD-DN (optional) and voice segment variables that refer to the voice prompts that the caller hears.</p> <p>For example:</p> <pre>GIVE CONTROLLED BROADCAST ANNOUNCEMENT PLAY PROMPT VOICE SEGMENT closed_message_vs OPEN VOICE SESSION PLAY PROMPT VOICE SEGMENT hold_option_vs COLLECT 1 DIGITS INTO hold_choice_cv END VOICE SESSION</pre> <p>(See “To define scripts” on page 207 for more information.)</p>	
Contact Center Manager Server	<p>Activate the Master Script.</p> <p>Activate scripts containing voice processing instructions after all relevant subsystem configurations.</p>	
Contact Center Manager Server	<p>Verify that the Give Controlled Broadcast Announcement and Open Voice Session test script is working.</p> <ul style="list-style-type: none"> <li>■ Other scripts are verified and any additional voice-processing scripts are implemented.</li> <li>■ Voice segment variables are updated as required.</li> </ul> <p>If the test script is not working:</p> <ul style="list-style-type: none"> <li>■ Start troubleshooting procedures.</li> </ul>	

## Meridian Mail checklist

If you use the Give Controlled Broadcast Announcement or Open Voice Session commands with Symposium Voice Services on CallPilot or Symposium Voice Services on Meridian Mail, complete the tasks in the following checklist in the order listed:

Subsystem	Description	✓
	Complete the general checklist.	
Meridian Mail	Verify that Meridian Mail is up and running for voice messaging.	
Switch and Meridian Mail	Verify that Meridian Mail is in communication with the switch.	
Switch	Configure the ACCESS ACD-DN (for ACCESS voice ports) on the switch (see “To configure IVR ACD-DNs on the switch” on page 96).  When you configure the ACD-DN on the switch, set the IVR and ALOG prompts to YES.	
Switch	Configure the ACCESS voice ports on the switch as virtual agents (see “To configure voice ports on the switch” on page 100).  Dedicate voice ports to Contact Center Manager Server ACCESS voice service.	
Contact Center Manager Server	Set the voice connection type (on Contact Center Manager Server client) to serial. See “To configure voice connections” on page 181 for more information.	
Meridian Mail	Configure the Contact Center Manager Server ACCESS ACD-DNs in the VSDN table. Associate ACCESS ACD-DNs with an ACC service type.	

<b>Subsystem</b>	<b>Description</b>	✓
Meridian Mail	<p>Define the ACCESS ACD-DN and ACCESS ports in the Channel Allocation Table (see “To configure ACCESS voice ports” on page 158).</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ TN of the voice channel in Meridian Mail = TN of the virtual agent on the switch = Telephony/Port Address of the phone on Contact Center Manager Server.</li> <li>■ ACD-DN defined for the voice channel in Meridian Mail = ACD-DN on the switch = IVR ACD-DN on Contact Center Manager Server.</li> </ul>	
Contact Center Manager Server	Configure and acquire the ACCESS ACD-DN on the Contact Center Manager Server (see “To configure the ACCESS IVR ACD-DN” on page 157).	
Contact Center Manager Server and Meridian Mail	<p>Configure the Meridian Mail mailbox and password.</p> <ul style="list-style-type: none"> <li>■ An appropriate Meridian Mail mailbox password policy is defined for Contact Center Manager Server.</li> <li>■ Meridian Mail mailbox and password are created, updated, or checked.</li> <li>■ Contact Center Manager Server global settings are updated with the mailbox and password.</li> </ul> <p>If the password expires, you cannot access the Voice Prompt Editor and callers cannot hear the prompts because Contact Center Manager Server cannot open the mailbox.</p>	

<b>Subsystem</b>	<b>Description</b>	✓
Contact Center Manager Server	Configure the global settings on Contact Center Manager Server (see “To configure Global settings” on page 199) to specify the following: <ul style="list-style-type: none"> <li>■ default ACCESS Treatment DN and ACCESS ACD-DN (these have the same value)</li> <li>■ number of ACCESS ports reserved for broadcasts</li> <li>■ Broadcast Voice Port Wait Timer</li> <li>■ the ACCESS mailbox number and password configured in Meridian Mail for voice prompts</li> </ul>	
Contact Center Manager Server	Configure and acquire voice ports on the Contact Center Manager Server (see “To configure voice ports on the server” on page 196). <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ ACCESS voice ports are defined with both a TN and a channel.</li> <li>■ All TNs in the switch belonging to the ACCESS ACD-DNs in the switch are acquired by Contact Center Manager Server as voice ports.</li> </ul>	
Contact Center Manager Server	Verify that the ACCESS link between Contact Center Manager Server and Meridian Mail is functioning correctly. In Contact Center Manager Server, the MLSM service is running.	
Meridian Mail	Verify that the acquired voice ports are Active in Meridian Mail. Use the DSP Port Status (in the Meridian Mail Administration Terminal) to check voice port status.	

<b>Subsystem</b>	<b>Description</b>	✓
Contact Center Manager Server, Meridian Mail	<p>Define the voice segments as follows:</p> <ul style="list-style-type: none"> <li>■ System predefined voice segments (file 1, which contains all the number prompts) are updated. (Make a list of the segment IDs referenced in the Contact Center Manager Server variable table.)</li> <li>■ New user voice segments are defined.</li> </ul> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ Use the Voice Prompt Editor (VPE) to create or delete voice files and record voice segments. Voice segments created with VPE are stored in Meridian Mail. The variables are defined as  <code>&lt;voice file name&gt; : &lt;segment number&gt;</code>  Voice file names are case-sensitive.</li> <li>■ Create voice items or voice prompts first in VPE before you define the voice segment variables used in Contact Center Manager Server scripts.</li> </ul> <p>For more information, see:</p> <ul style="list-style-type: none"> <li>■ “To configure Meridian Mail for ACCESS” on page 157</li> <li>■ “To define voice segment variables” on page 205</li> </ul>	

Subsystem	Description	✓
Contact Center Manager Server	<p>Implement and activate the ACCESS test script before activating the rest of the voice-processing scripts.</p> <p>The voice-processing script command uses both the ACCESS ACD-DN (optional) and voice segment variables that refer to the voice prompts that the caller hears.</p> <p>For example:</p> <pre>GIVE CONTROLLED BROADCAST ANNOUNCEMENT PLAY PROMPT VOICE SEGMENT closed_message_vs OPEN VOICE SESSION PLAY PROMPT VOICE SEGMENT hold_option_vs COLLECT 1 DIGITS INTO hold_choice_cv END VOICE SESSION</pre> <p>(See “To define scripts” on page 207 for more information.)</p>	
Contact Center Manager Server	<p>Activate the Master Script.</p> <p>Activate scripts containing voice processing instructions after all relevant subsystem configurations.</p>	
Contact Center Manager Server	<p>Verify the Give Controlled Broadcast Announcement and Open Voice Session test script is working.</p> <ul style="list-style-type: none"> <li>■ Other scripts are verified and any additional voice-processing scripts are implemented.</li> <li>■ Voice segment variables are updated as required.</li> </ul> <p>If the test script is not working:</p> <ul style="list-style-type: none"> <li>■ Start troubleshooting procedures.</li> </ul>	

## NSBR/Queue to NACD command checklist

If you use Network Skill-Based Routing or the Queue to NACD command, ensure that NACD is configured correctly on the switch. This entails the tasks in the following checklist.

Subsystem	Description	✓
Switch	Install the NACD package on the switch.	
Switch	Define the Release ID for the D-channels in LD 17. (See “Defining the ELAN subnet with LD 17,” on page 73.)	
Switch	<p>For a Uniform Dialing Plan (UDP), configure the following:</p> <ul style="list-style-type: none"> <li>■ ISDN (Integrated Services Digital Network) Route Data Block with INAC = YES and PNI (Personal Number Identification) of the Target Node to which these routes are connected (LD 16)</li> <li>■ AC1 or AC2 in the ESN Data Block (LD 86)</li> <li>■ Route List Index (RLI) with no Digit Manipulation Index (DMI) for the customer (LD 86)</li> <li>■ DMI table that deletes 3 digits for the customer (LD 86)</li> <li>■ LOC with RLI for each node (LD 90)</li> <li>■ HLOC for each customer (LD 15). If AC2 is used within the NACD Routing tables, put LOC after AC2. If AC1 is used within the NACD Routing tables, do not put LOC after AC2.</li> <li>■ PNI that is a unique identifier (LD 15)</li> </ul>	

Subsystem	Description	✓
Switch	<p>For a Coordinated Dialing Plan (CDP), configure the following:</p> <ul style="list-style-type: none"> <li>■ ISDN Route Data Block with the PNI (Personal Number Identification) of the Target Node to which these routes are connected (LD 16)</li> <li>■ Route List Index (RLI) with no Digit Manipulation Index (DMI) for the customer (LD 86)</li> <li>■ Local Steering Code (LSC) that deletes three digits (if using seven-digit CDP, and DNs are four digits) (LD 87)</li> <li>■ Distant Steering Code (DSC) with RLI for each node (LD 87)</li> <li>■ LSC for each customer (LD 15)</li> <li>■ HLOC for each customer (LD 15)</li> <li>■ PNI that is a unique identifier (LD 15)</li> </ul> <p><b>ATTENTION</b></p> <p>In Contact Center Manager Server, if you use switches that are networked together (calls transferred or routed from one switch to another switch) regardless of whether Network Skilled-Based Routing (NSBR) is used, you must define a Home Location Code (HLOC) in LD 15 that is distinct for each of the switches on the network.</p> <p>Nortel suggests that you set the HLOC equal to the LSC or, if you do not use a seven-digit CDP and there is no LSC, set it equal to the NXX or NPA of the local calling area.</p>	

<b>Subsystem</b>	<b>Description</b>	✓
Switch	Configure an ACD-DN for NACD with the following (LD 23): <ul style="list-style-type: none"> <li>■ Day and Night Routing Tables</li> <li>■ Call Answering Algorithms—Oldest Call in Network (OCN) and High Priority Queue (HPQ)</li> <li>■ NACD timers, such as RAGT (Reserve Agent Timer), CRQ (Call Request Queue), and FCTH (Flow Control Threshold)</li> </ul> For more information, see the NACD documentation.	
Switch	For the Queue to NACD command only. Configure an ACD-DN on the switch, with an associated Night Routing Table containing remote targets and time values. This ACD-DN has no positions assigned and, therefore, is always in Night Mode. It lets the Queue To NACD command. (See “To configure NACD-DNs to enable the Queue to NACD command” on page 92.)	

The switch supports call routing through tandem nodes. To route calls through tandem nodes, ensure that you provision your Nortel server subnet/WAN to allow the transmission of messages from one Contact Center Manager to another. Also, the tandem nodes must have the NACD package and all its prerequisites installed.



# Chapter 3

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## Subsystem connections configuration

### In this chapter

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# Overview

To enable the features of Contact Center Manager Server to operate correctly, you must configure the following links between the subsystems:

- the IP address and the default gateway on the switch
- the ELAN subnet between the switch, Contact Center Manager Server, and CallPilot
- the ACCESS link between Contact Center Manager Server and the voice-processing system (if you use Symposium Voice Services on CallPilot or Meridian Mail to provide voice-processing services). For more information about configuring the ACCESS link, see “To configure the ACCESS link” on page 77.

## To configure the ELAN subnet

To configure and verify the ELAN subnet, you must perform the following tasks:

- Define the Embedded LAN (ELAN) and a Value Added Server (VAS).
- Enable the ELAN subnet link.
- Check the ELAN subnet link.
- Check the AML link.
- Define a default gateway address.
- Check the ELAN subnet to Nortel server subnet communication.

These tasks associate the ELAN subnet link with a VSID to allow message transmission.

In these procedures, it is assumed that CallPilot or Meridian Mail and the switch are installed and communicating correctly.

### Defining the ELAN subnet with LD 17

Use these prompts and responses in LD 17. For prompts that are not specified in the following table, press Enter.

Prompt	Response	Description
REQ	CHG	Change
TYPE	CFN	Configuration Record
ADAN	NEW ELAN 16, CHG ELAN 16, OUT ELAN 16	Add/change/remove I/O device type ELAN 16 (AML over Ethernet).
CTYP	ELAN	Card type
DES	NAME	Enter a name for the ELAN subnet port number. Use a generic name because the ELAN subnet port is not dedicated to a specific application.

Prompt	Response	Description
VAS	NEW	Add a Value Added Server (VAS).
VSID	16	Value Added Server identifier.
ELAN	16–31	Associate VSID with the ELAN subnet.
SECU	Yes	Turn on security for MLS applications.
CSQO	<b>CS 1000 Release 3.0, 4.0, 4.5</b> 25% of NCR maximum	Number of call registers linked to output queue. NCR = total number of call registers
	<b>X11 Release 25.40B</b> 2040 maximum	Switch patch MPLR12423 is required. This patch multiplies the values by 8. For example, a setting of 255 becomes $255 \times 8 = 2040$ .
CSQI	<b>CS 1000 Release 3.0, 4.0, 4.5</b> 25% of NCR maximum	Number of call registers linked to input queue. NCR = total number of call registers
	<b>X11 Release 25.40B</b> 2040 maximum	Switch patch MPLR12423 is required. This patch multiplies the values by 8. For example, a setting of 255 becomes $255 \times 8 = 2040$ .
REQ	END	Exit from overlay.

## Enabling the ELAN subnet link

- 1 At the switch administration terminal, load LD 48.
- 2 Type the command **enl elan 16**.

## To check the ELAN subnet with LD 48

When you configure the VSID and power up Contact Center Manager Server, the ELAN subnet link comes into service.

## Checking the ELAN subnet link

- 1 At the switch administration terminal, load LD 48.
- 2 Type the command **stat elan**.
- 3 Ensure that, under your Contact Center Manager Server ELAN IP address, LYR7 and APPL are active. Note the ELAN ID.

### Example

```
ELAN #: 16 DES: the application (for example, elan16)
APPL_IP_ID: 47.152.163.68 LYR7: ACTIVE EMPTY APPL
ACTIVE
```

- 4 If the ELAN subnet is not active, check the ELAN subnet connection by pinging the switch IP address from the application:
  - a. Open a DOS prompt.
  - b. Type **ping nnn.nnn.nnn.nnn**, where nnn.nnn.nnn.nnn is the switch IP address.
  - c. Press **Enter**.

## To check the AML link

If you use Meridian Mail for your voice services, you can check the AML link.

### Checking the AML link

- 1 At the switch administration terminal, load LD 48.
- 2 Type the command **stat aml**.
- 3 Ensure that LYR2 is connected and LYR7 is active.

### Example

```
>ld 48
.stat aml
AML: 09 ESDI: 09 DES: mail\
LYR2: CONNECTED LYR7: ACTIVE EMPTY
```

## Default Gateway

In Contact Center Manager, you must connect the ELAN subnet to the Nortel server subnet through one (and only one) router. Aside from the physical connection, you must configure machines on all sides of the router to acknowledge the presence of this router (also known as the default gateway).

### Define a default gateway address

Type the following commands:

```
>LD 117
```

```
>new route 0.0.0.0 a.b.c.d
```

where a.b.c.d denotes the IP address of the gateway local to the telephony switch.

## To configure the ACCESS link

If you use Symposium Voice Services on CallPilot or Meridian Mail, you can include Open Voice Session or Give Controlled Broadcast Announcement commands in your scripts. Contact Center Manager Server communicates with the voice-processing system that provides these services using the ACCESS link. You must configure the link between the server and the voice-processing system by performing these tasks:

- Enable ACCESS on the voice-processing system.  
**Note:** CallPilot installs with ACCESS enabled.
- Set up the physical connection from Contact Center Manager Server to the voice-processing system.
- Configure the ACCESS link between Contact Center Manager Server and the voice-processing system. For more information about configuring the ACCESS link, see “To configure the ACCESS link to Contact Center Manager Server” on page 78.

For a detailed explanation of how voice-processing functions in Contact Center Manager Server, see Chapter 6, “Voice-processing subsystem configuration.”

### To determine whether ACCESS is enabled on Meridian Mail

At the Meridian Mail administration terminal, ensure that Meridian Mail is equipped with the Meridian ACCESS feature. You can check this by going to TOOLS level > Display system record.

If Meridian Mail does not have the ACCESS feature, you must upgrade the product to include this feature.

### To establish a physical connection to Contact Center Manager Server

You can use one of two ways to establish a physical connection to Contact Center Manager Server, from CallPilot, or from Meridian Mail.

**From CallPilot**

CallPilot communicates with Contact Center Manager Server over the Embedded LAN (ELAN). Ensure that the CallPilot server is physically connected to the ELAN subnet.

**From Meridian Mail**

You must establish a physical connection between the ACCESS voice port on Meridian Mail and the COM2 port on Contact Center Manager Server. The physical cable varies depending on which Meridian Mail platform you use:

- On a Modular Option platform, an NT4R20AA fan-out cable is connected to the I/O panel connector labeled RSM. From the defined fan-out port, connect a Null modem cable DB-25 male connector to a DB-9 female connector.
- On the Modular Option EC platform, an NT6P0109 fan-out (five DB-25 connectors) cable is connected to the I/O panel connector labeled 5RS232. From the defined fan-out port, connect a Null modem cable DB-25 male connector to a DB-9 female connector.
- On the Option 11C Meridian Mail platform, you must configure an RSM interface card and a fan-out cable.

**To configure the ACCESS link to Contact Center Manager Server**

You can use one of two ways to configure the ACCESS link to Contact Center Manager Server, from CallPilot, or from Meridian Mail.

**From CallPilot**

When you configure CallPilot, you must specify the Nortel server subnet IP address of Contact Center Manager Server in the CallPilot Configuration Wizard. For detailed instructions, see “Updating CallPilot configuration” on page 146.

When you configure Contact Center Manager Server, you must specify the ELAN network interface IP address of the CallPilot server on Contact Center Manager Server. For detailed instructions, see “Configuring the CallPilot connection” on page 182.

## From Meridian Mail

On Contact Center Manager Server, the COM2 port is automatically configured for the ACCESS Link, at 9600 bits per second (bps). You must configure the physical port used for the ACCESS link on Meridian Mail for ACCESS, and its baud rate must match that configured in Contact Center Manager Server.

## Configuring the ACCESS link on Meridian Mail

- 1 In the **Meridian Mail Integrated Communication Link** window, click **Add Link**.

**Result:** The Add/Modify Link window appears.

- 2 In the **Link Name** box, enter a name for the link.

The name of the link can:

- be 1–19 alphanumeric characters long.
- include single spaces, except at the beginning and end of the name.
- not be SysOps or any lowercase or uppercase version of the word.

- 3 From the **Users Port** menu, select an appropriate port.

- 4 Click **OK**.

**Result:** If you create the first link for a COM port, the Modify Connection window appears.

- 5 From the **Protocol** menu, select **MMLink**.

- 6 From the **Baud Rate** menu, select **9600**.

The baud rate must match the baud rate configured on Meridian Mail. If the number of ACCESS ports is greater than 48, and then set the baud rate to 19.2 in Contact Center Manager and Meridian Mail.

- 7 Click **OK**.

If you enter all of the parameters correctly, the ACCESS link appears. You can ensure that the ACCESS link is synchronized through the Meridian Mail Tools ACCESS diagnostics.

## Where to go from here

To complete configuration of voice processing, you must also:

- configure IVR ACD-DNs on the switch. For more information, see “To configure IVR ACD-DNs on the switch” on page 96.
- configure voice ports on the switch. For more information, see “To configure voice ports on the switch” on page 100.
- configure ACCESS voice ports on the voice-processing system. For more information about configuring ACCESS voice ports on CallPilot, see “To update CallPilot configuration” on page 146. For more information about configuring ACCESS voice ports on Meridian Mail, see “To configure Meridian Mail for ACCESS” on page 157.

# Chapter 4

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## Switch subsystem configuration

### In this chapter

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## Overview

You must configure the following elements on the Communication Server 1000 or Meridian 1 PBX switch.

Element	For more information, see
CDNs	“To configure CDNs on the switch” on page 86
networked ACD-DNs	“To configure NACD-DNs to enable the Queue to NACD command” on page 92
IVR ACD-DNs	“To configure IVR ACD-DNs on the switch” on page 96
voice ports	“To configure voice ports on the switch” on page 100
<p>ADS or SCB block</p> <p>Nortel recommends that you use an ADS block.</p> <p>When you configure the ADS or SCB block, the values for HOML and RPRT are set to YES. If HOML=YES, agents are logged off when they replace the handset after a call. If this is not appropriate for your environment, modify the HOML parameter for existing ACD queues.</p> <p>If you configure the ADS block, you must configure DCUS in the PARM data block with LD 17.</p>	<p>“Creating a CallPilot ACD-DN in LD 23,” on page 97</p>
agent ACD queues	“To configure agent and supervisor TNs on the switch” on page 103

Element	For more information, see
agent phones	“To configure agent and supervisor TNs on the switch” on page 103
routes	“To configure routes on the switch” on page 111



### CAUTION

#### Risk of ACD block corruption

Before programming the ADS or SCB block, make sure that all agents log off.

This chapter explains how to configure most of these elements. It also explains how to initialize the switch and change resources on the switch without causing problems on Contact Center Manager Server.

For a complete list of the X11 overlays, see the *Software Input/Output Guide X11 Administration* provided with the switch.

## Before you begin

Before you configure elements on the switch, ensure that:

- you have the packages required for:
  - voice processing in Contact Center Manager Server
  - voice processing in CallPilot or Meridian Mail
  - any other desired switch features

The Contact Center Manager Server packages include 311 (NGCC) and 324 (NGEN). The Meridian 1 PBX software package list for CallPilot 4.0 is found in the *CallPilot Release 4.x*.

For more information, contact your Nortel customer support representative.

- your switch is running one of the following software releases:
  - X11 Release 25.40B or later
  - Communication Server 1000 Release 3.0, 4.0, or 4.5
  - Communication Server 1000M Release 3.0

- you apply all current Service Updates (SU). For information about which SUS to install on the switch, contact your Nortel customer support representative.
- you install the NACD package on the switch (if you purchased the Network Skill-Based Routing option).

**ATTENTION**

---

Contact Center Manager Server cannot share switch resources (such as CDNs, ACD-DNs, or TNs) with other applications such as Meridian Max, Meridian Link, and CCR (Customer Controlled Routing).

**To change switch resources**

You can use the CHG command in LD 11 to change any non-ACD properties of switch resources without releasing the resources, with the appropriate software version, as follows:

- Communication Server 1000 Release 3.0
- X11 Release 25.40B or Communication Server 1000 Release 4.0

**CAUTION**

---

**Risk of system corruption**

If you change acquired resources on a system without an appropriate software version, linked list corruption and status mismatches may occur.

**ATTENTION**

Do not change ACD properties (position ID, queue ID, supervisor ID, and so on) on acquired resources.

Nortel recommends that you take whatever steps are appropriate to ensure that the resource you change is not in use during the change. This not only reduces the risks of any unexpected operations, but also avoids having a user become disconnected when the service change is completed. The best way to avoid such problems is to disable a unit prior to service change.

In Communication Server 1000M Release 3.0 and supported X11 releases, you can also use the DES command in LD 85 to change acquired switch resources with patch MPLR18387.

In X11 Release 25.40B and Communication Server 1000M Release 3.0 and earlier, you can change the DES of an M3900 set in LD 85 with patch MPLR16833 installed.

**To move and delete switch resources**

Before you move (MOV) or delete (OUT) a switch resource, you must ensure that it is deacquired. You cannot MOV or OUT an acquired resource.

# To configure CDNs on the switch

Controlled Directory Numbers (CDN) are specialized ACD-DNs or queues on the switch. A CDN is the entry point of a call into Contact Center Manager Server call processing. You must configure CDNs on the switch and on Contact Center Manager Server (see “To configure CDNs on the server” on page 185).

## Landing Pads

For each site that is configured to use Landing Pads, you must define the Landing Pads. If the site is configured to use CDN Landing Pads, you must configure CDN Landing Pads; if it is configured to use DNIS (Dialed Number Identification Service) Landing Pads, you must configure DNIS Landing Pads.

Landing Pads are applicable only to Universal Networking.

For more information, see the *Contact Center Manager Network Control Center Administrator's Guide* or the Contact Center Manager Administration Online Help.

A Landing Pad in the first instance is a unique dialable number.

- Landing Pads are employed in the absence of the ability to tag a call reference directly to the call, for example, no means of conveying a Network Call ID along with the call to target (in the voice-call signaling).
- Landing Pads are employed so that agents can dial a unique number on a per call basis, to create a unique call reference.
- A unique call reference is used to match a source routed call to a previously reserved target agent, or more generally to track a call from source to destination, where regular telephony information provided at source and target for that call is not enough to uniquely differentiate between all calls arriving.
- Landing Pads are normally grouped together as a pool of resources, constantly reused.

Note that direct targeting of a position ID (agent/ACD key) is not used in Contact Center Manager Server or earlier releases, nor is it generally desired, or in fact possible across all switch types and trunk protocols in contact centers, because any caller can target an agent directly.

The uniqueness aspect can take different forms.

- DNIS provides the original number that was dialed at source to the target. These calls are usually funneled into one or more route points (CDNs or ACD DNs) in a contact center, either through auto-terminated trunks or through Incoming Digit Conversion (IDC). You can use the DNIS number to distinguish one call from another as long as the DNIS used is unique on a per call basis.
- For Direct Inward Dial (DID) enabled target switches, you can use CDNs as Landing Pads.

The DNIS method and the CDN method are generally available across different switch types.

## Modes of operation

CDNs have two modes of operation—default and controlled—as shown by the CNTL prompt. Contact Center Manager Server requires that you configure the CDN in default mode. When Contact Center Manager Server acquires the CDN, the following events occur:

- The CDN is automatically switched to controlled mode.
- The parameter ASID appears next to the CDN block.
- CNTL and AACQ automatically change to YES.

If CNTL = NO (that is, if the CDN is not acquired), or if no treatment is given in four seconds, calls are directed to the default DN. (Do not set CNTL to YES manually.)

Ensure that RPRT = NO.

## Assumptions

The following assumptions are made:

- You know the user ID and password to log on to the switch administration terminal.
- You are familiar with switch Change and Diagnostics overlays.
- You have a listing or printout of available CDNs (overlay program 23).

## CDN data block

Use these prompts to configure a CDN. This includes Music and RAN prompts. For prompts not listed in the table, press Enter to accept the default.



### CAUTION

#### Risk of corruption

Corruption results if a CDN is not configured in this overlay before that CDN is acquired in Contact Center Manager Administration.

Prompt	Response	Description
REQ	aaa	Request.
TYPE	CDN	Type of data block is CDN.
CUST	xx	Customer number associated with this data block.
CDN	xxxx	Control Directory Number.
FRRT	0–511	First RAN route number for ACD.
FRT	0–2044	First RAN time.
SRRT	0–511	Second RAN rout number for ACD.
SRT	0–2044	Second RAN time.

<b>Prompt</b>	<b>Response</b>	<b>Description</b>
FROA	NO (YES)	First RAN on arrival.
MURT	0–511	Music route number.
DFDN	x . . . x	Local default ACD-DN.
CEIL	0–(2047)	CDN ceiling value.
OVFL	(NO) YES	Force Overflow Tone to the call when the ceiling threshold is exceeded.
TDNS	(NO) YES	Is DNIS number an original called party.
RPRT	(YES) NO	Management reporting and status display.
CNTL	(NO) YES	CDN is in control.
VSID	0–15	Value Added Server ID.
HSID	0–15	Host ID.
CWTH	0–(1)–2047	Call Waiting Threshold.
BYTH	(0)–2047	Busy Threshold.
OVTH	0–(2047)	Overflow Threshold.
STIO	0, 1, 2, . . . 15	Status Input/Output devices.
TSFT	0–(20)–510	Telephone Service Factor Threshold in seconds.
ACNT	xxxx	Account.

## To verify that the CDN is acquired

After you acquire the CDN on Contact Center Manager Server, the CDN printout appears as follows:

```
>ld 23
ACD000
MEM AVAIL: (U/P): 3591770      USED: 405925      TOT: 3997695
DISK RECS AVAIL: 2682
ACD DNS  AVAIL: 23758      USED:   242      TOT: 24000
REQ  prt
TYPE  cdn
CUST  0
CDN   2003
TYPE  CDN
CUST  0
CDN   2003
FRRT
SRRT
FROA  NO
MURT
DFDN  7700
CEIL  2047
OVFL  NO
TDNS  NO
RPRT  NO
AACQ  YES
ASID  16
SFNB  1  2  3  4  5  6  9  10  11  12  13  15  16  17  18  19
USFB  1  2  3  4  5  6  7  9  10  11  12  13  14  15
CALB  0  1  2  3  4  5  6  7  8  9  11
CNTL  YES
VSID
HSID
CWTH  1
BYTH  0
OVTH  2047
STIO
TSFT  20
```

# To change CDNs on the switch

If you need to change CDNs on the switch, you must follow specific steps to avoid causing service breaks in Contact Center Manager Server. For example, if you remove a CDN that is currently acquired by Contact Center Manager Server, you can cause some services to stop processing. This prevents Contact Center Manager Server from handling calls.

## Changing CDNs on the switch

- 1 Deacquire the CDN from Contact Center Manager Administration. See “Configuring and acquiring a CDN” on page 185.
- 2 Delete, add, or make changes to the CDN as necessary on the switch.
- 3 Acquire the CDN on Contact Center Manager Administration.

# To configure NACD-DNs to enable the Queue to NACD command

The networked ACD-DN (NACD-DN) is a local dummy ACD-DN (that is, there are no agent positions assigned to it) with a Night Routing table. NACD-DNs enable you to route calls to other Contact Center Manager Server sites. You can use NACD routing as a backup in the event that a Contact Center Manager Server network routing command fails.

To enable NACD routing, you must connect the switch using a Meridian Customer Defined Network (MCDN). For more information about configuring the switch on an MCDN, see the documentation that comes with the switch.

To ensure that Contact Center Manager Server calls are handled in a timely fashion, the switch alternates presentation of NACD and Contact Center Manager Server calls. After an agent finishes an NACD call, the switch provides a small time window to allow a Contact Center Manager Server call to be presented. If no Contact Center Manager Server call is available, the switch presents the next NACD call.

## When to configure NACD-DNs

Configure NACD-DNs when you want the application to communicate with the switch NACD software. This lets you to route overflow calls to other Contact Center Manager Server sites. Use the Queue To NACD script command to access the NACD-DNs.

If you configure an NACD-DN, ensure that there are no TNs or positions associated with the ACD-DN that is configured as the NACD routing DN. If there are TNs or positions assigned, reassign them to another ACD-DN.

## Assumptions

The following assumptions are made:

- You know the user ID and password to log on to the switch administration terminal.
- You are familiar with switch change and diagnostics overlays.

## Configuring a new NACD-DN with LD 23

Use these prompts and responses in LD 23. For prompts that are not specified in the following table, press Enter.

Prompt	Response	Description
REQ	NEW	Add an NACD-DN.
TYPE	ACD	ACD data block.
CUST	xx	Customer number.
ACDN	xxxx	ACD-DN to be added.
MAXP	1	The number of agent positions that can be assigned to the queue.
NCFW	x	Enter an <b>x</b> to delete night call forward (NCFW). <b>Note:</b> NCFW must be blank to allow the configuration of an NACD Night Routing table.

## To configure an existing ACD-DN as an NACD-DN with LD 23

If you use an existing ACD-DN, ensure that there are no TNs or positions associated with the ACD-DN to be configured as the NACD routing DN. If there are TNs or positions assigned, reassign them to another ACD-DN. Then use LD 23 to configure the NACD-DN as described in “Configuring a new NACD-DN with LD 23” on page 93.

## Configuring the Night Routing table with LD 23

Use these prompts and responses in LD 23. For prompts that are not specified in the following table, press Enter.

Prompt	Response	Description
REQ	NEW	Add.
TYPE	NACD	Network ACD.
ACDN	xxx...x	ACD directory number used.
TABL	N	Night Table.
TRGT	xxxx tttt	Remote target ACD-DN (xxxx) and the timer (0–1800) in seconds. Press Enter to add another target. You can add a maximum of 20 targets to the table. Press Enter twice to stop adding targets.
REQ	END	Exit from overlay.

Local targets are ignored when using Contact Center Manager Server.

### Night Service (NSVC)

With NACD, you can define one of three Night Service treatments:

- **Night RAN Route with Night Tables**—Callers receive Night RAN, while the call is monitored for the timers defined for Targets nodes.
- **Night Tables only**—No Night RAN is given, while the call is monitored for the timers defined for Targets.
- **Night Tables with Delay Night RAN Treatment (DNRT)**—With Active entries in Night Tables (DNRT) on, callers receive Day treatment. The FRT must be 4 seconds greater than the timer value of the last entry in the Night Table for this to work. When all entries in the Night Table are inactive, a Night RAN is returned to inform the caller that the network is closed.  
**Note:** When a caller accesses the queue in Night Service and uses the NACD Night Table (the Night Table has open Targets), the caller hears first and second RAN.

## Night Mode

The Source ACD-DN goes into the Night mode using the NSVC key (dialing N [6]), when all agents log off. Then all calls access the Night table, unless the calls have outstanding call requests from the Day table.

Two Night Service modes are available:

- Transition mode
- Night mode

When the source node is in Transition mode, new calls access the Night table and existing calls access the Day table.

When the source node is in Night mode, new calls access the Night table. Existing calls that have pending call requests from the Day table are honored, but no more searching of the Day table takes place.

When the target node is in either Transition mode or Night mode, new call requests are denied and existing call requests are canceled.

When the Source ACD-DN comes out of Night Service, only current call requests accessing the Night table apply. All new calls (calls without outstanding call requests) access the Day table.

# To configure IVR ACD-DNs on the switch

An IVR ACD-DN is a DN that is assigned to voice ports that provide voice-processing services. You program voice ports as ACD agents belonging to IVR ACD-DNs. Contact Center Manager Server must acquire the IVR ACD-DNs. You configure IVR ACD-DNs on the switch, in your voice-processing system (see Chapter 6, “Voice-processing subsystem configuration”), and on Contact Center Manager Server (see “To configure IVR ACD-DNs on the server” on page 188).

This section describes how to configure IVR ACD-DNs if you use Symposium Voice Services on CallPilot or Meridian Mail. If you use a third-party IVR system, see the documentation provided with the system.

## When to configure IVR ACD-DNs

Configure IVR ACD-DNs if you use CallPilot, Meridian Mail, or a third-party IVR system to play messages to callers. These messages are stored on the voice-processing system and can be announcements or voice menus.

If your system uses only a MIRAN card to provide messages, you do not need to configure IVR ACD-DNs.

Configure an IVR ACD-DN for each group of voice ports; for example, configure one for ACCESS voice ports, one for non-ACCESS voice ports, and one for Voice Messaging (Contact Center Manager does not acquired Voice Messaging ACD-DNs).

For more information about voice port partitioning, see “To configure voice ports on the switch” on page 100.

## Assumptions

In the following procedures, it is assumed that:

- You know the user ID and password to log on to the switch administration terminal.
- You are familiar with switch change and diagnostics overlays.

- You have a listing or printout of available IVR ACD-DNs.

## Creating a CallPilot ACD-DN in LD 23

Use the following prompts and responses in LD 23. For prompts not listed in the table, press Enter to accept the default.

Prompt	Response	Description
REQ	NEW	Create a new queue.
TYPE	ACD	ACD data blocks.
CUST	0–99	Customer number.
ACDN	xxxx	The DN of the ACD queue. This is the IVR ACD-DN acquired from Contact Center Manager.
MWC	NO	Indicates that this is not a message center.
MAXP	xx	Indicates the number of agent positions that can be assigned to the queue.
IVR	YES	Indicates that the queue can be used with the Give IVR command defined in scripts.
TRDN	xxxx	Default treatment DN is used if treatment is not specified in the script.  Use treatment DN's to select the treatment that the call receives from the voice-processing system. You can also use them with CallPilot, Meridian Mail, or any voice-processing system that connects to the switch by means of the AML link.
ALOG	YES	ACD agents are automatically logged on. Only CallPilot and Meridian Mail TNs are automatically logged on; analog TNs, such as those used for third-party IVR systems, are not. To log on analog TNs, you must write an application on the IVR system to log on the ports.
REQ	END	Exit from overlay.

## Creating a Meridian Mail IVR ACD-DN in LD 23

Use the following prompts and responses in LD 23. For prompts that are not specified in the following table, press Enter.

Prompt	Response	Description
REQ	NEW	Create a new queue.
TYPE	ACD	ACD data blocks.
CUST	0–99	Customer number.
ACDN	xxxx	The DN of the ACD queue. This is the IVR ACD-DN acquired from Contact Center Manager.
MWC	YES	Indicates that this is a message center and that the queue has agents.
CMS	YES	Command and Status Link Application Protocol is used.
IMA	YES	Enables IMS attendant.
IVMS	YES	Integrated voice messaging. This creates a message center from which messages can be retrieved.
VSID	xx	Value Added Server identifier.
MAXP	xx	Indicates the number of agent positions that can be assigned to the queue.
ALOG	YES	ACD agents are automatically logged on when Meridian Mail is powered on. Only Meridian Mail and CallPilot TNs are automatically logged on; analog TNs, such as those used for third-party IVR systems, are not. To log on analog TNs, you must write an application on the IVR system to log on the ports.
IVR	YES	Indicates that the queue can be used with the Give IVR command defined in scripts.

Prompt	Response	Description
TRDN	xxxx	Default treatment DN used if treatment is not specified for a Give IVR command in a script. Use treatment DNs to select the treatment that the call receives from the voice-processing system. You can also use them with CallPilot, Meridian Mail, or any voice-processing system that connects to the switch by means of the AML link.
REQ	END	Exit from overlay.

## After you finish

You must configure the voice ports as virtual agents. See “To configure voice ports on the switch” on page 100.

## To configure voice ports on the switch

Voice ports carry speech to CallPilot, Meridian Mail, or an IVR system. You must configure voice ports when the ports are CallPilot, Meridian Mail, or third-party IVR system ports used to play announcements or voice menus. You must configure voice ports on the switch, in CallPilot and Meridian Mail (see Chapter 6, “Voice-processing subsystem configuration”), and on Contact Center Manager Server (see “To configure voice ports on the server” on page 196).

Configure voice ports as virtual agent TNs for Meridian Mail or CallPilot. (For third-party IVR systems, the agent TNs are analog TNs.) For Nortel CallPilot, the class of service must be MMA (Multimedia Agent) and FLXA. For Meridian Mail, the class of service must be IMA and VMA.

For the voice ports, ensure that the key layout matches the configuration of keys in CallPilot or Meridian Mail. This matching lets CallPilot and Meridian Mail answer, disconnect, originate, transfer, and conference calls.

You must have AST licenses on the switch to support messaging between CallPilot and Contact Center Manager Server.

### ATTENTION

Some services and applications that handle calls outside of Contact Center Manager Server control can share voice ports, while calls under Contact Center Manager Server control require dedicated voice ports to operate correctly. For more information, see “Voice port partitioning rules” on page 141.

## Creating a CallPilot voice port with LD 11

Use the following prompts and responses in LD 11. For prompts not listed in the table, press Enter to accept the default.

Prompt	Response	Description
REQ	NEW	Add a voice port.
TYPE	2008	

Prompt	Response	Description
TN	l s c u	Terminal Number of the voice port, where l is the loop, s is the shelf, c is the card, and u is the unit. (For the Option 11C, TN is cu only.)
AST	00 01	Associated set assignment on key 0 and key 1 (required for MLSM messages)
CLS	FLXA (units 16–31) VCE WTA CTD MMA	Flexible voice/data allowed. Voice Terminal Warning Tone Allowed Conditionally Toll Denied Multimedia Agent  <b>Notes:</b> When you change from CLS DAT to CLS VCE, add CLS WTA to avoid conflict with CLS CPTA. CLS CPTA is the default for VCE TNs. CTD is optional, but prevents outbound long-distance calls from a voice port.
KEY	0 ACD xxxx zzz nnnn	Define 0 as an ACD key. xxxx is the ACD-DN of agents to voice mail. zzz is the CLID (Calling Line Identification) entry number. nnnn is the position ID. In CallPilot, the position ID must match the CallPilot key 0 value.
KEY	1 SCN xxxx	Define key 1 as a single-call non-ringing DN. xxxx is the SCN DN of the SCN. The DN must match the key 1 value on the CallPilot Meridian 1 PBX Switch Information screen.
KEY	2 MSB	Define key 2 as a Make Set Busy key.
KEY	3 NRD	Define key 3 as a Not Ready key.
KEY	4 TRN	Define key 4 as a Transfer key.
KEY	5 AO3 (letter O)	Define key 5 as a Conference key.
REQ	END	Exit from overlay.

## Creating a Meridian Mail voice port with LD 11

Use the following prompts and responses in LD 11. For prompts not listed in the table, press Enter to accept the default.

Prompt	Response	Description
REQ	NEW	Add a voice port.
TYPE	2008 or SL1	Use 2008 for Meridian 1 PBX Option 11, and SL1 for all other switch types.
TN	10 (0–15)	Enter the TN of the agent.
CLS	IMA VMA	Integrated messaging service attendant allowed. Server voice messaging allowed.
KEY	0 ACD xxxx zzz nnnn	Define 0 as an ACD agent key. xxxx is the ACD-DN of voice agents in voice mail. zzz is the CLID entry number. nnnn is the position ID.
KEY	1 SCN xxx	Define key 1 as a single-call non-ringing DN. xxx is the SCN DN of the SCN. The DN must match the DN on the Channel Allocation Table.
KEY	2 MSB	Define key 2 as a Make Set Busy key.
KEY	3 NRD	Define key 3 as a Not Ready key.
KEY	6 TRN	Define key 6 as a Transfer key.
KEY	7 AO3 (letter 'O')	Define key 7 as a Conference key.
KEY	9 RLS	(For SL1 phones.) Define key 9 as a Release key.
REQ	END	Exit from overlay.

## To configure agent and supervisor TNs on the switch

If you want a user to log on to a phone to receive or monitor incoming calls, you need to configure phones (TN). You must configure agent and supervisor phones on the switch and on Contact Center Manager Server (see “To configure agent phones on the server” on page 194).

While agent and supervisor phones require no special configuration for Contact Center Manager Server, they must belong to an ACD-DN. Usually, call routing is controlled by Contact Center Manager and is not affected by the ACD-DN.

The ACD-DN controls call routing if the Contact Center Manager CDN is in default mode or if incoming network ACD calls target the ACD-DN.

### To configure ACD queues

You use LD 23 to configure the ACD-DN with which a phone is to be associated. If you want the agent to use the phone to enter Not Ready reason codes, you must ensure that NRAC for the ACD-DN is set to YES.

To deactivate Not Ready reason codes, set the NRAC to NO.

### Default Queue Management (DQM)

Use the Default Queue Management feature to associate an ACD queue with an agent. When the agent logs on to a Contact Center Manager acquired phone, Contact Center Manager checks to see which ACD queue is associated with the agent and the phone. If the ACD queue associated with the agent is different than the ACD queue configured on the phone, Contact Center Manager attempts to move the phone to the agent’s associated ACD queue.

This new ACD queue information is maintained on the phone even after the agent logs off. Therefore, the ACD queue of the phone can differ after an agent logs on as compared to phone’s default configuration. The phone position ID, however, remains unaffected.

## Value Added Server Identification (VSID) definitions

Do not enter a VSID definition on agent or supervisor phones.

### AMG key

There is no means for configuring the secondary supervisor's position ID along with the AMG key in Contact Center Manager 6.0.

For earlier versions of Contact Center Manager, the AMG ACD Answer Emergency key must have CLS set to SPV.

You can define the Answer Emergency key as a secondary supervisor's position ID. The secondary supervisor's position ID can be NULL by default. You cannot change the position ID of the ACD set after the ACD set is acquired as a Human Agent. On the M3905, key numbers 8–11 are reserved for AMG.

### Assumptions

In the following procedure, it is assumed that:

- You know the user ID and password to log on to the switch administration terminal.
- You are familiar with switch Change and Diagnostics overlays.

### Example of defining a digital ACD phone

To define digital ACD phones, use LD 11 with the following prompts. For prompts that are not included in the following table, use the default value.

Prompt	Response	Description
REQ	NEW	Add a new phone.
TYPE	aaa	Enter phone type as appropriate.
TN	l s c u	Terminal Number
DES	Name	Enter a name for the phone.
CUST	0–99	Customer number
KLS	1–7	Number of key/lamp strips attached

Prompt	Response	Description
KEY 0	ACD xxxx yyyy	Where xxxx = ACD-DN, and yyyy = Agent position ID
KEY 1	NRD	Not ready
KEY 2	A06	6-party conference
KEY 3	MSB	Make set busy
KEY 4	TRN	Transfer
KEY 8	SCR xxxx	xxxx=IDN
KEY 13	ACNT	Activity key
REQ	NEW, END	Either define another multiline ACD phone, or exit the overlay saving all of the changes entered.

To use Not Ready reason codes, you must program a key as an activity key (ACNT).

You program DWC functionality for Contact Center Manager Server in the same way as ACD, but the functionality is not the same. See Chapter 10, “Agent phones,” for information about the DWC key and Contact Center Manager Server.

To enable the agent phone for CTI, set the AST prompt to enable the Incalls key, and the secondary DN key for CTI. For example, if you have a personal DN on key 7, set AST to 00 07 to enable key 0 (the Incalls key) and key 7.

Based on what is acquired, ACQ AS can show any or all of the following values:

- TN for TN
- AST for position ID, indicating that a Meridian Link application registered for the ID
- AST for DN, indicating that a Meridian Link application registered for the secondary DN key

## To verify the TN configuration after it is acquired

After you configure a phone in the system using LD 11, and after Contact Center Manager Server acquires it, the printout appears as follows:

```
>ld 11
REQ prt
TYPE tnb
TN 4 0 4 2
DATE
PAGE
DES
DES agtset
TN 004 0 04 02
TYPE 2616
CDEN 8D
CUST 0
CDN 2003
AOM 0
FDN
TGAR 1
LDN no
NCOS 0
SGRP 0
RNPG 0
SCI 0
SSU
XLST
CLS CTD FBD WTA LPR MTD FND HTD ADD
MWD AAD IMD DOS XHD IRD NID OLD VCE DRG1
POD DSX VMD CMSD CCSD SWD LND CNDA
CFTD SFD MRD DDV CNID
ICDD CDMD LLCN MCTD CLBD AUTU
GPUD DPUD DNDD CFXD ARHD FITD CNTD CLTD ASCD
CPFA CPTA HSPD ABDD CFHD FICD NAID
DDGA NAMA
USMD USRD ULAD RTDD PGND OCBF FLXD
CPND_LANG ENG
HUNT
PLEV 02
AST
IAPG 0
AACS YES
ACQ AS: TN
ASID 16
SFNB 2 5 6 9 10 11 12 13 15 16 17 18 19
```

```

SFRB 1 2 15
USFB 1 2 3 4 5 6 7 9 10 12 13 14 15
CALB 1 3 4 5 6 8 9 11
FCTB
ITNA NO
DGRP
PRI 01
MLWU_LANG 0
DNDR 0
KEY 00 ACD 2001 0 2012
  SPV
  01 NRD
  02 A06
  03 MSB
  04 TRN
  05
  06
  07
  08 SCR 4702 0 MARP
  09 RAG
  10 AAG
  AA AMG
  12 DWC 2001
  13 ACNT
  14
  15

```

AACS=YES indicates that the phone is acquired by an application. ACQ AS=TN indicates that the TN is acquired, but no CTI application registered for the phone. ASID=16 indicates that the application on AML 16 acquired the phone. SFNB, SFRB, USFB, and CALB are bitmaps that control what messages are sent to Contact Center Manager and are not user-definable.

