



Complete Reference Guide for Cisco Unity Connection Survivable Remote Site Voicemail (SRSV)

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CONTENTS

CHAPTER 1

Introduction 1

Overview	1
Components of SRSV	1
SRSV Topologies	2
Accessing Unity Connection SRSV Using Phone	4
Using the Phone Keypad with the Unity Connection SRSV Conversation	5
Calling Unity Connection SRSV	5
Sending Voicemails	5
Managing Receipts	5
Managing Receipts Using Phone Keypad	6
Finding Messages Using Phone Keypad	6
Managing Deleted Messages	6
Permanently Deleting Messages Using Phone Keypad	6
Checking Deleted Messages	7
Checking Deleted Messages Using Phone Keypad	7
Changing Alternate Contact Numbers	7
Specifying Playback Settings	7
Changing Playback Volume for Individual Messages	7
Changing Playback Volume for an Individual Message Using Phone Keypad	7
Changing Playback Speed for Individual Messages	8
Changing Playback Volume for the Unity Connection Conversation	8
Changing Playback Speed for the Unity Connection Conversation	8
Phone Menus for the Classic Conversation	8
Main Menu and Shortcuts	8
During Message Menu and Shortcuts	9
After Message Menu and Shortcuts	9

- Recording Menu 10
- After Message Menu and Shortcuts (Alternate Keypad Mapping N) 10
- Recording Menu (Alternate Keypad Mapping N) 11
- Provisioning Data Synchronization between Central Unity Connection and Unity Connection SRSV 11
- Limitations and Restrictions 12
 - Voicemail Limitations and Restrictions 12
 - Auto-Attendant Limitations 13
 - Network Address Translation (NAT) Restrictions 13
 - Backup and Restore Limitations 13
 - Distribution Lists Limitations 13

CHAPTER 2 Installing and Configuring Cisco Unity Connection SRSV 15

- Introduction 15
- Prerequisites for Installing Unity Connection SRSV 15
- Task List for Installing Unity Connection SRSV 16
- Post-Installation Tasks 17
 - Configuring Unity Connection SRSV Settings 17
 - Provisioning and Voicemail Upload 18
 - Task List for Configuring a Unity Connection SRSV User 18

CHAPTER 3 Cisco Unity Connection SRSV Administration 21

- Introduction 21
- Users 21
 - Finding Users 22
 - Configuring an Administrator Account in Cisco Unity Connection SRSV Administration 22
- Templates 23
 - Configuring a Call Handler Template in Cisco Unity Connection SRSV Administration 23
- Distribution Lists 24
- Call Management 24
 - System Call Handlers 25
 - To Configure a Call Handler in Cisco Unity Connection SRSV Administration 25
 - Call Handler Settings 26
 - Transfer Rules 26

Caller Input	27
Greetings	27
Message Settings	29
Directory Handlers	29
Modifying a Directory Handler in Cisco Unity Connection Administration	29
Networking	29
To Configure the Central Unity Connection Server	30
System Settings	30
Schedules	30
Configuring Schedules in Cisco Unity Connection SRSV Administration	30
Conversations	31
Enterprise Parameters	31
Configuring Enterprise Parameters in Cisco Unified Serviceability	31
Plugins	31
Installing a Plugin	31
Telephony Integrations	32
Phone System	32
Modifying Phone System Integration	32
Port Group	32
Port	32
Security	32
Tools	33

CHAPTER 4	Services in Cisco Unity Connection SRSV	35
	Unity Connection SRSV Services	35
	Configuring Services in Control Center	37

CHAPTER 5	Upgrading Cisco Unity Connection SRSV	39
	Introduction	39
	Upgrade Types	39
	Status of Unity Connection Features During Unity Connection SRSV Upgrade	40
	Duration of Upgrade	40
	Task List for Upgrading Unity Connection SRSV	40
	Upgrade Process	41

Upgrade Unity Connection SRSV Using CLI 41

Upgrade Unity Connection SRSV From a Local DVD or a Network Location 41

Switch Version 42

Switching to the Upgraded Version of Unity Connection SRSV 42

CHAPTER 6

Security in Cisco Unity Connection Survivable Remote Site Voicemail 45

Introduction 45

Using Self-Signed Certificate 45

 Accessing Self-Signed Certificates on Central Unity Connection Server 45

 Restarting the Cisco Tomcat Service 46

Ignoring Certificate Error 46

 Enabling the Ignoring Certificate Error Feature in Unity Connection SRSV 46

 Restarting the Cisco Tomcat Service 47

Securing Communication between Unity Connection and Unity Connection SRSV 47

 Task List for Securing Communication between Unity Connection SRSV Administration and Unity Connection SRSV 47

 Creating and Downloading a Certificate Signing Request on Unity Connection SRSV 48

 Uploading Root and Server Certificates to Unity Connection SRSV 49

 Restarting Connection Branch Sync Service on Unity Connection 50

 Installing Microsoft Certificate Services (Windows Server 2003 Only) 50

 Exporting the Root Certificate and Issuing the Server Certificate (Microsoft Certificate Services Only) 51

Unity Connection SRSV Passwords and Shared Secrets 52

 Changing Unity Connection SRSV User PIN 52

CHAPTER 7

Alarm and Events 53

Unity Connection SRSV Alarms and Events 53

CHAPTER 8

Cisco Unity Connection Survivable Remote Site VoiceMail APIs 61

Listing the Branches 61

Viewing Data for an Individual Branch 63

Creating a Branch 65

Updating a Branch 67

Deleting a Branch 69

Assigning a User to Branch	69
Removing a User from a Branch	69
Listing All Users of a Particular Branch	70
Creating a Call Handler for a Branch	70



CHAPTER 1

Introduction

- [Overview, on page 1](#)
- [Components of SRSV, on page 1](#)
- [SRSV Topologies, on page 2](#)
- [Accessing Unity Connection SRSV Using Phone, on page 4](#)
- [Provisioning Data Synchronization between Central Unity Connection and Unity Connection SRSV, on page 11](#)
- [Limitations and Restrictions, on page 12](#)

Overview

Cisco Unity Connection Survivable Remote Site Voicemail (Cisco Unity Connection SRSV) provides cost-effective backup voicemail and auto attendant services for remote sites, such as branch offices or small sites.

When a branch site is unable to access the central voicemail server due to network interruptions (WAN outages), Unity Connection SRSV ensures that all the remote sites continue to have voicemail services and outside callers have the same experience as when they are communicating with the central Unity Connection.

After restoring the network connection to the central site, all the voicemails received by subscribers at the branch site are automatically uploaded to the central server.

Components of SRSV

Unity Connection SRSV has two sites, namely, the central site and the branch site. Each site has essential components to deliver messaging and voicemail services.

Following are the two sites in a Unity Connection SRSV topology:

- The central site has Cisco Unified Communications Manager that provides call processing between central Unity Connection server and Cisco Unified CM. Unity Connection is integrated with a Cisco Unified CM server to deliver integrated messaging and voicemail services.



Note Cisco Unified CM is integrated with a Unity Connection server either using Skinny Call Control Protocol (SCCP) or Session Initiation Protocol (SIP).

The Cisco Unified Messaging Gateway (UMG) SRSV module at the central site handles the voicemail provisioning between the central and remote sites as well as voicemail upload from the remote site to the central location after the network service is restored.

- The branch site either has a Cisco Unified Survivable Remote Site Telephony (SRST) router or Cisco Unified CM Express (CUCME-SRST) that handles call processing during WAN outages or any other network interruptions. The Unity Connection SRSV server provides backup voicemail solutions to the branch site during WAN outages.

SRSV Topologies

The conventions for all the SRSV topologies are:

Convention	Description
CUC	Cisco Unity Connection
CCM	Cisco Unified Communications Manager (Cisco Unified CM)
CCM-phone	The phones registered with Cisco Unified CM at the central site.
SRST- phone	The phones registered with SRST router at the branch site.
CUCME-phone	The phones registered with CUCME-SRST router at the branch site.

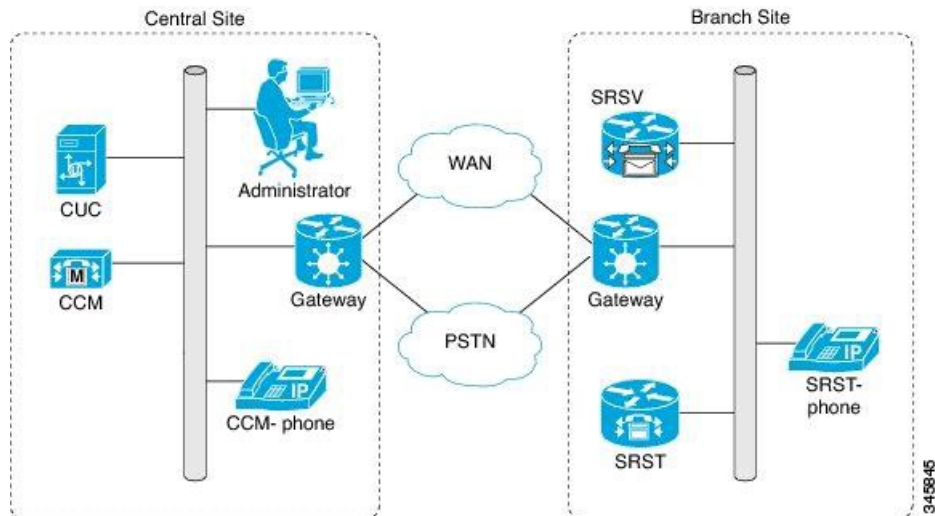
Each topology has a SRST router is deployed at the branch site. When a WAN outage occurs or there is a loss in PSTN connectivity, the IP phones on the remote site get registered with a SRST router. The IP phones then display SRST Enabled mode on the screens. The Unity Connection SRSV at the branch site remains in the idle state and is ready to receive calls from the SRST router.

Following are the three topologies supported with Unity Connection SRSV:

1. The **Figure 1** shows a topology in which the SRST router remains idle and waits for the IP phones to register with it. When the WAN outage occurs, the branch office IP phones registered with the central Cisco Unified CM detect the loss of connectivity and register with the SRST router. Now, all the incoming calls to the branch are handled by SRST. SRST forwards the unanswered calls (either busy or no answer) to the SRSV voicemail server that allows the caller to leave a voicemail for the user at the branch site. As a result, the branch office voicemail continues to work during WAN outages when the central office voicemail system is unreachable.

However, when the WAN connection is restored, the IP phones automatically register with the central Cisco Unified CM. All the calls are then managed by Cisco Unified CM and the no answer or busy calls are forwarded to the central Unity Connection voicemail system. All the voicemails stored on the branch get automatically synchronized with the central Unity Connection server.

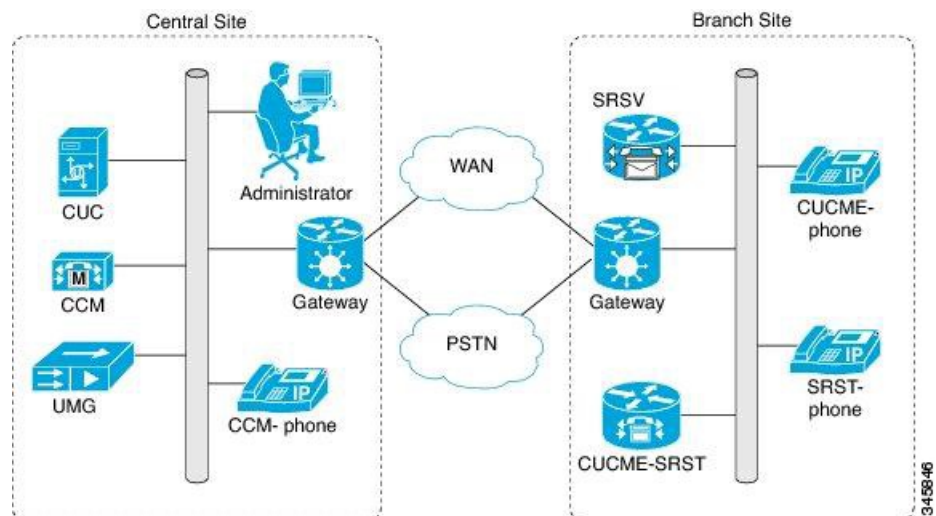
Figure 1: Topology 1



- The **Figure 2** shows a topology in which CUCME-SRST (also known as SRST Fallback Mode) router remains in the idle state and waits for the IP phones to register with it. When a WAN outage occurs or PSTN connectivity goes down, the phones on the remote site get registered with the CUCME-SRST router. As a result, the branch office voicemail continues to work during WAN outages when the central office voicemail system is unreachable.

However, when the WAN connection is restored, the IP phones automatically register with the central Cisco Unified CM. All the calls are then managed by Cisco Unified CM and the no answer or busy calls are forwarded to the central Unity Connection voicemail system. All the voicemails stored on the branch get automatically synchronized with the central Unity Connection server.

