



A MITEL
PRODUCT
GUIDE

Mitel OpenScape Contact Center Enterprise V12

Communication Platform V12

Communication Platform Integration Guide

Integration Guide

12/2025

Notices

The information contained in this document is believed to be accurate in all respects but is not warranted by Mitel Europe Limited. The information is subject to change without notice and should not be construed in any way as a commitment by Mitel or any of its affiliates or subsidiaries. Mitel and its affiliates and subsidiaries assume no responsibility for any errors or omissions in this document. Revisions of this document or new editions of it may be issued to incorporate such changes. No part of this document can be reproduced or transmitted in any form or by any means - electronic or mechanical - for any purpose without written permission from Mitel Networks Corporation.

Trademarks

The trademarks, service marks, logos, and graphics (collectively “Trademarks”) appearing on Mitel’s Internet sites or in its publications are registered and unregistered trademarks of Mitel Networks Corporation (MNC) or its subsidiaries (collectively “Mitel”), Unify Software and Solutions GmbH & Co. KG or its affiliates (collectively “Unify”) or others. Use of the Trademarks is prohibited without the express consent from Mitel and/or Unify. Please contact our legal department at iplegal@mitel.com for additional information. For a list of the worldwide Mitel and Unify registered trademarks, please refer to the website: <http://www.mitel.com/trademarks>.

© Copyright 2025, Mitel Networks Corporation

All rights reserved

Contents

1 About this guide	6
1.1 Who should use this guide	6
1.2 Formatting conventions	6
1.3 Documentation feedback	7
2 Configuring the OpenScape Voice communication platform	8
2.1 Before you begin	9
2.2 Network configuration	10
2.2.1 Caller interactions	10
2.2.2 Media server	11
2.2.3 TDM to IP gateway	11
2.3 Understanding the basic configuration	12
2.3.1 Initial and Music On Hold Hunt Group pairs	12
2.3.2 Media server intercept treatments	12
2.3.3 Backup routing	13
2.3.4 Multiple business groups	14
2.3.5 Configuring a feature profile	15
2.3.6 Configuring hunt groups	15
2.3.7 Configuring pilot numbers	16
2.3.8 Configuring subscriber numbers	17
2.3.8.1 Configuring subscriber numbers for users	17
2.3.8.2 Configuring subscriber numbers for Circuit users	18
2.3.8.3 Configuring the silent monitoring, continuous silent monitoring, and barge-in features for users	19
2.3.8.4 Configuring subscriber numbers for Call Director	19
2.3.8.5 Configuring subscriber numbers for an IVR	21
2.3.8.6 Configuring subscriber numbers in national number format	22
2.3.9 Configuring the One Number Service feature	23
2.4 Configuring a user telephone	24
2.4.1 Multiline telephone devices	25
2.5 Configuring the DNS server in a separate subnet configuration	26
2.6 Configuring the DNS server when using the OpenScape Contact Media Service	27
2.7 Configuring a high availability (warm standby) environment	27
2.8 Configuring an OpenScape Branch deployment	28
2.8.1 Configuring the OpenScape Voice features	29
2.8.2 Configuring the OpenScape Branch ACDs	30
2.9 Configuring CAC rerouting	31
2.9.1 Configuring the SIP rerouting parameters	32
2.10 Circuit Integration	32
2.11 Recording requirements	33
3 Configuring the OpenScape 4000 communication platform	38
3.1 Before you begin	39
3.2 Network configuration	39
3.3 Understanding the basic configuration	40
3.3.1 ACD configuration	41
3.3.2 Heartbeat mechanism	43
3.4 Configuring the communication platform	44
3.4.1 Loading the CSTA settings	44
3.4.2 Loading the ACD settings	45

Contents

3.4.3	Configuring backup routing	46
3.4.3.1	Sample business environment	46
3.4.3.2	Modifying contact center hours	47
3.4.3.3	Example AMOs for a contact center for a shift day	48
3.4.4	Configuring additional dialable numbers	49
3.4.5	Configuring extensions	50
3.4.5.1	Configuring user extensions	50
3.4.5.2	Configuring SIP extensions for Call Director	52
3.5	Configuring the Connectivity Adapter software	54
3.6	Configuring a high availability (warm standby) environment	55
3.6.1	High availability (warm standby) configuration	56
3.7	Using a standby Access Point Emergency unit	57
3.7.1	Using a standby Access Point Emergency unit	58
3.8	Recording requirements	59
3.9	Preferred Device with OpenScope 4000	61
4	Configuring the OpenScope Business communication platform	62
4.1	Supported network setups for OpenScope Business	62
4.1.1	Single Node ISDN	62
4.1.2	Single Node ITSP	63
4.1.3	Multinode - OSCC to Slave	64
4.1.4	Multinode - OSCC to Master	65
4.1.5	Multinode - OSCC to Master with distributed resources	66
4.2	Before you begin	68
4.3	Network configuration	68
4.3.1	OpenScope Business	68
4.4	Understanding the basic configuration	69
4.4.1	UCD configuration	69
4.4.2	CDL configuration	71
4.4.3	Heartbeat mechanism	71
4.5	Configuring the communication platform	72
4.5.1	Configuring UCD groups	73
4.5.2	Configuring backup UCD groups	74
4.5.3	Configuring UCD parameters	74
4.5.4	Configuring call forwarding	76
4.5.5	Enabling CSTA applications	77
4.5.6	Additional Configurations	78
4.5.7	Configuring Contact Media Service	79
4.5.8	Configuring OpenScope Contact Center	81
4.6	Configuring a user telephone	85
4.7	Configuring a multinode environment	85
4.7.1	Configuring UCD groups	86
4.7.1.1	Configuring backup routing	86
4.7.2	Configuring announcements	87
4.7.2.1	Configuring announcements for the node where the voice processor is connected	87
4.7.2.2	Configuring announcements in destination nodes	87
5	Configuring a voice processor	90
5.1	Configuring the OpenScope Contact Media Service	90
Index		92

1 About this guide

This guide describes how to configure the various supported communication platforms and voice processors to integrate with the OpenScape Contact Center system.

1.1 Who should use this guide

This guide is intended for communication platform technicians or anyone else in the organization who is responsible for configuring communication platforms and voice processors.

1.2 Formatting conventions

The following formatting conventions are used in this guide:

Bold

This font identifies OpenScape Contact Center components, window and dialog box titles, and item names.

Italic

This font identifies references to related documentation.

`Monospace Font`

This font distinguishes text that you should type, or that the computer displays in a message.

NOTE: Notes emphasize information that is useful but not essential, such as tips or alternative methods for performing a task.

IMPORTANT: Important notes draw special attention to actions that could adversely affect the operation of the application or result in a loss of data.

1.3 Documentation feedback

To report an issue with this document, call the Customer Support Center.

When you call, be sure to include the following information. This will help identify which document you are having issues with.

- **Title:** Communication Platform Integration Guide
- **Order Number:** A31003-S22C0-N114-02-7620

2 Configuring the OpenScape Voice communication platform

This chapter describes how to configure the following communication platforms to communicate with the OpenScape Contact Center system:

- OpenScape Voice V8 and higher

Before you begin, you must be familiar with the following configuration concepts:

- Hunt groups (previously known as Multi-Line Hunt Groups)
- Business groups
- Subscriber numbers (previously known as business group lines)
- Media servers

IMPORTANT: Only properly trained personnel should configure the communication platform. Attempts to configure the communication platform by personnel who are not properly trained might adversely affect the operation of the OpenScape Contact Center system.

The examples provided in this chapter are designed to guide you through simple OpenScape Contact Center routing workflows, including backup routing. If you choose to configure more complex workflows or backup routing strategies, follow the examples provided in this chapter and then configure additional values. For more information, contact your service representative.

After you have completed the configuration tasks in this chapter, continue your implementation by following the guidelines in the *Installation Guide*.

NOTE: In a multitenant environment, communication platform resources must be assigned to a specific business unit. The only exceptions are Call Director subscriber numbers and IVR subscriber numbers, which are shared across all business units. For more information on the multitenancy feature, see the *Manager Administration Guide* or *Manager Help*.

NOTE: If the OpenScape Voice node that is in active mode fails, all queued calls will be lost.

2.1 Before you begin

Before you configure the OpenScape Voice communication platform, ensure that:

- The OpenScape Voice communication platform is operating with a fully-tested numbering plan and a business group configuration. Incoming and outgoing calling are both configured and have been fully tested.
- You have administrative access to the Linux system where the OpenScape Voice communication platform resides.
- You have obtained the IP address and CSTA port number of the OpenScape Voice communication platform. These settings must be configured in OpenScape Contact Center to point to the communication platform for a CSTA connection. We strongly recommend that the CSTA port number remain at the default setting of 1040.

NOTE: Protection against internal attacks is provided between OpenScape Contact Center and OpenScape Voice (CSTA Signaling Manager) through the use of a valid and trusted server IP address table. The OpenScape Contact Center IP address must be added to this table as a trusted address. The CSTA Signaling Manager does not accept connections from any IP addresses that are not specified in the trusted IP address table. This table is configured and managed on the OpenScape Voice communication platform.

- All users have a SIP telephone supported by OpenScape Contact Center.
- The media server is configured to provide announcements and Music On Hold (MOH), as required.
- The media server has a sufficient number of ports to:
 - Provide treatments to all the callers in queues. The number of ports should be equivalent to the sum of the queue depths for Initial and Music On Hold Hunt Groups. For more information, see [Section 2.3, “Understanding the basic configuration”, on page 12](#).
 - Provide additional ports for callers who are placed on hold by users.
 - Support the conference feature.

- Support the silent monitoring, continuous silent monitoring, and barge-in features, if configured.

NOTE: If a port is not available on the media server for either the ring back treatment or MOH treatment, the OpenScape Voice communication platform will disconnect callers. It is critical that a sufficient number of ports are available. For more information, see [Section 2.3.2, “Media server intercept treatments”, on page 12.](#)

2.2 Network configuration

This section describes how the OpenScape Contact Center system and the communication platform communicate.

2.2.1 Caller interactions

For caller interactions, you can choose one of the following solutions:

- **Call Director** – This solution uses the Call Director feature with the OpenScape Contact Media Service.

For information on how to configure the OpenScape Contact Media Service, see [Section 5.1, “Configuring the OpenScape Contact Media Service”](#).

- **OpenScape Contact Center Voice Portal** – This solution uses the OpenScape Contact Center VoiceXML interface. For more information about the voice portal, refer to the OpenScape Contact Center Voice Portal documentation.
- **Third-party IVR** – This solution uses the OpenScape Contact Center IVR application programming interface (API) or the OpenScape Contact Center VoiceXML interface. For more information about third-party IVR solutions, contact your service representative.
- **Call Director and an IVR** – Both Call Director and one of the IVR solutions are configured.

If caller interaction is not required, then you do not require Call Director or an IVR. Basic user treatment, by means of configured user treatments on the hunt groups, is used. For more information, see [Section 2.3, “Understanding the basic configuration”, on page 12.](#)

2.2.2 Media server

The media server should be configured to provide basic treatments for queued calls such as MOH and messages. For more information, see [Section 2.3.2, “Media server intercept treatments”, on page 12](#).

2.2.3 TDM to IP gateway

The OpenScape Voice network configuration requires a TDM to IP gateway for connectivity to the PSTN. Consider the following:

- If the caller ID settings (caller name and caller telephone number) have been configured for callbacks in the Manager application, you must ensure that the TDM to IP Gateway is configured to allow for propagation of the caller ID settings. If the propagation of the caller name or caller telephone number is blocked by the telecommunications provider, the information will not be displayed to the customer. For details on configuring the caller ID settings in the Manager application, see the *Manager Help*.
- In some cases, the “early call connect” (or similar) functionality on the TDM to IP Gateway can cause the OpenScape Voice communication platform to think that an outgoing call, such as a callback, is answered even though the call is still ringing. This can cause problems with the OpenScape Contact Center reporting statistics and the Client Desktop softphone. To ensure that this behavior does not occur, you must disable the “early call connect” option on the gateway. Note that any SIP telephones that require this option cannot be supported for use by OpenScape Contact Center users.

NOTE: When using an OpenScape Business communication platform as a gateway to the OpenScape Voice communication platform, the **Protocol Variant Extended Fast Connect Active** gateway property must be set to **Yes**. Otherwise, there will be no voice path between the caller and the Client Desktop user for calls routed to hunt group pilot directory numbers.

2.3 Understanding the basic configuration

This section describes some concepts related to the basic configuration.

2.3.1 Initial and Music On Hold Hunt Group pairs

In a basic configuration, all calls are routed to an Initial Hunt Group that is configured in a pair with a Music On Hold Hunt Group. This pair of hunt groups must be configured in the communication platform to support the OpenScape Contact Center solution as follows:

- **Initial Hunt Group** – This hunt group is configured in manual mode, with an intercept treatment configured to play a ring back tone, followed by an announcement to the caller through the media server.
- **Music On Hold Hunt Group** – This hunt group is configured in manual mode, with an intercept treatment configured to play music-on-hold (MOH) to the caller through the media server.

In manual mode, the communication platform does not directly distribute calls from the hunt group. Calls remain in the hunt group until they are moved by the OpenScape Contact Center system.

The only difference in configuration between these two types of hunt groups is that the Initial Hunt Group has ring back and the Music On Hold Hunt Group has music. In both cases, this intercept treatment is provided by the media server. For details, refer to [Section 2.3.2, “Media server intercept treatments”, on page 12](#).

A hunt group has a queue capacity of 511 calls. If the contact center has high call volumes and this queue capacity is exceeded in the primary Initial Hunt Group, you must configure a secondary Initial Hunt Group to handle the call overflow. The overflow extension in the primary hunt group can be configured to be the pilot directory number of the secondary hunt group. In this way, you can avoid call overflow. Similarly, the associated hunt groups can also be chained together to avoid call overflow on the Music On Hold Hunt Groups.

2.3.2 Media server intercept treatments

An intercept treatment is an audio sequence played to a waiting caller by the OpenScape Voice communication platform through the media server. Each hunt group can be configured to have an intercept treatment that is applied to calls waiting in the hunt group.

For OpenScape Contact Center operation, the intercept treatments for the hunt groups described in [Section 2.3.1, "Initial and Music On Hold Hunt Group pairs"](#) are configured as follows:

- **Ring back treatment** – The Initial Hunt Group needs to be configured so that a ring back tone is heard by calls in the hunt group. The Initial Hunt Group is configured with an intercept treatment to play rings for the amount of time it takes to execute an OpenScape Contact Center routing strategy workflow, followed by a generic outage message, for example:

"All agents are busy assisting other callers. Please stay on the line and your call will be answered in the order that it was received."

If a caller hears the outage message, it means that there is a problem with the OpenScape Contact Center system.

- **MOH treatment** – The Music On Hold Hunt Group must be configured so that when a call is queued, continuous music is heard. The media server is the only MOH source.

As an option, individual calls on hold on the subscriber number can have an intercept treatment of MOH configured at the subscriber number level. The intercept treatment can be configured through the media server for calls that are placed on hold on these extensions.

To configure the media server to provide these intercept treatments, refer to the OpenScape Voice documentation and the media server documentation.

2.3.3 Backup routing

If the OpenScape Contact Center system is not functioning properly, it is imperative that calls continue to be answered by users. Users can continue to answer calls through backup routing. The core backup routing concept is that if the OpenScape Contact Center system becomes unavailable, the communication platform is responsible for routing calls to users until the system is restored.

Configuring the OpenScape Voice communication platform

Understanding the basic configuration

If the OpenScape Contact Center system fails to communicate with the OpenScape Voice communication platform, the CSTA Signaling Manager in the communication platform detects the failure. The communication platform removes the OpenScape Contact Center monitors on each hunt group causing the calls in the hunt groups to be distributed by the communication platform instead of the OpenScape Contact Center system. In this scenario, there can be no other CSTA applications monitoring the hunt group.

NOTE: In a multitenant environment, each business unit must be assigned its own hunt groups to facilitate backup routing.

2.3.4 Multiple business groups

The OpenScape Contact Center system supports the use of multiple business groups. This means that OpenScape Contact Center user subscriber numbers can be configured within different business groups on the communication platform (although each subscriber number must be configured in only one business group). In a multitenant environment, user subscriber numbers for each OpenScape Contact Center business unit can be configured within a corresponding business group on the communication platform, or within different business groups, as required.

When using multiple business groups, we recommend the following:

- For backup routing purposes, ensure that each subscriber number belongs to the same business group as the Initial and Music On Hold Hunt Group pairs to which it is assigned.
- Configure all Call Director subscriber numbers within the same business group.
- Configure all IVR subscriber numbers within the same business group.

NOTE: OpenScape Contact Center users can transfer, consult, and conference calls across business groups. However, the Call Transfer Security with Intercept functionality is not supported across business groups. Configuring the communication platform

This section describes how to configure the communication platform to communicate with the OpenScape Contact Center system.

2.3.5 Configuring a feature profile

Before you configure hunt groups or subscriber numbers for users, configure a feature profile for OpenScape Contact Center use. All features specified in the feature profile will be inherited by the hunt groups and subscriber numbers that use the feature profile.

To configure a feature profile:

1. Create a new feature profile called **OSCC** (recommended name) and configure the following settings:
 - **CSTA Access** – enabled, set to **CSTA Over SIP** for OpenStage devices or **Type 1** for other types of devices

NOTE: To query the line state of a device, the CSTA setting needs to be configured on the subscriber numbers.

- **Call Transfer** – enabled, set **Transfer Calls** to **All**
- **Large Conference** – enabled (required to initiate a conference)
- **Music On Hold** – enabled.

2.3.6 Configuring hunt groups

You must configure the hunt groups to which the subscriber numbers for users are assigned. For more information, see [Section 2.3.1, “Initial and Music On Hold Hunt Group pairs”, on page 12](#) and [Section 2.3.8.1, “Configuring subscriber numbers for users”, on page 17](#).

To configure hunt groups:

1. Create a subscriber number for each Initial and Music On Hold Hunt Group pilot directory number. Use the OSCC profile described in [Section 2.3.5, “Configuring a feature profile”, on page 15](#). Ensure that the **Connection Information** is set to **Profile Only**.
2. Create pairs of Initial and Music On Hold Hunt Groups using the subscriber numbers that you created in step 1. Ensure that the following parameters are set for both the Initial and Music On Hold Hunt Groups:
 - **Hunt Type** set to **Manual**
 - **Max time in Queue** set to **0** (seconds)
 - **Intercept Announcement** configured to play the proper announcement
 - **Queue Position Announcement Interval** set to **0** (seconds)

- **Night Service** not enabled

2.3.7 Configuring pilot numbers

Pilot numbers can be used to support monitored destinations, queue targets, network transit numbers, and IVR transit numbers in the OpenScape Contact Center system. For each pilot number that you want to use, you must configure a subscriber number that does not have an associated SIP device and that is configured with call forwarding unconditional.

IMPORTANT: If pilot numbers are not configured as described in this section, the OpenScape Contact Center system will prevent calls from being routed. If you are upgrading, this will require that you update your existing OpenScape Contact Center configuration.

IMPORTANT: All monitored destinations, queue targets, network transit numbers, and IVR transit numbers must also be configured in the Manager application. At least one queue target must be configured in the Manager application. Otherwise, the OpenScape Contact Center system will not start properly. For details on how to configure these resources, see the *Manager Help*.

NOTE: The system does not support the configuration of a One Number Service Device (that is, a preferred device for a subscriber number with One Number Service enabled) as the pilot number of a hunt group.

To configure pilot numbers:

1. For each pilot number, create a subscriber number. Do not associate the subscriber number with a SIP device. Set the **Connection Information** to **SIP**.
2. For each subscriber number that you created in step 1, enable **Call Forwarding Unconditional** and specify the pilot directory number of a hunt group, as follows:
 - If the subscriber number will be used as a queue target (that is not configured as requeue target) or a monitored destination, specify the pilot directory number of an Initial Hunt Group.