## Defining single-line ACD phones

To define single-line ACD phones, use LD 10 overlay and follow these prompts:

Prompt	Response	Description
REQ	NEW	Add a new phone.
TYPE	500	Enter phone type as appropriate.
TN	l s c u	Terminal Number

<b>Prompt</b>	<b>Response</b>	<b>Description</b>
CUST	0–99	Customer number
DN	xxxx	DN for the phone
CLS	AGTA	Class of service—ACD agent assignment
	THFA	Switchhook flash allowed
	UND	Unrestricted access
	WTD, (WTA)	Warning Tone Denied (Allowed)
SPID	xxxx	Supervisor's position ID number
PRI	(1)–48	Priority level for agent
AACD	YES	Associated set for ACD agent (X11 Release 17 or later software). Only for AST phones.
FTR	ACD xxxx yyyy	ACD feature allowed, where xxxx=the ACD-DN yyyy=the ACD Position (POS-ID)
REQ	NEW, END	Either define another single-line ACD phone or exit the overlay saving all of the changes entered.

## To configure phantom TNs on the switch

You can define and configure TNs without the required phonesets or line cards, which allows an agent or supervisor to log onto any phone.

To define and configure TNs without phonesets or line cards, you must have the Phantom Terminal Numbers (PHTN) feature. The PHTN feature supports Phantom Terminal Numbers to direct incoming calls to existing telephones using the Call Forward All Calls (CFW) and Remote Call Forward (RCFW) feature capabilities.

You must configure phantom TNs on the switch and on Contact Center Manager Server (see “To configure agent phones on the server” on page 194). Each configured TN has an associated DN. Before an agent or supervisor can log onto any phone, you must assign each associated DN to an agent or supervisor in Contact Center Manager Administration (see “To configure personal DNs on the server” on page 191).

### Configuring a TN for the phantom loop with LD 10

To configure a TN for the phantom loop with LD 10, use these prompts and responses.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change
TYPE	500	Telephone type
TN	l s c u	Terminal number (loop, shelf, card, and unit); if the loop is a phantom loop, "PHANTOM" is echoed to the technician
DN	xxx...x	Directory Number; must be a Single Appearance DN
SCPW	xxxx	Station Control Password

<b>Prompt</b>	<b>Response</b>	<b>Description</b>
CLS	aaaa	Class of Service options, which cannot include AGTA, CCSA, MNL, or LPA
FTR	DCFw nn x...x	Default Call Forward where: nn = number of digits up to 23 x...x = Default Call Forward DN.

## To configure routes on the switch

A route defines a group of trunks. Each trunk carries incoming and outgoing calls to and from the switch. You must configure the trunk routes on the switch. To use the Give RAN and Give Music commands in your scripts, you must also configure RAN and MUS routes.

Only RAN, MUS, FGDT, TIE, DID, COT, FEX, and WATS route types are supported by Contact Center Manager Server.

If you do not use Symposium Voice Services on CallPilot or Meridian Mail, configure a MIRAN card and RAN routes to supply messages to callers waiting in queue.

### To configure trunk routes

No special programming is required to work with Contact Center Manager Server. Use LD 16 to configure the trunk routes, and use LD 14 to associate the trunk routes with TNs.

If you want to generate reports on trunk routes, you must also configure the trunk routes on Contact Center Manager Server. For detailed instructions, see the *Contact Center Manger Server Installation and Maintenance Guide*.

### Assumptions

In the following procedures, it is assumed that:

- You know the user ID and password to log on to the switch administration terminal.
- You are familiar with switch Change and Diagnostics overlays.
- You obtained a listing of routes using LD 21 (REQ=prt, TYPE=RDB).
- At the switch, you ensured that physical trunks are defined for the routes.

## Configuring a RAN route with LD 16

To configure a RAN route using LD 16, use these prompts and responses.

Prompt	Response	Description
REQ	NEW	Add a route.
TYPE	RDB	Route data block
CUST	nn	Customer number
ROUT	nn	Route number
DES	x...x	Enter a description.
TKTP	RAN	Recorded Announcement trunk data block requires package 7.
ASUP	YES	Answer supervisor
ACOD	nnn	Access code
REQ	END	Exit from overlay.

## Configuring a MUS route with LD 16

To configure a MUS route using LD 16, use these prompts and responses.

Prompt	Response	Description
REQ	NEW	Add a route.
TYPE	RDB	Route data block
CUST	nn	Customer number
ROUTE	0–511	Route number
DES	x...x	Designator field for trunk. Enter a description.
TKTP	MUS	MUSIC trunk data block requires Music package 44.
ICOG	OGT	Incoming and outgoing trunk

Prompt	Response	Description
ACOD	nnn	Access code
REQ	END	Exit from overlay.

## Associating a MUS route with TNs in LD 14

To associate a MUS route with a TN in LD 14, use these prompts and responses.

Prompt	Response	Description
REQ	NEW	Action request
TN	l s c u	Terminal Number
TYPE	MUS	Music route
CUST	0	Customer number
RTMB	0–127 1–254	Route and member number
CFLP	0–159	Conference loop
REQ	END	Exit from overlay.

# To configure Multiple Queue Assignments

To use Multiple Queue Assignments (MQA) with Meridian MAX when you have Contact Center Manager, you must ensure that your MQA agent ACD-DNs are separate from Contact Center Manager agent queues.

## Allowing MQA and Contact Center Manager Server to coexist

- 1 Create new ACD-DNs for the Contact Center Manager Server agents.
- 2 Move the Contact Center Manager Server agents into the new ACD-DNs.

You can use the Meridian MAX configuration control feature to move the agents. Perform this step during a maintenance window when all agents are logged off.

- 3 Change RPRT to NO in LD 23 for the source ACD-DN.

This ensures that MAX does not report on this queue or the agent positions. Because MAX does not understand skillsets, and it does not know which agents staff the agent phones, reporting information is inaccurate.

- 4 Ensure that the Contact Center Manager Server CDN has the appropriate DFDN defined so that calls are handled properly in default mode.

Contact Center Manager Server can acquire MQA agents. When it does, only one queue is assigned to the phone—the first queue the agent logs on to. If Contact Center Manager Server goes down, calls are presented to agents in this queue. If agents log on to multiple queues while Contact Center Manager Server is down, when Contact Center Manager Server comes back up and acquires the agent phones, the phones revert to one queue.

Make sure that all Change Orders moving agent positions from one queue to another are removed from MAX. If you want to continue to use MAX to move agents to a different queue and you do not have Communication Server 1000M Release 3.0 or the patch MPLR17921, then:

- deacquire the agent phone in Contact Center Manager Server
- make the change in MAX
- ensure that the switch performed the change

- acquire the phone in Contact Center Manager Server

If you have Communication Server 1000M Release 3.0, you can make the change without deacquiring the agent position.

## Switch maintenance

Contact Center Manager Server can only process calls if the switch is operational. Before performing upgrades or maintenance on the switch, you must do the following:

- Shut down CallPilot
- Shut down Contact Center Manager Server

# Chapter 5

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## Meridian Link Services configuration

### In this chapter

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To configure phones for CTI	122
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# Overview

This chapter provides the references and procedures required to set up Meridian Link Services (MLS) for operation with Contact Center Manager Server. MLS is a communications facility that provides an interface between a host application and the switch. (A host is any computer on which the third-party application runs.) This interface facilitates the integration of the computer and the Private Branch Exchange (PBX). In this integrated environment, the host processor interacts with the switch by exchanging application layer messages.

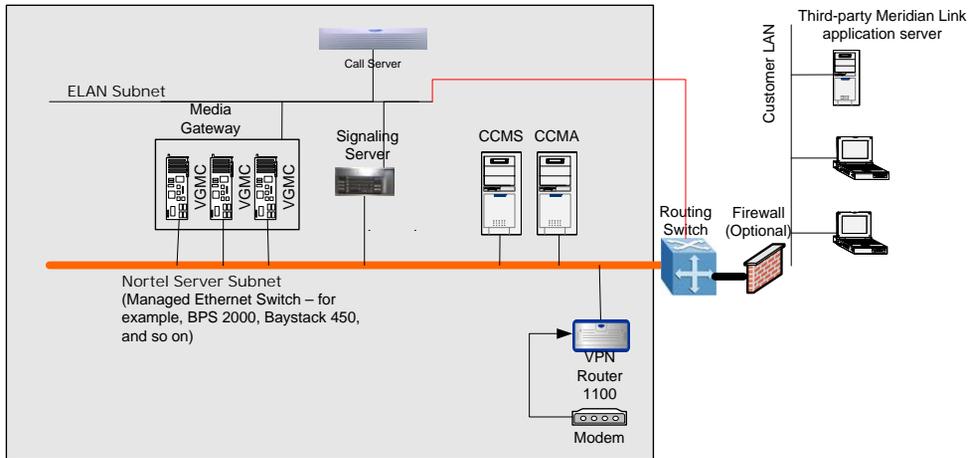
If you use CallPilot for your Symposium Voice Services, CallPilot communicates with the switch using MLS, so you must configure the switch for Meridian Link. After you configure MLS on the switch, your connection to the host application is through the Nortel server subnet and ELAN subnet connection points.

You can also use MLS to develop applications that allow you to use information taken from the switch (such as Caller ID), connect to another application to get that customer's data, and then provide data to a PC to help agents prepare for the call.

If you want to use CTI functionality for your Contact Center Manager Server agents, you must use MLS. You cannot use legacy Meridian Link.

In an environment with multiple servers on the same switch, if you use TAPI to provide CTI functionality, each server must have its own TAPI server.

The following diagram shows the relationships between the applications and Contact Center Manager Server.



## Meridian Link

With the introduction of Contact Center Manager Server, Meridian Link was rewritten for Windows NT and renamed MLS. MLS runs as a separate process on Contact Center Manager Server. MLS can provide CTI features for Contact Center Manager Server agents, traditional non-Contact Center Manager Server ACD agents, and non-ACD phones. It also provides support for host-enhanced routing and host-enhanced voice processing.

## Meridian Link Services features

MLS, wherever possible, preserves the functionality of Meridian Link 5. The *Contact Center Manager Meridian Link Services Interface Specification* describes in detail the differences in implementation between Contact Center Manager Server with MLS and the Meridian Link 5 interface specification.

# To install and configure Meridian Link Services

The configuration procedures on the switch for both Contact Center Manager Server and stand-alone MLS are identical. You configure the switch using X11 software overlays.

## Prerequisites

Before you configure MLS, you must install Contact Center Manager Server. (MLS is installed as part of the Contact Center Manager Server software.) For more information, see the *Contact Center Manager Server Installation and Maintenance Guide* and the *Contact Center Manager Administration Installation and Maintenance Guide*.

You must also install the switch software. For more information about installing the switch software, see the installation documents that come with the switch.

## Enable Meridian Link Services on the switch

To enable MLS to function on the switch, you must do the following:

- Allow CTI operations on the ELAN subnet (LD 17).
- Configure phones for CTI (LD 11 and LD 10).
- Configure CDNs for Host-Enhanced Routing (LD 23).

After you configure the switch, you must connect the host application to the Nortel server subnet.

## To allow CTI operations on the ELAN subnet

You configure LD 17 to allow CTI with third-party applications. Specifically, where the VAS connection for Contact Center Manager Server is defined as SECU, enter YES as the prompt response. This lets third-party applications to control phone functions, such as answering or initiating a call.

### Completing the basic Meridian Link Services configuration

Use these prompts and responses in LD 17.

Prompt	Response	Description
REQ	CHG	Change data in the database.
TYPE	VAS	Value Added Service
VAS	NEW	When migrating from Meridian Link, define the VAS connection as YES.
VSID	xx	Associate link and VSID so that the messages can be sent.
ELAN	yy	Associate VASID xx with ELAN yy.
SECU	YES	If the same ELAN subnet link is used for the Meridian Link application.
INTL	1–12	Time interval for checking Meridian Link for overload in increments of 5 seconds.
MCNT	5–100000	Message count threshold for number of Meridian Link messages per time interval.

# To configure phones for CTI

To enable a phone for CTI messages, you must configure it as an associated set (AST). This is done using LD 11 for digital (multiline) phones and LD 10 for analog (single-line) phones.

Agents assigned multimedia capabilities must log onto a phone through the Communication Control Toolkit. These agents cannot manually log onto a phone.

Phones can be physical phones or voice ports (including line-side E1 and line-side T1) used by Nortel IVR or third-party IVR applications.

CallPilot voice ports are configured as digital voice ports. Nortel IVR voice ports are configured as analog voice ports.

Contact Center Manager Server controls Status Change message filtering in MLS during resource acquisition. IAPG groups configured using LD 10 and LD 11 do not impact the message filtering for Contact Center Manager Server-controlled resources.

## Types of phones

You can use MLS for:

- ACD phones where the routing is done on the switch
- ACD phones acquired by Contact Center Manager Server and used for skill-based routing
- non-ACD phones that are not acquired by Contact Center Manager Server but can be monitored by MLS

Configuration of ACD phones is identical to configuration of Contact Center Manager Server-acquired phones.

## Defining multiline ACD phones as associated sets

Use LD 11.

For more information about using LD 11 and creating and defining phones, see “To configure agent and supervisor TNs on the switch” on page 103.

## Defining single-line ACD phones as associated sets

- 1 Use LD 10.
- 2 Ensure that AST = YES.
- 3 Ensure that AACD = YES.

For more information about using LD 10 and creating single-line ACD phones, see “To configure agent and supervisor TNs on the switch” on page 103.

## Defining a non-ACD multiline phone as an associated set

Use these prompts and responses in LD 11. For prompts that do not appear in the following table, use the default value.

Key layout varies depending on customer requirements. The key configuration in this table is provided as an example only.

Prompt	Response	Description
REQ	NEW	Add new phone.
TYPE	aaa	Enter telephone type as appropriate.
TN	l s c u	Terminal Number
CDEN	SD, (DD), 4D	Card density
CUST	0–99	Customer number
KLS	1–7	Number of key/lamp strips attached
		Press Enter until the AST prompt appears.
AST	00	DN key with AST telephone assignment (Host controllable. Up to two DN keys can be assigned as AST). This example shows that key 0 is an AST DN.

Prompt	Response	Description
IAPG	x	AML link status message group, defined in LD 15. Set the message group to 1 to send messages to the CTI application. Set the message group to 0 if you do not want to send messages.
KEY 0	SCR xxxx	where xxxx = DN
KEY 1	TRN	Transfer
KEY 2	AO6	6-party conference
KEY 9	RLS	Release if type = SL1
		Press Enter until the REQ prompt appears.
REQ	NEW, END	Either define another single-line ACD phone as an AST, or exit the overlay saving all of the changes entered.

## Defining a non-ACD single-line phone as an associated set

Use the following prompts and responses in LD 10. For prompts that do not appear in the following table, use the default value.

Prompt	Response	Description
REQ	NEW	Add new phone.
TYPE	500	Single-line telephone type
TN	l s c u	Terminal Number
CDEN	SD, (DD), 4D	Card density
DES	x...x	Description
CUST	0–99	Customer number
DN	xxxx	DN for the telephone number
AST	YES	Phone is designated as an associated set.
IAPG	Enter	AML link status message group, defined in LD 15, is not used for MLS.

<b>Prompt</b>	<b>Response</b>	<b>Description</b>
		Press Enter until the REQ prompt appears.
REQ	NEW, END	Either define another single-line ACD phone as an AST, or exit the overlay saving all of the changes entered.

## To configure CDNs for host-enhanced routing

Host-enhanced routing is an MLS feature that lets a third-party application control calls that wait at a Controlled DN (CDN). A CDN is a specialized ACD queue that has no agents. A CDN in controlled mode offers control of calls to applications.

MLS cannot use a CDN that is already acquired (controlled) by Contact Center Manager Server for host-enhanced routing. However, an application can register for a CDN so that it can receive messages about calls handled at the CDN.

To set up a CDN for host-enhanced routing, follow the steps detailed in “To configure CDNs on the switch” on page 86. These steps are identical to setting up a CDN that is acquired by Contact Center Manager Server.

### Defining a controlled DN

To define a controlled DN for host-enhanced routing, use LD 23. See “To configure CDNs on the switch” on page 86 for more information.

## To connect the host application

The host application is connected on the Nortel server subnet. The host application must be configured to access the Nortel server subnet IP address. For more information, see the *Contact Center Manager Meridian Link Services Interface Specification*.



# Chapter 6

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## Voice-processing subsystem configuration

### In this chapter

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# Overview

This chapter provides information about how to set up and configure Contact Center Manager Server voice processing so that calls receive the appropriate treatments.

The first section in this chapter provides a high-level feature summary and background information about voice processing with Contact Center Manager Server. The sections that follow provide specific instructions for configuring CallPilot or Meridian Mail, or an external IVR system, to provide voice processing.

# Section A: Voice processing

## In this section

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# Overview of voice processing

Voice processing provides automatic interaction with a caller. You can classify interactions in the following ways:

- **Passive**—playing prerecorded messages to a caller
- **Interactive**—collecting input from a caller, usually with DTMF (Dual Tone Multi Frequency)

## Different voice processing methods

Contact Center Manager Server supports voice processing using the following methods:

- **Script commands**—Calls terminate on CDNs and enter the Contact Center Manager Server script. Script statements can direct a call to connect to a voice port or RAN trunk so that voice-processing interaction can take place.
- **Front-end IVR**—Calls terminate directly on a CallPilot or Meridian Mail voice menu or an IVR system and are not controlled by Contact Center Manager Server until the voice-processing system transfers the call to a CDN. This method of voice processing is largely transparent to Contact Center Manager Server. Contact Center Manager Server must not acquire the voice ports used for front-end IVR.

## Different caller interaction

You can interact with callers in the following ways:

- **Play a message to a caller**—You can use any of the script commands listed in the following section to play a message to a caller. You can use the Give Controlled Broadcast Announcement command to play a recorded announcement to a caller in either start/stop mode (where the caller hears the entire message from start to finish), or continuous mode (where the caller can enter and exit at any point in the message). Other announcements do not use these specific modes.
- **Broadcast announcements to multiple callers**—You can use CallPilot or Meridian Mail in stop/start mode to provide the same announcement to multiple callers.
- **Interact with an external voice system**—Interaction with an external voice system lets Contact Center Manager Server control communication with the caller through commands and treatments placed in the scripts. You can use the Open Voice Session and End Voice Session commands to interact with a caller directly. To use these commands, you must use Symposium Voice Services on CallPilot or Meridian Mail.
- **Interact with a caller indirectly**—Communication with the caller is controlled by the voice-processing system. You can interact with a caller indirectly by using the Give IVR command to connect the caller to a voice port controlled by CallPilot, Meridian Mail, or an external IVR system.

## Script commands

Contact Center Manager Server supports the following voice-processing commands:

- **Give RAN**—Use this command to play announcements using a MIRAN card or an announcement machine connected to a RAN trunk. The RAN broadcast feature in X11 Release 23 lets you to connect multiple callers to the same RAN port. As the call is connected to a RAN trunk rather than a voice port, this is not strictly a voice-processing command. However, it does allow you to play a message to a caller.
- **Give IVR**—Use this command to play an announcement or IVR session using a CallPilot or Meridian Mail voice menu or an external IVR system. The voice-processing system controls the treatment that the call receives. You can base the treatment on the IVR ACD-DN or the treatment DN. You can collect digits from the caller, but you cannot access the information from the script unless you use Host Data Exchange (HDX).
- **Give Controlled Broadcast Announcement**—Use this command to play a message to multiple callers, using the same voice port. It requires Symposium Voice Services on CallPilot or Meridian Mail.  
The Give Controlled Broadcast feature is not supported on the CS 1000E. For more information, see *Bulletin Number P-2006-0312-Global*.
- **Open/End Voice Session**—Use this set of commands to provide an interactive voice session in which you can play prompts and collect digits. It requires Symposium Voice Services on CallPilot or Meridian Mail.

During script execution, all voice-processing commands, as well as the Give RAN command, suspend the script until the command is completed. After the command is complete, the next statement in the script is executed.

# Typical uses of voice-processing commands

The following section describes typical uses of voice-processing commands.

## Give RAN

Use Give RAN:

- when messages must be spoken to callers.
- when legacy RAN equipment exists.
- if RAN equipment is less expensive than a voice-processing system, and other voice-processing functionality is not required.

## Give IVR

Use Give IVR when:

- you use CallPilot or Meridian Mail to play announcements or give voice menus to callers, and you do not want to use an ACCESS link. You usually use this command if you migrate from Meridian CCR and you do not want to re-record your announcements or voice menus.
- you use CallPilot or Meridian Mail and you want to give the caller the option to leave a message in a mailbox.
- you use a third-party voice-processing system for announcements or voice menus while the call is controlled by a Contact Center Manager Server script. Usually, if an external IVR system is used, the call is directed to the IVR system before the call enters the Contact Center Manager Server script (front-end IVR). Give IVR is not used unless you use Nortel integrated IVR CTI applications.

## Give Controlled Broadcast Announcement

Use Give Controlled Broadcast Announcement when you use Symposium Voice Services on CallPilot or Meridian Mail, and the same message must be given to multiple callers simultaneously (the traditional RAN scenario, “All agents are busy...”). Its port use is more efficient than when using Give IVR.

## Open/End Voice Session

Use Open/End Voice Session commands when:

- you use Symposium Voice Services on CallPilot or Meridian Mail, and you must give customized messages (for example, a caller's expected wait time).
- you use Symposium Voice Services on CallPilot or Meridian Mail, and caller interaction (collect digits) is required.

For more information about using these script commands in scripts, see the *Contact Center Manager Scripting Guide for the Communication Server 1000/Meridian 1 PBX*.

# Operation modes for voice-processing commands

The following section describes the operation modes for voice-processing commands.

## Listen only or interactive

If callers listen to the recorded message only, you can use the following voice-processing commands:

- Give RAN
- Give IVR
- Give Controlled Broadcast Announcement
- Open/End Voice Session, Play Prompt

If callers can interact, you can use the following voice-processing commands:

- Open/End Voice Session, Collect Digits (Symposium Voice Services on CallPilot or Meridian Mail)
- Give IVR (CallPilot or Meridian Mail voice menus or external IVR)

## Single connection or broadcast

If callers, or a large number of callers, must hear the same announcement, you can use any of the listen-only commands specified in the previous section. However, voice port use is more efficient if you use the broadcast type of command, rather than the one-call-to-one-port commands. With broadcast, you can sustain much higher call rates with fewer voice ports.

Use the one-call-per-port commands if you must give customized messages to callers (for example, Expected Wait Time), if caller input is collected, or if you have a third-party voice-processing system.

The following commands connect multiple calls per voice port:

- Give Controlled Broadcast Announcement

- Give RAN (if RAN broadcast is used)

The following commands connect one call per voice port:

- Give IVR
- Open/End Voice Session

## **Start/stop or continuous**

You can choose whether callers must hear an entire message, or whether they can enter and exit a message at any point.

### **Start/stop mode**

Start/stop mode means that the caller hears the message from beginning to end. These voice-processing commands can operate in start/stop mode:

- Give RAN
- Give IVR
- Give Controlled Broadcast Announcement
- Open/End Voice Session

### **Continuous operation**

Continuous operation means that the message repeats all of the time, and a caller enters anywhere in the message. The following commands can support the continuous mode:

- Give RAN
- Give Controlled Broadcast Announcement

Give Controlled Broadcast Announcement in continuous mode connects the caller immediately upon arrival and continues the script only after one full cycle of the message is heard.

RAN operation did not change with the introduction of Contact Center Manager Server.

## Interruptible or non-interruptible

In Contact Center Manager Server, only the Give IVR command supports both interruptible (option) and non-interruptible (default) operation. Both the Give Controlled Broadcast Announcement and Open Voice Session commands support interruptible (default) operation only.

### Interruptible operation

Interruptible operation means that if the call is queued before the voice processing statement is executed, the voice processing is discontinued if an agent becomes available, and the call is immediately presented to the agent instead.

Use this mode when the message played is for the caller's information (for example, "All agents are busy...") or amusement (for example, advertising), and it is important to get a call to an agent as quickly as possible.

### Non-interruptible operation

Non-interruptible operation means that if the call is queued before the voice-processing command started, the call does not qualify to be answered until the voice processing session reaches its logical end. The call, however, retains its place in queue during the voice-processing session.

If an agent becomes available during the voice-processing session, the next call that can be answered is presented instead, and when the call in the voice-processing session finishes, it goes to the next agent available.

This mode is useful when it is important that callers listen to a full cycle of a message before speaking to an agent, or when interactive menus are presented to the caller, and the input must be completed before it makes sense to speak to an agent.

If a call is not queued before a voice-processing session, the interruptible versus non-interruptible operation has no effect; the call always operates in a non-interruptible fashion.

## Resource acquisition

The following table summarizes the resources that Contact Center Manager Server must acquire for the different voice-processing commands.

### ATTENTION

Do not configure extra voice ports on the Communication Server 1000/Meridian 1 PBX or on the Contact Center Manager Server that are not accessed or acquired by Contact Center Manager.

<b>Command</b>	<b>IVR ACD-DN</b>	<b>Voice Port TN</b>	<b>Voice Port channel</b>
Give IVR	Yes	Yes	No
Give Controlled Broadcast Announcement	Yes	Yes	Yes
Open Voice Session	Yes	Yes	Yes
Front-end IVR	No	No	No

# Voice port partitioning rules

Your voice-processing system can provide a variety of services, including:

- auto-attendant
- voice menus
- fax
- voice mail
- application services to Meridian Link, MLS, Meridian (Integrated) IVR, CCR, and Contact Center Manager Server

While some of these services and applications can share voice ports, Contact Center Manager Server requires a dedicated set of voice ports behind a dedicated ACD-DN to operate correctly. If you require other voice-processing services, such as Call Answering or Voice Menus, set up a separate queue for them (see “General Meridian Mail services” on page 142).

## Voice port partitioning

Contact Center Manager Server uses two types of voice ports: IVR and ACCESS ports. To allow for proper operation of Contact Center Manager and the voice-processing system, each ACD-DN can only contain voice ports of one type (Give IVR or ACCESS).

### **Contact Center Manager Server Give IVR voice ports**

The Give IVR script command uses Give IVR voice ports. Make sure that only Contact Center Manager Server Give IVR calls arrive at an ACD-DN containing Give IVR voice ports.

Configure Give IVR voice ports as standard IVR voice ports. Contact Center Manager Server must acquire the TNs for the voice ports.

### **Contact Center Manager Server ACCESS voice ports**

The Give Controlled Broadcast Announcement and Open Voice Session commands use the ACCESS voice ports. ACCESS voice ports are available only for integrated voice-processing systems, such as CallPilot or Meridian Mail.

Configure these ports as ACCESS voice ports, giving each voice port a unique ACCESS class (channel number). Contact Center Manager Server must acquire the TNs and Class IDs for these voice ports.

Set the maximum number of broadcast ports parameter (see “To configure Global settings” on page 199) to limit the number of voice ports used by broadcast announcements.

After this limit is reached, Contact Center Manager Server skips this command and executes the next command in the script.

### **General Meridian Mail services**

If you preface a Contact Center Manager Server CDN with a voice menu, the voice menu is accessed through this ACD-DN. Contact Center Manager Server does not acquire these voice ports.

These services include Call Answering, Express Messaging, Voice Menus, Fax on Demand, and voice ports used by CCR for Give IVR. The voice ports for all of these services can belong to the same ACD-DN.

## Section B: CallPilot

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# Overview

To use CallPilot as your voice-processing system, you must update the CallPilot server configuration:

- Define the ELAN subnet address of Contact Center Manager Server in the Contact Center Manager Server server ELAN IP Address field.
- Identify channels that are used to provide ACCESS and IVR services to the server in Contact Center Manager Server.
- Define SDNs for use by Symposium Voice Services.

## ATTENTION

---

You must configure the channels that provide ACCESS and IVR services to Contact Center Manager Server as dedicated Voice channels. Do not use Fax or Speech Recognition channels.

## ACCESS voice ports

When the CallPilot connection IP (CLAN network interface IP address) is set, it controls these voice ports over the ACCESS link (the IP link that connects CallPilot and Contact Center Manager Server). You use these voice ports for Give Controlled Broadcast Announcement and Open Voice Session.

CallPilot supports 96 voice ports in Release 4.0. Reserve one voice port for messaging; the remaining 95 voice ports are available for voice services.

To use ACCESS voice ports, you must configure some or all of the following entities in CallPilot:

- voice ports (virtual agent TNs)  
For information about configuring ACCESS voice ports in CallPilot, see “To update CallPilot configuration” on page 146.
- Service Directory Numbers (SDN)  
For information about creating SDNs, see “To update the SDN table” on page 147.
- voice segments

For information about creating voice segments (voice items), see the *CallPilot 4.0 Administrator's Guide*.

## Non-ACCESS ports

CallPilot controls these voice ports. The treatment that the caller receives is determined by the treatment DN or IVR ACD-DN. You use these voice ports for Give IVR.

To use Give IVR voice ports, you must configure some or all of the following entities in CallPilot:

- voice ports (virtual agent TNs)  
For information about configuring Give IVR voice ports in CallPilot, see “To update CallPilot configuration” on page 146.
- Service Directory Numbers (SDN)  
For information about creating SDNs, see “To update the SDN table” on page 147.
- announcements, menus, and so on  
For an example procedure, see “Creating an announcement” on page 217.  
For more information about creating announcements and menus, see the *CallPilot 4.0 Administrator's Guide*.

## CallPilot and multiple servers on the same switch

If you use CallPilot to provide front-end IVR, the same CallPilot server can support all three Contact Center systems.

If you use Symposium Voice Services on CallPilot—that is, if CallPilot is providing Give IVR or ACCESS voice services (Open/Close Voice Session, Collect Digits, and Give Controlled Broadcast Announcement)—CallPilot can serve only one Contact Center system. Therefore, you must connect each Contact Center system to a separate CallPilot.

# To update CallPilot configuration

In the CallPilot Configuration Wizard, you must do the following:

- Define the Nortel server subnet address of Contact Center Manager Server in the Symposium Call Center Server CLAN IP Address box.
- Identify channels that are used to provide ACCESS and Give IVR services to Contact Center Manager Server.

## Updating CallPilot configuration

- 1 On the CallPilot server, start the Configuration Wizard.
- 2 Advance to the **Switch Information** page. (For detailed instructions, see the *CallPilot 4.0 Planning and Engineering Guide*.)
- 3 In the **Symposium Call Center Server CLAN IP Address** box, type the Nortel server subnet address of Contact Center Manager Server. The Nortel server subnet address is previously known as the CLAN address.
- 4 On the left side of the page, click the link for the set of channels you want to configure.

**Result:** The Channel Name column appears the channels on the selected link.

- 5 In the **Channel Name** column, click the first channel that you want to configure.

**Result:** The Channel Detail Information page appears.

- 6 For each TN used to provide IVR services to Contact Center Manager Server, select the **IVR** check box.
- 7 For each TN used to provide ACCESS services, select the **ACCESS** check box, and specify a class ID.

The class ID is used to communicate between the server and CallPilot over the ACCESS link. When you define the TN as a voice port on Contact Center Manager Server, make sure that the channel number you assign to the voice port matches the class ID for the TN.

- 8 Click **Fill**.
- 9 Click **OK**.

# To update the SDN table

You must define Service DNs for use by Symposium Voice Services. Define the Contact Center Manager Server IVR and ACCESS ACD-DNs, as well as any treatment DNs.

## Defining IVR and ACCESS ACD-DNs

- 1 Start CallPilot Manager.
- 2 Choose **System > Service Directory Number**.
- 3 Click **New**.

**Result:** The SDN Details window appears.

LDAP server: cp1005r-1 | Mailbox Number: 000000

CallPilot Manager

Preferences Help Logout

Home User System Maintenance Messaging Tools Help

Location > System > Service Directory Number > SDN Details

**SDN Details:**

Save Cancel Print Help

General

Service DN:

Application Name: Symposium Voice Services

Media Type: Voice

Minimum Channels: 0

Maximum Channels:  Use Default

Comments:

- 4 In the **Service DN** box, enter the Contact Center Manager Server IVR and ACCESS ACD-DN numbers, as defined on the switch.
- 5 From the **Application Name** list, select **Symposium Voice Services**.
- 6 From the **Media Type** list, select **Voice**.
- 7 Click **Save**.

- 8 Go to **Contact Center Manager Administration Launchpad > Configuration.**

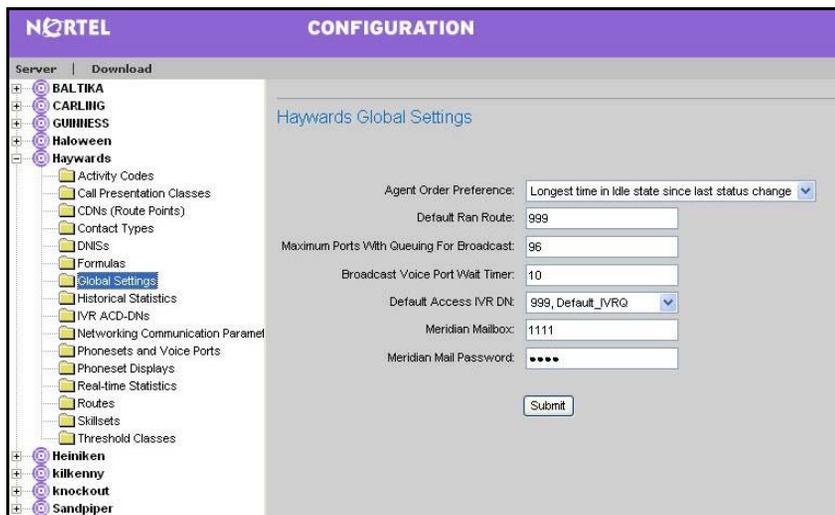


- 9 On the system tree, double-click the appropriate server.

**Result:** The server expands to reveal its resources.

- 10 Select the **Global Settings** folder.

**Result:** The Global Settings window appears.



- 11 Select the **Default Access IVR DN**.
- 12 Click **Submit**.

### To define treatment DNs

- 1 Start CallPilot Manager.
- 2 Choose **System > Service Directory Number**.
- 3 Click **New**.
- 4 In the **Service DN** box, enter the treatment DN.
- 5 From the **Application Name** list, select the Application Builder application name.
- 6 From the **Media Type** list, select **Voice**.
- 7 Click **Save**.

## To create voice segments

You can use voice segments as building blocks to create powerful, flexible voice applications. If you use voice-processing commands (specifically, the Play Prompt element), you must define voice segments.

Use the Application Builder to create, record, and manage voice segments. For more information, see the *CallPilot 4.0 Administrator's Guide*.

## Section C: Meridian Mail

### In this section

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# Overview

Meridian Mail uses two types of voice ports to provide voice-processing services for Contact Center Manager Server: ACCESS voice ports and Give IVR voice ports.

## ACCESS voice ports

Contact Center Manager Server controls these voice ports over the ACCESS link (the serial link that connects Meridian Mail and Contact Center Manager Server). You use these voice ports for Give Controlled Broadcast Announcement and Open Voice Session commands. Meridian Mail supports 96 voice ports.

To use ACCESS voice ports, you must configure some or all of the following entities in Meridian Mail:

- **voice ports** (virtual agent TNs)—You configure voice ports in the CAT (see “Channel Allocation Table” on page 154).
- **Meridian Mail mailboxes**—For information about creating Meridian Mail mailboxes, see “To create Meridian Mail mailboxes” on page 160.
- **voice segments**—For information about creating voice segments, see “To create voice segments” on page 161.

## Give IVR voice ports

Meridian Mail controls these ports. The treatment that the caller receives is determined by the treatment DN or IVR ACD-DN. You use these ports for Give IVR.

To use IVR ports, you must configure some or all of the following entities in Meridian Mail:

- **voice ports** (virtual agent TNs)—For information about configuring voice ports, see “Channel Allocation Table” on page 154.
- **treatment DN**s (VSDNs)—For information about configuring treatment DN

- **Voice Menu service or Announcement service**—For information about configuring treatment DN's, see “To create announcements and voice menus” on page 169.

This section provides procedures for configuring each of these entities. It also describes the CAT and the Voice Services DN table where you configure these entities.

## Meridian Mail and multiple servers on a switch

If you use Meridian Mail to provide front-end IVR, the same Meridian Mail system can support all three Contact Center systems.

If you use Symposium Voice Services on Meridian Mail to provide IVR services (that is, with the Give IVR command), the same Meridian Mail can support all three Contact Center systems. However, the following restrictions apply:

- You must allocate the Meridian Mail IVR ports between three IVR queues, and dedicate a queue to each server.
- All of the servers must belong to the same customer group. (Therefore, you cannot network the servers together.)

If you use Symposium Voice Services on Meridian Mail to provide ACCESS voice services (Open/Close Voice Session, Collect Digits, and Give Controlled Broadcast Announcement), Meridian Mail can serve only one Contact Center system.

# Channel Allocation Table

You can use the Channel Allocation Table (CAT) to:

- view how channels (voice ports) are currently allocated across different queues and services
- see the distribution of voice port types (that is, the number of basic, full-voice, and multimedia ports)
- move agents from one queue to another, to dedicate a voice port (Voice ports are relocated on the switch. The CAT is used to notify Contact Center Manager Server of the new location.)

## Agents and DSP ports

The CAT determines how agents on the switch are associated with DSP ports on Meridian Mail. You must associate each DSP voice port with an ACD agent defined on the switch. Agents are identified by a Terminal Number (TN), an ACD directory number (DN), and a single call non-ringing (SCN) DN. This association lets both the queuing of calls coming in to Meridian Mail, and dial-out features such as Remote Notification, Delivery to Non-Users, and the Voice Prompt Editor.

When Meridian Mail is installed, the CAT is populated automatically by the installation technician. This is also true when you perform a channel expansion (to add new voice ports).

## When to modify the CAT

Modify the CAT when you need to:

- move voice ports from one queue to another (to dedicate them to a particular service)
- program the ACCESS class (channel number) for ACCESS voice ports

For non-ACCESS voice ports, use the default datafill settings for voice ports in the CAT.

## Voice Services DN table

Voice Service Directory Numbers (VSDN) are defined for every Meridian Mail service that you want to make accessible to callers. These directory numbers (DNs) are entered in the Voice Service DN (VSDN) table, which maps DN to services.

Define a VSDN for:

- Meridian Mail services that are accessed through a Treatment DN (for example, Express Messaging)
- Voice Menus and Announcement Services that are accessed through the Contact Center Manager Server Give IVR command

The VSDN entries used by Contact Center Manager Server are referred to as Treatment DN.

Meridian Mail uses Treatment DN that are accessed from the VSDN table. Treatment DN accessed from the VSDN table have a default value associated with an ACD. However, Contact Center Manager Server can override the default value by placing a call to the ACD. The value used by Meridian Mail (either the default value or the Contact Center Manager Server value) determines which Meridian Mail service to start (for example, a recorded announcement).

You also need a VSDN entry for the IVR ACD-DN for the ACCESS voice ports.

**Tip:** Ensure that ACCESS DN in your VSDN definitions do not duplicate mailbox numbers or switch trunk route access codes.

### Nightly audits

Meridian Mail performs an audit every morning at 3:30 a.m. This audit can take anywhere from 10 minutes (if you did not modify the system since the last audit) to 2 hours (if you made many changes, such as adding or modifying users or services).

If you use Meridian Mail Call Path Diagnostics (CPD), you may receive error events indicating that calls arriving on voice ports are not under the control of Contact Center Manager Server.

Do not add, modify, or delete VSDNs during the nightly audit.

# To configure Meridian Mail for ACCESS

To use ACCESS voice ports (Give Controlled Broadcast Announcement or Voice Session), configure the following on Meridian Mail:

- ACCESS link to Contact Center Manager Server (see “To configure the ACCESS link” on page 77)
- ACCESS IVR ACD-DN entry in the VSDN table
- voice ports in CAT
- mailbox for storing voice prompts (voice segments)
- voice segments

## To configure the ACCESS IVR ACD-DN

The ACCESS voice ports must belong to a dedicated ACD-DN called the ACCESS IVR DN. You must add the ACCESS IVR DN to the Meridian Mail VSDN table.

As with all of the IVR ACD-DNs, you must configure this DN on the switch in LD 23 with IVR = YES (see “To configure IVR ACD-DNs on the switch” on page 96), and Contact Center Manager Server must acquire it (see “To configure IVR ACD-DNs on the server” on page 188).

The ACCESS IVR ACD-DN is the DN that you use in your scripts (for example, Open Voice Session 7001 or Give Controlled Broadcast Announcement 7001 [where 7001 is the ACCESS IVR ACD-DN]).

## Adding a VSDN entry for the ACCESS Treatment DN

- 1 From the Meridian Mail Main menu, Select **Voice Administration > Voice Services Administration > Voice Services DN table**.
- 2 From the **VSDN** table, click **Add**.
- 3 Enter the ACCESS DN.
- 4 In the **Service** box, type **ACC**.
- 5 Type **0** as the ACCESS class. Do not enter a Revert DN.

- 6 In the **Comment** box, type an optional comment such as *Contact Center ACCESS DN*.
- 7 Click **Save**.

**Result:** You return to the VSDN table. There is a new entry in the table for this DN.

## To configure ACCESS voice ports

You must configure voice ports in the CAT. You must also configure voice ports as virtual agent TNs on the switch (see Chapter 4, “Switch subsystem configuration”), and you must configure voice ports on Contact Center Manager Server (see Chapter 7, “Contact Center Manager configuration”).

### Prerequisites

Before you configure a voice port in Meridian Mail, you must configure the voice port on the switch using LD 11. The voice port must belong to the ACCESS IVR ACD-DN.

### Rules for configuring voice ports

Use the following rules for voice-processing commands when configuring voice ports in Meridian Mail.

Voice-processing command	Type of port required
Give IVR	Full service
Give Controlled Broadcast Announcement	Basic service with ACCESS enabled
Open-End Voice Session Play Prompt Collect Digits	Basic service with ACCESS enabled
Play Expected Wait Time (or other intrinsics)	Basic service with ACCESS enabled

## Configuring voice ports in the CAT

These steps can vary slightly in different releases of Meridian Mail. Refer to your Meridian Mail documentation.

- 1 From the **System Status and Maintenance** menu, disable the DSP port or ports that you want to configure.

**Tip:** If you must disable multiple ports, it is quicker to change to range mode.

- 2 From the **System Status and Maintenance** menu, select **Channel Allocation Table**.

- a. If you have a single-site system, the Channel Allocation Table appears. Go to step 5.

- b. If you have a multisite system, go to step 3.

- 3 Enter the number of the site on which the port resides.

- 4 Press **Enter**.

- 5 Modify the port. For each disabled port, you can change the values in the following fields:

**ACD DN:** The ACCESS IVR ACD-DN.

**SCN DN:** This must match the switch configuration.

**Capability:** Basic ports can be used only for ACCESS. Full service ports can be used for ACCESS as well, and are required for the Give IVR command.

You cannot use Basic ports for Voice Messaging or Express Messaging.

**Service:** ACC for ACCESS. When you are prompted for an ACC Class, enter a unique number to identify the channel. The ACC Class is the channel number that you specify when creating an ACCESS voice port on Contact Center Manager Server. See "To configure voice ports on the server" on page 196.

You can only modify ports that are disabled. For disabled ports, the port capability (Full or Basic) is highlighted, and the ACD-DN, SCN, and Outbound fields are underlined.

**6** Click **Save**.

**Result:** On a single-site system, you return to the System Status and Maintenance menu. On a multisite system, you are prompted for another site. To reallocate ports on another site, return to step 3. Otherwise, click Cancel to return to the System Status and Maintenance menu.

**7** Reenable any DSP ports that you put out of service before configuring the voice ports.

## To create Meridian Mail mailboxes

You must define a Meridian Mail mailbox to hold the voice files and segments used by Contact Center Manager Server. Assign a password to the mailbox, and identify the mailbox and password in the Global Settings dialog box of Contact Center Manager Server (see Chapter 7, “Contact Center Manager configuration”).

### To create Meridian Mail mailbox passwords

When you first create the password, Nortel recommends that you create a password that is the maximum length. Change the password periodically, but only when the system is not in use.

**ATTENTION**

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Do not allow individual Meridian Mail passwords to expire. If a Meridian Mail password expires, all voice processing in Contact Center Manager Server stops. Nortel recommends that the administrator configure all passwords to never expire or, alternatively, change individual passwords based on the system-defined frequency.

### To change Meridian Mail mailbox passwords

Use the Meridian Mail MMI on the Administration Console to change passwords. Do not use the phone logon interface. This mailbox is actively logged on for the ACCESS voice sessions, and voice processing can be affected while changing the password.

If the password expires and you cannot access the Voice Prompt Editor (VPE), on the Modify Local User screen, change the Meridian Mail logon status field from disabled to enabled, and reenter your password in the New Password and Confirm Password fields. (Do not change your password. Enter the password you used before you were unable to access the VPE.)

If you enter a new password, you must also change the mailbox password on Contact Center Manager Server in the Global Settings dialog box.

### **Number of allowed invalid logon attempts**

You must configure the number of invalid logon attempts the user is allowed when logging on to Meridian Mail. The number of invalid logon attempts should be the same as or greater than the number of voice channels configured for the system.

## **To create voice segments**

Use the Voice Prompt Editor (VPE) to create and delete voice files, and to record voice segments. You can use voice segments as building blocks to create powerful, flexible voice applications. The maximum length of a voice segment is 120 seconds.

Voice segment file names are case-sensitive. Enter voice segments included in scripts exactly as they appear in the Voice Prompt Editor.

Meridian Mail assigns sequential numbers to each segment created in a voice file using the VPE. The administrator must keep track of which file or segment number corresponds to which spoken prompt.

To use the Voice Prompt Editor, the CAT on Meridian Mail must include at least one channel that has an outbound service value of all.

### **ATTENTION**

---

Do not delete voice segments. This renumbers the segments and puts the configuration of Meridian Mail and the voice segment variables on Contact Center Manager Server out of sync. If segments are deleted, you must manually update the Contact Center Manager Server variables.

**ATTENTION** Nortel recommends that you limit the number of voice files to two.

## To configure voice prompts

To include a Play Prompt element in your script, configure voice prompts.

### Prerequisites

Before beginning, set up the ACCESS link between Meridian Mail and Contact Center Manager Server.