Figure 2: Topology 2

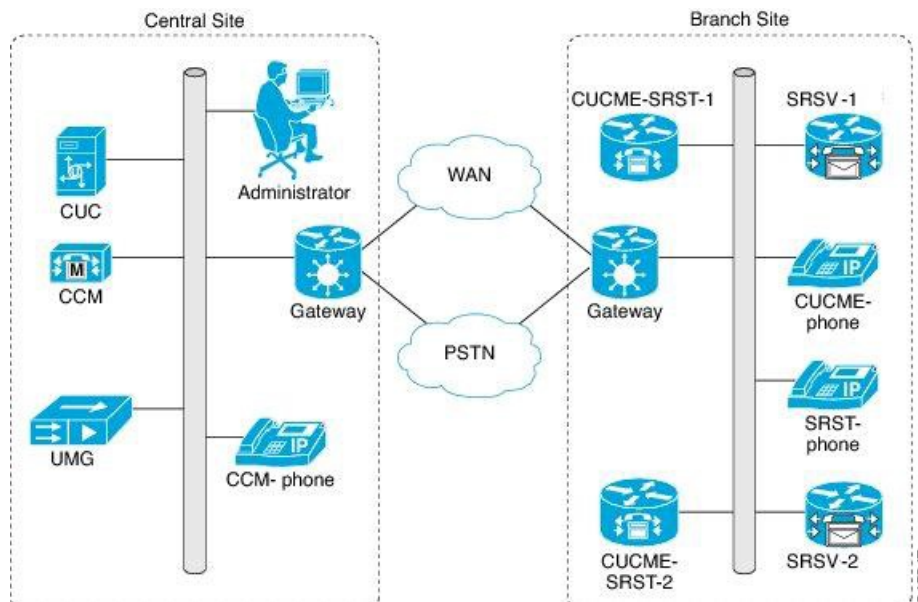


- The **Figure 3** shows a topology where multiple CUCME-SRST and SRSV devices are paired for load balancing at the survivable branch site. In this scenario, the administrator divides the branch users between CUCME-SRST-1 and CUCME-SRST-2. The central Unity Connection server sends the appropriate configuration of the users to SRSV-1 and SRSV-2 at the branch site.

When a WAN outage occurs or PSTN goes down, each SRSV device handles the calls directed to it from the paired CUCME-SRST device. As a result, the branch office voicemail continues to work during WAN outages when the central office voicemail system is unreachable.

However, when the WAN connection is restored, the IP phones automatically register with the central Cisco Unified CM. All the calls are then managed by Cisco Unified CM and the no answer or busy calls are forwarded to the central Unity Connection voicemail system. All the voicemails stored on the branch get automatically synchronized with the central Unity Connection server.

Figure 3: Topology 3



Note

- Cisco Unified Enhanced SRST (E-SRST) is used to deploy advanced Cisco Unified CM telephony features in survivable mode. The E-SRST feature is not required if you are using original SRST and not provisioning advanced telephony features for use in survivable mode. For more information on E-SRST, see the "Enhanced Survivable Remote Site Telephony (E-SRST)" section of the "Overview of Cisco Unified Messaging Gateway Release 8.5" chapter of the Cisco Unified Messaging Gateway 8.5 Administrator Guide at http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/umg/rel8_5/admin_guide/UMGadmin.html.
- MWI functionality for the branch site users is supported only if Unity Connection SRSV is SIP integrated with the SRST router.

Accessing Unity Connection SRSV Using Phone

When you access the Unity Connection SRSV server using phone, you hear the Unity Connection SRSV conversation that includes the recorded instructions and system prompts that guide you to receive messages.

Using the Phone Keypad with the Unity Connection SRSV Conversation

You can press any of the keys on phone keypad to access the Unity Connection SRSV server. There are several versions of the Unity Connection SRSV conversation, each providing different keypad mappings for the Unity Connection SRSV menu options. (For example, you might press 3 to delete a message in one version but press 7 to delete a message in another version.)

The Unity Connection SRSV administrator determines the conversation version that you hear. Typically, an administrator selects a conversation that has a keypad mapping familiar to the user.

Calling Unity Connection SRSV

You can call Unity Connection SRSV either from your desk phone or any another phone within your organization.

-
- Step 1** Dial the applicable number to call Unity Connection SRSV.
 - Step 2** If you are calling from any other phone in your organization which is not registered as your known extension in Unity Connection SRSV, press * (star key) when Unity Connection SRSV answers.
 - Step 3** When prompted, enter your ID and press # (pound key) to continue.
 - Step 4** Enter your Unity Connection SRSV PIN and press # to login in to your account.
-

Sending Voicemails

You can send voicemails to other Unity Connection SRSV users without dialing their extensions.



-
- Tip** Unity Connection SRSV plays a list of matches that you can navigate through quickly. Press # to select a recipient from a list; press 7 to skip to the previous name and 9 to skip to the next name; and press 77 to skip to the beginning of a list and 99 to skip to the end of a list.
-

Managing Receipts

Following types of receipts can be managed when working with Unity Connection SRSV:

- **Nondelivery Receipt** message informs you when your message is not delivered to the intended recipient. When you check messages, Unity Connection SRSV plays receipts along with your other messages. You can play and delete receipts in the same way as other messages but you cannot reply to or forward the receipts.
- **Read Receipts:** Unity Connection SRSV plays a list of the recipients who read the message you sent. For nondelivery receipts (NDRs), Unity Connection SRSV identifies recipients whose mailboxes did not accept the message.

After Unity Connection SRSV plays an NDR, you can hear the original message and resend it to the recipient(s) who failed to receive it. You can record an introduction, modify the recipient list, and change delivery options when resending a message. Once you resend the message, Unity Connection SRSV automatically deletes the NDR.

Managing Receipts Using Phone Keypad

- Step 1** Call and sign in to Unity Connection SRSV.
 - Step 2** From the Main menu, select Play New Messages and then select Receipts.
 - Step 3** Follow the prompts to manage your receipt.
-

Finding Messages Using Phone Keypad

As you listen to your messages, you can use the Go to Message option to find a particular message by entering the number of the message.

- Step 1** Call and sign in to Unity Connection SRSV.
 - Step 2** From the Main menu, select either Play New Messages or Review Old Messages.
 - Step 3** Press the Go to Message shortcut keys.
 - Tip** Ask your Unity Connection SRSV administrator for the shortcut keys that you use to hear the prompt for entering the message number.
 - Step 4** When prompted, enter the message number followed by #.
 - Step 5** Follow the prompts to manage the message after you have listened to it.
-

Managing Deleted Messages

Unity Connection SRSV saves your deleted messages that you can play, restore, or permanently delete. Deleting messages permanently can be an important way to reduce the size of your mailbox, especially if Unity Connection SRSV is not set up to automatically delete messages once they reach a certain age.

Ask your Unity Connection SRSV administrator if the system is set up to enforce a message-retention policy. Unity Connection SRSV neither indicates when a message-retention policy is enforced nor does it warn you before messages are permanently deleted as a result of the policy. If Unity Connection SRSV is not set up to do so, make sure that you permanently delete messages periodically.

Permanently Deleting Messages Using Phone Keypad

- Step 1** Call and sign in to Unity Connection SRSV.
 - Step 2** From the Main menu, select Review Old Messages and then select Deleted Messages.
 - Step 3** Follow the prompts to review your deleted messages and delete them individually, or to delete all messages at once.
-

Checking Deleted Messages

You can play your deleted messages, just as you can play new and saved messages. You can also restore a deleted message as a new or saved message.

By default, the most recent messages are played first. Note that you cannot enable the Message Type menu or specify a playback order by message type for deleted messages.

Checking Deleted Messages Using Phone Keypad

- Step 1** Call and sign in to Unity Connection SRSV.
- Step 2** At the Main menu, select Review Old Messages and then select Deleted Messages.
- Step 3** Follow the prompts to manage a deleted message after you have listened to it.
-

Changing Alternate Contact Numbers

To specify an alternate contact number outside your organization, begin with the access code needed to make an external call (for example, 9). For long-distance numbers, include the applicable dialing codes (for example, 1 and the area code).

Specifying Playback Settings

Playback settings allow you to change the playback volume and the playback speed of:

- An individual message when you are listening to it.
- The conversation of your current phone session at any point while Unity Connection SRSV is playing a prompt.

Changes in individual message playback do not affect playback of other messages you hear during the same phone session. Changes in conversation playback remain applicable until you hang up the phone; the next time you call Unity Connection SRSV, playback settings are reset to the defaults.



Note To adjust the conversation speed or volume, you can only use the voice commands not the phone keypad.

Changing Playback Volume for Individual Messages

As you listen to a message by phone, you can adjust the volume for that message. The changes to the message playback do not affect the playback volume of other messages that you hear during the same phone session.

Changing Playback Volume for an Individual Message Using Phone Keypad

The key that you press to adjust playback volume depends on your conversation. Ask your system administrator which key is assigned to change playback volume. While listening to a message, toggle among the following volume settings:

Option	Description
Press key once	Increases the volume
Press key again	Decreases the volume
Press key again	Returns the volume to normal

Changing Playback Speed for Individual Messages

As you listen to a message by phone, you can adjust the playback speed for that message. Changes do not affect the playback speed of other messages that you hear during the same phone session.

The key that you press to adjust playback speed depends on your conversation. Ask your system administrator which keys are assigned to increase and decrease playback speed. While listening to a message, use the following speed settings:

Option	Description
Press decrease key	Slow message playback
Press increase key once	Fast message playback
Press increase key again	Faster message playback

Changing Playback Volume for the Unity Connection Conversation

You can use voice commands to change the volume of the Unity Connection SRSV conversation at any point while Unity Connection SRSV is playing prompts. (You cannot use the phone keypad to adjust the conversation volume.)

Changes last until you hang up the phone; the next time you call Unity Connection SRSV, the volume is reset to the default setting.

Changing Playback Speed for the Unity Connection Conversation

You can use voice commands to change the speed of the Unity Connection SRSV conversation at any point while Unity Connection SRSV is playing prompts. (You cannot use the phone keypad to adjust the conversation speed.)

Changes last until you hang up the phone; the next time you call Unity Connection SRSV, the speed is reset to the default setting.

Phone Menus for the Classic Conversation

Main Menu and Shortcuts

While listening to the Main menu, press:

Action	Key(s)
Hear new messages	1
Review saved messages	3, 1

Action	Key(s)
Review deleted messages (Not available on some systems)	3, 2

During Message Menu and Shortcuts

While listening to a message, press:

Action	Key(s)
Restart message	1
Play message by number	1 2
Play previous message	1 4
Play next message	6
Save	2
Delete	3
Slow playback	4
Change volume (Not available on some systems)	5
Fast playback	6
Rewind message	7
Pause or resume	8
Fast-forward	9
Fast-forward to end	#
Restore as saved (Not available on some systems)	#2
Save or restore as new (Not available on some systems)	#6
Play message properties	#9
Skip message, save as is	##
Cancel or back up	*
Help	0

After Message Menu and Shortcuts

After listening to a message, press:

Action	Key(s)
Replay message	1
Play message by number	1 2
Play previous message	1 4
Save or restore as saved (Not available on some systems)	2
Delete	3
Forward message	5
Save or Restore as new	6
Rewind	7
Play Message Properties	9
Save as i	#
Cancel or back up	*
Help	0

Recording Menu

Use the following keys while you record a message:

Action	Key(s)
Pause or resume	8
End a recording	#

After Message Menu and Shortcuts (Alternate Keypad Mapping N)

After listening to a message, press:

Action	Key(s)
Rewind	4
Save As is	6
Call the sender (Not available on some systems)	9
Play message properties	7 0
Reply	7 1
Replay Messages	7 2
Forward Message	7 3
Reply to All	7 4

Action	Key(s)
Delete	7 6
Save or restore as saved (Not available on some systems)	7 7
Save or restore as new (Not available on some systems)	7 8
Cancel or back up	*
Operator	0

Recording Menu (Alternate Keypad Mapping N)

Use the following keys while you record messages, names, and greetings:

Action	Key(s)
Pause or resume	8
End a recording	#

Provisioning Data Synchronization between Central Unity Connection and Unity Connection SRSV

Following is the list of data synchronized between the central Unity Connection and Unity Connection SRSV:

1. User Attributes
 - FirstName
 - LastName
 - Alias
 - DisplayName
 - Language
 - DtmfAccessId
 - SmptAddress
 - VoiceName
 - Undeletable
 - ObjectId
 - callhandlerobjectid
 - initials
 - title
 - employeeId
 - address
 - building
 - city
 - state

- postalcode
 - country
 - timezone
 - department
 - manager
 - billingId
 - emailAddress
 - useDefaultTimeZone
 - useDefaultLanguage
 - saySenderExtension
 - sayAni
 - saySender
 - listInDirectory
2. Fetch voicemail for the user
 3. Fetch user PIN
 4. Fetch users' MWI display name and status
 5. Fetch message settings for the user
 6. Fetch greeting for the user: While changing the greeting for a user on the central server, check the Sync Provisioning check box on the central server to synchronize the new greeting to the branch server.
 7. Fetch distribution list: If the Replicate to SRSV Branch check box is checked on the Edit Distribution List Settings page on the central server, the distribution list data is synchronized with the branch server.

Limitations and Restrictions

Voicemail Limitations and Restrictions

Unity Connection SRSV has several voicemail limitations and restrictions:

- The following features are not supported with Unity Connection SRSV:
 - Fax support
 - Addressing contacts
 - Dispatch messages
 - Scheduled base services, such as alternate greetings and notifications.
 - Advanced telephony features, such as call screening and call transfer.
 - Updating spoken name, distribution lists, or PINs through the touchtone conversation users functionality.
 - Touchtone conversation users administration interfaces, such as broadcast or greeting administration.
 - Private distribution lists.
 - Text-to-speech or voice recognition features.
 - Customizing the voicemail flow for touchtone conversation users (TUI).
 - VPIM
 - IMAP
 - Single Inbox
 - Cisco Personal Communications Assistant and Web Inbox.

- The Compose, Forward, and Reply to voicemails functionalities are not supported with Unity Connection SRSV. Only the Ring No Answer or Call Forward Busy functionalities are supported.
- The voicemail synchronization is supported only via central Unity Connection server. The voicemails received on central Unity Connection server are not replicated to the Unity Connection SRSV.
- The voicemail upload is not synchronized with the registration of phones with Cisco Unified Communications Manager.
- The call handler configuration is not included in the provisioning data and this data is not synchronized between the central Unity Connection and the Unity Connection SRSV server.
- The system transfers for non user extensions cannot be accomplished in Unity Connection SRSV, because the Allow Transfers to Numbers Not Associated with Users or Call Handlers setting on the Edit Greeting page of a user in Cisco Unity Connection Administration is not present in Unity Connection SRSV.
- Few central Unity Connection server class of service (COS) features, such as distribution list access and message deletion behavior are provisioned for all Unity Connection SRSV users.
- The subscribers cannot log in to Cisco Unity Connection SRSV Administration until they set up their voicemail preferences at central Unity Connection server.
- The Live Record and Live Reply functionalities are not supported.

