



Cisco TelePresence VCS and Cisco Unity Connection Voicemail Integration

Deployment Guide

Cisco VCS X8.2
CUC version 8
Cisco TMS 13.2 or later

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Introduction

Objectives and intended audience

This deployment guide provides guidelines on how to configure the Cisco TelePresence Video Communication Server (VCS) and Cisco Unity Connection (CUC) to interwork via a SIP trunk.

When these products are interworked, the CUC can be used to provide voicemail services for VCS users.

Deployment scenario

A company already has CUC running their telephone network. They want to integrate this with a VCS Control, which connects their video conferencing systems, so that voice and video terminals can leave voicemail for video users across one unified network.

Summary of configuration process

This document specifies how to configure CUC (version 8), VCS Control (version X7.1 or later) and Cisco TelePresence Management Suite (Cisco TMS) (version 13.2 or later, if Provisioning Extension mode is required) so that:

- video endpoints connected to the VCS can leave voicemail for other video endpoints connected to the same VCS
- external callers can leave voicemail for video endpoints connected to the VCS
- video endpoints can dial the CUC pilot number (the directory number used to access voice message mailboxes)
- E20 endpoints display a Message Waiting Indicator (MWI) – the envelope button on the E20 flashes when a message is waiting
- the MWI button on the E20 can be used to dial back in to the CUC voicemail system

The configuration process describes the configuration of each system (VCS, Cisco TMS and CUC) separately.

Configuring VCS for CUC integration

Configuration of the VCS Control to enable calls to be made to the CUC Voicemail Server can be broken down into the following steps:

- create a neighbor zone to link to the CUC server
- add a search rule so that calls can be routed to voicemail

Create a neighbor zone to the CUC server

1. Go to **Configuration > Zones > Zones**.
2. Click **New**.
3. Configure the fields as follows (leave all other fields with default values):

Name	Enter the name you want to give this zone, for example "CUC".
Type	Select <i>Neighbor</i> .
H.323 mode	Select <i>Off</i> .
SIP mode	Select <i>On</i> .
SIP port	Enter 5060.
Transport	Select <i>TCP</i> .
Accept proxied registrations	Select <i>Allow</i> .
Location	Enter the IP address or FQDN of the CUC server.
Zone profile	Select <i>Cisco Unified Communication Manager</i> .

4. Click **Create zone**.

Create zone You are here: [Configuration](#) > [Zones](#) > [Zones](#) > Create zone

Configuration

Name * ⓘ

Type * ⓘ

Hop count * ⓘ

H.323

Mode ⓘ

Port * ⓘ

SIP

Mode ⓘ

Port * ⓘ

Transport ⓘ

Accept proxied registrations ⓘ

Media encryption mode ⓘ

Authentication

Authentication policy ⓘ

SIP authentication trust mode ⓘ

Location

Peer 1 address ⓘ

Peer 2 address ⓘ

Peer 3 address ⓘ

Peer 4 address ⓘ

Peer 5 address ⓘ

Peer 6 address ⓘ

Advanced

Zone profile ⓘ

Add a search rule to route calls to the CUC server

1. Go to **Configuration > Dial plan > Search rules**.
2. Click **New**.
3. Configure the fields as follows:

Rule name	Enter a name for the rule, for example “CUC Voicemail”.
Description	Enter a description, for example “Cisco Unity Connection Voicemail”.
Priority	Set the priority to 10, or a number such that the call routing goes via the target zone specified in this procedure, rather than routing to the voicemail server via another PBX such as CUCM.

Protocol	Select <i>Any</i> .
Source	Select <i>Any</i> .
Request must be authenticated	Select <i>No</i> .
Mode	Select <i>Alias Pattern Match</i> .
Pattern type	Select <i>Prefix</i> .
Pattern string	Enter a pattern string to match the pilot number being used by the voicemail system, in this example we are using 83333.
Pattern behavior	Select <i>Leave</i> .
On successful match	Select <i>Stop</i> .
Target zone	Select the zone you created in the previous step.
State	Leave as <i>Enabled</i> .