### Configuring voice prompts

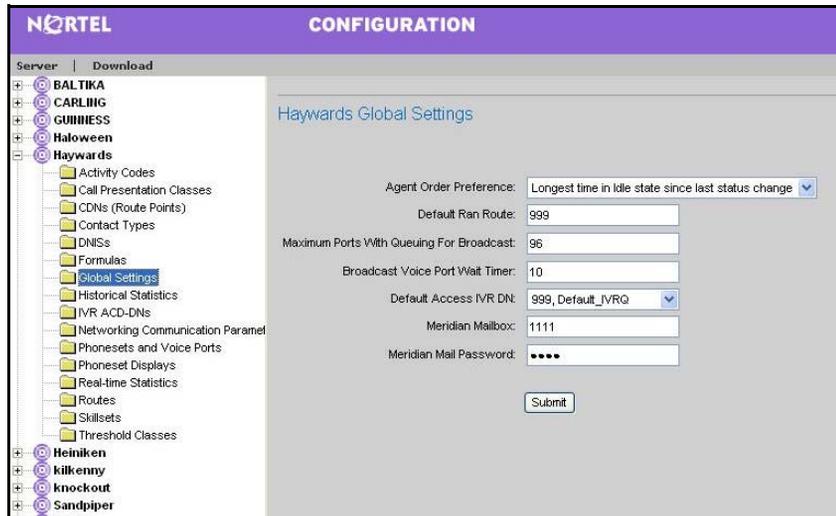
- 1 In Meridian Mail, create a mailbox for prompt storage. Make sure that the mailbox is empty and note the password.
- 2 Go to **Contact Center Manager Administration Launchpad > Configuration**.



- 3 On the system tree, double-click the server in which you want to configure global settings.

**Result:** The server expands to reveal its resources.

#### 4 Select the **Global Settings** folder.



#### 5 Make the desired changes to the properties. You can change the following properties:

- **Agent Order Preference:** Choose how to present calls to agents based on their idle time. Valid values:

**Longest total time in idle state since login:** Choose this option if you want calls to be presented to the agent who accumulated the most idle time since logging on (this is the system default for the Communication Server 2x00/DMS switch).

**Longest time in idle state since last status change:** Choose this option if you want calls to be presented to the agent who accumulated the most idle time since his or her last status change (this is the system default for the Communication Server 1000/Meridian 1 switch).

**Longest total time since last CDN/ACD call:** Choose this option if you want calls to be presented to the agent with the longest elapsed time since handling a CDN/ACD call.

The system does not reset the timer when the agent switches to the Not Ready state.

- **Default RAN Route:** The default route to use when a script contains route commands but does not explicitly state a route number.

**Valid values:** 3-digit maximum

**Valid range:** 0–511 (999 reserved for internal route)

The route you specify must already exist.

- **Maximum Ports With Queuing For Broadcast:** The total number of IVR ports that can be user-controlled for broadcast at any time.

**Valid values:** 150 maximum

- **Broadcast Voice Port Wait Timer:** Type the number of seconds the system waits for a voice port to become available.
- **Default Access IVR DN:** Select the default DN to use in the event that a script contains voice-processing commands that may take an IVR ACD-DN as a parameter, but does not explicitly state an IVR ACD-DN.

**Valid values:** 7-digit maximum IVR DN, followed by the name of the default IVR DN (for example, 999, Default\_IVRQ)

- **Meridian Mailbox:** Enter the DN of the Meridian Mail mailbox.

In CallPilot, this field is not used, but you must enter any two digits.

- **Meridian Mail Password:** Enter the password required to access the Meridian Mail mailbox.

In CallPilot, this field is not used, but you must enter any four digits or use the default.

6 Click **OK**.

7 Choose one of the following actions:

- a. If you have a prompt tape, go to step 9.
- b. If you want to create your own voice prompts, go to step 10.

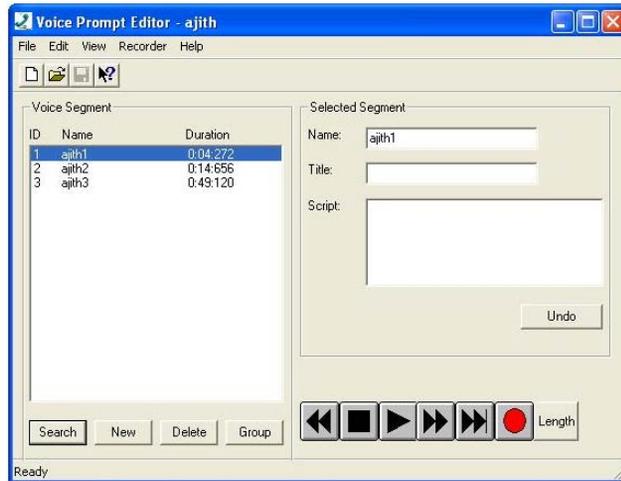
Nortel does not provide a voice prompt tape as part of the standard product. You can create a tape by creating the prompts manually, and then using a Meridian Mail tool to transfer them to tape. (For instructions about how to create a voice prompt tape, see the Meridian Mail documentation.) Create the tape at one contact center. Use this facility to copy the prompts to other contact centers in the network.

8 If you have a prompt tape, load the prompt files into the Meridian Mail mailbox by following these steps:

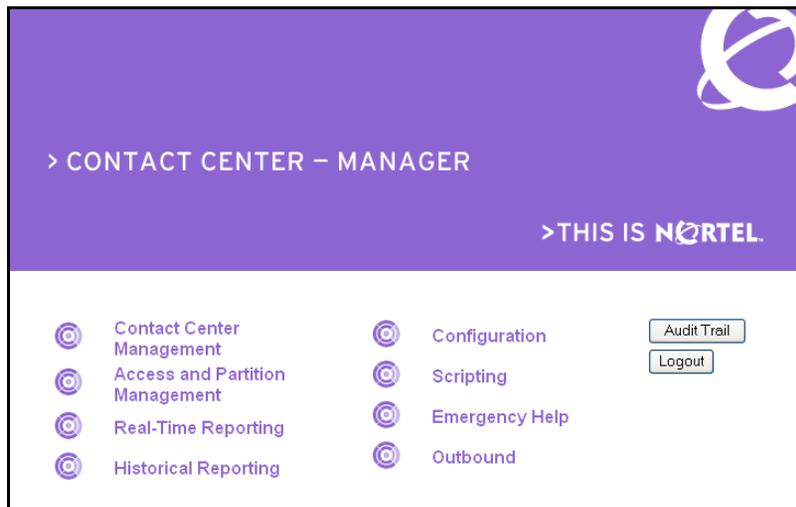
- a. In Meridian Mail, go to the **TOOLS** level.
  - b. Select **Others**, and then select **Transfer** voice prompts.
  - c. Follow the Meridian Mail screen steps. All system-provided Contact Center Manager Administration script variables must already be mapped to the file and segments previously created and loaded from the tape to the Meridian Mail mailbox.
- 9 To create your own prompts:
- a. Log on to Contact Center Manager Server.
  - b. Go to **Server Utility > System Administrator > Voice Prompt Editor > Create a Voice File**.



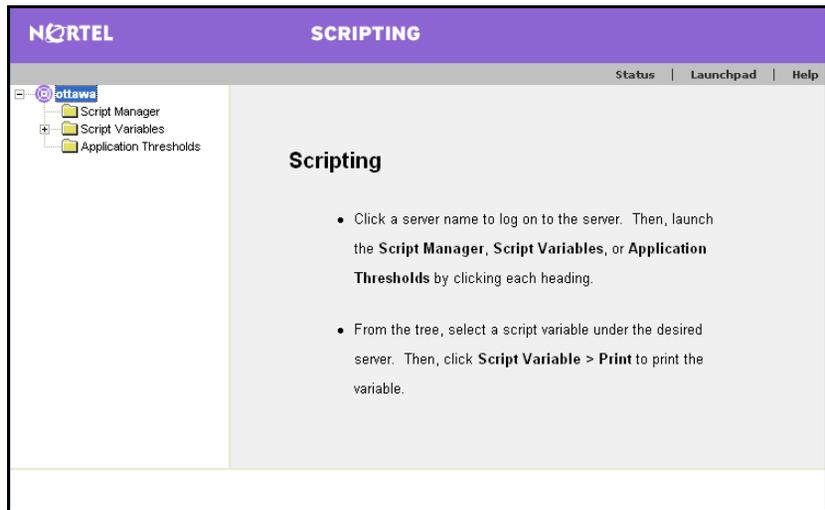
- c. Start the Voice Prompt Editor and create the appropriate prompts.



- d. Go to **Contact Center Manager Administration Launchpad > Scripting**.

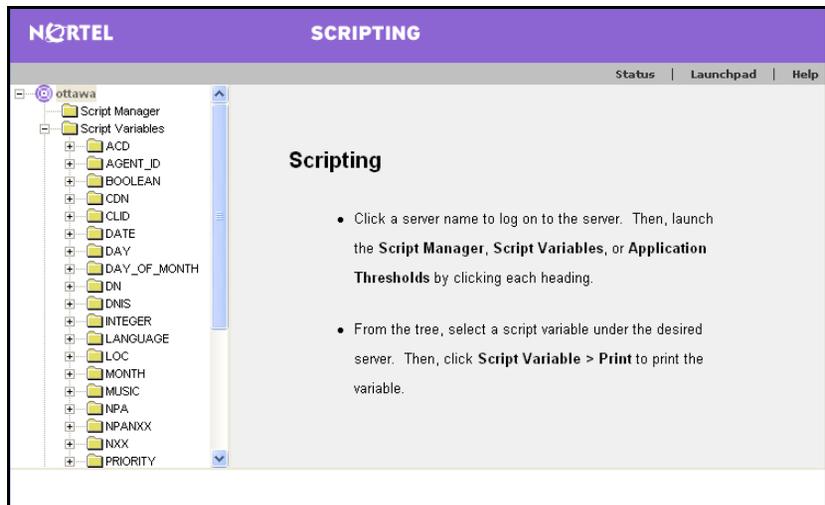


- e. In the system tree, click the server on which you want to view scripts. The server expands to reveal a series of folders.



- f. Click the **Script Variables** folder.

**Result:** The Script Variables tree expands, listing all types of script variables.



- g. Right-click on the **VOICE\_SEGMENT** folder and select **New**.

**Result:** Script Variables window appears.

- h. Below the table, click **Script Variable Properties**.  
**Result:** The heading expands to reveal the General and Attribute tabs.
- i. On the **General** tab, in the **Name** box, type the name of the new variable.
- j. Click the **Call Variable** option button if the variable is for one specific call only; otherwise, click **Global Variable** to be able to use the variable in all scripts.
- k. In the **Comment** box, type any comments you want to save with the variable.
- l. Click the **Attribute** tab.
- m. From the **Language** list, select a language.

The screenshot shows a web-based configuration interface for 'Script Variable Properties'. The 'Attribute' tab is active. On the left, under the 'General' section, the 'Type' dropdown is set to 'VOICE\_SEGMENT'. On the right, under the 'Attribute' section, the 'Language' dropdown is open, displaying a list of languages: French (highlighted), German, English, Chinese, Spanish, Portuguese, and Japanese. Below the list is a search field containing an asterisk and a scroll bar. To the right of the list is an 'Add' button, and below the search field is a 'Remove' button. At the bottom center of the dialog is a 'Submit' button.

- n. Type in a value in the format filename:segment number.
  - o. Click **Add** to add it to your list of values.
  - p. Click **Submit** to save your data.
- Result:** The new variable appears in the system tree in the folder corresponding to the variable type.
- 10** After you create all of the prompts, write the application script, which includes the Play Prompt command. For more information about scripts and script variables, see the *Contact Center Manager Scripting Guide for the Communication Server 1000/Meridian 1 PBX*.

# To configure Meridian Mail for Give IVR

If you use Meridian Mail for Give IVR, use non-ACCESS voice ports. Configure the following elements on Meridian Mail:

- voice menus or announcement services, or both
- VSDN entries (treatment DNs) for each voice menu or announcement
- voice ports in the CAT

You can use announcement services to give in-queue announcements (“Your call is in queue and will be answered shortly”). Prior to Meridian Mail 11, the announcement service did not have the Silent Disconnect option, and the announcement was repeated twice. If your Meridian Mail is earlier than Release 11, use voice menus instead.

You can use voice menus to give the caller a choice (“Press 1 for Sales or press 2 for Support”). You can also use voice menus without any options as an alternative to an announcement service.

## To create announcements and voice menus

The following section describes recommendations and where to find instructions to create announcements and voice services.

### Announcement services

Follow the instructions in the *Meridian Mail Voice Services Application Guide* to create your announcement service.

Nortel recommends that you perform the following when you create the announcement service:

- Enable Silent Disconnect (so that the caller does not hear “Good-bye” at the end of an announcement).
- Set Number of times to play announcement to 1.
- Do not set an ACCESS password.
- The access to the announcement is through the Give IVR command.

## Voice menu services

To give the customer a simple voice menu (“Press 1 for Sales or press 2 for Support”), Nortel recommends that you use ACCESS ports with the Voice Session Play Prompt/Collect Digits command. This is easier to configure and is more flexible.

To use a Meridian Mail voice menu, follow the instructions in the *Meridian Mail Voice Services Application Guide* to create your voice menu service.

## Voice menu as an announcement

If you use a voice menu to provide an announcement service, Nortel recommends that you perform the following when you create the announcement service:

- Enable Silent Disconnect (so that the caller does not hear “Good-bye” at the end of an announcement).
- Do not set an ACCESS password.
- Record the announcement you want the callers to hear as the Greeting.
- Do not record the Menu Choices.
- Do not assign any action to each key.
- Enable Initial No Response DS (disconnect).
- Enable Delayed Response DS (disconnect).

Disconnect (DS) means that Meridian Mail drops out of the call and control returns to the Contact Center Manager Server script. It does not mean that the caller is disconnected.

## Voice menu to offer choices to a caller

If you use a voice menu to offer choices to a caller, Nortel recommends that you perform the following:

- Enable Silent Disconnect (so that the caller does not hear “Good-bye” at the end of an announcement).
- Do not set an ACCESS password.
- Record the announcement you want the callers to hear as the Greeting.
- Record the Menu Choices.
- Assign an appropriate action to each key.

Typically, this is a call (CL) with an ACD-DN. For more information, see “Caller hears voice prompts but is never presented to an agent” on page 300.

- Enable Initial No Response DS (disconnect) or RP (Repeat Menu Choices) as appropriate.
- Enable Delayed Response DS (disconnect) or RP (Repeat Menu Choices) as appropriate.

The DN in the actions for each key can be a CDN controlled by Contact Center Manager Server or a Phantom DN that forwards the call to a Contact Center Manager Server CDN. In these cases, the call returns to the Master Script as a new call and must be treated appropriately.

**ATTENTION**

---

If you use Meridian Mail voice menus to transfer a call to a CDN, the call is pegged as a new call.

## To configure VSDN entries (treatment DN)

To access the voice menu or announcement services, or both, create an entry for each in the VSDN table.

These entries are known as treatment DN and are used in Contact Center Manager Server scripts to specify which treatment the caller receives (for example, Give IVR 7002 With Treatment 1001, where 1001 is a treatment DN in the VSDN table that points to a specific announcement).

The treatment DN is passed by the application to the switch, which, in turn, relays it to Meridian Mail. The switch does not interpret a treatment DN, and it does not need to appear anywhere in its configuration.

The Give IVR With Treatment command applies only to the Meridian Mail voice-processing system or the Nortel integrated IVR CTI application.

## Defaults

You can specify an explicit treatment DN in the script for all Give IVR commands. If a treatment DN is not specified, the default treatment DN given on the switch in LD 23 (TRDN prompt) for the ACD-DN is used. A null value is sent from the server to the switch, prompting the switch to insert its default before relaying it to Meridian Mail.

## Creating a VSDN entry

- 1 From the Meridian Mail Main menu, select **Voice Administration > Voice Services Administration > Voice Services-DN table**.
- 2 Click **ADD** to add a new entry.
  - a. Enter the treatment DN used by Contact Center Manager Server in the script command.
  - b. Select **AS** for Announcement Service or **MS** for the Voice Menu Service.
  - c. Enter the Voice Menu or Announcement Service ID that was assigned when you created it.
  - d. For a Voice Menu, select **Basic** as the session profile.

### ATTENTION

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If you have Basic ports defined in the CAT and you select anything other than Basic in the session profile, the Give IVR command fails on these ports and the caller receives an announcement similar to “Your session cannot be completed at this time.”

- e. Add an optional comment (for example, Contact Center Announcement).
  - f. Click **Save**.
- 3 Repeat for each Announcement or Voice Menu Service.

## To configure IVR voice ports

You must configure voice ports in the CAT. You must also configure voice ports as virtual agent TNs on the switch (see Chapter 4, “Switch subsystem configuration”), and you must configure voice ports on Contact Center Manager Server (see Chapter 7, “Contact Center Manager configuration”).

The voice ports must belong to a dedicated IVR ACD-DN, and the CAT must match the switch configuration. The dedicated IVR ACD-DN is the DN that you use in your scripts (for example, Give IVR 7002, where 7002 is the dedicated IVR ACD-DN).

### Prerequisites

Before you configure a voice port in Meridian Mail, you must configure the voice port on the switch using LD 11. The voice port must belong to the IVR ACD-DN.

An IVR ACD-DN cannot contain both Basic and Full Service ports. If you use both types of ports, you must have at least two IVR ACD-DNs.

### Configuring voice ports in the CAT

These steps can vary slightly on different releases of Meridian Mail. Refer to your Meridian Mail documentation.

- 1 From the **System Status and Maintenance** menu, disable the DSP ports that you want to configure.  
**Tip:** If you must disable multiple ports, it is quicker to change to range mode.
- 2 From the **System Status and Maintenance** menu, select **Channel Allocation Table**.
  - a. If you have a single-site system, the Channel Allocation Table appears. Go to step 4.
  - b. If you have a multisite system, go to step 3.
- 3 Type the number of the site on which the port resides, and then click **Enter**.
- 4 Modify the port. For each disabled port, you can change the values in the following fields:

**ACD DN:** The IVR ACD-DN.

**SCN DN:** This must match the switch configuration.

**Capability:** The Meridian Mail keycode determines the types of ports that are available. Basic ports are less expensive to purchase and provide the capability required for ACCESS ports. If the keycode allows it, you can set the capability to Full.

You can only modify ports that are disabled. For disabled ports, the port capability (Full or Basic) is highlighted, and the ACD-DN, SCN, and Outbound fields are underlined.

**5** Click **Save**.

**Result:** On a single-site system, you return to the System Status and Maintenance menu. On a multisite system, you are prompted for another site. To reallocate ports on another site, return to step 3. Otherwise, click Cancel to return to the System Status and Maintenance menu.

**6** Reenable any DSP ports that you put out of service before configuring the voice ports.

## **Section D: Third-party voice-processing systems**

### **In this section**

Overview of third-party voice-processing systems

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# Overview of third-party voice-processing systems

External IVR systems can connect their voice channels to the switch in a variety of ways, including as 2500 (analog) set TNs, 2500 (analog) set ACD TNs, and T1, DPNSS, or ISDN channels.

In this section, an external IVR system refers to any device not already discussed that can provide voice services. This includes third-party IVR systems, Nortel IVR (an integrated CTI application), and third-party voice mail systems.

## External IVR systems not accessed from Contact Center Manager Server scripts

Usually, if an external IVR provides a voice menu or other caller interaction, the calls terminate on it directly and are transferred to the Contact Center Manager Server CDN at the end of the IVR session (front-end IVR).

If the call is already under the control of a Contact Center Manager Server script, it can be handed off to the IVR system by using the Route Call script command.

IVR systems used in this manner do not require any special configuration on Contact Center Manager Server. The voice ports and ACD-DN do not need to be acquired.

## Using external IVR systems with Give IVR

You can use IVR systems that connect as ACD sets (including Line Side T1 and Line Side E1 connections, which the switch treats as analog ACD agents) to service the Contact Center Manager Server Give IVR script command. You can use IVR systems to give announcements or offer voice menus while the call is under the control of the script and is waiting in a queue.

## Treatment DNs

Most external IVR systems do not support the With Treatment part of the Give IVR command. This means that each IVR ACD-DN can only offer one type of treatment.

Some IVR systems support an APL link or Meridian Link that can be used to deliver the treatment DN to the IVR system to determine the message played. the Nortel IVR CTI application uses Meridian Link to deliver the treatment DN to Nortel IVR.

## Switch and Contact Center Manager Server configuration

To use an external IVR system with the Give IVR command, the required configuration is similar to using Meridian Mail for Give IVR:

- The voice ports must belong to an IVR ACD-DN (with IVR = YES).  
As with Meridian Mail, configure the switch so that only Contact Center Manager Server Give IVR calls terminate on this ACD-DN.
- Contact Center Manager Server must acquire the IVR ACD-DN.
- Contact Center Manager Server must acquire the voice port TNs.

You can configure IVR ACD agents as agents in a skillset if you require Contact Center Manager Server real-time and historical reporting and call routing control. For more information, see “To configure IVR ACD-DNs on the server” on page 188 and “To configure agent phones on the server” on page 194.

## Configuration of the external IVR

Configuration of the external IVR varies from one IVR system to another and is beyond the scope of this document.



# Chapter 7

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## Contact Center Manager configuration

### In this chapter

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# Overview

The Contact Center requires the following major configuration elements for call processing:

- voice connection
- CDNs
- IVR ACD-DNs
- agent phones (TNs)
- voice ports (virtual agents)
- global settings
  - Agent Order Preference
  - Default RAN Route
  - Maximum Ports With Queuing For Broadcast
  - Broadcast Voice Port Wait Timer
  - Default Access IVR DN
  - Meridian Mailbox
  - Meridian Mailbox Password
- voice segment variables
- the application scripts

Configure resources such as agent phones, CDNs, and voice ports on the switch and in the voice-processing system (if applicable) before acquiring them on Contact Center Manager Administration.

For detailed information about how to configure switch resources for the application, see the Contact Center Manager Administration online help.

For detailed information about how to plan and write scripts, see the *Contact Center Manager Scripting Guide for the Communication Server 1000/Meridian 1 PBX*.

# To configure voice connections

If you use Symposium Voice Services on CallPilot or on Meridian Mail, you must configure the voice connection. To configure the voice connection, you must perform these tasks:

1. Shut down Contact Center Manager Server (if it is running).
2. Configure the CallPilot or Meridian Mail connection.

## Shutting down the server

- 1 From the Windows Start menu, choose **Programs > Nortel Contact Center > Manager Server > Shutdown**.

**Result:** The Contact Center Manager Server Shutdown dialog box appears.

- 2 Click **OK**.

**Result:** The utility shuts down all services, and then the Service Status Log window appears. This log lists any services that failed to shut down.

- 3 Click **Recheck** to refresh the service statuses.

- 4 If any services are still running:

- a. From the Windows Start menu, choose **Control Panel > Administrative Tools > Services** to display the Services window.

- b. Manually shut down the listed services.

- c. Close the Services window.

- d. Click **Recheck** to update the status log.

- 5 Click **Accept** to exit the utility.

- 6 Click **Start > Run**

- 7 In the command line, type **serman**.

**Result:** All the services are placed in manual mode.

- 8 Restart the server.

## Configuring the CallPilot connection

- 1 On Contact Center Manager Server, choose **Programs > Nortel Contact Center > Manager Server > Server Setup Configuration**.
- 2 Click the **Voice Services** tab.

**Result:** The Voice Services property page appears.

Local Area Network IP | Voice Services | RSM IP Address | Site Name | Utilities

Please fill in the voice services setup information below.

Voice Connection Type:  Serial (Meridian Mail)  
 TCP (Call Pilot)

Call Pilot Server IP:

Call Pilot Server Port:

OK Cancel Apply Help

- 3 For **Voice Connection Type**, choose **TCP (CallPilot)**.
- 4 Enter information into the following boxes:

**CallPilot Server IP:** Enter the ELAN subnet IP address of the CallPilot server.

**CallPilot Port:** Enter **10008**.

For Single-NIC configuration, follow these steps:

- a. Ensure the ELAN subnet is connected to the Nortel server subnet through one (and only one) router.
- b. Enter the CallPilot Nortel server subnet NIC IP address as opposed to the ELAN subnet NIC.
- c. In CallPilot, do not configure a default gateway (for example, router) address associated with the CallPilot ELAN NIC. A default gateway for the CallPilot's NIC connected to the Nortel server subnet is required.

- 5 Click **OK**.

**Result:** The following message appears: “The configuration data has been validated and can be used to configure the server database. Do you wish to use this data to complete server configuration now?”

- 6 Click **Yes**.

**Result:** The Server Configuration utility runs and then the following message appears: “You must reboot now to commit changes. Press OK to reboot or Cancel to stop.”

- 7 Click **OK**.

**Result:** The server restarts.

## Configuring the Meridian Mail connection

- 1 On Contact Center Manager Server, choose **Programs > Nortel Contact Center > Manager Server > Server Setup Configuration**.

- 2 Click the **Voice Services** tab.

**Result:** The Voice Services property page appears.

The screenshot shows the 'Nortel Contact Center Management Server Setup Configuration Utility' window. The 'Voice Services' tab is selected. The window contains a sidebar with the Nortel logo and the text '> CONTACT CENTER MANAGER SERVER' and '> THIS IS NORTEL'. The main area has the instruction 'Please fill in the voice services setup information below.' and the following fields:

- Voice Connection Type:** Radio buttons for 'Serial (Meridian Mail)' (selected) and 'TCP (Call Pilot)'.
- Call Pilot Server ELAN IP:** An empty text input field.
- Call Pilot Server Port:** A text input field containing the value '0'.

At the bottom of the window are buttons for 'OK', 'Cancel', 'Apply', and 'Help'.

- 3 For **Voice Connection Type**, choose **Serial (Meridian Mail)**.

The CallPilot server ELAN IP box clears, and the CallPilot Port box is set to 0. Do not change these values.

- 4 Click **OK**.

**Result:** The following message appears: “The configuration data has been validated and can be used to configure the server database. Do you wish to use this data to complete server configuration now?”

- 5 Click **Yes**.

**Result:** The Server Configuration utility runs and then the following message appears: “Server Setup Configuration is completed successfully.”

- 6 Click **OK**.

**Result:** The following message appears: “You must reboot now to commit all changes. Do you wish to reboot now?”

- 7 Click **Yes**.

**Result:** The server restarts.

# To configure CDNs on the server

You must configure and acquire all CDNs referenced by scripts and on which calls for Contact Center Manager Administration arrive. These CDNs must match those that are configured on the switch. For more information about referencing CDNs in scripts, see the *Contact Center Manager Scripting Guide for the Communication Server 1000/Meridian 1 PBX*.

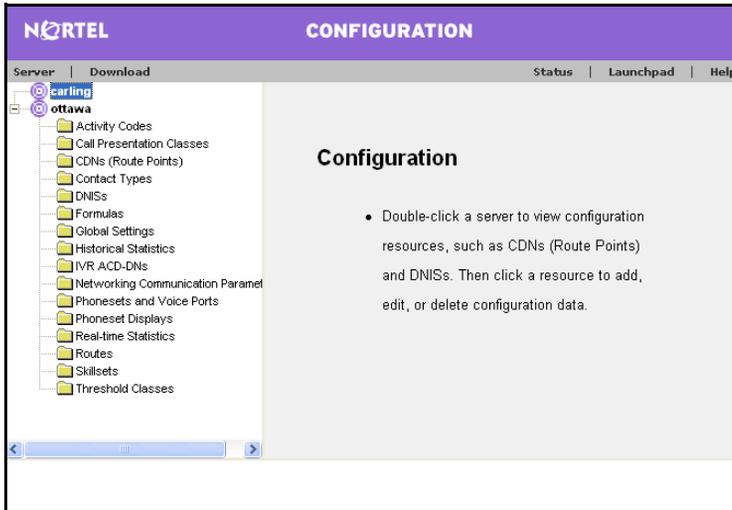
## Configuring and acquiring a CDN

- 1 Go to **Contact Center Manager Administration Launchpad > Configuration**.



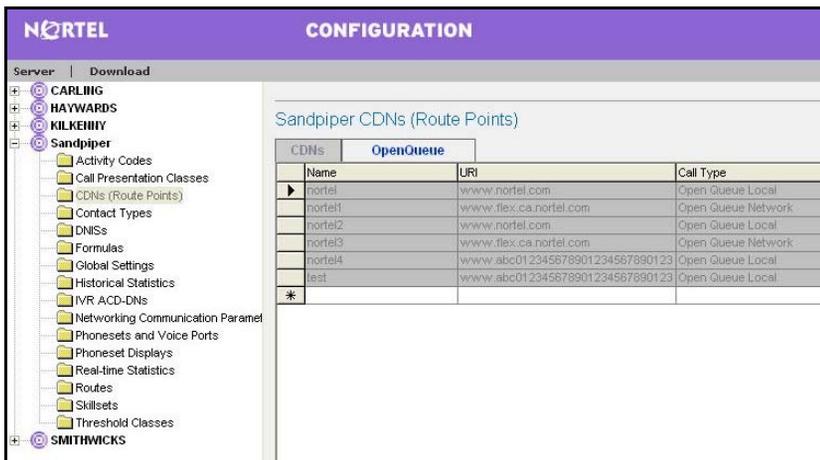
- On the system tree, double-click the server in which you want to add the CDN.

**Result:** The server expands to reveal its resources.



- Click the **CDNs (Route Points)** folder.

**Result:** The CDNs (Route Points) window appears.



- In the **Name** box, type the name of the CDN as you want it to appear in reports.

- 5 In the **Number** box, type the CDN number. This number must match the number configured on the switch.
- 6 From the **Call Type** list, select whether you want the CDN to be Local calls, MCDN Network calls, or DNIS Network calls.

To use the CDN for MCDN Network calls, the server must have Network Skills Based Routing (NSBR) enabled and be connected to a Communication Server 1000/Meridian 1 PBX. To use the CDN for DNIS Network calls, the server must have Universal Networking enabled.

- 7 Click any other row of the table.

**Result:** The system adds the CDN, and Not Acquired appears in the Status column.

- 8 Select the **Acquired?** check box in the row containing the CDN that you just added.
- 9 Click any other row in the table to acquire the CDN.

**Result:** The system acquires the CDN, and the status appears in the Status column.

If necessary, click **Refresh Status** to view the current status of the acquisition.

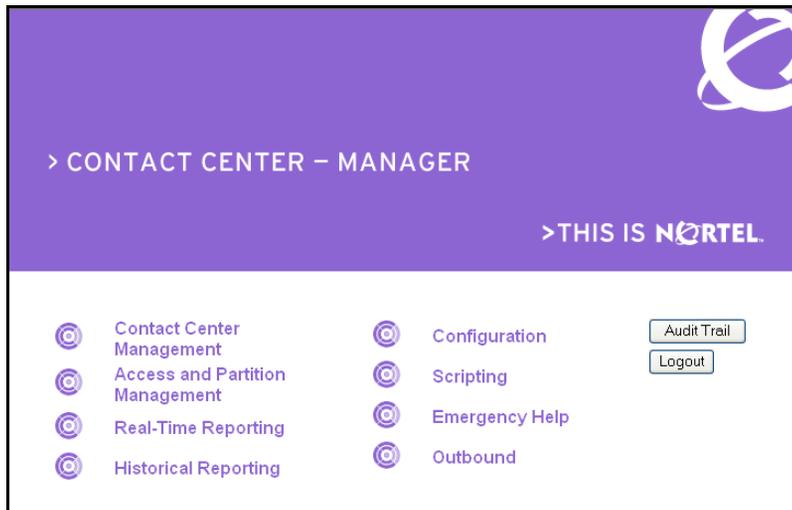
- 10 Repeat steps 2 to 9 for each CDN that you want to configure and acquire.  
If you want to reconfigure a CDN, you must first deacquire the CDN, edit the configuration parameters, and then reacquire the CDN.

# To configure IVR ACD-DNs on the server

Configure and acquire every switch ACD-DN used in voice processing (an ACD-DN behind which the voice ports are defined) by Contact Center Manager Administration.

## Configuring and acquiring an IVR ACD-DN

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.

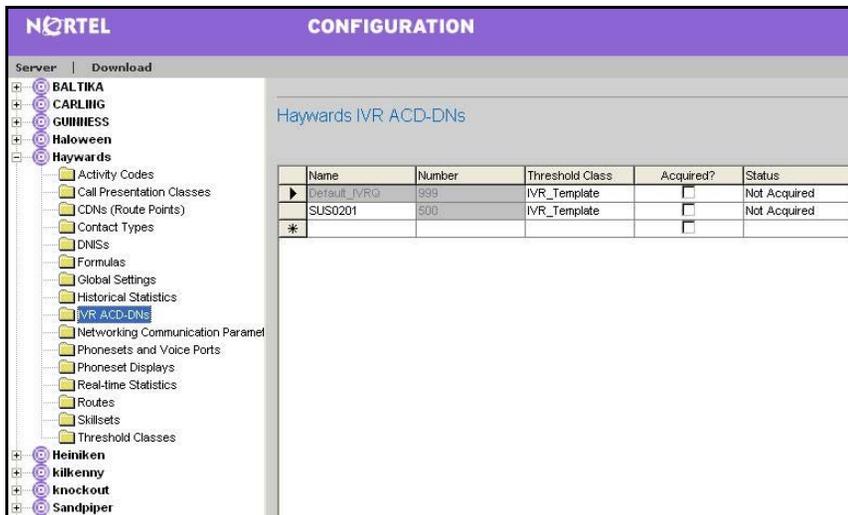


- 2 On the system tree, double-click the server in which you want to add the IVR ACD-DN.

**Result:** The server expands to reveal its resources.

- 3 Click the **IVR ACD-DNs** folder.

**Result:** The IVR ACD-DNs window appears.



- 4 In the **Name** box, type the name of the IVR ACD-DN as you want it to appear in reports.
- 5 In the **Number** box, type the IVR ACD-DN number. This number must match the number configured on the switch.
- 6 From the **Threshold Class** list, select the threshold class for the IVR ACD-DN.
- 7 Click any other row of the table.

**Result:** The system adds the IVR ACD-DN, and Not Acquired appears in the Status column.

- 8 Select the **Acquired?** check box in the row containing the IVR ACD-DN that you just added.
- 9 Click any other row in the table to acquire the IVR ACD-DN.

**Result:** The system acquires the IVR ACD-DN, and the status appears in the Status column.

If necessary, click **Refresh Status** to view the current status of the acquisition.

- 10** Repeat steps 2 to 9 for each IVR ACD-DN that you want to configure and acquire. To reconfigure an ACD-DN, first deacquire the ACD-DN, edit the configuration parameters, and then reacquire the ACD-DN.

# To configure personal DNs on the server

After you configure phantom TNs on the switch, you must configure the associated personal DNs in Contact Center Manager Administration.

## Configuring a personal DN for a supervisor

- 1 In Contact Center Manager Administration, from the launchpad, select **Contact Center Management**.

**Result:** The Supervisor view of the Contact Center Management window appears.

- 2 On the system tree, double-click the server in which you want to add the the personal DN.

**Result:** The server expands to reveal a list of configured supervisors.

- 3 On the system tree, right-click the supervisor that you want to configure.

- 4 From the resulting menu, select **Supervisor Details**.

**Result:** The Supervisor Details window appears.

The screenshot displays the Nortel Contact Center Management interface. The main window is titled "CONTACT CENTER MANAGEMENT" and shows a tree view on the left with "CCM Servers (Supervisors)" expanded to "ottawa", which is further expanded to "Lavigne, Derrick". A context menu is open over "Lavigne, Derrick" with "Supervisor Details" selected. The main pane shows the "Supervisor Details: Derrick Lavigne" form. The form includes fields for "User Details" (First Name: Derrick, Last Name: Lavigne, User Type: Supervisor, Login ID: 2001, Personal DN: [empty]), "Agent Information", and "Supervisor Information" (Telephony/Port: 1). A "Contact Center Manager Administration" button is visible in the bottom right corner.

- 5 In the **Personal DN** box, type the DN associated with the phantom TN that you configured on the switch.

- 6 Click **Submit** to save your changes.

## Configuring a personal DN for an agent

- 1 In Contact Center Manager Administration, from the launchpad, select **Contact Center Management**.

**Result:** The Supervisor view of the Contact Center Management window appears.

- 2 From the **View/Edit** menu, select **Agents**.

**Result:** The Agent view of the Contact Center Management window appears.

- 3 On the system tree, double-click the server in which you want to add the the personal DN.

**Result:** The agent window appears.

- 4 Using the search boxes, search for the agent to whom you want to assign the personal DN. To list all agents, click **List All**.

**Result:** The agents appear in a table below the search boxes.

The screenshot displays the 'CONTACT CENTER MANAGEMENT' interface for the 'ottawa' server. It shows a search section for agents and a table of the results.

Agents List : 2 Agents Server: ottawa

Show all agents on ottawa where:

Last Name Contains

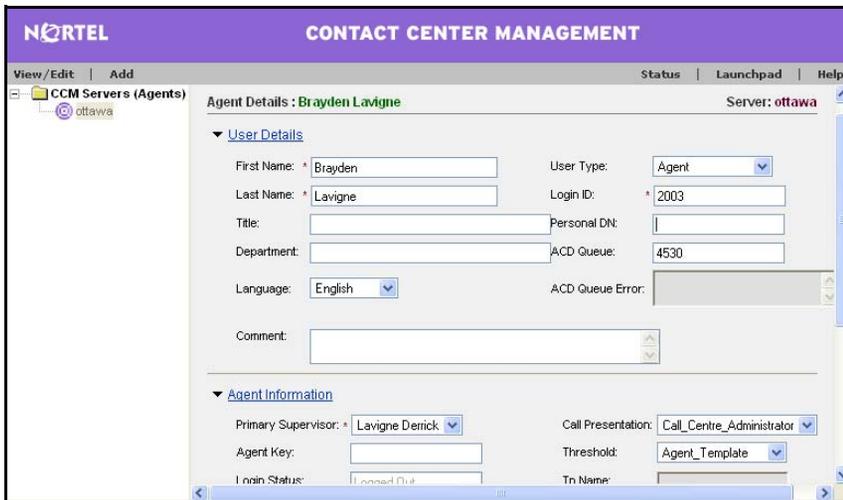
Search List All

Login ID	Agent Name (2)	Agent Status	Functions	Delete
2003	<a href="#">Lavione Brayden</a>	Logged Out	<input type="checkbox"/>	<input type="checkbox"/>
2002	<a href="#">Lavione Logan</a>	Logged Out	<input type="checkbox"/>	<input type="checkbox"/>

Submit

- 5 Click the agent name.

**Result:** The Agent Details window appears.



The screenshot shows the 'Agent Details' window for 'Brayden Lavigne' in the Nortel Contact Center Management interface. The window is titled 'Agent Details : Brayden Lavigne' and 'Server: ottawa'. It is divided into two main sections: 'User Details' and 'Agent Information'. The 'User Details' section includes fields for First Name (Brayden), Last Name (Lavigne), User Type (Agent), Login ID (2003), Title, Department, Language (English), and ACD Queue (4530). The 'Agent Information' section includes fields for Primary Supervisor (Lavigne Derrick), Call Presentation (Call\_Centre\_Administrator), Agent Key, Threshold (Agent\_Template), and Login Status (Logged Out). A 'Personal DN' field is present but empty, which is the focus of the next step in the instructions.

- 6 In the **Personal DN** box, type the DN associated with the phantom TN that you configured on the switch.
- 7 Click **Submit** to save your changes.

# To configure agent phones on the server

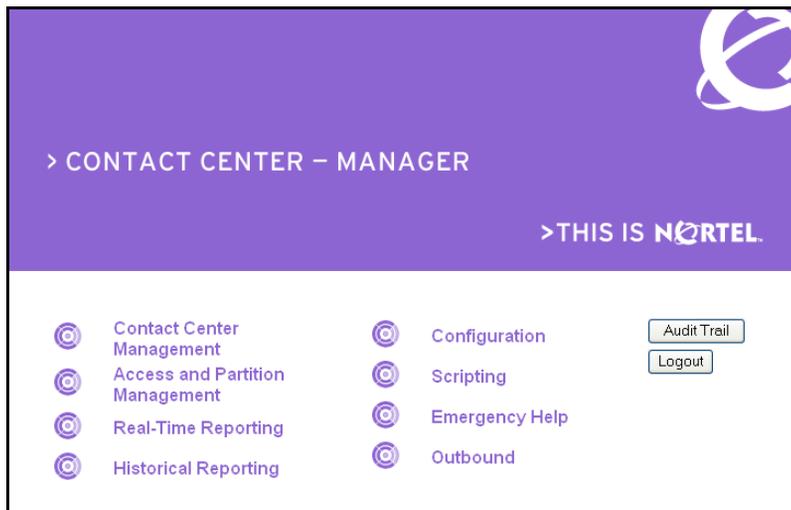
Configure and acquire phones (TNs) for all agents and supervisors.

The switch system types use the following TN formats:

- For Meridian 1 PBX 11 systems, the TN format is loop-0-0-unit (for example, 8-0-0-5).
- For all other Communication Server 1000 system types, and the Meridian 1 PBX, the TN format is loop-shelf-card-unit (for example, 24-0-4-5).

## Configuring and acquiring a phone

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.

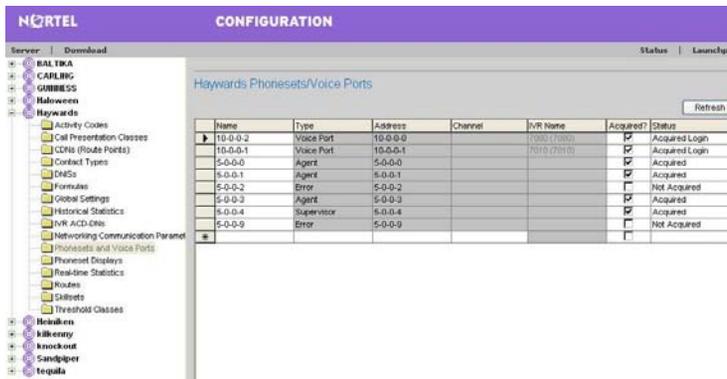


- 2 On the system tree, double-click the server in which you want to add the phone.

**Result:** The server expands to reveal its resources.

### 3 Select the **Phonsets and Voice Ports** folder.

**Result:** The Phonsets/Voice Ports window appears.



Name	Type	Address	Channel	IVR Name	Acquired?	Status
10-0-0-2	Voice Port	10-0-0-0		2001 (2001)	<input checked="" type="checkbox"/>	Acquired Login
10-0-0-1	Voice Port	10-0-0-1		2000 (2000)	<input checked="" type="checkbox"/>	Acquired Login
5-0-0-0	Agent	5-0-0-0			<input checked="" type="checkbox"/>	Acquired
5-0-0-1	Agent	5-0-0-1			<input checked="" type="checkbox"/>	Acquired
5-0-0-2	Error	5-0-0-2			<input type="checkbox"/>	Not Acquired
5-0-0-3	Agent	5-0-0-3			<input checked="" type="checkbox"/>	Acquired
5-0-0-4	Supervisor	5-0-0-4			<input checked="" type="checkbox"/>	Acquired
5-0-0-9	Error	5-0-0-9			<input type="checkbox"/>	Not Acquired

### 4 In the **Name** box, type the name of the phone as you want it to appear in reports.

### 5 From the **Type** list, select **Not Voice Port**.

### 6 In the **Address** box, type the address of the phone on the telephony server.

### 7 Click any other row of the table.

**Result:** The system adds the phone, and Not Acquired appears in the Status column.

### 8 Select the **Acquired?** check box in the row containing the phone that you just added.

### 9 Click any other row in the table to acquire the phone.

**Result:** The system acquires the phone, and the status appears in the Status column.

If necessary, click **Refresh Status** to view the current status of the acquisition.

### 10 Repeat steps 2 to 9 for each phone that you want to configure and acquire.

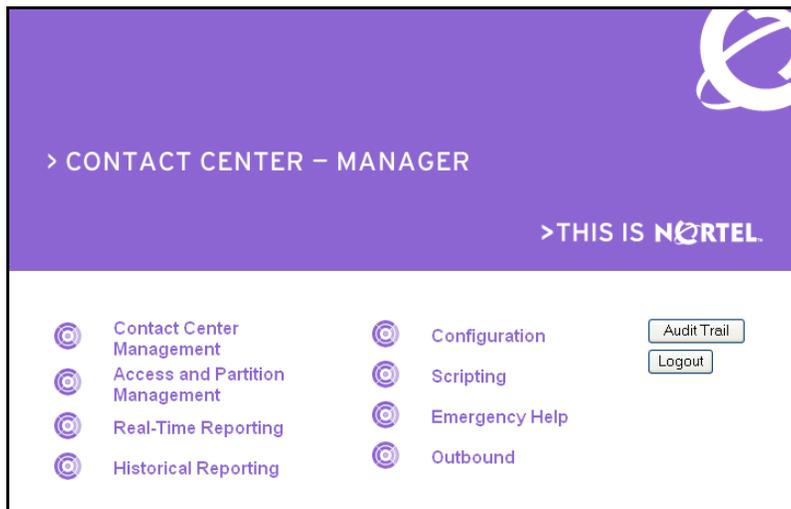
To reconfigure a phone, deactivate the phone, edit the configuration parameters, and then reacquire the phone.

# To configure voice ports on the server

Configure and acquire the voice ports and channel numbers used by Contact Center Manager Administration.

## Adding a phone as a voice port

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.

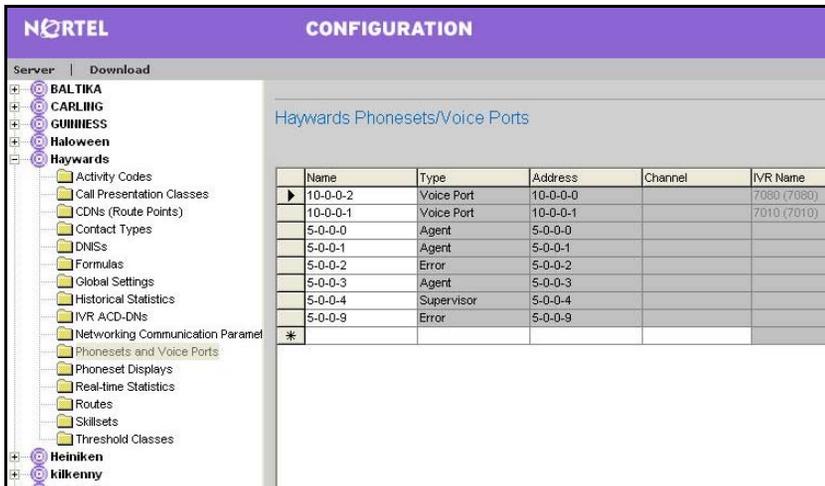


- 2 On the system tree, double-click the server in which you want to add the voice port.

**Result:** The server expands to reveal its resources.

- 3 Click the **Phonsets and Voice Ports** folder.

**Result:** The Phonsets/Voice Ports window appears.



- 4 In the **Name** box, type the name of the voice port as you want it to appear in reports
- 5 From the **Type** list, select **Voice Port**.
- 6 In the **Address** box, type the address of the voice port on the telephony server.
- 7 For ACCESS voice ports only, in the **Channel** box, type the channel number.
- 8 Click any other row of the table.

**Result:** The system adds the voice port, and Not Acquired appears in the Status column.

- 9 Select the **Acquired?** check box in the row containing the voice port that you just added.
- 10 Click any other row in the table to acquire the voice port.