Auto-Attendant Limitations

The auto-attendant configuration is done at branch site only. There is no synchronization required from central Unity Connection server. The auto-attendants help internal and external callers locate users or departments in an organization and transfer calls to them.

Following are the auto-attendant features not supported with Unity Connection SRSV:

- Partitions or search spaces
- Advanced calling features, such as call screening
- Interview handlers
- Dispatch messages

Network Address Translation (NAT) Restrictions

- NAT is supported only at branch locations and not at the central Unity Connection server.
- Only one Unity Connection SRSV can be provisioned at each NAT site.
- Only static NAT and Port Address Translation (PAT) are supported.
- Dynamic NAT is not supported.

Backup and Restore Limitations

To avoid creating duplicate email messages, we do not recommend taking the Disaster Recovery System backup of data on Unity Connection SRSV.

Distribution Lists Limitations

- The voicemails sent to distribution lists in survivable mode are sent to members only after WAN is recovered.

- The system does not provision spoken names for distribution lists.
- The system does not provision recorded names for distribution lists.
- Only public distribution lists are supported.



CHAPTER 2

Installing and Configuring Cisco Unity Connection SRSV

- [Introduction](#), on page 15
- [Prerequisites for Installing Unity Connection SRSV](#), on page 15
- [Task List for Installing Unity Connection SRSV](#), on page 16
- [Post-Installation Tasks](#), on page 17

Introduction

Cisco Unity Connection Survivable Remote Site Voicemail (Cisco Unity Connection SRSV) can either be installed on a Cisco Services Ready Engine (SRE) blade (mounted on Cisco Unified SRST router) or on a virtual machine.



Note

For installing Unity Connection SRSV on a SRST blade, user needs to virtualize a SRE blade and install the Unity Connection server on it. SRE virtualization is supported with VMware ESXi v5.1, 5.5, 6.0, 6.5, 6.5 U2 and 6.7. For more information, see the “[Cisco Services Ready Engine Virtualization Overview](#)” chapter of the Installation and Configuration Guide for Cisco Services Ready Engine Virtualization 1.0, available at http://www.cisco.com/c/en/us/td/docs/interfaces_modules/services_modules/sre_v/1-0/user/guide/sre_v.html.

After installing Unity Connection on the virtual machine or the SRE blade router, follow the tasks in the [Task List for Installing Unity Connection SRSV](#), on page 16 section to install Unity Connection SRSV.

Prerequisites for Installing Unity Connection SRSV

Consider the following points before installing the Unity Connection SRSV server:

- Unity Connection SRSV must be installed on a supported hardware platform. For more information, see the following sections:
 - “[Specification for Hardware Platforms and Cisco IOS Software Releases Supported by Unity Connection SRSV](#)” section of the Cisco Unity Connection 12.x Supported Platforms List at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/12x/supported_platforms/b_12xcucspl.html.

- “[Specifications for Virtual Platform Overlays Supported by Unity Connection SRSV](https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/12x/supported_platforms/b_12xcucspl.html)” section of the Cisco Unity Connection 12.x Supported Platforms List at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/12x/supported_platforms/b_12xcucspl.html.
- The Unity Connection SRSV administrator workstation must be configured as per the software requirements. For more information, see the “[Software Requirements-Administrator Workstations\(Unity Connection and Unity connection SRSV\)](https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/12x/requirements/b_12xcucsysreqs.html)” section of the System Requirements for Cisco Unity Connection, Release 12.x at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/12x/requirements/b_12xcucsysreqs.html.

Task List for Installing Unity Connection SRSV

Do the following tasks to install and configure a Unity Connection SRSV server:

1. Install Unity Connection either on a SRE-900/SRE-910 series blade or on a virtual machine. For information on the process of installing Unity Connection, see the “[Installing Cisco Unity Connection](https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/12x/install_upgrade/guide/b_12xcuciumg.html)” chapter of the Install, Upgrade, and Maintenance Guide for Cisco Unity Connection, Release 12.x, available at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/12x/install_upgrade/guide/b_12xcuciumg.html.

After installation, Unity Connection starts in the Demo license mode.

2. Run the CLI command `utils cuc activate CUSRSV` to transform the Unity Connection server to a Unity Connection SRSV server.
3. Obtain the Unity Connection SRSV specific license on the Cisco Smart Software Manger (CSSM) server or Cisco Smart Software satellite. For more information on the licenses, see the “[Managing Licenses](https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/12x/install_upgrade/guide/b_12xcuciumg.html)” chapter of the Install, Upgrade, and Maintenance Guide for Cisco Unity Connection, Release 12.x, available at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/12x/install_upgrade/guide/b_12xcuciumg.html.

The CUC_EnhancedMessaging tag on the License page of Cisco Unity Connection Administration reflects the number of licenses installed for both voicemail users and the SRSV feature in Unity Connection.

Following are the scenarios of license status on the Unity Connection server:

- When the central Unity Connection server is registered with CSSM or satellite, all the functionalities, such as user provisioning and voicemail upload related to Unity Connection SRSV work as expected in a normal scenario. However, you can use all the functionality in Evaluation Mode for 90 days.
 - When the central Unity Connection server license status is expired such as “Evaluation Period Expired” or “Registration Expired”, the synchronization of users from the central Unity Connection to the branch (Unity Connection SRSV) server stops working. However, the voicemail and auto-attendant functionalities continue to work at the branch server.
4. *If you want Cisco Unity Connection SRSV Administration to be localized for any other locale (other than English U.S.):* Download and install the Cisco Unified Communications Manager <language> locale. See the “[Locale Installation](http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucm/cucos/10_0_1/CUCM_BK_C2F2626C_00_cucm-os-admin-guide-100.html)” section in the “Software Upgrades” chapter of the applicable *Cisco Unified Communications Operating System Administration Guide* at http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucm/cucos/10_0_1/CUCM_BK_C2F2626C_00_cucm-os-admin-guide-100.html.



Note The Unity Connection SRSV system can have only one locale installed.

5. *If you have installed additional languages and want the Cisco Personal Communications Assistant to be localized:* Download and install the corresponding Cisco Unified Communications Manager locale. See the “[Locale Installation](#)” Locale Installation section of “Software Upgrades” chapter of the applicable *Cisco Unified Communications Operating System Administrator Guide*
http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucm/cucos/10_0_1/CUCM_BK_C2F2626C_00_cucm-os-admin-guide-100.html.
6. *Secure the communication between the central Unity Connection server and the branch Unity Connection SRSV server after completing the installation. This can be done either by uploading signed certificates to the central server or allowing the central server to use self-signed certificates. For more information, see the [Securing Communication between Unity Connection and Unity Connection SRSV](#) section.*
7. Configure the following components displayed in Cisco Unity Connection SRSV Administration:
 - Users (Administrators and Subscribers).
 - Call Handler Templates.
 - System Distribution Lists.
 - System Call Handlers and Directory Handlers.
 - Networking.
 - System Settings (Schedules, Conversations, Enterprise Parameters, and Plugins).
 - Telephony Integrations (Phone System, Port Group, Port, and Security).
 - Custom Keypad Mapping.

Post-Installation Tasks

Do the following tasks after completing the installation of a Unity Connection SRSV server:

1. Configure the central Unity Connection server from the Branch Management page in Cisco Unity Connection Administration. For more information, see the [Configuring Unity Connection SRSVSettings](#) section.
2. Download and install the Real-Time Monitoring Tool software on administrator workstations. See the “[Getting Started](#)” chapter of the Cisco Unified Real-Time Monitoring Tool Administration Guide, Release 10.0(1), available at
http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cum/service/10_0_1/mt/CUCM_BK_CA30A928_00_cisco-unified-real-time-administration-100.html

Configuring Unity Connection SRSVSettings

This section gives information on configuring Unity Connection SRSV to communicate with the central Unity Connection server.

Provisioning and Voicemail Upload

Unity Connection supports the following methods for provisioning and voicemail upload between the central Unity Connection server and the branch (Unity Connection SRSV) server:

Manual Synchronization

You can manually provision the users on the branch server and upload voicemails from the branch server to the central Unity Connection server.

Manually Synchronizing Unity Connection with the Branch Server

-
- Step 1** In Cisco Unity Connection Administration, expand Networking> Branch Management and select Branches.
 - Step 2** On the Branch Listing page, select Add New to add a new branch.
 - Step 3** On the New Branch page, enter the values of the required fields and select Save. (For more information on each field, see Help> This Page).
 - Step 4** On the Edit Branch page, select Sync Provisioning or Voicemail Upload.
 - Step 5** To see the branch synchronization results:
 - a) In Cisco Unity Connection Administration, expand Networking> Branch Management and select Branch Sync Results.
 - b) You can filter the synchronization results by selecting Voicemail or Provisioning in the Value field.(For more information on each field, see Help> This Page).
-

Automatic Synchronization

You can enable the automatic provisioning of the users and voicemail upload from the branch to the central Unity Connection server by scheduling the voicemail upload process.

Enabling Automatic Provisioning and Voicemail Upload

-
- Step 1** In Cisco Unity Connection Administration, expand Tools and select Task Management.
 - Step 2** On the Task Management page, schedule either Branch Provisioning Synchronization Task or Voicemail Upload. (For information on each field, see Help> This Page).
 - Step 3** Select Save.
-

Task List for Configuring a Unity Connection SRSV User

You can either create a new user or update an existing user to provide access to the Unity Connection SRSV feature.



-
- Note** Make sure that all the required services, such as Connection REST Service and Connection Branch Sync Service are started on the central Unity Connection server and on the branch system. For more information on services required for the Unity Connection SRSV feature, see the Administration Guide for Cisco Unity Connection Serviceability Release 11.x at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/11x/serv_administration/b_11xcucservag.html.
-

Do the following steps to configure a Unity Connection SRSV user:

1. Create a partition on the Unity Connection server. For more information on creating a partition, see the “[Configuring Partitions](#)” section of the “Call Management” chapter of the System Administration Guide for Cisco Unity Connection, Release 11.x guide at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/11x/administration/guide/b_cucsag.html.
2. Create a branch on the Unity Connection server with the details of Unity Connection SRSV that corresponds to the partition you created:

In Cisco Unity Connection Administration, expand Networking > Branch Management and select Branches.

On the Branch Listing page, select Add New to add a new branch.

On the New Branch page, enter the values of the required fields and select Save. (For more information on each field, see Help > This Page).
3. Assign the partition to an existing user or a new user for providing access to the Unity Connection SRSV feature. For more information on creating a new user, see the “[Creating User Accounts Manually](#)” section of the “Users” chapter of the System Administration Guide for Cisco Unity Connection, Release 11.x guide at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/11x/administration/guide/b_cucsag.html



CHAPTER 3

Cisco Unity Connection SRSV Administration

- [Introduction, on page 21](#)
- [Users, on page 21](#)
- [Templates, on page 23](#)
- [Distribution Lists, on page 24](#)
- [Call Management, on page 24](#)
- [Networking, on page 29](#)
- [System Settings, on page 30](#)
- [Telephony Integrations, on page 32](#)
- [Tools, on page 33](#)

Introduction

Cisco Unity Connection SRSV Administration is the web interface used for managing the administrative tasks, such as configuring subscribers or implementing a call management plan on the branch (Unity Connection SRSV) server.

Users

There are two types of users in a Unity Connection SRSV server:

Users	Definition
Administrators	The administrators are the users privileged to login in to Cisco Unity Connection SRSV Administration. The administrator users created on Unity Connection SRSV are not synchronized with the central Cisco Unity Connection server.

Users	Definition
Subscribers	<p>The subscribers are the remote users created on the central Unity Connection server and synchronized with the Unity Connection SRSV server.</p> <p>Note You cannot modify any subscriber related information on the branch server. If any update is required, it should be done on the central Unity Connection server.</p>

Finding Users

Cisco Unity Connection SRSV Administration allows you to find users based on the search criteria you enter. You can search the Administrators and the Subscribers on Unity Connection SRSV using the Search feature. The Search Administrators page lists the administrator users and you can search a particular administrator name from the list. The Search Subscribers page lists all the subscribers available in Unity Connection SRSV.

The search results, by default, returns all the administrators detail. By default, the administrator can view 25 records per page and can select rows per page from the drop-down list. The maximum limit is 250 search results on one page. The administrator can perform custom search on the Name field using the following options:

- Begins with
- Contains
- Ends with
- Is Exactly
- Is Empty
- Is Not Empty

Configuring an Administrator Account in Cisco Unity Connection SRSV Administration

You can create, modify, or delete administrator accounts using Cisco Unity Connection SRSV Administration. However, you cannot modify or delete default administrator accounts.

Step 1 In Cisco Unity Connection SRSV Administration, expand **Users** > **and select** > **Administrators**. The Search Administrators page displays the currently configured administrators.

Step 2 Configure an administrator (For more information on each field, see Help> This Page):

- To add an administrator account:
 - On the Search Administrators page, select **Add New**.
 - On the New Administrator page, enter the values of the required fields and select Save.

- To edit an existing administrator account:

On the Search Administrators page, select the applicable administrator account.

On the Edit Administrator page, modify the values of the required fields and select Save.

On the Edit Administrator page, select Edit and then either select Change Password or Roles.

On the Change Password page or Edit Roles page, modify the value of the required fields and select Save.

- To delete an existing administrator account:

On the Search Administrator page, check the check boxes to select the applicable administrator accounts that you want to delete.

Select Delete Selected and OK to confirm deletion.