- If the subscriber number will be used as a queue target that is configured as requeue target, a network transit number, or an IVR transit number, specify the pilot directory number of a Music On Hold Hunt Group.

2.3.8 Configuring subscriber numbers

This section describes how to configure user, Call Director, and IVR subscriber numbers.

All subscriber numbers that are public (externally dialable) should be configured in international number format. If you want to configure subscriber numbers in national number format, see [Section 2.3.8.6, “Configuring subscriber numbers in national number format”](#), on page 22.

NOTE: If **Number Permanent Presentation Status** is enabled on a subscriber number, you must set all the corresponding calling numbers to **Allowed**.

NOTE: If you delete a resource (such as a subscriber number) from the communication platform, you must also delete the resource from OpenScape Contact Center using the Manager application. If the resource is not deleted from OpenScape Contact Center and it is created again in the future, it will adversely affect the operation of the system. You can use the Config Sync feature to help you determine which resources are not synchronized.

2.3.8.1 Configuring subscriber numbers for users

You must configure a subscriber number for each telephone used by OpenScape Contact Center users. For information on how to configure user telephones, see [Section 2.4, “Configuring a user telephone”](#), on

Configuring the OpenScape Voice communication platform

Understanding the basic configuration

[page 24](#).

To configure subscriber numbers for users:

1. Create a subscriber number for each user telephone using the OSCC feature profile described in [Section 2.3.5, "Configuring a feature profile", on page 15](#). Ensure that **Connection Information** is set to **SIP**.

NOTE: To enable other users to transfer a call directly to voice mail on a subscriber number, enable the **Call Forwarding - Voice Mail** feature and configure the voice mail number. You only need to select the **Activate** check box if you want to allow call forwarding to voice mail in addition to transfer to voice mail. You must also configure the voice mail system so that calls are routed to the correct mailbox. For details, refer to the voice mail system's documentation.

2. Add each subscriber number to a hunt group pair that you created in [Section 2.3.6, "Configuring hunt groups", on page 15](#). Each subscriber number must be a member of at least one hunt group pair. Ensure that the following parameters are set properly:
 - **Can make hunt group busy** – enabled
 - **Attendant/Agent** – enabled
3. Create a **Prefix Access Code** with the following parameters:
 - **Minimum Length** set to **1**
 - **Maximum Length** set to **20**
 - **Digit Position** set to **3**
 - **Prefix Type** set to **Vertical Service**
 - **Nature of Address** set to **Unknown**
 - **Destination Type** set to **Service**
 - **Destination Name** set to **Make Busy Toggle**

2.3.8.2 Configuring subscriber numbers for Circuit users

Create an additional Circuit subscriber and configure the following parameters:

- **OpenScape Mobile Device** - enabled.

- **Main Device (ONS)** - associated Agent subscriber number.
- **Mobile Device (Cellular)** - empty.
- **Profile** - use the default Mofile subscriber profile in OSV.

2.3.8.3 Configuring the silent monitoring, continuous silent monitoring, and barge-in features for users

When the system is connected to an OpenScape Voice communication platform, the silent monitoring, continuous silent monitoring, and barge-in features are supported. To use these features, the following configurations are required:

- The subscriber number that is being monitored must be in the same business group as the monitoring user.
- For the OpenScape Voice V7 or higher communication platforms, the monitoring user's subscriber number must be configured in the Manager application as a user subscriber number so that it can be monitored by the OpenScape Contact Center system.
- To silently monitor, continuously silent monitor, or barge in on active calls from a user real-time report in the Manager application, the CSTA Access feature must be enabled on the monitoring user's subscriber number on the communication platform and set to **CSTA Over SIP** for OpenStage devices or **Type 1** for other types of devices.

2.3.8.4 Configuring subscriber numbers for Call Director

When you are using Call Director to provide caller interactions on the OpenScape Voice communication platform, you must configure a subscriber number for each Call Director extension. For more information on caller interaction solutions, see [Section 2.2.1, "Caller](#)

Configuring the OpenScape Voice communication platform

Understanding the basic configuration

[interactions", on page 10.](#)

NOTE: You must configure Call Director subscriber numbers in both the Manager application and the communication platform. This resource type cannot be synchronized by the Config Sync feature. You must also configure the voice processor in the Manager application. For details, see the *Manager Help*.

NOTE: When the system is configured for high availability (warm standby), redundant voice processors are required. Therefore, you must configure one or more backup voice processors (depending on your configuration) and a matching set of Call Director subscriber numbers separately on the backup server machine. For details, see the *Manager Help*.

NOTE: If you are using multiple business groups on the communication platform, we recommend that you configure all the Call Director subscriber numbers within the same business group.

To configure subscriber numbers for Call Director:

1. Create a new feature profile called **Call Director** (recommended name) and configure the following settings:

- **CSTA Access** – enabled, set to **Type 1**
- **Call Transfer** – enabled, set **Transfer Calls** to **All**

NOTE: Ensure that the **Music On Hold** feature is not enabled.

2. Create a subscriber number for each Call Director extension using the Call Director feature profile you created in step 1. Ensure that the following parameters are set properly:

- **Connection Information** set to **SIP**
- **Call Forwarding to No Reply** – enabled, set the **Redirect Number** to the voice error transfer number configured in the Manager application and the **Ring Duration** to 5 seconds (recommended)

3. Configure a hunt group (with **Hunt Type** set to **Manual**) using the Call Director feature profile and add the Call Director subscriber numbers to the hunt group. Each Call Director subscriber number must be a member of the hunt group. The hunt group must be

dedicated for this purpose and separate from the pair of Initial and Music On Hold Hunt Groups to which the user subscriber numbers belong. The hunt group is not configured in the Manager application.

IMPORTANT: If you are upgrading, this setup might require that you update your existing OpenScape Contact Center configuration.

2.3.8.5 Configuring subscriber numbers for an IVR

If you plan to use a monitored third-party IVR solution to provide call processing via the OpenScape Contact Center IVR API, you must configure a subscriber number for each IVR extension. You cannot use IVR subscriber numbers with the OpenScape Contact Center VoiceXML integration. For more information on caller interaction solutions, see [Section 2.2.1, "Caller interactions", on page 10](#).

NOTE: You must configure IVR subscriber numbers in both the Manager application and the communication platform. This resource type cannot be synchronized by the Config Sync feature.

NOTE: If you are using multiple business groups on the communication platform, we recommend that you configure all the IVR subscriber numbers within the same business group.

To configure subscriber numbers for an IVR:

1. Create a new feature profile called **IVR** (recommended name) and configure the following settings:
 - **CSTA Access** – enabled, set to **Type 1**
 - **Call Transfer** – enabled, set **Transfer Calls** to **All**

NOTE: Ensure that the **Music On Hold** feature is not enabled.

Configuring the OpenScape Voice communication platform

Understanding the basic configuration

2. Create a subscriber number for each IVR extension using the IVR feature profile you created in step 1. Ensure that the following parameters are set properly:
 - **Connection Information** set to **SIP**
 - **SIP Phone Registration Type** set to **Static**
 - **SIP Phone Address** set to the IP address of the IVR server machine
 - **SIP Phone Port** set to **5060**
3. Configure a hunt group (with **Hunt Type** set to **Manual**) using the IVR feature profile and add the IVR subscriber numbers to the hunt group. Each IVR subscriber number must be a member of the hunt group. The hunt group must be dedicated for this purpose and separate from the pair of Initial and Music On Hold Hunt Groups to which the user subscriber numbers belong. The hunt group is not configured in the Manager application.

IMPORTANT: If you are upgrading, this setup might require that you update your existing OpenScape Contact Center configuration.

2.3.8.6 Configuring subscriber numbers in national number format

All subscriber numbers that are public (externally dialable) must be configured in international number format in the OpenScape Contact Center system to communicate properly with the OpenScape Voice communication platform. If you are upgrading, this might require that you update your existing OpenScape Contact Center configuration.

To configure subscriber numbers on the OpenScape Voice communication platform that are public (externally dialable) but have a national number format, you must do the following on the communication platform:

- Configure the **Display Number Modification** such that the definition is complete including Country Code, Area Code, Local Office Code, and so on, and the modification has the Output Type of Number set to International.
- Set the **OwnCountryCode** parameter to the appropriate country-specific code (as described in the following procedure). This parameter must be configured using the Command Line Interface (CLI).

These settings will help the communication platform remove the country code when it receives a CSTA request from the OpenScape Contact Center system.

To set the OwnCountryCode parameter:

1. Connect to the communication platform using a local console or remotely via SSH.
2. Log on as **srx** and start the CLI.
3. Log on as **superad**. A password is not required.
4. Enter Configuration Management and change the value of the Srx/Main/OwnCountryCode parameter to the code specific to your country.
5. Exit the CLI session.
6. Restart the communication platform for the change to take effect.

2.3.9 Configuring the One Number Service feature

When the system is connected to an OpenScape Voice V7 R1 or higher communication platform, the One Number Service feature (with the status set to Inbound and Outbound) must be enabled on the Initial and Music On Hold hunt groups as well as the subscriber numbers of any users who intend to use a preferred device to either handle calls or silently monitor or barge in on active calls.

2.4 Configuring a user telephone

You must complete this procedure for each telephone used by OpenScape Contact Center users.

IMPORTANT: Do not configure multiple telephones with the same extension, as this can adversely affect the operation of the OpenScape Contact Center system.

To configure a user telephone via the Web interface, you need the IP address of the telephone. For details, refer to the documentation provided with the telephone. You can use the Deployment Service Tool (DLS) to configure multiple user telephones. For more information, refer to the DLS documentation.

NOTE: If you are configuring a multiline telephone device, some special considerations apply. For details, see [Section 2.4.1, "Multiline telephone devices", on page 25](#).

To configure a user telephone:

1. Configure the following settings on the telephone:

- Auto answer – On
- Auto reconnect – On
- Busy when dialing – Off
- Call forwarding unconditional (or all calls) – Off
- Call forwarding on busy – Off
- Call join – On
- Call waiting – Off
- Deflect – Off
- Do not disturb – Off
- Reject – Off

NOTE: When using OpenStage telephone devices, ensure that the Allow uaCSTA setting is enabled on the device.

2. Set one of the function keys on the telephone to function as FeatureToggle. For the Feature Code, enter the digits you entered for the Prefix Access Code in step 3 of [Section 2.3.8.1, "Configuring subscriber numbers for users"](#), on page 17. The function key (in conjunction with the Make Busy Toggle setting) can be used when the system is in backup routing to indicate that the user is busy. The LED is lit when the user is busy.
3. Configure the Conference URI service for the Large Conference feature. For details, see the documentation provided with the telephone.

2.4.1 Multiline telephone devices

When the user telephone is a multiline telephone device, the subscriber number that is used by the user for OpenScape Contact Center call handling must be configured as the primary line on the telephone, and the primary line cannot be registered on any other device. Also, if the keyset operation on the user subscriber number is set to None, the primary line must be configured as a private line.

NOTE: When the user telephone is a multiline telephone device, if the user initiates a consultation on one line and then receives a call on another line, the user cannot answer the call on the other line until the consultation is complete.

If you are configuring a telephone for a user, such as a supervisor, who will be using the multiline telephone device to handle routed calls and use the silent monitoring and barge-in features, the following conditions apply:

- If the keyset operation on the user subscriber number is set to None, the primary line can be used for both purposes, or you can configure a secondary line that is dedicated to silent monitoring and barge-in operations. In both cases, the lines must be configured as private lines.
- If the keyset operation on the user subscriber number is set to Primary or Phantom, the primary line must be used for both purposes. In this case, the primary line must be configured as a shared line.

Configuring the OpenScape Voice communication platform

Configuring the DNS server in a separate subnet configuration

The following restrictions apply when a supervisor is using a multiline telephone device to handle routed calls and use the continuous silent monitoring feature in the Manager application:

- If the same primary line is used for both handling routed calls and continuous silent monitoring, the supervisor can receive calls while a monitored user is idle and not handling an active call. If the monitored user receives a routed call while the supervisor's primary line is busy, silent monitoring of that call is not initiated.
- If multiple lines are configured on the supervisor's telephone and a monitored user receives a routed call while the supervisor is talking on one line, continuous silent monitoring is automatically initiated on another line and the caller on the first line is immediately put on hold.

2.5 Configuring the DNS server in a separate subnet configuration

When the OpenScape Voice communication platform nodes reside on separate subnets, if the primary node fails, the OpenScape Contact Center system must be able to locate the CSTA Signaling Manager service on the secondary node and reconnect to it. In this configuration, the OpenScape Contact Center system queries the DNS server using the CSTA Signaling Manager service name and domain name, and then uses the returned DNS SRV record to obtain the correct IP address.

To enable this process, on the DNS server for the domain where the OpenScape Voice communication platform and the OpenScape Contact Center system reside, you must create two DNS SRV records with the same service name (for example, **cstasm**) using the tcp protocol, as follows:

- The first SRV record specifies the IP address of the primary CSTA Signaling Manager service. The priority of this SRV record must be higher (in the range 0 to 65535, where 0 is the highest) than that of the second SRV record.
- The second SRV record specifies the IP address of the secondary CSTA Signaling Manager service.

The weight is irrelevant and can be set to zero for both SRV records.

You can specify the CSTA Signaling Manager service name and domain name during installation of the OpenScape Contact Center software on the main server machine, or in the Manager application. For details, see the *Installation Guide* or the *Manager Help*, respectively.

2.6 Configuring the DNS server when using the OpenScape Contact Media Service

When the OpenScape Voice communication platform nodes reside on separate subnets and the OpenScape Contact Center configuration is using the OpenScape Contact Media Service, the OpenScape Contact Media Service must be able to query the DNS server to obtain the IP address of the communication platform.

To enable this process, you must create two DNS SRV records, as follows:

- The first SRV record specifies the IP address of the SIP Server that is configured in the OpenScape Contact Media Service. This is the IP address of the OpenScape Voice communication platform.
- The second SRV record specifies the IP address of the Registrar Host that is configured in the OpenScape Contact Media Service. The Registrar Host is normally the same as the SIP Server.

The format of the DNS SRV records must be `_sip._<protocol>.<IPaddress>`, where `<protocol>` can be UDP, TCP, or TLS.

2.7 Configuring a high availability (warm standby) environment

The OpenScape Contact Center system can be configured for high availability (warm standby) when the system is connected to an OpenScape Voice communication platform. For more information on how to configure the system for high availability (warm standby) and a list of system requirements, see the *Installation Guide*.

In a high availability (warm standby) environment, the OpenScape Contact Center primary and backup server machines can be collocated or geographically separated. Also, the OpenScape Voice nodes can reside on a common subnet or on separate subnets. For information on how to configure the nodes on separate subnets, see [Section 2.5, "Configuring the DNS server in a separate subnet configuration"](#), on page 26.

NOTE:

If the OpenScape Voice communication platform is in standalone mode due to cluster network connectivity issues, some functionality may be limited or lost. OSCC was not designed to operate with both nodes simultaneously in standalone mode.

Configuring the OpenScape Voice communication platform

Configuring an OpenScape Branch deployment

For this reason, CSTA communication will be restarted by the OSCC and cause a failover. Services may be limited until the communication is reestablished.

2.8 Configuring an OpenScape Branch deployment

OpenScape Branch systems can be deployed at remote locations to support remote contact center users, particularly during loss of connectivity with the OpenScape Voice communication platform. This section provides guidelines for deploying OpenScape Branch within an OpenScape Contact Center solution. For more information on the OpenScape Branch system and how to configure it, refer to the OpenScape Branch documentation.

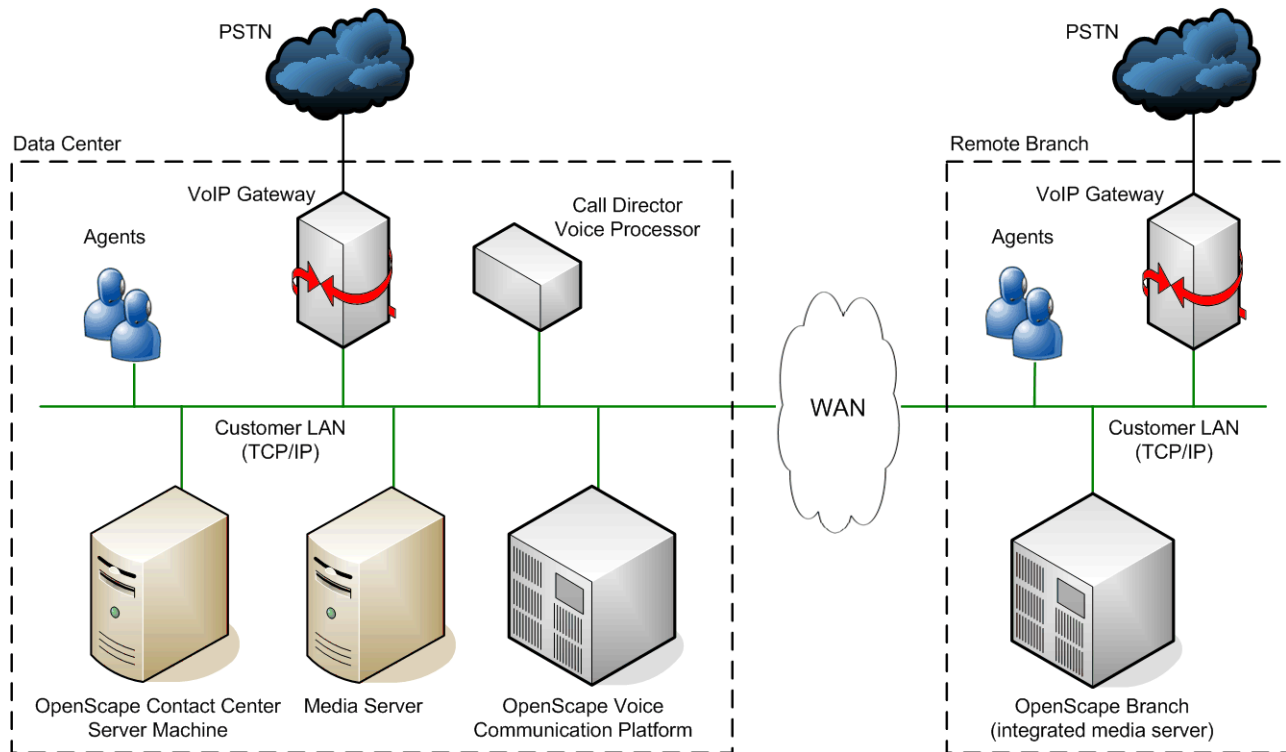


Figure 1 Network configuration with OpenScape Branch

The OpenScape Branch system is supported within an OpenScape Contact Center solution in the following operating modes:

- **Proxy** – This mode is for regular proxy usage when the remote branch is connected via a private network.

Configuring the OpenScape Voice communication platform

Configuring an OpenScape Branch deployment

- **Proxy ACD** – This mode is for regular proxy usage when the remote branch is connected via a private network, and the branch has the capability to provide ACD functionality during survivability.

Within the context of an OpenScape Contact Center solution, the OpenScape Branch system can operate in two states:

- **Normal** – The OpenScape Branch system acts as a proxy to the OpenScape Voice communication platform to extend the call processing functionality provided to the remote branch over the WAN. Within the OpenScape Contact Center system, statistics are generated and calls are routed as if users are connected directly to the OpenScape Voice communication platform.
- **Survivability** – If the OpenScape Branch system is operating in Proxy ACD mode, when connectivity to the OpenScape Voice communication platform at the data center (also called main office) via the WAN is lost, the OpenScape Branch system takes over the call processing function for calls at the remote branch. The OpenScape Branch users are automatically logged off the OpenScape Contact Center system and statistics are no longer generated for those users. The OpenScape Branch users must log on to an OpenScape Branch ACD using a telephone so that they can continue to handle calls at the remote branch, which are routed via backup ACD routing. When the connection is restored, the OpenScape Branch users must log back on to the OpenScape Contact Center system.