4. Click **Save**.

Create search rule You are here: [Configuration](#) > [Dial plan](#) > [Search rules](#) > Create search rule

Configuration

Rule name: * CUC Voicemail i

Description: Cisco Unity Connection Voicemail i

Priority: * 10 i

Protocol: Any i

Source: Any i

Request must be authenticated: No i

Mode: Alias pattern match i

Pattern type: Prefix i

Pattern string: * 83333 i

Pattern behavior: Leave i

On successful match: Stop i

Target: * CUC i

State: Enabled i

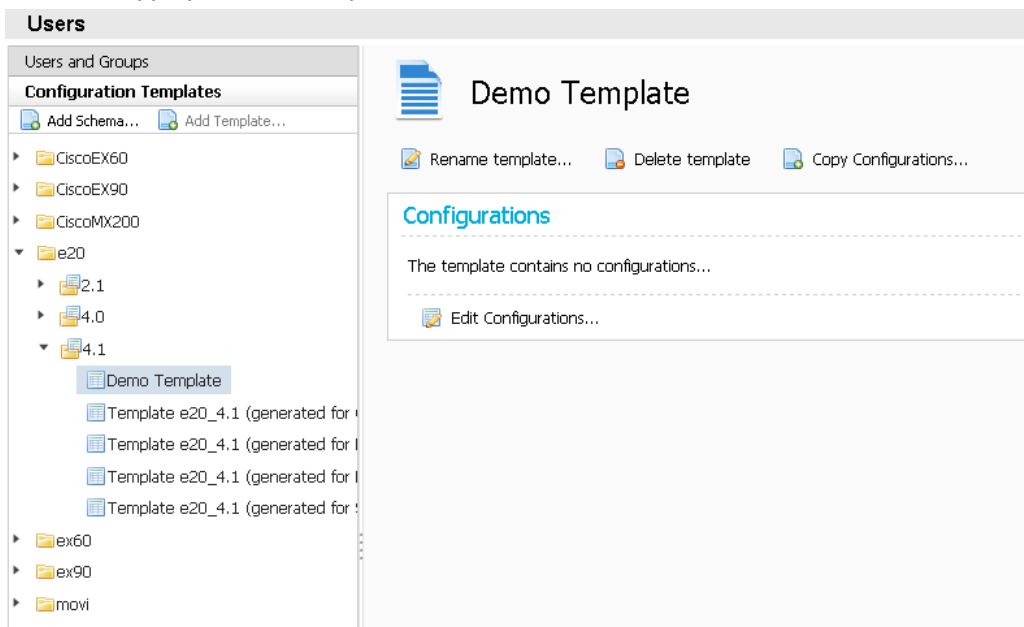
Configuring Cisco TMS for CUC integration

Configuration of the Cisco TMS to enable integration of the CUC Voicemail Server can be broken down into the following steps:

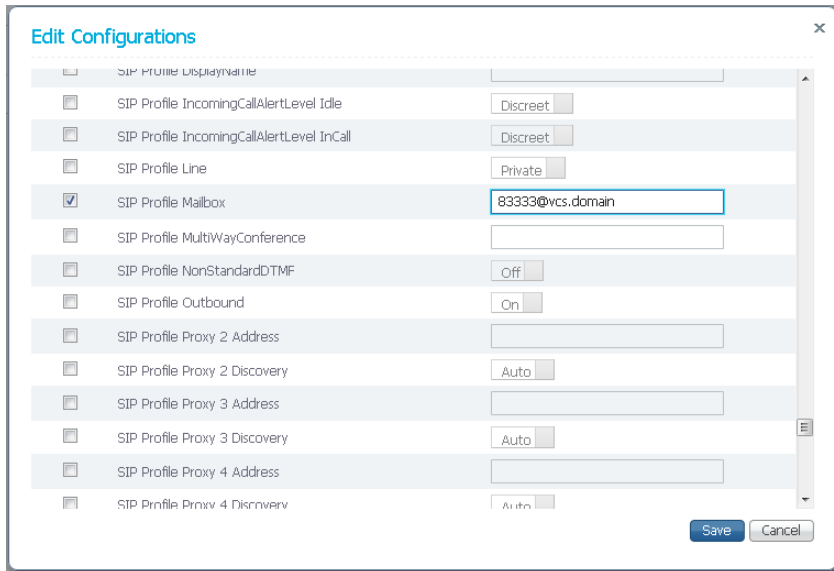
- add a mailbox number to the provisioning data so that the E20 envelope (MWI) button will call back the correct pilot number of the voicemail system
- add a voicemail device to the FindMe template (Cisco TMSPE), so that Busy or No Answer calls are forwarded to the voicemail system

Add a mailbox number to the provisioning data

1. Go to **Systems > Provisioning > Users**.
2. Select **Configuration Templates**.
3. Select the appropriate e20 template.