Templates

Each call handler that you add in Unity Connection SRSV is based on a template. Settings from the call handler template are applied on a call handler. Most of the call handler settings are applied using the default call handler template. The administrator is allowed to create new templates.

Before you create call handlers, review the settings in the template that you plan to use and determine whether you need to make changes or create new templates. For each template, you should consider enabling the transfer, caller input, greetings, and message settings that are needed for the call handlers that you plan to create. Note that if you change settings on a call handler template, the new settings are applicable only for new call handlers that are created using that template. Changes to template settings do not affect existing call handlers.



Note Deleting a call handler template does not affect the existing call handler settings based on that template.

Configuring a Call Handler Template in Cisco Unity Connection SRSV Administration

You can create, modify, or delete the new call handler templates using Cisco Unity Connection SRSV Administration. However, you cannot modify or delete the existing call handler templates.

Step 1 In Cisco Unity Connection SRSV Administration, expand **Templates > and select > Call Handler Templates**. The Search Call Handler Templates page displays the currently configured call handler templates.

Step 2 Configure a call handler template (For more information on each field, see Help> This Page):

- To add a call handler template:
 - a. On the Search Call Handler Templates page, select **Add New**.
 - b. On the New Call Handler Templates page, enter the values of the required fields and select Save.
- To edit an existing call handler template:

- a. On the Search Call Handler Templates page, select the applicable call handler template.
 - b. On the Edit Call Handler Templates page, modify the values of the required fields and select Save.
 - c. On the Edit Call Handler Templates page, in the Edit menu, select any of the following settings that you want to edit and then select Save:
 - Transfer Rules
 - Caller Input
 - Greetings
 - Message Settings

Note For more information on call handler template settings, see the Call Handler Settings, page 3-5 section.
- To delete an existing call handler template:
 - On the Search Call Handler Templates page, check the check boxes to select the applicable call handler templates that you want to delete.
 - Select Delete Selected and OK to confirm deletion.

Distribution Lists

System distribution lists are used to send voicemails to multiple users. The members of a system distribution list typically are the users who need the same information on a regular basis, such as employees in a department or members of a team. On the branch server, sending a message to a distribution list is supported only when the distribution list is selected in the Message Recipient property of the call handler.

When you send a message to a distribution list, you receive the notification confirming that the message has been sent to the distribution list. However, the members of the distribution list receive the message only after the restoration of WAN outage and successful upload of the message on the central Unity Connection server.



Note Composing a new message that is addressed to a distribution list is not supported on the branch server.

You cannot create, modify, or delete any distribution list related information on the branch server. If an update is required, then it should be done at the central Unity Connection server.

Call Management

The call management plan describes how the handlers connect to one another through the telephony user interface. Cisco Unity Connection SRSV Administration includes a menu of one-key dialing options and all possible navigation choices configurable by the Connection SRSV subscribers, such as reaching a call handler by dialing an extension or via a routing rule.

System Call Handlers

Unity Connection SRSV provides three predefined call handlers that can be modified but not deleted. For more information on the predefined call handlers, see the “[Default System Call Handlers](#)” section of the “Call Management” chapter of the System Administration Guide for Cisco Unity Connection, Release 11.x, available at http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/11x/administration/guide/11xcucsagx.html.

To Configure a Call Handler in Cisco Unity Connection SRSV Administration

After you have created or updated the call handler templates that you plan to use, you are ready to create call handlers. After a call handler has been created, you may need to adjust the settings. The tools in Cisco Unity Connection SRSV Administration allows you to modify either a single call handler or multiple call handlers at a time.

Step 1 In Cisco Unity Connection SRSV Administration, expand **Call Management** and select **System Call Handlers**. The Search Call Handlers page displays the currently configured call handlers.

Step 2 Configure a call handler (For more information on each field, see Help> This Page):

- To add a call handler:
 - a. On the Search Call Handlers page, select **Add New**.
 - b. On the New Call Handlers page, enter the values of the required fields and select Save.
- To edit an existing call handler:
 - a. On the Search Call Handlers page, select the applicable call handler.
 - b. On the Edit Call Handler page, modify the values of the required fields and select Save.
 - c. On the Edit Call Handler page, in the Edit menu, select any of the following settings that you want to edit and then select Save:
 - Transfer Rules
 - Caller Input
 - Greetings
 - Message Settings

Note For more information on call handler settings, see the Call Handler Settings, page 3-5 section.
- To delete an existing call handler:
 - a. On the Search Call Handlers page, check the check boxes to select the applicable call handler that you want to delete.
 - b. Select Delete Selected and OK to confirm deletion.

Call Handler Settings

Following are the settings applicable to both call handler templates and call handlers:

Transfer Rules

The system transfers allow callers to dial numbers not associated with a user, contact, call handler, or other entity. For example, when a user calls into a Unity Connection SRSV voicemail system, the call from auto attendant is transferred to a call handler. The call handler can transfer calls to a number of extensions, such as a lobby extension or a conference room extension.

The call transfer settings of a call handler specifies how Unity Connection SRSV transfers calls. The calls reaches the call handler through the automated attendant. Following are the three transfer rules that you can customize in Unity Connection SRSV:

- Standard
- Closed (non business and holiday hours of active schedule)
- Alternate



Note The alternate transfer rule, when enabled, overrides the standard and closed transfer rules and is in effect at all times.

When a call is transferred to the call handler, Unity Connection SRSV first checks the applicable transfer rule to determine where to transfer the call—either to the call handler greeting, or to an extension.

While transferring the call to the call handler greeting, Unity Connection SRSV plays the applicable greeting (standard, closed, holiday, internal, busy, or alternate) based on the situation and the greetings that are enabled for that duration. Transfer rules can be configured to provide the callers with a prerecorded menu of options or an informational message by transferring the call to the applicable greeting.

To route callers to a specific user or to another call handler, you configure the transfer rule to transfer the call to the extension of the user or the call handler. When transferring a call to a user extension, Unity Connection SRSV can either release the call to the phone system, or it can supervise the transfer. When Unity Connection SRSV is set to supervise transfers, it can provide call screening and call holding options on indirect calls as mentioned below:

- With call screening, Unity Connection SRSV can ask for the name of the caller before connecting to a user. The user can then hear who is calling and can accept or refuse the call depending on who the call is for.
- With call holding, when the phone is busy, Unity Connection SRSV can ask callers to hold. Each caller on hold uses a Unity Connection SRSV port and a phone system port, and therefore the total number of callers that can be holding in the queue at a single point of time is limited by the number of available ports.

The default wait time in the call holding queue for the first caller in the queue is 25 seconds. If the caller is still on hold after this amount of time, Unity Connection SRSV asks whether the caller wants to continue holding, leave a message, or try another extension. If the caller does not press a key on the phone keypad or say a voice command to indicate that he or she wants to continue holding, leave a message, or dial another extension, the caller is transferred back to the Opening Greeting. Subsequent callers in the holding queue are told how many other callers are in the queue ahead of them, in addition to these options.

Caller Input

Caller input settings define actions that Unity Connection SRSV takes in response to phone keys pressed by callers during a call handler greeting. Using the settings on the Edit Greeting page for any greeting, you can also specify whether the greeting allows caller input and whether callers can perform transfers. Alternatively, you can define caller input keys and options that apply to all the call handler greetings using the Caller Input page for the call handler.

One-key dialing enables you to designate a single digit to represent a user extension, alternate contact number, call handler, interview handler, or directory handler. Instead of entering the full extension, the caller presses a single key during a call handler greeting and Unity Connection SRSV responds accordingly. By specifying different keys as caller input options, you can offer callers a menu of choices in the call handler greeting.

Configuring the transfer to alternate contact number action on one or more keys of a call handler allows you to quickly set up a simple audio-text tree that callers can use to transfer to specific non-user extensions on the phone system or to specific external numbers, without having to create separate call handlers for each number. When transferring a caller to an alternate contact number, Unity Connection SRSV can either supervise the transfer or release the call to the phone system.

Callers can also bypass one-key dialing. You set the system to pause a certain number of seconds for additional key presses before routing the call according to the one-key dialing menu you have set up. These pauses allow callers to press full extension IDs to bypass one-key dialing menus, even during the handler greeting.

Further, you can lock certain keys to take the caller directly to the action programmed for that key without waiting for an additional key press.



Note You should not lock any key that matches the first digit of user extensions; otherwise, callers are not able to enter an extension to reach a user.

You can simulate abbreviated extensions using prepended digits for call handlers and user mailboxes. When such digits are defined, they are prepended to any extension that a caller dials while listening to the greeting for the call handler or user mailbox.

Unity Connection SRSV first attempts to route the call to the prepended extension. If the prepended extension is not valid, Unity Connection SRSV attempts to route the call to the dialed extension. In the following example, the call handler named Sales is configured with the prepended digits 123. When a caller dials 1000 while listening to the greeting for the Sales call handler, Unity Connection SRSV attempts to route the call to extension 1231000; if the prepended extension is not valid, Unity Connection SRSV attempts to route the call to extension 1000. (Note that if extension 1000 is not a valid extension and the greeting for the Sales call handler is configured to allow transfers to numbers not associated with users or call handlers, Unity Connection SRSV performs a release transfer to 1231000.)

Abbreviated extensions can be used as a way for an organization to segment users into different groups. For example, suppose a company has two departments: Engineering and Marketing. The company uses six digit extensions, and all extensions in Engineering begin with 10 and all extensions in Marketing begin with 11. Call handlers could be created for Engineering and for Marketing, and each call handler could be configured to prepend a 10 or a 11, as applicable, to any extension dialed from that call handler. When set up this way, users would only have to enter the last four digits of a user extension.

Greetings

Each call handler can have up to seven greetings. The greeting settings specify which greetings are enabled, how long they are enabled, the greeting source, and the actions that Unity Connection SRSV takes during and

after each greeting. When a greeting is enabled, Unity Connection SRSV plays the greeting in the applicable situation until the specified date and time arrives, and then the greeting is automatically disabled. A greeting can also be enabled to play indefinitely.



Note Call handler greetings can be recorded in multiple languages.

You can customize how Unity Connection SRSV handles calls to call handlers that have the alternate greeting enabled.

Following are the functionalities supported by Unity Connection SRSV with an alternate greeting enabled:

- Transfer callers directly to the greeting without ringing the extension that is assigned to the call handler (as applicable) whenever calls are transferred from the automated attendant or a directory handler to the user extension. (The phone rings if an outside caller or another Unity Connection SRSV user dials a user extension directly.)
- Prevents all callers from skipping the greeting.
- Prevents all callers from leaving messages (when the call handler is set up to take message).



Note Unity Connection SRSV plays the greetings that you customized according to the requirements but some greetings override other greetings when they are enabled during that duration.

The below table describes how greetings work when a call is placed:

Standard	Plays at all times unless overridden by another greeting. You cannot disable the standard greeting.
Closed	Plays during the closed (non-business) hours defined for the active schedule. A closed greeting overrides the standard greeting, and thus limits the standard greeting to the open hours defined for the active schedule.
Error	Plays if the caller enters invalid digits. This can happen if the digits do not match an extension, the extension is not found in the search scope, or the caller is otherwise restricted from dialing the digits. You cannot disable the error greeting. The system default error recording is, "I did not recognize that as a valid entry." By default, after the error greeting plays, Unity Connection replays the greeting that was playing when the caller entered the invalid digits.

Call handler owners can select a different call handler greeting or record the call handler greetings either from the System Call Handlers > Greetings page in Cisco Unity Connection SRSV Administration or using the Cisco Unity Greetings Administrator on a phone.

Message Settings

The message settings for a particular call handler greeting allows you to do the following:

- Configure the call handler to take a message after playing the greeting.
- You can specify who receives messages for the call handler, whether messages are marked for dispatch delivery.
- Define the maximum recording length for messages from outside callers.
- Decide what callers can do when leaving messages, whether the messages are automatically marked secure, and what action to take next on a call after a message is left.



Note For some integrations, you can set up Unity Connection SRSV so that as a caller records a message, a warning prompt is played before the caller reaches the maximum allowable message length.

Directory Handlers

You cannot create or delete directory handlers on the branch server. However, you can update the settings, if required.

Modifying a Directory Handler in Cisco Unity Connection Administration

Step 1 In Cisco Unity Connection SRSV Administration, expand **Call Management** and select **Directory Handlers**. The Search Directory Handlers page displays the currently configured directory handlers.

Step 2 To edit a directory handler (For more information on each field, see Help> This Page):

- a) On the Search Directory Handlers page, select the applicable directory handler that you want to update.
 - b) On the Edit Directory Handler page, enter the values of the required fields and select Save.
 - c) On the Edit Directory Handler page, in the Edit menu, select any of the following settings that you want to edit and then select Save:
 - Caller Input
 - Greetings
-

Networking

A branch server can be connected only to a single Unity Connection server. The Central Server Configuration page allows you to configure the IP address of the central Unity Connection server.

To Configure the Central Unity Connection Server

- Step 1** In Cisco Unity Connection SRSV Administration, expand **Networking** > **and** select **Central Server Configuration**.
- Step 2** On the Central Server Configuration page, enter the values of the required fields and select **Save**. (For information on each field, see [Help > This Page](#)).
-

System Settings

Schedules

The Search Schedules page displays the default schedules configured on the central Unity Connection server. You can create, modify, or delete schedules on the branch server.



Note You cannot delete the default schedules on the branch server.

Configuring Schedules in Cisco Unity Connection SRSV Administration

- Step 1** In Cisco Unity Connection SRSV Administration, expand System Settings and select Schedules. The Search Schedules page displays the currently configured schedules.
- Step 2** Configure a schedule (For more information on each field, see [Help > This Page](#)):
- To add a schedule:
 - a. On the Search Schedules page, select Add New.
 - b. On the New Schedule page, enter the Display Name and select Save.
 - c. In the Schedule Details menu, select Add New to enter the schedule specifications and select Save.
 - To edit a schedule:
 - a. On the Search Schedule page, select the schedule you want to modify.
 - b. On the Edit Schedule Basics page, modify the values of the required fields and select Save.
 - To delete a schedule:
 - a. On the Search Schedule page, check the check boxes to select the schedules that you want to delete.
 - b. Select Delete Selected and OK to confirm deletion.
-

Conversations

The Conversation Configuration page allows you to configure multiple IP address to connect to the Port Status Monitor and to enable the Port Status Monitor output. For more information on each field, see [Help> This Page](#).