**Result:** The system acquires the voice port, and the status appears in the Status column.

If necessary, click **Refresh Status** to view the current status of the acquisition.

- 11** Repeat steps 2 to 10 for each voice port you want to configure. To reconfigure a voice port, deacquire the voice port, edit the configuration parameters, and then reacquire the voice port.

## To configure Global settings

To support voice processing in Contact Center, you must configure the following items in the Contact Center Manager Administration Global Settings window:

- the number of voice ports that can be used for broadcast announcements
- the wait time for a start/stop broadcast announcement (the amount of time between the arrival of the first call for the start/stop broadcast announcement and when the announcement actually starts)
- the default ACCESS treatment DN for the Give Controlled Broadcast Announcement and Voice Session script commands (This is the ACCESS ACD-DN.)
- the DN and password for the mailbox containing the voice files and segments used by Give Controlled Broadcast Announcement and Voice Session script commands (if you use Symposium Voice Services on Meridian Mail)

If you use CallPilot, you must enter any value (even though the fields are not used).

### Maximum number of broadcast ports

Configure the number of voice ports that are available for use for Give Controlled Broadcast Announcement at any given time. Up to 50 calls can be attached simultaneously to a single voice port on a broadcast announcement. The fifty-first call for an announcement is connected to a new voice port, as long as the maximum number of broadcast voice ports is not exceeded. After the maximum is exceeded, new calls do not receive a broadcast announcement. (New calls skip past the prompt and execute the next command in the script.)

If the voice ports are partitioned so that broadcast calls are directed to a dedicated IVR ACD-DN (that is, it does not share voice ports with Open Voice Session), then the setting of this parameter is not important as long as it is set to greater than the number of voice ports in this IVR ACD-DN. This lets new calls to be queued to the broadcast voice ports.

However, if voice ports are shared between broadcast announcements and voice session, it may be important to limit the number of voice ports that can be used by broadcasts so as not to limit the Voice Session calls from getting a voice port.

You can estimate the number of broadcast voice ports needed using the call arrival rate, the length of the announcement, and, if start/stop operation is used, the Broadcast Wait Timer. The goal is to minimize the number of voice ports used by broadcast and to maximize the number of voice ports used by Voice Session. (Because Voice Session needs a one-call-to-one-port arrangement, the Voice Session voice port use for the same call traffic is generally higher.)

## **Broadcast voice port wait timer**

The value of this timer determines how many calls have a chance to be connected to the same voice port. The timer matters only if broadcast voice-processing is used in start/stop mode. Continuous mode connects calls immediately upon arrival.

A longer timer lets more calls to connect to the same voice port. Conversely, a shorter timer lets calls to get into the announcement more quickly, but, on average, fewer calls use a single voice port (which means less efficient use of voice ports). The default setting is 10 seconds and the appropriate setting for this parameter can vary widely from one contact center to the next.

## **Default ACCESS treatment DN**

Do not explicitly specify a treatment DN in the Open Voice Session or Give Controlled Broadcast Announcement command within a script. Use the default ACCESS treatment DN instead.

The default ACCESS treatment DN must be the same as the ACCESS IVR DN.

## Meridian Mail mailbox and password

To use the Give Controlled Broadcast Announcement and Open/End Voice Session commands with Meridian Mail, you must configure the Meridian Mail mailbox and password containing the voice files. Only one mailbox is configurable for the application system.

### ATTENTION

Nortel recommends that you use the Meridian Administration terminal only to change the Meridian Mail mailbox password on Meridian Mail. Do not use the phone to change the password as the mailbox may be in use by voice-processing and this can interrupt service.

## Prerequisites

Before you configure global settings in the application, perform the following tasks:

- Ensure that the Meridian Mail mailbox and password are defined on the Meridian Mail subsystem (if you use Symposium Voice Services on Meridian Mail).
- Ensure that the IVR ACD-DN is defined on the switch.
- Ensure that the Treatment DN is defined on CallPilot or Meridian Mail.

## Configuring the global settings

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.

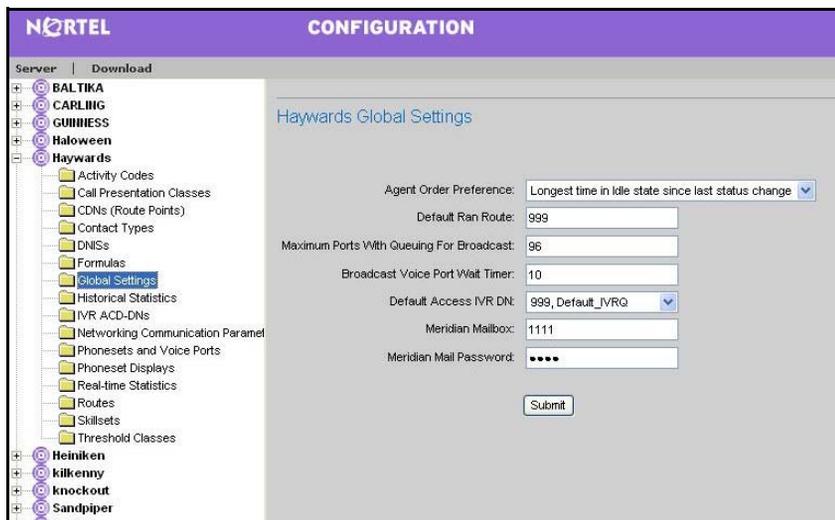


- 2 On the system tree, double-click the server in which you want to configure global settings.

**Result:** The server expands to reveal its resources.

- 3 Click the **Global Settings** folder.

**Result:** The Global Settings window appears.



- 4 From the **Agent Order Preference** list, choose how to present calls to agents based on their idle time. Valid values:

- **Longest total time in idle state since login**—Choose this option if you want calls to be presented to the agent who accumulated the most idle time since logging on (this is the system default for the Communication Server 2x00/DMS switch).
- **Longest time in idle state since last status change**—Choose this option if you want calls to be presented to the agent who accumulated the most idle time since his or her last status change (this is the system default for the Communication Server 1000/Meridian 1 switch).
- **Longest total time since last CDN/ACD call**—Choose this option if you want calls to be presented to the agent with the longest elapsed time since handling a CDN/ACD call.

The system does not reset the timer when the agent switches to the Not Ready state.

- 5 In the **Default RAN Route** box, type the default route to use when a script contains route commands but does not explicitly state a route number.  
**Valid values:** maximum of 3 digits  
**Valid range:** 0–511 (999 reserved for internal route)  
The route you specify must already exist.
- 6 In the **Maximum Ports With Queuing For Broadcast** box, type the total number of IVR ports that can be user-controlled for broadcast at any time.  
**Valid values:** 150 maximum
- 7 In the **Broadcast Voice Port Wait Timer** box, type the number of seconds the system waits for a voice port to become available.
- 8 From the **Default Access IVR DN** list, select the default DN to use in the event that a script contains voice-processing commands that may take an IVR ACD-DN as a parameter, but does not explicitly state an IVR ACD-DN.
- 9 In the **Meridian Mailbox** box, type the DN of the Meridian Mail mailbox. In CallPilot, this field is not used, but you must enter any two digits.
- 10 In the **Meridian Mail Password** box, type the password required to access the Meridian Mail mailbox. In CallPilot, this field is not used, but you must enter any four digits or use the default.
- 11 Click **Submit**.

## To define voice segment variables

Contact Center Manager Server scripts reference voice segments on CallPilot or Meridian Mail by using voice segment variables. Voice segment variables can contain one or more voice segments. These voice segments contain specific words or phrases recorded in the Voice Prompt Editor or Application Builder. Each voice segment variable has a name, number, and value that indicates the language used to record the segment.

Two types of voice segments are available:

- user defined
- system predefined

### User-defined voice segments

Record user-defined voice segments for CallPilot or Meridian Mail. For CallPilot, you record the voice segments using Application Builder. For Meridian Mail, you record the voice segments using the Voice Prompt Editor (VPE) on the Contact Center Manager Server.

Then you define the variables using the Script Variables dialog box. A voice segment variable has the type VOICE SEGMENT, and is a global variable. You can define any number of variables.

You can define the variables on Contact Center Manager Administration at any time. Neither Contact Center Manager Administration nor CallPilot or Meridian Mail checks for the existence of the segments on the other platform except at run time. When Contact Center Manager Administration instructs CallPilot or Meridian Mail to play a specific voice segment from a specific file, the referenced segment must exist.

Voice segment file names are case-sensitive. Enter voice segments included in scripts exactly as they appear in Application Builder or the Voice Prompt Editor.

For more information about creating voice segments, see the *Contact Center Manager Administrator's Guide*.

## System-predefined phrases

To generate spoken numbers, Contact Center Manager Server provides a number of predefined voice segments representing spoken numbers. Contact Center Manager Server strings the segments together automatically to create the ability to speak numbers 0–999,999,999,999,999.

Predefined voice segment variables have file and segment number placeholders when the Contact Center Manager Server system is installed. Record the file and segment numbers referenced by these variables.

## Script example

In the following example, a voice session begins in which a caller hears a message prompting the caller to enter an identification number by pressing the phone keys. The seven digits entered are collected into a variable named `vardigit_cv`. The caller hears a second message in which the numbers entered are spoken back:

```
OPEN VOICE SESSION 2299
    PLAY PROMPT VOICE SEGMENT enter_ID_number_vs
    COLLECT 7 DIGITS INTO vardigit_cv
    PLAY PROMPT NUMBERBYDIGIT vardigit_cv
END VOICE SESSION
```

## To define scripts

You use script commands to determine how calls are handled. The services that a particular caller hears depend on the path the call follows through the Master Script and any secondary scripts. Information about the voice-processing treatment that a call receives by Contact Center Manager Server is pegged in the database. This lets you to run reports showing details about voice processing and its effects in your contact center.

For more information about scripts, see the *Contact Center Manager Scripting Guide for the Communication Server 1000/Meridian 1 PBX*.

### CDNs

Ensure that the script references a CDN that is configured and acquired on Contact Center Manager Administration.

### NACD ACD-DNs

To route calls to a remote ACD-DN, the Contact Center Manager Server script must contain the following command:

```
QUEUE TO NACD acd-dn [WITH PRIORITY priority]
```

The script can contain other commands to control the wait time or to change the priority.

### IVR ACD-DNs and treatment DNs

All voice-processing script commands need and use both an IVR ACD-DN and a treatment DN. Both parameters are optional in the script statement, and the defaults are drawn from different places.

The IVR ACD-DN on the voice-processing script statement specifies the switch ACD-DN to which the voice port TNs belong in the switch configuration. Contact Center Manager Server directs voice-processing calls to the IVR ACD-DN, and the switch ACD software distributes the calls over the voice port (that is, the switch selects the actual voice port, not the Contact Center Manager Server software).

If TRDN is not configured in the switch IVR ACD-DN, you must include *with treatment* in the Give IVR script element.

Contact Center Manager Server must acquire the IVR ACD-DN for voice-processing to operate correctly.

## Routes

If you want to generate all trunks busy (ATB) reports, you must configure trunk routes on Contact Center Manager Administration, and you must acquire the routes.

To use Give Music or Give RAN commands, in the Contact Center Manager Server script, you must reference a RAN or MUS route. You do not need to acquire music or RAN routes.

# Chapter 8

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## Configuration information for other Contact Center products

### In this chapter

Contact Center Multimedia and Outbound

210

# Contact Center Multimedia and Outbound

This section describes the tasks to complete when you configure agent phones for Communication Control Toolkit (CCT).

## To configure agent phones for CCT control

The agent desktops for Multimedia and Outbound must have their associated configuration terminals, users, addresses, and so on, configured in Communication Control Toolkit. The switch requirements are the same as for voice desktop.

Agents assigned multimedia capabilities must log onto a phone through the Communication Control Toolkit. These agents cannot manually log onto a phone.

### Communication Server 1000/Meridian 1 PBX checklist for agent phones

When engineering agent phones (TNs) for use with Communication Control Toolkit, you must complete the tasks in this checklist.

<b>Communication Server 1000/Meridian 1 PBX for the agent</b>	✓
Create a TN entry for each contact center agent as per instructions in the <i>Contact Center Manager Server Installation and Maintenance Guide</i> .	
Ensure that key 0 has ACD functionality. You can configure TNs with a Contact Center Manager Server-specific ACD queue or a normal ACD queue used for both voice and media.	
If you enable scheduled callback dialing, ensure that a personal DN key is created on the contact center agent phone.	
Enable Associated Set Assignment (AST) for the ACD key and for one of the other personal DN keys. You can configure AST on a maximum of two keys.	

<b>Communication Server 1000/Meridian 1 PBX for the agent</b>	✓
Ensure that IAPG is enabled.	

### Sample agent phone configuration for Communication Control Toolkit

The following sample provides the switch configuration of the agent phone configured for Communication Control Toolkit. You perform this setup on LD 11.

```

DES 8446
TN 017 0 00 09
TYPE 2616
CDEN 8D
CUST 0
AOM 0
FDN 8383
TGAR 1
LDN NO
NCOS 6
SGRP 0
RNPG 0
SCI 0
SSU
LNRS 16
XLST
SCPW
CLS CTD FBD WTA LPR MTD FNA HTA ADD HFD
MWA LMPN RMMD SMWD AAD IMD XHD IRA NID OLA VCE DRG1
POD DSX VMD CMSD SLKD CCSD SWD LNA CNDD
CFTD SFD MRD DDV CNID CDCA MSID DAPA BFED RCBD
ICDD CDMD LLCN MCTD CLBD AUTU
GPUD DPUD DNDD CFXD ARHD CNTD CLTD ASCD
CPFA CPTA ABDD CFHD FICD NAID BUZZ AGRD MOAD AHA
DDGA NAMA
DRDD EXR
USMD USRD ULAD RTDD RBDD RBHD PGND OCBF FLXD FTTC
MCBN
CPND_LANG ENG
RCO 0
HUNT 8383
LHK 8
LPK 0
PLEV 02

```

```
SPID NONE
AST 00 08
IAPG 1
AACS YES
ACQ AS: TN,AST-DN,AST-POSID
ASID 16
SFNB 1 2 3 4 5 6 9 10 11 12 13 15 16 17 18
19 22 24
SFRB 1 2 15
USFB 1 2 3 4 5 6 7 9 10 11 12 13 14 15
CALB 0 1 3 4 5 6 8 9 10 11 12
FCTB
ITNA NO
DGRP
PRI 01
MLWU_LANG 0
DNDR 0
KEY 00 ACD 8710 0 4715
AGN
01 DWC 8710
02 AO6
03 TRN
04
05 NR
06MSB
07
08 SCR 8446 0
CPND
NAME Mark Smith
XPLN 27
DISPLAY_FMT FIRST, LAST
09 SCR 8476 0 MARP
CPND
NAME Paula Jones
XPLN 27
DISPLAY_FMT FIRST, LAST
10 ACNT
11 SCR 4305 0 MARP
12 ADL 16
13 CFW 4 8396
14 MWK 8383
15
DATE 30 APR 2004
```

# Chapter 9

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## Testing integration

### In this chapter

Overview	214
To test basic voice services (Give IVR)	216
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# Overview

If you use CallPilot for voice services, you can use the test scripts supplied in Contact Center Manager Server to test the integration. Script CP\_Test1 tests basic voice services (Give IVR). Script CP\_Test2 tests advanced voice services (ACCESS). Before using the test scripts, you must create test voice items using CallPilot Application Builder and script variables in Contact Center Manager Administration.

## Configuration information

The following configuration information applies to the Give IVR and ACCESS commands, and CallPilot configuration limits.

### Give IVR voice services

On the switch, you must configure the following:

- an ACD-DN where IVR = YES and ALOG = YES
- agents in this ACD-DN with the following attributes:
  - CLS = MMA and FLXA
  - AST on keys 0 and 1

In CallPilot, you must configure the following:

- a Service Directory Number (SDN) entry for the IVR ACD-DN. Set the Application Name to Symposium Voice Services, and Media Type to Voice.
- an SDN entry for the Application Builder application. Set the Application Name to equal the application name, as defined in Application Builder, and Media Type to Voice.

## ACCESS voice services

On the switch, you must configure the following:

- an ACD-DN where IVR = YES and ALOG = YES
- agents in this ACD-DN with the following attributes:
  - CLS = MMA and FLXA
  - AST on keys 0 and 1

In CallPilot, you must configure the following:

- a Service Directory Number (SDN) entry for the IVR ACD-DN. Set the Application Name to Symposium Voice Services, and Media Type to Voice.
- an SDN entry for the Application Builder application. Set the Application Name to equal the application name, as defined in Application Builder, and Media Type to Voice.
- On Contact Center Manager Server, the Access Class ID configured in Contact Center Manager Administration against the Voice Port should be consistent with the Access Class ID associated with the port in CallPilot.

### Notes:

- You can file Prompts as in Meridian Mail.
- CallPilot does not require unique SDN entries for voice prompts. You can define voice prompts under one or more Application Builder applications.

## CallPilot limits

Applications	2500 maximum (500 on drive D, 1000 on drive E, and 1000 on drive F)
Prompts per application	3000
SDN entries	1500 maximum (enforced)
	Each entry requires a unique number, which does not need to be a Meridian 1 PBX dialable number, if used as a Treatment DN for Contact Center Manager Server.
	This also applies for Communication Server 1000.

## To test basic voice services (Give IVR)

Before you use test script CP\_Test1 to test the Give IVR command, you must do the following:

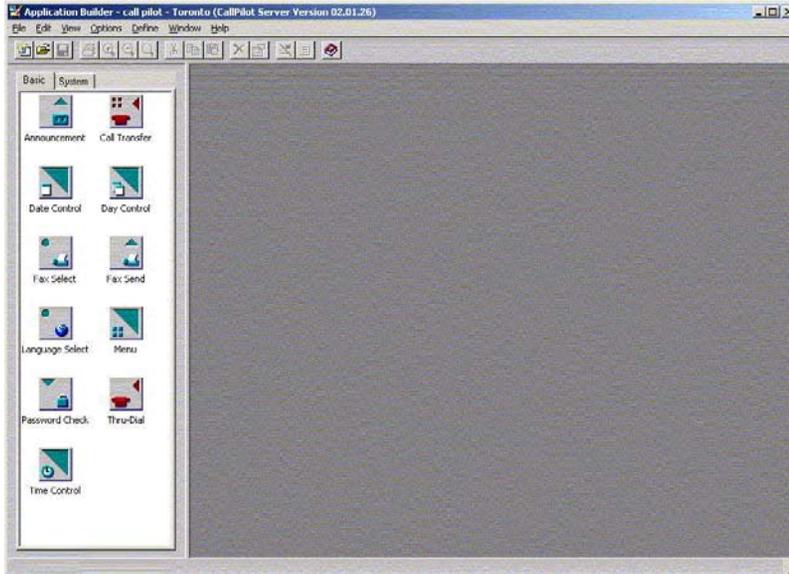
- Create an announcement application using CallPilot Application Builder, and record a prompt.
- Create an SDN numerical entry point to the application name.
- Create the script variables in Contact Center Manager Administration.
- Write a test script, or import the CP\_Test1 script from C:\Program Files\Nortel Networks\WClient\Server\SampleScripts.
- Associate the script with the test CDN in the Master Script.
- Activate the script.

After you complete these steps, you can test basic voice services.

## Creating an announcement

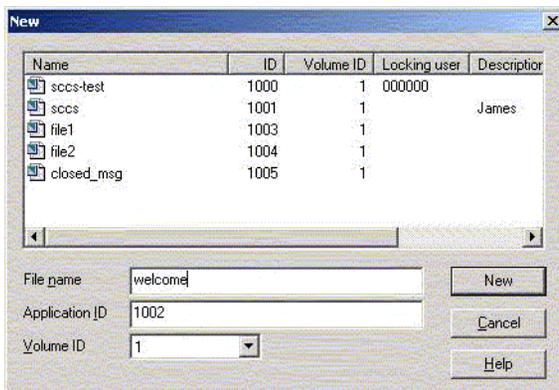
- 1 In CallPilot, launch Application Builder.

**Result:** Application Builder appears.



- 2 Click **File > New**.

**Result:** The New dialog box appears and lists the existing folders.



- 3 In the **File Name** box, type a name for the application. (For CP\_Test1, use **welcome**.) This is the name that appears as an option in the Application Name menu in the CallPilot Manager SDN table.

**Result:** The system assigns the next available Application ID. You can change the ID by typing an ID that is not in use.

- 4 Click **New**.

**Result:** The application is created.

- 5 In Application Builder, click the **Announcement Block** in the pallet, and then drag the block onto the drawing board.

**Result:** The Add Announcement Block dialog box appears.

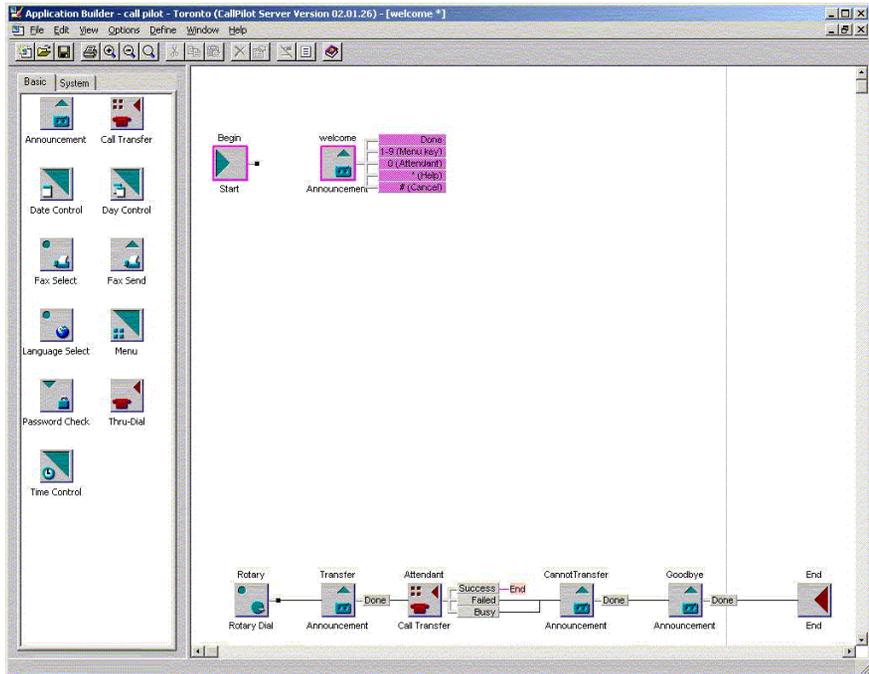


- 6 In the **Enter block name** box, type a descriptive name for the announcement. The name can be up to 30 characters.

**Tip:** Create a name based on what the message repeats to the caller. For CP\_Test1, name the welcome message **welcome**.

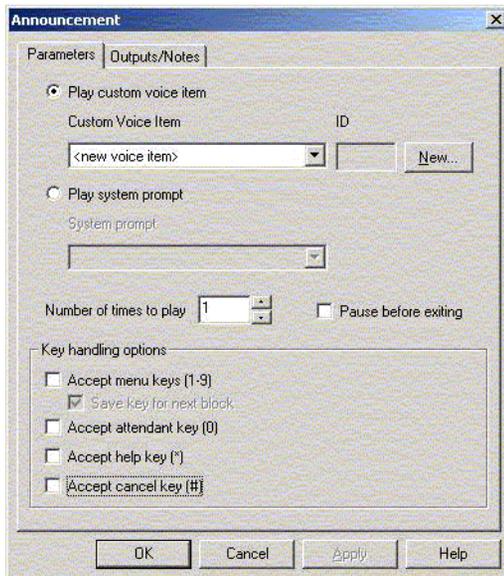
7 Click **OK**.

**Result:** The new Announcement block appears on the Application Builder drawing board.



- 8 Double-click the **Announcement** block.

**Result:** The Announcement property sheet appears, on which you can define properties for the new announcement.



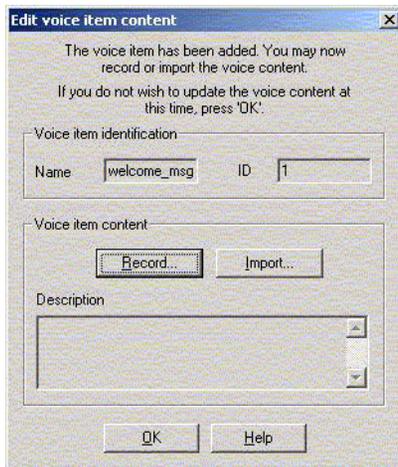
- 9 Click **Play custom voice item**, and then click **New**.

**Result:** The Add voice item dialog box appears.

- 10 In the **Name** box, type a name for the voice item. (For CP\_Test1, use the name **welcome\_msg**.) The system assigns an ID.
- 11 In the **Description** box, type a description for the voice item.

12 Click **Done**.

**Result:** The Edit voice item content dialog box appears.



13 You can import an existing voice item or record a new voice item.

- To import an existing voice item, click **Import**.

**Result:** The Import voice item dialog box appears, in which you can locate and select a .WAV file as a voice item.

- To record a new voice item, click **Record**.

**Result:** The Specify Phoneset dialog box appears.

**Tip:** If you want to record a new item, you must have the CallPilot Desktop Player installed, or an error message appears. To get the CallPilot Desktop Player, select **Download Player** from the right side of the main CallPilot Manager menu.

14 Type the DN of the phone from which you want to record.

15 Click **OK**.

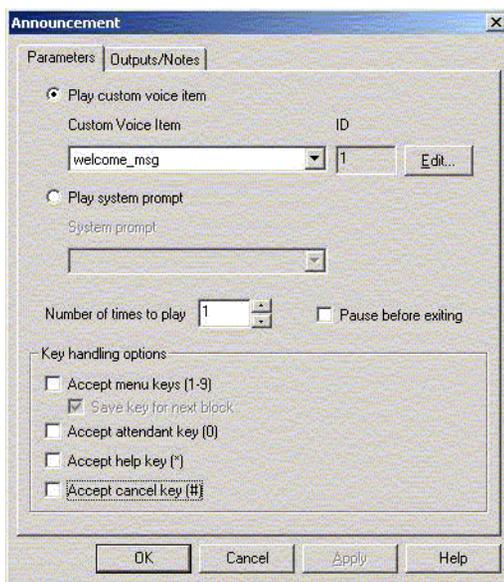
**Result:** The Application Builder Player dialog box appears.

16 Click **Record** (the red button).

**Result:** The phone rings.

17 Pick up the receiver, record the voice item after the tone, and then click **Stop**.

- 18 Click **Play** to review the recorded voice item. When you are satisfied, hang up the phone.
- 19 Click **Save**.
- 20 Click **Close**.
- 21 In the **Announcement** property sheet (which is still open on your desktop), in the **Number of times to play** box, select the number of times you want the announcement to play.
- 22 Clear the **Pause before exiting** check box and all of the **Key handling option** check boxes.

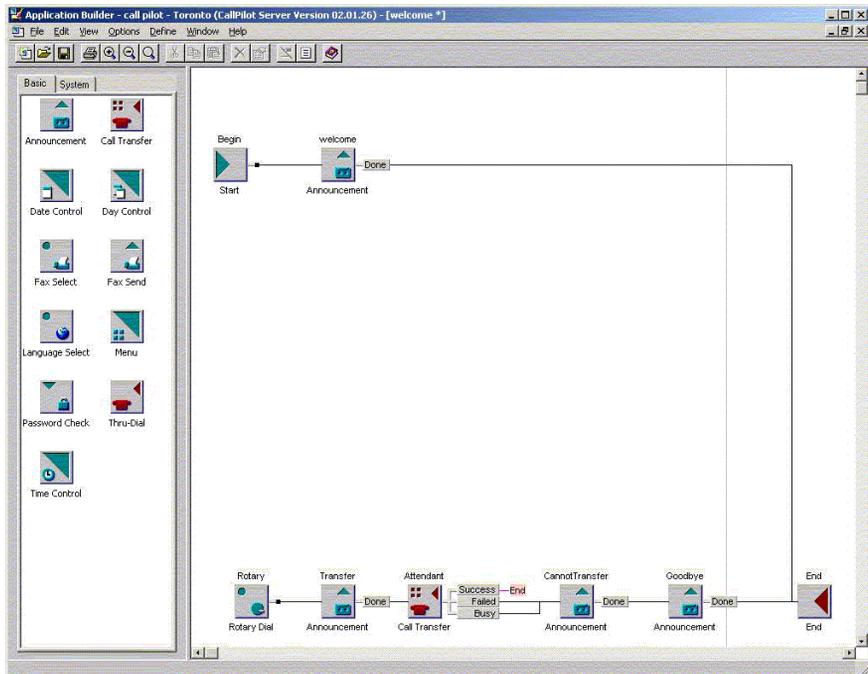


- 23 Click **OK**.  
**Result:** The Announcement property sheet closes.
- 24 In the Application Builder drawing board, connect the **Begin** block to the **Announcement** block, and connect the **Announcement** block to the **End** block:
  - a. Click the tip of the **Begin connector** (it turns red). Then click the **Announcement** block.  
**Result:** A connection line appears from the Begin block to the Announcement block.

- b. Click the **Done** box of the **Announcement** block.
- c. Click the **End** block.

**Result:** A connection line appears from the Done box of the Announcement block to the End block.

**Note:** When the connections are properly completed, the blocks turn from pink to black, and you can save the application.



- 25 Click **Save** and close Application Builder.

## Creating an SDN numerical entry point

- 1 In the CallPilot Manager browser window, select **System > Service Directory Number**.

**Result:** The Service Directory Number window appears.

- 2 Click **New**.

**Result:** The SDN Details window appears.

- 3 In the **Service DN** box, type a numeric value for the SDN.

**Note:** This value is used as the Treatment DN in the Contact Center Manager Server script.

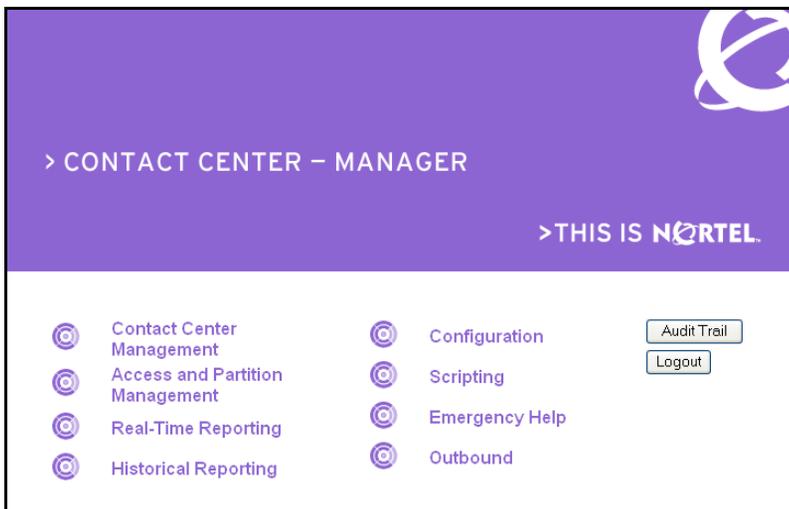
- 4 From the **Application name** list, select the name of the application (for this example, use the application name **welcome**). Leave all other fields at the default settings.

**Note:** The Media Type must be defined as **Voice**.

- 5 Click **Save**.

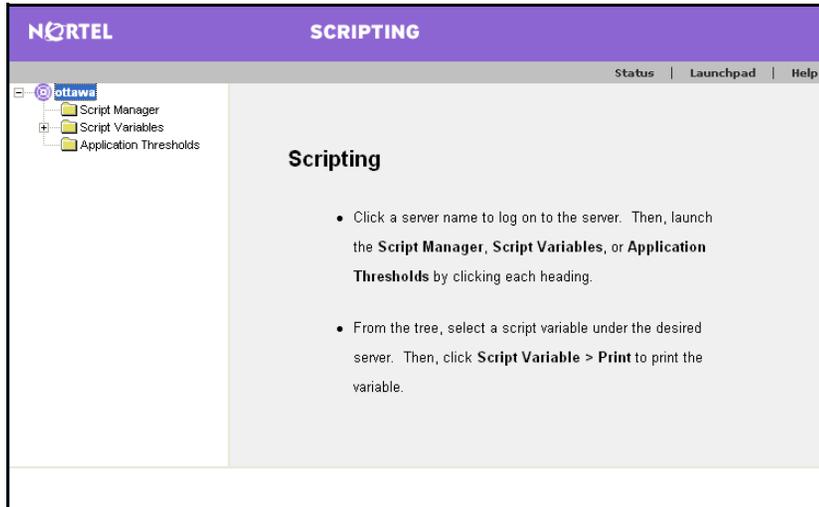
## Creating the script variables in Contact Center Manager Administration

- 1 Go to **Contact Center Manager Administration Launchpad > Scripting**.



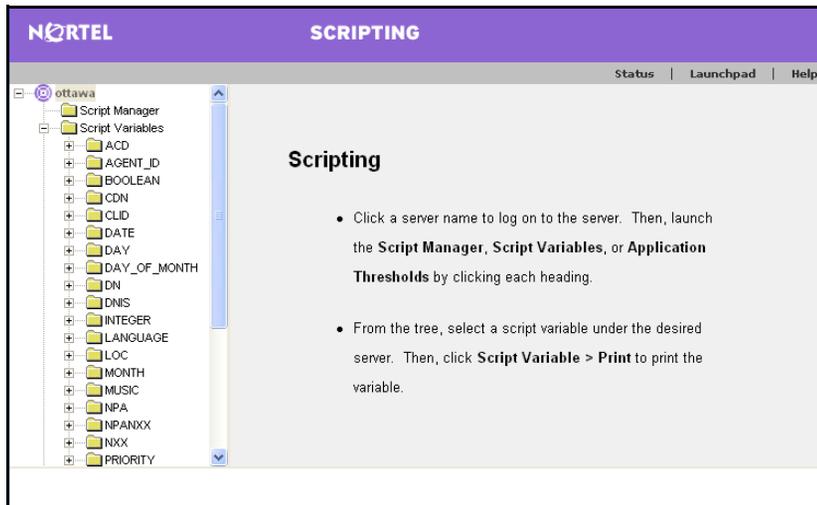
- 2 From the system tree, click the name of the server on which you want to create the script variable.

**Result:** The server expands to reveal a series of folders.



3 Click the **Script Variables** folder.

**Result:** The Script Variables tree expands, listing all types of script variables.



**Tip:** All existing variables on the selected server appear beneath the Script Variables heading in the folder corresponding to the type of variable. If you do not see the Script Variables heading on the system tree, your administrator did not grant you access to this component of Scripting. Contact your administrator and request access to Script Variables on the selected server.

4 On the system tree, right-click on the variable type folder of the variable you want to create and select **New**.

**Tip:** Doing this pre-populates the Type drop down box in the Attributes tab with the relevant script variable type. You can also right click on the Script Variables folder and select New to create a new variable. In this case, the Type drop down box is pre-populated with the first script variable type which is ACD. The user can change it to the variable type they want.

5 Below the table, click **Script Variable Properties**.

**Result:** The heading expands to reveal the General and Attribute tabs.

6 On the **General** tab, in the **Name** box, type the name of the new variable.

- 7 Click the **Call Variable option** button if the variable is for one specific call only; otherwise, click **Global Variable** to be able to use the variable in all scripts.
- 8 In the **Comment** box, type any comments you want to save with the variable.
- 9 Click the **Attribute** tab.
- 10 From the **Type** list, select the variable type, and then type the value or a range of values for the variable type in the **Value** box.

**Tip:** Based on the variable type, you may be able to choose the class assigned to the script variable. The class indicates if a script variable has a single value (Item), or a set of values (Set).

- 11 Select or enter the value or value range.
- 12 Click **Add** to save your data, if applicable.
- 13 Click **Submit** to save your data.

**Result:** The new variable appears in the system tree in the folder corresponding to the variable type.

## To import the test script

Next, you create a test script or import test script CP\_Test2 provided by Contact Center Manager Server. For more information about script CP\_Test2, see “CP\_Test2” on page 245.

When you install Contact Center Manager Administration, the system automatically installs the sample scripts in the following folder on the Contact Center Manager Administration server:

C:\Program Files\Nortel Networks\WClient\Server\SampleScripts where C: is the drive on which you installed Contact Center Manager Administration.

You can use these sample scripts in Contact Center Manager Administration by importing them into either an existing script or a new script in the Scripting component. The Import command adds the text of the imported sample script at the end of any text in the current script.

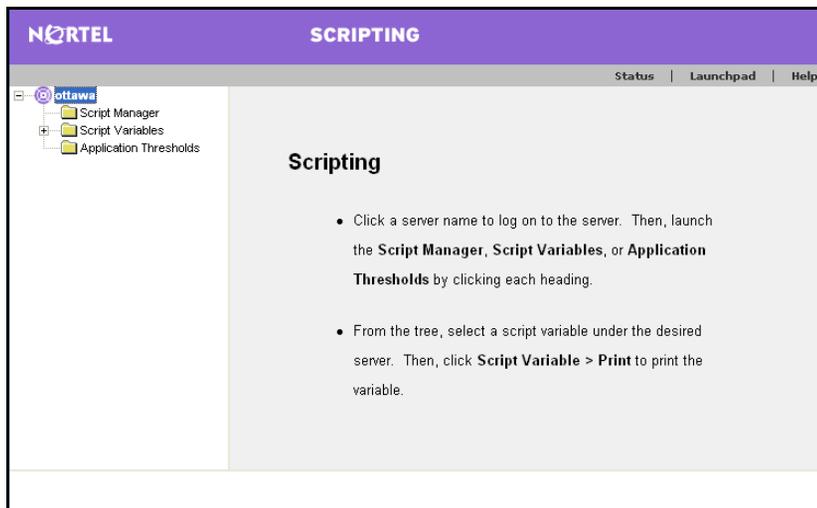
For more information about scripts, see the *Contact Center Manager Scripting Guide for the Communication Server 1000/Meridian 1*.

## Importing the test script

- 1 Go to **Contact Center Manager Administration Launchpad > Scripting**.



- 2 In the system tree, click the server on which you want to view scripts. The server expands to reveal a series of folders.



- 3 Click the **Script Manager** folder.

**Result:** The Script Manager appears in the right pane, listing all the scripts on the currently selected server.

- 4 You can import a sample script into Contact Center Manager Administration in one of two ways:

- a. To import a sample script into an existing script, in the Script Manager, double-click the script into which you want to import the sample script. The script appears in the Script Editor.

- b. To import a sample script into a new, blank script, right-click on the Script Manager folder and select **New** from the resulting menu. The Script Editor appears with a blank starting page.

- 5 In the Script Editor, click **File > Import**.

**Result:** The Import window appears.

- 6 Click the **From Server** option button, and then navigate to the location on the server where the sample scripts are stored.

- 7 Select the sample script that you want to import.

- 8 Click **OK**.

**Result:** The system adds the text of the sample script to the end of the current script, or to the place at which you put your cursor before importing the script.

- 9 To save the script, click **File > Save**.

**Result:** Confirmation dialog box appears.

- 10 Click **Yes** to confirm saving the script to the server.

**Result:** If you import into a new script, the New Script Name dialog box appears.

- 11 Enter a name for the new script.

- 12 Click **OK**.

- 13 Close the **Script Editor** window.

**Result:** Script appears in Script Manager window in the list of scripts.

## Testing the Give IVR application

To complete the test of Give IVR, do the following:

- 1 Validate and activate the test script. (See “Making sure the correct script is activated” on page 272.)
- 2 Associate the script with the test CDN in the Master Script.
- 3 Activate the Master Script. (See “Master Script” on page 243.)
- 4 Call the test CDN.
- 5 Verify that you hear the test message.

If you do not hear the test message, verify that the configuration is correct.

## To test advanced voice services (ACCESS)

Before using test script CP\_Test2 to test the ACCESS command, complete the following:

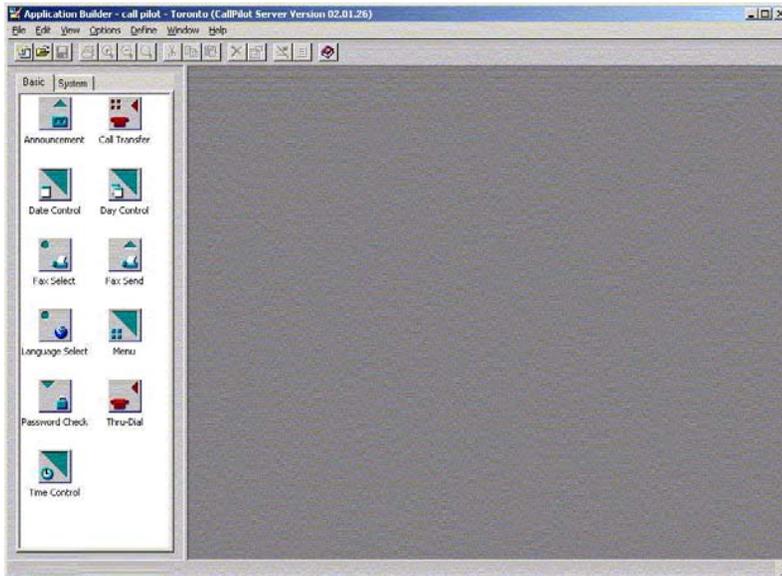
- Create an application using CallPilot Application Builder. See “Defining ACCESS voice prompts” on page 232
- Create new applications (folders) to hold the voice prompts used for Open Voice Session and Give Controlled Broadcast Announcement.
- Record the prompts in Server Utility. See “Configuring voice prompts” on page 162.
- Create the script variables in Contact Center Manager Administration. “Defining voice segment variables” on page 235.
- Write a test script, or import the CP\_Test2 script from C:\Program Files\Nortel Networks\WClient\Server\SampleScripts.
- Associate the script with the test CDN in the Master Script. See “Testing the ACCESS application” on page 239.
- Activate the test script.

After you complete these steps, you can test advanced voice services.

## Defining ACCESS voice prompts

- 1 In CallPilot, launch Application Builder.

**Result:** Application Builder appears.



- 2 Click **File > New**.

**Result:** The New dialog box appears and lists the existing applications (folders).

- 3 In the **File name** box, enter a unique name for the application. (For CP\_Test2, use **sccs\_prompts**.)

**Tip:** The system assigns the next available Application ID. You can change the ID by typing an ID that is not in use.

- 4 Click **New**.

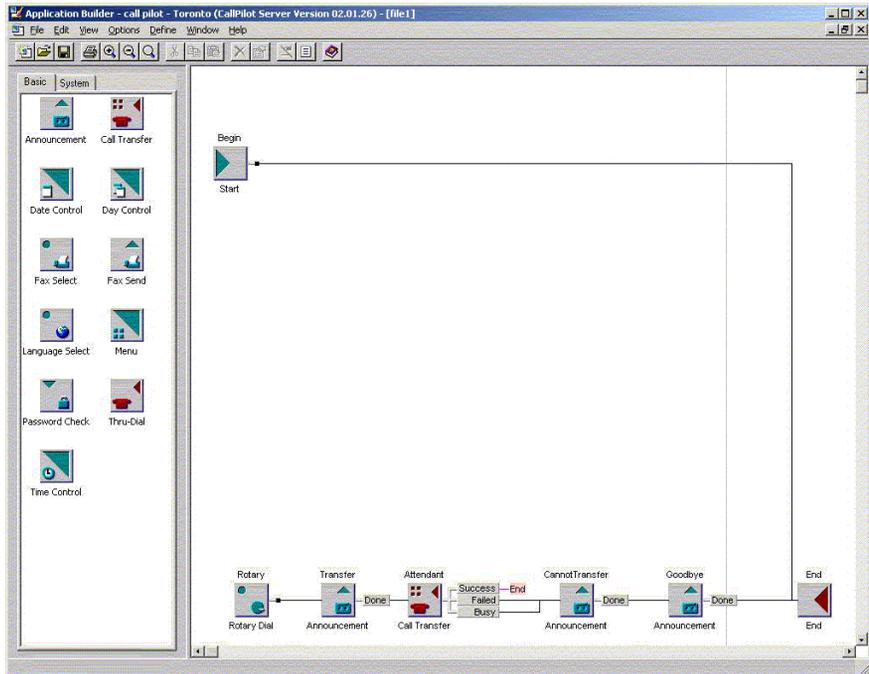
**Result:** The application is created.

- 5 On the **Application Builder** drawing board, click the tip of the **BEGIN** connector.

**Result:** The connector turns red.

- 6 Click the **END** block.

**Result:** A line is drawn from the BEGIN block to the END block. All of the lines turn black.



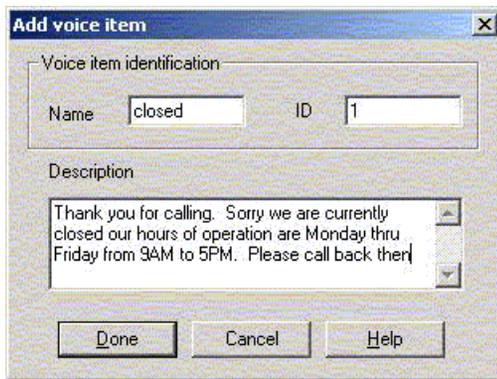
- 7 Click **Save**.

- 8 Click **Define > Voice Items**.

**Result:** The Define voice items dialog box appears.

- 9 To add a voice item, click **Add**.

**Result:** The Add voice item window appears.



- 10 In the **Name** box, type a name for the voice item (for this example, type **closed\_message\_vs**).

**Result:** The system assigns an ID number.

- 11 In the **Description** box, type a description of the voice item.

- 12 Click **Done**.

**Result:** The Edit voice item content dialog box appears.

- 13 You can record or import voice content for each voice item as you define it, or you can continue defining all of the voice items, and then record or import the voice content later.

To record the content for a voice item, click **Record** and follow the same steps you used in the Give IVR procedure, starting at step 13 on page 221.

- 14 After you finish recording or importing the voice item, click **Done**.

- 15 Repeat the procedure for adding and recording a voice item, starting at step 8 on page 233. For this example, add and record voice item **hold\_option\_vs**.

- 16 In Application Builder, click **Save** and close Application Builder.