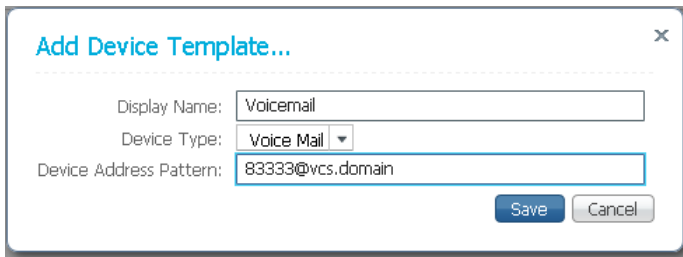


4. Click **Edit Configurations**.
5. Go to **SIP Profile Mailbox** and select the check box next to it.
6. Enter the CUC Pilot Number.
7. Click **Save**.

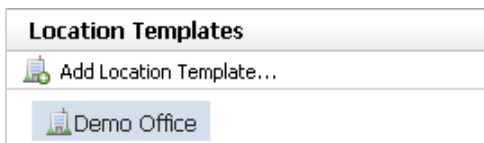


Add a voicemail device to the FindMe Template

1. Go to **Systems > Provisioning > FindMe**.
2. Select **Device Templates**.
3. Click **Add Device Template**.
4. Enter the **Display Name** and **Device Address Pattern** as required, set **Device Type** to *Voice Mail*.



5. Click **Save**.
6. Select **Location Templates**, and select the required location.



7. Click **Assign Templates**.
8. Select the **Busy Device** and **No Answer Device** check boxes next to the voicemail device that was just created.
9. Click **Save**.

Configuring CUC

Configuration of the CUC to enable integration back to the video network can be broken down into the following steps:

- create the telephony integration to add the VCS as a Phone System on the CUC
- create the Port Group for the new Phone System
- create the Ports for the new Port Group
- create the VCS users' mailboxes on the CUC

Create the telephony integration to add the VCS as a Phone System:

1. Go to **Telephony Integrations > Phone System**.
2. Click **Add New**.
3. Enter a **Phone System Name**, in this example we are using "VCSSystem".
4. Click **Save**.

Phone System

Phone System Name*

Default TRAP Phone System

Message Waiting Indicators

Send Message Counts

Use Same Port for Enabling and Disabling MWIs

Force All MWIs Off for this Phone System

Synchronize All MWIs on This Phone System

Call Loop Detection by Using DTMF

Enable for Supervised Transfers

Enable for Forwarded Message Notification Calls (by Using DTMF)

DTMF Tone To Use

Guard Time milliseconds

Call Loop Detection by Using Extension

Enable for Forwarded Message Notification Calls (by Using Extension)

Phone View Settings

Enable Phone View

CTI Phone Access Username

CTI Phone Access Password

Outgoing Call Restrictions

Enable outgoing calls

Disable all outgoing calls immediately

Disable all outgoing calls between

Beginning Time:

Ending Time:

Fields marked with an asterisk (*) are required.

Create the Port Group for the new Phone System:

1. Go to **Telephony Integrations > Port Group**.
2. Click **Add New**.

- Configure the fields as follows:

Phone System	Select the new Phone System, for example "VCSSystem".
Create From	Select <i>Port Group Template</i> and choose <i>SIP</i> .
Display Name	Accept the default display name, in this case "VCSSystem-1".
Authenticate with SIP Server	Select this check box and enter authentication details as appropriate if using device authentication on the VCS.
SIP Security Profile	Select <i>5060</i> .
Transport Protocol	Select <i>TCP</i> .
IP Address or Host name	Enter the IP address or host name of the VCS.

- Click **Save**.

