NORTEL

Nortel Contact Center

Configuration — CS 1000 Integration

NN44400-512

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Contents

New in this release

The following sections detail what's new in the *Configuration - CS 1000 Integration* (NN44400-512) for Release 7.0.

Navigation

- Features (page 7)
- Other changes (page 7)

Features

This document replaces the *Nortel Contact Center Manager, Communication Server 1000/ Meridian 1 and Voice Processing Guide* (297-2183-931).

Other changes

See the following sections for information about other changes:

- Meridian Mail (page 7)
- Shutting down the server (page 7)

Meridian Mail

Contact Center 7.0 does not support Meridian Mail.

Shutting down the server

This procedure is updated in Contact Center Release 7.0 to reflect the process using the System Control Monitor and Utility. For more information, see Voice-processing configuration for Contact Center Manager Administration (page 95) and Agent phone configuration for Communication Control Toolkit (page 107).

Introduction

This document provides conceptual and procedural information to install and configure the following components for use with the Contact Center Manager Server:

- Communication Server 1000 (CS 1000) or Meridian 1 PBX switches

Attention: Unless otherwise specified, references in this document to the Communication Server 1000 switch also apply to the Meridian 1 PBX switch.

- Meridian Link Services (MLS)
- CallPilot or a third-party voice-processing system
- Meridian Integrated Recorded Announcement (MIRAN)

Prerequisites

- Contact Center Manager Server is installed and operational. For more information, see *Nortel Contact Center Server Administration Guide* (NN44400-610).
- The switch is installed and operational. All current Dependency Lists (DL) are applied. For information about which DL to install, see www.nortel.com.
- The minimum supported release is Meridian 1 Release 4.5 or CS 1000 Release 4.5.

Navigation

- Configuration Fundamentals (page 10)
- Communication Server 1000 switch configuration (page 28)
- Subsystem connections configuration (page 40)
- Communication Server 1000/Meridian 1 Configuration (page 50)
- Meridian Link Services configuration (page 78)
- CallPilot configuration (page 89)

Configuration Fundamentals

This chapter provides the conceptual information that you need to configure the Communication Server (CS 1000) switch.

Navigation

Configuration overview

This document provides descriptions and instructions to configure the following components for use with Contact Center Manager Server (CCMS):

- CS 1000 or Meridian 1 PBX switches

  Note: Unless otherwise specified, references to the Communication Server 1000 switch also apply to the Meridian 1 PBX switch.

- Meridian Link Services (MLS)
- CallPilot or a third-party voice-processing system
- Meridian Integrated Recorded Announcement (MIRAN)

Assumptions

This guide is based on the following assumptions:

- You installed CCMS.

  If necessary, install CCMS. For more information, see *Contact Center Installation* (NN44400-311).

- You installed the switch and applied all current Dependency Lists (DL). For information about which DL to install on the switch, see www.nortel.com.

- The minimum supported release is Meridian 1 Release 4.5 or CS 1000 Release 4.5.

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 to use for broadcast announcements.
- The wait time for a start and 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 Contact Center Voice Services).

  If you use CallPilot, you must enter a value (even though you do not use the fields).

Maximum number of broadcast ports

Configure the number of voice ports available for use for Give Controlled Broadcast Announcement at any time. Up to 50 calls can be attached simultaneously to a single voice port on a broadcast announcement. After 50 calls, subsequent calls for an announcement are connected to a new voice port. If the maximum number of broadcast voice ports is reached, the system does not play a broadcast announcement to new callers. Instead, the system runs the next command in the Voice Session script.

If the voice ports are partitioned so that broadcast calls are directed to a dedicated IVR ACD-DN (that is, they do not share voice ports with Open Voice Session), then configuring this parameter is not important as long if it is configured to greater than the number of voice ports in this IVR ACD-DN. This enables the system to queue new calls to the broadcast voice ports.

If voice ports are shared between broadcast announcements and voice sessions, you must limit the number of voice ports used by broadcasts. This ensures that Voice Session calls can obtain a voice port.

You can estimate the number of broadcast voice ports needed to use the following items:

- the call arrival rate
- the length of the announcement
- the Broadcast Wait Timer (if start/stop operation is used)

This limit 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 requires a one-call-to-one-port arrangement, the Voice Session voice port used for the same call traffic generally has a greater limit.)

Broadcast voice port wait timer

The value of the Broadcast voice wait port timer determines how many calls can connect to a single voice port. You can configure broadcast voice-processing to use either of two modes: continuous, or start/stop. The Broadcast voice port wait timer value has an effect on call handling only if you configure the system to use start/stop mode. Continuous mode connects calls immediately upon arrival.

Us a high timer value to permit the maximum number of calls to connect to the same voice port. A low timer value reduces the amount of time callers wait before the announcement plays. The lower the timer value, the smaller the number of calls that can use a single voice port (which means less efficient use of voice ports). The default timer value is 10 seconds.

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.

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

Voice-processing and switch subsystems

The Voice-processing feature interacts automatically with callers. You can classify interactions in the following ways:

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

Various Voice-processing methods

Contact Center Manager Server supports voice-processing with 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 occur.
- Front-end IVR—Calls terminate directly on a CallPilot 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. Contact Center Manager Server must not acquire the voice ports used for front-end IVR.

Manual caller interaction

You can manually interact with callers in the following ways:

- Play a message to a caller—You can use any of the script commands listed in Script commands (page 13) 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 (the system plays the entire message from start to finish), or continuous mode (the system plays the message in a continuous loop, and callers 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 in stop/start mode to provide the same announcement to multiple callers.
- Interact with an external voice system—The CCMS interacts with an external voice system to control communication with the caller through commands and treatments 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 Contact Center Voice Services on CallPilot.
- Interact with a caller indirectly—the voice-processing system controls communication with the caller. You can interact with a caller indirectly by using the Give IVR command to connect the caller to a voice port controlled by CallPilot or an external IVR system.

Script commands

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

- Give RAN—Provide a recorded announcement (RAN) to a call through the specified RAN trunk. The RAN is interrupted if an agent becomes available to take the call. Otherwise, the RAN finishes and the next command in the script runs.
  If the GIVE RAN command is the first treatment in the script, and a delay

occurs before the RAN is available, then the call hears ringback until the announcement plays.

- Give IVR—Play an announcement or IVR session using a CallPilot voice menu or an external IVR system. The voice-processing system determines call handling. 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—Play a message to multiple callers by using a single voice port. This option requires Contact Center Voice Services on CallPilot.
  The GIVE CONTROLLED BROADCAST feature is not available on a Communication Server 1000E (CS 1000E) platform. You can use Open Voices sessions with one caller for each access channel for small contact centers on CS 1000E instead of GIVE CONTROLLED BROADCAST. For more information, contact Nortel technical support.
- Open/End Voice Session—Use these commands to provide an interactive voice session in which you can play prompts and collect digits. The command requires Contact Center Voice Services on CallPilot.

During script execution, all voice-processing commands and the Give RAN command pause until the command is completed. After the command finishes, the next statement in the script runs.

Typical uses of voice-processing commands

The following sections describe typical uses of voice-processing commands:

- Use Give RAN
  - — messages must be spoken to callers.
  - — legacy RAN equipment exists.
  - — RAN equipment is installed instead of a voice-processing system as a cost-reduction measure, and other voice-processing functions are not required.
- Use Give IVR
  - — If you use CallPilot 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.
  - — If you use CallPilot and you want to give the caller the option to leave a message in a mailbox.
  - — If 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 if you use Contact Center Voice Services on CallPilot, and you want to play the same message to multiple callers simultaneously (for example, the traditional RAN scenario “All agents are busy...”). Give Controlled Broadcast Announcement uses ports more efficiently than Give IVR.

Open/End Voice Session

Use Open/End Voice Session commands if

- you use Contact Center Voice Services on CallPilot, and you must give custom messages (for example, a caller’s expected wait time)
- you use Contact Center Voice Services on CallPilot, and callers interaction (collect digits) is required

For more information about using these script commands in scripts, see *Nortel Contact Center Configuration—Service Creation Environment Application Development* (NN44400-510).

Operational modes for voice-processing commands

The following sections describe the operation modes for voice-processing commands:

Listen only or interactive

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

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

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

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

Single connection or broadcast

You can use any of the listen-only commands to play a single message for more than one caller. You can optimize the use of voice ports by using broadcast commands. A broadcast connection can sustain much higher call rates than can Single connection and uses fewer voice ports.

Use the one-call-per-port commands if you must give custom 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 for each voice port:

- Give Controlled Broadcast Announcement
- Give RAN (if RAN broadcast is used)

The following commands connect one call for each voice port:

- Give IVR
- Open/End Voice Session

Start or stop and continuous

The system can play messages using two modes: Start or Stop, and Continuous.

Start or stop mode

In Start or Stop mode, the system plays the entire message from the beginning. You can use the following voice-processing commands in start or stop mode:

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

Continuous mode

In continuous mode, the system plays the message in a repeating loop, and users can enter at any point during the message. You can use the following commands with continuous mode:

- Give RAN
- Give Controlled Broadcast Announcement

Give Controlled Broadcast Announcement in continuous mode connects you immediately and continues the script only after playing one full cycle of the message.

RAN operation remains the same 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.

For more information about using these script commands in scripts, *Nortel Contact Center Configuration—Service Creation Environment Application Development* (NN44400-510).

Interruptible operation

If the call queues before the voice-processing statement runs, the voice-processing stops if an agent becomes available, and the agent receives the call.

Use this mode when the system plays a message for the caller's information (for example, "All agents are busy...") or for amusement (for example, advertising) and when you need to transfer a call to an agent as quickly as possible.

Non-interruptible operation

If the call is queued before the voice-processing command starts, the call does not qualify to be answered until the voice-processing session ends. The call, however, remains in 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. After the call in the voice-processing session ends, the system moves the call to the next available agent.

This mode is useful if callers must listen to a full cycle of a message before speaking to an agent, or if interactive menus are presented to the caller, and the input must finishes before you can speak to an agent.

If a call does not queue 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 (CCMS) must acquire for the various voice-processing commands.

Attention: Do not configure extra voice ports on the CS 1000 or on the CCMS that are not accessed or acquired by Contact Center Manager.

Resources required by CCMS for voice-processing

Command	IVR ACD-DN	Voice Port TN	Voice Port channel
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:

- Auto-attendant
- Voice menus
- Fax
- Voice mail
- Application services to Meridian Link, MLS, Meridian (Integrated) IVR, CCR, and Contact Center Manager Server

While some services and applications can share voice ports, Contact Center Manager Server requires a dedicated group 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, configure a separate queue.

Voice port partitioning

Contact Center Manager Server uses two types of voice ports: IVR and ACCESS ports. For proper operation of Contact Center Manager and the voice-processing system, each ACD-DN can contain voice ports of only 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 for integrated voice-processing systems only, such as CallPilot. Configure the 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.

Configure the maximum number of broadcast ports parameter Global settings (page 11) to limit the number of voice ports used by broadcast announcements. After this limit is reached, Contact Center Manager Server skips this command and runs the next command in the script.

Voice segment variables

Contact Center Manager Server scripts reference voice segments on CallPilot by using voice segment variables. Voice segment variables can contain one or more voice segments. 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, and System-defined.

User-defined voice segments

Record user-defined voice segments for CallPilot using Application Builder.

Define the variables for a user-defined voice segment 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 for a user-defined voice segment on Contact Center Manager Administration at any time. Contact Center Manager Administration and CallPilot looks for segments on the other platform when the script runs, but does not check at any other time.

Voice segment file names are case-sensitive. Enter voice segment names exactly as they appear in Application Builder or the Voice Prompt Editor.

For more information about creating voice segments, see *Nortel Contact Center Manager Administration* (NN44400-611).