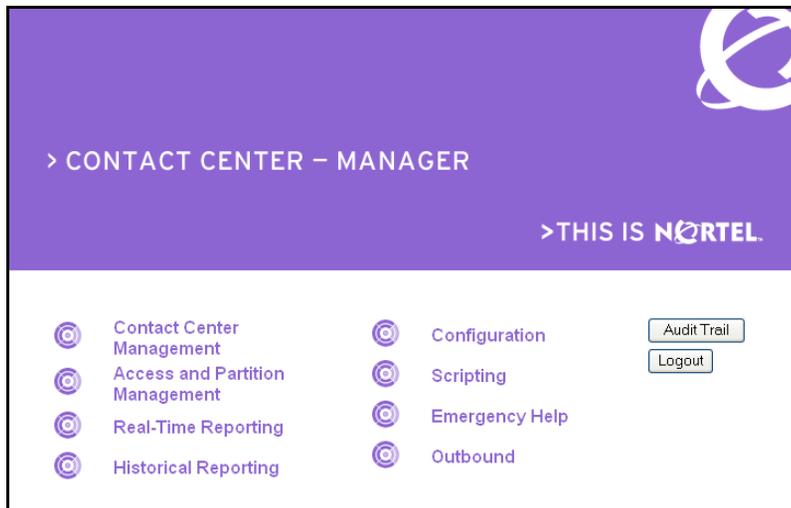
## Voice segment variables

Store all voice prompts in voice segment variables. Follow these rules when you name your script variables:

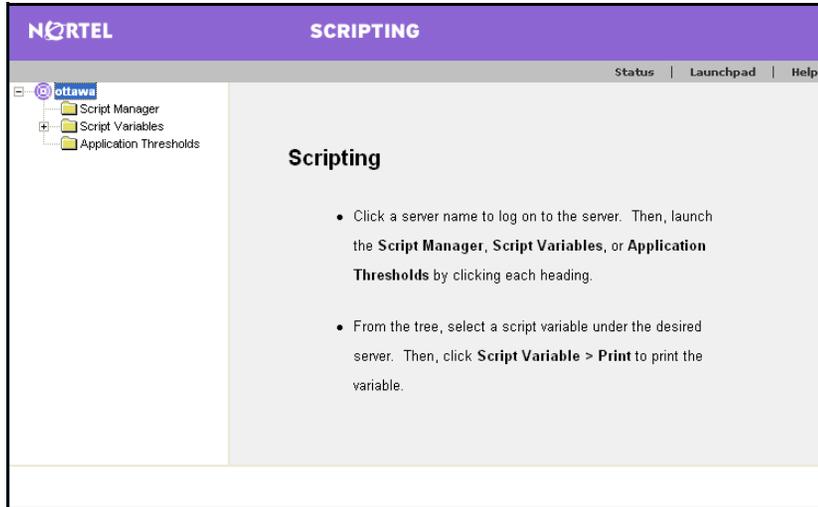
- Script variable names must be unique. Names cannot be the same as any script language keywords or intrinsics.
- Names can contain up to 30 characters, must begin with an alphabetic character, and cannot contain spaces.
- Valid characters for script variable names are A–Z, a–z, 0–9, and \_ (underscore). Use an underscore in place of a space.

### Defining voice segment variables

- 1 Go to **Contact Center Manager Administration Launchpad > Scripting**.

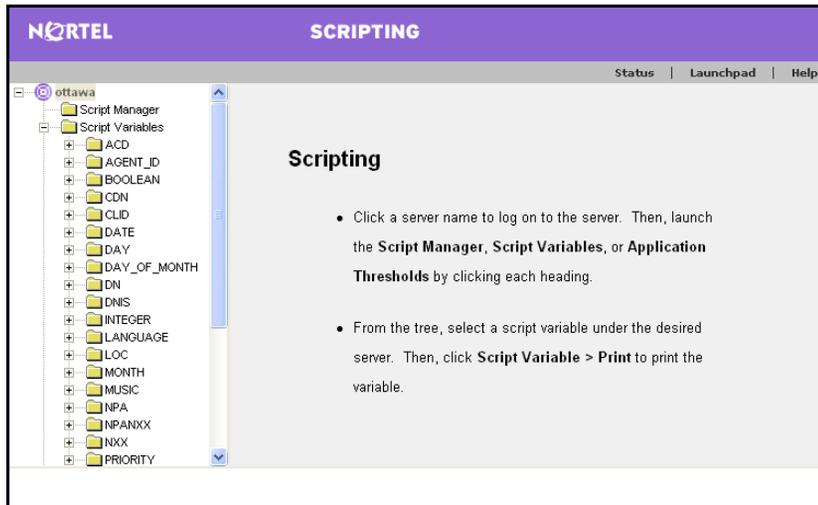


- In the system tree, click the server on which you want to view scripts. The server expands to reveal a series of folders.

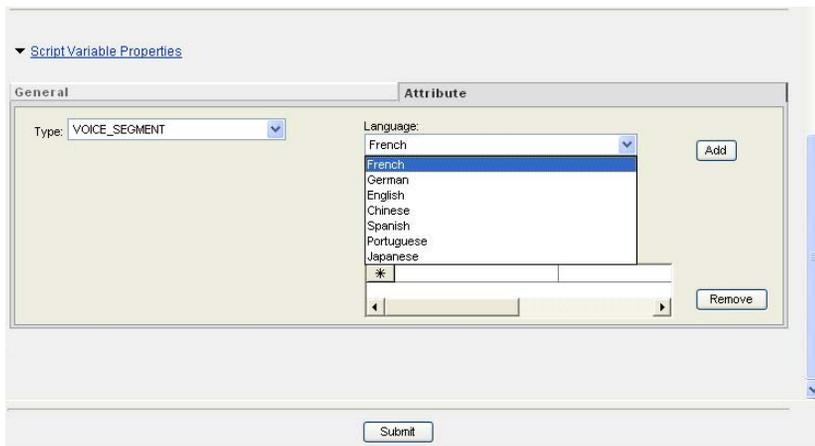


- Click the **Script Variables** folder.

**Result:** The Script Variables tree expands, listing all types of script variables.



- 4 Right-click on the **VOICE\_SEGMENT** folder and select **New**.  
**Result:** Script Variables window appears.
- 5 Below the table, click **Script Variable Properties**.  
**Result:** The heading expands to reveal the General and Attribute tabs.
- 6 On the **General** tab, in the **Name** box, type the name of the new variable.
- 7 Click the **Call Variable** option button if the variable is for one specific call only; otherwise, click **Global Variable** to be able to use the variable in all scripts.
- 8 In the **Comment** box, type any comments you want to save with the variable.
- 9 Click the **Attribute** tab.
- 10 From the **Language** list, select a language.



The screenshot shows the 'Script Variable Properties' dialog box with the 'Attribute' tab selected. The 'Type' dropdown is set to 'VOICE\_SEGMENT'. The 'Language' dropdown is open, displaying a list of languages: French, German, English, Chinese, Spanish, Portuguese, and Japanese. The 'Add' button is visible next to the language list. The 'Remove' button is visible below the language list. The 'Submit' button is located at the bottom of the dialog box.

- 11 Type in a value in the format <filename>:<segment number>.

**Tip:** This corresponds to the file you created in Voice Prompt Editor. See “Configuring voice prompts” on page 162.

▼ [Script Variable Properties](#)

General **Attribute**

Type:  Language:

Value:

<filename>:<seg#> (e.g. VM\_Prompt:111)

List of Values:

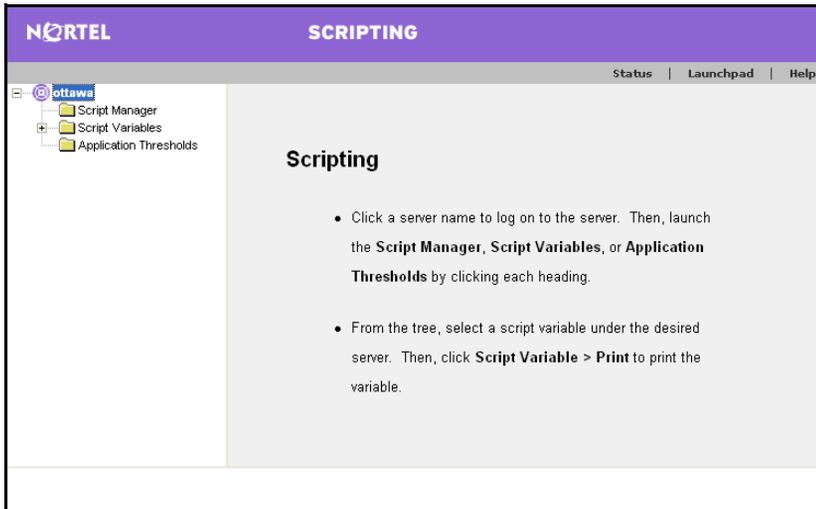
▶	French	aj th:1
*		
◀		

- 12 Click **Add** to add it to your list of values.
- 13 Click **Submit** to save your data. The new variable appears in the system tree in the folder corresponding to the variable type.

## Testing the ACCESS application

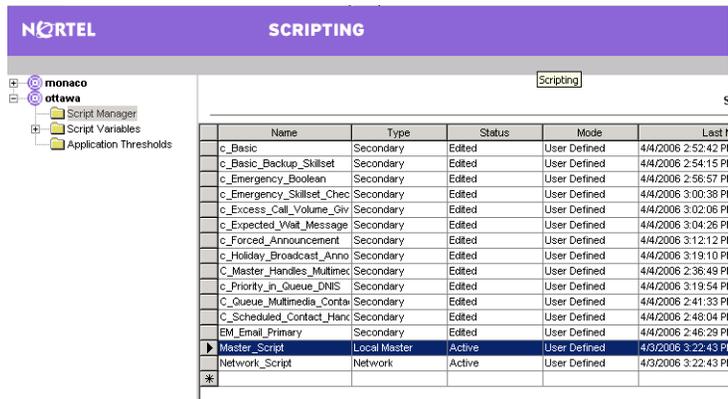
- 1 From the menu, select **Launchpad > Scripting**.
- 2 On the system tree, double-click the appropriate server.

**Result:** The server expands to reveal its resources.



- 3 Click the **Script Manager** folder.  
**Result:** The Script Manager window appears, listing all the existing scripts.
- 4 Double-click the appropriate script.  
**Result:** The script appears in the Script Editor window.
- 5 Ensure that the script is in Active state. If the script is not active, click **File > Activate**.  
**Result:** A message box appears, asking you to confirm your choice.
- 6 Click **OK**.  
**Result:** The system activates the script. The script's status changes to Active when the activation process finished successfully.

## 7 While in Script Manager, select **Master\_Script**.



Name	Type	Status	Mode	Last Modified
c_Basic	Secondary	Edited	User Defined	4/4/2006 2:52:42 PM
c_Basic_Backup_Skillset	Secondary	Edited	User Defined	4/4/2006 2:54:15 PM
c_Emergency_Boolean	Secondary	Edited	User Defined	4/4/2006 2:58:57 PM
c_Emergency_Skillset_Chec	Secondary	Edited	User Defined	4/4/2006 3:00:38 PM
c_Excess_Call_Volume_Glv	Secondary	Edited	User Defined	4/4/2006 3:02:06 PM
c_Expected_Wait_Message	Secondary	Edited	User Defined	4/4/2006 3:04:26 PM
c_Forced_Announcement	Secondary	Edited	User Defined	4/4/2006 3:12:12 PM
c_Holiday_Broadcast_Anno	Secondary	Edited	User Defined	4/4/2006 3:19:10 PM
c_Master_Handles_Multimed	Secondary	Edited	User Defined	4/4/2006 2:36:49 PM
c_Priority_in_Queue_DNIS	Secondary	Edited	User Defined	4/4/2006 3:19:54 PM
c_Queue_Multimedia_Confir	Secondary	Edited	User Defined	4/4/2006 2:41:33 PM
c_Scheduled_Contact_Hanc	Secondary	Edited	User Defined	4/4/2006 2:48:04 PM
EM_Email_Primary	Secondary	Edited	User Defined	4/4/2006 2:46:29 PM
▶ Master_Script	Local Master	Active	User Defined	4/3/2006 3:22:43 PM
Network_Script	Network	Active	User Defined	4/3/2006 3:22:43 PM

## 8 Ensure that the Master Script is in the Active state. If the script is not active, click **File > Activate**.

**Result:** A message box appears, asking you to confirm your choice.

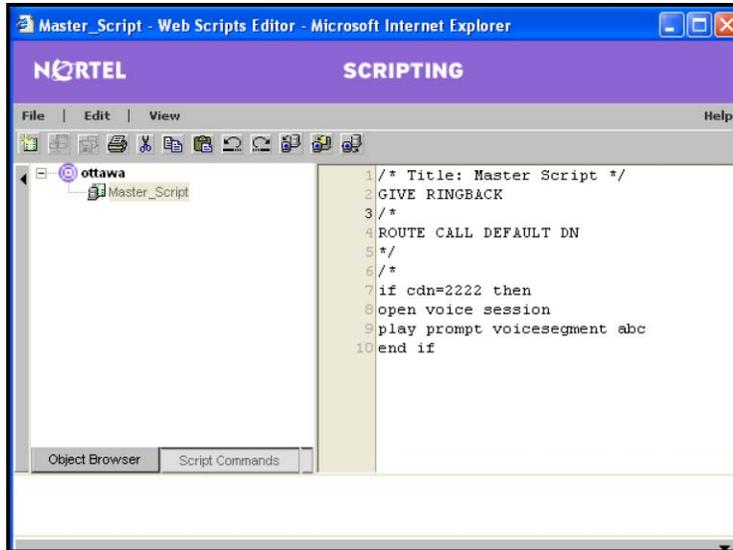
## 9 Click **OK**.

**Result:** The system activates the script. The script's status changes to Active when the activation process finished successfully.

## 10 Go to **File > Use voice segment**.

**Tip:** This is the voice segment created previously. See “Defining voice segment variables” on page 235.

- 11 Associate the script with the test CDN in the Master Script.



- 12 Call the test CDN.
- 13 Verify that you hear the test message. If you do not hear the test message, verify that the configuration is correct.

## Test scripts

The following information explains how prompts and applications are referenced in the test scripts:

- When you create an Application Builder application, you define a file name or application name. Application Builder assigns an application ID for the application and a segment ID for each segment flow that you create in your application.
- In Contact Center Manager Administration scripts, when you want to access a voice segment (over an Contact Center Manager Administration ACCESS port), you use a global variable. The value of the variable must be application-name:segment-ID, as defined in Application Builder. (In CallPilot, the application name is the same as the file name when using Meridian Mail and Voice Prompts. The application name is case-sensitive.)
- For the Contact Center Manager Administration IVR port, you reference the Application Builder application (either directly or through a global variable) using a treatment number. This treatment number must correspond to a CallPilot Service DN (SDN) entry that you defined on CallPilot. The CallPilot SDN links to the Application Builder application that you created. You can define the SDN to be the same as the Application ID assigned by Application Builder as long as there is no numbering conflict.

## Sample scripts

The following section includes sample scripts.

### Master Script

/\* Add the test CDN to the existing MASTER SCRIPT. To test Basic Voice Services using the Give IVR command, use CP\_Test1. To test advanced voice services using the Open Voice Session and Controlled Broadcast Announcements, use CP\_Test2. All configuration must be complete on Meridian 1 PBX (Same for CS 1000), CallPilot, and Contact Center Manager Administration before testing. Variables must be created and Scripts must be imported, saved, and validated. Then, add the commands below to the Master Script and activate.

Variable name	Class	Type	Value	Comment
test_cdn	Global	CDN	xxxx	CDN value used for testing

\*/

/\* Tests the Give IVR functionality, use CP\_Test2 to test advanced voice services \*/

```
IF CDN = test_cdn THEN
    EXECUTE SCRIPT CP_Test1
END IF
```

**CP\_Test1**

/\* This simple script tests the Give IVR command using CallPilot. For the Contact Center Manager Administration IVR port you reference the Application Builder application (either directly or through a global variable) using a treatment number that corresponds to a CallPilot SDN service-DN entry that you defined on CallPilot. The CallPilot service-DN links in the Application Builder application that you created. By convention you define the service-DN to be the same as the Application ID assigned by Application Builder (just for consistency). Assign a test agent to the default skillset and log the agent in. At the Give IVR command, you should hear the IVR speak a simple welcome greeting and then be queued to the default skillset. Answer the call.

Variable name	Class	Type	Value	Comment
ivr_queue	Global	ACD	xxxx	Symposium Voice Services DN in CallPilot (dedicated ACD-DN for Give IVR)
welcome_msg	Global	Treatment DN	xxxx	Announcement/voice menu DN in CallPilot SDN table

\*/

```
GIVE IVR ivr_queue WITH TREATMENT welcome_msg
QUEUE TO SKILLSET Default_Skillset
WAIT 2
QUIT
```

## CP\_Test2

/\* If the desired skillset has no agents logged in, the caller receives a closed broadcast message and is disconnected. If the skillset is staffed, the caller is queued to the default skillset. After the call has waited for 20 seconds, the caller is asked to press 1 if the caller wants to keep on holding. If the caller selects 1, the caller remains queued, otherwise the caller is disconnected. Make sure that the default queue is set to the Symposium Voice Services DN in CallPilot (dedicated ACDN for ACCESS). To access a voice segment (over a Contact Center Manager Server ACCESS Port), you do it through a global voice segment variable that has as its value the application-name:segment-ID, as defined in Application Builder.

\*/

Global Variable List:

Variable name	Class	Type	Value	Comment
access_queue	Global	ACD	xxxx	Symposium Voice Services DN in CallPilot (dedicated ACD-DN for ACCESS)
closed_message_vs	Global	Voice segment		Application-name:voice item-ID needs to be created and recorded in CallPilot
hold_option_vs	Global	Voice segment		Application-name:voice item-ID needs to be created and recorded in CallPilot

Variable name	Class	Type	Value	Comment
hold_choice_cv	Call	DN	0	

\*/

```

IF OUT OF SERVICE Default_Skillset THEN
  GIVE CONTROLLED BROADCAST ANNOUNCEMENT
  PLAY PROMPT VOICE SEGMENT closed_message_vs
  DISCONNECT
END IF

QUEUE TO SKILLSET Default_Skillset
WAIT 2 /* Allow time in case an agent is available */
SECTION WaitLoop
  WAIT 20
  OPEN VOICE SESSION
    PLAY PROMPT VOICE SEGMENT hold_option_vs
    COLLECT 1 DIGITS INTO hold_choice_cv
  END VOICE SESSION

  IF hold_choice_cv = 1 THEN
    EXECUTE WaitLoop
  ELSE
    DISCONNECT
  END IF

```

# Chapter 10

---

## Agent phones

### In this chapter

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# Supported phones

This section describes the phones supported with Contact Center Manager. For more information, see the Partner Information Center publications ([www.nortel.com/pic](http://www.nortel.com/pic)).

## **ATTENTION**

---

Agents assigned multimedia capabilities must log onto a phone through the Communication Control Toolkit. These agents cannot manually log onto a phone.

## Contact center phones

Nortel recommends that you use phones that are designed specifically for contact centers. These are specifically:

- M3905: Call Center Telephone
- M2216: ACD Digital Telephone

## Communication Server 1000 or Meridian 1 PBX ACD phones

Contact Center Manager Server also supports all phones that can be configured for use with Communication Server 1000 or Meridian 1 PBX ACD. These include:

- Meridian modular telephones (MMT)
  - M2216
  - M2616
- M39xx series telephones
  - M3904
  - M3905
- IP phones and Softphones
  - IP Phone 2004
  - IP Phone 2002
  - IP Phone 1120E

- IP Phone 1140E
- IP Phone 1150E
- IP Softphone 2050

These phones are not designed for a contact center environment and some contact center features are not available for use.

Support of specific types of phones can change with each software release of the call server (CS 1000). Consult the CS 1000 documentation for an up-to-date list of supported phone types for the software release in use.

The Wireless 22xx series phones are not supported with Contact Center Manager, but have limited ACD functionality. Refer to Wireless 22xx series Phone documentation.

# Display Waiting Calls key/lamp

Contact Center Manager supports the Display Waiting Calls (DWC) key. This feature lists skillset information when the DWC key on an agent's phone is pressed.

Contact Center Manager does not support the Directory Log feature.

## **ATTENTION**

---

The information displayed is different from the DWC feature used in the Communication Server 1000 or Meridian 1 PBX ACD environments.

## Agent phone display

The following information is displayed on a Contact Center Manager agent's phone (the DWC agent) when the agent presses the DWC key:

AAA BBB CCC, where:

- AAA is the sum of the number of calls waiting in each skillset, to which the DWC agent is currently logged on. A call is counted more than once if it is queued to more than one of the skillsets to which the DWC agent is logged on.  
If a call is queued to a specific agent ID (using the Queue to Agent statement in the Contact Center Manager Server scripts), it is not included in the number of calls waiting for the DWC agent. Only calls waiting in the skillsets to which the DWC agent is logged on are reflected.
- BBB is the sum of the number of agents logged on to each skillset to which the DWC agent is currently logged on. An agent is counted more than once if logged on to more than one of the skillsets to which the DWC agent is logged on.
- CCC is the waiting time, in seconds, of the oldest call in all of the skillsets to which the DWC agent is logged on.

## Supervisor phone display

The DWC key and associated lamp configured on a supervisor's phone do not support the display of any Contact Center Manager skillset information. If you press the DWC key on a supervisor's phone, it shows ACD queue information for that supervisor, as it currently does. The lamp also responds to ACD queue loading and activity for that supervisor, as determined by the switch configuration. Calls are not normally queued to ACD queues for Contact Center Manager; therefore, the primary uses of this feature for Contact Center Manager supervisors are when the contact center is handling Network ACD calls or operating in default mode, and the switch ACD features are routing the calls.

## Skillset information

Skillset information display is only available on phones that have numeric display capabilities. Phones without numeric displays cannot get skillset information by any other means (such as audible tones).

## Display format

The information on the set is displayed with spaces between the fields. For the phone set display of type 1 x 12, the data is displayed in three digits. For phone displays larger than 1 x 12, the data is displayed in four digits. The maximum displayable number of calls in queue is 9999, and the maximum number of agents that Contact Center Manager currently supports is 40. The maximum displayable amount of time that a call can be in queue is 9999 seconds or 2.78 hours. The following table summarizes the display types and field width for phones that display DWC key information.

## DWC key phone display type and field width

Display type	AAA	BBB	CCC
1 × 12	3 digits	3 digits	3 digits
1 × 16	4 digits	4 digits	4 digits
1 × 40	4 digits	4 digits	4 digits
2 × 24	4 digits	4 digits	4 digits

## Sample phone displays

The displays illustrated in this section indicate the lengths and positions of the various fields for each supported display configuration.

### Notes:

- No more than four digits are displayed per field.
- n illustrates the full width of a field.
- Leading zeros display as blanks.

## 1 x 12 character displays

	1	2	3	4	5	6	7	8	9	10	11	12
1	n	2	3		n	1	7		1	6	5	

## 1 x 16 character displays

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	n	n	2	3		n	n	1	7		n	1	6	5		

## 1 x 40 character displays

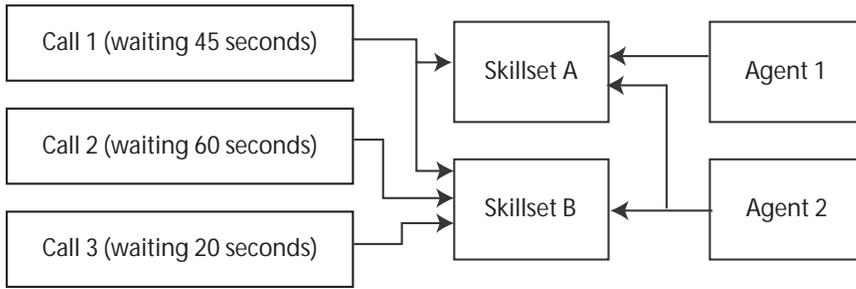
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	→	39	40
1	n	n	2	3		n	n	1	7		n	1	6	5			→		

## 2 x 24 character displays

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	→	24
1	W	A	I	T	I	N	G		M	A	N	D		L	W	A	I	T	→	
2				n	n	2	3		n	n	1	7			n	1	6	5	→	

## DWC examples for agent phones

Consider the following diagram with two agents logged on to two skillsets. Three calls are queued to the two skillsets.



The following display results when Agent 1 presses the DWC key:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	...	24
<b>1</b>	<b>W</b>	<b>A</b>	<b>I</b>	<b>T</b>	<b>I</b>	<b>N</b>	<b>G</b>		<b>M</b>	<b>A</b>	<b>N</b>	<b>D</b>		<b>L</b>	<b>W</b>	<b>A</b>	<b>I</b>	<b>T</b>	...	
<b>2</b>							<b>1</b>					<b>2</b>					<b>4</b>	<b>5</b>	...	

The following display results when Agent 2 presses the DWC key:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	...	24
<b>1</b>	<b>W</b>	<b>A</b>	<b>I</b>	<b>T</b>	<b>I</b>	<b>N</b>	<b>G</b>		<b>M</b>	<b>A</b>	<b>N</b>	<b>D</b>		<b>L</b>	<b>W</b>	<b>A</b>	<b>I</b>	<b>T</b>	...	
<b>2</b>							<b>4</b>					<b>3</b>					<b>6</b>	<b>0</b>	...	

## DWC key lamp

The DWC key lamp on a Contact Center Manager agent phone does not respond to calls in skillsets; it always remains dark as far as skillset loading and activity are concerned. However, the lamp continues to respond to the call loading and activity in any ACD queues that the agent is logged on to, as determined by the configuration on the switch. Calls are not normally queued to ACD queues for Contact Center Manager; therefore, the primary use of this feature for agents is when the contact center handles Network ACD calls or operates in default mode, and the switch ACD features route the calls. When the agent presses the DWC key, the agent phone display shows Contact Center Manager skillset information as detailed in “DWC examples for agent phones,” on page 253.

# Unsupported phone keys

The following section describes unsupported phone keys.

## ACD Waiting Calls key/lamp

The ACD Waiting Calls (AWC) key/lamp is not supported in Contact Center Manager to indicate skillset information. Any AWC key/lamp defined on an agent's or supervisor's phone indicates information on the ACD-DN for the phone, as configured on the switch.

## Other unsupported agent phone keys

Contact Center Manager does not support the following keys or report on them:

- Hotline
- Private line
- Voice call
- Dial Intercom

# Supported modifications on an acquired phone

Although all the modifications listed in this chapter are supported on acquired sets, there are minor consequences associated with some. Modifications are grouped per consequence. The modifications are applicable to all phone types unless otherwise stated.



## CAUTION

---

### Risk of lost calls

It is assumed that any maintenance work performed on agent sets of the Contact Center Manager system is performed outside of office hours. Validate and test the changes prior to an agent logging back on. Any maintenance undertaken during office hours can result in calls lost or misdirected and ultimately abandoned, causing a potential loss of revenue for the business.

## No effect on agent status

**M3900 firmware download** (only affects M3904, M3905, M3904+KBA, M3905+KBA)—No effect on agent status. Note that if the agent is idle before a firmware download, an incoming call can be presented to the agent. As the set is non-functional during firmware download, the call is not answered. Therefore, Nortel recommends either log the agent off prior to a firmware upgrade or perform the upgrade outside office hours.

**ACD queue changes** (IVR queue changes)—An IVR queue change is specific to an ACD queue profile in Contact Center Manager, it has no effect on the agent status. The Contact Center Manager Administrator needs to add the IVR queue to the Contact Center Manager database accordingly. ACD changes to default queues do not effect the agent status, for example, modifying MAXP, NCFW, and so on. Changing the default ACD-DN for an acquired CDN has no effect on the agent status.

**Changes to resources acquired by CTI applications such as Call Monitoring applications** (does not apply to Analog 500 set)—Changes to AST (Associate Set Assignment) made with TAPI 3.0 for Meridian. If you add a key to AST, you must restart TAPI; if you remove a key, there is no issue.

## Agent must log back on after modification

Any parameter modification that is done with LD 10, 11, 20, 84, and 85 causes the set to be logged off and, therefore, the agent must log on again after the modification. Following is a list of modifications that trigger a log off:

- **CLID changes**—If the change is to LDN\_Data in LD 15 there is no effect on the agents.
- **DES (Designation) changes** (LD84 for analog sets; LD 85 for digital)—A DES change for the i2004 and i2050 sets can only be made in LD 20. MPLR18387 is required on Succession 3.0 and earlier to prevent a mismatch in state between Contact Center Manager Server and the switch. This service update is included in the latest Contact Center Manager Deplist.
- **Agent Supervisor (SPID) changes**
- **Adding or deleting key features such as Auto Dial and Hunting Allowed (HTA)**
- **Name change (digital sets)**
- **Key changes**
- **Class of Service changes**
- **Change or add AST (Associate Set Assignment) and IAPG (ISDN/AP status message group)** due to addition of a person to the performance recording tool—ETalk.

## Need to reacquire the line (agent/supervisor TN) after modification

The Telephony/Port Address line, associated with an agent or supervisor, is deacquired as a result of the following modifications and the Contact Center Manager administrator must reacquire the line after the modification is made.

**Agent queue changes (moving agents between queues)**

A change in ACD queue causes the line (agent/supervisor TN) to become deacquired in Contact Center Manager. If using ECHG to change agent positions between queues, assign the ACD key a null value and then add with the new ACD queue in another change pass. The administrator must still deacquire the set, make the change, and reacquire the set.

**Change only the position ID on a set**

When attempting to change the position ID of a set, an error SCH6683 is encountered. You cannot change the position ID while this agent is acquired. Therefore, the line must be deacquired in Contact Center Manager before making the modification.

**Name change (analog sets)**

When attempting to make a change to the DN key of an analog set (500) the following message is encountered: “SCH5039 – Already configured with AGTA.” The set can only be defined as a single appearance DN. The administrator must remove the ACD association of the set to make the name change, and then reapply the ACD functionality of the set. The removal of the ACD functionality of the set causes the line to be deacquired in Contact Center Manager.

Name changes can also be made with LD 95, which does not affect the state of the sets—the agents remain logged on and acquired in the case of analog and digital sets.

## Create a new TN in Contact Center Manager

The Contact Center Manager administrator must create a new TN in Contact Center Manager.

### **MOV/OUT**

When attempting to MOV/OUT an acquired line, the error SCH1509 Cannot MOV/OUT acquired TN is encountered. The TN (Terminal Number) must be deacquired in Contact Center Manager before the MOV/OUT operation can proceed.

The administrator must delete the item from the phone section and then create a new item for the new TN. The new TN must be acquired before the agent logs on.

Nortel does not support the use of the CPY command in LD 10 or LD 11 on ACD agents.



# Chapter 11

---

## Troubleshooting

### In this chapter

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## Overview

This section provides information about how and where to check for the status of the various configuration elements and parameters mentioned in the checklists.

For detailed information about how to configure the elements in each of the subsystems used with the switch, MLS, and voice processing for use with Contact Center Manager Administration, see Chapter 2, “Configuration overview.”

# To Run Meridian Link traces

Contact Center Manager provides a tool for saving Meridian Link messages into a text file. You can use this tracing tool to debug problems with a third-party application using MLS.

The executable for the tool is called `ml_trace.exe` and is in the `NORTEL\ICCM\bin` directory.

## Enabling message tracing

1 From the Windows Start menu, select **Command prompt**.

2 At the command prompt, type

```
c:\Nortel\iccm\bin\ml_trace.exe
```

where `c` is the location of the Nortel directory.

**Result:** The ICCM Meridian Link Services Manager Trace Tool window appears.

3 Click **Configuration**, and then select **Trace**.

**Result:** A dialog box appears.

4 From the dialog box, select the association ID of the application or applications to be traced.

5 Click **On**.

6 Click **Activate**.

7 Click **Done**.

**Result:** The dialog box disappears.

## Disabling message tracing

1 From the Windows Start menu, select **Command prompt**.

2 At the command prompt, type

```
c:\Nortel\iccm\bin\ml_trace.exe
```

where *c* is the location of the Nortel directory.

**Result:** The ICCM Meridian Link Services Manager Trace Tool window appears.

- 3 Click **Configuration**, and then select **Trace**.

**Result:** A dialog box appears.

- 4 From the dialog box, select the association ID of the application or applications.

- 5 Click **Off**.

- 6 Click **Done**.

**Result:** The dialog box disappears.

## To view the trace file

View the file `MLSMTTraceFile.txt` in the `Norte\ICCM\bin` directory.

# Subsystem link problems

The following section describes possible solutions to subsystem link problems.

## Making sure the server is up

- 1 **On the Contact Center Manager Server:** In the SMonW utility, all components must have the status UP.
- 2 **On the switch:** ELAN subnet connection to the switch is functioning (see the following section for detailed instructions).
- 3 **On the Contact Center Manager Administration:** You can successfully log on to the Contact Center Manager Administration server.

## Checking the ELAN subnet connection between the server and switch

- 1 On the switch, in LD 48, use the following command:

```
stat ELAN
```

- 2 The status for the ELAN subnet connected to the server must be ACTIVE EMPTY and APPL ACTIVE. (If there are multiple ELAN subnets, match the IP addresses.)

### Example

```
>ld 48
LNK000
.stat elan
SERVER TASK:  ENABLED
ELAN #: 16
    APPL_IP_ID: 47.166.111.14
    LYR7: ACTIVE  EMPTY  APPL ACTIVE
ELAN #: 17
    APPL_IP_ID: 47.166.111.13
    LYR7: ACTIVE  EMPTY  APPL ACTIVE
```

## Checking the CSL connection between the switch and Meridian Mail

- 1 On the switch, in LD 48, use the following command:

```
stat AML
```

- 2 The status for the link number connected to Meridian Mail must be ACTIVE EMPTY.

**Example:**

```
ld 48
LNK000
.stat aml
AML: 07 MSDL: 07 PORT: 03 DES: mail
LYR2: EST AUTO: ON LYR7: ACTIVE EMPTY
```

### Checking the ACCESS Link between the Contact Center Manager Server and Meridian Mail

- 1 In Meridian Mail, log on as tools (using the password configured for your system). Then navigate through the following menus:
  - a. 13Other
  - b. 2ACCESS Diagnostics
- 2 LinkStatus for the link to the server must be Synchronized.

**Example**

Links	Description	Location	TKMstat	TCstat	LinkStatus
1	ACCESS	1-6-1	Running	Running	Synchronized

### Checking the ACCESS Link between the Contact Center Manager Server and CallPilot

- 1 CallPilot: From **System Utilities > Support Tools > CallPilot Processing Utilities > Trace Viewer <nbtview>**, in Trace Control, select:
  - a. MLink\_Trace for messages on MLink
  - b. NBAPE for messages on ACCESS Link
- 2 Contact Center Manager Server: From **Start > Run**, enter **tsm\_oam**, and then select option 3.

- a. For VSM and MLSM session traces:  
From the OAM menu, select option 2, and then enter **0** at the prompt.  
Note the Session ID for VSM\_Service and MLink SP (CallPilot Application). Press **Return** to go back to the OAM menu.  
Select option 5, enter the Session ID, and then respond to the prompts as appropriate.
- b. For AML trace:  
From the OAM menu, select option 7.  
From the AML Trace menu, select option 4.
- c. For Access Protocol trace:  
From the OAM menu, select option 9. Select option 3 to enable the trace.
- d. For Access Protocol Debug trace:  
From the OAM menu, select option 10. Select option 3 to enable the trace.

## Checking the switch loop, shelves, and cards

- 1 On the switch, in LD 32, use the following command:  

```
stat n1 n2 n3
```

where n1 is the loop, n2 is the shelf, and n3 is the card that contains either agents or voice ports.
- 2 The status for real agents must be LOG IN or LOG OUT, depending on the state of the agent.
- 3 The status for Meridian Mail or CallPilot voice ports must always be LOG IN. If it is not, disable and enable the port on Meridian Mail or CallPilot to trigger the auto-logon.

### Example:

Loop

```
ld 32
NPR000
.stat 24
SUPER LOOP
000 DSBL      038 BUSY
```

**Example:**

**Real agents (2500 set agents)**

```
.stat 24 0 0
00 = UNIT 00 = IDLE (L500 LOG IN )
01 = UNIT 01 = IDLE (L500 LOG IN )
02 = UNIT 02 = IDLE (L500 LOG IN )
03 = UNIT 03 = IDLE (L500 LOG IN )
04 = UNIT 04 = IDLE (L500 LOG IN )
05 = UNIT 05 = IDLE (L500 LOG IN )
06 = UNIT 06 = IDLE (L500 LOG IN )
07 = UNIT 07 = IDLE (L500 LOG IN )
08 = UNIT 08 = IDLE (L500 LOG IN )
09 = UNIT 09 = IDLE (L500 LOG IN )
10 = UNIT 10 = IDLE (L500 LOG IN )
11 = UNIT 11 = IDLE (L500 LOG IN )
12 = UNIT 12 = IDLE (L500 LOG IN )
13 = UNIT 13 = IDLE (L500 LOG IN )
14 = UNIT 14 = IDLE (L500 LOG IN )
15 = UNIT 15 = IDLE (L500 LOG IN )
```

**Example:**

**Voice Ports (SL1 sets)**

```
.stat 4 0 3
00 = UNIT 00 = IDLE (BCS LOG IN )
01 = UNIT 01 = IDLE (BCS LOG IN )
02 = UNIT 02 = IDLE (BCS LOG IN )
03 = UNIT 03 = IDLE (BCS LOG IN )
04 = UNIT 04 = IDLE (BCS LOG IN )
05 = UNIT 05 = IDLE (BCS LOG IN )
06 = UNIT 06 = IDLE (BCS LOG IN )
07 = UNIT 07 = IDLE (BCS LOG IN )
```

**Making sure Meridian Mail ports are enabled**

- 1 In Meridian Mail, navigate through the following menus:
  - a. System Status and Maintenance

## b. DSP Port Status

The status for the ports must be one of the following:

Idle	<ul style="list-style-type: none"> <li>if the ports are acquired by the TN only from the server</li> </ul>
Active	<ul style="list-style-type: none"> <li>if the ports are acquired by the TN and the channel by the server</li> <li>if the ports are busy on a call</li> <li>if the ports are acquired by another ACCESS application</li> </ul>

## Making sure CallPilot ports are enabled

- 1 On the CallPilot client, navigate to CallPilot Manager.
- 2 Select **Channel Monitor** link. Channels are in **Idle** state.

Location ► Maintenance ► Channel Monitor

**Channel Monitor**

Start Courtesy Stop Stop Help

Refresh Rate  
Delay between updates: 5 seconds

Channel Status

MI Select All 1 2 3 4 5 6 7 8

ST01-001

Legend

Active Idle In Test Loading No Resources Not Configured Remote (Yellow) Alarm ACCESS Channel  
Off Duty Remote Off Duty Disabled Shutting Down Uninitialized Local (Red) Alarm IVR Channel

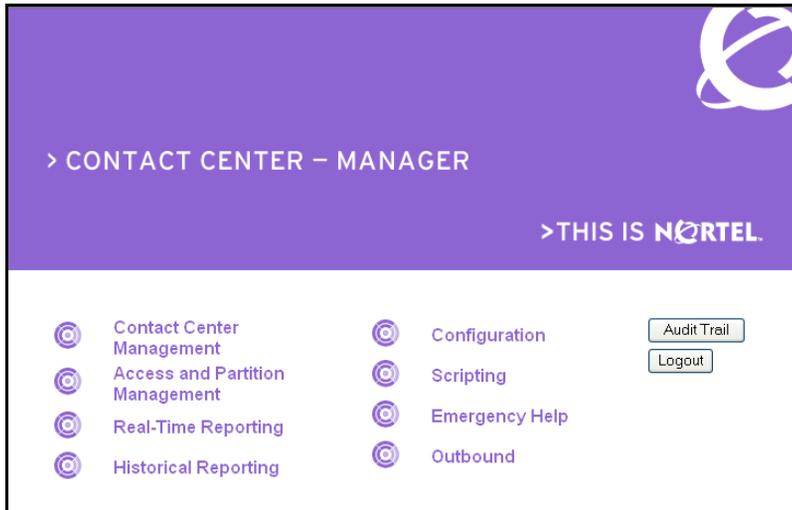
Start Courtesy Stop Stop Help

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On this screen, ACCESS channels are blue, and Give IVR channels are green.

## Making sure the CDN is acquired

- 1 Go to **Contact Center Manager Administration Launchpad > Configuration**.



- 2 Select **CDN (Route Points)**. The CDN status must be Acquired.
- 3 **On the switch:** In LD 23, use the following commands:

- **REQ PRT**
- **TYPE CDN**

**Result:** The following values appear on the printout:

- AACQ = YES
- ASID = ELAN connected to Contact Center Manager Server
- CNTL = YES

**Example:**

```
>ld 23
ACD000
MEM AVAIL: (U/P): 3591770      USED: 405925      TOT:
3997695
DISK RECS AVAIL: 2682
ACD DNS AVAIL: 23758      USED: 242      TOT: 24000
REQ prt
TYPE cdn
```

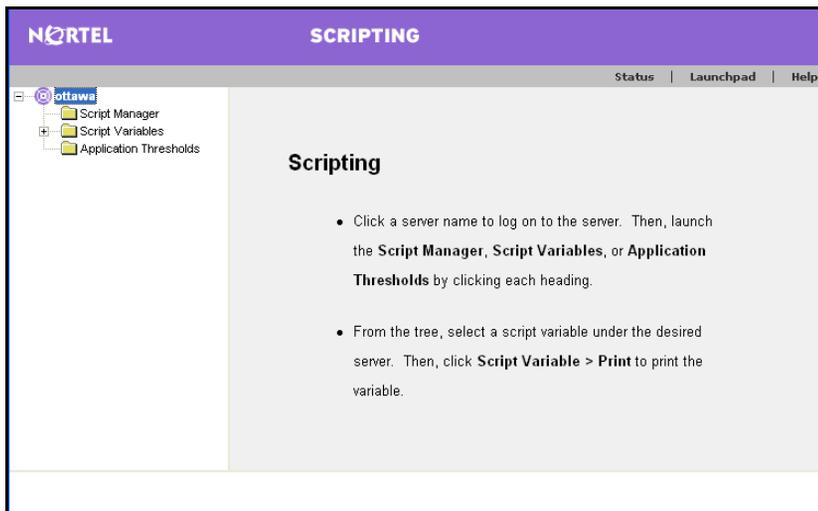
CUST 0  
CDN 2003  
TYPE CDN  
CUST 0  
CDN 2003  
FRRT  
SRRT  
FROA NO  
MURT  
DFDN 7700  
CEIL 2047  
OVFL NO  
TDNS NO  
RPRT YES  
AACQ YES  
ASID 16  
SFNB 1 2 3 4 5 6 9 10 11 12 13 15 16  
17 18 19  
USFB 1 2 3 4 5 6 7 9 10 11 12 13 14 15  
CALB 0 1 2 3 4 5 6 7 8 9 11  
CNTL YES  
VSID  
HSID  
CWTH 1  
BYTH 0  
OVTH 2047  
STIO  
TSFT 20

## Making sure the correct script is activated

- 1 Go to **Contact Center Manager Administration Launchpad > Scripting**



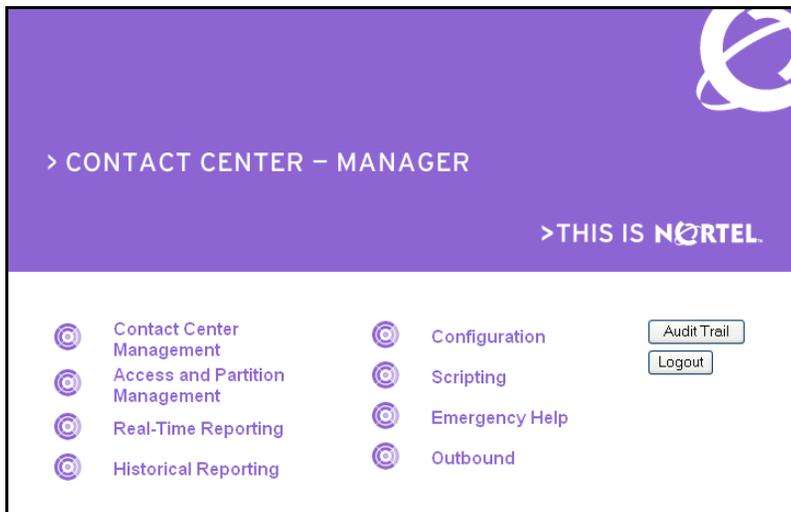
- 2 On the system tree, click the server containing the script that you want to activate.
- 3 The server expands to reveal a series of folders.



- 4 Click the **Script Manager** folder.  
**Result:** The Script Manager window appears, listing all the existing scripts.
- 5 Double-click the appropriate script.  
**Result:** Script appears in the Script Editor window.
- 6 Ensure that the script is in Active state.
- 7 If the script is not active, click **File > Activate**.  
**Result:** A message box appears, asking you to confirm your choice.
- 8 Click **OK**.  
**Result:** The system activates the script. The script's status changes to Active when the activation process finished successfully.

## Making sure that the IVR ACD-DN is acquired

- 1 Go to **Contact Center Manager Administration Launchpad > Configuration**.



- 2 Select **IVR ACD-DN**. The IVR ACD-DN status must be Acquired.
- 3 **On the switch:** In LD 23, use the following commands:
  - **REQ PRT**

■ **TYPE ACD**

**Result:** The following values appear on the printout:

- AACQ = YES
- ASID = ELAN connected to Contact Center Manager Server
- IVR = YES
- TRDN = default treatment DN, if any

**Example:**

```

1d 23
ACD000
MEM AVAIL: (U/P): 3591770    USED: 405925    TOT:
3997695
DISK RECS AVAIL: 2682
ACD DNS AVAIL: 23758    USED: 242    TOT: 24000
REQ prt
TYPE acd
CUST 0
ACDN 7725

TYPE ACD
CUST 0
ACDN 7725
MWC YES
IMS YES
CMS YES
IMA YES
IVMS YES
EES NO
VSID 7
MAXP 48
SDNB NO
BSCW NO
AACQ YES
ASID 16
SFNB 1 2 3 4 5 6 9 10 11 12 13 15 16
17 18 19
USFB 1 2 3 4 5 6 7 9 10 11 12 13 14 15
CALB 0 1 2 3 4 5 6 7 8 9 11
ALOG YES
RGAI NO
ACAA NO
FRRT
...
    
```

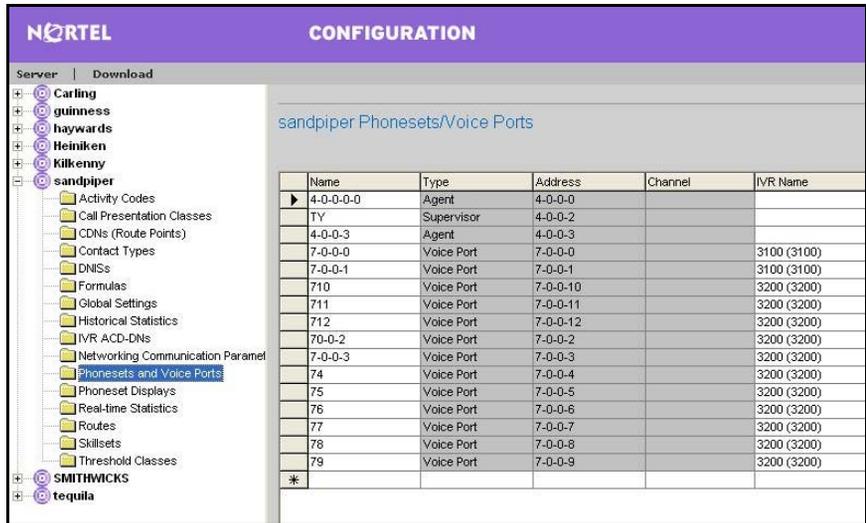
CCBA NO  
IVR YES  
TRDN 3600  
CWNT NONE

## Making sure Give IVR voice ports are acquired by the TN

- 1 Go to **Contact Center Manager Administration Launchpad > Configuration.**



- 2 Select **Phonsets and Voice Ports**. The voice port status must be Acquired Login.