2.8.1 Configuring the OpenScape Voice features

You must configure the OpenScape Voice communication platform such that during normal operation:

- The media server at the data center provides treatment for users at the data center and for callers on the incoming calls at the main VoIP gateway.
- The integrated media server on the OpenScape Branch system provides treatment for users at the remote branch and for callers on the incoming calls at the remote branch VoIP gateway.

You must ensure that the integrated media server at the remote branch has a sufficient number of ports to support the OpenScape Branch users. However, in the event that there are no media ports available on the integrated media server at the remote branch, the OpenScape Voice communication platform must be configured such that media port requests are redirected to another media server.

2.8.2 Configuring the OpenScape Branch ACDs

In a typical OpenScape Contact Center deployment, one or more pairs of Initial and Music On Hold Hunt Groups is configured with multiple pilot numbers so that customers can reach users from different departments offering various services. On the OpenScape Voice communication platform, subscriber numbers for all OpenScape Contact Center users (including those at the branch) are configured as members of the Initial and Music On Hold Hunt Groups. The incoming calls are typically routed by the OpenScape Contact Center system to various OpenScape Contact Center queues depending on the numbers dialed by the customers. The enqueued calls are then offered to the users (including those at the branch) associated with the OpenScape Contact Center queues.

When the OpenScape Branch system is operating in Proxy ACD mode, you must configure the system such that, during survivability state, the incoming calls at the branch are assigned to the same users at the branch who would have handled similar calls routed by the OpenScape Contact Center system during normal operation.

Therefore, on the OpenScape Branch system, you must configure an ACD group for each incoming pilot number, which must be mapped to an Initial Hunt Group pilot directory number at the data center. The subscriber numbers for users on the OpenScape Branch system must also be configured as members of one or more of the ACD groups, to match the configuration of the corresponding Initial and Music On Hold Hunt Groups at the data center.

When transitioning out of survivability state, the OpenScape Branch system will move all calls that are currently in the ACD queues at the branch into the Initial Hunt Group on the OpenScape Voice communication platform, using the Initial Hunt Group pilot directory numbers that are associated with the ACD groups at the branch.

To configure the OpenScape Branch ACDs:

1. Configure one ACD group for each pilot number on the OpenScape Branch system, and associate the ACD group with the matching Initial Hunt Group pilot directory number at the data center.
2. Configure the subscriber numbers for users on the OpenScape Branch system as members of one or more ACD groups, in the same way that the subscriber numbers are configured as members of the corresponding Initial and Music On Hold Hunt Groups at the data center. Each subscriber number must be a member of at least one ACD group.

2.9 Configuring CAC rerouting

When the OpenScape Contact Center system is connected to an OpenScape Voice communication platform, the CAC (Call Admission Control) feature is supported. CAC is a mechanism that is used in VoIP systems to guarantee an acceptable quality of service on the IP network. When the IP network does not have the bandwidth to handle a new call with an acceptable quality of service, you can use the CAC rerouting feature to reroute the call to an alternate provisioned route, normally the PSTN. For details on how to configure CAC rerouting on OpenScape Voice, see the OpenScape Voice documentation.

NOTE: The OpenScape Contact Center system does not support the OpenScape Voice backup access link feature.

For OpenScape Voice to be able to reroute a call over the PSTN, a pool of Direct Inward Dialing (DID) numbers must be configured on each survivable branch office. If your system configuration is such that the OpenScape Voice data center will receive CAC rerouted calls, you must configure a DID pool in the OpenScape Voice data center. Since a DID pool can only be configured at a survivable branch office, you must create a “virtual” branch office in the OpenScape Voice data center using a virtual endpoint, and then assign a DID pool to it.

NOTE: To use the CAC feature with the silent monitoring, continuous silent monitoring, and barge-in features, the monitoring user and monitored user must belong to the same CAC group.

Guidelines for configuring a virtual branch office in the data center:

1. Create a virtual endpoint that points to a non-existing IP address, and enable the **Survivable Endpoint** attribute.
2. After creating the virtual endpoint, set the **Do Not Audit Endpoint** attribute to **True**. This attribute can only be configured using the Command Line Interface (CLI), as follows:
 - a) Connect to the communication platform using a local console or remotely via SSH.
 - b) Log on as **srx** and start the CLI.
 - c) Log on as **superad**. A password is not required.
 - d) Enter **Application-level Management**, then **Zone Management**, and then **Modify Endpoint**.

- e) Set the **Do Not Audit Endpoint** attribute to **True**, as follows:

```
Change SIP endpoint attributes as bitmap sums? (default: true): false
```

```
Do not audit Endpoint <0=false|1=true|-1=unchanged> (default: -1): 1
```

- f) Exit the CLI session.

3. Using the virtual endpoint you just created, create a branch office. Ensure that the **Routing Area** attribute is not configured.
4. Assign a DID pool to the branch office. The numbers in the DID pool cannot be used for any other purpose.

2.9.1 Configuring the SIP rerouting parameters

The following SIP parameters must be configured on the communication platform to allow CAC rerouting over the PSTN:

- **Enable Registration Renewal** – enabled
- **Enable Rerouting for SIP Subscribers** – enabled
- **Subscriber Rerouting Prefix Access Code** – set to the PSTN access code

2.10 Circuit Integration

To integrate the Circuit telephony features with OpenScape Contact Center, you must create a Server-side application on Circuit. When creating the Circuit application, a unique client ID and client secret are generated. These client credentials are mandatory for authentication and authorization of Agent Portal Web via OAuth 2.0 on Circuit.

Fill in the fields below with the following information:

- **App Name:** The name of the application. It will be displayed during the Agent Portal Web login with Circuit account
- **Description:** A description of the application
- **Author name:** Name of the company that is developing the application. It will be displayed during the Agent Portal Web login with Circuit account
- **Redirect URIs:** The domain of the OSCC Application Server that provides the Agent Portal Web app. Circuit must be able to reach this URI. HTTPS is mandatory

- **Scopes:** The permission levels that the application can request from a user. For the Agent Portal Web, the scope must be **User**.
- **Time to live:** The maximum time a Circuit access token remains valid.

The page will display information about the newly created application. The Client ID and Client secret are necessary for the configuration of Circuit integration on the OSCC side.

After leaving the page, the Client secret will be hidden and can only be re-generated.

NOTE: For detailed information on the installation and configuration of the OpenScape SBC as ATC, see the document *OpenScape SBC V9, Circuit Telephony Connectors End-to-End*

NOTE: To obtain a Circuit account, please refer to the Circuit webpage (<https://www.circuit.com>).

2.11 Recording requirements

OSV Requirements

Configuring the OpenScape Voice communication platform

Recording requirements

- **Silent Monitoring** activated in Business Group.

[WoWarcraft] - Edit Business Group: BG_OSCC — Mozilla Firefox

https://ironman.marvel.sen.com.br/management/portal/Applications/Operation/OSV/Busine:

[WoWarcraft] - Edit Business Group: BG_OSCC

Modifies the selected Business Group.

General Services Feature Profiles Options Access Control List

Silent Monitoring

Define the maximum number of subscribers tagged for monitor

Activate ☒

Maximum Number of Subscribers Tagged for monitor: 50

Actual Number of Subscribers Tagged for monitor: 0

Maximum Number of Supervisors per monitored party: 5

BG Access Code

The Business Group Access Code

BG Access Code:

MLHG Hunt Make Busy Toggle

Reverse Hunt Make Busy LED Display: ☐

Next Generation 911

Activate: ☐

Access Code:

Save Cancel

Configuring the OpenScape Voice communication platform

Recording requirements

- **Prefix Access Code** created with service SILM Monitor and Maximum Length configured to comport the code + monitored extension. Example: if your code is *72 and monitored extension is 554133415000 you need to configure the PAC Maximum Length to 15 or more.

The screenshot shows a web browser window with the URL <https://ironman.marvel.sen.com.br/management/portal/Applications/Operation>. The page title is "[WoWarcraft] - [BG_OSCC] - [NP_Common] - Edit Prefix Access Code: *72". The page is divided into two main sections: "Identification" and "Settings".

Identification Section:

- Help icon: If the dialed digits match this code, the specified modification to these dialed digits is executed.
- Prefix Access Code: *72
- Remark: (empty text box)
- Minimum Length: 3
- Maximum Length: 30
- Digit Position: 3
- Digits to insert: (empty text box)

Settings Section:

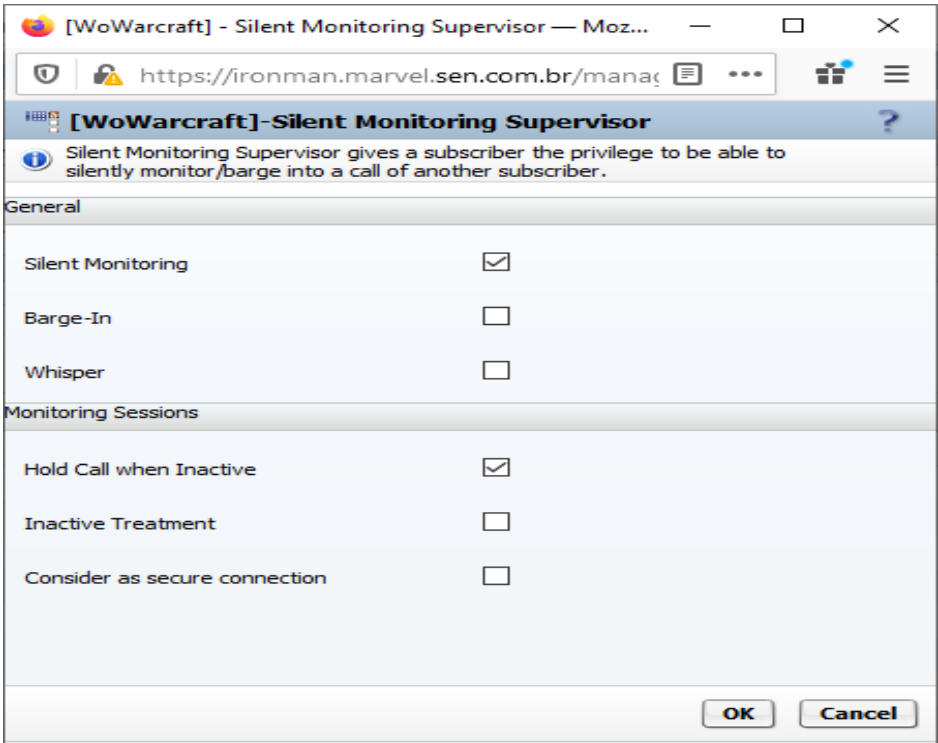
- Help icon: Specify additional parameters to determine how the call will be routed.
- Prefix Type: Vertical Service (dropdown menu)
- Nature of Address: Unknown (dropdown menu)
- Destination Type: Service (dropdown menu)
- Service: SILM Monitor (text box with a search icon)

At the bottom right, there are "Save" and "Cancel" buttons.

Configuring the OpenScape Voice communication platform

Recording requirements

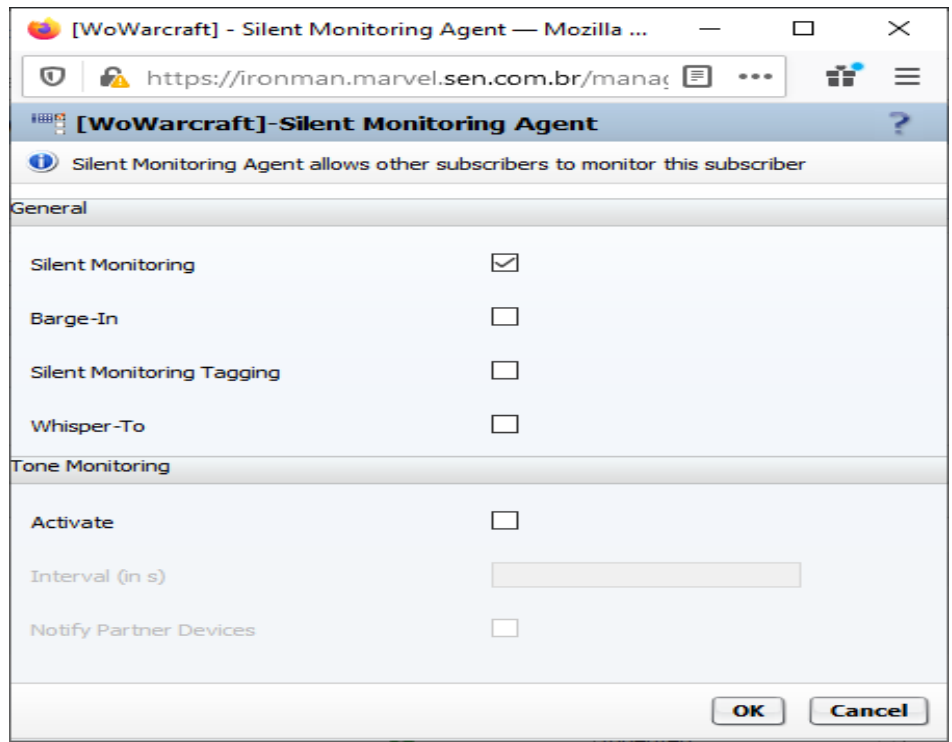
- **Recorder Extension** configured with feature Silent Monitoring Supervisor and it with only the flags Silent Monitoring and Hold Call when Inactive checked;



Configuring the OpenScape Voice communication platform

Recording requirements

- **Monitored Extensions** configured with feature Silent Monitoring Agent and flag Silent Monitoring checked;



The screenshot shows a web browser window titled "[WoWarcra] - Silent Monitoring Agent — Mozilla ...". The address bar shows the URL "https://ironman.marvel.sen.com.br/manaç". The page title is "[WoWarcra]-Silent Monitoring Agent". Below the title bar, there is a message: "Silent Monitoring Agent allows other subscribers to monitor this subscriber". The main content area is divided into two sections: "General" and "Tone Monitoring".

General

Silent Monitoring	☒
Barge-In	☐
Silent Monitoring Tagging	☐
Whisper-To	☐

Tone Monitoring

Activate	☐
Interval (in s)	
Notify Partner Devices	☐

At the bottom right, there are "OK" and "Cancel" buttons.

- **Media Server** dimensioned to support expected simultaneous recorded. One recorded extension use 5 RTP streams: two for the caller, two for answer and one for the recorder.

3 Configuring the OpenScape 4000 communication platform

This chapter describes how to configure the following communication platforms to communicate with the OpenScape Contact Center system:

- OpenScape 4000 V8 and higher

IMPORTANT: Only properly trained personnel should configure the communication platform. Attempts to configure the communication platform by personnel who are not properly trained might adversely affect the operation of the OpenScape Contact Center system.

NOTE: When you log on to the CSTA Web interface, you must specify a user name and password. The default user name is **Admin** and the default password is **Admin**.

The examples provided in this chapter are designed to guide you through simple OpenScape Contact Center routing workflows, including backup routing. If you choose to configure more complex workflows or backup routing strategies, follow the examples provided in this chapter and then configure additional values. For more information, contact your service representative.

NOTE: The Connectivity Adapter software is installed on the communication platform. If you are upgrading from a HiPath 4000 V4, V5 or V6 communication platform, you must uninstall the Connectivity Adapter software on the OpenScape Contact Center main server machine, and the backup server machine in a high availability (warm standby) environment. You might also have to reconfigure the CSTA settings in the Manager application. For details, see the *Manager Help*.

NOTE: In a multitenant environment, communication platform resources must be assigned to a specific business unit. The only exceptions are Call Director extensions, IVR extensions, and IVR Route Control Groups, which are shared across all business units. For more information on the multitenancy feature, see the *Manager Administration Guide* or *Manager Help*.

After you have completed the configuration tasks in this chapter, continue your implementation by following the guidelines in the *Installation Guide*.

NOTE: Call Recording feature supports agents configured with preferred device extensions. It is recommended to always use the latest version of switch.

Restriction: No recording is possible in case of SIP(UFIP) – SIP(UFIP), when DMC is active.

3.1 Before you begin

Before you configure the communication platform, you must ensure that:

- The communication platform is operational and fully functional. Test the communication platform to ensure that it can make and receive external calls.
- You have administrative access to the communication platform.
- You have obtained the UNIX IP address.
- The communication platform is running the correct patch for the software level. For more information, contact your service representative.
- The server on which you intend to install the OpenScape Contact Center software is connected to the customer LAN. For guidelines, see [Section 3.2, "Network configuration", on page 39](#).

NOTE: When the system is connected to an OpenScape 4000 communication platform, the Config Sync feature is not supported.

3.2 Network configuration

This section describes how the OpenScape Contact Center system and the communication platform communicate.

NOTE: The communication platform can also be used in an OpenScape Contact Center high availability (warm standby) environment. For details, see [Section 3.6, "Configuring a high](#)

Configuring the OpenScape 4000 communication platform

Understanding the basic configuration

availability (warm standby) environment”, on page 55.

The following diagram illustrates how the communication platform communicates with the OpenScape Contact Center system.

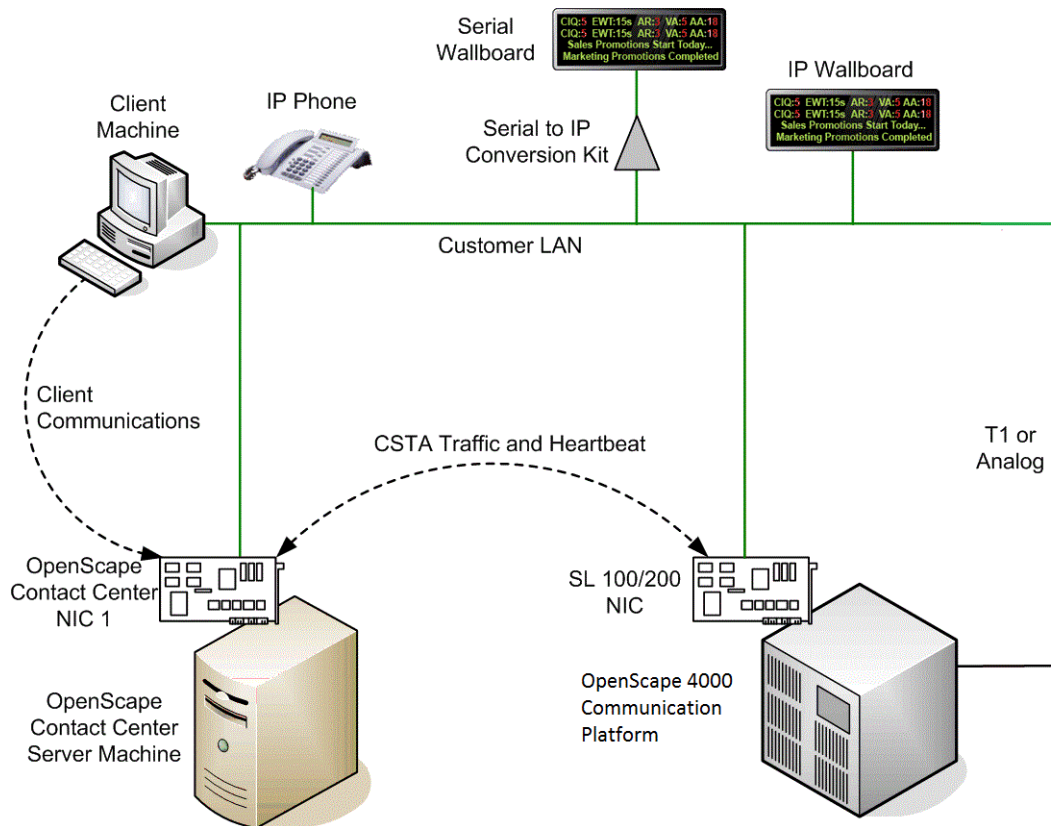


Figure 2 Network configuration

NOTE: If the communication platform is operating in duplex mode and the node that is in active mode fails, all queued calls will be lost.

3.3 Understanding the basic configuration

This section describes some concepts related to the basic configuration.

3.3.1 ACD configuration

The following flow provides a sample ACD configuration for the communication platform. The numbers in parentheses are the default numbers created by OpenScape Contact Center.