New Port Group from Template

Phone System: VCSSystem

Create From: Port Group Template SIP Port Group VCSSystem-1

Port Group Description

Display Name*: VCSSystem-1

Authenticate with SIP Server

Authentication Username:

Authentication Password:

Contact Line Name:

SIP Security Profile: 5060

SIP Transport Protocol: TCP

Primary Server Settings

IP Address or Host Name*: 10.44.9.217

Port: 5060

- Edit the new Port Group and make sure that **Enable Message Waiting Indicators** is selected.
- Click **Save**.
- If required, click **Reset** to reset the Port Group.

Port Group

Display Name*

Integration Method

Reset Status

Session Initiation Protocol (SIP) Settings

Register with SIP Server

Authenticate with SIP Server

Authentication Username

Authentication Password

Contact Line Name

SIP Security Profile

SIP Transport Protocol

Advertised Codec Settings

Display Name	Packet Size
<input type="text" value="G.711 mu-law"/>	<input type="text" value="20"/>
<input type="text" value="G.729"/>	<input type="text" value="20"/>

Message Waiting Indicator Settings

Enable Message Waiting Indicators

Delay Between Requests milliseconds

Maximum Concurrent Requests

Retries After Successful Attempt

Retry Interval After Successful Attempt milliseconds

Fields marked with an asterisk (*) are required.

Create the Ports for the new Port Group:

1. Go to **Telephony Integrations > Port**.
2. Add a Port to the Port Group, ensuring that it is **Enabled** and that every **Port Behavior** option is selected.
3. Click **Save**.

New Phone System Port

Enabled

Number of Ports

Phone System

Port Group

Server

Port Behavior

Answer Calls

Perform Message Notification

Send MWI Requests (may also be disabled by the port group)

Allow TRAP Connections

Create the VCS users' mailboxes on the CUC:

The VCS users have to be manually added to the CUC.

- The **Extension** MUST be numeric. Therefore we recommend that it is set to match the user's E.164 ENUM number or FindMe Caller ID number.
- If the VCS user already has a mailbox for their Unified CM phone, the VCS username can be entered as an **Alternate Extension** for the existing Unified CM mailbox. This allows the user to only have a single voicemail box to manage, rather than individual mailboxes for Unified CM and VCS accounts.

To configure a new CUC user:

1. Go to **Users > Users**.
2. Click **Add New**.
3. Enter the user details as appropriate, at a minimum:
 - a. Set **Alias** to the username for the VCS user.
 - b. Set **Extension** to the **FindMe Caller ID** or **E.164 number** for the VCS user, or their VCS username if it is purely numeric.
4. Click **Save**.

The screenshot shows the configuration page for a new user. The 'Name' section includes fields for Alias* (vcsuser03), First Name (Movi-53003), Last Name (vcsuser03), Display Name (Movi-53003 vcsuser03), SMTP Address (vcsuser03@ukdev-ps-cuc1.vcs.domain), Initials, Title, and Employee ID. The 'Phone' section includes fields for Extension* (53003), Cross-Server Transfer Extension, Outgoing Fax Number, Outgoing Fax Server (--- Not Selected ---), Partition (ukdev-ps-cuc1 Partition), Search Scope (ukdev-ps-cuc1 Search Space), Phone System (VCSSystem), Class of Service (Voice Mail User COS), and Active Schedule (Weekdays). There are also checkboxes for 'Set for Self-enrollment at Next Sign-In', 'List in Directory', 'Send Non-Delivery Receipts on Failed Message Delivery', 'Skip PIN When Calling From a Known Extension', and 'Use Short Calendar Caching Poll Interval'. A 'Recorded Name' field with a 'Play/Record' button is at the bottom.

5. Set up the users' passwords according to local policy by going to **Users > Users > [Select the User to be edited] > Edit > Password Settings**.