- 3 In **CallPilot**: On the CallPilot client, in the CallPilot Manager, select Channel Monitor link. Make sure that the Give IVR (green) channels are in Idle state.

- 4 In **Meridian Mail**: Navigate through the following menus:

- 5System Status and Maintenance
- 3DSP Port Status

Make sure that the status for the ports is Idle.

- 5 On the **switch**: In LD 20, use the following commands:

- **REQ TNB**
- for Meridian Mail with all switches except Meridian 1 PBX PBX 11:  
**TYPE SL1**
- for CallPilot and for Meridian Mail with Meridian 1 PBX PBX 11:  
**TYPE 2008**

**Result:** The following values appear on the printout:

- ACQ AS = TN

- ASID = ELAN connected to Contact Center Manager Server

**Example:** (Meridian Mail)

```

ld 20
PT0000
REQ: prt
TYPE: tnb
TN 4 0 3 0
DATE
PAGE
DES

DES MAIL
TN 004 0 03 00
TYPE SL1
CDEN DD
CUST 0
KLS 1
FDN
TGAR 1
LDN NO
NCOS 0
...
PLEV 02
SPID NONE
AST
IAPG 0
AACS YES
ACQ AS: TN
ASID 16
SFNB 1 2 3 4 5 6 9 10 11 12 13 15 16
17 18 19
SFRB
USFB 1 2 3 4 5 6 7 9 10 11 12 13 14 15
CALB 0 1 2 3 4 5 6 7 8 9 11
FCTB
ITNA NO
DGRP
PRI 01
MLWU_LANG 0
DNDR 0
KEY 00 ACD 7725 0 4550
      AGN
      01 SCN 4500 0      MARP
      02 MSB
      03 NRD

```

- 04
- 05
- 06 TRN
- 07 AO3
- 08
- 09 RLS

**Example:** (CallPilot and Contact Center Manager Server)

```

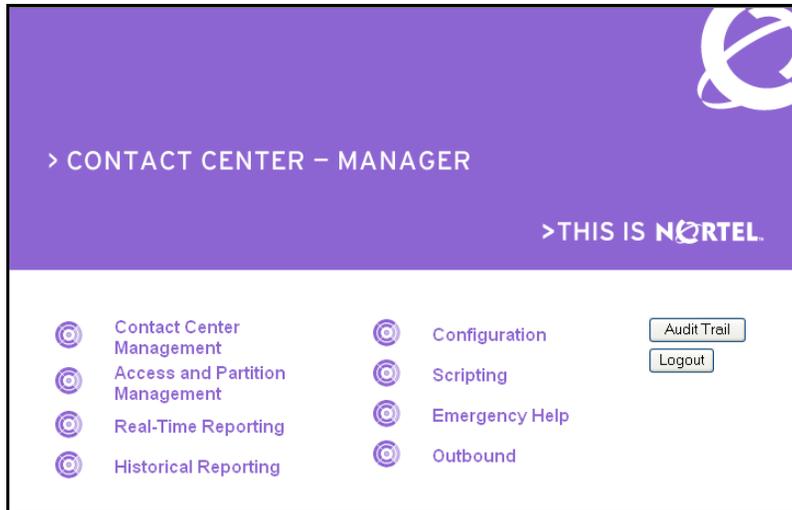
DES CLPLT
TN 024 1 13 26
TYPE 2008
CDEN 8D
CTYP XDLC
CUST 0
FDN
TGAR 1
LDN NO
NCOS 3
RNPG 0
SCI 0
SSU
XLST
SCPW
CLS CDT ...
CPND_LANG ENG
HUNT
SPID NONE
AST 00 01
IAPG 0
AACS YES
ACQ AS: TN,AST-DN,AST-POSID
ASID 16
SFNB 1 2 3 4 5 6 11 12 13 18 22
SFRB
USFB 1 2 3 4 5 6 7 9 10 11 12 13 14 15
CALB 0 1 2 3 4 5 6 8 9 10 11 12
FCTB
ITNA NO
DGRP
PRI 01
DNDR 0
DTMK
KEY 00 ACD 5990 0 5356
      AGN
01 SCN 5386 0      MARP
      CPND
    
```

```
NAME CallPilot
XPLN 27
DISPLAY_FMT FIRST, LAST

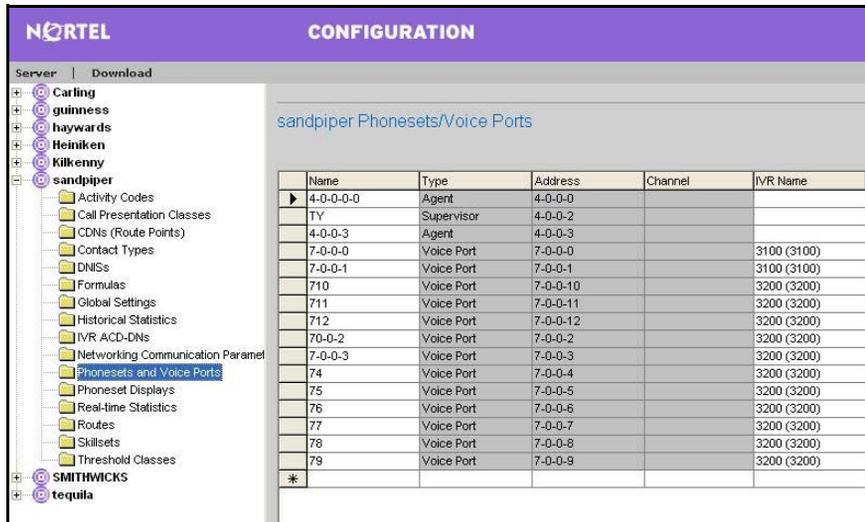
02 MSB
03 NRD
04 TRN
05 AO3
06
07
```

## Making sure ACCESS voice ports are acquired by the TN and CallPilot class ID or channel

- 1 Go to **Contact Center Manager Administration Launchpad > Configuration.**



- 2 Select **Phonsets and Voice Ports**. The voice port status must be Acquired Login.



- 3 In **CallPilot**: On the CallPilot client, in the CallPilot Manager, select Channel Monitor link. Make sure that the ACCESS (blue) channels are in Idle state.

- 4 In **Meridian Mail**: Navigate through the following menus:

- 5System Status and Maintenance
- 3DSP Port Status

Make sure the voice ports are in Active state.

- 5 On the **switch**: In LD 20, use the following commands:

- **REQ TNB**
- for Meridian Mail with all switches except Meridian 1 PBX PBX 11:  
**TYPE SL1**
- for CallPilot and for Meridian Mail with Meridian 1 PBX PBX 11:  
**TYPE 2008**

**Result:** The following values appear on the printout:

- ACQ AS = TN

- ASID = ELAN connected to Contact Center Manager Server

**Example:** See the examples in “Making sure Give IVR voice ports are acquired by the TN” on page 275.

## Verifying that the system default Treatment DN is configured correctly

In **Contact Center Manager Administration Launchpad > Configuration**, ensure that the default treatment DN specified in the **Global Settings** window is set appropriately.

## Making sure treatment DNs are defined in the CallPilot SDN table

In CallPilot, check the SDN table. (From the Configuration Manager, choose **System > Service Directory Number**.)

The table must contain an entry for each treatment DN, in which the Application Name is the name of the application created in Application Builder.

## Making sure treatment DNs are defined in the Meridian Mail VSDN table

See page 171 for a discussion about how treatment DNs are used with Meridian Mail.

- 1 In Meridian Mail, navigate through the following menus:
  - 3 Voice Administration
  - 4 Voice Services Administration
  - 1 Voice Service-DN Table
- 2 Verify that the treatment DN is defined here as the appropriate service. The following example shows the service defined as an Announcement (AS) service.

**Example:**

DN	Service	Comment
3600	AS 2020	Call Center - Manager announcement

DN	Service	Comment
5555	AS 2021	Call Center - Manager announcement
6666	ACC	ACCESS service

- 3 Navigate through the following menus:
  - 3 Voice Administration
  - 4 Voice Services Administration
  - 3 Announcement Definitions
- 4 Verify that the service number displayed in the Voice Service DN table is defined as an announcement.

**Example:**

ID	Title
2020	hello
2021	default

## Making sure IVR ACD-DNs match on the switch, Contact Center Manager Administration, and voice-processing system

The ACD-DNs must match in the following locations:

- Channel Information page in CallPilot Manager
- Meridian Mail CAT
- switch DN
- Contact Center Manager Administration script
- IVR ACD-DNs window in Contact Center Manager Administration

- 1 To verify that they match, follow these steps:
  - a. **In CallPilot:** In CallPilot Manager, choose **System > Service Directory Number**. Check the value specified in the Service DN field.

Location → System → Service Directory Number

**Service Directory Number**

Service Directory Number

New Delete Selected Refresh List Help

#	<input type="checkbox"/> Service DN	App Name	Media Type	Min Channels	Max Channels	Comments
1	<input type="checkbox"/> 4604	Symposium Voice Services	Voice	0	Default Max.	Symposium ACCESS channels
2	<input type="checkbox"/> 4800	Voice Messaging	Voice	0	Default Max.	
3	<input type="checkbox"/> 4802	CBC Main Menu	Voice	0	Default Max.	CBC Main menu
4	<input type="checkbox"/> 4805	Express Voice Messaging	Voice	0	Default Max.	Express messaging english
5	<input type="checkbox"/> 4810	Speech Activated Messaging	Speech Recognition	0	Default Max.	TN 100 0 0 6
6	<input type="checkbox"/> 4811	Custom Commands	Speech Recognition	0	Default Max.	Custom command TN 100 0 0 7
7	<input type="checkbox"/> 4850	Multimedia Messaging	Fax	0	Default Max.	
8	<input type="checkbox"/> 4851	Voice Messaging	Fax	0	Default Max.	

**b. In Meridian Mail:** Navigate through the following menus:

- 5 System Status and Maintenance
- 4 Channel Allocation Table

**Example:**

#	CDP	TN	ACN-DN	SCN	Type	Capability
21	2-1-1	004-0-03-00	4604	4500	Voice	FULL Basic ACC Class: 41

**c. On the switch:** In LD 22, use the following command:

```
REQ DNB
```

**Example:**

```
ld 22
PT2000
REQ prt
TYPE دنب
CUST 0
DN 4604
DATE
PAGE
DES

DN 4604
TYPE MCDN
MCID 4500 TN 004 0 03 00
```

**d. On Contact Center Manager Administration:**

- The script command specifies the DN defined in the CallPilot SDN table or the Meridian Mail Channel Allocation table:

```
Give Controlled Broadcast 4604
```

- In **Contact Center Manager Administration Launchpad > Configuration > IVR ACD-DNs**, the IVR ACD-DN number matches the ACD-DN defined on the switch and in the CallPilot SDN table or the Meridian Mail Channel Allocation table. The status for the IVR ACD-DN must be Acquired.

**Note:** In CallPilot, make sure that you configured the ACCESS IVR ACD-DN in the Service DN table on the CallPilot Manager. In Meridian Mail, make sure that you configured the ACCESS IVR ACD-DN in the VSDN table.

## Making sure voice port TNs match on the switch, Contact Center Manager Administration, and CallPilot or Meridian Mail

The configuration of the TNs belonging to the ACD-DN (see previous section) must match in the following locations:

- Channel Information page in the CallPilot Manager
- Meridian Mail CAT
- switch DN
- IVR ACD-DN acquired by Contact Center Manager Administration

To verify that they match, follow these steps:

- 1 In **CallPilot: Choose Configuration Wizard > CallPilot Manager > Channel Information**. Check the value in the TN column.

**Example:**

STI Board 200i		Board ID 67731456				
Link STI01-001						
#	Channel Name	TN	Key0	Key1	Channel Allocation	Class ID
1	<a href="#">STI01-001-001</a>	8.0.0.0	4300	4400	Multimedia	
2	<a href="#">STI01-001-002</a>	8.0.0.1	4301	4401	Multimedia	
3	<a href="#">STI01-001-003</a>	8.0.0.2	4302	4402	Multimedia	
4	<a href="#">STI01-001-004</a>	8.0.0.3	4303	4403	Multimedia	
5	<a href="#">STI01-001-005</a>	8.0.0.4	4304	4404	Multimedia	
6	<a href="#">STI01-001-006</a>	8.0.0.5	4305	4405	Multimedia	
7	<a href="#">STI01-001-007</a>	8.0.0.6	4306	4406	Access	1
8	<a href="#">STI01-001-008</a>	8.0.0.7	4307	4407	Access	2
9	<a href="#">STI01-001-009</a>					

**2 In Meridian Mail:** Navigate through the following menus:

- 5 System Status and Maintenance
- 4 Channel Allocation Table

**Example:**

#	CDP	TN	ACN-DN	SCN	Type	Capability
21	2-1-1	004-0-03-00	7725	4500	Voice	FULL Basic ACC Class: 41

**3 On the switch:** In LD 22, use the following command:

```
REQ DNB
```

**Example:**

```
ld 22
PT2000
REQ prt
TYPE dnb
CUST 0
DN 7725
DATE
PAGE
DES

DN 7725
TYPE MCDN
MCID 4500 TN 004 0 03 00
MCID 4501 TN 004 0 03 01
```

**4 On Contact Center Manager Administration:** Go to **Contact Center Manager Administration > Phonesets and Voice Ports**. The Channel

column for the voice port contains a unique number. The voice port status is Acquired Login.

Name	Type	Address	Channel	IVR Name
4-0-0-0-0	Agent	4-0-0-0		
TY	Supervisor	4-0-0-2		
4-0-0-3	Agent	4-0-0-3		
7-0-0-0	Voice Port	7-0-0-0		3100 (3100)
7-0-0-1	Voice Port	7-0-0-1		3100 (3100)
710	Voice Port	7-0-0-10		3200 (3200)
711	Voice Port	7-0-0-11		3200 (3200)
712	Voice Port	7-0-0-12		3200 (3200)
70-0-2	Voice Port	7-0-0-2		3200 (3200)
70-0-3	Voice Port	7-0-0-3		3200 (3200)
74	Voice Port	7-0-0-4		3200 (3200)
75	Voice Port	7-0-0-5		3200 (3200)
76	Voice Port	7-0-0-6		3200 (3200)
77	Voice Port	7-0-0-7		3200 (3200)
78	Voice Port	7-0-0-8		3200 (3200)
79	Voice Port	7-0-0-9		3200 (3200)
*				

## Making sure channels for ACCESS voice ports match on the server and CallPilot or Meridian Mail

The channel number (the number shown in the Class ID column in the CallPilot Channel Monitor or after the Class keyword in the Meridian Mail CAT) for a specific TN must match the channel number for the same TN in the Voice Ports window on Contact Center Manager Administration.

- 1 In **CallPilot**: Choose **Configuration Wizard > CallPilot Manager > Channel Information**. Check the value in the Class ID column.

STI Board 200i		Board ID 67731456				
Link STI01-001						
#	Channel Name	TN	Key0	Key1	Channel Allocation	Class ID
1	STI01-001-001	8 0 0 0	4300	4400	Multimedia	
2	STI01-001-002	8 0 0 1	4301	4401	Multimedia	
3	STI01-001-003	8 0 0 2	4302	4402	Multimedia	
4	STI01-001-004	8 0 0 3	4303	4403	Multimedia	
5	STI01-001-005	8 0 0 4	4304	4404	Multimedia	
6	STI01-001-006	8 0 0 5	4305	4405	Multimedia	
7	STI01-001-007	8 0 0 6	4306	4406	Access	1
8	STI01-001-008	8 0 0 7	4307	4407	Access	2

- 2 In **Meridian Mail**: Navigate through the following menus:

- 5 System Status and Maintenance
- 4 Channel Allocation Table

**Example:**

#	CDP	TN	ACN-DN	SCN	Type	Capability
21	2-1-1	004-0-03-00	7725	4500	Voice	FULL Basic ACC Class: 41

- 3 On **Contact Center Manager Administration**: Go to **Contact Center Manager Administration > Phonesets and Voice Ports**. Ensure that each TN has a unique number in the Channel column. Ensure that the voice port status is Acquired Login.

# CallPilot problems

Use the following checklist to troubleshoot configuration problems with CallPilot.

Subsystem	Description	✓
<b>ELAN subnet</b>		
Switch	All VSIDs have SECU YES (see “To configure the ELAN subnet” on page 73).	
<b>MLS</b>		
CallPilot	Nortel server subnet IP address is configured correctly on the Switch Information page (see “To update CallPilot configuration” on page 146).	
Switch	Voice ports are configured with AST (Associated Set Assignment) on key 0 and key 1 (see “Creating a CallPilot voice port with LD 11” on page 100).	
<b>ACCESS link</b>		
Contact Center Manager Server	The connection to CallPilot is configured correctly on the Voice Connection page of the Server Setup Configuration utility (see “To configure voice connections” on page 181).	
<b>ACCESS ACD-DNs</b>		
CallPilot	The ACD-DN is configured in the SDN table with Application Name as Symposium Voice Services and Media Type as Voice (see “To update the SDN table” on page 147).	

Contact Center Manager Administration	The ACCESS ACD-DN is specified as Default IVR Access DN and Default Access Treatment DN in Global Settings (see “To configure Global settings” on page 199).	
Switch	The ACD-DN is configured with IVR YES and ALOG YES (see “Creating a CallPilot ACD-DN in LD 23” on page 97).	
<b>ACCESS channels</b>		
CallPilot	The channel has a Class ID. The TN assigned to the channel matches the TN on the switch.	
Contact Center Manager Administration	The channel defined for the voice port equals the class ID assigned to the channel in CallPilot (see “To configure voice ports on the server” on page 196). The TN assigned to the channel matches the TN on the switch.	
Switch	Voice ports are configured with AST 00 01 and CLS MMA FLXA (see “Creating a CallPilot voice port with LD 11” on page 100).	
<b>Give IVR ACD-DNs</b>		
CallPilot	The ACD-DN is configured in the SDN table with Application Name as Symposium Voice Services and Media Type as Voice (see “To update the SDN table” on page 147).	
Switch	The ACD-DN is configured with IVR YES and ALOG YES (see “Creating a CallPilot ACD-DN in LD 23” on page 97).	
<b>Give IVR channels</b>		
CallPilot	The TN assigned to the channel matches the TN on the switch.	

Contact Center Manager Server	The TN assigned to the channel matches the TN on the switch.	
Switch	Voice ports are configured with AST 00 01 and CLS MMA FLXA (see “Creating a CallPilot voice port with LD 11” on page 100).	

# Voice port problems

The following section describes possible solutions for voice port problems.

## Voice ports become deacquired

To deacquire is to release an acquired switch resource from the control of the Contact Center.

**Note:** To avoid this problem, assign new IVR ACD-DNs to Contact Center Manager Administration.

This problem can occur if Contact Center Manager Server shares ACCESS voice ports (voice ports acquired as both a TN and channel) with other applications. If non-Contact Center Manager Server calls terminate on ACCESS voice ports used by Contact Center Manager Server, those voice ports can become deacquired. To troubleshoot the problem, perform the checks in the following list.

### Checking for non-Contact Center Manager Server calls

- 1 Examine the following to see if they direct incoming calls to the ACD-DN owning the voice ports:
  - switch IDC tables
  - switch trunk auto-terminate destinations
  - switch ACD-DN Night Call Forward destinations
  - switch set Call Forward (No Answer, Busy, and All Calls) destinations
  - switch Controlled Directory Number (CDN) Default DN destinations
  - Customer Controlled Routing (CCR) scripts
  - Meridian Link applications
- 2 Examine Contact Center Manager Server scripts and look for Give IVR commands that direct calls to an ACD-DN set up for Give Controlled Broadcast Announcement and Open Voice Session.

- If you use Meridian Mail Call Path Diagnostics (CPD), you may receive error events indicating that calls arriving on voice ports are not under the control of Contact Center Manager Server.
- To determine the cause of non-Contact Center Manager Server calls that arrive at a voice port, see Contact Center Manager Server error events. Use the originating DN and ACD-DN of the call for this purpose.

## **Channel number field in the Voice Ports window appears dimmed**

The configuration guidelines recommend that the voice ports must be acquired by the TN, and they are currently acquired by the TN and the channel. When you double-click to delete the channel number, you cannot delete it because the field appears dimmed. The same problem applies when voice ports are acquired by a TN, and they must be changed to be acquired by the TN and channel.

You cannot change the acquire status (TN or TN-and-channel) while the port is acquired.

- 1 If you must change the configuration, first deacquire the port. See “Deacquiring a voice port,” on page 332.
- 2 Double-click the port to change the configuration (now the field is open to be edited).
- 3 Reacquire the port. See “Acquiring a voice port,” on page 343.

## **Voice ports are Remote Out-Of-Service in CallPilot**

To correct this problem, on the switch, verify that the voice ports are configured with AST (Associated Set Assignment) on key 0 and key 1 (see “Creating a CallPilot voice port with LD 11” on page 100).

# Call treatment problems

The following section describes possible solutions to call treatment problems.

## Script skips over voice-processing commands

When the script is executed, it ignores the voice-processing commands and continues to complete after the voice-processing commands.

- 1 For the Give IVR script command, verify the following:
  - a. The IVR ACD-DN is configured and successfully acquired.
  - b. The IVR ACD-DN is configured on the switch with IVR = YES.
  - c. Voice ports for that IVR ACD-DN are logged on and idle (check the switch and CallPilot or Meridian Mail).
- 2 For the Give Controlled Broadcast Announcement and Open Voice Session script commands, verify the following:
  - a. The IVR ACD-DN is configured and acquired.
  - b. Phones and voice ports are configured and acquired.
  - c. For Symposium Voice Services on CallPilot:
    - Voice items and variables are valid and recorded.
    - In CallPilot, on the Channel Monitor page, the ACCESS voice ports are idle.
  - d. For Symposium Voice Services on Meridian Mail:
    - The Meridian Mail mailbox and password are configured and match the Contact Center Manager Administration global settings configuration (check the password by changing it to VM class of service, and dial in to the mailbox directly).
    - Voice segment numbers and variables are valid and recorded.
    - The DSP Port Status menu in Meridian Mail shows the channels in use by Contact Center Manager Administration in the Active state (this means that Meridian Mail registers that they are acquired).
  - e. The switch shows the TNs used as voice channels to be logged on and idle.

- f. The ACCESS link is up.

## **Calls are suspended in the script at the voice-processing command**

Scripts advance to the voice-processing commands, but never continue beyond that. They remain there until the caller disconnects or an agent (if the call was previously queued) answers the call.

For the Give IVR script command, ensure that the TNs used as voice ports are acquired by Contact Center Manager Administration.

## **Voice-processing commands do not execute consistently**

When using the Give Controlled Broadcast Announcement or Open Voice Session script commands, some callers hear the prompts, and others do not.

- 1 To resolve this problem, perform these tasks:
  - a. Ensure that the switch and Contact Center Manager Administration configurations match exactly: the TNs configured for the IVR ACD-DN on the switch must be the same as the voice ports configured in Contact Center Manager Administration > Configuration. There should be no extra TNs. If extra TNs exist, disable them on CallPilot or Meridian Mail, or move them to a different ACD-DN on the switch and CallPilot or Meridian Mail.
  - b. Check whether non-Contact Center Manager Server calls arrive at this IVR ACD-DN. For more information, see “Voice port problems” on page 291.

## Callers hear ringing, but the call is not answered

This problem occurs if the call is not routed to CallPilot, or if the call is routed to CallPilot, but CallPilot does not answer.

### Calls are not routed to CallPilot

If calls are not routed to CallPilot, follow these steps:

- 1 In Contact Center Manager Server, check the Services Monitor to determine whether the Meridian Link Services Manager (MLSM) is running. If it is running, continue with the next step. If it is not running, use the Windows Services control panel to restart it. If it does not start, restart the server.
- 2 Make sure that ACCESS is operational on both Contact Center Manager Server and CallPilot.
  - a. In Contact Center Manager Server, look for event 40305, "The ACCESS Link is up." A subsequent event 40309, "ACCESS Link time-out," indicates a problem with the link.
  - b. In CallPilot, look for event 60921, "ACCESS link is up." A subsequent event 60920, "ACCESS link is down," indicates a problem with the link.

If there is a problem with the ACCESS link, check the configuration on the switch, CallPilot, and Contact Center Manager Server (see "Subsystem link problems" on page 265). After making the required changes, restart the VSM service from the Windows Services control panel on the server in Contact Center Manager Server.

- 3 If ACCESS is operational on both servers, MLS may not be running on the CallPilot server. Restart the CallPilot server.

### CallPilot is not answering

If calls are routed to CallPilot, but CallPilot is not responding, follow these steps:

- 1 Check the CallPilot SDN table to verify that it contains an SDN for Symposium Voice Services (see "To update the SDN table" on page 147).
- 2 Check the voice port status in CallPilot. If it is Remote Out-of-Service, the voice ports are configured incorrectly on the switch. Make sure that voice ports are configured with AST (Associated Set Assignment) on key 0 and key 1 (see "Creating a CallPilot voice port with LD 11" on page 100).

## Callers wait too long to hear voice processing

The caller hears too many cycles of ringback before the message is played.

- 1 For the Give IVR and Open Voice Session script commands, ensure that there are enough voice ports available for the traffic.
- 2 For Give Controlled Broadcast Announcement in start/stop mode, ensure that the Broadcast Wait Timer setting on the server is not too long. The default setting is 10 seconds; when a single call is made, the software waits 10 seconds before connecting the call to a voice port for the announcement.

## Call does not receive voice treatment

The script executes the voice-processing commands, but callers are not connected to the appropriate voice port.

- 1 To resolve this problem, perform these steps:
  - a. In Contact Center Manager Administration > Configuration, make sure that the ACD-DN is configured and acquired.
  - b. Make sure all voice ports that are members of this ACD-DN are configured appropriately on the switch, in Contact Center Manager Administration > Configuration, and in CallPilot. Make sure that the TNs and ACD-DN are the same in all three subsystems. Make sure that the position ID defined on the switch matches key 0, as defined in CallPilot, and that the SCN DN defined on the switch matches key 1, as defined in CallPilot.
  - c. In Contact Center Manager Administration > Configuration, make sure that the voice ports are acquired.
- 2 For ACCESS voice ports, make sure that the Voice Port Channel defined in Contact Center Manager Administration > Configuration matches the CallPilot class ID.

## Callers hear silence instead of voice-processing treatments

The script executes the voice-processing commands, but callers hear only silence instead of the prompts and announcements specified in the script. This problem occurs if there is no application running on the voice port.

- 1 For the Give IVR script commands, ensure that the following elements are in place:
  - a. The announcement on CallPilot or Meridian Mail indicated by the treatment DN exists and is recorded.
  - b. The voice port where the call is acquired is in Idle state in CallPilot or Meridian Mail.
  - c. The voice port is in Acquired Login state in Contact Center Manager Administration.
- 2 For the Give Controlled Broadcast Announcement and Open Voice Session script commands, ensure that the following elements are in place:
  - a. In CallPilot, on the Channel Monitor page, the ACCESS voice ports are idle, not active.
  - b. In Meridian Mail, the DSP Port Status menu shows the channels in the Active state.
  - c. There are no extra TNs on the switch side in the same ACD-DN as the channels acquired by Contact Center Manager Server.
  - d. The IVR ACD-DN used is the correct one, and the correct ports belong to that ACD-DN on the switch and CallPilot or Meridian Mail.
  - e. The ACCESS link is up.
  - f. In CallPilot, on the Channel Monitor page, ensure that the ACCESS voice ports are idle, not active.
  - g. In Meridian Mail, the DSP Port Status menu shows the channels in use by Contact Center Manager Server in the Active state (this means that Meridian Mail registers that they are acquired).

## **Callers hear a message different from the voice-processing treatment specified in the script**

Callers hear a message different from the one indicated by the voice-processing command.

- 1 For the Give IVR script command, verify the following:
  - a. The treatment and recording on CallPilot or Meridian Mail indicated by the treatment DN contains the correct recording.
  - b. In CallPilot, the default treatment DN on the switch is listed in the SDN table.



For the Give Controlled Broadcast Announcement (continuous mode) script command, calls are connected as soon as they arrive. Callers continue to listen to the announcement until one full cycle of the message is played. With small periods of silence at the start and end of the announcement, as well as the small time frame between the time that a call is connected to a port and when it starts hearing the announcement, the application software calculates that the call did not hear the announcement all the way through on the first cycle. The human ear, however, may sense that it heard the cycle. The software plays another cycle of the message before continuing the script.

If the script commands specify multiple repeats of the announcement (for example, four repeats), the caller can hear up to eight messages (or partial messages) as each script command imposes the calculation in the proceeding paragraph.

## **Callers hear “Your voice session cannot be completed” message**

The caller hears the message “Your Voice Session cannot be completed” instead of the prompts specified in the script.

- 1** Verify the following:
  - a.** The ACCESS link is up.
  - b.** In Meridian Mail, the Mailbox specified on Contact Center Manager Administration is the correct one. (In CallPilot, you can have any input.)
  - c.** In Meridian Mail, the Mailbox password on Contact Center Manager Administration is correct and did not expire. (In CallPilot, you can have any input.)
  - d.** The voice segment requested exists (is recorded).
  - e.** The voice ports are acquired correctly (and all of the ports in the IVR ACD-DN are acquired).

## **Voice prompts do not play**

If CallPilot comes up before Meridian Link Services Manager (MLSM) is running, all Give IVR and ACCESS channels remain in Uninitialized state. To avoid this problem, always start Contact Center Manager Server before CallPilot.

To ensure that CallPilot always starts after Contact Center Manager Server, even if both servers are powered up at the same time, defer the CallPilot bootup by five minutes by making the following change to the Windows settings on the CallPilot server:

- 1 From the Windows control panel, open **System**.
- 2 Click the **Startup/Shutdown** tab.
- 3 In the **System Startup** box, set **Show list for** to 300 seconds.

## **Caller hears voice prompts but is never presented to an agent**

This problem occurs if a transfer fails after a Give IVR command used with a third-party voice-processing system.

If the Give IVR script command is used with a third-party IVR application or a CallPilot or Meridian Mail voice menu to transfer a call to a DN that is busy, Contact Center Manager Server loses control of the call. When using Give IVR, always transfer the call to an ACD-DN.

## Other problems

The following section describes possible solutions to other problems.

### Contact Center Manager Server and the switch do not communicate

If Contact Center Manager Server and the switch are not exchanging information, the network traffic volume over the ELAN subnet may be excessive. You must ensure that the network is designed to support the number of devices installed on the ELAN subnet. For information about proper network design, see the *Contact Center Planning and Engineering Guide*.

### Contact Center Manager Server calls are not presented to agents

When agents become idle, they are presented with ACD calls rather than with waiting Contact Center Manager Server calls.

If an ACD call is waiting when an agent becomes idle, the switch ACD software routes the ACD call to the agent, and the switch notifies Contact Center Manager Server that the agent is available. By the time that Contact Center Manager Server receives the notification, the agent is already handling the ACD call, and is no longer available to handle the skillset call.

To prevent this problem, do not use the ACD-DN for customer calls.

#### Notes:

- If there are no ACD calls waiting when the agent becomes idle, a Contact Center Manager Server call is presented.
- This problem does not occur with NACD calls. When an agent finishes handling an NACD call, the switch provides a small time window to allow a Contact Center Manager Server call to be presented. If no Contact Center Manager Server call is available, the switch presents the next NACD call.

## Network call-by-call reports display inaccurate timestamps

In a contact center with multiple sites using the Network Skilled-Based Routing (NSBR) feature, all switches are synchronized with identical timestamps. If the network call-by-call reports from your site indicate a reporting inaccuracy, the timestamp for your local switch may be out of synchronization with the switches at other sites.

Check the timestamp of your local switch at the beginning of each shift. This ensures that network call-by-call reports reflect the accurate time.

### Ensuring the timestamp is accurate

- 1 Log on to the switch console.
- 2 Open a Command Prompt and type **ld 2**, and then press **Enter**.
- 3 Type **ttad** at the prompt, and then press **Enter**.  
**Result:** The current date and time appear in the format DD-MM-YYYY 00:00.
- 4 To change the date and time, follow these steps:
  - a. Type **stad**.
  - b. Enter the correct date and time.
- 5 Log off the switch console.

# Frequently asked questions

The following is a list of frequently asked questions about voice-processing operation.

## **What is the difference between the Play Prompt statement on the Give Controlled Broadcast Announcement and the Open/End Open Voice Session commands?**

There are three differences:

1. The Give Controlled Broadcast Announcement play prompt has a continuous option, which is not applicable to the Open/End Voice Session command.
2. The Open/End Voice Session play prompt has a no-type-ahead option, which is not applicable to the Give Controlled Broadcast Announcement command.
3. The start/stop timer for starting the announcement applies only to broadcast operation. When the Open/End Voice Session command is used, every call is connected to its own voice port and the message starts immediately.

Other than the exceptions in the previous list, the statements' syntax is the same and they operate in the same way.

## **Which voice-processing commands use treatment DNs, and what are they used for?**

See “To configure VSDN entries (treatment DNs)” on page 171, which explains how treatment DNs are used and determined.

## **What is the difference between using an initial IVR to Symposium and Symposium Voice Services?**

Using an initial IVR means incoming calls from the trunks are directly terminated on a voice-processing engine. Based on the caller's choice from the menus, the call can be transferred to a CDN that enters Contact Center Manager Server. This operation is largely transparent to Contact Center Manager Server.

When you use Contact Center Manager Server voice services, the calls from the trunks enter a CDN first. Then, as part of the script processing, the call is directed to a voice-processing engine. The server is in full control of this interaction.

## **When do you need channels set up? What are channels?**

Channels refer to a voice channel as seen from an ACCESS application's point of view—a voice resource through which you can control what a voice call hears—similar to the concept of a speech path on the switch.

On CallPilot or Meridian Mail, a channel is a port attribute (a TN configured with ACCESS class of service and a class number assigned to it). On the switch, a channel is a voice port TN.

CallPilot or Meridian Mail voice ports configured as channels, and Contact Center Manager Administration having acquired these ports with channel numbers assigned, are required for the Give Controlled Broadcast Announcement and the Voice Session script commands to work correctly.

## **Why is the default operation of Give IVR non-interruptible, while the default for Give Controlled Broadcast Announcement and Open Voice Session is interruptible?**

Interruptible operation as the default makes the most sense for all of the voice-processing commands. However, keeping Give IVR's operation the same as it is in CCR minimizes confusion for customers who are familiar with its operation.

## **What are the default IVR ACD-DN and default treatment DNs used for? What should they be set to?**

See Chapter 4, "Switch subsystem configuration," which explains how IVR ACD-DN and treatment DNs are used.

## **Can Meridian Link and CCR use the same Meridian Mail system as Contact Center Manager Server?**

Yes, they can. However, they cannot share voice ports or IVR ACD queues with the server.

**What is the difference between the *number* and *numberbydigit* clauses on the Play Prompt script statement?**

The *numberbydigit* clause speaks each number separately (for example, a “Play Prompt numberbydigit 1234” statement reads: one-two-three-four).

The *number* clause speaks the number as a single entity (for example, a “Play Prompt number 1234” statement reads: one-thousand-two-hundred-thirty-four).



# Appendix A

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## To migrate from Meridian Mail to CallPilot

### In this appendix

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# Overview

This appendix contains the following information:

- procedures for migrating from Symposium Voice Services on Meridian Mail to Symposium Voice Services on CallPilot
- procedures for backing out of the migration (reverting from Symposium Voice Services on CallPilot to Symposium Voice Services on Meridian Mail), if the migration is unsuccessful
- description of the differences between the Voice Prompt Editor and Application Builder

For further information about migration, see the *Meridian Mail to CallPilot Migration Utility Guide*.

## Comparison of CallPilot and Meridian Mail voice services

Functionality of Symposium Voice Services on CallPilot is the same as Symposium Voice Services on Meridian Mail, except as shown in the following table.

<b>Feature</b>	<b>Meridian Mail</b>	<b>CallPilot</b>
Call processing control	Meridian Mail uses the serial X.25 AML link.	CallPilot uses the TCP/IP and MLS protocols on the Nortel server subnet.
Voice services control	Meridian Mail uses the serial ACCESS link.	CallPilot uses the TCP/IP and ACCESS protocols over the ELAN subnet.

<b>Feature</b>	<b>Meridian Mail</b>	<b>CallPilot</b>
Managing voice prompts	Use the integrated Voice Prompt Editor to administer and edit voice prompts.	Use the CallPilot Application Builder to administer and edit voice prompt. Application Builder is shipped with CallPilot, but you must install it separately.  To edit segment length, you must use a third-party application.
Voice segment storage	Voice segments are stored in a mailbox; access is controlled with a password.	Voice segments are stored in a folder; access is controlled by the Application Builder logon.
Voice segment length	Voice segments cannot exceed 2 minutes (120 seconds).	Voice segments cannot exceed 2 minutes (120 seconds).
Voice segment deletion	When a segment is deleted, the IDs of all subsequent segments are renumbered consecutively.	Segment IDs do not change when segments are deleted.
Voice prompt migration	Not applicable	When you migrate voice segments to CallPilot from Meridian Mail, the segment name is preserved. The title is the item that is concatenated with the description and appears as [Title] Description.
Front-end IVR robustness	Meridian Mail ACD-DN night call forward (NCFW) to Contact Center Manager Server CDN.	CallPilot default ACD-DN NCFW to Contact Center Manager Server CDN.

<b>Feature</b>	<b>Meridian Mail</b>	<b>CallPilot</b>
Maximum capacity	Meridian Mail supports 96 ports. (One port is reserved for messaging. Therefore, only 95 ports are available for voice services.)	CallPilot supports 192 ports in Release 4.0. (One port is reserved for messaging. Therefore, only 191 ports are available for voice services.)

# Section A: To migrate from Meridian Mail to CallPilot

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# Overview of migration

If you currently use Symposium Voice Services on Meridian Mail as your voice-processing system, and you want to use Symposium Voice Services on CallPilot, use the procedures in this section to migrate from Meridian Mail to CallPilot.



## CAUTION

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### **Risk of migration failure. Use the Migration checklist.**

To complete the migration successfully, you must follow the migration checklist (see page 318). This checklist lists the steps you must perform, and indicates the order in which you must perform them.

## Gradual migration

Rather than migrating all of your voice ports at one time, in some cases you can choose to do a staged migration. The following are the migration conditions:

- If you have a combination of ACCESS and IVR ports, you can migrate your ACCESS ports to CallPilot, and continue to use Meridian Mail to service your IVR ports.  
Contact Center Manager Server supports only one ACCESS link; therefore, you must migrate all of your ACCESS ports at the same time.
- If all of your ports are IVR, you can migrate some ports to CallPilot, and continue to use Meridian Mail to service the other ports.
- If all of your ports are ACCESS, you must migrate all ports to CallPilot at the same time (no staged migration).

# Premigration checklist

Before you begin the migration, complete the following checklist.

Description	✓
<p>Review all the voice-processing scripts and check that the voice-processing commands use variables instead of constants. (This is helpful if you must back out of the migration process.)</p> <p>For example:</p> <ul style="list-style-type: none"> <li>■ If ACCESS scripts use a constant number as the ACCESS ACD-DN, consider using a global variable that can be modified to represent a CallPilot ACCESS ACD-DN or a Meridian Mail ACCESS ACD-DN.</li> <li>■ If treatment DN's are constant numbers, consider using variables of type Treatment DN.</li> </ul>	
<p>Verify that CallPilot Release 4.0 is installed and operational. CallPilot ELAN subnet IP address:</p> <p>_____</p>	
<p>Verify that Meridian Mail to CallPilot Migration package is available for installation. The package consists of the following components:</p> <ul style="list-style-type: none"> <li>■ CallPilot 4.0 Documentation CD-ROM Package</li> <li>■ Meridian Mail to CallPilot Migration Tape</li> </ul>	
<p>Verify that Meridian Mail hardware platform meets the requirements. See the <i>Meridian Mail to CallPilot Migration Utility Guide</i>.</p>	
<p>Verify that Meridian Mail 11 or later is installed and operational.</p>	
<p>Verify that Meridian Mail tape drive hardware and media meet the requirements. See "Tape drive hardware and media requirements" on page 316.</p>	

<b>Description</b>	✓
Verify that CallPilot Application Builder is installed and operational in the network.	
Verify that Contact Center Manager Release 6.0 is installed and operational. Nortel server subnet IP address: _____	
Identify data that cannot be migrated. In the <i>Meridian Mail to CallPilot Migration Utility Guide</i> , review these sections: <ul style="list-style-type: none"> <li>■ Section A: “Understanding what can be migrated to Nortel CallPilot”</li> <li>■ Section B: “Migration strategies”</li> </ul>	
Check ACCESS mailboxes to ensure that: <ul style="list-style-type: none"> <li>■ the mailbox DNs are three or more digits in length</li> <li>■ the DNs are unique across all mailboxes</li> </ul>	
Verify that Meridian Mail Class of Service (COS) names are unique across all classes of service. Ensure that the mailbox that contains the ACCESS prompts does not have personal COS. If you migrate users with personal COS, see the <i>Meridian Mail to CallPilot Migration Utility Guide</i> and the <i>Meridian Mail System Administration Guide</i> .	
Verify that Contact Center Manager Server prompt file names are unique. If Contact Center Manager Server prompts exist in more than one mailbox on Meridian Mail, the data collection utility appends the mailbox number to the end of the file name. If the prompt file name and mailbox combination result in file names that are not unique, the prompts in the duplicate files are collected by the Meridian Mail data collection utility but not migrated to the CallPilot server.	

<b>Description</b>	✓
<p>Verify that the required number of blank tapes are available to store the data collected from Meridian Mail.</p> <p>The number of tapes required is based on the size of Meridian Mail. If you migrate Contact Center Manager Server Voice Services on an average system, you need two tapes—one for the system data, which includes voice prompts (menus and announcements), and one tape for the ACCESS mailbox content. For more information, see <i>Meridian Mail to CallPilot Migration Utility Guide</i>.</p>	
<p>Arrange maintenance period for Meridian Mail, CallPilot, and Contact Center Manager Server, so that system performance is not impacted by the migration.</p> <p>Freeze all modifications to the Meridian Mail system (such as adding additional voice prompts) during the migration. If you do not, these changes may not be migrated.</p>	
<p>Verify that the distribution level password for the CallPilot 4.0 support tools is available.</p>	

## Migration limitations

To migrate voice prompts from Meridian Mail to CallPilot Release 4.0, you must have one of the following Meridian Mail platforms:

- Card Option
- Option EC 11
- Modular Option
- Modular Option EC

If your Meridian Mail system is an Entopia system, you must run Meridian Mail Release 12 or later to migrate voice prompts to CallPilot Release 4.0.

For more information, see the *Meridian Mail to CallPilot Migration Utility Guide*.

## Tape drive hardware and media requirements

Use the following information to make sure that the tape you use to collect the Meridian Mail data is compatible with your CallPilot tape drive.

Based on your Meridian Mail software release and hardware platform, your Meridian Mail system uses one of the following tape drives and tapes:

- Archive Viper tape drive—250 MB tapes
- Tandberg SLR4 tape drive (TDC4220)—2.5 GB tapes
- Tandberg SLR5 tape drive—2.5 GB tapes

Based on your CallPilot software and hardware platform, your CallPilot system uses one of the following tape drives and tapes:

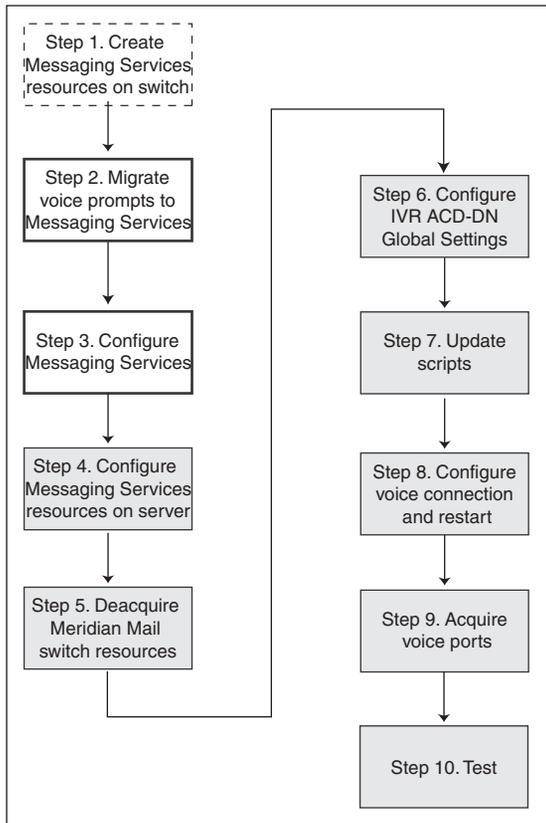
- SLR4—2.5 GB tapes
- SLR5—2.5 GB tapes
- SLR32—2.5 GB tapes
- SLR50—2.5 GB tapes

The CallPilot server tape drives SLR32 and SLR50 cannot read the 250 MB tapes created on the Archive Viper tape drive. If the Meridian Mail system has an Archive Viper tape drive, and the CallPilot server to which you migrate has an SLR32 or SLR50 tape drive, you must upgrade the Meridian Mail system to an SLR4 or SLR5 tape drive prior to performing the migration.

For more information, see the tape drive hardware and media requirements in the *Meridian Mail to CallPilot Migration Utility Guide*.

## Migration process

The following flowchart illustrates the migration process.



Perform tasks:

- in boxes with dash borders on the switch.
- in boxes with dark borders in CallPilot.
- in gray boxes (light borders) on Contact Center Manager Server or Contact Center Manager Administration.

# Migration checklist

To ensure a successful migration, use the following checklist. Copy or print the checklist, and review it carefully before you begin. The checklist contains each step you must perform during the migration. The order in which you complete certain steps is critical, so follow the order in the checklist. During the migration procedure, check off each item in the checklist as you complete it.

Description	✓
Complete the premigration checklist on page 313.	
<b>Step 1. Create CallPilot ACD-DNs and voice ports on the switch</b> For instructions, see page <a href="#">320</a> .	
<b>Step 2. Migrate Meridian Mail voice prompts and voice segments</b> For instructions, see page <a href="#">323</a> .	
<b>Step 3. Configure CallPilot</b> For instructions, see page <a href="#">324</a> .	
<b>Step 4. Configure CallPilot switch resources</b> For instructions, see page <a href="#">327</a> .	
<b>Step 5. Deacquire Meridian Mail voice ports and ACD-DNs</b> For instructions, see page <a href="#">332</a> .	
<b>Step 6. Configure Contact Center Manager Server connection to CallPilot</b> For instructions, see page <a href="#">336</a> .	
<b>Step 7. Configure the global settings</b> For instructions, see page <a href="#">338</a> .	
<b>Step 8. Acquire CallPilot resources</b> For instructions, see page <a href="#">341</a> .	

<b>Description</b>	✓
<b>Step 9. Update your scripts</b> For instructions, see page <a href="#">345</a> .	
<b>Step 10. Test the migration.</b> For instructions, see page <a href="#">346</a> .	

**Tip:** Nortel recommends that you leave your Meridian Mail configuration intact, in case you need to back out of the migration.

## Step 1. Create CallPilot ACD-DNs and voice ports on the switch

You must create the CallPilot ACD-DNs (IVR and ACCESS) and voice ports on the switch. CallPilot ACD-DNs and voice ports have different properties from Meridian Mail ACD-DNs.