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 to speak numbers 0 to 999 999 999 999 999.

Predefined voice segment variables have file and segment number placeholders when the Contact Center Manager Server system is installed.

Script example

For example, in a voice session, a message plays that prompts the caller to enter an identification number by pressing the phone keys. The seven digits are collected in a variable named vardigit_cv. The system plays 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
```

Scripts

Use script commands to determine call handling. The services that a 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. You can run reports that show details about voice-processing and the effects in your contact center.

For more information about scripts, see *Nortel Contact Center Configuration – Service Creation Environment Application Development* (NN44400-510).

CDNs

Ensure that the script references a CDN that is configured in the Contact Center Manager Administration application.

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 (the switch selects the actual voice port, not the Contact Center Manager Server software).

If the switch IVR ACD-DN does not have TRDN configured, you must include with treatment in the Give IVR script element.

Contact Center Manager Server must acquire the IVR ACD-DN for the voice-processing to function correctly.

Routes

If you want to generate all trunks busy (ATB) reports, configure trunk routes on Contact Center Manager Administration, and 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.

LD overlays

LD overlays provide a command line interface (CLI) for configuring the CS 1000 switch. You can connect a hyperterminal to a CS 1000 switch and connect to a CLI. You enter the overlay/LD number, for example LD 48, and a number of prompts appear. Each overlay has a different purpose and accepts specific commands. For example, overlays are available to add phones, CDNs, new cards, and to configure trunks.

Agent phones

This section describes the phones supported by Contact Center Manager. For more information, see the Partner Information Center publications at www.nortel.com.

Attention: Agents assigned multimedia capabilities must log on to a phone through the Communication Control Toolkit. These agents cannot manually log on to a phone.

Contact center phones

Nortel recommends that you use the following phones specifically for contact centers.

- M3905: Call Center Telephone
- M2216: ACD Digital Telephone

Communication Server 1000 or Meridian 1 PBX ACD phones

Contact Center Manager Server also supports the following phones that you can configure for use with Communication Server 1000 or Meridian 1 PBX ACD.

- 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.

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 your software release.

The Wireless 22xx series phones are not available with Contact Center Manager, but have limited ACD functionality. See Wireless 22xx series Phone documentation.

Display Waiting Calls key and lamp

Contact Center Manager supports the Display Waiting Calls (DWC) key. This feature lists skillset information when an agent presses the DWC key.

Contact Center Manager does not support the Directory Log feature.

Attention: The information is different from the DWC feature used in the Communication Server 1000 or Meridian 1 PBX ACD environments.

Supervisor phone display

The DWC key and associated lamp configured on a supervisor's phone do not support the display of Contact Center Manager skillset information. If you press the DWC key on a supervisor's phone, it shows ACD queue information for that supervisor. The lamp also responds to ACD queue loading and activity for that supervisor, as determined by the switch configuration. Calls do not normally queue to ACD queues for Contact Center Manager; therefore, this feature for Contact Center Manager supervisors allows the contact center to handle Network ACD calls or operate in default mode, and to allow the switch ACD features to route the calls.

Skillset information

Skillset information display is available only on phones that have numeric display capabilities.

Display format

The information on the phone appears with spaces between the fields. For the phone display of type 1 x 12, the data appears in three digits. For phone displays larger than 1 x 12, the data appears in four digits. The maximum displayable number of calls in queue is 9 999, 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 9 999 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 x 12	3 digits	3 digits	3 digits
1 x 16	4 digits	4 digits	4 digits
1 x 40	4 digits	4 digits	4 digits
2 x 24	4 digits	4 digits	4 digits

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 for skillset loading and activity. 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 switch configuration. Calls do not normally queue to ACD queues for Contact Center Manager; therefore, the primary use of this feature for agents is for the contact center to handle 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.

CAUTION
Risk of lost calls
Nortel recommends that any maintenance work on agent phones of the Contact Center Manager system occurs outside office hours. Validate and test the changes before an agent logs on again. Any maintenance undertaken during office hours can result in calls lost or misdirected and ultimately abandoned.

Agent must log back on after modification

Any parameter modification that occurs with LD 10, 11, 20, 84, and 85 logs off the phone, and the agent must log on again. The following modifications trigger a logoff:

- CLID changes—Changes to LDN_Data in LD 15 have no effect on agents.
- DES (Designation) changes (LD84 for analog phones; LD 85 for digital)—You can change a DES only for the i2004 and i2050 phones in LD 20.
- Agent Supervisor (SPID) changes
- Adding or deleting key features such as Auto Dial and Hunting Allowed (HTA)
- Name change (digital phones)
- 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.

Agent queue changes (moving agents between queues)

A change in ACD queue causes the line (agent/supervisor TN) to become released in Contact Center Manager. If you use ECHG to change agent positions between queues, assign the ACD key a null value and then add it with the new ACD queue in another change pass. The administrator must still release the phone, make the change, and acquire the phone again.

Change only the position ID on a phone

When you attempt to change the position ID of a phone, you encounter an SCH6683 error. You cannot change the position ID while this agent is acquired. Therefore, you must release the line in Contact Center Manager before you can make the modification.

Name change (analog phones)

When you attempt to change the DN key of an analog phone (500), the following message appears: “SCH5039 – Already configured with AGTA.” You can define the phone only as a single appearance DN. You must remove the ACD association of the phone to make the name change, and then reapply the ACD function. When you remove the ACD function, the line is released in Contact Center Manager.

You can change names 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 you attempt to MOV/OUT an acquired line, you encounter the CH1509 Cannot MOV/OUT acquired TN error. You must release the TN (Terminal Number) 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.

IVR ACD-DNs

An IVR ACD-DN is a DN 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 Subsystem connections configuration (page 40), and on Contact Center Manager Server Configuring and acquiring an IVR ACD-DN (page 100).

Meridian Link Services

Meridian Link Services (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 integrates the computer and the Private Branch Exchange (PBX). In this integrated environment, the host processor interacts with the switch by exchanging application layer messages.

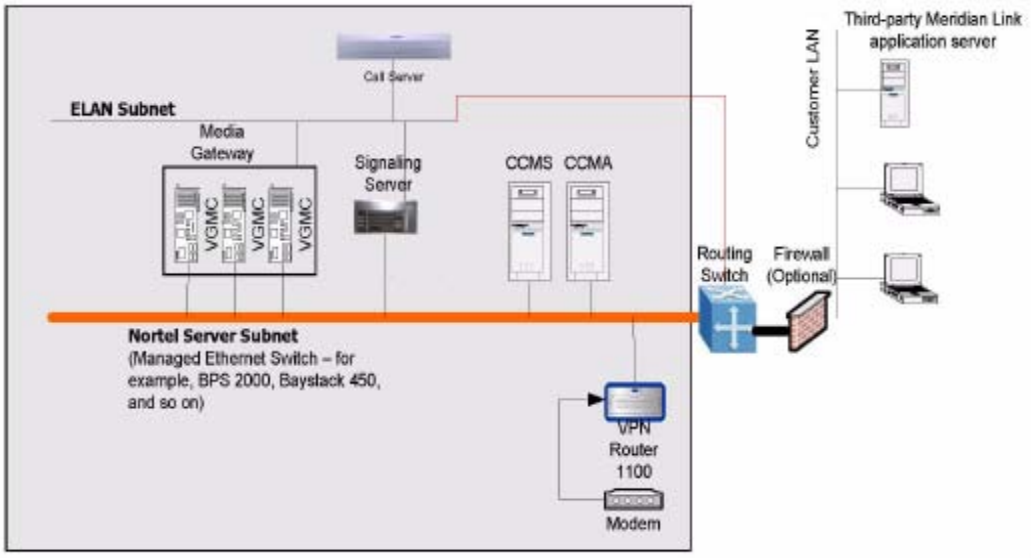
If you use CallPilot for your Contact Center Voice Services, CallPilot communicates with the switch using MLS; therefore, you must configure the switch for Meridian Link. After you configure MLS on the switch, your connection to the host application is through the Nortel server subnet and ELAN subnet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

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

To use CTI 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 functions, each server must have a TAPI server.

The following figure 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. Meridian Link also provides support for host-enhanced routing and host-enhanced voice-processing.

Meridian Link Services features

Wherever possible, MLS preserves the functionality of Meridian Link 5. The *Nortel Contact Center Manager Meridian Link Services Interface Specification* (297-2183-941) describes in detail the differences in implementation between Contact Center Manager Server with MLS and the Meridian Link 5 interface specification.

Communication Server 1000 switch configuration

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

Prerequisites for CS 1000 switch configuration

- Create a system based on your contact center requirements. You can use the Capacity Assessment Tool (Cap Tool) to determine the capacity requirements for your contact center. Consider the following information:
  - 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 *Nortel Contact Center Planning and Engineering Guide*.

Navigation

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Configuring general parameters

The checklists in this section assume that you understand the configuration elements and how to check the status on the switch, CallPilot, 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.

Subsystem	Description	Verified
Switch	Verify that Communication Server 1000/Meridian PBX switch is operating correctly.	
Switch	Install required Communication Server 1000/ Meridian 1 PBX software packages (use LD 22 to verify the packages).	
Switch	The following additional switch requirements are available: • Meridian 1 PBX dependency PEPs for Contact Center Manager Server • Meridian 1 PBX dependency PEPs for the specific voice-processing subsystem you use • provisioning of sufficient Call Registers	
Switch	Verify that the ELAN subnet connection between Contact Center Manager Server and Communication Server 1000/Meridian 1 PBX switch is functioning. Note the current ELAN subnet/VSID number using LD 48. (This is useful for troubleshooting.) Ensure that the default gateway is configured in the switch using LD 117. For more information, see Defining a default gateway address (page 47).	
Switch	Configure Contact Center Manager Server CDNs on the switch. For more information, see Configuring CDNs on the switch (page 53).	

Subsystem	Description	Verified