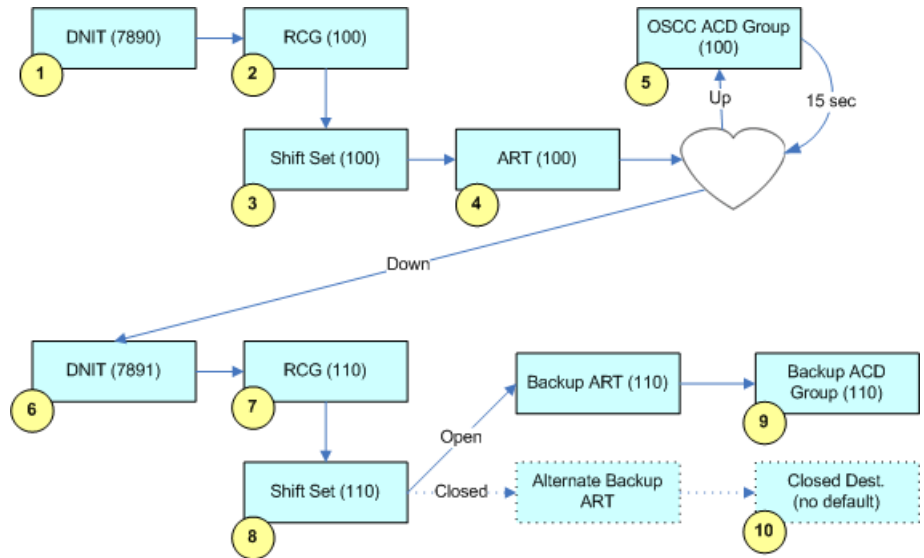


Figure 3 ACD setup flow

The ACD setup flow shown in Figure 3 is:

1. A call arrives on the communication platform via a dialed number, which is translated into a DNIT (Dialed Number Identification Table). A DNIT is a pointer on the communication platform. The incoming number can be either a 1-800 number dialed directly or a number that is transferred by a front-end device such as OpenScape Xpressions.

NOTE: Multiple pilot numbers can be used for this step, all entering into this flow on the communication platform.

2. For OpenScape Contact Center, the DNIT must point to an OpenScape Contact Center Route Control Group (RCG).
3. The RCG references a shift set. The shift set schedules the call flow at various times throughout the day. Ensure that this shift set is configured appropriately for your shifts, such as a 24x7x365 operation.
4. The shift set references an ACD Routing Table (ART) on the communication platform. The ART is configured with special checks that ensure the application is operational. For more details, see [Section 3.3.2, "Heartbeat mechanism", on page 43.](#)

Configuring the OpenScape 4000 communication platform

Understanding the basic configuration

5. If the heartbeat is operational, the communication platform routes the call to the OpenScape Contact Center ACD group. This group is monitored by OpenScape Contact Center for calls. After the call arrives in this group, OpenScape Contact Center routes the call according to the workflow configured in the Manager application (for more information, see the *Manager Administration Guide*). If the call is still in the communication platform queue after 15 seconds, the communication platform will re-check the status of OpenScape Contact Center. If it is still running, the call remains in queue waiting for OpenScape Contact Center to route it.
6. If the heartbeat is not operational, the communication platform needs to route the call. In the default case, a step should be added to the end of the ART instructing the communication platform to send all calls to an alternate DNIT until communication is reestablished between the communication platform and OpenScape Contact Center.
7. The alternate DNIT points to a backup RCG.
8. The backup RCG points to a backup shift set. The backup shift set can be configured on the communication platform to reflect when the contact center is open or closed. The default is set to a 24x7x365 contact center. For more information, see [Section 3.4.3, "Configuring backup routing", on page 46](#).
9. If the contact center is open, the calls are then routed to the backup ART. The backup ART will have the communication platform route all calls to the backup ACD group. This group is where all of the users are configured on the communication platform. Note that there is no intelligent routing within this group on the communication platform.
10. If you configure the shift set to reflect when the contact center is closed, calls will be routed to the destination in the alternate backup ART. Suggestions for the destination include voice mail or an operator.

NOTE: In a multitenant environment, if the communication platform RNA feature is configured, calls must be deflected to the correct OpenScape Contact Center Route Control Group for each business unit. For more information on the multitenancy feature, see the *Manager Administration Guide* or *Manager Help*.

3.3.2 Heartbeat mechanism

A heartbeat mechanism is used by all communication platforms to determine if OpenScape Contact Center is functioning properly. If the communication platform detects that OpenScape Contact Center is not functioning properly, the communication platform routes calls using backup routing logic configured on the communication platform.

The heartbeat mechanism uses CSTA messaging over the communication platform LAN.

The ART that contains the OpenScape Contact Center ACD group (default is 100) contains ART steps that monitor the heartbeat ACD group. The ART steps ensure that calls are being made to the heartbeat ACD group, and that the calls are disconnecting at the proper interval.

If there is a failure in communication between OpenScape Contact Center and the communication platform, then the communication platform routes the calls according to the steps defined in the example ART.

Example ART

The default steps for routing OpenScape Contact Center calls with a heartbeat check are:

```
Step 1 CHANGE-ACDRT:100,ARTSTEP,1,HEARTCND,HPPC,20,6;  
Step 2 CHANGE-ACDRT:100,ARTSTEP,2,RTGRP,100;  
Step 3 CHANGE-ACDRT:100,ARTSTEP,3,WTSEC,15;  
Step 4 CHANGE-ACDRT:100,ARTSTEP,4,HEARTCND,HPPC,20,6;  
Step 5 CHANGE-ACDRT:100,ARTSTEP,5,GOSTEP,3;  
Step 6 CHANGE-ACDRT:100,ARTSTEP,6,RTEXT,7891;
```

Note that **100** is the default ACD group for OpenScape Contact Center that is created by the macro file and **7891** is the default DNIT number that references the backup strategy for the customer.

In the above example, the communication platform will wait 20 seconds for OpenScape Contact Center to send a CSTA message via the communication platform LAN. If that message is received, then the communication platform enqueues the call to the OpenScape Contact Center ACD group. If the call has not been routed to a user after 15 seconds, the communication platform re-checks the heartbeat. Steps 3 and 4 are repeated until the call is routed to a user. If for any reason the heartbeat fails, the communication platform proceeds to step 6 (and any subsequent steps, as desired) that list the backup strategy.

3.4 Configuring the communication platform

This section describes how to configure the communication platform to communicate with the OpenScape Contact Center system.

3.4.1 Loading the CSTA settings

OpenScape Contact Center and the communication platform communicate through CSTA. The communication platform notifies OpenScape Contact Center of calls that require routing, and then OpenScape Contact Center instructs the communication platform how to route the calls. The default CSTA settings are shown below.

NOTE: If you are connecting more than one OpenScape Contact Center main server machine to a single communication platform, the CSTA settings (such as the application number) configured in the communication platform and in the Connectivity Adapter software must be unique for each OpenScape Contact Center server machine. When the system is configured for high availability (warm standby), this requirement also applies to the primary and backup server machines.

CSTA settings

```
ADD-CPTP:DPCON, 55, "PROCID5", "192.0.2.25";
ADD-CPTP:APPL, 55, "ACM55", "PROCID5", "APPL55", YES, 102, 102, "ACM55", "APPL55";
ADD-ACMSM:, 55, ACLAPPL, "APPL55", "ACM55", "PROCID5", CB, "CSTAGW", Y, 1020, 1020;
ADD-XAPPL: 55, "APPL55", "APPLICATION_55", , Y;
CHANGE-XAPPL:SUBAPPL, 55, D25, ACCOUNT&AGASSIGN&AGENT&ABANDON&QUEUED, ;
CHANGE-XAPPL:SUBAPPL, 55, D25, REDIRECT&LOGON&RCGDISC&RCGSEL&DIGDIALD, ;
CHANGE-XAPPL:MONCB, 55, D25, RCG, ;
EXE-UPDAT:BP, ALL;
EXE-UPDAT:A1, ALL;
```

3.4.2 Loading the ACD settings

OpenScape Contact Center is designed to work with the default settings shown below.

NOTE: If you are connecting more than one OpenScape Contact Center main server machine to a single communication platform, the application name (default HPPC) and resources (extensions, ACD groups, and so on) must be unique for each OpenScape Contact Center server machine. Also, the application name must match the heartbeat application name configured in the Manager application.

ACD settings

```
CHA-SDAT:<Supervisor Extension>,ATTRIBUT,AGENT&SUPER;
ADD-ACDGP:100,NORMAL,FIFO,<Supervisor
Extension>,YES,YES,5,20,30;
/* HPPC's basic ACD group
ADD-ACDGP:110,NORMAL,FIFO,<Supervisor
Extension>,YES,YES,5,20,30;
/* fallback ACD group
ADD-WABE:7890,,,STN;
ADD-WABE:7891,,,STN;
ADD-WABE:7895,,,RCG;
ADD-WABE:7896,,,RCG;
CHA-ACDS:CAFRCG,100,7895;
CHA-ACDS:CAFRCG,110,7896;
ADD-ACDRT:100,6;
CHANGE-ACDRT:100,ARTSTEP,1,HEARTCND,HPPC,20,6;
CHANGE-ACDRT:100,ARTSTEP,2,RTGRP,100;
CHANGE-ACDRT:100,ARTSTEP,3,WTSEC,15;
CHANGE-ACDRT:100,ARTSTEP,4,HEARTCND,HPPC,20,6;
CHANGE-ACDRT:100,ARTSTEP,5,GOSTEP,3;
CHANGE-ACDRT:100,ARTSTEP,6,RTEXT,7891;
ADD-ACDRT:110,3;
CHANGE-ACDRT:110,ARTSTEP,1,RTGRP,110;
ADD-ACDRS:DS,100,23-59,100,NO,100;
ADD-ACDRS:DS,110,23-59,110,NO,110;
ADD-ACDRS:RS,100,10,10,10,10,10,10,10;
ADD-ACDRS:RS,110,11,11,11,11,11,11,11;
ADD-DNIT:DNI,7890,DRTD,0,"HPPC MAIN",YES,100;
ADD-DNIT:DNI,7891,DRTD,0,"HPPC BACKUP",YES,110;
EX-UPDAT:BP,ALL;
```

3.4.3 Configuring backup routing

If OpenScape Contact Center is not functioning properly, it is imperative that calls continue to be answered by users. Users can continue to answer calls through backup routing.

The core backup routing concept of OpenScape Contact Center is that if OpenScape Contact Center becomes unavailable, the communication platform becomes responsible for routing the calls to available users who are logged on to the communication platform until OpenScape Contact Center is restored.

As shown in [Section 3.3.1, "ACD configuration", on page 41](#), there is an option to define backup routing so that if OpenScape Contact Center is unavailable, calls will be routed to a predefined destination rather than the contact center where there are no users logged on.

NOTE: In a multitenant environment, each business unit must be assigned its own backup routing ACD group. Ensure that the communication platform is configured such that the calls for each business unit are routed to the corresponding backup routing ACD group.

3.4.3.1 Sample business environment

The following dialogue represents a sample business environment. The "question and answer" format reflects typical questions asked during a design interview:

Question: What hours and days does the contact center have users logged on and active?

Answer: Our contact center has three departments: sales, support, and billing. The sales and billing departments work from 9 A.M. to 5 P.M., Monday to Friday. The support department works 7 days a week from 7 A.M. to 11 P.M.

Question: Where should calls go when the contact center is closed?

Answer: Calls could go to voice mail or to a 24-hour operator. These are just two possible examples.

After you have these questions answered, you are ready to set up the workflow. For more information, see the *Manager Administration Guide*.

3.4.3.2 Modifying contact center hours

To modify contact center hours for backup routing settings on the communication platform, run the AMOs according to the example in this section.

NOTE: Before you run the AMOs, ensure that ComWin is connected to the communication platform and that you are logged on. For more information, see the communication platform documentation.

To modify contact center hours:

1. Set up shift numbers on the communication platform (for each day there are different hours). As an example, run the AMO:

```
ADD-ACDRS:DS,100,<Shift time Start>,120,NO,120;
```

where <Shift time Start> is when the shift ends. It must be entered in the format of <HH-MM> for the 24-hour clock.

NOTE: The text `Shift time Start` refers to the actual time the shift ends. The AMO parameter, however, is called `shift end`. The shift runs from midnight until the shift time starts. The assumption is that the contact center is closed during that time, and that calls that arrive when the contact center is closed are sent to ART 120.

2. Set up when the contact center is open. As an example, run the AMO:

```
CHA-ACDRS:DS,100,<Shift time End>,110,NO;
```

where <Shift time End> is when the shift ends. It must be entered in the format of <HH-MM> for the 24-hour clock.

This shift runs from <shift time start> to <shift time end>. Calls are sent to ART 110 for backup routing purposes when the contact center opens. It contains a step that routes calls to the agent ACD group on the communication platform.

3. Close off the shift. As an example, run the AMO:

```
CHA-ACDRS:DS,100,23-59,120,YES;
```

This shift runs from <shift time end> until the end of the day.

4. Modify the shift set. As an example, run the AMO:

```
CHA-ACDRS:RS,110
```

Configuring the OpenScape 4000 communication platform

Configuring the communication platform

5. After running the above AMO, you are prompted to enter the following:

Sun = <Enter in Shift number created for Sunday's hours>

Mon = <Enter in Shift number created for Monday's hours>, etc.

6. After you have entered the appropriate days, set up the after-hours destination in the alternate backup ART. For example, run the AMO:

```
CHA-ACDRT:120,ARTSTEP,1,RTEXT,<After hours destination number>;
```

where <After hours destination number> is a number that matches the after-hours destination in the OpenScape Contact Center design.

3.4.3.3 Example AMOs for a contact center for a shift day

An example of a shift day for a contact center open from 7 A.M. until 6 P.M. is:

Step 1 `ADD-ACDRS:DS,120,07-00 120,NO,120;`

Step 2 `CHA-ACDRS:DS,120,18-00,110,NO;`

Step 3 `CHA-ACDRS:DS,120,23-59,120,YES;`

where:

- **Step 1** defines that the contact center is closed from midnight until 7 A.M. Calls are sent to ART 120 which references the after hours destination.
- **Step 2** defines that the contact center is open until at 6 P.M. From 7 A.M. until 6 P.M., calls are sent to ART 110, which sends callers to the agent ACD group.
- **Step 3** defines that the day is closed at 11:59 P.M. Calls are sent to ART 120.

If you have different hours on different days (for example, on weekends), you will need to create different shifts for those days. To do this, run the three AMOs above again, but increase the number 120 to 130, then 140, and so on, for each day where there are different hours.

3.4.4 Configuring additional dialable numbers

In the OpenScape Contact Center system, any DNIT that points to a monitored Route Control Group (RCG) can be used as an IVR transit number, a network transit number, or a requeue target. The numbers that are used to create these targets should be created to work within the dialing plan.

NOTE: Before you run the AMOs, ensure that ComWin is connected to the communication platform and that you are logged on. For more information, see the communication platform documentation.

To configure additional dialable numbers and requeue targets:

1. Run the following AMO:

```
ADD-DNIT:DNI,<DIALABLE NUMBER>,DRTD,0,<DESCRIPTION>,YES,100;
```

where:

- <DIALABLE NUMBER> is a dialable number in the dial plan.
 - <DESCRIPTION> is a description of the dialable number.
 - 100 is the default OpenScape Contact Center RCG number that is created by the macro file.
2. Repeat step 1 for every dialable number or requeue target that you want to create.

3.4.5 Configuring extensions

This section describes how to configure user extensions and Call Director extensions. You can configure user extensions, Call Director extensions, or both, depending on your configuration.

3.4.5.1 Configuring user extensions

If you are configuring user extensions, ensure that the telephone is set up properly by running the AMOs specified in this section.

NOTE: Before you run the AMOs, ensure that ComWin is connected to the communication platform and that you are logged on. For more information, see the communication platform documentation.

NOTE: Ensure that call forwarding unconditional (or all calls) and call forwarding on busy are not enabled on the user telephones.

NOTE: If the user's telephone has been configured to display the Contacts Waiting Indicator, and the user is not logged on to the Client Desktop application, the Contacts Waiting lamp indicator on the telephone will notify the user when there are contacts waiting in the queue. The Contacts Waiting lamp indicator on the telephone is turned off when the user is logged on to the Client Desktop application.

To configure user extensions:

1. Run the AMO TAPRO to set the following buttons on the telephone:
 - ACD Logon/Logoff
 - ACD Available
 - ACD Unavailable
 - Work

NOTE: If the user is not configured to use the Client Desktop application, and the user is in Post-processing handling state, the Work button on the telephone will be activated regardless of the

user's routing state. In this case, to exit Post-processing handling state, the user can press one of the other buttons on the telephone, such as Available.

2. Run the AMO SDAT to ensure that the extensions have the attribute AGENT assigned to them.
3. Run the AMO SBCSU to configure the presentation indicator. The presentation indicator is normally configured as unrestricted (SSTNO=NO). However, if the Calling Line Identification Restriction (CLIR) setting on the user's extension is configured as "presentation restricted", you must configure the presentation indicator as restricted (SSTNO=YES). In this case, you must add some parameters to each instance of the CA4000.cfg file where the Connectivity Adapter software has been installed. You have two choices:

- You can set the restricted value to private data, in which case you must add the following parameters:

`PRESENTATION_RESTRICTED=private data`

`ALLOW_ALL_PRIVATE_DATA=True`

- You can set the restricted value to special, in which case you must add the following parameters:

`PRESENTATION_RESTRICTED=special`

`PRESENTATION_RESTRICTED_SPECIAL_VALUE=<special value>`

Where <special value> specifies the value that you want to display in the OpenScape Contact Center system instead of the caller's telephone number. The specified value can contain alphanumeric characters, but no spaces. If <special value> is not specified, the default value 9999 will be used. As a result, you should not configure any devices on the communication platform with an ID of 9999.

3.4.5.2 Configuring SIP extensions for Call Director

When you plan to use the Call Director feature to enable interactive messages for callers, you must configure the Call Director extensions. A license is required to use the Call Director feature.

IMPORTANT: Do not configure Call Director extensions as agent auto logon because it might cause Call Director to fail

NOTE: Configure the Call Director extensions (if the Config Sync feature is not enabled) and the voice processor in the Manager application. For details, see the Manager Help

NOTE: When the system is configured for high availability (warm standby), redundant voice processors are required. Therefore, you must configure the backup voice processor and a second set of Call Director extensions separately on the backup server machine. For details, see the document *OpenScape Contact Center Enterprise V10 Manager Administration Guide*

When using an OpenScape Contact Media Service voice processor, you must configure the SIP extensions for OpenScape Contact Media Service on the communication platform. For more information on the OpenScape Contact Media Service, see chapter **Configuring the OpenScape Contact Media Service** in *OpenScape Contact Center Enterprise V10, OpenScape Contact Media Service*.

The OpenScape Contact Media Service must be connected to an STM12, STM14 or STMIX board or a SoftGate that has been configured to support SIP extensions.