### ATTENTION

You must create separate ACD-DNs for your IVR and ACCESS voice ports. (The configuration for IVR and ACCESS ACD-DNs is identical.)

### Creating an ACD-DN in LD 23

Use the following prompts and responses in LD 23. For prompts not listed in the table, press Enter to accept the default.

Prompt	Response	Description
REQ	NEW	Create a new queue.
TYPE	ACD	ACD data blocks
CUST	0–99	Customer number
ACDN	xxxx	The DN of the ACD queue. This is the IVR ACD-DN acquired from Contact Center Manager Server.
MWC	NO	Indicates that this is not a message center.
MAXP	xx	Indicates the maximum number of ACD agents for this queue.
IVR	YES	Indicates that the queue can be used with the Give IVR command defined in scripts.
TRDN	xxxx	Default treatment DN is used if treatment is not specified in the script.

Prompt	Response	Description
ALOG	YES	ACD agents are automatically logged on.
REQ	END	Exit from overlay.

## Creating a voice port in LD 11

Use the following prompts and responses. For prompts not listed in the table, press Enter to accept the default.

Prompt	Response	Description
REQ	NEW	Add a voice port.
TYPE	2008	
TN	l s c u	Terminal Number of the voice port, where l is the loop, s is the shelf, c is the card, and u is the unit. (For the Option 11C, TN is cu only.)
AST	00 01	Associated set assignment on key 0 and key 1.
CLS	FLXA (units 16–31) VCE WTA CTD MMA	Flexible voice/data allowed.  Voice Terminal Warning Tone Allowed Conditionally Toll Denied Multimedia Agent  CTD is optional, but prevents outbound long-distance calls from a voice port.
KEY	0 ACD xxxx zzz nnnn	Define 0 as an ACD key. xxxx is the ACD-DN. zzz is the CLID entry number. nnnn is the position ID. The DN must match the DN on the CAT (in Meridian Mail) or the Channel Information page (in CallPilot).
KEY	1 SCN xxxx	Define key 1 as a single-call non-ringing DN. xxxx is the SCN DN of the SCN. The DN must match the DN on the CAT (in Meridian Mail) or the Channel Information page (in CallPilot).

<b>Prompt</b>	<b>Response</b>	<b>Description</b>
KEY	2 MSB	Define key 2 as a Make Set Busy key.
KEY	3 NRD	Define key 3 as a Not Ready key.
KEY	4 TRN	Define key 4 as a Transfer key.
KEY	5 AO3 (letter O)	Define key 5 as a Conference key.
REQ	END	Exit from overlay.

## Step 2. Migrate Meridian Mail voice prompts and voice segments

The following section describes voice prompt migration and management.

### To migrate voice prompts

Unless you plan to recreate your voice prompts in CallPilot, you must migrate your Meridian Mail voice prompts and voice segments (announcements and menus) to CallPilot.

For more information about the Meridian Mail voice prompt and voice segment migration process, see the *Meridian Mail to CallPilot Migration Utility Guide*.

The Meridian Mail to CallPilot Migration utility helps you collect the Meridian Mail data and migrate it to CallPilot. For more information about this utility, and for detailed instructions, see the *Meridian Mail to CallPilot Migration Utility Guide*.

#### **ATTENTION**

---

The migration moves the voice prompts only. The menu and announcement structures are not moved.

### To manage voice prompts

After the voice prompts are in CallPilot, you manage them with Application Builder. Application Builder is not installed as part of the CallPilot installation. You must ensure that it is installed on a PC in your network. For more information about installing and using Application Builder, see the *CallPilot 4.0 Administrator's Guide*.

For information about the differences between Application Builder and the Voice Prompt Editor, which you used with Meridian Mail, see Section C: "Comparison of VPE and Application Builder," on page 365.

## Step 3. Configure CallPilot

You must perform the following tasks to configure CallPilot for Contact Center Manager Server integration:

- In the Configuration Wizard, on the Switch Identification page, define the Nortel server subnet IP address of Contact Center Manager Server in the server IP Address field.
- In the Configuration Wizard, on the Channel Detail Information page, define a channel for each voice port that is used to provide ACCESS or IVR services to Contact Center Manager Server.
- Define Service DNs for Symposium Voice Services.

### Updating the Configuration Wizard

#### ATTENTION

---

To minimize downtime, and to make backing out easier, make sure that the CallPilot class IDs are different from the channel numbers of your Meridian Mail voice ports. For example, if your Meridian Mail voice ports use channel numbers 1 to 48, then assign class IDs 49 to 96 to your CallPilot TNs.

This procedure assumes that you use new class IDs. If you do not, you must delete the channel number from your Meridian Mail voice ports before you create your CallPilot voice ports.

- 1 On the CallPilot server, start the Configuration Wizard.
- 2 Click **Next** until the **Switch Information** page appears.
- 3 In the **Contact Center Manager Servert CLAN IP address** box, enter the CLAN address of the Contact Center Manager Server.
- 4 On the left side of the page, click the link for the set of channels you want to configure.

**Result:** The Channel Name column lists the channels on the selected link.

- 5 In the **Channel Name** column, click the first channel that you want to configure.  
**Result:** The Channel Detail Information page appears.
- 6 For each TN used to provide IVR services to Contact Center Manager Server, select the **IVR** check box.
- 7 For each TN used to provide ACCESS services, select the **ACCESS** check box, and specify a class ID. The class ID is used for communication between the server and CallPilot over the ACCESS link.

**ATTENTION**

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When you define the TN as a voice port on Contact Center Manager Server (see Step 4, "Configure CallPilot switch resources"), make sure that the channel number you assign to the voice port matches the class ID for the TN.

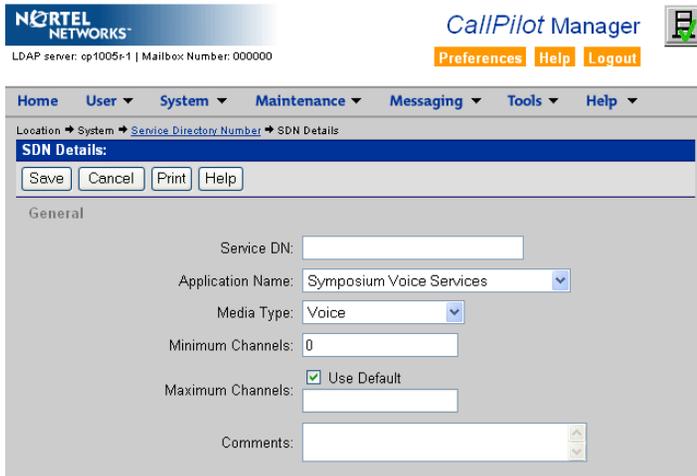
- 8 Click **Fill**.
- 9 Click **OK**.

**Configuring the ACCESS and Give IVR channels in the SDN table**

- 1 Start CallPilot Manager.
- 2 From the menu, select **System > Service Directory Number**.

3 Click **New**.

**Result:** The SDN Details window appears.



4 In the **Service DN** box, type the CallPilot ACD-DN number, as defined on the switch.

5 From the **Application Name** list, select **Symposium Voice Services**.

6 Click **Save**.

## Step 4. Configure CallPilot switch resources

You must update the configuration of switch resources on Contact Center Manager Server. This involves the following tasks:

- Create the CallPilot ACD-DNs.
- Create the CallPilot voice ports.

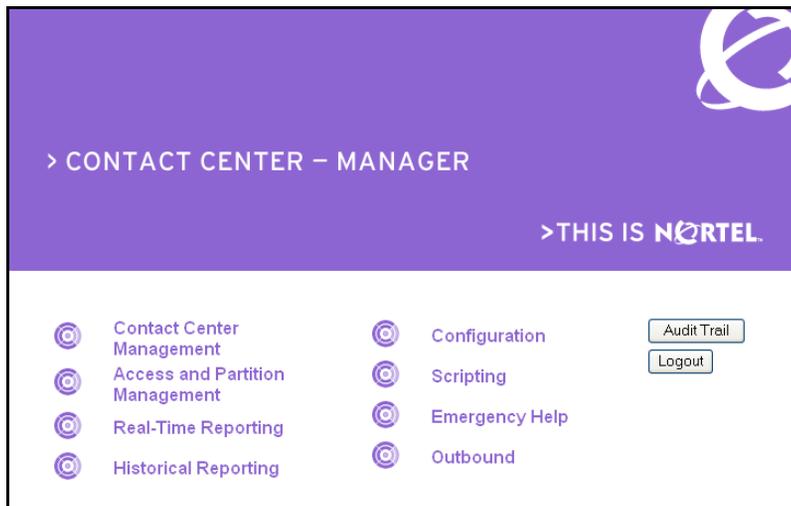
This procedure assumes that the class IDs of your CallPilot TNs are different from your Meridian Mail channel numbers. If they are not, you must either delete the channel number from the Meridian Mail ACCESS ports, or assign different class IDs to your CallPilot TNs.

### ATTENTION

To minimize backout effort, do not delete your Meridian Mail voice ports at this time. You can delete them after you confirm that the migration was successful.

### Adding a new IVR ACD-DN

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.



- 2 On the system tree, in the Configuration component, double-click the server in Contact Center Manager Server to which you want to add the IVR ACD-DN.

**Result:** The server expands to reveal its resources.

- 3 Click the **IVR ACD-DNs** heading.

**Result:** The IVR ACD-DNs window appears.

The screenshot shows the Nortel Configuration window for the Haywards server. The left sidebar displays a tree view of system resources, with 'IVR ACD-DNs' selected. The main pane displays a table titled 'Haywards IVR ACD-DNs' with the following data:

Name	Number	Threshold Class	Acquired?	Status
Default_IVRG	999	IVR_Template	<input type="checkbox"/>	Not Acquired
SUS0201	900	IVR_Template	<input type="checkbox"/>	Not Acquired
*				

- 4 In the **Name** box, type the name of the IVR ACD-DN as you want it to appear in reports.
- 5 In the **Number** box, type the IVR ACD-DN number. This number must match the number configured on the switch.
- 6 From the **Threshold Class** list, select the threshold class for the IVR ACD-DN.
- 7 Click any other row of the table.

**Result:** The system adds the IVR ACD-DN, and Not Acquired appears in the Status column.

- 8 Select the **Acquired?** check box in the row containing the IVR ACD-DN that you want to acquire.

**Tip:** Clear the **Acquired?** check box to remove the check and to de-acquire the IVR ACD-DN.

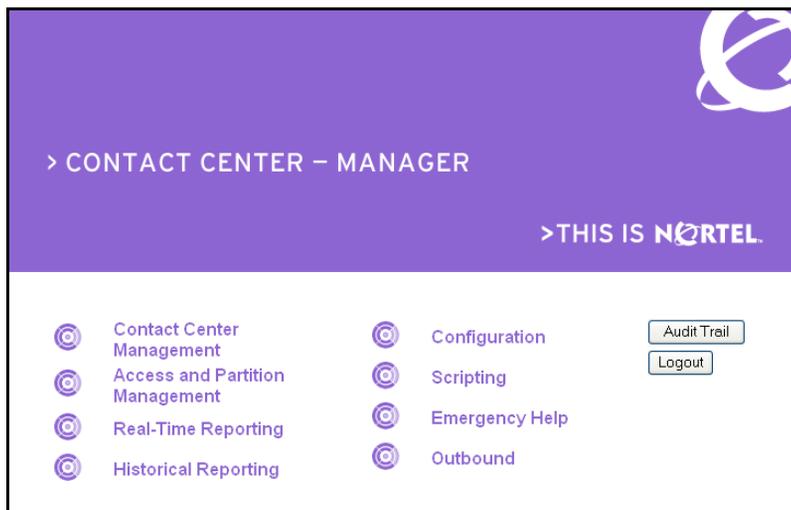
- 9 Click any other row in the table to submit/save your action.

**Result:** The system acquires or deacquires the IVR ACD-DN, and the status appears in the Status column.

- 10 Repeat steps 4 to 9 for each CallPilot ACD-DN (ACCESS and IVR) you want to add.

## Adding a new voice port

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.

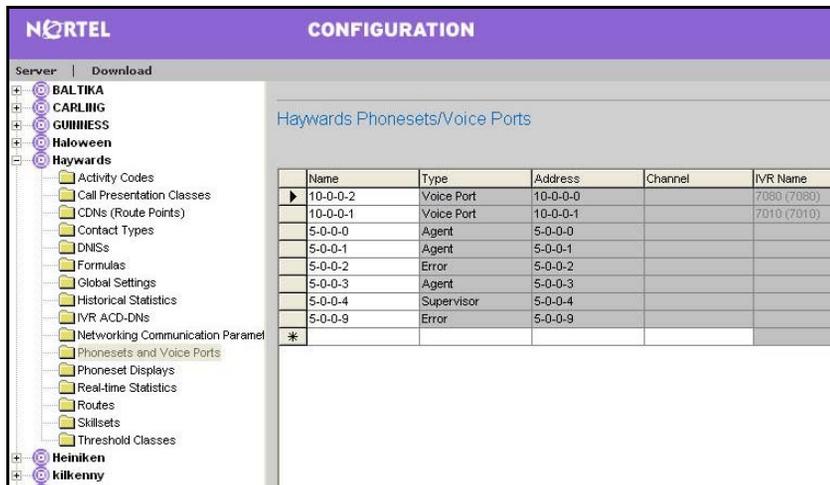


- 2 On the system tree, double-click the server in to which you want to add the voice port.

**Result:** The server expands to reveal its resources.

3 Select the **Phonesets and Voice Ports** folder.

**Result:** The Phonesets/Voice Ports window appears.



4 In the **Name** box, type the name of the voice port as you want it to appear in reports

5 From the **Type** list, select **Voice Port**.

6 In the **Address** box, type the address of the voice port on the telephony server.

7 For ACCESS voice ports only, in the **Channel** box, type the channel number.

8 Click any other row of the table.

**Result:** The system adds the voice port, and Not Acquired appears in the Status column.

9 Select the **Acquired?** check box in the row containing the voice port that you just added.

10 Click any other row in the table to acquire the voice port.

**Result:** The system acquires the voice port, and the status appears in the Status column.

If necessary, click **Refresh Status** to view the current status of the acquisition.

- 11 Repeat steps 2 to 10 for each voice port you want to configure.

**Tip:** If you want to reconfigure a voice port, you must first deacquire the voice port, edit the configuration parameters, and then reacquire the voice port.

## Step 5. Deacquire Meridian Mail voice ports and ACD-DNs

Before you make changes to resources on the switch, you must deacquire those resources from Contact Center Manager Server. You must deacquire the Meridian Mail voice ports first, and then the ACD-DNs (both IVR and ACCESS). To deacquire is to release an acquired switch resource from the control of the Contact Center.

### Deacquiring a voice port

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.

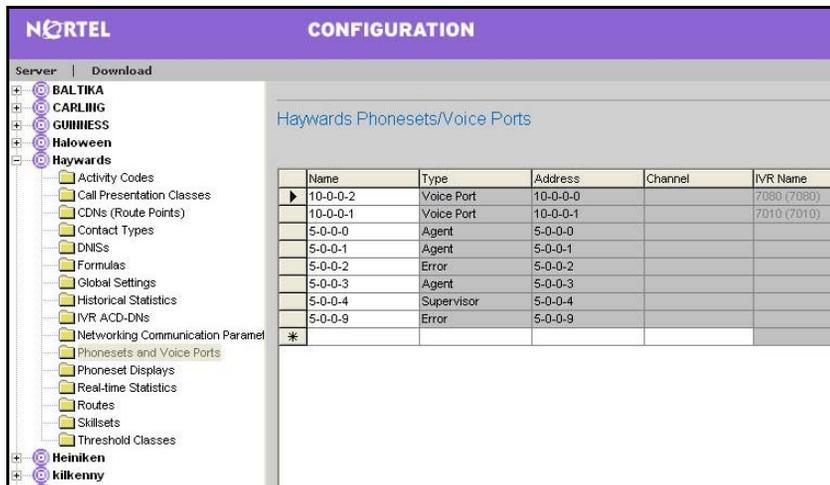


- 2 On the system tree, double-click the server in which you want to deacquire the voice port.

**Result:** The server expands to reveal its resources.

3 Select the **Phonesets and Voice Ports** folder.

**Result:** The Phonesets/Voice Ports window appears.



The screenshot shows the Nortel Configuration interface. On the left is a tree view of configuration folders for the 'Haywards' server. The 'Phonesets and Voice Ports' folder is selected. The main area displays a table titled 'Haywards Phonesets/Voice Ports'.

Name	Type	Address	Channel	IVR Name
10-0-0-2	Voice Port	10-0-0-0		7080 (7080)
10-0-0-1	Voice Port	10-0-0-1		7010 (7010)
5-0-0-0	Agent	5-0-0-0		
5-0-0-1	Agent	5-0-0-1		
5-0-0-2	Error	5-0-0-2		
5-0-0-3	Agent	5-0-0-3		
5-0-0-4	Supervisor	5-0-0-4		
5-0-0-9	Error	5-0-0-9		
*				

4 Clear the **Acquired?** check box to deacquire the voice port.

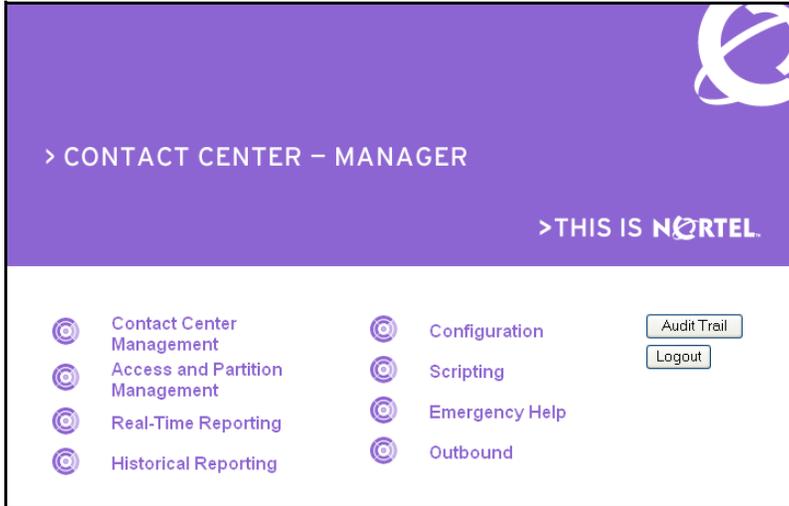
5 Click any other row in the table to submit/save your action.

**Result:** The system deacquires the voice port, and the status appears in the Status column.

6 Click **Refresh Status** to view the current status of the deacquisition.

## Deacquiring an ACD-DN

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.



- 2 On the system tree, double-click the server in Contact Center Manager Server to which you want to deacquire the ACD-DN.

**Result:** The server expands to reveal its resources.

3 Select the **IVR ACD-DNs** folder.

**Result:** The IVR ACD-DNs window appears.

The screenshot shows the Nortel Configuration interface. The left sidebar contains a tree view with the following items: BALTICA, CARLING, GUIHIESS, Haloween, Haywards (expanded), Activity Codes, Call Presentation Classes, CDNs (Route Points), Contact Types, DNSs, Formulas, Global Settings, Historical Statistics, IVR ACD-DNs (selected), Networking Communication Paramet, Phonesets and Voice Ports, Phoneset Displays, Real-time Statistics, Routes, Skillsets, Threshold Classes, Heinken, kilkeny, knockout, and Sandpiper. The main content area is titled 'Haywards IVR ACD-DNs' and contains a table with the following data:

Name	Number	Threshold Class	Acquired?	Status
Default_IVRQ	999	IVR_Template	<input type="checkbox"/>	Not Acquired
SUS0201	900	IVR_Template	<input type="checkbox"/>	Not Acquired
*				

4 Clear the **Acquired?** check box to deacquire the ACD-DN.

5 Click any other row in the table to save your action.

**Result:** The system deacquires the ACD-DN and the status appears in the Status column.

6 Click **Refresh Status** to view the current status of the deacquisition.

## Step 6. Configure Contact Center Manager Server connection to CallPilot

To use CallPilot for voice processing, install Contact Center Manager Server and configure the Contact Center Manager Server connection to CallPilot. Then restart the Contact Center Manager Server application.

### ATTENTION

Nortel recommends that you retain the physical cable connections between Meridian Mail and Contact Center Manager Server to facilitate backout, if required.

### Configuring the CallPilot connection

- 1 On Contact Center Manager Server, choose **Programs > Nortel Contact Center > Manager Server > Server Setup Configuration**.
- 2 Click the **Voice Services** tab.

**Result:** The Voice Services property page appears.

Local Area Network IP | Voice Services | RSM IP Address | Site Name | Unities

Please fill in the voice services setup information below.

Voice Connection Type:  Serial (Meridian Mail)  TCP (Call Pilot)

Call Pilot Server IP: 172.18.50.41

Call Pilot Server Port: 10008

> CONTACT CENTER MANAGER SERVER

> THIS IS NORTEL

OK Cancel Apply Help

- 3 For **Voice Connection Type**, choose **TCP (CallPilot)**.
- 4 In the **CallPilot Server IP** box, type the ELAN subnet IP address of the CallPilot server.

- 5 In the **CallPilot Port** box, type **10008**.
- 6 For single-NIC configuration, follow these steps:
  - a. Ensure the ELAN subnet is connected to the Nortel server subnet through one (and only one) router.
  - b. Enter the IP address of the CallPilot Nortel server subnet NIC as opposed to the IP address of the ELAN subnet NIC.
  - c. In CallPilot, do not configure a default gateway (for example, router) address associated with the CallPilot ELAN NIC. A default gateway for the CallPilot's NIC connected to the Nortel server subnet is required.
- 7 Click **OK**.

**Result:** The following message appears: "The configuration data has been validated and can be used to configure the server database. Do you wish to use this data to complete server configuration now?"
- 8 Click **Yes**.

**Result:** The Server Configuration utility runs and the following message appears: "You must reboot now to commit changes. Press OK to reboot or Cancel to stop."
- 9 Click **OK**.

**Result:** The server restarts.

## Step 7. Configure the global settings

You must update the global settings with the CallPilot ACCESS DN's.

### Updating global settings

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.

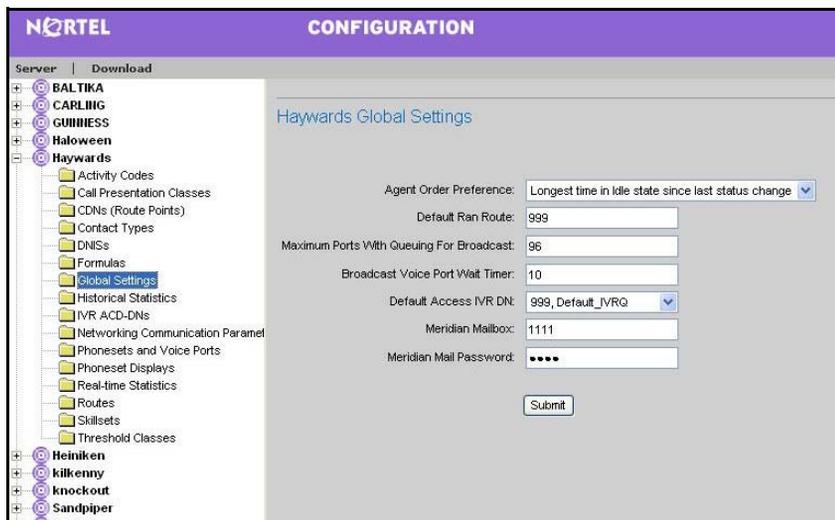


- 2 On the system tree, double-click the server in which you want to configure global settings.

**Result:** The server expands to reveal its resources.

### 3 Select the **Global Settings** folder.

**Result:** The Global Settings window appears.



### 4 From the **Agent Order Preference** list, choose how to present calls to agents based on their idle time. Valid values:

- **Longest total time in idle state since login**—Choose this option if you want calls to be presented to the agent who accumulated the most idle time since logging on (this is the system default for the Communication Server 2x00/DMS switch).
- **Longest time in idle state since last status change**—Choose this option if you want calls to be presented to the agent who accumulated the most idle time since his or her last status change (this is the system default for the Communication Server 1000/Meridian 1 switch).
- **Longest total time since last CDN/ACD call**—Choose this option if you want calls to be presented to the agent with the longest elapsed time since handling a CDN/ACD call.

The system does not reset the timer when the agent switches to the Not Ready state.

### 5 In the **Default RAN Route** box, type the default route to use when a script contains route commands but does not explicitly state a route number.

**Valid values:** maximum of 3 digits

**Valid range:** 0–511 (999 reserved for internal route)

**Note:** The route you specify must already exist.

- 6** In the **Maximum Ports With Queuing For Broadcast** box, type the total number of IVR ports that can be user-controlled for broadcast at any time.

**Valid values:** 150 maximum

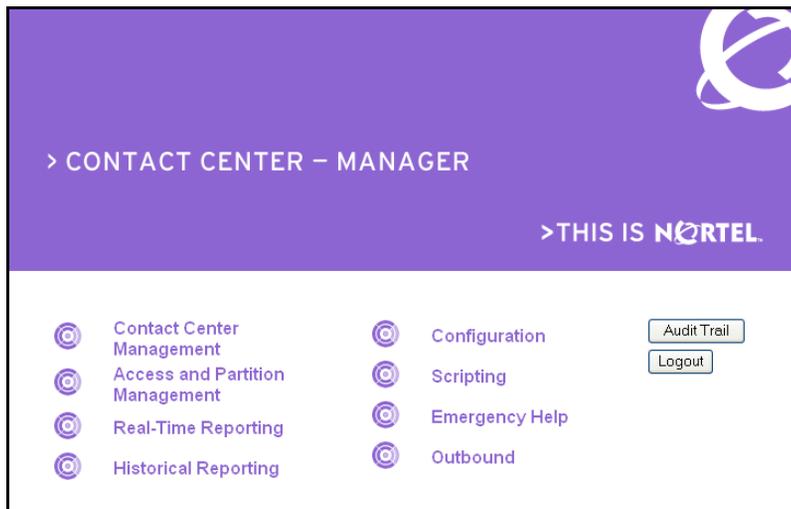
- 7** In the **Broadcast Voice Port Wait Timer** box, type the number of seconds the system waits for a voice port to become available.
- 8** From the **Default Access IVR DN** list, select the default DN to use in the event that a script contains voice-processing commands that may take an IVR ACD-DN as a parameter, but does not explicitly state an IVR ACD-DN.
- 9** In the **Meridian Mailbox** box, type the DN of the Meridian Mail mailbox. In CallPilot, this field is not used, but you must enter any two digits.
- 10** In the **Meridian Mail Password** box, type the password required to access the Meridian Mail mailbox. In CallPilot, this field is not used, but you must enter any four digits or use the default.
- 11** Click **Submit**.

## Step 8. Acquire CallPilot resources

After the Contact Center Manager Administration application comes up, you must acquire the CallPilot resources to allow voice processing to begin.

### Acquiring an ACD-DN

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.



- 2 On the system tree, double-click the server in which you want to acquire the ACD-DN.

**Result:** The server expands to reveal its resources.

3 Select the **IVR ACD-DNs** folder.

**Result:** The IVR ACD-DNs window appears.

The screenshot shows the Nortel Configuration interface. The left sidebar displays a tree view of configuration folders for various servers. The 'Haywards' server is expanded, and the 'IVR ACD-DNs' folder is selected. The main content area displays the 'Haywards IVR ACD-DNs' configuration page, which includes a table with the following data:

Name	Number	Threshold Class	Acquired?	Status
Default_IVRG	999	IVR_Template	<input type="checkbox"/>	Not Acquired
SUS0201	900	IVR_Template	<input type="checkbox"/>	Not Acquired
*				

4 Select the **Acquired?** check box to acquire the ACD-DN.

5 Click any other row in the table to save your action.

**Result:** The system acquires the ACD-DN, and the status appears in the Status column.

6 Click **Refresh Status** to view the current status of the acquisition.

## Acquiring a voice port

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.



- 2 On the system tree, double-click the server which you want to acquire the voice port.

**Result:** The server expands to reveal its resources.

3 Select the **Phonesets and Voice Ports** folder.

**Result:** The Phonesets/Voice Ports window appears.

Haywards Phonesets/Voice Ports

Name	Type	Address	Channel	IVR Name
10-0-0-2	Voice Port	10-0-0-0		7080 (7080)
10-0-0-1	Voice Port	10-0-0-1		7010 (7010)
5-0-0-0	Agent	5-0-0-0		
5-0-0-1	Agent	5-0-0-1		
5-0-0-2	Error	5-0-0-2		
5-0-0-3	Agent	5-0-0-3		
5-0-0-4	Supervisor	5-0-0-4		
5-0-0-9	Error	5-0-0-9		
*				

4 Select the **Acquired?** check box to acquire the voice port.

5 Click any other row in the table to submit/save your action.

**Result:** The system deacquires the voice port, and the status appears in the Status column.

6 Click **Refresh Status** to view the current status of the acquisition.

## Step 9. Update your scripts

You must update all of your scripts to use the new ACD-DNs.

### Hard-coded ACD-DNs

If you hard-code the ACD-DNs in your scripts, you must change and reactivate your scripts. For more information about changing scripts, see the *Contact Center Manager Scripting Guide for the Communication Server 1000/Meridian 1*.

### Global variables

If you use global variables to represent ACD-DNs in your scripts, you must assign new values to the script variables. For more information about changing variables, see the *Contact Center Manager Scripting Guide for the Communication Server 1000/Meridian 1*.

Nortel recommends that you use variables to represent ACD-DNs in your scripts.

## Step 10. Test the migration

After you complete the migration, you must test your system to ensure that it functions as expected. Test each path in the call scripts to ensure that calls are routed properly, and that they receive the appropriate treatment.

## Section B: To Back out of the migration

### In this section

Overview of backout	348
Step 1. Deacquire CallPilot ACD-DNs and voice ports	350
Step 2. Configure the connection to Meridian Mail	354
Step 3. Configure global settings	357
Step 4. Acquire voice ports	360
Step 5. Update your scripts	364

# Overview of backout

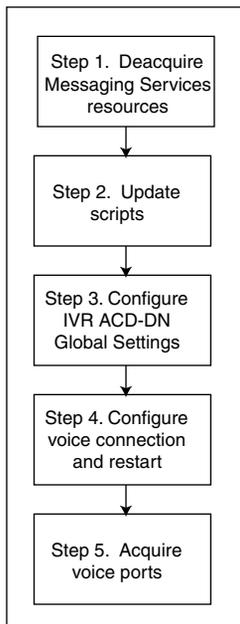
If the migration to CallPilot is not successful, you can use the procedure in this section to back out of the migration.

## ATTENTION

This procedure assumes that you did not delete your Meridian Mail resources from the switch. If you deleted them, create them before you continue. For more information about creating Meridian Mail resources, see Chapter 4, “Switch subsystem configuration.”

## Backout process

The following flowchart illustrates the backout process.



## Backout checklist

Use the following checklist to perform the backout.

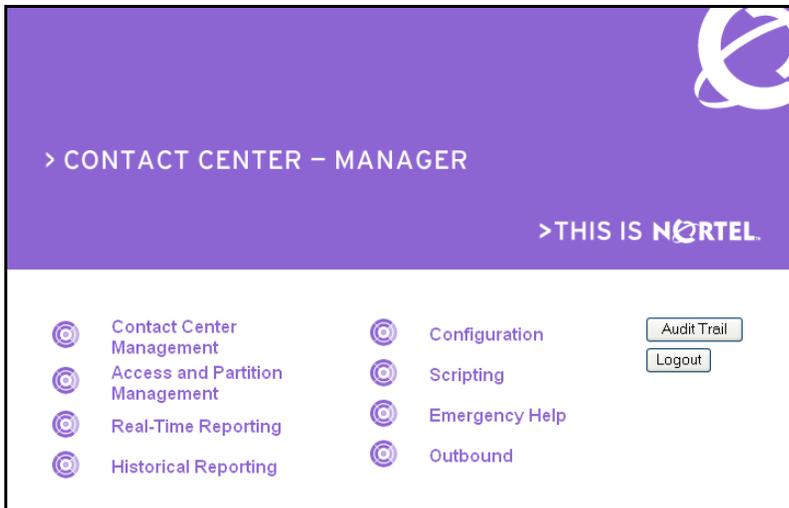
<b>Description</b>	✓
<b>Step 1. Deacquire CallPilot ACD-DNs and voice ports</b> For instructions, see page <a href="#">350</a> .	
<b>Step 2. Configure the connection to Meridian Mail</b> For instructions, see page <a href="#">354</a> .	
<b>Step 3. Configure global settings</b> For instructions, see page <a href="#">357</a> .	
<b>Step 4. Acquire voice ports</b> For instructions, see page <a href="#">360</a> .	
<b>Step 5. Update your scripts</b> For instructions, see page <a href="#">364</a> .	

# Step 1. Deacquire CallPilot ACD-DNs and voice ports

You must deacquire the CallPilot voice ports and ACD-DNs on Contact Center Manager Server. To deacquire is to release an acquired switch resource from the control of the Contact Center.

## Deacquiring a voice port

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.



- 2 On the system tree, double-click the server in which you want to deacquire the voice port.

**Result:** The server expands to reveal its resources.

3 Select the **Phonesets and Voice Ports** folder.

**Result:** The Phonesets/Voice Ports window appears.

Name	Type	Address	Channel	IVR Name
10-0-0-2	Voice Port	10-0-0-0		7080 (7080)
10-0-0-1	Voice Port	10-0-0-1		7010 (7010)
5-0-0-0	Agent	5-0-0-0		
5-0-0-1	Agent	5-0-0-1		
5-0-0-2	Error	5-0-0-2		
5-0-0-3	Agent	5-0-0-3		
5-0-0-4	Supervisor	5-0-0-4		
5-0-0-9	Error	5-0-0-9		
*				

4 Clear the **Acquired?** check box to deacquire the voice port.

5 Click any other row in the table to save your action.

**Result:** The system deacquires the voice port, and the status appears in the Status column.

6 Click **Refresh Status** to view the current status of the deacquisition.

## Deacquiring an ACD-DN

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.



- 2 On the system tree, double-click the server in which you want to deacquire the ACD-DN.

**Result:** The server expands to reveal its resources.

3 Select the **IVR ACD-DNs** folder.

**Result:** The IVR ACD-DNs window appears.

The screenshot shows the Nortel Configuration interface. The left sidebar contains a tree view with the following items: BALTICA, CARLING, GUIHIESS, Haloween, Haywards (expanded), Activity Codes, Call Presentation Classes, CDNs (Route Points), Contact Types, DNSs, Formulas, Global Settings, Historical Statistics, IVR ACD-DNs (selected), Networking Communication Paramet, Phonesets and Voice Ports, Phoneset Displays, Real-time Statistics, Routes, Skillsets, Threshold Classes, Heinken, kilkeny, knockout, and Sandpiper. The main content area is titled 'Haywards IVR ACD-DNs' and contains a table with the following data:

Name	Number	Threshold Class	Acquired?	Status
Default_IVRQ	999	IVR_Template	<input type="checkbox"/>	Not Acquired
SUS0201	900	IVR_Template	<input type="checkbox"/>	Not Acquired
*				

4 Clear the **Acquired?** check box to deacquire the ACD-DN.

5 Click any other row in the table to submit/save your action.

**Result:** The system deacquires the ACD-DN, and the status appears in the Status column.

6 Click **Refresh Status** to view the current status of the deacquisition.

## Step 2. Configure the connection to Meridian Mail

You must now shut down the Contact Center Manager Server application, configure the Contact Center Manager Server connection to Meridian Mail, and restart the Contact Center Manager Server application.

**Note:** If you removed the serial cable connection between Contact Center Manager Server and Meridian Mail, you must reinstall it now.

### Shutting down the Contact Center Manager Server application

Shut down all Contact Center Manager Server services using the Shutdown utility.

- 1 From the Windows Start menu, choose **Programs > Nortel Contact Center > Manager Server > Shutdown**.  
**Result:** The Contact Center Manager Server Shutdown dialog box appears.
- 2 Click **OK**.  
**Result:** The utility shuts down all services, and then the **Service Status Log** window appears. This log lists any services that failed to shut down.
- 3 Click **Recheck** to refresh the service statuses.
- 4 If any services are still running:
  - a. From the Windows Start menu, choose **Control Panel > Administrative Tools > Services** to display the **Services** window.
  - b. Manually shut down the listed services.
  - c. Close the **Services** window.
  - d. Click **Recheck** to update the status log.
- 5 Click **Accept** to exit the utility.
- 6 Click **Start > Run**
- 7 In the command line, type **serman**.  
**Result:** All the services are placed in manual mode.

- Restart the server.



### CAUTION

#### Risk of database corruption

You must shut down the Contact Center Manager Server Services before shutting down the database services. Failure to do so can result in database corruption.

## Configuring the Meridian Mail connection

- On Contact Center Manager Server, choose **Programs > Nortel Contact Center > Manager Server > Server Setup Configuration**.
- Click the **Voice Services** tab.

**Result:** The Voice Services page appears.

The screenshot shows the 'Nortel Contact Center Management Server Setup Configuration Utility' window. The 'Voice Services' tab is selected. The window contains the following fields and options:

- Customer Information** | **License Manager** | **Succession CSE 1000 Switch Information**
- Local Area Network IP** | **Voice Services** | **RSM IP Address** | **Site Name** | **Utilities**
- Please fill in the voice services setup information below.
- Voice Connection Type:**
  - Serial (Meridian Mail)
  - TCP (Call Pilot)
- Call Pilot Server ELAN IP:** [Empty text box]
- Call Pilot Server Port:** [0]
- Buttons: OK, Cancel, Apply, Help

- For **Voice Connection Type**, choose **Serial**.

**Result:** The CallPilot ELAN IP box clears and the CallPilot Port box is set to 0. Do not change these values.

- 4 Click **OK**.

**Result:** The following message appears: “The configuration data has been validated and can be used to configure the server database. Do you wish to use this data to complete server configuration now?”

- 5 Click **Yes**.

**Result:** The Server Configuration utility runs and the following message appears: “You must reboot now to commit changes. Press OK to reboot or Cancel to stop.”

- 6 Click **OK**.

**Result:** The server restarts.

## Step 3. Configure global settings

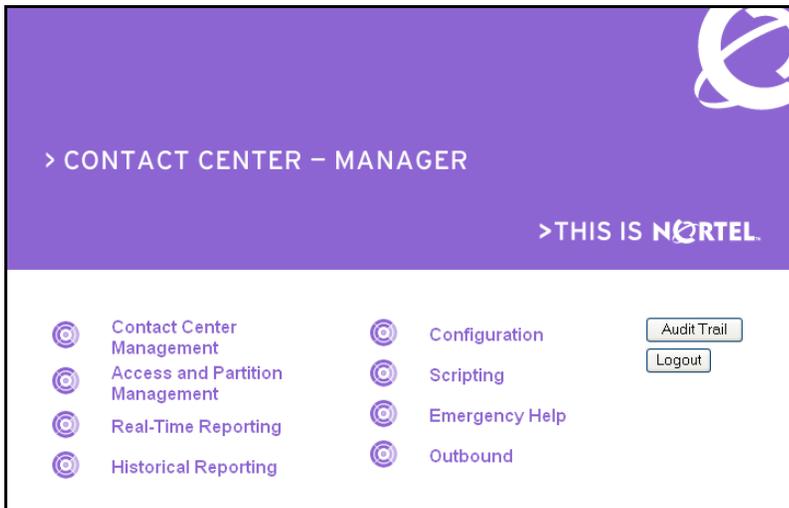
You must update the global settings with the Meridian Mail ACCESS IVR and Treatment DN's, and verify that the Meridian Mail mailbox and password are correctly specified.

### ATTENTION

This procedure assumes that your Meridian Mail ACD-DNs and voice ports still exist on the server. If they do not exist, you must create them. For detailed instructions, see Chapter 7, "Contact Center Manager configuration."

### Updating global settings

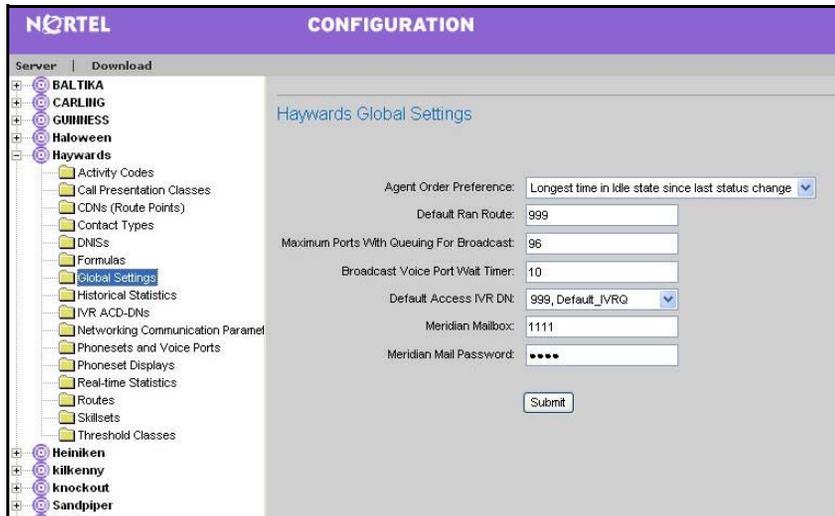
- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.



- 2 On the system tree, double-click the server in which you want to configure global settings.

**Result:** The server expands to reveal its resources.

### 3 Select the **Global Settings** folder.



### 4 From the **Agent Order Preference** list, choose how to present calls to agents based on their idle time. Valid values:

- **Longest total time in idle state since login**—Choose this option if you want calls to be presented to the agent who accumulated the most idle time since logging on (this is the system default for the Communication Server 2x00/DMS switch).
- **Longest time in idle state since last status change**—Choose this option if you want calls to be presented to the agent who accumulated the most idle time since his or her last status change (this is the system default for the Communication Server 1000/Meridian 1 switch).
- **Longest total time since last CDN/ACD call**—Choose this option if you want calls to be presented to the agent with the longest elapsed time since handling a CDN/ACD call.

The system does not reset the timer when the agent switches to the Not Ready state.

### 5 In the **Default RAN Route** box, type the default route to use when a script contains route commands but does not explicitly state a route number.

**Valid values:** maximum of 3 digits

**Valid range:** 0–511 (999 reserved for internal route)

**Note:** The route you specify must already exist.

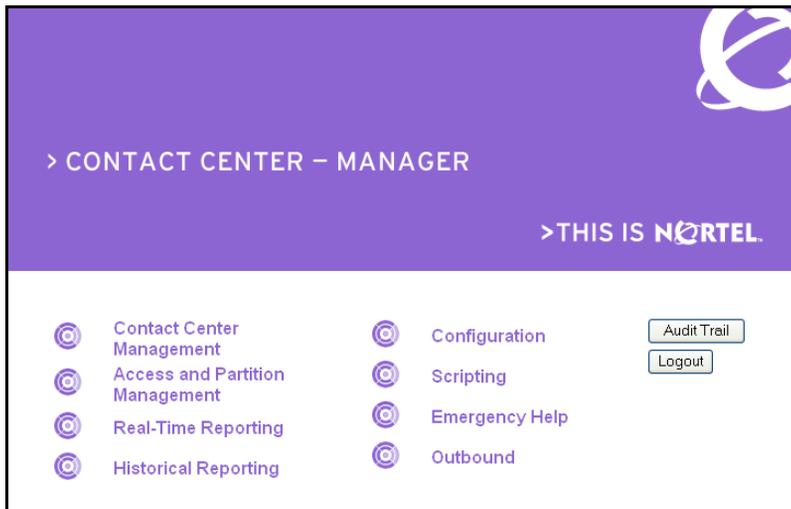
- 6 In the **Maximum Ports With Queuing For Broadcast** box, type the total number of IVR ports that can be user-controlled for broadcast at any time.  
**Valid values:** 150 maximum
- 7 In the **Broadcast Voice Port Wait Timer** box, type the number of seconds the system waits for a voice port to become available.
- 8 From the **Default Access IVR DN** list, select the default DN to use in the event that a script contains voice-processing commands that may take an IVR ACD-DN as a parameter, but does not explicitly state an IVR ACD-DN.
- 9 In the **Meridian Mailbox** box, type the DN of the Meridian Mail mailbox. In CallPilot, this field is not used, but you must enter any two digits.
- 10 In the **Meridian Mail Password** box, type the password required to access the Meridian Mail mailbox. In CallPilot, this field is not used, but you must enter any four digits or use the default.
- 11 Click **Submit**.

## Step 4. Acquire voice ports

After the server comes up, you must acquire the Meridian Mail resources to allow voice processing to begin.

### Acquiring an ACD-DN

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.



- 2 On the system tree, double-click the server in Contact Center Manager Server to which you want to acquire the ACD-DN.

**Result:** The server expands to reveal its resources.

3 Select the **IVR ACD-DNs** folder.

**Result:** The IVR ACD-DNs window appears.

The screenshot shows the Nortel Configuration interface. The left sidebar contains a tree view of configuration folders for various servers. The 'Haywards' server is expanded, and the 'IVR ACD-DNs' folder is selected. The main content area displays the configuration for 'Haywards IVR ACD-DNs'. A table lists the ACD-DNs with columns for Name, Number, Threshold Class, Acquired?, and Status.

Name	Number	Threshold Class	Acquired?	Status
Default_IVRQ	999	IVR_Template	<input type="checkbox"/>	Not Acquired
SUS0201	900	IVR_Template	<input type="checkbox"/>	Not Acquired
*				

4 Select the **Acquired?** check box to acquire the ACD-DN.

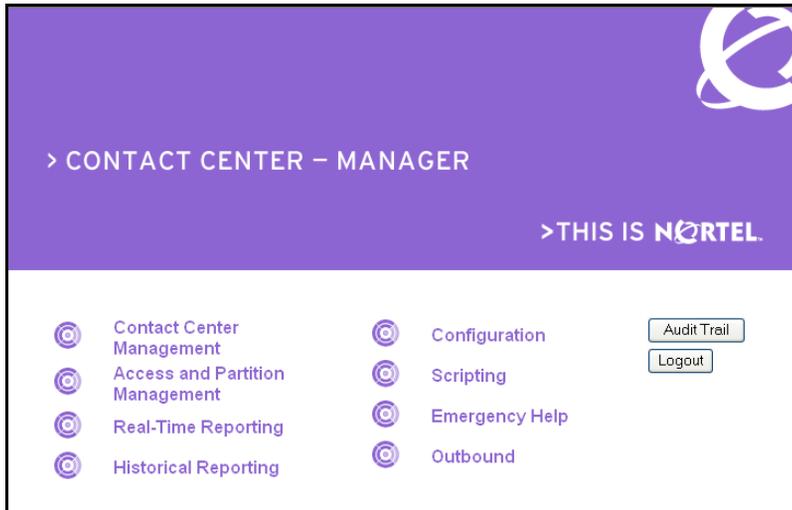
5 Click any other row in the table to submit/save your action.

**Result:** The system acquires the ACD-DN, and the status appears in the Status column.

6 Click **Refresh Status** to view the current status of the acquisition.

## Acquiring a voice port

- 1 In Contact Center Manager Administration, from the launchpad, select **Configuration**.