Enterprise Parameters

Enterprise parameters for Unity Connection SRSV provide default settings that apply to all services in Cisco Unified Serviceability. You cannot add or delete enterprise parameters. You can update the existing enterprise parameters.



Note Many of the enterprise parameters rarely require change. Do not change an enterprise parameter unless you completely understand the feature you are changing or the Cisco Technical Assistance Center (Cisco TAC) specifies the change.

Configuring Enterprise Parameters in Cisco Unified Serviceability

-
- Step 1** In Cisco Unity Connection SRSV Administration, expand System Settings and select Enterprise Parameters.
 - Step 2** On the Enterprise Parameters page, enter the applicable settings. To set all service parameters to the default values, select Set to Default.
 - Step 3** To view a list of enterprise parameters and descriptions, select the ? button on the right side of the page and select Save. (For more information on each field, see [Help> This Page](#)).
-

Plugins

Application plugins extend the functionality of Unity Connection SRSV. For example, the Real-Time Monitoring Tool (RTMT) allows you to monitor the health of the system remotely through tools, such as, performance-monitoring counters and Port Monitor.



Note Before you install any plugin, you must disable all intrusion detection or anti-virus services that run on the server where you install the plugin.

Installing a Plugin

-
- Step 1** In Cisco Unity Connection SRSV Administration, expand System Settings and select Plugins.
 - Step 2** On the Search Plugins page, select Find.
 - Step 3** For the plugin that you want to install, select Download and follow the on-screen instructions for installing the plugin.
-

Telephony Integrations

Telephony integration allows the callers to leave messages for the users and access messages left between the branch server and the phone system.

Phone System

You cannot create or delete phone system integrations on a branch server.

Modifying Phone System Integration

-
- Step 1** In Cisco Unity Connection SRSV Administration, expand Telephony Integrations and select Phone System.
 - Step 2** On the Search Phone Systems page, select the phone system that you want to modify.
 - Step 3** On the Phone System Basics page, modify the values of the required fields and select Save. (For information on each field, see Help> This Page).
-

Port Group

You can create, modify, or delete the port groups on a branch server. For more information on port group, see the “[Port Group](#)” section of the “Telephony Integrations” chapter in the System Administration Guide for Cisco Unity Connection, Release 11.x, available at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/11x/administration/guide/b_cucsag.html.



Note You need to configure the port group for a branch server on Cisco Unity Connection SRSV Administration.

Port

You can create, modify, or delete ports on a branch server. For more information on ports, see the “[Port](#)” section of the “Telephony Integrations” chapter of the System Administration Guide for Cisco Unity Connection, Release 11.x, available at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/11x/administration/guide/b_cucsag.html.



Note You need to configure the ports for a branch server on Cisco Unity Connection SRSV Administration.

Security

You can generate new certificates and security profiles on a branch server when Cisco Unified Communications Manager is authenticated and encrypted for Unity Connection SRSV voicemail ports. For more information on security, see the “[Security](#)” section of the “Telephony Integrations” chapter of the System Administration

Guide for Cisco Unity Connection, Release 11.x, available at
https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/11x/administration/guide/b_cucsag.html.



Note You need to configure the certificates for a branch server on Cisco Unity Connection SRSV Administration.

Tools

Cisco Unity Connection SRSV Administration on the branch server allows you to modify the settings of the custom keypad mapping tool originally configured on a central Unity Connection server. For more information on custom keypad mapping, see the “[Custom Keypad Mapping Tool](#)” section of the “Tools” chapter of the System Administration Guide for Cisco Unity Connection, Release 11.x, available at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/11x/administration/guide/b_cucsag.html.



CHAPTER 4

Services in Cisco Unity Connection SRSV

Introduction

This chapter provides information on the various critical, base, and optional services in Cisco Unity Connection Survivable Remote Site Voicemail and a way to manage the services.

- [Unity Connection SRSV Services, on page 35](#)
- [Configuring Services in Control Center, on page 37](#)

Unity Connection SRSV Services

The [Table 1: Cisco Unity Connection SRSV Services](#) describes the services in Unity Connection SRSV:

Table 1: Cisco Unity Connection SRSV Services

Service	Description
Status Only Services	
Connection DB	This service activates the Cisco Unity Connection database and can be deactivated only using the Command Line Interface (CLI). Caution This service should always be in the Started state for the Unity Connection SRSV server to be functional. Stopping or restarting this service impacts other critical services.
Connection Server Role Manager	This service enables the server status when a Unity Connection cluster is configured and can be deactivated only using the CLI.
Connection Serviceability	This service enables the Cisco Unity Connection Serviceability Administration interface and can be deactivated only using the command-line interface (CLI).
Critical Services	

Service	Description
Connection Conversation Manager	This service enables Unity Connection to handle the calls. Disabling this service degrades the ability of Unity Connection to function.
Connection Message Transfer Agent	This service enables the delivery of messages to the message store. Disabling this service degrades the ability of Unity Connection to function.
Connection Mixer	This service enables the audio (media stream) for calls, recorded messages, and Text-to-Speech (TTS). Disabling this service degrades the ability of Unity Connection to function.
Connection Notifier	This service enables notification of messages, such as turning message waiting indicators (MWIs) on and off. Disabling this service degrades the ability of Unity Connection to function.
Base Services	
Connection DB Event Publisher	This service enables Unity Connection components to receive notifications for any changes made to the Unity Connection database.
Connection SRSV Administration	This service enables Cisco Unity Connection SRSV Administration and the settings that are saved in the interface.
Optional Services	
Connection Branch Sync Service	This service enables the Survivable Remote Site Voicemail (SRSV) feature.
Connection CM Database Event Listener	This service enables the detection of changes in the Cisco Unified Communications Manager database.
Connection Database Proxy	<p>This service allows tools that are not installed on the Unity Connection server (COBRAS, User Data Dump, Distribution List Builder, and so on) to gain direct access to the Unity Connection database via ODBC from a Windows client on the network.</p> <p>The service is off by default. To use any of these tools, you must enable the service, configure the time out for the service, and create a user that has the remote admin role. For more information, see the help file for the applicable tool.</p>
Connection Diagnostic Portal Service	This service enables access to data on Unity Connection SRSV by the Diagnostic Portal in the Real-Time Monitoring Tool (RTMT).

Service	Description
Connection Realtime Monitoring APIs	This service enables access to data on Unity Connection SRSV by Real-Time Monitoring Tool (RTMT).
Connection Reports Data Harvester	This service enables conversion of data in log files to entries in the reports database used to generate reports.
Connection REST Service	This service enables Representational State Transfer (REST) API clients.
Connection System Agent	This service schedules system tasks, for example, re-synchronizing MWIs that the administrator can enter in Cisco Unity Connection Administration.

Configuring Services in Control Center

The control center in Cisco Unity Connection Serviceability allows you to perform the following tasks:

- Activate and deactivate Unity Connection SRSV services in the Optional Services section.
- Start and stop all Unity Connection SRSV services except the services in the Status Only Services section.



Note Stopping Unity Connection SRSV services in the Critical Services section may cause calls in progress to be dropped and degrades the normal function of the Unity Connection SRSV.

- View the status of Unity Connection SRSV services.
- Refresh the status of Unity Connection SRSV services.



Tip You may need to manage services in both Cisco Unity Connection Serviceability and Cisco Unified Serviceability to troubleshoot a problem.

- Step 1** In Cisco Unity Connection Serviceability, expand **Tools > and select > Service Management**.
- Step 2** From the Server drop-down box, select the applicable Unity Connection SRSV server and select **Go**.
- Step 3** Configure services in control center (For information on each field, see Help> This Page):

- To activate a service in control center:
 - a. Under Optional Services, locate the service that you want to activate.
 - b. In the Change Activate Status column, select **Activate**.
- To deactivate a service in control center:

- a. Under Optional Services, locate the service that you want to deactivate.
 - b. In the Change Activate Status column, select **Deactivate**.
- To start a service in control center:
 - a. Locate the service that you want to start.
 - Note** Services that are deactivated must be activated before they can be started.
 - b. In the Change Service Status column, select **Start**.
 - To stop a service in control center:
 - a. Locate the service that you want to stop.
 - Note** Services in the Status Only Services section cannot be started or stopped in Cisco Unity Connection Serviceability. You must use the command line interface (CLI) to start or stop these services.
 - b. In the Change Service Status column, select **Stop**.
 - Note** Stopping Unity Connection SRSV services in the Critical Services section may cause calls in progress to be dropped and degrades the normal function of the Unity Connection SRSV. A service that is not activated cannot be started or stopped.
 - To refresh service status in control center:
 - a. Select **Refresh**.
 - b. The status information is updated to reflect the current status.
 - Note** You can activate, deactivate, start, and stop only one service at a time.
-



CHAPTER 5

Upgrading Cisco Unity Connection SRSV

- [Introduction, on page 39](#)
- [Upgrade Types, on page 39](#)
- [Status of Unity Connection Features During Unity Connection SRSV Upgrade, on page 40](#)
- [Duration of Upgrade, on page 40](#)
- [Task List for Upgrading Unity Connection SRSV, on page 40](#)
- [Upgrade Process, on page 41](#)
- [Switch Version, on page 42](#)
- [Switching to the Upgraded Version of Unity Connection SRSV, on page 42](#)

Introduction

You need to upgrade from the current version of Cisco Unity Connection SRSV to a higher version to use the new features. When you upgrade a server, the new version of Unity Connection SRSV is installed in a separate disk partition known as inactive partition. To activate the new version, you need to perform switch version. Following are the two ways to switch to the new version:

- **Automatic Switching:** Allows you to automatically switch to the new version of Unity Connection SRSV as part of the upgrade process.
- **Manual Switching:** Allows you to manually switch to the new version of Unity Connection SRSV after the successful completion of upgrade.



Note During the switch version of the Unity Connection SRSV, it is recommended to stop the automatic provisioning/vmupload feature at the central Unity Connection. To stop the automatic provisioning/vmupload feature, uncheck the Enabled check box on the Branch Listing page in Cisco Unity Connection Administration.

Upgrade Types

The Unity Connection SRSV upgrade files are available as ISO image files. You can use either of the following interfaces to upgrade Unity Connection SRSV:

- Command Line Interface (CLI). For more information, see [Upgrade Unity Connection SRSV Using CLI, on page 41](#) section.
- Cisco Unified OS Administration web interface. For more information, see [Upgrade Unity Connection SRSV From a Local DVD or a Network Location, on page 41](#) section.

You must save the COP files on a network location FTP/SFTP server accessible during the upgrade. ISO image can be saved on a local DVD or on a network location. The performance of the upgrades can be monitored through CLI or Cisco Unified Operating System Administration interfaces.

Status of Unity Connection Features During Unity Connection SRSV Upgrade

During the switch version of the Unity Connection SRSV, the telephone user interface (touchtone conversation) features and web features of Unity Connection are completely disabled for approximately 1 hour.

Duration of Upgrade

Under ideal network conditions, an upgrade process takes approximately four hours to upgrade to the Unity Connection SRSV server. Depending on the data size of the server, the switch version process may take two more hours to successfully upgrade to a new version.

If you are upgrading in a slow network condition, the upgrade process may take longer time than expected. It is always recommended to upgrade during off-peak hours or during a maintenance window to avoid service interruptions.

Task List for Upgrading Unity Connection SRSV

1. Review the list of features that are disabled or that have limited functionality during the upgrade. See the [Status of Unity Connection Features During Unity Connection SRSV Upgrade, on page 40](#).
2. Run the CLI command **run cuc preupgrade test** to verify the prerequisites before starting the upgrade.
3. Upgrade the Unity Connection SRSV software. For more information, see the [Upgrade Process, on page 41](#) section.
4. Switch to the upgraded software on the Unity Connection SRSV server. For more information, see the [Switch Version, on page 42](#) section.
5. Make sure that the central Unity Connection server and Unity Connection SRSV have same release version.
6. After switch version, perform manual synchronization through central Unity Connection server and restart the Connection Conversation Manager service on Unity Connection SRSV branch.

For information on manual synchronization between central and branch sever, see [Configuring Unity Connection SRSVSettings](#) section.

7. *(Applicable to Cisco Unity Connection 12.5(1) SU4 and later)* If Secure SIP call is configured on the system using SIP Integration then after successful upgrade, generate and upload RSA based Tomcat

certificates. To learn how to regenerate certificates, see section [Settings for RSA Key Based certificates of Cisco Unified Communications Manager SIP Integration Guide for Cisco Unity Connection Release 12.x](#) available at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/12x/integration/guide/cucm_sip/b_12xcucintcucmsip.html.



Note Verify that the value entered in **X.509 Subject Name** field on SIP Trunk Security Profile Configuration page of Cisco Unified Communication Manager is the FQDN of the Unity Connection server

Upgrade Process

Upgrade Unity Connection SRSV Using CLI

To upgrade Unity Connection SRSV using CLI, follow the upgrade process through the CLI interface. For more information, see the "[Utils System Upgrade](#)" section in the Command Line Interface Reference Guide for Cisco Unified Communications Solutions at http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucm/cli_ref/8_6_1/cli_ref_861.html



Note You can check the status of the upgraded software by running the CLI command `show cuc version`. The upgrade is complete when the inactive partition has the upgraded software and the active partition has the old software.