NOTE: Before you run the AMOs, ensure that ComWin is connected to the communication platform and that you are logged in. For more information, see your communication platform's documentation

To configure SIP extensions for Call Director (For example, using OpenScape 4000 V8 and STMIX board) follow the steps below:

1. Add an STMIX board to the communication platform. For example, run the AMO:

```
ADD-BFDAT:FCTBLK=<BFDAT #>,FUNCTION=SIP,BRDBCHL=BCHL120;
```

Configuring the OpenScape 4000 communication platform

Configuring the communication platform

```
CHANGE-BFDAT:CONFIG=CONT,FCTBLK==<BFDAT #>,FUNCTION=SIP,
LINECNT=240,BCHLCNT=120;

CHANGE-BFDAT:CONFIG=OK,FCTBLK=<BFDAT #>,ANSW=YES;

ADD-BCSU:MTYPE=IPGW,LTG=1,LTU=<LTU>,SLOT=<SLOT>,
PARTNO="Q2343-X",FCTID=1,LWVAR="0",FCTBLK=<BFDAT #>,
BCHLSIP=120,ALARMNO=0,IPMODE=IPV4,DHCPV4=NO,
DHCPV6=NO;

ADD-
CGWB:LTU=<LTU>,SLOT=<SLOT>,SMODE=NORMAL,IPADR=<IP_Addres
s>,NETMASK=<Netmask>,DEFRT=<Gateway_IP_Address>;

CHANGE-CGWB:MTYPE=CGW,LTU=<LTU>,SLOT=<SLOT>,
TYPE=DMCDATA,DMCCONN=10;CHANGE-CGWB:MTYPE=CGW,
LTU=<LTU>,SLOT=<SLOT>,TYPE=SIPTRERH,GWAUTREQ=NO;

CHANGE-CGWB:MTYPE=CGW,LTU=<LTU>,SLOT=<SLOT>,
TYPE=SIPTRSSA,SIPREG=NO;

RESTART-BSSU:ADDRTYPE=PEN,LTG=1,LTU=<LTU>,
SLOT=<SLOT>;
```

NOTE: If you intend to connect the OpenScape Contact Media Service voice processor to a SoftGate using a vSTMI (vHG3550), you must specify ATTR=SOCO in ADD-BFDAT and the part number of the vSTMI in ADD-BCSU (Q2330-X).

```
ADD-BFDAT:FCTBLK=<BFDAT
#>,FUNCTION=SIP,BRDBCHL=BCHL120,ATTR=SOCO;
```

2. Add a SIP extension for each OpenScape Contact Media Service port that you want to connect to Call Director. For example, run the AMO:

```
ADD-WABE:CD=<Station Number or range>,DAR=STN;

ADD-SBCSU:STNO=<Station nr. or
range>,OPT=OPTI,CONN=IP2,PEN=<PEN>,
DVCFIG=UFIP,COS1=<COS>,COS2=<COS>,LCOSV1=1,LCOSV2=1,LCOS
D1=1,LCOSD2=1,DPLN=0,ITR=0,SSTNO=N,COSX=0,SPDI=0,
DTMFCTRD=YES;
```

Configuring the OpenScape 4000 communication platform

Configuring the Connectivity Adapter software

```
CHANGE-SDAT:STNO=<Station nr. or range>, TYPE=ATTRIBUT,  
AATTR=CALLDIR&MBCHL;
```

NOTE: The attribute CALLDIR must be set in SDAT for each Call Director extension. The attribute CALLDIR indicates to OpenScape 4000 that this is a Call Director extension

NOTE: For older versions, like HiPath 4000 V6 and OpenScape 4000 V7, add the SIP extension by following the example below:

```
ADD-SBCSU:STNO=<Station #>,OPT=FPP,CONN=SIP,PEN=<PEN>,  
DVCFIG=SOPP ,DPLN=0, ITR=0, SSTNO=N, COSX=0, SPDI=0,  
PROT=SBDSS1*, PERMACT=Y, INS=Y, OPTIDX=10*, PASSWD="",  
USERID="", SECZONE="", DTMFCTRD=YES, DTMFBLK=NO;
```

```
CHANGE-SDAT:STNO=<Station  
#>,TYPE=ATTRIBUT,AATTR=CALLDIR&MBCHL
```

*Verify that SBDSS1 was loaded with DISPLAY-
ZAND:TYPE=OPTTBL; (IDX=10)

3.5 Configuring the Connectivity Adapter software

You must configure the Connectivity Adapter settings that are required by the OpenScape Contact Center system on the communication platform and on the standby Access Point Emergency unit, if it is being used in a high availability (warm standby) environment.

To configure the Connectivity Adapter settings:

1. Open the CA4000.cfg file using a text editor.
2. Edit the following parameters:
 - ALLOW_RELATEDCLD=1
 - CALLID_MAX_AGE=14400
 - CSTA3_DELAY_DEFLECT_CALL_RESP=1
 - CSTA3_DELAY_DEVICE_DEFLECT_CALL_RESP=1
 - CSTA3_DELAY_SST_CALL_RESP=1
 - STORE_SST_DEST=1

If the ZAND/ACD parameter SUPAGTNU is set to yes, the following parameters must be added:

PRESENTATION_RESTRICTED=private data

ALLOW_ALL_PRIVATE_DATA=True

3. Save and close the file.
4. Restart the Connectivity Adapter service.

3.6 Configuring a high availability (warm standby) environment

When the system is connected to an OpenScape 4000 communication platform, the OpenScape Contact Center system can be configured for high availability (warm standby). For more information on how to configure the system for high availability (warm standby) and a list of system requirements, see the *Installation Guide*.

If the communication platform is using a standby Access Point Emergency unit in a high availability (warm standby) environment, see [Section 3.7, "Using a standby Access Point Emergency unit", on page 57](#).

NOTE: If the communication platform supports the payload survivability feature, the feature is also supported in these configurations.

Configuring the OpenScape 4000 communication platform

Configuring a high availability (warm standby) environment

3.6.1 High availability (warm standby) configuration

The following diagram illustrates the configuration of the communication platform in a high availability (warm standby) environment.

In this environment, you must ensure that the CSTA settings (such as the application number) configured in the communication platform and in the Connectivity Adapter software are unique for the primary and backup server machines. For details, see [Section 3.4.1, "Loading the CSTA settings", on page 44.](#)

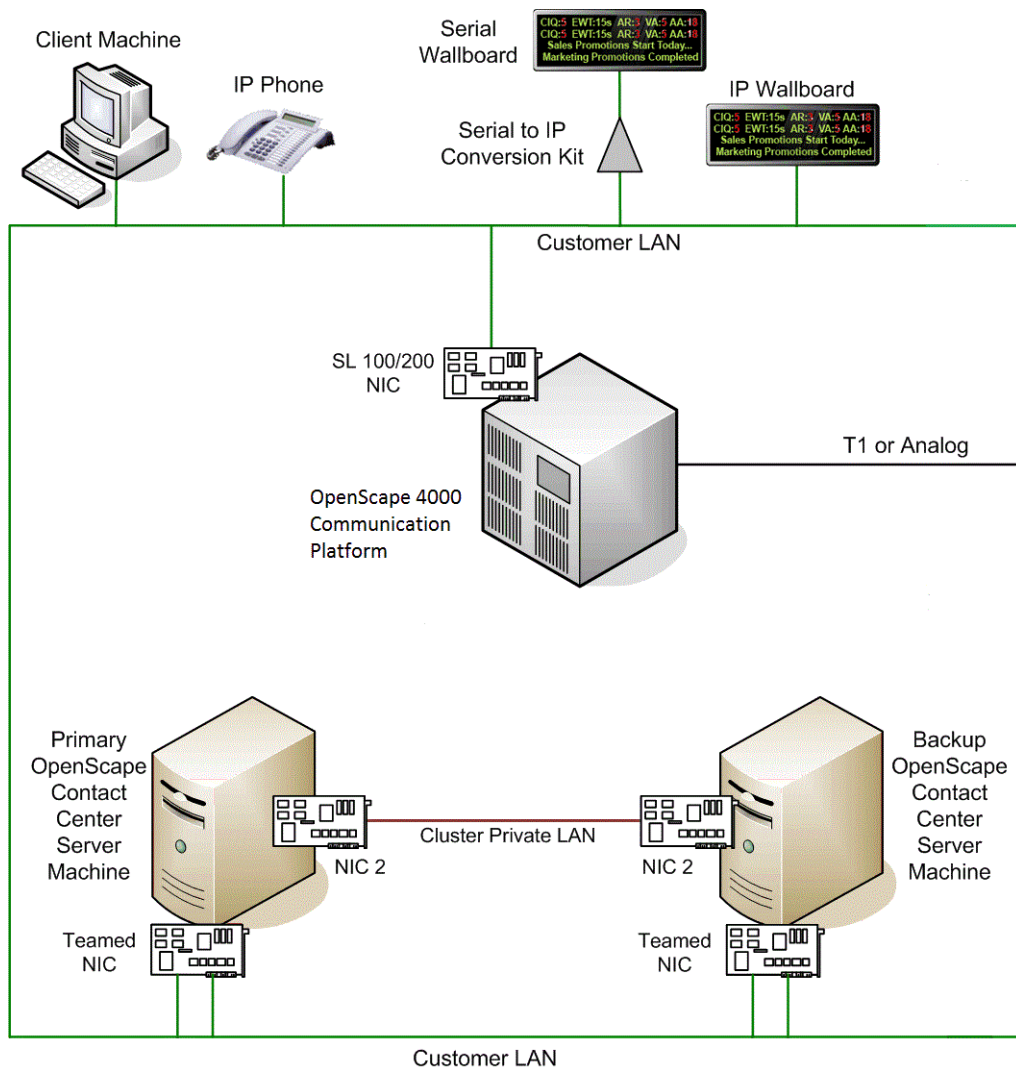


Figure 4

High availability (warm standby) configuration

3.7 Using a standby Access Point Emergency unit

This section describes how to configure a high availability (warm standby) environment when the communication platform is using a standby Access Point Emergency unit. The configuration depends on the version of the communication platform.

NOTE: A Microsoft server cluster requires that all nodes in the cluster belong to the same subnet. Therefore, if the primary and backup server machines are configured on different networks (such as when you are deploying a geographically separated configuration), the different networks must be deployed as a single subnet. One way to meet this requirement is using virtual LAN (VLAN) technology. For more information, refer to *Microsoft Knowledge Base Article 280743* which discusses Windows clustering and geographically separated sites. Other approaches (such as VPN) are also possible. In any case, the maximum round-trip latency between server machines should be no more than 500 milliseconds.

In the event that the communication platform fails over to the Access Point Emergency unit:

- All connected and queued calls on the communication platform main unit are lost.
- All users logged on to the communication platform main unit are logged off voice and callback. However, they are still able to handle e-mail and Web collaboration contacts.
- All users whose extensions are configured on the Access Point Emergency unit are automatically logged on to voice and callback.
- Config Sync operations are not supported.

NOTE: When the system is connected to an OpenScape 4000 communication platform, the Config Sync feature is not supported.

When the communication platform becomes operational and OpenScape Contact Center reconnects to the communication platform main unit:

- All connected and queued calls on the Access Point Emergency unit are lost.
- All users logged on to the Access Point Emergency unit are logged off.

Configuring the OpenScape 4000 communication platform

Using a standby Access Point Emergency unit

- All users on the communication platform main unit have to log on manually to voice and callback. They must check the state of their hard telephone periodically to determine when they are able to log back on.

3.7.1 Using a standby Access Point Emergency unit

When the communication platform is using a standby Access Point Emergency unit in a high availability (warm standby) environment, the configuration is as shown in [Figure 5](#). In this configuration, the Access Point Emergency software is installed on the proprietary IP Distributed Architecture (IPDA) hardware.

In addition to the configuration shown in the diagram, the following configurations are also supported:

- SoftGate V6 – The Access Point Emergency software and the SoftGate software are installed on a standard server machine, rather than the proprietary IPDA hardware.
- HiPath Access 500 – This all-in-one unit (with built-in SoftGate software and media gateway functionality) acts as a standby Access Point Emergency unit.

You must enable two ports on the communication platform and two ports on the standby Access Point Emergency unit. In each case, one port is for connection to the primary server machine and one port is for connection to the backup server machine. The host names and port numbers are specified during installation and can also be configured in the Manager application.

In this configuration, several failover scenarios are possible, including:

- If the primary server machine cannot communicate with the main unit, it will first try to communicate with the standby Access Point Emergency unit.
- If the primary server machine cannot communicate with the main unit or the standby Access Point Emergency unit, it will fail over to the backup server machine.
- If the backup server machine cannot communicate with the main unit, it will try to communicate with the standby Access Point Emergency unit.

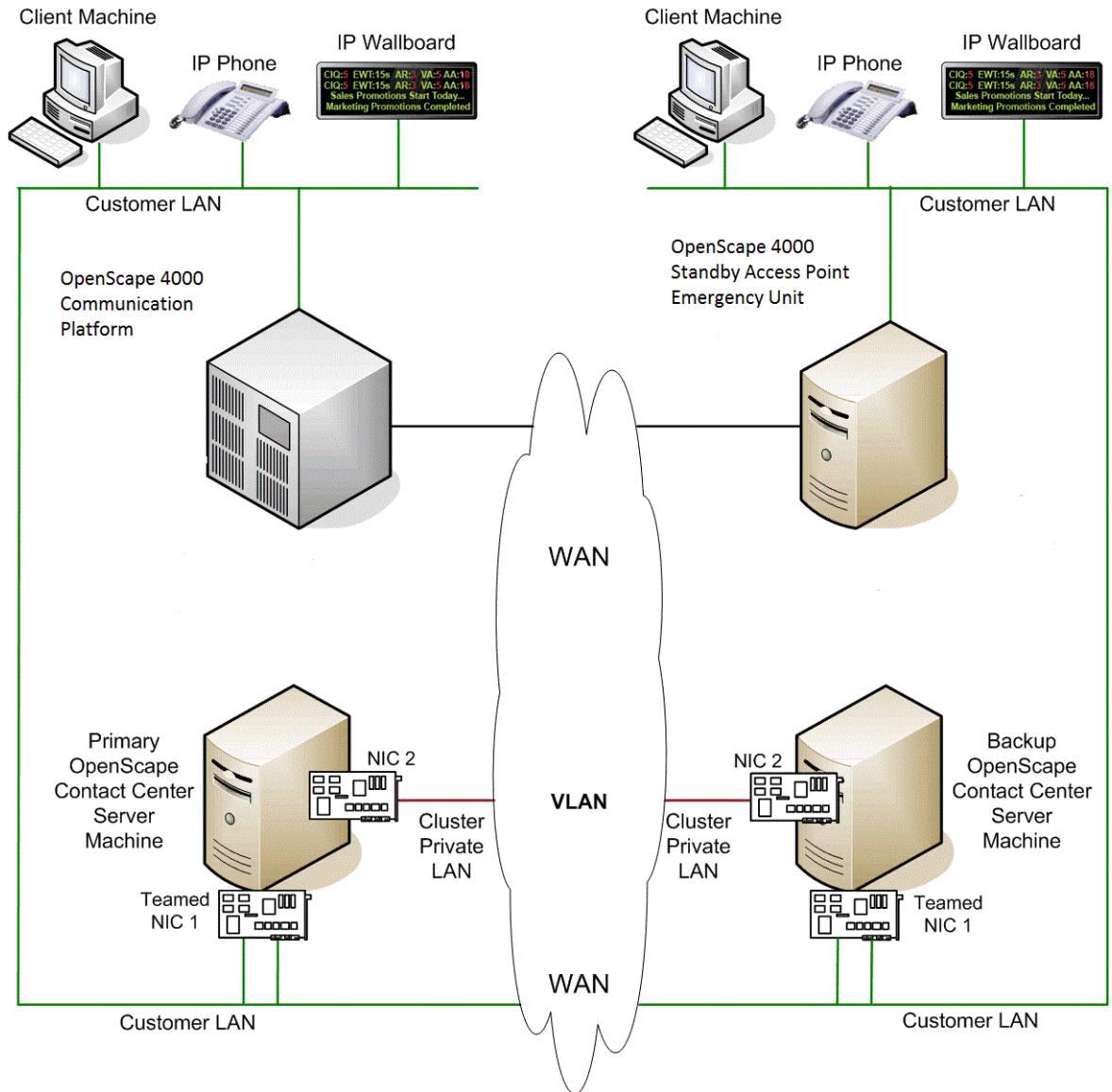


Figure 5 High availability (warm standby) configuration with standby Access Point Emergency unit

3.8 Recording requirements

OS4K requirements: STMI board configured with the required number of UFIP subscribers.

Comments:

Configuring the OpenScape 4000 communication platform

Recording requirements

- Each recording channel in the recording system uses two UFIP participants.
- The CMS needs the all UFIP extensions to be created on the same STMI board.
- ACD and Silent monitoring enable in the PBX the following:

CHANGE-ZAND:TYPE=ACD,ACDALLOW=YES,MONTONE=YES;

SET-ZAND:MONSLNT=YES

ACD pilot used by CMS to recorder calls. This example will use the pilot number 999900 and RCG number 100:

ADD-WABE:CD=999900,DAR=STN,CHECK=N;

ADD-WABE:CD=999941,DAR=RCG,CHECK=N

CHANGE-ACDSD: CAFRCG,100,999941;

ADD-ACDRT:ART=100,MAXSTEP=5;

CHANGE-ACDRT:ART=100,TYPE=ARTSTEP,STEP=1,ACT=SKIP;

CHANGE-ACDRT:ART=100,TYPE=ARTSTEP,STEP=2,ACT=SKIP;

CHANGE-ACDRT:ART=100,TYPE=ARTSTEP,STEP=3,ACT=SKIP;

CHANGE-ACDRT:ART=100,TYPE=ARTSTEP,STEP=4,ACT=SKIP;

CHANGE-ACDRT:ART=100,TYPE=ARTSTEP,STEP=5,ACT=SKIP;

ADD-ACDRS:TYPE=DS,DSNUM=100,SHIFT=23-59,ART=100,EOS=NO,ARTDEF=100;

ADD-ACDRS:TYPE=RS,RCG=100,SUN=100,MON=100,TUE=100,WED=100,THU=100,FRI=100,SAT=100;

ADD-DNIT:TBL=DNI,INTRTDN=999900,ROUTING=DRTD,SARULE=0,DISPLAY="CMS RECORDER",ACD=YES,RCG=100,PRI=64,OVRPRI=0,AUDSRCID=0,THRSGLD=*,REVCNA=FORB;

- One CSTA port is required for each CMS recorder.

NOTE: TSLs: On each physical shelf, we have 8 system highways of 2 Mbps (32 timeslots per highway). A shelf is split in two halves, 128 timeslots on the left side and 128 on the right side. A board can access only timeslots from its own half.

For softgate this split is irrelevant, all 256 timeslots can be assigned to any board in any position.

Therefore, there are:

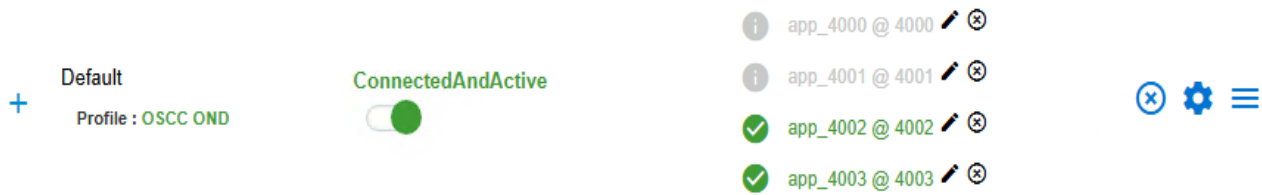
- 256 TSLs per softgate
- 128 + 128 TSLs per shelf

3.9 Preferred Device with OpenScape 4000

This configuration is required for using the Preferred Device feature with the Agent Portal Web on an OpenScape 4000:

On the OpenScape 4000 side:

- The OS4K CSTA port used to connect to the OSCC must be set to E.164 format. The Connectivity adapter should be configured as below:



On the OSCC side:

- The agent extensions must be configured in E.164 format (complete number on OpenScape 4000). Ex. +5541333415888

On the CMS side (when using Integrated Phones):

- **WebRTC Settings:** The extensions must be configured in E.164 format. Ex. +5541333415888

When using the recording feature with the E.164 format activated, don't forget the configuration below:

- **Recorder Configuration > CSTA Configuration:** The OS4k CSTA port used for the connection with the CMS must also be configured in **E.164**.

Note: The OpenScape 4000 must be at least at the version 10 in order the feature to work correctly.

Note: The configuration of the E.164 format is not necessary if the preferred device is operated directly without the use of an Agent Portal Web.

4 Configuring the OpenScape Business communication platform

This chapter describes how to configure the following communication platform to communicate with the OpenScape Contact Center system:

- OpenScape Business V2

IMPORTANT: Only properly trained personnel should configure the communication platform. Attempts to configure the communication platform by personnel who are not properly trained might adversely affect the operation of the OpenScape Contact Center system.