Switch	Configure the Active Directory Services (ADS) or SCB block on the switch with LD 23. For more information, see Creating a CallPilot ACD-DN in LD 23 (page 59). Nortel recommends that you use an ADS block. **Attention: Risk of ACD block corruption** Before performing this task, ensure that all agents log off. Failure to do so can result in corruption of the ACD block. 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 (page 42).	
Switch	Configure Agent ACD queues in LD 23. For more information, see Configuring ACD queues (page 66) When you configure the ADS or SCB block, the values for HOML and RPRT are 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.	
Switch	Configure the agent and supervisor TNs on the switch. For more information, see Associating an ACD queue with an agent (page 67).	
Switch	Configure the trunk, music, and RAN routes on the switch. For more information, see Configuring a RAN route with LD 16 (page 74).	

Configuring Give IVR (CallPilot)

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

Subsystem	Description	Verified
—	Complete the general checklist.	
CallPilot	Verify that CallPilot is running for voice messaging.	
Switch and CallPilot	Verify that CallPilot is communicating with the switch.	
Switch	Enable the link between the switch and the CallPilot server for CTI operations (LD 48).	

Subsystem	Description	Verified
Switch	Configure the IVR ACD-DN (for IVR voice ports) on the switch (LD 23). For more information, see Creating a CallPilot ACD-DN in LD 23 (page 59). When you configure the IVR ACD-DN on the switch, configure the IVR and ALOG prompts to Yes.	
Switch	Configure the IVR voice ports on the switch as virtual agents (LD 11). For more information, see Creating a CallPilot voice port with LD 11 (page 62) You must dedicate voice ports to Contact Center Manager Server Give IVR voice service.	
Contact Center Manager Server	Configure the CallPilot connection parameters for TCP voice connection as follows: • CallPilot connection IP (ELAN network interface IP address). • CallPilot connection port (Set TCP port to 10008). For more information, see Voice-processing configuration for Contact Center Manager Administration (page 95).	
CallPilot	Configure the CallPilot server configuration and enable integration. In the CallPilot Configuration Wizard, review all CallPilot configuration information up to and including the Switch Information page. On the Switch Information page, do the following: • Select **Enable Contact Center Manager Server Integration**. • Enter the customer number in the Switch Customer Number box. • 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.	

Subsystem	Description	Verified
CallPilot	Configure voice ports (IVR voice channels) in the CallPilot server configuration. In the CallPilot Configuration Wizard, identify and configure the channels that provide IVR services to Contact Center Manager Server. For more information, see Voice-processing configuration for Contact Center Manager Administration (page 95). • 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. • ACD-DN defined for the voice channel in CallPilot = ACD-DN on the switch = IVR ACD-DN on Contact Center Manager Server.	
CallPilot	Verify that the SDN table contains the CallPilot Primary CDN. • Application name is Voice Messaging. • Media type is Voice.	
CallPilot	Verify the SDN table contains Contact Center Manager Server IVR ACD-DNs. Configure the IVR ACD-DNs as follows: • Application name is Contact Center Voice Services. • Media type is Voice.	
CallPilot	Define Contact Center Manager Server Treatment DNs 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.) • Applications with the media type of Voice contain voice items that are announcements and menus played to callers (Give IVR script commands). • Use CallPilot Application Builder to create, record, and manage voice menus and announcements. • Complete applications before they are selected in the CallPilot SDN table.	

Subsystem	Description	Verified
Contact Center Manager Server	Configure and acquire IVR ACD-DN on the Contact Center Manager Server. For more information, see Configuring and acquiring an IVR ACD-DN (page 100).	
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	Configure and acquire the voice ports on the Contact Center Manager Server. • IVR voice ports are defined with a TN with no channel number. • All TNs in the switch belonging to the IVR ACD-DNs are acquired by Contact Center Manager Server as voice ports.	
CallPilot	Verify that the acquired voice ports are idle in CallPilot. Use the Channel Monitor in CallPilot Manager to verify voice port status. If the voice ports are not initialized, restart CallPilot.	
Contact Center Manager Server	Implement and activate the Give IVR test script before you activate the remainder of the voice-processing scripts. The voice-processing script command uses both the IVR ACD-DN and a Treatment DN, as in the following examples: **GIVE IVR ivr_queue WITH TREATMENT welcome_msg** **GIVE IVR 6000 WITH TREATMENT 1001** 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 you configure the default treatment in the SDN table in CallPilot for proper operation. For more information, see Creating the script variables in Contact Center Manager Administration (page 115).	

Subsystem	Description	Verified
Contact Center Manager Server	Activate the Master Script. For more information, see Activating the Master Script (page 118).	
Contact Center Manager Server	Verify that the Give IVR test script is working: • Other scripts are verified and additional voice-processing scripts are implemented. • The SDN table is updated as new treatments are required.	

Configuring a third-party voice-processing engine

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

Subsystem	Description	Verified
—	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. For more information, see Configuring and acquiring an IVR ACD-DN (page 100).	

Subsystem	Description	Verified
Contact Center Manager Server	Configure and acquire the voice ports on the server. For more information, see Adding a phone as a voice port (page 103). • Define voice ports with a TN only (the channel number field is blank). • TN of virtual agent on switch = Telephony/Port Address of phone on server. • The server acquires all TNs in the switch ACD-DN as voice ports.	
Contact Center Manager Server	Verify that the script command refers to the acquired IVR ACDDN.	
Contact Center Manager Server	If an APL link exists, specify a treatment DN one of the following ways: • The script explicitly specifies a treatment DN. • You configure correctly the Default Treatment DN for the IVR ACD-DN on the switch. • If IPML (Inter-Peripheral Message Link) exists, you specify the treatment DN in the script. If you do not specify the treatment DN in the script, the server uses the default treatment DN defined for the IVR ACD-DN on the switch.	
Contact Center Manager Server	Verify that voice ports behind the IVR ACD-DN acquired by the server are indicated by the switch and show the state as either Logged In or Logged Out. Ports must be Logged In for the switch to connect calls to the port for voice processing.	

Configuring Give Controlled Broadcast Announcement and Open Voice Session (CallPilot)

If you use the Give Controlled Broadcast Announcement or Open Voice Session commands with Contact Center Voice Services on CallPilot, perform the following procedure.

Subsystem	Description	Verified
—	Complete the general checklist.	
CallPilot	Verify that CallPilot is running for voice messaging.	

Subsystem	Description	Verified
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. For more information, see Defining IVR and ACCESS ACD-DNs (page 92). When you configure the ACD-DN on the switch, set the IVR and ALOG prompts to YES.	
Switch	Verify that ACCESS voice ports are configured on the switch as virtual agents. For more information, see Creating a CallPilot voice port with LD 11 (page 62). Voice ports must be dedicated to Contact Center Manager Server ACCESS voice service.	
Contact Center Manager Server	Configure the CallPilot connection parameters for TCP voice connection as follows: • CallPilot connection IP (CLAN network interface IP address) • CallPilot connection port (Set the TCP port to 10008) For more information, see Voice-processing configuration for Contact Center Manager Administration (page 95).	
CallPilot	Verify that the CallPilot server configuration is updated and integration is enabled. In the CallPilot Configuration Wizard, review all CallPilot configuration information up to and including the Switch Information page. On the Switch Information page, do the following: • Select Enable Contact Center Manager Server Integration. • Enter the customer number in the Switch Customer Number box. • Enter the Nortel server subnet address of Contact Center Manager Server in the Contact Center Manager Server CLAN IP Address field.	

Subsystem	Description	Verified
CallPilot	Verify that Voice ports (ACCESS channels) are configured in the CallPilot server configuration. In the CallPilot Configuration Wizard, identify and configure the channels that provide ACCESS services to Contact Center Manager Server.	
CallPilot	Verify that the SDN table contains the CallPilot Primary CDN. • Application name is Voice Messaging. • Media type is Voice.	
CallPilot	Update the SDN table in CallPilot with Contact Center Manager Server ACCESS ACD-DNs. Configure ACD-DNs as follows: • Application name is Contact Center Voice Services. • Media type is Voice.	
Contact Center Manager Server	Configure and acquire ACCESS ACD-DN on the Contact Center Manager Server. For more information, see Defining IVR and ACCESS ACD-DNs (page 92).	
Contact Center Manager Server	Configure the global settings on Contact Center Manager Server to specify the following: • Default ACCESS Treatment DN and ACCESS ACD-DN (these have the same value) • Number of ACCESS ports reserved for broadcasts • Broadcast Voice Port Wait Timer • The mailbox number and password are not used—leave at default values For more information, see Configuring the global settings (page 104).	

Subsystem	Description	Verified
Contact Center Manager Server	Configure and acquire the voice ports on Contact Center Manager Server. For more information, see Adding a phone as a voice port (page 103). • ACCESS voice ports are defined with both a TN and a channel. • All TNs in the switch belonging to the ACCESS ACD-DNs in the switch are acquired by Contact Center Manager Server as voice ports.	
Contact Center Manager Server	Verify that the ACCESS link between Contact Center Manager Server and CallPilot works correctly.	
CallPilot	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.	