- 2 On the system tree, double-click the server on which you want to acquire the voice port.

**Result:** The server expands to reveal its resources.

3 Select the **Phonesets and Voice Ports** folder.

**Result:** The Phonesets/Voice Ports window appears.

The screenshot shows the Nortel Configuration interface. The left sidebar contains a tree view with the following structure:

- Server | Download
  - BALTIKA
  - CARLING
  - GUINNESS
  - Haloween
  - Haywards
    - Activity Codes
    - Call Presentation Classes
    - CDNs (Route Points)
    - Contact Types
    - DNSs
    - Formulas
    - Global Settings
    - Historical Statistics
    - IVR ACD-DNs
    - Networking Communication Paramet
    - Phonesets and Voice Ports
    - Phoneset Displays
    - Real-time Statistics
    - Routes
    - Skillsets
    - Threshold Classes
  - Heiniken
  - kilkenny

The main content area is titled 'Haywards Phonesets/Voice Ports' and contains a table with the following data:

Name	Type	Address	Channel	IVR Name
10-0-0-2	Voice Port	10-0-0-0		7080 (7080)
10-0-0-1	Voice Port	10-0-0-1		7010 (7010)
5-0-0-0	Agent	5-0-0-0		
5-0-0-1	Agent	5-0-0-1		
5-0-0-2	Error	5-0-0-2		
5-0-0-3	Agent	5-0-0-3		
5-0-0-4	Supervisor	5-0-0-4		
5-0-0-9	Error	5-0-0-9		
*				

4 Select the **Acquired?** check box to acquire the voice port.

5 Click any other row in the table to save your action.

**Result:** The system deacquires the voice port, and the status appears in the Status column.

6 Click **Refresh Status** to view the current status of the acquisition.

## Step 5. Update your scripts

If you use different ACD-DNs for CallPilot and Meridian Mail, you must update all of your scripts to reference the Meridian Mail ACD-DNs.

### Hard-coded ACD-DNs

If you hard-code the ACD-DNs in your scripts, you must change and reactivate your scripts. For more information about changing scripts, see the *Contact Center Manager Scripting Guide for the Communication Server 1000/Meridian 1*.

### Global variables

If you use global variables to represent ACD-DNs in your scripts, you must assign new values to the script variables. For more information about changing variables, see the *Contact Center Manager Scripting Guide for the Communication Server 1000/Meridian 1*.

Nortel recommends that you use variables to represent ACD-DNs in your scripts.

# **Section C: Comparison of VPE and Application Builder**

## **In this section**

Application Builder compared to Voice Prompt Editor

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# Application Builder compared to Voice Prompt Editor

After you migrate to CallPilot, you use the Application Builder to create, record, and manage your voice prompts. (For detailed instructions, see the *CallPilot 4.0 Administrator's Guide*.) Application Builder CallPilot provides much of the same functionality as the Voice Prompt Editor. This section lists some of the differences between the two programs.

## Differences

The following table lists the differences between Voice Prompt Editor and Application Builder.

Feature	VPE	Application Builder
Logging on	Enter mailbox, password, and telephone number.	Enter user ID and password. The program prompts for the telephone number only if you record prompts.
Creating voice files	Description is entered at the time of creation.	Description can be added later.
Opening voice files	You can only open one voice file at a time.	You can open multiple files (applications) simultaneously.
Reverting to previous file version	Menu command	Close the file without saving changes.
Copying voice files	Copy menu command	Save As menu command
Renaming voice files	Rename menu command	Save As menu command; delete previous version

<b>Feature</b>	<b>VPE</b>	<b>Application Builder</b>
Undeleting voice files	Undelete menu command	Not available
Copying voice segments between applications	Not available	Supported
Listing voice segments	List shows segment duration.  Each segment has a name, title, and description.	Segment duration is not available.  Each segment has a name and description.
Playing the next segment	Play Next Segment button.	To play the next segment, select the next segment and click Play.
Editing segment length	Length button	Use a third-party application.
Searching for voice segments	Search button	Sort the segment list by ID or name.
Undeleting voice segments	Undelete menu command	Close and reopen the file.
Deleting voice segments	Deletion causes renumbering of IDs in segment list and may affect scripts.	Deletion does not cause renumbering.
Playing a group of recorded prompts	Supported	You can build an application to play prompt groups.
Telset application for recording prompts	Not available	Voice Item Maintenance

<b>Feature</b>	<b>VPE</b>	<b>Application Builder</b>
Prompt size	Up to 2 minutes (120 seconds)	Up to 2 minutes (120 seconds)
Maximum number of segments per file	1000	3000
Import/Export .WAV file	Not available	Supported
Connection to server	VPE uses a serial ACCESS link.	Application Builder uses a LAN link, resulting in faster file and segment operations.
Assignment of segment IDs	Automatically assigned, starting at 1.	Default provided, but can be overridden by administrator.
Description length	Maximum 2048 characters	Maximum 240 characters

# Appendix B

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## To migrate from Meridian MAX to Contact Center Manager Server

### In this appendix

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Migration steps	371

## Premigration steps

This section provides a migration plan for a migration from Meridian MAX MQA to Contact Center Manager Server with a staged cutover.

Before beginning the migration, verify the following items:

- In MAX, make sure no Change Orders are created or scheduled.
- Check Meridian Mail or CallPilot announcements, menus, and treatments that are used in Customer Controlled Routing (CCR) or as entry points; ensure that they do not route calls to old ACD-DNs or CDNs that are no longer used. Contact Center Manager Server requires its own Meridian Mail ACD-DN for voice processing, and cannot share CCR's IVR ACD-DN.
- Check the CCR Variable table to ensure that the ACD-DNs are removed.
- Check any link programming (LD 17, 15, 10, 11, 23) to ensure that ACD-DNs and CDNs that use CTI are associated with the ELAN subnet link ID and not the AML.
- Make sure routes are not auto-terminating on old ACD\_DNs or CDNs.
- Check the IDC tables for old ACD-DNs and CDNs.

# Migration steps

To migrate Meridian Max to Contact Center Manager Server, complete the following procedure.

## Performing the migration with a staged cutover

- 1 Create a new ACD-DN with enough MAXP assigned.
- 2 Set RPRT = YES on this new ACD-DN.
- 3 Instruct contact center agents to use single standard logon prior to leaving on the night of the cutover. (Alternatively, if acceptable, monitor the switch. The only ACD-DN maintained is the ACD-DN defined in the service change.)
- 4 Verify that agents are assigned to one queue in one of the following ways:
  - Run the Configuration Update in MAX, and then print the Configuration Report, which shows all ACD-DNs and the positions assigned to them.
  - View the Real Time Display–Agent by ACD-DN.
- 5 Build and submit a Meridian MAX Change Order to move agents to a new ACD-DN.

**Note:** Nortel recommends that you execute the Change Order at night when the agents are not present.
- 6 Verify on the switch and in Meridian MAX that no agent positions are left in old ACD-DNs.
- 7 Disassociate the CCR script. (The CDN shows CNTL = NO.)
- 8 For the CDN, change the old default ACD to a new ACD-DN, either in Meridian MAX or LD 23. (Optionally, remove the Value Added Server [VAS] ID, although this is not necessary.) When Contact Center Manager Server acquires the CDN, the ASID appears.
- 9 Test the CDN and default queue routing. (Calls should be presented to agents in the new ACD-DN.)
- 10 Create Contact Center Manager Server scripts.

**Note:** The Master Script must route calls to the CDN default DN if the CDN is not acquired or if no script is assigned to it. Therefore, you can add CDNs

to the Master Script and comment them out (commenting out refers to the `/* */` around commands that indicate a piece of script is tagged to not compile) until the script is tested. After testing, you can acquire the CDN and remove the comments.

**Example:** Following is an example Master Script:

```
IF TRANSFERRED THEN
    GIVE RINGBACK
    WAIT 6
ELSE
    GIVE RINGBACK /* As long as busy isn't given later */
END IF
IF test_cdn THEN
    EXECUTE SCRIPT Test_1
END IF
/*
WHERE CDN EQUALS
    VALUE xxxx: EXECUTE SCRIPT xxxx
    VALUE xxxy: EXECUTE SCRIPT xxxy
    VALUE xxxz: EXECUTE SCRIPT xxxz
END WHERE
*/
ROUTE CALL DEFAULT DN
```

- 11 In Contact Center Manager Server, acquire phones.
- 12 In Contact Center Manager Server, acquire a test CDN, and associate a script with this CDN.
- 13 Place test calls receiving night treatment.
- 14 Change the hours in the script to offer day treatment.
- 15 Place test calls receiving day treatment.
- 16 Change the hours in the script back to night treatment.
- 17 Acquire CDNs and assign validated or tested scripts to live CDNs.

**Note:** As part of the migration plan you must consider all Meridian MAX third-party devices such as wallboards, forecasting packages, adherence, quality monitoring, and so on.

# Glossary

## A

### **accelerator key**

A key on a phoneset that an agent can use to place a call quickly. When an agent presses an accelerator key, the system places the call to the configured number associated with the key. For example, if an agent presses the Emergency key, the system places a call to the agent's supervisor.

### **ACCESS**

An internal protocol used by Contact Center Manager Server to directly control some of the voice services available on the CallPilot or Meridian Mail platform.

### **access class**

A collection of access levels that defines the actions a member of the access class can perform within the system. For example, a member of the Administrator access class might be given a collection of Read/Write access levels.

### **access level**

A level of access or permission given to a particular user for a particular application or function. For example, a user might be given View Only access to historical reports.

### **ACCESS link**

A communication channel between Contact Center Manager Server and CallPilot or Meridian Mail.

### **ACCESS voice port**

A voice port controlled by the ACCESS link.

### **ACD call**

*See* automatic call distribution call.

### **ACD-DN**

*See* automatic call distribution directory number.

**ACD group**

*See* automatic call distribution group.

**ACD routing table**

*See* automatic call distribution routing table.

**ACD subgroup**

*See* automatic call distribution subgroup.

**acquired resource**

A resource configured on the switch under the control of Contact Center Manager Server. Resources must be configured with matching values on both the switch and Contact Center Manager Server.

**activated script**

A script that is processing calls or is ready to process calls. Before you can activate a script, you must first validate it.

**active server**

In a system with a Replication Server, the server providing call processing and administration services.

**activity code**

A number that agents enter on their phoneset during a call. Activity codes provide a way of tracking the time agents spend on various types of incoming calls. They are also known as Line of Business (LOB) codes. For example, the activity code 720 might be used to track sales calls. Agents can then enter 720 on their agent desktop applications during sales calls, and this information can be generated in an Activity Code report.

**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 computer's main circuitry.

**administrator**

A user who sets up and maintains Contact Center Manager and Contact Center Multimedia.

**agent**

A user who handles inbound and outbound voice calls, e-mail messages, and Web communications.

**agent logon ID**

A unique identification number assigned to a particular agent. The agent uses this number when logging on. The agent ID is not associated with any particular phoneset.

**agent priority per skillset**

Each agent has a priority per skillset. This priority represents their skill level within the skillset. This priority is used only in queuing the agent in the idle agent queues, thus allowing agents with greater priority in a skillset to be presented with calls before agents of lesser priority. Agent priority per skillset has a range of 1 to 48, with 1 having the greatest priority. Agent priority per skillset is not used to determine which request to present to an idle agent when the agent qualifies for more than one queue request. That presentation is based solely on the calls' attributes.

**agent-to-skillset assignment**

A matrix that, when you run it, sets the priority of one or more agents for a skillset. Agent to skillset assignments can be scheduled.

**agent-to-supervisor assignment**

A matrix that, when you run it, assigns one or more agents to specific supervisors. Agent to supervisor assignments can be scheduled.

**AIP**

Advanced I/O Processor

**alias**

*See e-mail alias.*

**AML**

*See Application Module Link.*

**ANI**

*See automatic Number Identification.*

**API**

*See* application program interface.

**application**

1. A logical entity that represents a Contact Center Manager script for reporting purposes. The Master script and each primary script have an associated application. The application has the same name as the script it represents. 2. A program that runs on a computer.

**Application Module Link**

An internal protocol used by Contact Center Manager Server to communicate directly with the switch.

**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.

**application server**

The server on which the Contact Center Manager Administration software is installed. This server acts as the middle layer that communicates with Contact Center Manager Server and makes information available to the client PCs.

**associated supervisor**

A supervisor who is available for an agent if the agent's reporting supervisor is unavailable. *See also* reporting supervisor.

**automatic call distribution**

A means of automatically distributing an organization's incoming calls among a number of answering positions (ACD agents). Automatic call distribution is useful in operations where callers want a service rather than a specific person. Calls are serviced in the order they arrive and are distributed so that the workload at each answering position is approximately equal.

**automatic call distribution call**

A call to an ACD-DN. ACD calls are distributed to agents in an ACD group based on the ACD routing table on the switch. *See also* automatic call distribution directory number.

**automatic call distribution directory number**

A primary or supplementary DN associated with an ACD group. Calls made to an automatic call distribution directory number are distributed to agents belonging to the group, based on the ACD routing table on the switch.

**automatic call distribution group**

An entity defined on the switch for the purpose of call distribution. When a customer dials an ACD group, the call is routed to any agent who is a member of that group.

**automatic call distribution routing table**

A table configured on the switch that contains a list of ACD-DNs used to define routes for incoming calls. This ensures that incoming calls not processed by Contact Center Manager Server are queued to ACD groups and handled by available agents.

**automatic call distribution subgroup**

An entity defined on the switch to assign supervisory responsibilities. Each subgroup has one supervisor phoneset and a number of agent phonesets associated with it. Agents can log on to any phoneset within their ACD subgroup. The supervisor must log on to the supervisor phoneset to monitor assigned agents.

**automatic Number Identification**

A telephony feature that provides the originating local telephone number of the caller.

**auto-response**

A message sent to a customer with no agent interaction. An auto-response can be an intelligent response, such as a sales promotion flyer, or an acknowledgement, such as, “We received your e-mail and will respond to you within three days.”

**B****basic call**

A simple unfeatured call between two 2500 phonesets, on the same switch, using a four-digit dialing plan.

**BBUA**

Back-to-Back User Agent

**C****call age**

The amount of time a call waits in the system before being answered by an agent.

**call destination**

The site to which an outgoing network call is sent. *See also* call source.

**Calling Line Identification**

An optional service that identifies the telephone number of the caller. This information can then be used to route the call to the appropriate agent or skillset. The CLID can also be displayed on an agent's phoneset.

**call intrinsic**

A script element that stores call-related information assigned when a call enters Contact Center Manager Server. *See also* intrinsic, skillset intrinsic, time intrinsic, traffic intrinsic.

**call presentation class**

A collection of preferences that determines how calls are presented to an agent. A call presentation class specifies whether a break time between calls is allowed, whether an agent can put DN calls on hold for incoming ACD calls, and whether an agent phoneset displays that the agent is reserved for a network call.

**call priority**

The priority given to a request for a skillset agent in a `QUEUE TO SKILLSET` or `QUEUE TO NETWORK SKILLSET` script element. This priority is used only in queuing a pending request in the pending request queue corresponding to the required skillsets. This allows pending requests with greater priority in a skillset to be presented to agents before calls of lesser priority. Call priority has a range of 1 to 6, with 1 having the greatest priority. Six priorities are used to fully support the many queuing variations provided by existing NACD functionality. Call priority is maintained at target nodes for network call requests.

**Call Request Queue Size**

Sets the maximum queue size for network skillsets. When the set maximum is reached, the queue rejects calls. For Network Skill-Based Routing, Call Request Queue Size (CRQS) is configured in Contact Center Manager Administration. If the NACD fallback or the Queue\_to\_NACD script command is used, CRQS must be configured in LD23 on the switch. *See also* Flow Control Threshold.

**call source**

The site from which an incoming network call originates. *See also* call destination.

**call treatment**

A script element that enables you to provide handling to a call while it is waiting to be answered by a contact center agent. For example, a caller can hear a recorded announcement or music while waiting for an agent.

**call variable**

A script variable that applies to a specific call. A call variable follows the call through the system and is passed from one script to another with the call. *See also* global variable, script variable.

**CallPilot**

A multimedia messaging system you can use to manage many types of information, including voice messages, fax messages, e-mail messages, telephone calls (including conferencing), calendars, and directories.

**campaign**

*See* outbound campaign.

**CAT**

Channel Allocation Table

**CCR**

customer controlled routing

**CDN**

*See* controlled directory number.

**central processing unit**

The component of a computer that performs the instructions of computer programs. Also known as a processor or microprocessor.

**centum call seconds**

A measure of call traffic density that represents one call in one channel for 100 seconds in 1 hour.

**CLAN**

*See* Customer Local Area Network.

**CLAN subnet**

*See* enterprise IP network.

**CLID**

*See* Calling Line Identification.

**client**

The part of Contact Center Manager Server that runs on a personal computer or workstation and relies on the server to perform some operations. Two types of client are available: Server Utility and Contact Center Manager Administration. *See also* server.

**closed reasons**

An item configured in Contact Center Multimedia to indicate the result of a completed e-mail contact. Agents choose a closed reason, and this information can be generated in a report.

**command**

A building block used with expressions, variables, and intrinsics to create scripts. Commands perform distinct functions, such as routing a call to a specific destination, playing music to a caller, or disconnecting a caller.

**Communication Control Toolkit**

A client/server application that integrates a telephone on a user's desktop with client- and server-based applications.

**Communication Server 1000 Telephony Manager**

A Nortel application used for Private Branch Exchange (PBX) management.

**Computer Telephony Integration**

An application that enables a computer to control telephone calls.

**Conditionally Toll Denied**

Allowed access for calls placed through Basic/Network Alternate Route Selection and Coordinated Dialing Plan.

**Contact Center Agent Desktop**

An agent tool that contact center agents can use to provide intelligent and personalized customer care. Agents use a personal computer to access the telephony and multimedia functions.

**Contact Center Manager**

A client/server contact center solution for varied and changing business requirements. It offers a suite of applications that includes call processing and agent handling, management and reporting, networking, and third-party application interfaces.

**Contact Center Manager Administration**

A browser-based tool for contact center administrators and supervisors used for managing and configuring a contact center and its users, defining access to data, and viewing real-time and historical reports. The Contact Center Manager Administration software is installed on an application server. *See also* Contact Center Manager Administration server.

**Contact Center Manager Administration server**

The server on which the Contact Center Manager Administration software is installed. This server acts as the middle layer that communicates with Contact Center Manager Server and makes information available to the client PCs.

**Contact Center Manager Server**

This server is responsible for functions such as the logic for call processing, call treatment, call handling, call presentation, and the accumulation of data into historical and real-time databases.

**Contact Center Manager Server call**

A call to a CDN controlled by Contact Center Manager Server. The call is presented to the Incalls key on an agent's phoneset.

**Contact Center Multimedia server**

A client/server contact center application that expands inbound telephony capabilities to include outbound voice, e-mail, and Web communications.

**Contact Center Standby server**

The server that contains an up-to-date backup version of the Contact Center Manager Server database for use if the active server fails. The database is kept up-to-date by the Replication Server.

**Contivity VPN Switch**

A Nortel product that provides routing, firewall, bandwidth management, encryption, authentication, and data integrity for secure tunneling across managed IP networks and the Internet.

**controlled directory number**

A special directory number that allows calls arriving at the switch to be queued when the CDN is controlled by an application such as Contact Center Manager Server. When a call arrives at this number, the switch notifies the application and waits for routing instructions, which are performed by scripts in Contact Center Manager Server.

**CPH**

calls per hour

**CPU**

*See* central processing unit.

**CRM**

*See* Customer Relationship Manager.

**CRQS**

*See* Call Request Queue Size.

**CSL**

Command and Status Link

**CTD**

*See* Conditionally Toll Denied.

**CTI**

*See* Computer Telephony Integration.

**customer administrator**

A user who maintains Contact Center Manager.

**Customer Local Area Network**

The LAN to which your corporate servers, third-party applications, and desktop clients connects.

**Customer Relationship Manager**

An application that provides the tools and information that an organization requires to manage its customer relationships.

**D****Data Execution Prevention**

A set of hardware and software technologies that perform additional checks on memory to help to protect against malicious code exploits. In Windows Server 2003 Service Pack 1, Data Execution Prevention is enforced by both hardware and software.

**database views**

A logical representation of the database used to organize information in the database for your use. Event statistics are accessible through database views.

**DBMS**

Database Management System

**deacquire**

To release an acquired switch resource from the control of the contact center.

**deactivated script**

A script that does not process any new calls. If a script is in use when it is deactivated, calls continue to be processed by the script until they are completed.

**default activity code**

The activity code assigned to a call if an agent does not enter an activity code manually, or when an agent presses the activity code button twice on the phoneset. Each skillset has a defined default activity code.

**default skillset**

The skillset to which calls are queued if they are not queued to a skillset or a specific agent by the end of a script.

**denial of service**

An incident in which a user or organization is unable to gain access to a resource that they can normally access.

**DEP**

*See* Data Execution Prevention.

**Designer Patch**

An emergency fix packaged to address specific individual Contact Center software problems. Designer Patches are viewable from a patch viewer application. Designer Patches are included in the next scheduled Service Update or Service Update Supplementary. *See also* Service Update and Service Update Supplementary.

**desktop user**

A configured user who can log on to the Contact Center Manager Server from a client PC.

**destination site**

The site to which an outgoing network call is sent. *See also* source site.

**DHCP**

*See* dynamic host configuration protocol.

**Dial-Up Networking**

*See* Remote Access Services.

**Dialed Number Identification Service**

An optional service that allows Contact Center Manager Server to identify the phone number dialed by the incoming caller. An agent can receive calls from customers calling in on different DNISs and, if the DNIS is displayed on the phoneset, can prepare a response according to the DNIS.

**DID**

Direct Inward Dial

**directory number**

The number that identifies a phoneset on a switch. The directory number (DN) can be a local extension (local DN), a public network telephone number, or an automatic call distribution directory number (ACD-DN).

**directory number call**

A call presented to the DN key on an agent's phoneset.

**display threshold**

A threshold used in real-time displays to highlight a value below or above the normal range.

**disposition code**

An item configured in Contact Center Multimedia to indicate the result of a completed outbound contact. Agents choose a disposition code, and this information can be generated in a report.

**Distant Steering Code**

Used by the switch to route calls to their intended destination.

**Distance Vector Multicast Routing Protocol**

The multicast routing protocol used when multicast data recipients extend beyond a single network. This protocol advertises the shortest-path route to the networks on which a multicasting source resides.

**DMS**

Digital Multiplex Switch

**DN**

*See* directory number.

**DN call**

*See* directory number call.

**DNIS**

*See* Dialed Number Identification Service.

**DoS**

*See* denial of service.

**DP**

*See* Designer Patch.

**DSC**

Distant Steering Code

**DTMF**

Dual Tone Multi Frequency

**Dual Tone Multi Frequency**

A method used by the telephone system to communicate the keys pressed when dialing. Pressing a key on the phone's keypad generates two simultaneous tones, one for the row and one for the column. These are decoded by the exchange to determine which key was pressed.

**DVMRP**

*See* Distance Vector Multicast Routing Protocol.

**dynamic host configuration protocol**

A protocol for dynamically assigning 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 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****EBC**

*See* equivalent basic calls.

**EIU**

Ethernet Interface Unit

**ELAN Subnet**

*See* embedded local area network.

**e-mail alias**

An e-mail address that forwards all e-mail messages it receives to another e-mail account. For example, the mailbox `general@magscripts.com` can have the aliases `carz@magsubscriptions.com` and `planez@magsubscriptions.com`. E-mail addressed to either of these aliases is forwarded to the `general@magscripts.com` mailbox. To route e-mail differently depending on the alias to which it is addressed, create a recipient mailbox as an alias in the Contact Center Multimedia Administrator application and then create routing rules based on the alias.

**e-mail message contact**

An incoming e-mail message handled intelligently using rules to route a contact according to a skillset, send an auto-response, or close the contact.

**e-mail rule**

Determine how an e-mail contact is routed based on information about the e-mail message (inputs) and configurations in your contact center (outputs).

**embedded local area network**

A dedicated Ethernet TCP/IP LAN that connects the Contact Center Manager Server and the switch.

**Emergency key**

A key on an agent's phoneset that, when pressed by an agent, automatically calls their supervisor to notify the supervisor of a problem with a caller.

**enterprise IP network**

Your entire IP network including the ELAN subnet and the Nortel server subnet.

**equivalent basic calls**

A measure of the telephone switch CPU real time required to process a basic call. *See also* basic call.

**event**

1. An occurrence or action on Contact Center Manager, such as the sending or receiving of a message, the opening or closing of an application, or the reporting of an error. Some events are for information only, while others can indicate a problem. Events are categorized by severity: information, minor, major, and critical. 2. An action generated by a script command, such as queuing a call to a skillset or playing music.

**expression**

1. A building block used in scripts to test for conditions, perform calculations, or compare values within scripts. *See also* logical expression and mathematical expression. 2. A category of disk drives that employs two or more drives in combination for fault tolerance and performance. *See also* relational expression.

**F****FCTH**

*See* Flow Control Threshold.

**filter timer**

The length of time after the system unsuccessfully attempts to route calls to a destination site before that site is filtered out of a routing table.

**firewall**

A set of programs that protects the resources of a private network from external users.

**first-level threshold**

The value that represents the lowest value of the normal range for a statistic in a threshold class. The system tracks how often the value for the statistic falls below this value.

**Flow Control Threshold**

The number of calls required to reopen a closed network skillset queue. This value must be less than the Call Request Queue Size. For Network Skill-Based Routing, Flow Control Threshold (FCTH) is configured in Contact Center Manager Administration. If the NACD fallback or the Queue\_to\_NACD script command is used, FCTH must be configured in LD23 on the switch. *See also* Call Request Queue Size.

**G****global settings**

Settings that apply to all skillsets or IVR ACD-DNs configured on your system.

**global variable**

A variable that contains values that can be used by any script on the system. You can only change the value of a global variable in the Script Variable Properties sheet. You cannot change it in a script. *See also* call variable, variable.

**GOS**

*See* grade of service.

**grade of service**

The probability that calls are delayed by more than a certain number of seconds while waiting for a port.

**H****HDX**

*See* Host Data Exchange.

**Host Data Exchange**

A rich scripting language provided with Contact Center Manager to control treatment of calls.

**HTTP**

*See* Hypertext Transfer Protocol.

**hundred call seconds**

*See* centum call seconds.

**Hypertext Transfer Protocol**

The set of rules for transferring data on the World Wide Web.

**ICM**

*See* Intelligent Call Manager.

**IGMP**

*See* Internet Group Management Protocol.

**Incalls key**

The key on an agent phoneset to which incoming ACD and Contact Center Manager calls are presented.

**Integrated Services Digital Network**

A set of standards for transmitting digital information over ordinary telephone wire and other media.

**Integration Package for Meridian Link**

A feature that integrates an IVR system with a switch.

**Intelligent Call Manager**

A high capacity contact center TCP/IP interface to the switch that enables the exchange of messages between the switch and a remote host computer.

**Interactive Voice Response**

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

**Interactive Voice Response 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.

**Interactive Voice Response event**

A voice port logon or logoff. An IVR event is pegged in the database when a call acquires or deacquires a voice port.

**Internet Group Management Protocol**

The multicast routing protocol used in a network that does not require the delivery of multicast packets between routers or across networks. This protocol transports the following information between host group members, hosts, and routers:

- client requests to join a group
- messages about group membership sent by hosts to routers

**Internet Protocol address**

An identifier for a computer or device on a TCP/IP network. Networks use TCP/IP to route messages based on the IP address of the destination. For customers using NSBR, site IP addresses must be unique and correct. The format of an IP address is a 32-bit numeric address written as four values separated by periods. Each value can be 0 to 255. For example, 1.160.10.240 can be an IP address.

**intrinsic**

A word or phrase used in a script to gain access to system information about skillsets, agents, time, and call traffic that can then be used in formulas and decision-making statements. *See also* call intrinsic, skillset intrinsic, time intrinsic, traffic intrinsic.

**IP address**

*See* Internet Protocol address.

**IPML**

*See* Integration Package for Meridian Link.

**ISDN**

*See* Integrated Services Digital Network.

**IVR**

*See* Interactive Voice Response.

**IVR ACD-DN**

*See* Interactive Voice Response ACD-DN.

**IVR event**

*See* Interactive Voice Response event.

**IVR port**

*See* voice port.

**L****LAN**

*See* local area network.

**Line of Business code**

*See* activity code.

**LOB code**

*See* activity code.

**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.

**local call**

A call that originates at the local site. *See also* network call.

**local skillset**

A skillset that can be used at the local site only. *See also* network skillset, skillset.

**logical expression**

1. A symbol used in scripts to test for different conditions. Logical expressions are AND, OR, and NOT. *See also* expression, mathematical expression. 2. A category of disk drives that employs two or more drives in combination for fault tolerance and performance. *See also* relational expression.

# M

## M1

Meridian 1 switch

## M1 IE

Meridian 1 Internet Enabled switch

## mailbox

*See* recipient mailbox.

## Management Information Base

A data structure that describes the collection of all possible objects in a network. Each managed node maintains one or more variables (objects) that describe its state. Contact Center Manager Server Management Information Bases (MIB) contribute to the overall network MIB by:

- identifying Nortel/Meridian/Contact Center Manager Server nodes within the network
- identifying significant events (SNMP traps), such as alarms reporting
- specifying formats of alarms

## Master script

The first script executed when a call arrives at the Contact Center. A default Master script is provided with Contact Center Manager, but it can be customized by an authorized user. It cannot be deactivated or deleted. *See also* network script, primary script, script, secondary script.

## mathematical expression

1. An expression used in scripts to add, subtract, multiply, and divide values. Mathematical expressions are addition (+), subtraction (-), division (/), and multiplication (\*). *See also* expression and logical expression. 2. A category of disk drives that employs two or more drives in combination for fault tolerance and performance. *See also* relational expression.

## mean holding time

1. The time that the agent is involved in serving a call. It is the sum of average talk time. 2. The time required for postcall processing when the agent is not available to handle other calls. 3. Intercall interval (including union break, if any).

**Media Application Server**

A programmable media endpoint in a SIP signaling network that acts as a SIP user agent to accept and control sessions and the IP media (audio and video) services associated with those sessions. The Media Application Server delivers programmable customized intelligent media services to those sessions using text, voice, and video initially, with extensibility to other media and information types as the applications grow.

**mean time between calls**

The average time between presentation of calls to an agent.

**Meridian Link Services**

A communications facility that provides an interface between the switch and a third-party host application.

**Meridian Mail**

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

**Meridian MAX**

A Nortel product that provides call processing based on ACD routing.

**MHT**

*See* mean holding time.

**MIB**

*See* Management Information Base.

**MLS**

*See* Meridian Link Services.

**MM**

*See* Meridian Mail.

**MOSPF**

*See* Multicasting Extensions to Open Shortest Path First.

**MTBC**

*See* mean time between calls.

**Multicasting Extensions to Open Shortest Path First**

An enhanced version of the Open Shortest Path First (OSPF) routing algorithm that allows a router to forward multicast IP traffic within an autonomous OSPF (v.2) system.

**Multimedia database**

A Caché database used to store customer information and contact details for outbound, e-mail, and Web communication contacts.

**MSL-100**

Meridian Stored Logic 100 switch

**music route**

A resource installed on the switch that provides music to callers while they wait for an agent.

**N****NACD call**

A call that arrives at the server from a network ACD-DN.

**NAT**

*See* Network Address Translation.

**NCC**

*See* Network Control Center.

**NCRTD**

*See* Network Consolidated Real-Time Display.

**Network Address Translation**

The translation of an Internet Protocol (IP) address used within one network to an IP address used within another network. One network is called the inside network and the other is called the outside network.

**network call**

A call that originates at another site in the network. *See also* local call.

**Network Consolidated Real-Time Display**

A real-time display containing data from more than one Contact Center Manager Server. This data is consolidated by Contact Center Manager Administration.

**Network Control Center**

The server on a Contact Center Manager system where Network Skill-Based Routing is configured and where communication between servers is managed.

**network interface card**

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

**network script**

The script executed to handle error conditions for Contact Center Manager Server calls forwarded from one site to another for customers using NSBR. The network script is a system-defined script provided with Contact Center Manager, but it can be customized by an authorized user. It cannot be deactivated or deleted. *See also* Master script, primary script, script, secondary script.

**Network Skill-Based Routing**

An optional feature with Contact Center Manager Server that provides skill-based routing to multiple networked sites.

**network skillset**

A skillset common to every site on the network. Network skillsets must be created at the Network Control Center (NCC).

**night mode**

A skillset state in which the server does not queue incoming calls to the skillset, and in which all queued calls are given night treatment. A skillset goes into night mode automatically when the last agent logs off, or the administrator can put it into night mode manually. *See also* out-of-service mode, transition mode.

**Nortel server subnet**

The subnet to which the Nortel servers, such as Contact Center Manager Server, Network Control Center, Contact Center Manager Administration, Contact Center Multimedia, and CallPilot are connected.

**Nortel VPN Router Switch**

A Nortel product that provides routing, firewall, bandwidth management, encryption, authentication, and data integrity for secure tunneling across managed IP networks and the Internet.

**NPA**

*See* Number Plan Area.

**NSBR**

*See* Network Skill-Based Routing.

**Number Plan Area**

Area code

**O****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

**Office hours**

Hours configured in the contact center where e-mail messages can be routed using one method when the contact center is open, and another method when the contact center is closed.

**OLE**

*See* object linking and embedding.

**Open Database Connectivity**

A Microsoft-defined database application program interface (API) standard.

**Open Shortest Path First**

A routing algorithm that provides least-cost routing, multipath routing, and load balancing.

**Optivity Telephony Manager**

A Nortel application used for switch management.

**OSPF**

*See* Open Shortest Path First.

**OTM**

*See* Optivity Telephony Manager.

**outbound campaign**

A group of outgoing calls from the contact center for a specific purpose, for example, customer satisfaction surveys.

**Outbound Campaign Management Tool**

An administrator tool accessed through Contact Center Manager Administration for configuring outbound campaigns.

**outbound contact**

An outgoing voice call intelligently routed to an agent according to a skillset within a defined time interval. The call can be dialed by the agent or the switch.

**out-of-service mode**

A skillset state in which the skillset does not take calls. A skillset is out of service if no agents are logged on or if the supervisor puts the skillset into out-of-service mode manually. *See also* night mode, transition mode.

**out-of-service skillset**

A skillset not taking any new calls. While a skillset is out of service, incoming calls cannot be queued to the skillset. *See also* local skillset, network skillset, skillset.

# P

**patch**

*See* Designer Patch.

**PBX**

*See* private branch exchange.

**pegging**

The action of incrementing statistical counters to track and report on system events.

**pegging threshold**

A threshold used to define a cut-off value for statistics, such as short call and service level. Pegging thresholds are used in reports.

**PEP**

Performance Enhancement Package. Now known as Designer Patch. *See* Designer Patch.

**Performance Enhancement Package**

Now known as Designer Patch. *See* Designer Patch.

**personal directory number**

A DN on which an agent can be reached directly, usually for private calls.

**phoneset**

The physical device, connected to the switch, to which calls are presented. Each agent and supervisor must have a phoneset.

**phoneset display**

The display area on an agent's phoneset where information about incoming calls can be communicated.

**PIM**

*See* Protocol Independent Multicast.

**Platform Vendor Independence**

A software-only contact center solution, which operates on any hardware platform that meets specified requirements.

**Position ID**

A unique identifier for a phoneset, used by the switch to route calls to the phoneset. Referred to as Telephony/Port Address in Contact Center Manager Server.

**primary ACD-DN**

A directory number that callers can dial to reach an ACD group.

**primary script**

A script executed or referenced by the Master script. A primary script can route calls to skillsets, or it can transfer routing control to a secondary script. *See also* Master script, network script, script, secondary script.

**priorities**

Two sets of priorities affect queuing and call presentation: agent priority per skillset and call priority. For both sets of priorities, the lower in value of the number indicates a greater priority in presentation. All idle agent queues and all pending request queues always queue by priority as its top precedence. All other queuing options, such as age of call and agent idle time, take a lower precedence than priority. *See also* call priority and agent priority per skillset.

**private branch exchange**

A telephone switch, typically used by a business to service its internal telephone needs. A PBX usually offers more advanced features than are generally available on the public network.

**Protocol Independent Multicast**

A protocol that provides efficient routes for multicast traffic that must cross the Internet to reach members of sparsely distributed multicast groups.

**PSTN**

*See* public switched telephone network.

**public switched telephone network**

The international network of private and government-owned voice-oriented public telephone networks.

# R

## **RAID**

*See* Redundant Array of Intelligent/Inexpensive Disks.

## **RAN**

recorded announcement

## **RAN route**

*See* recorded announcement route.

## **RAS**

*See* Remote Access Services.

## **Real-time Statistics Multicast**

An interface that provides real-time information to third-party applications in either multicast or unicast format.

## **recipient mailbox**

A container on the e-mail server that hold e-mail messages. Standard mailboxes are monitored by the Contact Center E-mail Manager, which routes the e-mail to an agent or group of agents (skillset) based on an analytical search of the sender address, the recipient address, the subject and body of an e-mail message for predetermined keywords, or a combination of these. The e-mail server must be compliant with Post Office Protocol 3 (POP3) and Standard Mail Transfer Protocol (SMTP).

## **recorded announcement route**

A resource installed on the switch that offers a recorded announcement to callers.

## **Redundant Array of Intelligent/Inexpensive Disks**

A category of disk drives that employs two or more drives in combination for fault tolerance and performance.

## **redundant server**

A warm standby server, used for shadowing the Multimedia database on the Multimedia server and providing a quick recovery if the primary server fails.

**relational expression**

An expression used in scripts to test for different conditions. Relational expressions are less than (<), greater than (>), less than or equal to (<=), greater than or equal to (>=), and not equal to (<>). *See also* expression, logical expression, mathematical expression.

**Remote Access Services**

A feature built into Windows NT and Windows 95 that enables users to log on to an NT-based LAN using a modem, X.25 connection, or WAN link. This feature is also known as Dial-Up Networking.

**Replication Server**

A server that backs up the active Contact Center Manager Server to the standby Contact Center Manager Server in real time.

**reporting supervisor**

The supervisor who has primary responsibility for an agent. When an agent presses the Emergency key on the phoneset, the emergency call is presented to the agent's reporting supervisor. *See also* associated supervisor.

**Resource Reservation Protocol**

The protocol used by routers to allow host systems in an IP network to reserve resources for unicast or multicast dataflows.

**round robin routing table**

A routing table that queues the first call to the first three sites in the routing table, then the second three sites, then the third three sites, and so on, until an agent is reserved at one of the sites. *See also* sequential routing table.

**route**

A group of trunks. Each trunk carries either incoming or outgoing calls to the switch. *See also* music route, RAN route.

**router**

A device that connects two LANs. Routers can also filter messages and forward them to different places based on various criteria.

**routing table**

A table that defines how calls are routed to the sites on the network. *See also* round robin routing table, sequential routing table.

**RSM**

*See* Real-time Statistics Multicast.

**RSVP**

*See* Resource Reservation Protocol.

**rule**

*See* e-mail rule.

**S****sample script**

A script installed with the Contact Center Manager Server client. Sample scripts are stored as text files in a special folder on the client. The contents of these scripts can be imported or copied into user scripts to create scripts for typical contact center scenarios.

**SCM**

*See* Service Control Manager.

**script**

A set of instructions that relates to a particular type of call, caller, or set of conditions, such as time of day or day of week. *See also* Master script, network script, primary script, secondary script.

**script variable**

*See* variable.

**second-level threshold**

The value used in display thresholds that represents the highest value of the normal range for a given statistic. The system tracks how often the value for the statistic falls outside this value.

**secondary directory number**

A DN defined on the agent's phoneset as a Centrex line for incoming and outgoing non-ACD calls.

**secondary script**

Any script (other than a Master, network, or primary script) referenced from a primary script or any other secondary script. Statistics are not pegged for actions occurring during a secondary script. *See also* Master script, network script, primary script, script.

**sequential routing table**

A routing table method that always queues a call to the first three active sites in the routing table. *See also* round robin routing table.

**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. Contact Center Manager Server is used to configure the operations of the contact center. *See also* client.

**server subnet**

The subnet to which the Nortel servers, such as Contact Center Manger Server, Network Control Center, Contact Center Manager Administration, Contact Center Multimedia, and CallPilot are connected.

**service**

A process that adheres to a Windows NT structure and requirements. A service provides system functionality.

**Service Control Manager**

A Windows NT process that manages the different services on the PC.

**service level**

The percentage of incoming calls answered within a configured number of seconds.

**service level threshold**

A parameter that defines the number of seconds within which incoming calls should be answered.

**Service Update**

A Contact Center supplementary software application that enhances the functionality of previously released software by improving performance, adding functionality, or correcting a problem discovered since the original release. All previous Service Updates (SUs) for the release are included in the latest Service Update. For example, SU02 contains the contents of SU01 as well as the fixes delivered in SU02. SU03 contains SU01, SU02, and the fixes delivered in SU03. *See also* Service Update Supplementary and Designer Patch.

**Service Update Supplementary**

A stand-alone Contact Center supplementary software application installed on top of a specific Service Update (SU). It does not contain the contents of previous SUs. The next SU includes SUSs built on top of previous SUs. For example, SUS0301 is installed on top of SU03. SU04 contains SU03 and SUS0301 (and any subsequent SUSs built on top of SU03). *See also* Service Update and Designer Patch.

**Session Initiation Protocol**

An application-layer control (signaling) protocol for creating, modifying, and terminating sessions with one or more participants.

**Simple Network Management Protocol**

A systematic way of monitoring and managing a computer network. The SNMP model consists of four components:

- managed nodes, which are any device, such as hosts, routers, and printers, capable of communicating status to network-management systems through an SNMP management process called an SNMP Agent
- management stations, which are computers running special network management software that interact with the Agents for status
- management information, which is conveyed through exact specifications and format of status specified by the MIB
- Management Protocol or SNMP, which sends messages called protocol data units (PDUs)

**SIP**

*See* Session Initiation Protocol.

**SIP Terminal**

The SIP Address of the TR87 controlled terminal dedicated to this agent. This is the phone number that the agent controls, combined with the domain of the agent in the SIP URI.

**SIP URI**

The SIP Address for the agent as configured on the target SIP server. The SIP Address uniquely identifies the agent on the SIP network.

**site**

1. A system using Contact Center Manager Server that can be accessed using Server Utility. 2. A system using Contact Center Manager Server and participating in Network Skill-Based Routing.

**skillset**

A group of capabilities or knowledge required to answer a specific type of call. *See also* local skillset, network skillset.

**skillset intrinsic**

A script element that inserts information about a skillset in a script. Skillset intrinsics return values such as skillsets, integers, and agent IDs. These values are then used in queuing commands. *See also* call intrinsic, intrinsic, time intrinsic, and traffic intrinsic.

**SL-100**

Stored Logic 100 switch

**SNMP**

*See* Simple Network Management Protocol.

**source site**

The site from which an incoming network call originates. *See also* destination site.

**standby**

In skillset assignments, a property that grants an agent membership in a skillset, but makes the agent inactive for that skillset.

**standby server**

A server that contains an up-to-date version of the database, for use when the active server becomes unavailable.

**SU**

*See* Service Update.

**supervisor**

A user who manages a group of agents. *See also* associated supervisor and reporting supervisor.

**supplementary ACD-DN**

A DN associated with a primary DN. Any calls to the supplementary DN are automatically routed to the primary DN. A supplementary DN can be a toll-free (1-800) number.

**SUS**

*See* Service Update Supplementary.

**switch**

*See* telephony switch.

**switch resource**

A device configured on the switch. For example, a CDN is configured on the switch and then used as a resource with Contact Center Manager Server. *See also* acquired resource.

**system-defined scripts**

The Master\_Script and the Network\_Script (if NSBR is enabled). Users can customize or deactivate these scripts, but they cannot delete them. These scripts are the first scripts executed for every local or network call arriving at the contact center.

**T****TAPI**

*See* Telephony Application Program Interface.

**target site**

*See* destination site.

**TCP/IP**

*See* Transmission Control Protocol/Internet Protocol.

**TDM**

*See* Time-Division Multiplex.

**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 perform functions traditionally performed by telephone equipment.

**telephony switch**

The hardware that processes calls and routes them to their destination.

**Telephony Application Program Interface**

An interface between the switch and an application that allows the application to control the telephone on a user's desktop.

**threshold**

A value for a statistic at which system handling of the statistic changes.

**threshold class**

A set of options that specifies how statistics are treated in reports and real-time displays. *See also* display threshold, pegging threshold.

**Time-Division Multiplex**

A method of transmission in which a signal is separated into multiple segments at the transmission source, and then reassembled at the receiving end.

**time intrinsic**

A script element that stores information about system time, including time of day, day of week, and week of year. *See also* call intrinsic, intrinsic, skillset intrinsic, traffic intrinsic.

**Token Ring**

A PC network protocol developed by IBM. A Token Ring network is a type of computer network in which all the computers are arranged schematically in a circle.

**traffic intrinsic**

An intrinsic that inserts information about system-level traffic in a script. *See also* call intrinsic, intrinsic, skillset intrinsic, time intrinsic.

**transition mode**

A skillset state in which the server presents already queued calls to a skillset. New calls queued to the skillset are given out-of-service treatment. *See also* night mode, out-of-service mode.

**Transmission Control Protocol/Internet Protocol**

The communication protocol used to connect devices on the Internet. TCP/IP is the standard protocol for transmitting data over networks.

**treatment**

*See* call treatment.

**trunk**

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

**U****user-created script**

A script created by an authorized user on the Contact Center Manager system. Primary and secondary scripts are user created scripts.

**user-defined script**

A script modified by an authorized user on the Contact Center Manager system.

**utility**

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

**V****validation**

The process of checking a script to ensure that all the syntax and semantics are correct. A script must be validated before it can be activated.

**variable**

A placeholder for values calculated within a script, such as CLID. Variables are defined in the Script Variable Properties sheet and can be used in multiple scripts to determine treatment and routing of calls entering Contact Center Manager Server. *See also* call variable, global variable.

**Virtual Private Network**

A private network configured within a public network to take advantage of the economies of scale and management facilities of large networks.

**Voice Extensible Markup Language**

Allows a user to interact with the Internet through voice-recognition technology.

**Voice over IP**

Voice traffic transmitted in digital format using the IP protocol.

**voice port**

A connection from a telephony port on the switch to a port on the IVR system.

**VPN**

*See* Virtual Private Network.

**VXML**

*See* Voice Extensible Markup Language.

**W****WAN**

*See* wide area network.

**Web-on-hold**

A set of URLs that a customer sees after requesting a text chat session, and before the agent connects to the Web Communications contact.

**wide area network**

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

**workload scenarios**

Sets of configuration values defined for typical patterns of system operations. Five typical workload scenarios (entry, small, medium, large, and upper end) are used in the Capacity Assessment Tool for capacity analysis for Contact Center Manager.



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# Nortel Contact Center Manager

## Contact Center, Communication Server 1000/Meridian 1 and Voice Processing Guide

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