Upgrade Unity Connection SRSV From a Local DVD or a Network Location

-
- Step 1** Perform either of the following tasks:
- Copy the ISO file to a folder on an FTP or SFTP server accessible to Unity Connection.
 - Insert the DVD with the ISO file of the Unity Connection server that you want install into the disk drive of the server
- Step 2** In Cisco Unified Operating System Administration, expand Software Upgrades and select Install/Upgrade.
- Step 3** On the Software Installation/Upgrade page, in the Source field, select any one of the following:
- Remote Filesystem: Select this option to upgrade from remoter server and follow the procedure from [Upgrade Unity Connection SRSV From a Local DVD or a Network Location](#).
 - DVD/CD: Select this option to upgrade from disk drive and move to [Upgrade Unity Connection SRSV From a Local DVD or a Network Location](#)
- Step 4** Enter the values in the following fields:
- Directory
 - Server

- User Name
- User Password
- Transfer Protocol

Step 5 Select the upgrade version that you want to install and select Next. The upgrade file is copied to the hard disk of the Unity Connection server. When the file is copied, a screen displaying the checksum value appears.

Step 6 Verify the checksum.

Step 7 On the next page, monitor the progress of the upgrade.

Caution If you lose your connection with the remote server or close your browser during this step, you may see the following warning when you try to view the Software Installation/Upgrade page again:

Warning Another session is installing software, click Assume Control to take over the installation. To continue monitoring the upgrade, select Assume Control.

Step 8 Select Next.

Note During the initial phase of upgrade, the Installation Log text box in Cisco Unified Operating System Administration is updated with the information on the progress of the upgrade. To confirm the completion of upgrade, open the console of the Unity Connection server and make sure that a message indicating the completion of upgrade appears on the screen along with the login prompt.

Step 9 To verify if the upgrade is successful, run the following CLI commands:

- show cuc version: Displays the version of Unity Connection server in both active and inactive partitions. The upgraded Unity Connection version is in the inactive partition.
- utils system upgrade status: Displays the status of the upgrade that you performed. This command should display the message for successful upgrade along with the upgraded version.

Switch Version

After completing the upgrade process, you need to manually switch over to the upgraded version of the Unity Connection SRSV. For a single Unity Connection SRSV server, you can select either manual switch version or automatic switch version.

You can perform the switch version by running the `utils system switch-version` CLI command. The system automatically reboots after the switch version.

If you select not to automatically switch to the upgraded partition at the end of the upgrade, perform the following procedure when you are ready to switch partitions.

Switching to the Upgraded Version of Unity Connection SRSV

Step 1 In Cisco Unified Operating System Administration, expand Settings and select Version.

Step 2 On the Version Settings page, select Switch Versions to start the following activities:

- Unity Connection SRSV services are stopped.

- Data from the active partition is copied to the inactive partition. Note that the messages are stored in a common partition, therefore they are not copied.
 - The Unity Connection SRSV server restarts and switches to the newer version.
-



CHAPTER 6

Security in Cisco Unity Connection Survivable Remote Site Voicemail

- [Introduction, on page 45](#)
- [Using Self-Signed Certificate, on page 45](#)
- [Ignoring Certificate Error, on page 46](#)
- [Securing Communication between Unity Connection and Unity Connection SRSV, on page 47](#)
- [Unity Connection SRSV Passwords and Shared Secrets, on page 52](#)

Introduction

This chapter contains information on how to secure communication between central Cisco Unity Connection and Cisco Unity Connection SRSV. In addition, it explains about Unity Connection SRSV passwords and PINs.

Using Self-Signed Certificate

You can use the self-signed certificate to secure communication between central Unity Connection server and Unity Connection SRSV. By default, central Unity Connection server and Unity Connection SRSV does not accept self-signed certificates.

Accessing Self-Signed Certificates on Central Unity Connection Server

Step 1 Run the following command on the Linux console for Command Line Interface (CLI) using administrator credentials:

```
run cuc dbquery unitydirdb EXECUTE PROCEDURE  
csp_ConfigurationModify(pFullName='System.SRSV.AcceptSrsvSelfSignedCertificates', pValue='1')
```

Step 2 Run the following command to confirm that the value of “System.SRSV.AcceptSrsvSelfSignedCertificates” field is set to 1:

```
run cuc dbquery unitydirdb select objectid,fullname,value from vw_configuration where fullname like  
'%SRSV%'
```

After changing the value of System.SRSV.AcceptSrvSelfSignedCertificates to 1, you need to restart the Connection Branch Sync Service and Tomcat Service on the central Unity Connection server to reflect the changes and allow the self-signed certificate access.

Restarting the Cisco Tomcat Service

Step 1 Sign in to the Unity Connection server using an SSH application.

Step 2 Run the following CLI command to restart the Tomcat service:

```
utils service restart Cisco Tomcat
```

Ignoring Certificate Error

You can enable this functionality in Unity Connection SRSV to ignore errors related to SSL certificate of the central server. With this feature enabled, Unity Connection SRSV works even if any certificate error occurs.

Following are the certificate errors that may occur:

- The certificate is missing or has not been provided.
- The certificate is not yet valid.
- The certificate has expired.
- The name on the certificate does not match the host name.

Enabling the Ignoring Certificate Error Feature in Unity Connection SRSV

Step 1 Run the following command on Unity Connection SRSV:

```
run cuc dbquery unitydirdb EXECUTE PROCEDURE  
csp_ConfigurationModify(pFullName='System.SRSV.IgnoreSrvCertificateErrors', pValue='1')
```

Step 2 Run the following command to confirm that the value of "System.SRSV.IgnoreSrvCertificateErrors" field is set to 1.

```
run cuc dbquery unitydirdb select objectid,fullname,value from vw_configuration where fullname like  
'%SRSV%'
```

Note Make sure to restart the Connection Branch Sync service and Connection Tomcat service to reflect the changes.

Restarting the Cisco Tomcat Service

- Step 1** Sign in to the Unity Connection server using an SSH application.
- Step 2** Run the following CLI command to restart the Tomcat service

```
utils service restart Cisco Tomcat
```

Securing Communication between Unity Connection and Unity Connection SRSV

Unity Connection SRSV uses both Secure Sockets Layer (SSL) certificate and shared secrets to secure communication between the central Unity Connection and the branch. Following are the ways to secure communication between central Unity Connection server and Unity Connection SRSV:

- **Installing SSL Certificate:** When you install Unity Connection SRSV, a local certificate is automatically created and installed to secure communication between Unity Connection SRSV and Unity Connection. This means that all the network traffic (including usernames, passwords, other text data, and voicemails) between Unity Connection SRSV and Unity Connection is automatically encrypted.
- **Using Shared Secrets:** Unity Connection SRSV uses shared secrets to authenticate Unity Connection access. For more information on shared secrets, see the “[Unity Connection SRSV Passwords and Shared Secrets](#)” section of the “Passwords, PINs, and Authentication Rule Management” chapter of the Security Guide for Cisco Unity Connection, Release 11.x at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/11x/security/b_11xcusecx.html.

Task List for Securing Communication between Unity Connection SRSV Administration and Unity Connection SRSV

Perform the following tasks to create and install an SSL server certificate to secure communication between Unity Connection SRSV Administration and Unity Connection SRSV:

1. If you are using Microsoft Certificate Services to issue certificates: Install Microsoft Certificate Services. For information on installing Microsoft Certificate Services on a server running Windows Server 2003, see the [Installing Microsoft Certificate Services \(Windows Server 2003 Only\)](#), on page 50. For information on installing Microsoft Certificate Services on a server running a later version of Windows Server, see the Microsoft documentation.

If you are using another application to issue certificates, install the application. See the manufacturer documentation for installation instructions and skip to Task 2

If you are using an external certification authority to issue certificates, skip to Task 2



Note If you have already installed Microsoft Certificate Services or another application that can create certificate signing requests, skip to Task 2

2. Create a certificate signing request. Then download the certificate signing request to the server on which you installed Microsoft Certificate Services or another application that issues certificates, or download the request to a server that you can use to send the certificate signing request to an external certificate authority (CA). Do the [Creating and Downloading a Certificate Signing Request on Unity Connection SRSV](#), on page 48.
3. If you are using Microsoft Certificate Services to export the root certificate and to issue the server certificate: Do the procedure in the [Exporting the Root Certificate and Issuing the Server Certificate \(Microsoft Certificate Services Only\)](#), on page 51.



Note If you are using another application to issue the certificate, see the documentation of the application for information on issuing certificates. If you are using an external CA to issue the certificate, send the certificate signing request to the external CA. When the external CA returns the certificate, continue with Task [Task List for Securing Communication between Unity Connection SRSV Administration and Unity Connection SRSV](#)

Only PEM-formatted (also known as Base-64 encoded DER) certificates can be uploaded to Unity Connection SRSV. The certificate must have a .pem filename extension. If the certificate is not in this format, you can convert to PEM format using freely available utilities like OpenSSL.

4. Upload the root certificate and the server certificate to the Unity Connection SRSV server. Do the [Uploading Root and Server Certificates to Unity Connection SRSV](#), on page 49.
5. Prevent users from receiving a security alert whenever they access Unity Connection SRSV using the Unity Connection SRSV Administration or Cisco Unity Connection Administration. Do the following tasks on all the computers from which users can access Unity Connection SRSV:
 - Import the server certificate that you uploaded to the Unity Connection SRSV server in Task [Task List for Securing Communication between Unity Connection SRSV Administration and Unity Connection SRSV](#) into the certificate store. The procedure to import certificates differs from browser to browser. For more information [Task List for Securing Communication between Unity Connection SRSV Administration and Unity Connection SRSV](#) on importing certificates, see the documentation for the browser.
 - Import the server certificate that you uploaded to the Unity Connection SRSV server in Task [Task List for Securing Communication between Unity Connection SRSV Administration and Unity Connection SRSV](#) into the Java store. The procedure to import certificates differs from browser to browser. For more information on importing certificates, see the documentation for the browser.

Creating and Downloading a Certificate Signing Request on Unity Connection SRSV

- Step 1** In Cisco Unified Operating System Administration, expand Security and select **Certificate Management**.
- Step 2** On the Certificate List page, select **Generate CSR**.

- Step 3** On the Generate Certificate Signing Request page, in the **Certificate Name** list, select **tomcat** and then select **Generate CSR**.
- Step 4** When the Status area displays a message that the CSR was successfully generated, select **Close**.
- Step 5** On the Certificate List page, select **Download CSR**.
- Step 6** On the Download Certificate Signing Request page, in the **Certificate Name** list, select **tomcat** and then select **Download CSR**.
- Step 7** In the File Download dialog box, select **Save**.
- Step 8** In the Save As dialog box, in the **Save As Type** list, select **All Files**
- Step 9** Save the file **tomcat.csr** to a location on the server on which you installed Microsoft Certificate Services or on a server that you can use to send the CSR to an external certification authority.
- Step 10** On the Download Certificate Signing Request page, select **Close**.
-

Uploading Root and Server Certificates to Unity Connection SRSV

- Step 1** In Cisco Unified Operating System Administration, expand Security and select **Certificate Management**.
- Note** If you select **Find** to display a list of the certificates currently installed on the server, you see an existing, automatically generated, self-signed certificate for Tomcat. That certificate is unrelated to the Tomcat certificates that you upload in this procedure.
- Step 2** Upload the root certificate:
- On the Certificate List page, select **Upload Certificate**.
 - On the Upload Certificate page, in the Certificate Name list, select **tomcat-trust** but leave the Root Certificate field blank.
 - Select **Browse and navigate to** the location of the root CA certificate.

If you used Microsoft Certificate Services to issue the certificate, this is the location of the root certificate that you exported in the [Exporting the Root Certificate and Issuing the Server Certificate \(Microsoft Certificate Services Only\), on page 51](#).

If you used an external certification authority to issue the certificate, this is the location of the root CA certificate that you received from the external certification authority.
 - Select the name of the file and select **Open**.
 - On the Upload Certificate page, select **Upload File**.
 - When the Status area reports that the upload succeeded, select **Close**.
- Step 3** Upload the server certificate:
- On the Certificate List page, select **Upload Certificate**.
 - On the Upload Certificate page, in the Certificate Name list, select **tomcat**.
 - In the Root Certificate field, enter the filename of the root certificate that you uploaded in [Step 2](#).
 - Select **Browse** and navigate to the location of the server certificate.

If you used Microsoft Certificate Services to issue the certificate, this is the location of the server certificate that you issued in the [Exporting the Root Certificate and Issuing the Server Certificate \(Microsoft Certificate Services Only\), on page 51](#).

If you used an external certification authority to issue the certificate, this is the location of the server certificate that you received from the external certification authority.

- e) Select the name of the file and select **Open**.
- f) On the Upload Certificate page, select **Upload File**.
- g) When the Status area reports that the upload succeeded, select **Close**.

Step 4 Restart the Tomcat service (the service cannot be restarted from Cisco Unified Serviceability):

- a) Sign in to the Cisco Unity Connection SRSV server using an SSH application.
- b) Run the following CLI command to restart the Tomcat service:

```
utils service restart Cisco Tomcat
```

Restarting Connection Branch Sync Service on Unity Connection

Step 1 In Cisco Unity Connection Serviceability, expand Tools menu and select **Service Management**.

Step 2 In the Optional Services section, for the Connection Branch Sync service, select **Stop**.

Step 3 When the Status area displays a message that the Unity Connection IMAP Server service is successfully stopped, select **Start** for the service.

Installing Microsoft Certificate Services (Windows Server 2003 Only)

If you want to use a third-party certificate authority to issue SSL certificates, or if Microsoft Certificate Services is already installed, skip this section.

Do the procedure in this section if you want to use Microsoft Certificate Services to issue your own certificate and if you want to install the application on a server running Windows Server 2003.

If you want to install a root certification authority (the generic term for Microsoft Certificate Services) on a Windows Server 2008 server, refer to the Windows Server 2008 online help.