Contact Center Manager Server, CallPilot	Define voice segments as follows: • Update system predefined voice segments (file 1, which contains all the number prompts). Make a list of the segment IDs referenced in the Contact Center Manager Server variable table. • Define new user voice segments.	
Contact Center Manager Server	Implement and activate the ACCESS test script before you activate the remainder of the voice-processing scripts. For more information, see Integration Testing (page 110). 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.	
Contact Center Manager Server	Activate the Master Script.	
Contact Center Manager Server	Verify that the Give Controlled Broadcast Announcement and Open Voice Session test script works. For more information, see Testing the Give IVR application (page 119).	

Configuring NSBR networking

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

Attention: Configure each of the individual servers in your network before you complete the following tasks.

Subsystem	Description	Verified
Switch	Install and configure the Network Automatic Call Distribution (NACD) package, and create the CDNs to which networked calls for each server are routed.	
Switch	For Universal Networking, you must provision Landing Pad CDNs or Dialed Number Identification Services (DNIS) on the switch.	
Contact Center Manager Server	Install and configure the Network Control Center (NCC) software.	
Switch	Define the network CDNs.	
Switch	Configure the communication parameters.	
CallPilot	Assign agents to network skillsets.	
Switch	Modify the scripts to use the Network Skill-Based Routing feature.	

Subsystem connections configuration

Configure the following links between the subsystems for the features of the Contact Center Manager Server to operate correctly:

- IP address and default gateway on the switch
- ELAN subnet between the switch, Contact Center Manager Server, and CallPilot
- ACCESS link between Contact Center Manager Server and the voice-processing system (if you use Contact Center Voice Services on CallPilot to provide voice-processing services). For more information about configuring the ACCESS link, see Configuring the ACCESS link to Contact Center Manager Server from CallPilot (page 48).

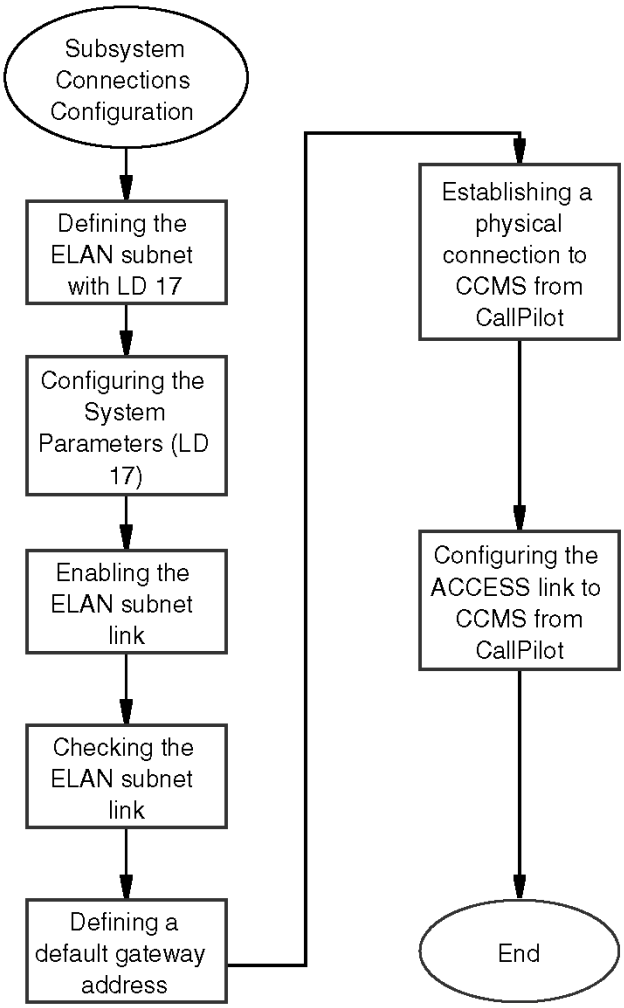
Prerequisites

- Ensure CallPilot and the switch are installed and communicating correctly.

Subsystem connections configuration procedures

This task flow shows you the sequence of procedures you perform to configure subsystem connections. To link to any procedure, see Subsystem connections configuration navigation (page 41).

Subsystem connections configuration procedures



Subsystem connections configuration navigation

Defining the ELAN subnet with LD 17

Define and configure the ELAN subnet for the AML link and the associated VSID in the configuration record. This provides the Ethernet connection over which AML messages are exchanged between the CS 1000 system and CallPilot. You must create a separate ELAN for CallPilot and Contact Center for integration.

Perform this procedure only if the ELAN subnet is not provisioned.

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 17**.
3	Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.
4	To exit the overlay, type four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
REQ	CHG	Change existing data block
TYPE	CFN	Configuration record
ADAN	NEW ELAN xx	Configure a new link and assign it a number, where xx is within the ELAN subnet range (16–31). You can use any number in this range as long as it is not already used. Make a note of this link number for your reference.
- CTYP	ELAN	Card type
- DES	x...x	Enter a designator of up to six characters in length to identify this ELAN subnet. Because the ELAN subnet is not dedicated to a specific application, make the designator generic.
VAS	NEW	Configure a new AML link or change the existing link configuration.
- VSID	xx	The VAS identifier can be in the range of 16–31. For convenience, this can be the same number you assigned to the new ELAN subnet link (in response to the ADAN prompt).
- ELAN	xx	Use the same number as defined in the ADAN prompt.
- SECU	YES	Security. If you have a Contact Center server connected to your switch, enter YES (even if you are not using Contact Center's Voice Services Support).

Configuring the System Parameters (LD 17)

Perform the following procedure to configure the System Parameters.

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 17**.
3	Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.
4	To exit the overlay, type four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
REQ	CHG	Change existing data block
TYPE	PARM	System parameters
NCR	x...x	Number of Call Registers. The range depends on the system type. Increment the current value by 2 x the number of CallPilot DS0 channels. For example, if the current NCR value is 500 and there are 24 DS0 channels, enter 548. Refer to the *Software Input/ Output: Administration* (553-3001-311) for more about NCR.
CSQI	(20) to x	Maximum number of call registers for CSL input queues. Configure this parameter to the number of CallPilot DS0 channels, multiplied by two. x = 25% of NCR. For example, if you have 24 DS0 channels, enter 48.
CSQO	(20) to x	Maximum number of call registers for CSL/AML output queues. Configure this parameter to the number of CallPilot DS0 channels, multiplied by two. x = 25% of NCR. For example, if you have 24 DS0 channels, enter 48.

Enabling the ELAN subnet link

Perform the following procedure to enable the ELAN subnet link.

Procedure steps

Step	Action
1	Connect to the call server.
2	Enter **LD 48**.
3	Check that the ELAN is enabled. For more information, see Checking the ELAN subnet link (page 46)

--End--

Variable definitions

Command	Description
ENL ELAN	Enable the ELAN server task.

Checking the ELAN subnet link

Perform the following procedure to check the ELAN subnet link status.

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 48**.
3	Enter the commands.
4	Check that the Server Task parameters are **ENABLED**. For more information, see Enabling the ELAN subnet link (page 45)

--End--

Variable definitions

Command	Description
STAT ELAN	Checks the status of all configured ELAN
STAT ELAN x	Checks the status of ELAN x

Defining a default gateway address

In Contact Center Manager, you must connect the ELAN subnet to the Nortel server subnet using a routed solution that adheres to the ELAN engineering requirements as laid down by Communication Server 1000 documentation.

- see *Nortel Communication Server 1000 Converging the Data Network with VoIP Fundamentals (NN43001-260)* for ELAN design and engineering details.
- see *Nortel Communication Server 1000 Communication Server 1000M and Meridian 1 Large System Planning and Engineering (NN43021-220)* for Contact Center application engineering details.

In addition to 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.

Procedure steps

Step	Action

1	Enter the following commands:
	`LD 117`
	`new route 0.0.0.0 <a.b.c.d>`

	--End--

Variable definitions

Variable	Value
<a.b.c.d>	The IP address of the gateway local to the telephony switch.

Establishing a physical connection to Contact Center Manager Server from CallPilot

Establish a physical connection to Contact Center Manager Server (CCMS) to enable communication between CallPilot and CCMS over the Embedded LAN (ELAN).

Procedure steps

Step	Action
1	Ensure the CallPilot server is physically connected to the ELAN subnet.
	--End--

Configuring the ACCESS link to Contact Center Manager Server from CallPilot

Configure the ACCESS link to the Contact Center Manager Server from CallPilot to complete the Subsystem connection configuration.

Prerequisites

- Configure CallPilot, and specify the Nortel server subnet IP address of Contact Center Manager Server in the CallPilot Configuration Wizard. For more information, see Updating CallPilot configuration (page 91).
- Configure Contact Center Manager Server, and specify the ELAN network interface IP address of the CallPilot server. For more information, see Configuring the CallPilot connection (page 97).

Procedure steps

Step	Action
1	For CallPilot, choose **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.

For	Perform
VSM and MLSM session traces:	From the OAM menu, select option **2**, and then enter **0** at the prompt. **Attention:** 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.
AML trace	From the OAM menu, select option **7**. From the AML Trace menu, select option **4**.
Access Protocol trace:	From the OAM menu, select option **9**. Select option **3** to enable the trace.
For Access Protocol Debug trace:	From the OAM menu, select option **10**. Select option **3** to enable the trace.

--End--

Communication Server 1000/Meridian 1 Configuration

You must configure a number of available elements on the Communication Server 1000 or Meridian 1 PBX (CS 1000/M1) switch. This chapter explains how to configure the required elements. It also explains how to initialize the switch and change resources on the switch without causing problems on Contact Center Manager Server (CCMS).

Prerequisites to CS 1000/M1 configuration

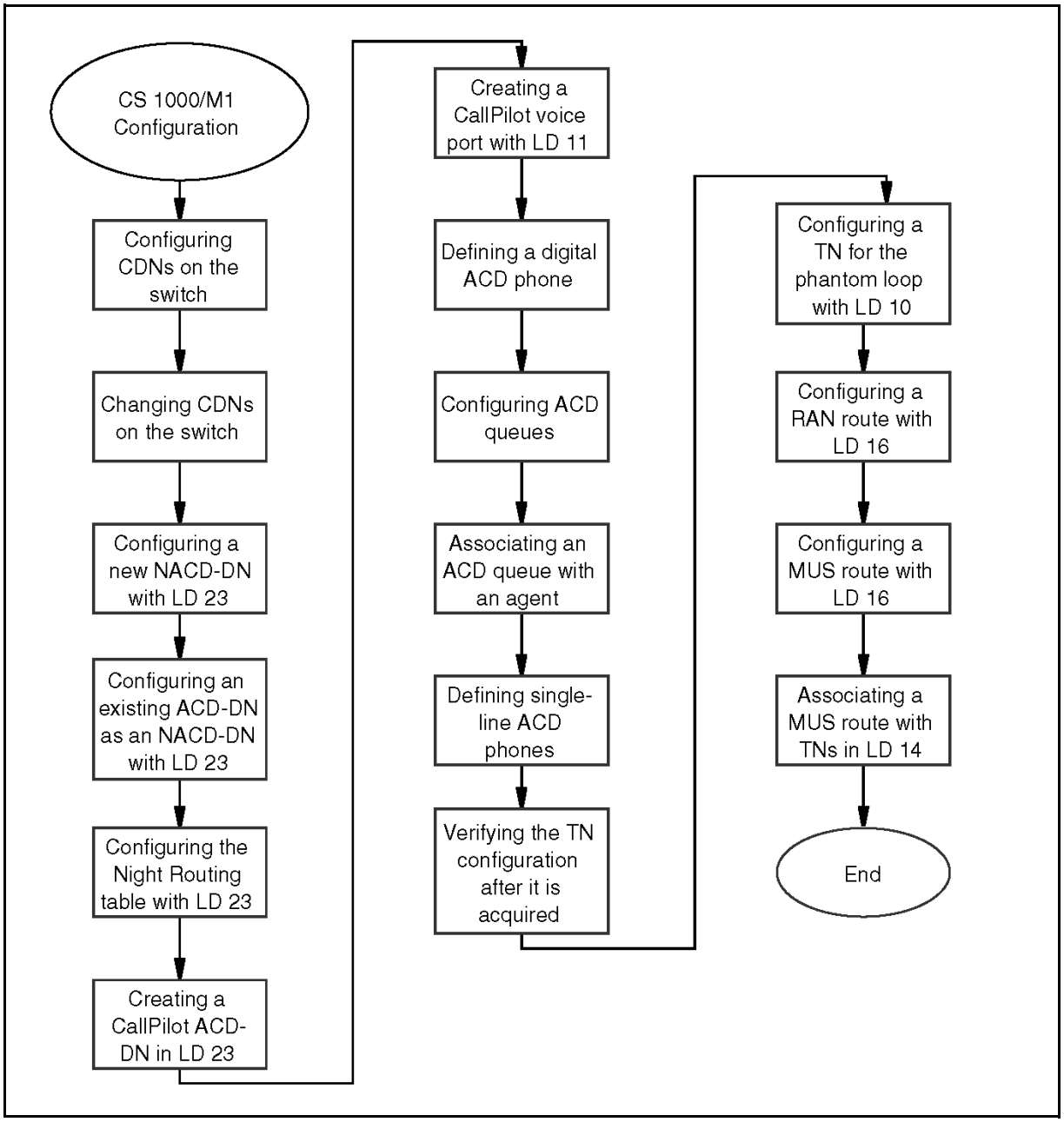
- You have the packages required for the following features:
  - voice-processing in CCMS
  - voice-processing in CallPilot
  - other desired switch features
- The minimum supported release is Meridian 1 Release 4.5 or CS 1000 Release 4.5.
- You applied all current Dependency Lists (DL). For information about which DLs to install on the switch, contact your Nortel customer support representative.
- You installed the NACD package on the switch (if you purchased the Network Skill-Based Routing option).

Attention: CCMS cannot share switch resources (such as CDNs, ACD-DNs, or TNs) with other applications such as Meridian Max, Meridian Link, and Customer Controlled Routing (CCR).

CS 1000/M1 configuration procedures

This task flow shows you the sequence of procedures you perform to configure the Communication Server 1000/M1 switch. To link to any procedure, see CS 1000/M1 configuration navigation (page 51).

CS 1000/M1 configuration procedures



CS 1000/M1 configuration navigation

- Configuring CDNs on the switch (page 53)
- Changing CDNs on the switch (page 55)
- Configuring a new NACD-DN with LD 23 (page 56)
- Configuring an existing ACD-DN as an NACD-DN with LD 23 (page 57)
- Configuring the Night Routing table with LD 23 (page 58)

Configuring 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.

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.

Prerequisites

- 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 list or printout of available CDNs (overlay program 23).

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.

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 route number for ACD.
SRT	0–2044	Second RAN time.
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.

Prompt	Response	Description
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.