The examples provided in this chapter are designed to guide you through simple OpenScape Contact Center routing workflows, including backup routing. If you choose to configure more complex workflows or backup routing strategies, follow the examples provided in this chapter and then configure additional values. For more information, contact your service representative.

After you have completed the configuration tasks in this chapter, continue your implementation by following the guidelines in the *Installation Guide*.

NOTE: Only the scenarios described in [Section 4.1, “Supported network setups for OpenScape Business”](#) are supported.

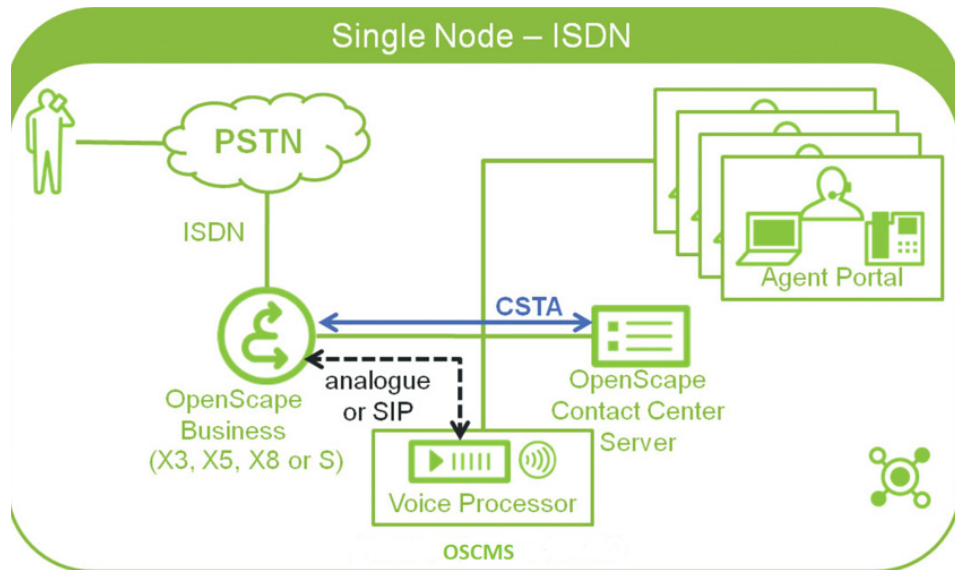
4.1 Supported network setups for OpenScape Business

Only the setups described below are released in combination with OpenScape Business.

4.1.1 Single Node ISDN

- This configuration uses a single-node deployment of the OpenScape Business, which is connected to the public telephony network via ISDN.
- OpenScape Contact Center uses a CSTA connection to OpenScape Business.

- As IVR Voice Processor for the OpenScape Contact Center Call Director an OSCMS (OpenScape Contact Media Service) can be used.
- Agents normally work with HFA IP-phones, but also TDM phones can still be used. Agents cannot use SIP or CMI phones. Agents can use analogue phones on a project specific basis.



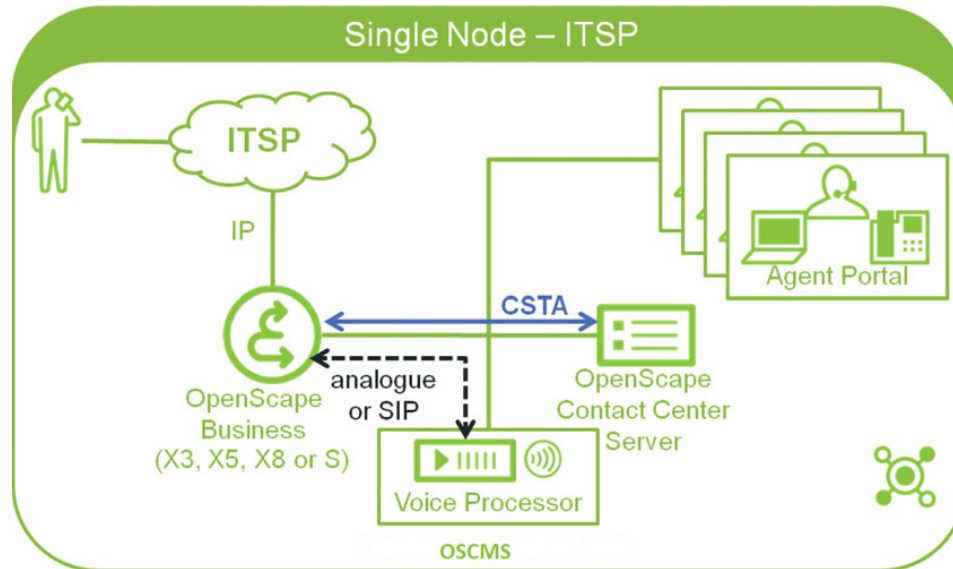
4.1.2 Single Node ITSP

- This configuration uses a single-node deployment of the OpenScape Business, which is connected to the Internet.
- OpenScape Contact Center uses a CSTA connection to OpenScape Business.
- As IVR Voice Processor for the OpenScape Contact Center Call Director an OSCMS (OpenScape Contact Media Service) can be used.

Configuring the OpenScape Business communication platform

Supported network setups for OpenScape Business

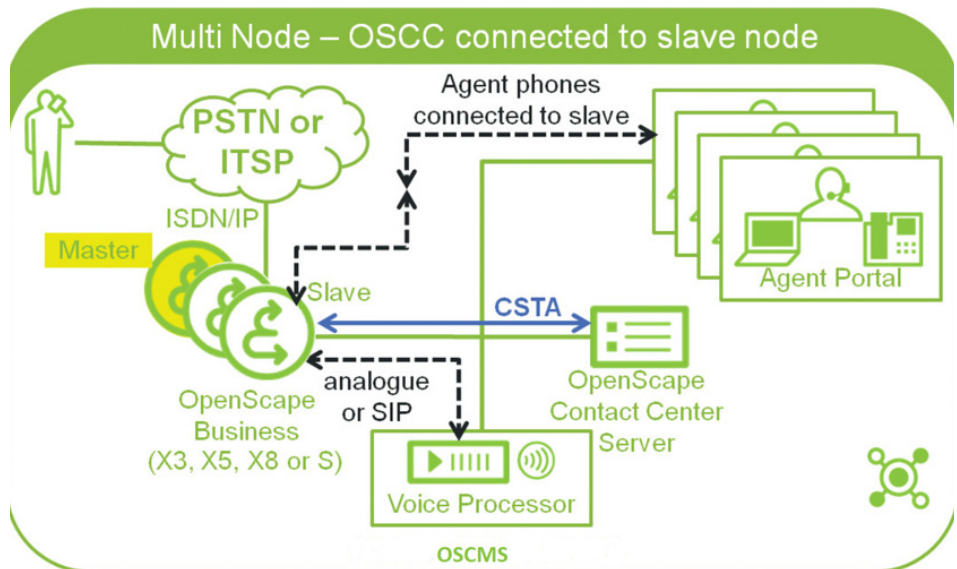
- Agents normally work with HFA IP-phones, but TDM phones can still be used. Analogue phones can be used on a project specific basis. Agents cannot use SIP or CMI phones.



4.1.3 Multinode - OSCC to Slave

- This configuration uses a multi-node deployment of the OpenScape Business, which is connected to the public telephony network via ISDN, to the Internet or uses a mixture of both connection types on one or multiple nodes.
- Internal networking between the OpenScape Business nodes is done via SIP-Q.
- OpenScape Contact Center uses a CSTA connection to a slave node of this OpenScape Business network.
- As IVR Voice Processor for the OpenScape Contact Center Call Director an OSCMS (OpenScape Contact Media Service) can be used. This Voice Processor needs to be attached to the same OpenScape Business node, that is connected to OpenScape Contact Center via CSTA.

- Agents normally work with HFA IP-phones, but also TDM phones can still be used. Agents cannot use SIP or CMI phones. Agents can use analogue phones on a project specific basis. Agent Phones need to reside in the same OpenScape Business node, that is connected to OpenScape Contact Center via CSTA.



4.1.4 Multinode - OSCC to Master

- This configuration uses a multi-node deployment of the OpenScape Business, which is connected to the public telephony network via ISDN, to the Internet or uses a mixture of both connection types on one or multiple nodes.
- Internal networking between the OpenScape Business nodes is done via SIP-Q.
- OpenScape Contact Center uses a CSTA connection to the master node of this OpenScape Business network.
- As IVR Voice Processor for the OpenScape Contact Center Call Director an OSCMS (OpenScape Contact Media Service) can be used. This Voice Processor needs to be attached to the master node of the OpenScape Business network.

Supported network setups for OpenScape Business

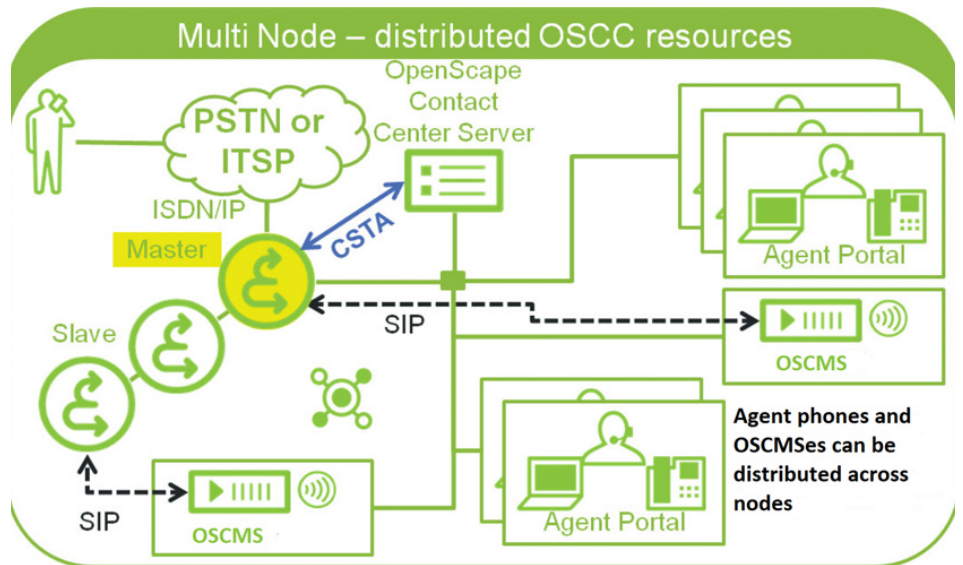
-
- The diagram illustrates a Multi Node – OSCC connected to master node architecture. It shows a central Master node (yellow circle) and multiple Slave nodes (green circles). The Master node is connected to a PSTN or ITSP cloud via ISDN/IP. The Master node is also connected to a Voice Processor (green box) via an analogue or SIP connection. The Master node is connected to an OpenScope Contact Center Server (green box) via a CSTA connection. The OpenScope Contact Center Server is connected to an Agent Portal (green box) which is connected to Agent phones connected to master. The OpenScope Contact Center Server is also connected to a Voice Processor (green box) which is connected to OSCMS (OpenScope Contact Center Management System).

- This configuration uses a multi-node deployment of the OpenScape Business, which is connected to the public telephony network via ISDN, to the Internet or uses a mixture of both connection types on one or multiple nodes.
- Internal networking between the OpenScape Business nodes is done via SIP-Q.
- OpenScape Contact Center uses a CSTA connection to the master node of this OpenScape Business network.
- As IVR Voice Processors for the OpenScape Contact Center Call Director up to 10 OSCMSes (OpenScape Contact Media Service) can be used. These Voice Processors can be distributed across the OpenScape Business network.

Configuring the OpenScape Business communication platform

Supported network setups for OpenScape Business

- Agents normally work with HFA IP-phones, but also TDM phones can still be used. Agents cannot use SIP or CMI phones. Agents can use analogue phones on a project specific basis. Agent Phones can be distributed across the OpenScape Business network.



4.2 Before you begin

Before you can configure the communication platform, you must ensure that:

- The communication platform is operational and fully functional. Test the communication platform to ensure that it can make and receive external calls.
- You have administrative access to the communication platform.
- The communication platform is running the correct patch for the software level. For more information, contact your service representative.

4.3 Network configuration

This section describes how the OpenScape Contact Center system and the communication platform communicate.

4.3.1 OpenScape Business

OpenScape Contact Center is connected to OpenScape Business via LAN using the CSTA protocol. OpenScape Business X systems provide the CSTA interface either by embedded UC Booster card (OCAB) or by external UC Booster Server. OpenScape Business S systems provide CSTA interface directly. The CSTA interface is not licensed within OpenScape Business. For more information, see the OpenScape Business documentation.

The Call Director solution uses the Call Director feature with the OpenScape Contact Media Service voice processor.

For information on how to configure the OpenScape Contact Media Service, see [Section 5.1, “Configuring the OpenScape Contact Media Service”](#).

4.4 Understanding the basic configuration

This section describes some concepts related to the basic configuration.

4.4.1 UCD configuration

This section describes the UCD (Uniform Call Distributor) configuration. [Table 1](#) identifies the flow required on the communication platform. The numbers in brackets are examples of numbers that can be used for the configuration. Each pilot number (or DNIS) must point to a specific Call Destination List (CDL).

NOTE: When setting up the UCD groups on the communication platform, each CDL created for a pilot number should contain two UCD groups: Target 1 UCD group with one virtual user (OpenScape Contact Center UCD group) and Target 2 UCD group with the users logged on (Backup UCD group).

For the pilot number receiving the most calls, assign the OpenScape Contact Center UCD group and backup targets as shown in [Table 1](#). We recommend that UCD group 60 be used as the OpenScape Contact Center UCD group, as UCD group 60 will support up to 72 calls.

DNIS Number (pilot number) (2900)	Call Destination List (CDL)	Target 1	Target 2	Target 3	Target 4
		OpenScape Contact Center UCD group (60)	Backup UCD group (59) (2910)	Voice mail	Empty

Table 1 UCD group configuration

Configuring the OpenScape Business communication platform

Understanding the basic configuration

For each additional pilot number or backup target, you must configure an additional OpenScape Contact Center UCD group, as shown in [Table 2](#).

DNIS Number (pilot number) (2901)	Second Call Destination List (CDL)	Target 1	Target 2	Target 3	Target 4
		Second OpenScape Contact Center UCD group (58)	Backup UCD group (59) ^a (2910)	Voice mail	Empty

Table 2 UCD group configuration for additional pilot numbers

^a Can be set as a separate backup UCD group for the contact center.

NOTE: Each UCD group can be used only once in the first position of a CDL. For multiple pilot numbers to the same UCD group, you must use virtual devices that get forwarded to the UCD group via the CDL.

When planning the UCD group configuration, consider the following:

- Multiple pilot numbers are supported for a single CDL/OpenScape Contact Center UCD group.
- When the UCD groups are first defined, the call number should be the same number as the UCD group you chose for the CDL number. These numbers are monitored by OpenScape Contact Center.
- For each CDL, Target 1 should be a UCD group that OpenScape Contact Center will monitor.
- Set Target 2 of the CDL to a Backup UCD group (59) where the users log in. These groups are used for backup routing. For additional information on backup routing, see [Section 4.4.3, “Heartbeat mechanism”, on page 71](#).
- Set Target 3 of the CDL to voice mail or another destination. The final target of each call destination list used by OpenScape Contact Center must contain a valid internal destination. If the final target is a voice mail server, mailboxes must be set up to process the original set of digits received by the communication platform.

4.4.2 CDL configuration

The following important guidelines must be observed when configuring a Call Destination List (CDL):

- Use virtual devices for backup routing. In a situation where OpenScape Contact Center becomes unavailable, you must set up efficient rollover to backup routing. To do this, you must set up virtual users:
 - You must add a virtual user with a user ID to each OpenScape Contact Center UCD group. This virtual user only exists so that if there is a failure on the CSTA link between OpenScape Contact Center and the communication platform, then the calls will quickly move into Target 2 of the CDL (Backup UCD group 59).
 - The virtual user must be logged on to a virtual device.
 - The virtual user must **never** receive calls — it allows the communication platform to overflow calls in a backup UCD group should OpenScape Contact Center fail.
- Set up pilot numbers correctly. For the pilot number that will receive the most calls, set the pilot number to the CDL that points to the last UCD group in the communication platform. This is UCD group 60. This UCD group has a queue depth (number of queued calls) of 72.

For each additional pilot number, set the pilot number to a different CDL that points to another UCD group (not UCD group 60). All other OpenScape Contact Center UCD groups on the communication platform should be set to have a queue depth of 30.

- Ensure that there is sufficient queue depth to handle calls returned from Call Director in queue processing scenarios.

4.4.3 Heartbeat mechanism

A heartbeat mechanism is used by the communication platform to determine if OpenScape Contact Center is functioning correctly. If the OpenScape Contact Center system is not functioning correctly, the communication platform routes calls using backup routing logic configured on the communication platform.

When OpenScape Contact Center is available, the heartbeat mechanism notifies the communication platform that it is routing calls for its monitored UCD groups on the communication platform. When the communication platform receives this notification, it does not route calls for these UCD groups.

Configuring the OpenScape Business communication platform

Configuring the communication platform

To accomplish this, a Host Control Bit (HCB) is set on the UCD group to indicate that the routing of calls will be performed by OpenScape Contact Center rather than the communication platform. If OpenScape Contact Center becomes unavailable, the Host Control Bit is turned off and the communication platform no longer receives a heartbeat notification. At this point the communication platform takes over the routing of incoming calls. Since there are no physical users logged on to the first UCD target of the CDL, calls will automatically flow to the second UCD of the CDL where physical users are logged on.

4.5 Configuring the communication platform

This section describes how to configure the communication platform to communicate with the OpenScape Contact Center system. For detailed instructions, see the OpenScape Business documentation.

4.5.1 Configuring UCD groups

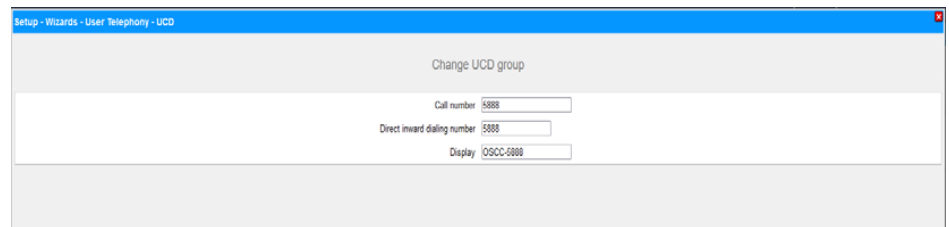
You must configure an OpenScape Contact Center UCD group for the pilot number that is expected to process the most incoming calls.

To configure UCD groups:

1. Create a Main UCD group but do NOT select any member ID (only the backup should have users).

NOTE: This group is only used to receive the calls as a pilot number.

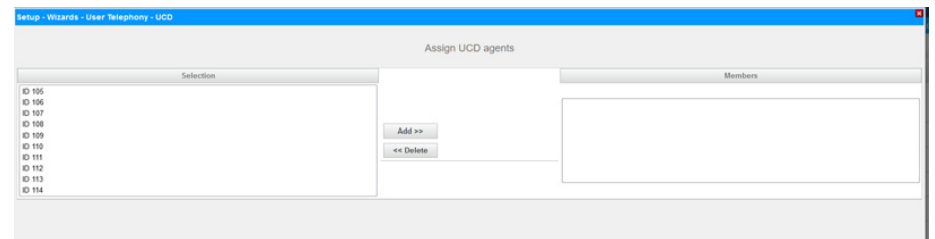
2. Configure the call number, direct inward dialing number, and name of the UCD group



The screenshot shows a window titled 'Setup - Wizards - User Telephony - UCD'. The main area is titled 'Change UCD group'. It contains three input fields: 'Call number' with the value '5888', 'Direct inward dialing number' with the value '5888', and 'Display' with the value 'OSCC.5888'.