Choose Password

Voice Mail

Save

Voice Mail Password Settings

Locked by Administrator

User Cannot Change

User Must Change at Next Sign-In

Does Not Expire

Authentication Rule: Recommended Voice Mail Authentication Rule

Time Last Changed: 9/13/10 2:31 PM

Failed Sign-In Attempts: 0

Time of Last Failed Sign-In Attempt:

Time Locked by Administrator:

Time Locked Due to Failed Sign-In Attempts:

Unlock Password

Save

Alternate extensions

VCS users who have an alphanumeric username must have Alternate Extensions configured on their CUC user account. To do this:

1. Go to **Users > Users > [Select the User to be edited] > Edit > Alternate Extensions**.
2. Click **Add New**.
3. Select a **Phone Type** from as appropriate.
4. Enter the **Phone Number** of the user. This must match the alphanumeric username of the user on the VCS.
5. Click **Save**.

Administrator Defined Alternate Extension

Phone Type*: Work Phone

Display Name:

Phone Number*: vcsuser03

Partition: ukdev-ps-cuc1 Partition

Show Advanced Settings

Fields marked with an asterisk (*) are required.

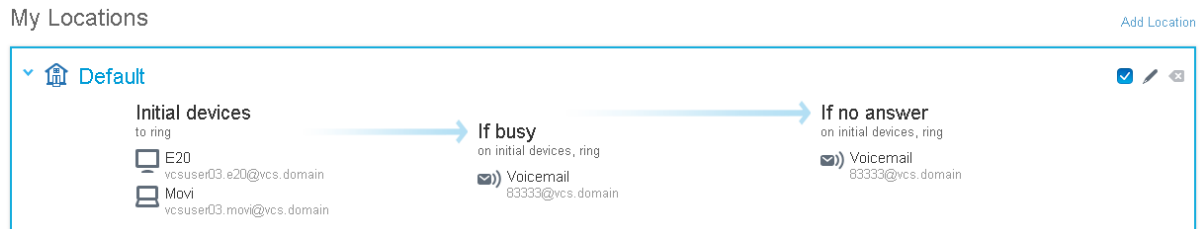
Save Delete

Note: You cannot configure CUC to send Message Waiting Indicators to an alphanumeric extension at present. See [“Message Waiting Indicator to alphanumeric extensions \[p. 14\]”](#) for more information.

Supplementary information

FindMe

When using Cisco TMSPE mode, the FindMe page will look as follows:



Integrating CUC with a VCS cluster

Multiple VCS IP addresses can be added to a single Telephony Integration in CUC. To do this:

1. Go to **Telephony Integration > Port Group > [Select Port Group to be edited] > Edit Servers**.
2. Add a new SIP Server with appropriate details.
3. Click **Save**.

SIP Servers

Delete Selected Add

	Order	IP Address or Host Name	Port	TLS Port
<input type="checkbox"/>	0	10.44.9.217	5060	5061
<input type="checkbox"/>	0	10.44.9.219	5060	5061

Delete Selected Add

TFTP Servers

Delete Selected Add

	Order	IP Address or Host Name
<input type="checkbox"/>		

Delete Selected Add

Save

Note that after adding a new SIP Server to the Port Group, the Port Group may need to be reset.

Message Waiting Indicator to alphanumeric extensions

The CUC sends the SIP NOTIFY message with MWI to the primary extension at the configured IP address or hostname of the SIP Server, for example 53003@10.44.9.217

The VCS can use an ENUM zone to convert this extension back to an alphanumeric SIP URI, and therefore display the MWI indicator on the appropriate E20 endpoint

See *ENUM Dialing on VCS Deployment Guide* for further information.

Endpoint specific considerations

E20 with TE4.0 firmware

The E20 now sends a Remote-Party-ID field, which is favored over the From field by Unity to associate the incoming call with a mailbox. The Remote-Party-ID field is not rewritten as part of the source alias rewriting for FindMe.

Therefore an Alternate Extension should also be datafilled for the E20 URI, for example if the FindMe address is vcsuser03 and that has been added as one alternate extension, another should be added for vcsuser03.e20 depending on the naming schema used.

Document revision history

The following table summarizes the changes that have been applied to this document.

Revision	Date	Description
6	June 2014	Republished for X8.2.
5	December 2013	Updated for VCS X8.1.
4	August 2012	Updated for Cisco VCS X7.2.
3	March 2012	Updated for Cisco VCS X7.1 and Cisco TMS Provisioning Extension mode.
2	September 2011	Added a note to clarify how to add a Cisco VCS user to an existing mailbox.
1	February 2011	Initial release.

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