Procedure steps

Step	Action
1	Go to **Contact Center Manager Administration Launchpad, Configuration**.
2	On the system tree, double-click the server on which to add the CDN. The server expands to reveal the resources.
3	Click the **CDNs (Route Points)** folder. The CDNs (Route Points) window appears.
4	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.

Attention: 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 switch. To use the CDN for DNIS Network calls, the server must have Universal Networking enabled.

7	Click any other table row.

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.

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

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

11 Repeat steps 2 to 9 for each CDN to configure and acquire.

To reconfigure a CDN, you must first remove the CDN, edit the configuration parameters, and then reacquire the CDN.

--End--

Changing CDNs on the switch

To change CDNs on the switch, you must perform specific steps to avoid service interruptions 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. This prevents Contact Center Manager Server from handling calls.

Procedure steps

Step	Action
1	Remove the CDN from Contact Center Manager Administration. For more information, see Configuring CDNs on the switch (page 53).
2	Delete, add, or change the CDN as necessary on the switch.
3	Acquire the CDN on Contact Center Manager Administration. For more information, see Configuring and acquiring a CDN (page 99).

--End--

Configuring a new NACD-DN with LD 23

Define the default Automatic Call Distribution (ACD) DN.

Prerequisites

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

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 23**.
3	Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.
4	To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
REQ	NEW	Add new data
TYPE	ACD	Automatic Call Distribution
CUST	xx	Customer number (0–99)
ACDN	xxxx	ACD Directory Number, where xxxx = Default DN. Enter the DN as the Default DN (DFDN) used in the CDN configuration.
MWC	NO	Message Waiting Center. Select NO.
MAXP	1	Maximum number of agent positions. For the DFDN, MAXP must be 1.
NCFW	0	Night Call forward DN for ACD calls For DFDN, define NCFW to 0. This DN value can be up to 31 digits.

Configuring an existing ACD-DN as an NACD-DN with LD 23

If you use an existing ACD-DN, ensure that no TNs or positions are associated with the ACD-DN to be configured as the NACD routing DN. If TNs or positions are 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 (page 56).

Prerequisites

- Ensure that no TNs or positions are associated with the ACD-DN. If TNs or positions are assigned to the ACD-DN, reassign them to another ACD-DN.

Procedure steps

Step	Action

1 Connect to the Call Server.

2 Enter **LD 23**.

3 Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.

4 To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
REQ	NEW	Add new data
TYPE	ACD	Automatic Call Distribution
CUST	xx	Customer number (0-99)
ACDN	xxxx	ACD Directory Number
MAXP	1	Maximum member of agent positions.
NCFW	X	Night Call forward Enter X to delete NCFW. NCFW must be blank to allow the configuration of an NACD night routing table.

Configuring the Night Routing table with LD 23

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.

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 23**.
3	Enter the appropriate values as. For prompts not listed, press **Enter** to accept the default.

4 To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
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.

Creating a CallPilot ACD-DN in LD 23

Configure IVR ACD-DNs when you use CallPilot to play messages to callers. These messages are stored on the voice-processing system and can be announcements or voice menus.

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 acquire Voice Messaging ACD-DNs).

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

Prerequisites

- You know the user ID and password to log on to the switch administration terminal.

- You are familiar with switch change and diagnostic overlays.
- You have a list or printout of available IVR ACD-DNs.

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 23**.
3	Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.
4	To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
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 you can assign to the queue.
IVR	YES	Indicates that you can use the queue with the Give IVR command defined in scripts.
TRDN	xxxx	Default treatment DN is used if you do not specify treatment in the script. Use treatment DNs to select the treatment that the call receives from the voice-processing system. You can also use them with CallPilot, 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 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 CallPilot voice port with LD 11

Voice ports carry speech to CallPilot, or an IVR system. You must configure voice ports when the ports are CallPilot, or third-party IVR system ports used to play announcements or voice menus. You must configure voice ports on the switch in CallPilot, and on Contact Center Manager Server. For more information, see Adding a phone as a voice port (page 103).

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

For the voice ports, ensure that the key layout matches the key configuration in CallPilot. This matching lets CallPilot 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 (page 18).

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 11**.
3	Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.
4	To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
REQ	NEW	Add new data
TYPE	2008	Type of Data block For CallPilot, TYPE must be 2008.
TN	l s c u c u	Terminal Number A TN is required for each agent. For Large Systems, where l s c u = loop, shelf, card, unit For Small Systems, where c u = card, unit
DES	d..d	ODAS station designator, where d..d = 1-6 alphanumeric characters
CUST	xx	Customer number (0–99)
CLS	aaaa	Class of Service Each agent must have the VCE and MMA Class of Service. To get the VCE Class of Service on the upper 16 units (16 to 31), you must first specify the FLXA Class of Service. For CallPilot configuration, aaaa = WTA UNR VCE MMA for units 0–15 or FLXA VCE MMA for units 16–31
AST	xx yy	Associated Set Assignment (AST) A maximum of two DN keys can be controlled by the host computer. xx and yy represent the first and second DN key controlled by the host computer. For CallPilot, xx = 00 (ACD Key) yy = 01 (SCN Key)
IAPG	1	Unsolicited Status Message Group. Range: (0)–15

Prompt	Response	Descriptions
KEY	xx aaa yyyy ccc zzzz	Telephone function key assignments, where xx = key number aaa = key feature or function yyyy = DN information (if required) ccc = CLID information (if required) zzzz = DN information For CallPilot, provision each agent with the following feature keys: ACD, SCN, NRD, MSB, TRN, and AO3.
	0 ACD xxxx 0 yyyy	xxx = ACD DN yyy = Agent Position DN
	1 SCN zzzz	zzzz = Non ringing DN used to make outbound calls
	2 msb	Make Set Busy (msb)
	3 nrd	Not Ready (nrd)
	4 trn	Transfer (trn)
	5 AO3	Three Party conference Key (AO3)

Defining a digital ACD phone

If you want a user to log on to a phone to receive or monitor incoming calls, you must configure phones (TN). You must configure agent and supervisor phones on the switch and on Contact Center Manager Server. For more information, see Configuring and acquiring a phone (page 102).

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

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.

Prerequisites

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

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 11**.
3	Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.
4	To exit the overlay, enter four asterisks (****) and press **Enter**.
	--End--

Variable definitions

Prompt	Response	Descriptions
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.
KEY 0	ACD xxxx yyyy	Where xxxx = ACD-DN, and yyyy = Agent position ID
KEY 1	NRD	Not ready
KEY 2	A06	Six-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.

Configuring ACD queues

Use LD 23 to configure the ACD-DN with which a phone is associated. If you want the agent to use the phone to enter Not Ready reason codes, perform this procedure.

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 23**.
3	Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.

4 To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
REQ	NEW	Add new data
TYPE	ACD	Automatic Call Distribution
CUST	xx	Customer number (0–99)
ACDN	xxxx	ACD Directory Number, where xxxx = Default DN. Enter the DN as the Default DN (DFDN) used in the CDN configuration.
MWC	NO	Message Waiting Center. Select NO.
MAXP	1	Maximum number of agent positions. For the DFDN, MAXP must be 1.
NCFW	0	Night Call forward DN for ACD calls For DFDN, define NCFW to 0. This DN value can be up to 31 digits.

Associating an ACD queue with an agent

Use the Default Queue Management (DQM) feature to associate an ACD queue with an agent. When the agent logs on to a Contact Center Manager acquired phone, Contact Center Manager determines which ACD queue is associated with the agent and the phone. If the ACD queue associated with the agent is different from 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 from the default configuration of the phone after an agent logs on. The phone position ID, however, remains unaffected.

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 23**.
3	Enter the appropriate values as described in the table described in Configuring ACD queues (page 66). For prompts not listed, press **Enter** to accept the default.

Attention: If you want the agent to use the phone to enter Not Ready reason codes, ensure that NRAC for the ACD-DN is YES. To deactivate Not Ready reason codes, define the NRAC as NO.

4	To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Defining single-line ACD phones

Use LD 10 overlay to define single-line ACD phones.

Prerequisites

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

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 10**.
3	Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.
4	To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
REQ	NEW	Add a new phone
TYPE	500	Enter phone type as appropriate.
TN	l s c u	Terminal Number
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. Only for AST phones.
FTR	ACD xxxx yyyy	Use the ACD feature, 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.

Verifying the TN configuration after it is acquired

After you configure a phone using LD 11, and CCMS acquires the phone, you can verify the TN configuration.

Prerequisites

- A phone is configured in the system using LD 11.
- The phone is acquired in CCMS.

Procedure steps

Step	Action
1	Ensure that the following printout appears:

```
>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 OCBD 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 14 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
```

--End--

Variable definitions

Prompt	Response	Descriptions
AACS	YES	The phone is acquired by an application.
ACQ AS	TN	The TN is acquired, but no CTI application registered for the phone.
ASID	16	The application on AML 16 acquired the phone.
SFNB	—	Bitmap that controls which messages are sent to Contact Center Manager and is not user-definable.
SFRB	—	Bitmap that controls which messages are sent to Contact Center Manager and is not user-definable.
USFB	—	Bitmap that controls which messages are sent to Contact Center Manager and is not user-definable.
CALB	—	Bitmap that controls which messages are sent to Contact Center Manager and is not user-definable.

Configuring a TN for the phantom loop with LD 10

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

To define and configure TNs without phones 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) features.

You must configure phantom TNs on the switch and on Contact Center Manager Server. For more information, see Configuring and acquiring a phone (page 102). 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. For more information, see Configuring a personal DN for a supervisor (page 101), and Configuring a personal DN for an agent (page 102).

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 10**.
3	Enter the appropriate values as described in the following table. For prompts not listed in the following table, press Enter to accept the default.
4	To exit the overlay, enter **** and press Return.

--End--

Variable definitions

Prompt	Response	Descriptions
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
CLS	aaaa	Class of Service options, which cannot include AGTA, CCSA, MNL, or LPA
FTR	DCFW nn x...x	Default Call Forward; nn = number of digits up to 23 x...x = Default Call Forward DN.

Configuring a RAN route with LD 16

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.

Contact Center Manager Server supports only RAN, MUS, FGDT, TIE, DID, COT, FEX, and WATS route types.

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

Prerequisites

- 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 route.

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 16**.
3	Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.
4	To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
REQ	NEW	Add a new route
TYPE	RDB	Route data block
CUST	nn	Customer number
ROUTE	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 form overlay

Configuring a MUS route with LD 16

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.

Contact Center Manager Server supports only RAN, MUS, FGDT, TIE, DID, COT, FEX, and WATS route types.

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

Prerequisites

- 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 route.

Procedure steps

Step	Action

1 Connect to the Call Server.

2 Enter **LD 16**.

3 Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.

4 To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
REQ	NEW	Add a new 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
ACOD	nnn	Access code
REQ	END	Exit form overlay

Associating a MUS route with TNs in LD 14

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.

To generate reports on trunk routes, you must configure the trunk routes on Contact Center Manager Server. For more information, see *Contact Center Manger Server Installation and Maintenance Guide*.

Prerequisites

- 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 obtained a listing of routes using LD 21 (REQ=prt, TYPE=RDB).
- At the switch, you ensured that physical trunks are defined for the route.
- You configured the trunk routes. See Configuring a MUS route with LD 16 (page 75).

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 14**.
3	Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.
4	To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
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

Meridian Link Services configuration

This chapter describes how to configure Meridian Link Services (MLS) for operation with Contact Center Manager Server (CCMS). 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 integrates 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 Contact Center 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 to use information from the switch (such as Caller ID), connect to another application to obtain customer information, and then provide data to a PC to help agents prepare for the call.

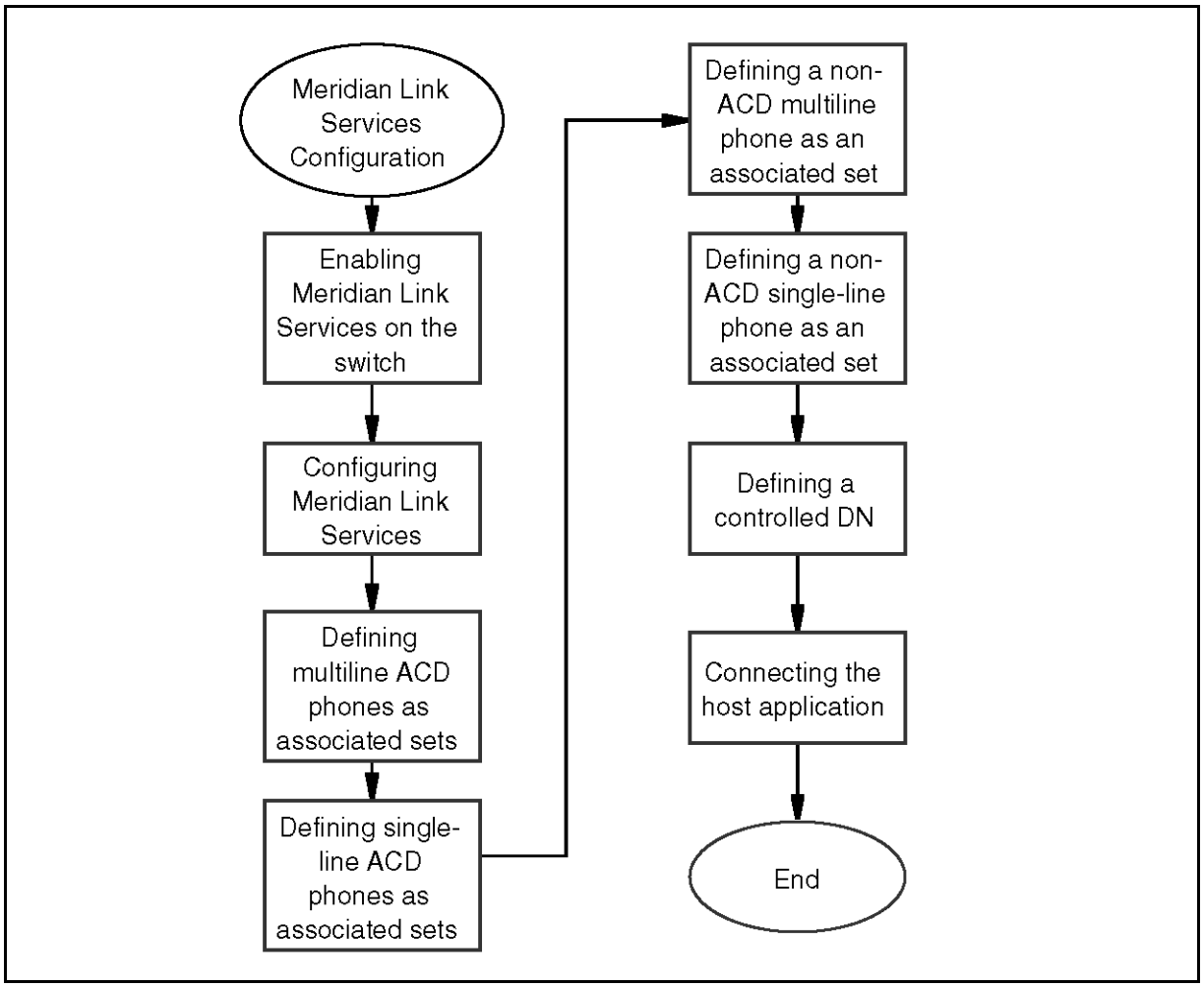
To use CTI functions for your Contact Center Manager Server agents, you must use MLS. You cannot use legacy Meridian Link.

If you use TAPI to provide CTI functions in an environment with multiple servers on the same switch, you must provide a TAPI server for each server.

Meridian Link Services configuration procedures

This task flow shows you the sequence of procedures you perform to configure MLS. To link to any procedure, see Meridian Link Services configuration navigation (page 79)

Meridian Link Services configuration procedures



Meridian Link Services configuration navigation

Enabling Meridian Link Services on the switch

The configuration procedures on the switch for both Contact Center Manager and stand-alone MLS are identical.

Prerequisites

- Install Contact Center Manager Server.
- Install the switch software.

Procedure steps

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

Attention: After you configure the switch, you must connect the host applications to the Nortel server subnet.

--End--

Configuring Meridian Link Services

Configure LD 17 to use 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. Third-party applications can control phone functions, such as answering or initiating a call.

Prerequisites

- Install Contact Center Manager Server (MLS is installed as part of the Contact Center Manager Server software).
- Install the switch software.

Procedure steps

Step	Action
1	Connect to the Call Server.

2 Enter **LD 17**.

3 Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.

4 To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
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	NEW	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 for each time interval.

Defining multiline ACD phones as associated sets

To enable a multiline ACD phone as an associated set (AST), configure it by using LD 11.

Procedure steps

Step	Action
1	Connect to the Call Server.

2 Enter **LD 11**.

3 Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.

4 To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
REQ	NEW	Add new phone.
TYPE	aaa	Enter telephone 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
KEY 0	ACD xxxx yyyy	Where xxxx = ACD-DN, and yyyy = Agent position ID
KEY 1	NRD	Not ready
KEY 2	A06	Six-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.

Defining single-line ACD phones as associated sets

To enable a single-line ACD phone as an associated set (AST), configure it by using LD 10. Nortel IVR voice ports are configured as analog voice ports.

For more information, see Communication Server 1000/Meridian 1 Configuration (page 50).

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 10**.
3	Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.
4	To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
AST	YES	Associated set
AACD	YES	Associated set for ACD agent

Defining a non-ACD multiline phone as an associated set

To enable a multiline non-ACD phone as an associated set (AST), configure it by using LD 11. CallPilot voice ports ar configured as digital voice ports.

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 11**.
3	Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.
4	To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
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 or lamp strips attached
		Press Enter until the AST prompt appears.
AST	00	DN key with AST telephone assignment (Host controllable. You can assign up to two DN keys as AST). This example shows that key 0 is an AST DN.

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

To enable a non-ACD single-line phone as an associated set (AST), configure it by using LD 10.

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 10**.
3	Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.
4	To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
REQ	NEW	Add new phone.
TYPE	500	Single-line telephone type
TN	l s c u	Terminal Number
CDEN	SD, (DD), 4D	Card density
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.
		Press Enter until the REQ prompt appears.
REQ	NEW, END	Either define another single-line ACD phone as an AST, or exit the overlay and save all changes.

Defining a controlled DN

Define a controlled DN (CDN) for host-enhanced routing using LD 23.

Host-enhanced routing is an MLS feature that a third-party application uses to control calls that wait at a Controlled DN (CDN).

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 is can receive messages about calls handled at the CDN.

Procedure steps

Step	Action
1	Connect to the Call Server.
2	Enter **LD 23**.

3 Enter the appropriate values. For prompts not listed, press **Enter** to accept the default.

4 To exit the overlay, enter four asterisks (****) and press **Enter**.

--End--

Variable definitions

Prompt	Response	Descriptions
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 route number for ACD.
SRT	0–2044	Second RAN time.
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.

Connecting the host application

The host application connects on the Nortel server subnet. You must configure the application to access the Nortel server subnet IP address. The application must point to a CLAN IP address. For more information, see *Nortel Contact Center Manager Meridian Link Services Interface Specification* (297-2183-941).

CallPilot configuration

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

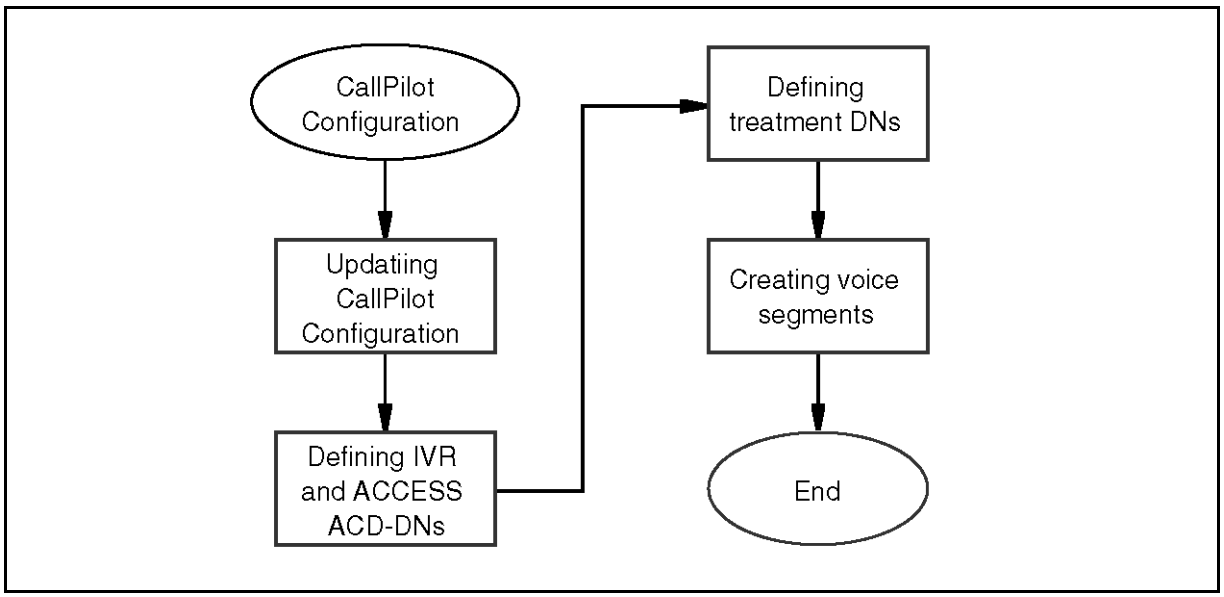
- Identify channels that provide ACCESS and IVR services to the server in Contact Center Manager Server.
- Define SDNs for use by Contact Center Voice Services.

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.

CallPilot configuration procedures

This task flow shows you the sequence of procedures you perform to configure CallPilot. To link to any procedure, see CallPilot configuration navigation (page 90).

CallPilot configuration procedures



CallPilot configuration navigation

Updating CallPilot configuration

Update the CallPilot configuration to enable proper function of the upgraded version.

In the CallPilot Configuration Wizard, perform the following tasks:

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

Procedure steps

Step	Action
1	On the CallPilot server, start the Configuration Wizard.
2	Advance to the Switch Information page. For more information, see *CallPilot 4.0 Planning and Engineering Guide*.
3	In the **Contact Center Call Center Server CLAN IP Address** box, type the Nortel server subnet address of Contact Center Manager Server. The Nortel server subnet address was previously known as the CLAN address.
4	On the left side of the page, click the link for the channels you want to configure. The **Channel Name** column displays the channels on the selected link.
5	In the **Channel Name** column, click the first channel that you want to configure. 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**.

--End--

Defining IVR and ACCESS ACD-DNs

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

Procedure steps

Step	Action
1	Start CallPilot Manager.
2	Choose **System, Service Directory Number**.
3	Click **New**.
	The **SDN Details** window appears.
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 **Contact Center 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.
	The server expands to reveal the resources.
10	Select the **Global Settings** folder.
	The **Global Settings** window appears.
11	Select the **Default Access IVR DN**.
12	Click **Submit**.

--End--

Defining treatment DNs

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

Procedure steps

Step	Action
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**.

--End--

Creating voice segments

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.

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

Procedure steps

Step	Action
1	Log on to Contact Center Manager Server.
2	Go to **Server Utility, System Administrator, Voice Prompt Editor, Create a Voice File**.
3	Start the Voice Prompt Editor and create the appropriate prompts.
4	Go to **Contact Center Manager Administration Launchpad, Scripting**.
5	In the system tree, click the server on which you want to view scripts. The server expands to reveal a series of folders.
6	Click the Script Variables folder. The Script Variables tree expands to show all script variable types.