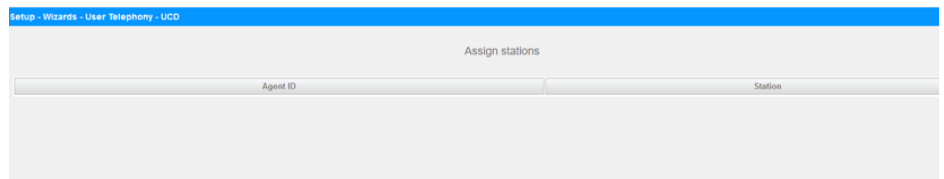
3. Assign UCD agents.

NOTE: Do not assign any member, leave it empty.



The screenshot shows a window titled 'Setup - Wizards - User Telephony - UCD'. The main area is titled 'Assign UCD agents'. It features two panes: 'Selection' on the left and 'Members' on the right. The 'Selection' pane contains a list of agent IDs: ID 105, ID 106, ID 107, ID 108, ID 109, ID 110, ID 111, ID 112, ID 113, and ID 114. Between the panes are 'Add >>' and '<< Delete' buttons. The 'Members' pane is currently empty.

4. Assign stations



The screenshot shows a window titled 'Setup - Wizards - User Telephony - UCD'. The main area is titled 'Assign stations'. It contains a table with two columns: 'Agent ID' and 'Station'. The table is currently empty.

5. Configure announcements/overflow

Setup - Wizards - User Telephony - UCD

Configure announcement/overflow

Announcement

Ann: Music On Hold

Ann. delay time

0

Waiting time between agents

5 sec

Overflow destination

No entry

4.5.2 Configuring backup UCD groups

You must configure a backup UCD group where you will assign the agents.

To configure backup UCD groups:

- 1. Locate and edit the UCD group
- 2. Configure the call number, direct inward dialing number, and name of the UCD group. For example: OSCC-BACKUP-5889

Setup - Wizards - User Telephony - UCD

Change UCD group

Call number

5889

Direct inward dialing number

5889

Display

OSCC-BACKUP-5889

- 3. Select the members used for this integration with Contact Center.

Setup - Wizards - User Telephony - UCD

Assign UCD agents

Selection

ID 105
ID 106
ID 107
ID 108
ID 109
ID 110
ID 111
ID 112
ID 113
ID 114

Add >>

<< Delete

Members

ID 428

Setup - Wizards - User Telephony - UCD

Configure announcement/overflow

Announcement

Ann: -

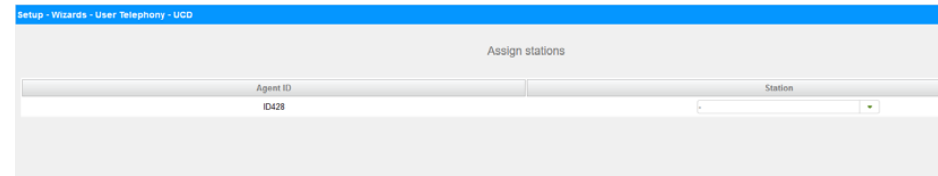
Waiting time between agents

5 sec

Overflow destination

No entry

4. Do NOT select a station (the station is defined in OSCC)

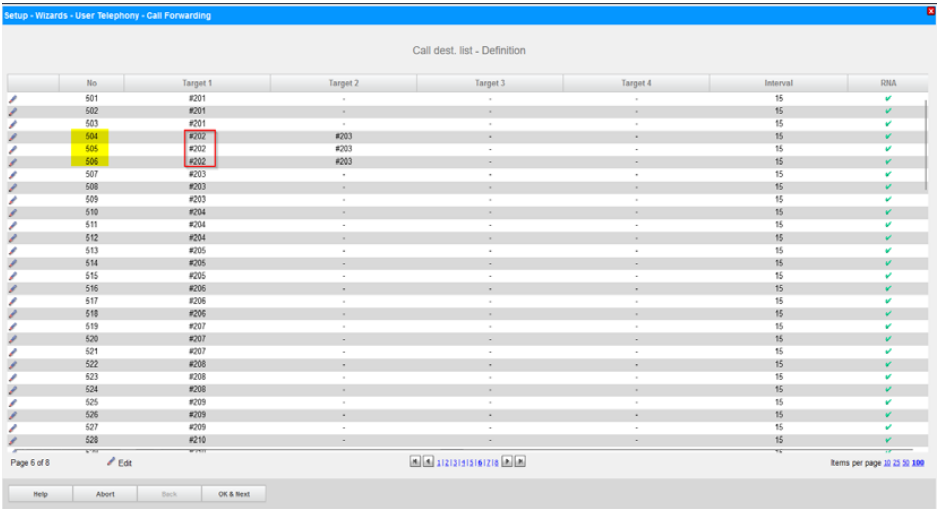


4.5.3 Configuring UCD parameters

You must configure the parameters for the UCD groups that you created.

To configure UCD parameters:

1. Locate and edit the OpenScape Contact Center UCD group and backup UCD group
2. Navigate to **Setup - Wizards - User Telephony - Call Forwarding**
 - a) For communication with OSCC the Call dest. list (CDL) Numbers from **500 to 680** should be assigned (those lists have as target the #XXX)

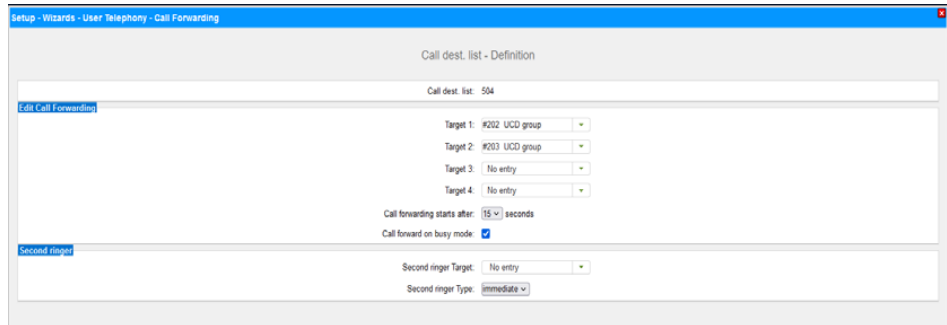


- b) They work in a pair of three number (i.e. No: 504, 505,506)

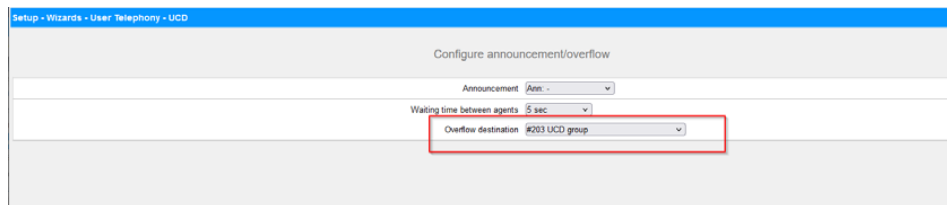
Configuring the OpenScape Business communication platform

Configuring the communication platform

- Select **504** which has Target 1 #202 and set the next Target ID as Target 2 (i.e. #203) - see image above.



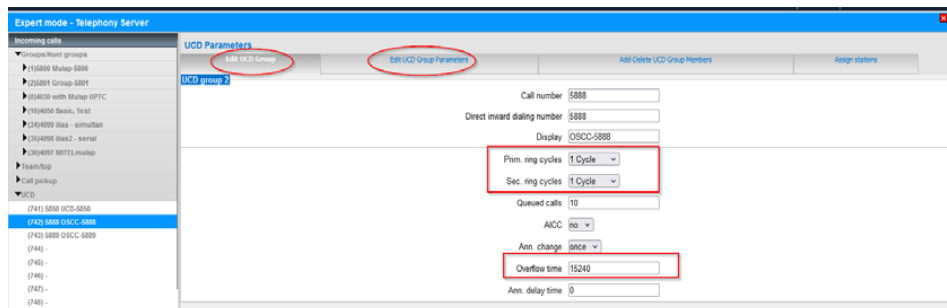
- Repeat for 505 and 506, select #203 as Target 2
- Go to **Setup - User Telephony - UCD** and select the **Primary UCD group 5888**
- Select as overflow destination the #203



4.5.4 Configuring call forwarding

You must configure call forwarding by updating the Call Destination List (CDL) for incoming calls and backup routing

1. Navigate to: **Expert mode -Telephony Server - Incoming Calls - UCD**
 - a) Select your UCD group and configure UCD parameters
 - b) Change the Overflow time to maximum 15240, so the call is not disconnected after 600 seconds = 10 minutes in the Queue
 - c) Repeat step b for backup group.

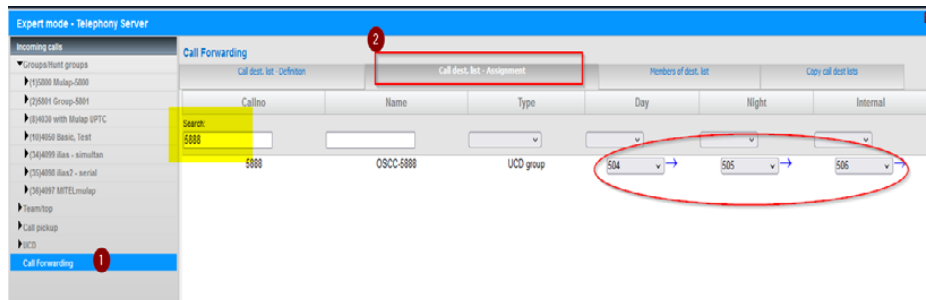


Configuring the OpenScope Business communication platform

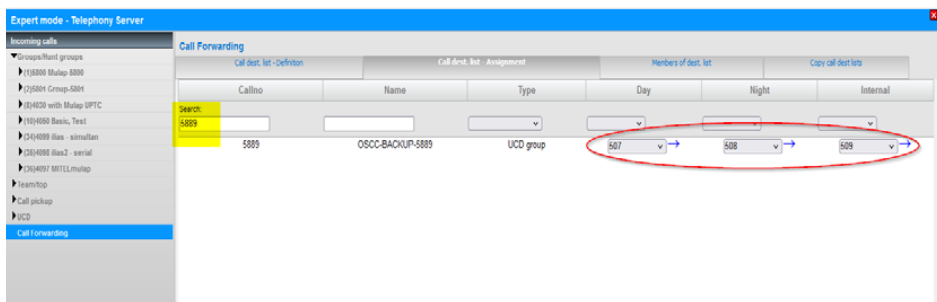
Configuring the communication platform

d) Navigate to **Call Forwarding - Call dest. list - Assignment** and find your main UCD group (5888)

e) Assign for Day: 504, Night: 505, Internal: 506

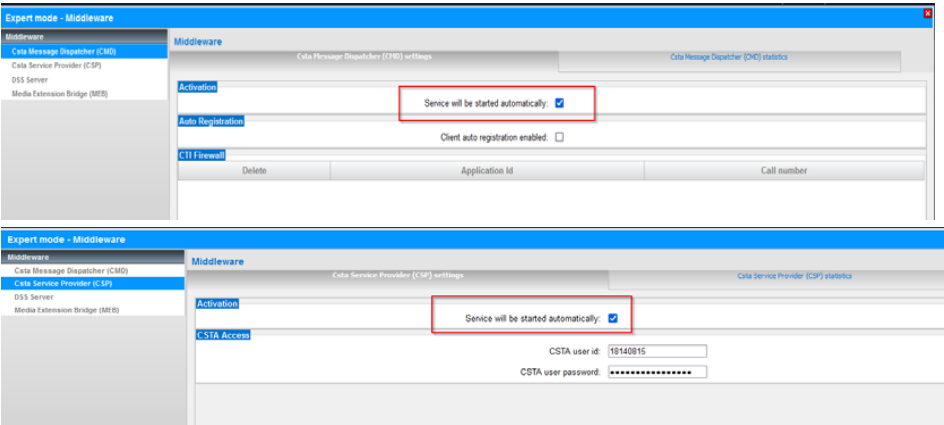


f) Select the backup UCD and set for Day, Night, Internal, the overflowed UCD selected #203 (CDL: 507,508,509).



4.5.5 Enabling CSTA applications

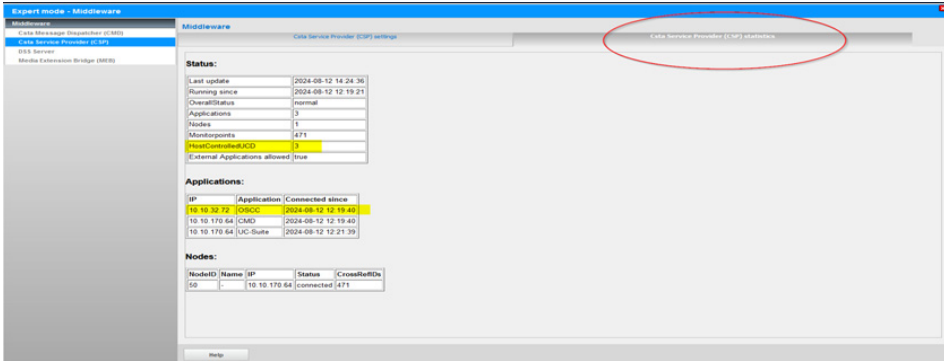
You must enable CSTA applications on the communication platform to ensure proper communication between the OpenScape Contact Center system and the communication platform.



NOTE: You can see if the OSCC is communicating with OSBiz by opening the CSTA Service Provider (CSP) Statistics. That implies that the OSCC - Tools - >Communication platform is configured properly).

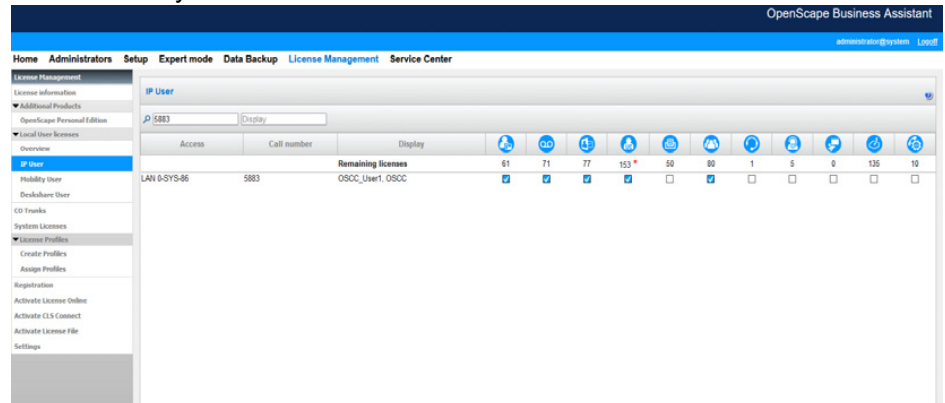
NOTE: OSCC is communicating automatically with OSBiz and can exchange information regarding the number of UCD groups are configured in OSCC.

NOTE: You should be able to see in HostControlledUCD = X the number of UCDs that OSCC controls (based on what is configured in OSCC, UCD and Backup UCD groups).



4.5.6 Additional Configurations

1. Restart OSBiz system, if the call is not received in Agent Portal.
2. Create a station for logging in the agent when using the Agent Portal (HFA 5883 device with default settings was created)
3. Assign licenses to the station created from License Manager - IP Users - search for your station



4.5.7 Configuring Contact Media Service

1. Create two new SIP Client in OSBiz with the default settings, which will be used by Contact Media Service:

NOTE: The following credentials are optional and may be selected as needed.

Configuring the OpenScape Business communication platform

Configuring the communication platform

- a) SIP User ID / Username: CMS | Realm: SMO-SIP
- b) SIP User ID / Username: CMS | Realm: SMO-SIP

Setup - Wizards - Telephones / Subscribers - IP Telephones

First Name: CMS_User2
Last Name: CMS_User2
Display: CMS_User2, CMS_U
(for Subscriber):
Call number: 5882
Direct inward dialing: 5882
(Number for Direct Inward Dialing)

Mobility

Mobile Call number:
Web Feature ID: None

Parameter

Type: SIP Client
Device Type: SIP Extension
Clip/Lin:
Extension Type: Standard
Language: English
Call signaling internal: Ring type 1
(Ringer pitch for internal calls):
Call signaling external: Ring type 1
(Ringer pitch for external calls):
ITSP Loc-ID:

Security

If Device Password has been already set, same password must be used upon Apply at edit workpoint client data to keep device registration on.

Password:
Confirm password:
SIP User ID / Username: 5882
Realm: SMO-SIP

Help Abort Back OK & Next

NOTE: Make sure that flag autom. connection, CSTA flag is enabled.

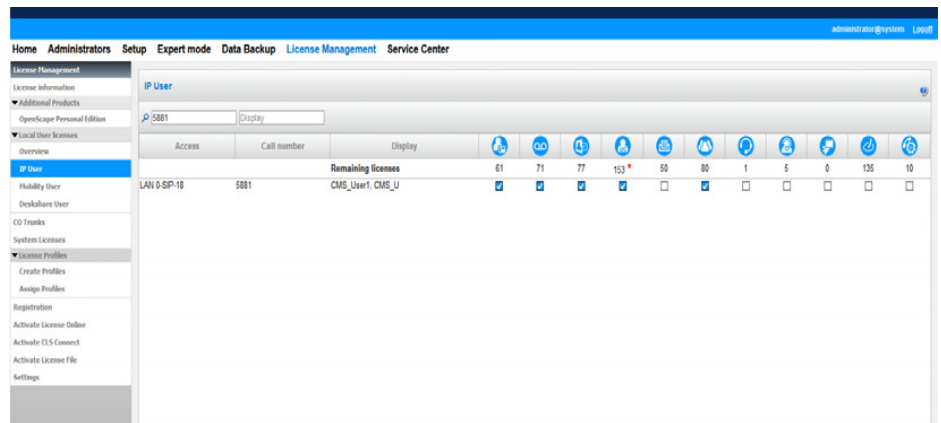
Setup - Wizards - Telephones / Subscribers - IP Telephones

Select a station -LAN Phones/WLAN Phones

☒ Take DID from changed call number

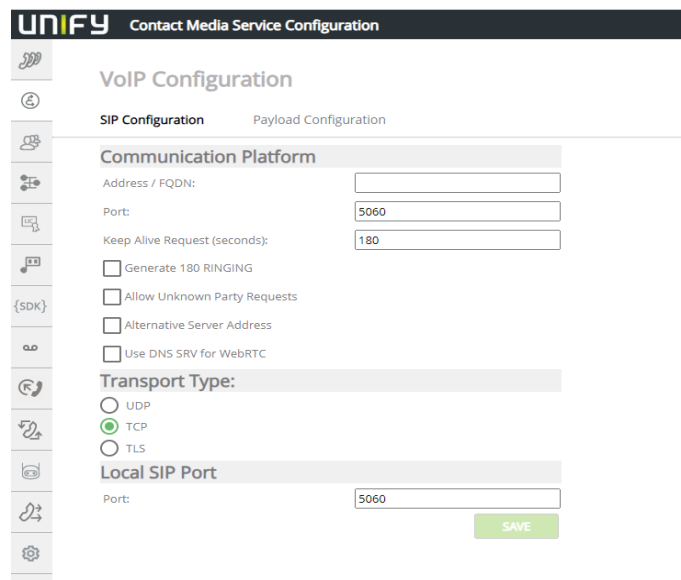
Callno	First Name	Last Name	Display	DID	Type	Fax Callno	Fax DID	Class of service	Call pickup
1006	Maina	Alexads	Alexads, Main	1006	System Client			International	
5881	CMS_User1	CMS_User1	CMS_User1, CMS	5881	SIP Client			International	
5882	CMS_User2	CMS_User2	CMS_User2, CMS	5882	SIP Client			International	
					No Port			International	
					No Port			International	
					No Port			International	
					No Port			International	
					No Port			International	

- c) Assign license to both stations above from License Manager - IP Users - search for your station