Step 1 On any server in which DNS name (FQDN) or IP address can be resolved by all client computers that access Unity Connection SRSV voicemails, sign in to Windows using an account that is a member of the local Administrators group.

Step 2 On the Windows Start menu, select **Settings > Control Panel** and select **Add or Remove Programs**.

Step 3 In the left pane of the Add or Remove Programs control panel, select **Add/Remove Windows Components**.

Step 4 In the Windows Components dialog box, check the **Certificate Services** check box.

Step 5 When the warning appears about not being able to rename the computer or to change domain membership, select **Yes**.

Step 6 Select **Next**.

Step 7 On the CA Type page, select **Stand-alone Root CA** and select **Next**. (A stand-alone certification authority (CA) is a CA that does not require Active Directory.)

Step 8 On the CA Identifying Information page, in the Common Name for This CA field, enter a name for the certification authority.

Step 9 Select the default value in the Distinguished Name Suffix field.

- Step 10** For Validity Period, select the default value of **5 Years** and select **Next**.
- Step 11** On the Certificate Database Settings page, select **Next** to accept the default values.
- If a message appears indicating that Internet Information Services is running on the computer and must be stopped before proceeding, select **Yes** to stop the services.
- Step 12** If you are prompted to insert the Windows Server 2003 disc into the drive, insert the disc.
- Step 13** In the Completing the Windows Components Wizard dialog box, select **Finish**.
- Step 14** Close the Add or Remove Programs dialog box.
-

Exporting the Root Certificate and Issuing the Server Certificate (Microsoft Certificate Services Only)

- Step 1** On the server on which you installed Microsoft Certificate Services, sign in to Windows using an account that is a member of the Domain Admins group.
- Step 2** On the Windows Start menu, select **Programs > Administrative Tools** and select **Certificate Authority**.
- Step 3** In the left pane, expand **Certification Authority (Local)** > select the certificate authority that you created while installing Microsoft Certificate Services in the [Installing Microsoft Certificate Services \(Windows Server 2003 Only\)](#), on page 50.
- Step 4** Export the root certificate:
- Right-click the name of the certification authority and select **Properties**.
 - On the General tab, select **View Certificate**.
 - Click the **Details** tab and select **Copy to File**.
 - On the Welcome to the Certificate Export Wizard page, select **Next**.
 - On the Export File Format page, select **Next** to accept the default value of **DER Encoded Binary X.509 (.CER)**.
 - On the File to Export page, enter a path and filename for the .cer file that you can access from the Unity Connection server.
- Note** Write down the path and filename. You need it in a later procedure.
- Follow the onscreen prompts until the wizard has finished the export.
 - Select **OK** to close the Certificate dialog box and select **OK** again to close the Properties dialog box.
- Step 5** Issue the server certificate:
- Right-click the name of the certification authority and select **All Tasks > Submit New Request**.
 - Browse to the location of the certificate signing request file that you created in the [Creating and Downloading a Certificate Signing Request on Unity Connection SRSV](#), on page 48, and double-click the file.
 - In the left pane of Certification Authority, select **Pending Requests**.
 - Right-click the pending request that you submitted in **b** and select **All Tasks > Issue**.
 - In the left pane of Certification Authority, select **Issued Certificates**.
 - Right-click the new certificate and select **All Tasks > Export Binary Data**.
 - In the Export Binary Data dialog box, in the Columns that Contain Binary Data list, select **Binary Certificate**.
 - In the Export Binary Data dialog box, select **Save Binary Data to a File** and select **OK**.
 - In the Save Binary Data dialog box, enter a path and filename. Select a network location that you can access from the Unity Connection SRSV server and select **OK**.

Note Write down the path and filename. You need it in a later procedure.

Step 6 Close Certification Authority.

Unity Connection SRSV Passwords and Shared Secrets

All the requests initiated from the central Unity Connection server to the Unity Connection SRSV server use administrator credentials of Unity Connection SRSV for communication whereas the requests from Unity Connection SRSV to Unity Connection use secret tokens for authentication.

The central Unity Connection server uses the administrator username and password of Unity Connection SRSV to authenticate access to the server. The username and password of the Unity Connection SRSV get stored in the Unity Connection database as you create a new branch on the central Unity Connection server.

During each provisioning cycle with Unity Connection SRSV, the central Unity Connection server generates a secret token and shares the token with Unity Connection SRSV. After the provisioning is completed from the Unity Connection SRSV site, it notifies Unity Connection using the same token. Then this token is removed from both Unity Connection and Unity Connection SRSV servers as soon as the provisioning cycle is completed. This concept of runtime token keys is known as shared secrets.

Changing Unity Connection SRSV User PIN

You can change the PIN of a Unity Connection SRSV user either from Cisco Unity Connection Administration or from the telephone user interface (TUI). After changing the PIN of the selected user, you need to provision the associated branch to update the user information in the Unity Connection SRSV database.



Note You cannot change the PIN of an SRSV user through Cisco Unity Connection SRSV Administration interface.



CHAPTER 7

Alarm and Events

- [Unity Connection SRSV Alarms and Events, on page 53](#)

Unity Connection SRSV Alarms and Events

The [Table 7-1](#) lists the types of alarms and events reported by Unity Connection SRSV. The table also provides the explanation for the alarms and the recommended actions to prevent the occurrence of similar events.

Cisco Unity Connection SRSV Alarms and Events

Alarm Name	Severity	Description	Route To	Explanation	
EvBranchNotReachable	ERROR_ALARM	Branch[name=%1, address=%2] is not reachable	Event Log, Alert Log	There is an issue with the connectivity between the central Unity Connection server and the specified branch.	<p>If there is no connectivity between the central Unity Connection server and the branch office, see the “Error Message Appears When Testing the Connectivity of Unity Connection with Branch” section of the “Troubleshooting Unity Connection SRSV” chapter in the Troubleshooting Guide for Cisco Unity Connection, Release 11.x, available at www.cisco.com/go/unity</p> <p>If the problem is not resolved then please contact Cisco TAC.</p>
EvBranchProvisioned	NORMAL_ALARM	The branch[name=%1, address=%2] has been successfully provisioned	Event Log, Alert Log	The branch has been successfully associated with the central Unity Connection server.	NONE

Alarm Name	Severity	Description	Route To	Explanation	
Event Provisioning Failed	WARNING_ALARM	Provisioning for branch[name=%1, address=%2] has failed	Event Log, Alert Log	The provisioning of branch has been failed.	<p>If there is no connectivity between the central Unity Connection server and the branch office, see the “Error Message Appears When Testing the Connectivity of Unity Connection with Branch” section of the “Troubleshooting Unity Connection SRSV” chapter in the Troubleshooting Guide for Cisco Unity Connection, Release 11.x, available at http://www.cisco.com/unity</p> <p>If the problem is not resolved then please contact Cisco TAC.</p>

Alarm Name	Severity	Description	Route To	Explanation	
Branch MRA E_Phone_MRA	ERROR_ALARM	Provisioning for branch[name=%1, address=%2] has failed after maximum %3 retries	Event Log, Alert Log	Provisioning for a branch has failed in all the retries.	<p>If there is no connectivity between the central Unity Connection server and the branch office, see the “Error Message Appears When Testing the Connectivity of Unity Connection with Branch” section of the “Troubleshooting Unity Connection SRSV” chapter in the Troubleshooting Guide for Cisco Unity Connection, Release 11.x, available at www.cisco.com/go/unity</p> <p>If the problem is not resolved then please contact Cisco TAC.</p>

Alarm Name	Severity	Description	Route To	Explanation	
BranchProvisioningFailed	ERROR_ALARM	A provisioning completion notification was not received for branch[name=%1, address=%2] within the maximum wait time of %3 minutes	Event Log, Alert Log	Provisioning for a branch has failed because the branch did not return the provisioning completion status within the defined timeframe.	<p>If there is no connectivity between the central Unity Connection server and the branch office, see the “Error Message Appears When Testing the Connectivity of Unity Connection with Branch” section of the “Troubleshooting Unity Connection SRSV” chapter in the Troubleshooting Guide for Cisco Unity Connection, Release 11.x, available at http://www.cisco.com/c/enr/td/docs/voice/unity/connection/srsv/11x/troubleshooting.html</p> <p>If the problem is not resolved then please contact Cisco TAC.</p>
BranchVoiceMailUpload	NORMAL_ALARM	Voice mail upload for branch[name=%1, address=%2] completed successfully. %3 messages were uploaded	Event Log	Voicemails from branch are uploaded on the central Unity Connection server.	NONE

Alarm Name	Severity	Description	Route To	Explanation	
ErrNoVcMUpload	ERROR_ALARM	Voice mail upload for branch[name=%1, address=%2] has failed	Event Log	No voicemail could be uploaded from the branch to the central Unity Connection server.	<p>If there is no connectivity between the central Unity Connection server and the branch office, see the “Error Message Appears When Testing the Connectivity of Unity Connection with Branch” section of the “Troubleshooting Unity Connection SRSV” chapter in the Troubleshooting Guide for Cisco Unity Connection, Release 11.x, available at www.cisco.com/go/unity</p> <p>If the problem is not resolved then please contact Cisco TAC.</p>

Alarm Name	Severity	Description	Route To	Explanation	
BranchVMailUpload	WARNING_ALARM	Voice mail upload for branch[name=%1, address=%2] partially completed. %3 messages out of %4 were uploaded	Event Log	All the voicemails could not be uploaded from branch to the central Unity Connection server.	<p>If there is no connectivity between the central Unity Connection server and the branch office, see the “Error Message Appears When Testing the Connectivity of Unity Connection with Branch” section of the “Troubleshooting Unity Connection SRSV” chapter in the Troubleshooting Guide for Cisco Unity Connection, Release 11.x, available at http://www.cisco.com/unity</p> <p>If the problem is not resolved then please contact Cisco TAC.</p>

Alarm Name	Severity	Description	Route To	Explanation	
EvCentralNotReachable	ERROR_ALARM	Central Unity Connection[address=%1] is not reachable	Event Log, Alert Log	There is an issue with the connectivity between the central Unity Connection server and the specified branch.	<p>If there is no connectivity between the central Unity Connection server and the branch office, see the “Error Message Appears When Testing the Connectivity of Unity Connection with Branch” section of the “Troubleshooting Unity Connection SRSV” chapter in the Troubleshooting Guide for Cisco Unity Connection, Release 11.x, available at www.cisco.com/...</p> <p>If the problem is not resolved then please contact Cisco TAC.</p>



CHAPTER 8

Cisco Unity Connection Survivable Remote Site VoiceMail APIs

- [Listing the Branches, on page 61](#)
- [Viewing Data for an Individual Branch, on page 63](#)
- [Creating a Branch, on page 65](#)
- [Updating a Branch, on page 67](#)
- [Deleting a Branch, on page 69](#)
- [Assigning a User to Branch, on page 69](#)
- [Removing a User from a Branch, on page 69](#)
- [Listing All Users of a Particular Branch, on page 70](#)
- [Creating a Call Handler for a Branch, on page 70](#)

Listing the Branches

The following is an example of the *GET* request that lists the branches associated with the Cisco Unity Connection server:

```
GET https://<connection-server>/vmrest/branches
```

The following is an example of response from the above *GET* request but the actual result depends on the information provided by you:

Response Code: 200

```
<Branches total="2">
  <Branch>
    <URI>/vmrest/branches/1e0ed69d-028d-4156-9d68-f14a90438448</URI>
    <ObjectId>1e0ed69d-028d-4156-9d68-f14a90438448</ObjectId>
    <IsAlive>true</IsAlive>
    <IsDisabled>>false</IsDisabled>
    <OperatorObjectId>159bb671-cbba-4964-b06b-871f990e1de8</OperatorObjectId>
    <Port>443</Port>
    <ProvisionState>0</ProvisionState>
    <ServerAddress>mysrsv.cisco.com</ServerAddress>
    <SyncGreetings>>false</SyncGreetings>
    <SyncVoiceName>>false</SyncVoiceName>
    <UserName>admin</UserName>
    <VmUploadState>0</VmUploadState>
    <DisplayName>Branch1</DisplayName>
```

```

<PartitionObjectId>d6ac04c5-fb36-4e21-9e60-d15e0f9c6971</PartitionObjectId>
<PartitionURI>/vmrest/partitions/d6ac04c5-fb36-4e21-9e60-d15e0f9c6971</PartitionURI>
<SmtplibDomain>mysrsvl.cisco.com</SmtplibDomain>
</Branch>
<Branch>
<URI>/vmrest/branches/c3816faf-8dc6-48f3-9c6a-b8e93bba1c42</URI>
<ObjectId>c3816faf-8dc6-48f3-9c6a-b8e93bba1c42</ObjectId>
<IsAlive>>true</IsAlive>
<IsDisabled>>false</IsDisabled>
<OperatorObjectId>159bb671-cbba-4964-b06b-871f990e1de8</OperatorObjectId>
<Port>443</Port>
<ProvisionState>0</ProvisionState>
<ServerAddress>mysrsvl.cisco.com</ServerAddress>
<SyncGreetings>>false</SyncGreetings>
<SyncVoiceName>>false</SyncVoiceName>
<UserName>admin</UserName>
<VmUploadState>0</VmUploadState>
<DisplayName>Branch2</DisplayName>
<PartitionObjectId>765cd618-0cff-43a4-b781-efdba282dba4</PartitionObjectId>
<PartitionURI>/vmrest/partitions/765cd618-0cff-43a4-b781-efdba282dba4</PartitionURI>
<SmtplibDomain>mysrsvl.cisco.com</SmtplibDomain>
</Branch>
</Branches>

```

The following chart lists the data fields:

Table 2: Explanation of Data Fields - Listing the Branches

Field Name	Read/Write	Possible Values	Description
ObjectId	Read/Write	objectid	The object id of the branch at central Unity Connection server.
IsAlive	Read	true/false	Connectivity status between the central Unity Connection server and the branch server.
IsDisabled	Read/Write	true/false	Disabled status of branch on the central Unity Connection server.
OperatorObjectId	Read/Write	objectid	The object id of the user who is assigned as the operator user for the branch on the central Unity Connection server.
Port	Read/Write	Port number	PAT port number for the branch server.
ProvisionState	Read/Write	0 – Idle, 1 – Scheduled, 2 – In-progress	Current provisioning status of branch on the central Unity Connection server.