7 Right-click on the **VOICE_SEGMENT** folder, and select **New**.

8 Below the table, click **Script Variable Properties**.

The heading expands to reveal the General and Attribute tabs.

9 On the **General** tab, in the **Name** box, type the name of the new variable.

10 Click **Call Variable** if the variable is for one specific call only; otherwise, click **Global Variable** to use the variable in all scripts.

11 In the **Comment** box, type any comments you want to save with the variable.

12 Click the **Attribute** tab.

13 From the **Language** list, select a language.

14 Type in a value in the format filename:segment number.

15 Click **Add** to add it to your list of values.

16 Click **Submit** to save your data.

The new variable appears in the system tree in the folder corresponding to the variable type.

--End--

Voice-processing configuration for Contact Center Manager Administration

This chapter describes the configuration for Contact Center Manager Administration (CCMA).

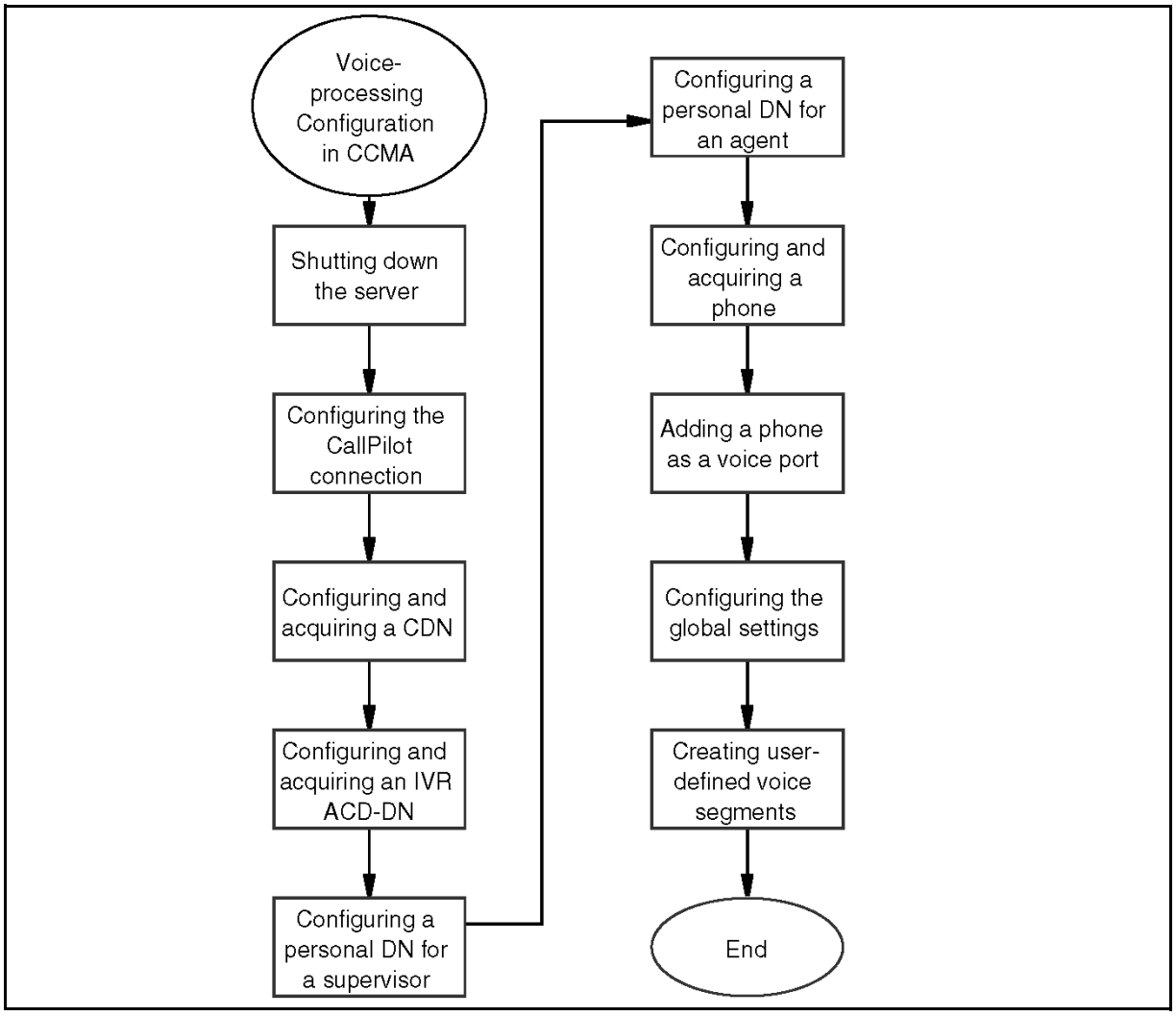
Prerequisites to voice-processing configuration in CCMA

- Before you begin configuring Voice Services, you must shut down the Nortel Contact Center Manager Server (CCMS).

Voice-processing configuration in CCMA procedures

This task flow shows you the sequence of procedures you perform to configure voice-processing in CCMA. To link to any procedure, see Voice-processing configuration in CCMA navigation (page 96).

Voice-processing configuration in CCMA procedures



Voice-processing configuration in CCMA navigation

- Creating user-defined voice segments (page 106)

Shutting down the server

Shut down CCMS before you can configure Contact Center Voice Services.

Procedure steps

Step	Action
1	Log on to the CCMS server.
2	Click **Start**, **All Programs**, **Nortel**, **Contact Center**, **Common Utilities**, **System Control and Monitor Utility**.
3	Click the **Contact Center** tab.
4	Select the CCMS check box.
5	Click **Shut down Contact Center**.
6	Click **Close**.

--End--

Configuring the CallPilot connection

If you use Contact Center Voice Services on CallPilot, you must configure the voice connection on CallPilot.

Prerequisites

- Shut down Contact Center Manager Server. For information, see Shutting down the server (page 97).
- For a Single-NIC configuration, ensure the ELAN subnet connects to the Nortel server subnet using a routed solution that adheres to the ELAN engineering requirements as laid down by the Communication Server 1000 documentation:
  - see *Nortel Communication Server 1000 Converging the Data Network with VoIP Fundamentals (NN43001-260)* for ELAN design and engineering details.

— see *Nortel Communication Server 1000 Communication Server 1000M and Meridian 1 Large System Planning and Engineering (NN43021-220)* for Contact Center application engineering details.

Procedure steps

Step	Action
1	On Contact Center Manager Server, choose **All Programs, Nortel Contact Center, Manager Server, Server Setup Configuration**.
2	Click the **Voice Services** tab. The Voice Services property page appears.
3	For **Voice Connection Type**, choose **TCP (CallPilot)**.
4	In the **CallPilot Server IP** field, enter the ELAN subnet IP address.
5	In the **CallPilot Server Port** field, enter **10008**.

Attention: Enter the CallPilot Nortel server subnet NIC IP address as opposed to the ELAN subnet NIC. 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.

6	Click **OK**. 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?"
7	Click **Yes**. 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."
8	Click **OK**. The server restarts.

--End--

Configuring and acquiring a CDN

You must configure and acquire all CDNs referenced by scripts and on which calls for CCMA arrive. These CDNs must match those configured on the switch. For more information about referencing CDNs in scripts, see *Nortel Contact Center Configuration – Service Creation Environment Application Development* (NN44400-510).

Procedure steps

Step	Action
1	Go to **Contact Center Manager Administration Launchpad, Configuration**.
2	On the system tree, double-click the server on which you want to add the CDN. The server expands to reveal the resources.
3	Click the **CDNs (Route Points)** folder. The CDNs (Route Points) window appears.
4	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.

Attention: 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 switch. To use the CDN for DNIS Network calls, the server must have Universal Networking enabled.

7	Click any other table row. 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. 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 to configure and acquire.

Attention: To reconfigure a CDN, you must first remove the CDN, edit the configuration parameters, and then reacquire the CDN.

--End--

Configuring and acquiring an IVR ACD-DN

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

Procedure steps

Step	Action
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 add the IVR ACD-DN. The server expands to reveal the resources.
3	Click the **IVR ACD-DNs** folder. 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 table row. 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. 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 remove the ACD-DN, edit the configuration parameters, and then reacquire the ACD-DN.

--End--

Configuring a personal DN for a supervisor

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

Procedure steps

Step	Action
1	In Contact Center Manager Administration, from the launchpad, select **Contact Center Management**. The Supervisor view of the Contact Center Management window appears.
2	On the system tree, double-click the server on which to add the personal DN. The server expands to reveal a list of configured supervisors.
3	On the system tree, right-click the supervisor to configure.
4	From the resulting menu, select **Supervisor Details**. The **Supervisor Details** window appears.
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.

--End--

Configuring a personal DN for an agent

Perform the following procedure to configure a personal DN for an agent in CCMA.

Procedure steps

Step	Action
1	In Contact Center Manager Administration, from the launchpad, select **Contact Center Management**. The Supervisor view of the **Contact Center Management** window appears.
2	From the **View/Edit** menu, select **Agents**. The Agent view of the Contact Center Management window appears.
3	On the system tree, double-click the server on which to add the personal DN. 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**. The agents appear in a table below the search boxes.
5	Click the agent name. The **Agent Details** window appears.
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.

--End--

Configuring and acquiring a phone

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).

Procedure steps

Step	Action
1	In Contact Center Manager Administration, from the launchpad, select **Configuration**.
2	On the system tree, double-click the server on which to add the phone. The server expands to reveal the resources.
3	Select the **Phonesets and Voice Ports** folder. The Phonesets/Voice Ports window appears.
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 table row. 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. 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, remove the phone, edit the configuration parameters, and then reacquire the phone.

--End--

Adding a phone as a voice port

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

Procedure steps

Step	Action
1	In Contact Center Manager Administration, from the launchpad, select **Configuration**.
2	On the system tree, double-click the server on which to add the voice port. The server expands to reveal the resources.
3	Click the **Phonesets and Voice Ports** folder. 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 table row. 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 table row to acquire the voice port. 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 to configure. To reconfigure a voice port, remove the voice port, edit the configuration parameters, and then reacquire the voice port.

--End--

Configuring the global settings

To support voice-processing in Contact Center, you must configure global settings.

Prerequisites

- Ensure that the IVR ACD-DN is defined on the switch.
- Ensure that the Treatment DN is defined on CallPilot.

Procedure steps

Step	Action
1	In Contact Center Manager Administration, from the launchpad, select **Configuration**.
2	On the system tree, double-click the server on which to configure global settings. The server expands to reveal the resources.
3	Click the **Global Settings** folder. The Global Settings window appears.
4	From the **Agent Order Preference** list, choose how to present calls to agents based on their idle time. The following values are valid: • Longest total time in idle state since logon—Choose this option to present calls to the agent who accumulates the most idle time since logging on (this is the default system for the Communication Server 2x00/DMS switch). • Longest time in idle state since the last status change—Choose this option to present calls to the agent who accumulates the most idle time since the last status change (this is the default system for the Communication Server 1000/Meridian 1 switch). • Longest total time since last CDN/ACD call—Choose this option to present calls to the agent that has 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 are three digits in length in the range 0 to 511 (999 is reserved for the internal route). The route you specify must exit.
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 are in the range 0 to 150.
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 if a script contains voice-processing commands that can use 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**.

--End--

Creating user-defined voice segments

Create a voice segment. Before you begin, open the voice file to which you add a new voice segment.

Procedure steps

Step	Action
1	In the **Voice Prompt Editor** window, in the **Voice Segment** box, click **New**. The **New Voice Segment** dialog box appears. If you choose **File, New**, you create a new voice file.
2	In the **Name** box, type the name of the new voice segment.
3	In the **Title** box, type a description for the new voice segment.
4	In the **Script** box, type the text that the new segment is to contain. (This is for reference only.)
5	Click **OK**. The **New Voice Segment** dialog box closes and the new segment is created.

--End--

Agent phone configuration for Communication Control Toolkit

This chapter describes how to configure agent phones for Communication Control Toolkit (CCT).

The agent desktops for Multimedia and Outbound must have associated configuration terminals, such as users and addresses, configured in Communication Control Toolkit. The switch requirements are the same as for voice desktop.

Agents assigned multimedia capabilities must log on to a phone through the CCT. These agents cannot manually log on to a phone.

The following tasks are required to set up agent phones (TNs) for use with CCT.

- Create a TN entry for each contact center agent according to the instructions in the *Nortel Contact Center Manager Server Installation and Maintenance Guide* (297-2183-925).
- 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 you create a personal DN key 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.
- Ensure that IAPG is enabled.

Navigation

- Shutting down the server (page 108)
- Configuring agent phones for CCT control (page 108)

Shutting down the server

If you use Contact Center Voice Services on CallPilot, you must shut down the CCT server before you configure the voice connection.

Procedure steps

Step	Action
1	Log on to the CCT server.
2	Click **Start**, **All Programs**, **Nortel**, **Contact Center**, **Common Utilities**, **System Control and Monitor Utility**.
3	Click the **CCT** tab.
4	Click **Shut down CCT**.
5	Click **Close**.

--End--

Configuring agent phones for CCT control

Acquire and configure phones (position IDs) for all agents and supervisors. The position ID can be four or five digits.

Prerequisites

- Ensure that the Communication Control Toolkit is configured in the Contact Center Manager.

Procedure steps

Step	Action
1	From the launchpad in Contact Center Manager Administration, select **Configuration**.
2	In the system tree, double-click the server on which to add the phone.
3	Select the **Phonesets and Voice Ports** folder.

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** or **Voice Port**.

6 In the **Address** box, type the address (position ID) of the phone on the telephony server.

7 Click any other table row.

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