2. Navigate to **CMS portal** → **VOIP Configuration**

- Set the IP, port and protocol of OSBIZ

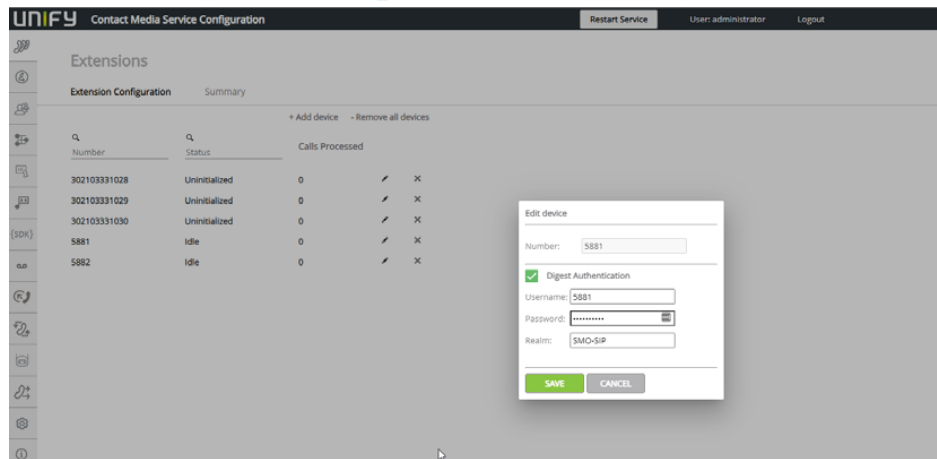


3. Add the extensions

Configuring the OpenScope Business communication platform

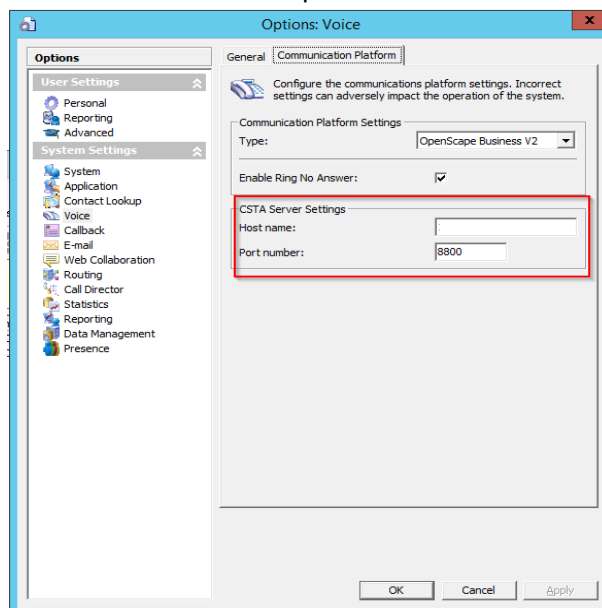
Configuring the communication platform

- **Mandatory:** Enable Digest Authentication



4.5.8 Configuring OpenScope Contact Center

1. Connect OSCC with OSBiz
 - a) Open OSCC Manager
 - b) Navigate to Tools → Options → Voice → Communication Platform Tab
 - c) Select Type: OpenScope Business V2
 - d) Add in CSTA Server Settings
 - IP of OSBiz
 - CSTA default port 8800



2. Add the CMS server in Telephony Center → Voice Processors

NOTE: The default password is Un1Fy

3. Create users based on the IDs assigned in OSBiz

- For example, we have selected ID 428 mapped with our station. Thus we need to create a user in OSCC with ID 428.

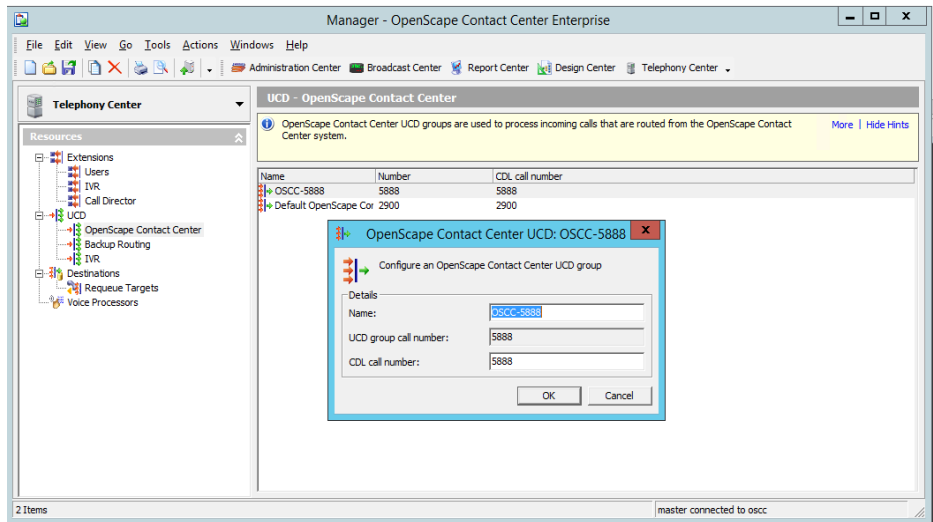
Application	Permissions	License Used
Manager	Yes	Manager
Agent Portal	Agent	Agent
System Monitor	Yes	None

4. Add the UCD group in OSCC

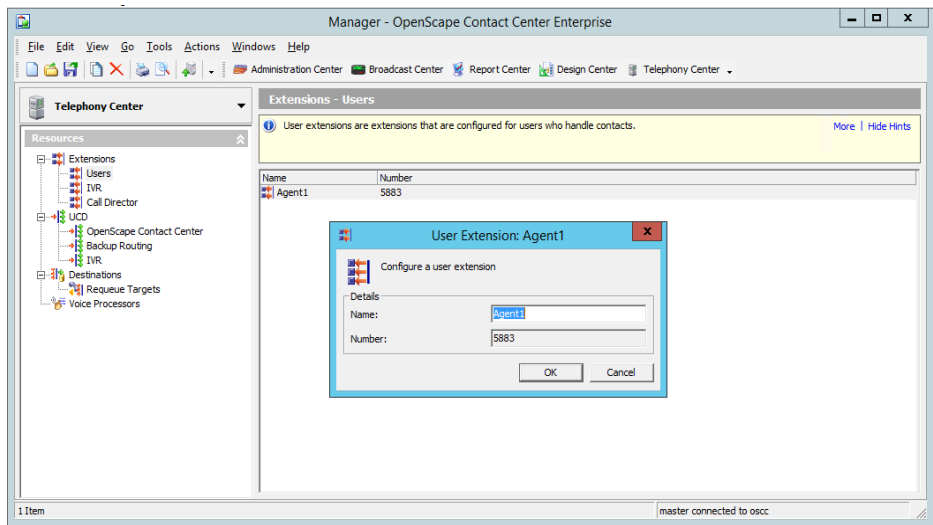
Configuring the OpenScape Business communication platform

Configuring the communication platform

- a) Go to Telephony Center → UCD → OpenScape Contact Center
- b) Create a new entry for 5888 UCD group.



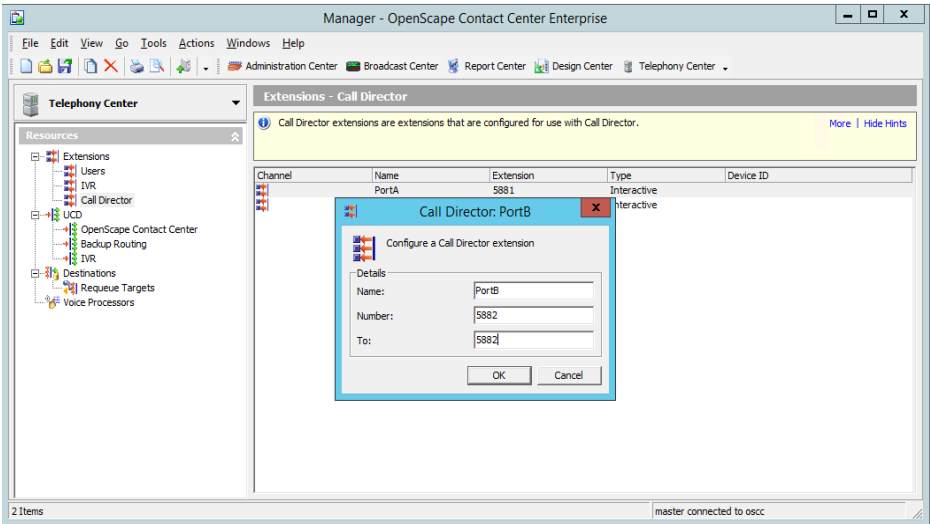
5. Navigate to **Extensions** → **Users** and create an entry for you station (5883).



Configuring the OpenScape Business communication platform

Configuring the communication platform

6. Navigate to **Extensions** → **Call Directory** and add the SIP stations created above (5881, 5882)



4.6 Configuring a user telephone

You must configure each telephone used by OpenScape Contact Center users to ensure that the deflect, reject, call forwarding unconditional (or all calls) and call forwarding on busy features are not enabled on the telephone.

NOTE: If the telephone has been configured to display the Contacts Waiting Indicator and the user is not logged on to the Client Desktop application, the Contacts Waiting lamp indicator on the telephone will notify the user when there are contacts waiting in the queue. The lamp indicator on the telephone is turned off when the user is logged on to the Client Desktop application.

NOTE: The buttons on the telephone indicate the user's routing state. If the user is not configured to use the Client Desktop application, and the user is in Post-processing handling state, the Work button on the telephone will be activated regardless of the user's routing state. In this case, to exit Post-processing handling state, the user can press one of the other buttons on the telephone, such as Available.

4.7 Configuring a multinode environment

In effect, OpenScape Contact Center considers a multinode cluster as one virtual communication platform. The CSTA hides all multinode specifics from OpenScape Contact Center. We strongly recommend that you connect the voice processor to the most powerful communication platform and to the platform which receives the most calls.

NOTE: If the communication platforms are located in cities that have different area codes, the OpenScape Contact Center callback feature is not supported.

4.7.1 Configuring UCD groups

Configuring UCD groups in a multinode environment is similar to configuring UCD groups in a single-node environment, with a few notable exceptions:

- Each communication platform (node) must have a unique list of user IDs.
- Each communication platform (node) must have distinct stations and CDL call numbers for UCD groups.

For example, in a multinode environment with three nodes (A, B and C), you could configure the following user IDs and call numbers:

	Node A	Node B	Node C
User IDs	100 - 120	130 - 140	160 - 180
CDL Call Numbers	1000 - 1200	1300 - 1400	1600 - 1800

The following is a description of one potential multinode configuration for OpenScape Contact Center:

- The UCD group used by OpenScape Contact Center is configured on only one of the nodes, but all nodes have a UCD group for backup routing purposes.
- The unique user IDs are configured on each node separately.
- When configuring OpenScape Contact Center resources, all user IDs from all nodes that handle OpenScape Contact Center contacts are added to a logical UCD group. OpenScape Contact Center then distributes incoming calls to the available users.

NOTE: Other configurations are also possible where each node has its own basic UCD group and backup routing UCD group.

4.7.1.1 Configuring backup routing

Agent UCD call numbers are used only when the connection to the OpenScape Contact Center server is not operational. Calls are then routed to UCD groups based on the CDL configuration.

NOTE: This procedure must be performed on the node where the UCD resides.

To configure backup routing:

1. On the **Incoming call** menu, click the **Call Forwarding** tab.
2. In the **Call dest. list** definition table, add **target 1** as the basic UCD and **target 2** as the UCD.
3. To add target 3 as the UCD for another node, click **target 3**, and then select **External destination** from the list. The **External destinations** dialog box appears.
4. In the **Route** box, select the route to node 2.
5. In the **Call no.** box, type the UCD call number for node 2.
6. Click **OK**.
7. If you have other nodes, repeat this procedure.
8. Click **Apply**.
9. Save the changes.

4.7.2 Configuring announcements

When configuring announcements in a multinode environment, ensure that the announcement device IDs are consistent across all nodes.

NOTE: Announcements are not possible, when using OSCMS.

4.7.2.1 Configuring announcements for the node where the voice processor is connected

Configuring an announcement for the node where the voice processor is connected is the same for both multinode and single-node environments.

4.7.2.2 Configuring announcements in destination nodes

Announcements in the destination nodes are configured as described in this section.

To configure a subscriber announcement in a destination node:

1. In the left pane, under **Auxiliary equipment**, click **Announcement**.
2. Under **Announcement equipment**, click **External dest.** The **External destinations** dialog box appears.

3. In the **Route** list, select the route to the announcement device.
4. In the **Call no.** box, type the announcement extension number.
5. Click **OK**.

5 Configuring a voice processor

This chapter describes how to configure a voice processor that is used with the Call Director feature.

Call Director can be configured to use the following voice processor:

- OpenScape Contact Media Service - multiple voice processors can be configured.

5.1 Configuring the OpenScape Contact Media Service

The OpenScape Contact Media Service is a software-based voice processor that can be used with the Call Director feature to play interactive messages and announcements to callers. The system supports the use of multiple distributed OpenScape Contact Media Service voice processors.

NOTE: OpenScape Contact Media Service is supported only when the system is connected to an OpenScape Voice, OpenScape 4000 or OpenScape Business communication platform.

If the OpenScape Contact Center configuration is using Call Director and the OpenScape Contact Media Service for caller interactions, you must install and configure the OpenScape Contact Media Service voice processors. For details, see the *OpenScape Contact Media Service Installation Guide*.

When the OpenScape Contact Center system is connected to an OpenScape Voice communication platform, the OpenScape Contact Media Service voice processor supports multiple voice processors, with a maximum of 300 extensions across all voice processors.

When the OpenScape Contact Center system is connected to an OpenScape 4000 communication platform, the OpenScape Contact Media Service voice processor supports a maximum of 120 extensions. The OpenScape Contact Media Service must be connected to an STMi4 board, STMIX board or a SoftGate that has been configured to support SIP extensions.

When the OpenScape Contact Center system is connected to an OpenScape Business, the OpenScape Contact Media Service voice processor connects a maximum of 56 extensions.

When configuring the communication platform settings in the OpenScape Contact Media Service Web interface, you must specify the IP address of the STMi2/STMi4/STMIX board on the communication platform or the vSTMI on the SoftGate.

NOTE: For instructions on how to configure Call Director extensions on an OpenScape 4000 communication platform for use with the OpenScape Contact Media Service voice processor, see [Section 3.4.5.2, “Configuring SIP extensions for Call Director”](#).

NOTE: When the system is configured for high availability (warm standby), redundant OpenScape Contact Media Service voice processors are required. This means that you must install and configure a voice processor on the backup server machine for each voice processor on the primary server machine, and each pair of voice processors must be configured in the same voice processor region. You must also configure the Call Director extensions separately on each server machine. Finally, the .wav files are not replicated on the backup server machine, so you must manually copy the .wav files to the WaveFiles folder on the backup server machine, and ensure that the .wav files on the primary and backup server machines remain synchronized. For details on these procedures, see the *Manager Help*.

The Transport Type for the SIP extensions used as CD ports must be configured as TCP (on OpenScape Contact Media Service side and on OpenScape Business communication platform).

Index

A

- Access Point Emergency (OpenScape 4000) 57
- ACD configuration 41
 - OpenScape 4000 41
- ACD settings (OpenScape 4000) 45
- AMO examples 48
- AMO examples (OpenScape 4000) 48
- ART example 43
- ART example (OpenScape 4000) 43

B

- backup routing
 - multinode configuration 86
 - OpenScape 4000
 - backup routing 46
 - OpenScape Business 74
 - OpenScape Voice 13
- backup UCD groups 74
- barge-in feature (OpenScape Voice) 19

C

- CAC feature (OpenScape Voice) 31
- Call Destination List (CDL
 - configuration 71
- Call Destination List (CDL) 71
- Call Director configuration
 - OpenScape Voice 19
- CDLs
 - multinode configuration 86
- CSTA
 - OpenScape 4000 44
 - OpenScape Voice 9

D

- documentation
 - formatting conventions 6
 - intended audience 6
 - providing feedback 7

H

- heartbeat mechanism
 - OpenScape 4000 43
 - OpenScape Business
 - heartbeat mechanism 71
- high availability (warm standby)
 - Access Point Emergency 57
 - OpenScape 4000 55

OpenScape Voice 27

- host control bit 72
- hunt group pilot numbers, configuring 15

I

- intercept treatments, media server 12
- IP address, adding OpenScape Contact Center to
 - trusted server IP address table 9
- IVR API, for caller interactions on OpenScape Voice 10
- IVR subscriber numbers, configuring 21
- IVR transit numbers
 - configuring on OpenScape Voice 16
- IVR transit numbers (OpenScape 4000) 49

M

- media server
 - configuration on OpenScape Voice 11
 - intercept treatments 12
 - required number of ports 9
- MOH treatment 13
- monitored destinations, configuring on OpenScape
 - Voice 16
- multiline telephone devices, using with OpenScape
 - Voice 25

N

- national number format, configuring subscriber
 - numbers in 22
- network configuration 68
 - OpenScape 4000 39
 - OpenScape Business 68
 - OpenScape Voice 10
- network transit numbers
 - configuring on OpenScape Voice 16
 - OpenScape 4000 49

O

- One Number Service (OpenScape Voice) 23
- OpenScape 4000
 - ACD configuration 41
 - AMO examples 48
 - ART example 43
 - backup routing 46
 - configuration 38
 - CSTA settings 44
 - heartbeat mechanism 43
 - high availability (warm standby) 55
 - high availability (warm standby) 55

- IVR transit numbers 49
 - loading ACD settings 45
 - network configuration 39
 - network transit numbers 49
 - presentation indicator 51
 - requeue targets 49
 - requirements 39
 - standby Access Point Emergency unit 57
 - user extensions 50
 - OpenScape Branch, deploying 28
 - OpenScape Business
 - backup UCD group 74
 - Call Destination List (CDL) 71
 - configuration 62
 - heartbeat mechanism 71
 - host control bit 72
 - network configuration 68
 - OpenScape Xpressions 70
 - UCD configuration 69
 - OpenScape Contact Center Voice Portal, for caller interactions on OpenScape Voice 10
 - OpenScape Voice
 - backup routing 13
 - barge-in feature 19
 - basic configuration 12
 - CAC feature 31
 - call transfer setting 15
 - caller interaction solutions 10
 - configuring Call Director subscriber numbers 19
 - configuring hunt group pilot numbers 15
 - configuring IVR subscriber numbers 21
 - configuring nodes on separate subnets 26
 - configuring pilot numbers 16
 - CSTA 9
 - CSTA setting 15, 20, 21
 - deploying with OpenScape Branch 28
 - high availability (warm standby) environment 27
 - Initial Hunt Groups 12
 - intercept treatments 12
 - media server 11
 - MOH treatment 13
 - multiline telephone devices 25
 - Music On Hold Hunt Groups 12
 - network configuration 10
 - Night Service feature 16
 - Number Permanent Presentation Status feature 17
 - obtaining IP address 9
 - One Number Service 23
 - preferred device 23
 - prerequisites 9
 - ring back treatment 13
 - silent monitoring 19
 - using multiple business groups 14
 - OpenScape Xpressions (OpenScape Business OpenScape Xpressions 70
- P**
- pilot numbers (OpenScape Voice) 16
 - preferred device (OpenScape Voice) 23
 - prefix access code, configuring 18
- Q**
- queue targets, configuring on OpenScape Voice 16
- R**
- requeue targets
 - configuring on OpenScape Voice 16
 - OpenScape 4000 49
 - ring back treatment, on OpenScape Voice 13
- S**
- separate subnets, configuring OpenScape Voice on 26
 - silent monitoring, OpenScape Voice 19
 - SIP telephones, OpenScape Voice 24
 - subscriber numbers
 - configuring for an IVR 21
 - configuring for Call Director 19
 - configuring for users 17
 - configuring in national number format 22
- T**
- trusted server IP address table, adding OpenScape Contact Center 9
- U**
- UCD groups
 - backup configuration 74
 - configuring in a multinode cluster 86
 - OpenScape Business
 - UCD configuration 69
 - user telephones
 - OpenScape Business 85
 - OpenScape Voice 24
- V**
- voice processor
 - configuring 90