Field Name	Read/Write	Possible Values	Description
ServerAddress	Read/Write	FQDN, IP Address	The address of the branch server.
SyncGreetings	Read/Write	true/false	Option to enable/disable syncing of greetings for users.
SyncVoiceName	Read/Write	true/false	Option to enable/disable syncing of voice names for users.
UserName	Read/Write	String	Username to be used for REST communication between the central Unity Connection and the branch server.
VmUploadState	Read/Write	0 – Idle, 1 – Scheduled, 2 – In-progress	Displays the status of the current voicemail upload status from branch to the central Unity Connection server.
DisplayName	Read/Write	String	Display name of the branch Unity Connection SRSV server on the central Unity Connection server.
PartitionObjectId	Read/Write	ObjectId	Partition object ID associated with the branch on the central Unity Connection server.
SmtpDomain	Read/Write	Domain name	SMTP domain of the branch server.

Viewing Data for an Individual Branch

The following is an example of the *GET* request that lists the properties of an individual branch associated with the central Unity Connection server:

```
GET https://<connection-server>/vmrest/branches/<objectId>
```

The following is an example of response from the above *GET* request but the actual result depends on the information provided by you:

Response Code: 200

```
<Branch>
```

```

<URI>/vmrest/branches/c3816faf-8dc6-48f3-9c6a-b8e93bba1c42</URI>
<ObjectId>c3816faf-8dc6-48f3-9c6a-b8e93bba1c42</ObjectId>
<IsAlive>>true</IsAlive>
<IsDisabled>>false</IsDisabled>
<OperatorObjectId>159bb671-cbba-4964-b06b-871f990e1de8</OperatorObjectId>
<Port>443</Port>
<ProvisionState>0</ProvisionState>
<ServerAddress>mysrsv.cisco.com</ServerAddress>
<SyncGreetings>>false</SyncGreetings>
<SyncVoiceName>>false</SyncVoiceName>
<UserName>admin</UserName>
<VmUploadState>0</VmUploadState>
<DisplayName>branch16</DisplayName>
<PartitionObjectId>765cd618-0cff-43a4-b781-efdba282dba4</PartitionObjectId>
<PartitionURI>/vmrest/partitions/765cd618-0cff-43a4-b781-efdba282dba4</PartitionURI>
<SmtDomain>mysrsv.cisco.com</SmtDomain>
</Branch>

```

The following chart lists the data fields.

Table 3: Explanation of Data Fields - Viewing Data for Individual Branch

Field Name	Read/Write	Possible Values	Description
URI	Read	URL to access the branch.	Server address of a particular branch.
ObjectId	Read/Write	object ID	The object id of the branch at the central Unity Connection server.
IsAlive	Read/Write	true/false	Connectivity status between the central and branch Unity Connection server.
IsDisabled	Read/Write	true/false	Disabled status of branch on the central Unity Connection server.
OperatorObjectId	Read/Write	Objectid	The object id of the user who is assigned as the operator user for the branch on the central Unity Connection server.
Port	Read/Write	Port number	PAT port number for the branch server.
Provision	Read/Write	State 0 – Idle, 1 – Scheduled, 2 – In-progress	Current provisioning status of branch on the central Unity Connection server.
ServerAddress	Read/Write	FQDN, IP Address	The address of the branch Unity Connection server.

Field Name	Read/Write	Possible Values	Description
SyncGreetings	Read/Write	true/false	Option to enable/disable syncing of greetings for users.
SyncVoiceName	Read/Write	true/false	Option to enable/disable syncing of voice names for users.
UserName	Read/Write	String	User name of the administrator of a particular branch.
VmUploadState	Read/Write	0 – Idle, 1 – Scheduled, 2 – In-progress	Current voicemail upload status of branch on the central Unity Connection server.
DisplayName	Read/Write	String	Display name of the branch server on the central Unity Connection server.
PartitionObjectId	Read/Write	ObjectId	Partition object ID associated with the branch on the central Unity Connection server.
PartitionURI	Read/Write	URL Partition	URL associated with the branch on the central Unity Connection server.
SmtptDomain	Read/Write	Domain name	SMTP domain of the branch server.

Creating a Branch

The following is an example of the *POST* request that is used for creating a branch on the central Unity Connection server:

POST https://<connection-server>/vmrest/branches

```
<Branch>
<IsDisabled>>false</IsDisabled>
<OperatorObjectId>159bb671-cbba-4964-b06b-871f990e1de8</OperatorObjectId>
<Port>443</Port>
<ServerAddress>mysrsv.cisco.com</ServerAddress>
<SyncGreetings>>false</SyncGreetings>
<SyncVoiceName>>false</SyncVoiceName>
<UserName>admin</UserName>
<Password>test</Password>
<DisplayName>branch16</DisplayName>
```

```
<PartitionObjectId>765cd618-0cff-43a4-b781-efdba282dba4</PartitionObjectId>
<SmtpDomain>mysrsv.cisco.com</SmtpDomain>
</Branch>
```

The mandatory properties are ServerAddress, UserName, Password, DisplayName, PartitionObjectId, and SmtpDomain.

The successful response code returned for this API is 201. The error response code and data depend on the information provided by you:

Response Code: 201

```
/vmrest/branches/c3816faf-8dc6-48f3-9c6a-b8e93bba1c42
```

The following chart lists the data fields:

Table 4: Explanation of Data Fields - Creating a Branch

Field Name	Read/Write	Possible Values	Description
IsDisabled	Read/Write	true/false	Enables or activates the branch.
OperatorObjectId	Read/Write	Object ID of the operator.	The operator or the user that must be used to synchronize the messages received by the branch server.
Port	Read/Write	Port number	A port number that the branch uses to communicate with Cisco Unity Connection.
ServerAddress	Read/Write	FQDN, IP Address	The IP address or the Fully Qualified Domain Name (FQDN) of the branch server.
SyncGreetings	Read/Write	true/false	Synchronize the greetings for the users on the branch server.
SyncVoiceName	Read/Write	true/false	Synchronize the recorded voice name of the user on the branch server.
UserName	Read/Write	String	The user name of the administrator of the branch Unity Connection server.
Password	Read/Write	String	The password of the administrator of the branch server.

DisplayName	Read/Write	String	Display name of the branch server on the central Unity Connection server.
PartitionObjectId	Read/Write	ObjectId	Partition object ID associated with the branch on the central Unity Connection server.
SmtDomain	Read/Write	Domain name	SMTP domain of the branch server.

Updating a Branch

The following is an example of the *PUT* request that is used for updating a branch on the central Unity Connection server:

PUT https://<connection-server>/vmrest/branches/c3816faf-8dc6-48f3-9c6a-b8e93bba1c42

```
<Branch>
<IsDisabled>>false</IsDisabled>
<OperatorObjectId>159bb671-cbba-4964-b06b-871f990e1de8</OperatorObjectId>
<Port>443</Port>
<ServerAddress>mysrsv.cisco.com</ServerAddress>
<SyncGreetings>>false</SyncGreetings>
<SyncVoiceName>>false</SyncVoiceName>
<UserName>admin</UserName>
<Password>test</Password>
<DisplayName>branch16</DisplayName>
<PartitionObjectId>765cd618-0cff-43a4-b781-efdba282dba4</PartitionObjectId>
<SmtDomain>mysrsv.cisco.com</SmtDomain>
<ProvisionState>1</ProvisionState>
<VmUploadState>0</VmUploadState>
</Branch>
```

This *PUT* request is also used for scheduling a branch for provisioning and voicemail upload. Only the properties mentioned in above XML are writable at the time of modifying a branch. The properties, ProvisionState and VmUploadState, cannot be put in the request XML at the same time as a branch can be scheduled either for provisioning or voicemail upload, at a given point of time. The value of those fields can only be 1.

The successful response code returned for this API is 201. The error response code and data depend on the information provided by you:

Response Code: 201

```
/vmrest/branches/c3816faf-8dc6-48f3-9c6a-b8e93bba1c42
```

The following chart lists the data fields:

Table 5: Explanation of Data Fields - Updating a Branch

Field Name	Read/Write	Possible Values	Description
------------	------------	-----------------	-------------

IsDisabled	Read/Write	true/false	Enables or activates the branch.
OperatorObjectId	Read/Write	Object ID of the operator.	The operator or the user that must be used to synchronize the messages received by the branch server.
Port	Read/Write	Port number	A port number that the branch uses to communicate with Unity Connection.
ServerAddress	Read/Write	FQDN, IP Address	The IP address or the Fully Qualified Domain Name (FQDN) of the branch server.
SyncGreetings	Read/Write	true/false	Synchronize the greetings for the users on the branch.
SyncVoiceName	Read/Write	true/false	Synchronize the recorded voice name of the user on the branch.
UserName	Read/Write	String	The user name of the administrator of the branch server.
Password	Read/Write	String	The password of the administrator of the branch server.
DisplayName	Read/Write	String	Display name of the branch server on the central Unity Connection server.
PartitionObjectId	Read/Write	ObjectId	Partition object ID associated with the branch on the central Unity Connection server.
SmtptDomain	Read/Write	Domain name	Smtpt domain of the branch server.
ProvisionState	Read/Write	0 – Idle, 1 – Scheduled, 2 – In-progress	Current provisioning status of branch on central Unity Connection server.

VmUploadState	Read/Write	0 – Idle, 1 – Scheduled, 2 – In-progress	Current voicemail upload status of branch on central Unity Connection server.
---------------	------------	--	---

Deleting a Branch

The following is an example of the Delete request that is used for deleting a branch on the central Unity Connection server:

```
DELETE /vmrest/branches/c3816faf-8dc6-48f3-9c6a-b8e93bba1c42
```

A branch with this API cannot be deleted if the branch is in a In-Progress state either for provisioning or voicemail upload.

The successful response code returned for this API is 201 but the error response code and data depend on the information provided by you:

Response Code: 201

Data: NA

Assigning a User to Branch

The following is an example of the Put request that is used for assigning a branch to a user by allocating the branch partition to it:

```
PUT /vmrest/users/<userObjectId>
<User>
<PartitionObjectId>partitionObjectIdMappedToBranch</PartitionObjectId>
</User>
```

To fetch the partition information of a branch, you can use the API to view the details of a branch. See the [Viewing Data for an Individual Branch](#) section for more information. The PartitionObjectId element given in the response XML of this section denotes the partition mapped with the branch.

Response Code: 204

Removing a User from a Branch

The following is an example of the Put request that is used for removing a user from a branch by modifying its partition to some other partition that is not mapped to that branch:

```
PUT /vmrest/users/<userObjectId>
<User>
<PartitionObjectId>partitionObjectIdNotMappedToBranch</PartitionObjectId>
</User>
```

You can use the API to view the partition information of a branch. For more information, see the [Viewing Data for an Individual Branch](#) section. The PartitionObjectId element given in the response XML of this section denotes the partition mapped with the branch.

Response Code: 204

Listing All Users of a Particular Branch

The following is an example of the Get request that is used to list the users those are part of a particular branch by searching with the partition object ID of the branch:

```
GET /vmrest/users?query=(PartitionObjectId is partitionObjectIdMappedToBranch)
```

Response Code: 200

```
<Users total="10">
<User>
<URI>/vmrest/users/cb13e6a9-7322-45fa-91cd-7a0b1e21b754</URI>
<ObjectId>cb13e6a9-7322-45fa-91cd-7a0b1e21b754</ObjectId>
</User>
</Users>
```

Table 6: Explanation of Data Fields - Listing All Users Part of a Particular Branch

Field Name	Read/Write	Possible Values	Description
URI	Read	URL to access the branch.	Server address of a particular branch.
ObjectId	Read/Write	object ID	The object id of the branch at the central Unity Connection server.

Creating a Call Handler for a Branch

The following is an example of the Put request that is used to create a call handler:

```
POST /vmrest/handlers/callhandlers?templateObjectId=<callhandlerTemplateObjectId>
<Callhandler>
<DisplayName>Test</DisplayName>
</Callhandler>
```

This is an existing API for creating a call handler that can be used at the branch as well.

Response Code: 201

```
/vmrest/handlers/callhandlers/<callhandlerObjectId>
```



INDEX

- A**
- activating services [37](#)
 - alternate contact numbers, configuring for call handlers [27](#)
- C**
- call handlers [26, 27](#)
 - call transfer settings [26](#)
 - caller input and one-key dialing [27](#)
 - greetings [27](#)
 - Control Center [35, 37](#)
 - list of services [35](#)
 - using to manage services [37](#)
- D**
- deactivating services [37](#)
- F**
- feature services [35, 37](#)
 - list of [35](#)
 - starting, stopping, restarting and refreshing [37](#)
- G**
- greetings [27](#)
 - call handlers [27](#)
- O**
- one-key dialing [27](#)
 - configuring [27](#)
 - one-key dialing (*continued*)
 - overview [27](#)
- R**
- refreshing services [37](#)
- S**
- services [35, 37](#)
 - activating [37](#)
 - deactivating [37](#)
 - list of [35](#)
 - refreshing [37](#)
 - starting [37](#)
 - stopping [37](#)
 - starting services [37](#)
 - stopping services [37](#)
 - system distribution lists [24](#)
 - overview [24](#)
- T**
- task lists [40](#)
 - for upgrading Connection 7.x software to shipping 8.x version [40](#)
- U**
- upgrading [39, 40](#)
 - about the process [39](#)
 - Connection 7.x software to shipping 8.x version (task list) [40](#)