8 Select the **Acquired?** check box in the row that contains the new phone.

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

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

10 Repeat steps 2 to 9 for each phone to configure and acquire.

Attention: To reconfigure a phone, you must first clear the phone, edit the configuration parameters, and then reacquire the phone.

--End--

Integration Testing

If you use CallPilot for voice services, you can use the 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).

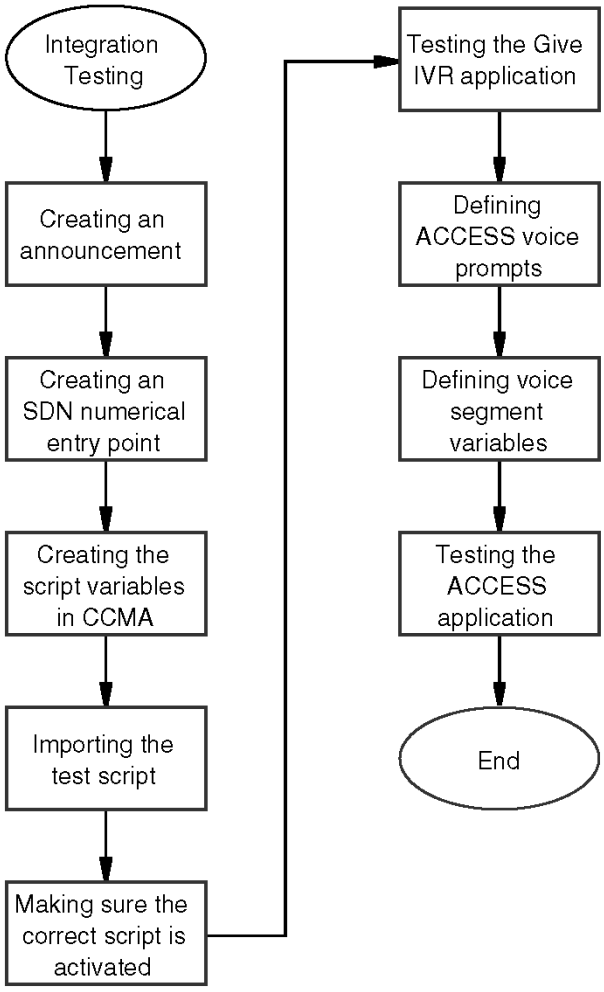
Prerequisites to integration testing

- You must create test voice items by using CallPilot Application Builder and script variables in Contact Center Manager Administration.

Integration testing procedures

This task flow shows you the sequence of procedures you perform to test integration. To link to any procedure, see Integration Testing navigation (page 111)

Integration testing procedures



Integration Testing navigation

- Testing the ACCESS application (page 122)

Creating an announcement

Create an announcement service to give in-queue announcements, such as “Your call is in queue and will be answered shortly.”

Procedure steps

Step	Action
1	In CallPilot, start Application Builder.
2	Click **File, New**.
3	In the **File Name** box, type a name for the application (for CP_Test1, use **welcome**.) This is the name that appears as a command in the Application Name menu in the CallPilot Manager SDN table. The system assigns the next available Application ID. You can change the ID by typing an unused one.
4	Click **New**. The application is created.
5	In Application Builder, click the **Announcement Block** in the pallet, and then drag the block onto the drawing board. 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. Create a name based on what the message repeats to the caller. For CP_Test1, name the welcome message **welcome**.
7	Click **OK**. The new Announcement block appears on the Application Builder drawing board.
8	Double-click the **Announcement** block. 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**. 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**.

The **Edit voice item content** dialog box appears.

13 Perform one of the following activities:

If	Then
You want to import an existing voice item	Click **Import**.
You want to record a new voice item	Click **Record**. 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**.

The **Application Builder Player** dialog box appears.

16 Click **Record**.

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.

19 Hang up the receiver if you accept the recorded voice item.

20 Click **Save**.

21 Click **Close**.

22 On 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.

23 Clear the **Pause before exiting** check box and all of the **Key handling option** check boxes.

24 Click **OK**.

25 In the Application Builder drawing board, click the **Begin connector**, and then click the **Announcement** block.

A connection line appears from the **Begin** block to the **Announcement** block.

26 Select the **Done** box of the **Announcement** block.

27	Click the **End** block. A connection line appears from the **Done** box of the **Announcement** block to the **End** block. When the connections properly complete, the blocks turn from pink to black.
28	Click **Save**, and then close Application Builder.

--End--

Creating a Service Directory Number entry point

Create an Service Directory Number (SDN) entry to use the test scripts.

Procedure steps

Step	Action
1	In the CallPilot Manager browser window, select **System, Service Directory Number**.
2	Click **New**. The **SDN Details** window appears.
3	In the **Service DN** box, type a numeric value for the SDN. This value is 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.
5	You must define t

Attention: he Media Type as **Voice**.

6	Click **Save**.

--End--

Creating the script variables in Contact Center Manager Administration

Create the script variables in Contact Center Manager Administration (CCMA) to use the test scripts.

Procedure steps

Step	Action
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. The server expands to reveal a series of folders.
3	Click the **Script Variables** folder. The Script Variables tree expands and shows all types of script variables.

Attention: 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 the variable type folder of the variable you want to create, and then select **New**.

Attention: Doing this fills the **Type** list in the **Attributes** tab with the relevant script variable type. You can also right-click the **Script Variables** folder and select **New** to create a new variable. In this case, the **Type** list fills with the first script variable type which is ACD. You can change it to the variable type you want.

5	Below the table, click **Script Variable Properties**. 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 **Call Variable option** if the variable is for one specific call only; otherwise, click **Global Variable** 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.

Attention: Based on the variable type, you can choose the class assigned to the script variable. The class indicates if a script variable has a single value (Item), or a group 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.

The new variable appears in the system tree in the folder corresponding to the variable type.

--End--

Importing the test script

Create a test script or import test script CP_Test2 provided by Contact Center Manager Server.

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. 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 *Nortel Contact Center Configuration–Service Creation Environment Application Development* (NN44400-510).

Procedure steps

Step	Action
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.

The Script Manager appears in the right pane, listing all the scripts on the currently selected server.

4 Perform one of the following activities:

If	Then
You want to import a sample script into an existing script	In the Script Manager, double-click the script in which you want to import the sample script. The script appears in the Script Editor.
You want 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**.

6 Click **From Server**, 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**.

The system adds the text of the sample script to the end of the current script, or to the place at which you place your cursor before you import the script.

9 To save the script, click **File, Save**.

Confirmation dialog box appears.

10 Click **Yes** to confirm saving the script to the server.

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.

Script appears in **Script Manager** window in the list of scripts.

--End--

Activating a script

To test the Give IVR application, you must ensure you enable the correct script.

Procedure steps

Step	Action
1	Go to **Contact Center Manager Administration Launchpad**, **Scripting**.
2	On the system tree, click the server containing the script to activate. The server expands to reveal a series of folders.
3	Click the **Script Manager** folder. The Script Manager window appears and shows all the existing scripts.
4	Double-click the appropriate script. Script appears in the Script Editor window.
5	Ensure that the script is in Active state.
6	If the script is not active, click **File**, **Activate**. A message box appears, asking you to confirm your choice.
7	Click **OK**.

--End--

Activating the Master Script

When you create a new script, or modify an existing inactive script, you must validate the script manually before it can become active. For more information about validating scripts, see the *Nortel Contact Center Installation* (NN44400-311).

When you change an active script, the system automatically validates the changes you activate the script again.

Prerequisites

- Ensure Contact Center Manager Administration is installed.

Procedure steps

Step	Action
1	Log on to Contact Center Manager Administration.
2	Click **Scripting**.

3	Click Script Manager.
4	On the system tree, click the server containing the script to activate. The Script Manager window appears and lists all scripts on the server.
5	Click **Yes** to reload Script Manager, if prompted.
6	Select and right-click the Master Script.
7	On the menu, select **Open**.
8	Click **File**, **Activate**. A message box appears, asking you to confirm your choice.
9	Click **OK**. The system activates the script. The script status changes to Active when the activation process finishes successfully.

--End--

Testing the Give IVR application

After you complete the steps included in this section, you can test the Give IVR application by completing the following procedure.

Procedure steps

Step	Action
1	Validate and activate the test script. For more information, see Activating a script (page 117)
2	Associate the script with the test CDN in the Master Script.
3	Activate the Master Script. For more information, see Activating the Master Script (page 118).
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.

--End--

Defining ACCESS voice prompts

Define ACCESS voice prompts to use test script CP_Test2 to test the ACCESS command.

Procedure steps

Step	Action
1	In CallPilot, start Application Builder.
2	Click **File, New**. 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.) 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**. The application is created.
5	On the **Application Builder** drawing board, click the tip of the **BEGIN** connector. The connector turns red.
6	Click the **END** block. 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**. The **Define voice items** dialog box appears.
9	To add a voice item, click **Add**. 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**). The system assigns an ID number.
11	In the **Description** box, type a description of the voice item.
12	Click **Done**. The **Edit voice item content** dialog box appears.

Attention: You can record or import voice content for each voice item as you define it, or you can continue defining all voice items, and then record or import the voice content later.

13 To record the content for a voice item, click **Record**, and then follow the same steps you used in the Creating an announcement (page 112) procedure, beginning at step 13.

14 After you record or import the voice item, click **Done**.

15 Repeat the procedure to add and record a voice item, starting at step 8. For this example, add and record voice item **hold_option_vs**.

16 In Application Builder, click **Save** and close Application Builder.

--End--

Defining voice segment variables

Store all voice prompts in voice segment variables.

Procedure steps

Step	Action
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 Variables** folder. The Script Variables tree expands, listing all types of script variables.
4	Right-click the **VOICE_SEGMENT** folder and select **New**. Script Variables window appears.
5	Below the table, click **Script Variable Properties**. 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 **Call Variable** if the variable is for one specific call only; otherwise, click **Global Variable** 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.
11	Type in a value in the format <filename>:<segment number>.
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.

--End--

Procedure job aid

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.

Testing the ACCESS application

Test the ACCESS application to ensure the advanced voice services function properly.

Prerequisites

- Perform the procedure Defining ACCESS voice prompts (page 120).
- Perform the procedure Defining voice segment variables (page 121).

Procedure steps

Step	Action
1	From the menu, select **Launchpad, Scripting**.
2	On the system tree, double-click the appropriate server. The server expands to reveal the resources.
3	Click the **Script Manager** folder. The **Script Manager** window appears and lists all the existing scripts.

4 Double-click the appropriate script.

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**.

A message box appears, asking you to confirm your choice.

6 Click **OK**.

The system activates the script. The status changes to Active after the script is activated.

7 While in Script Manager, select **Master_Script**.

8 Ensure that the Master Script is in the Active state. If the script is not active, click **File, Activate**.

A message box appears, asking you to confirm your choice.

9 Click **OK**.

The system activates the script. The status changes to Active after the activation process is complete.

10 Go to **File, Use voice segment**.

This is the voice segment created previously in Defining voice segment variables (page 121).

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.

--End--

Nortel Contact Center

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