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Introduction

This document describes the procedure to integrate Cisco Unified Communication Manager (CUCM) with Cisco Unity Connection (CUC) using Skinny Call Control Protocol (SCCP) protocol. In this example, the SCCP integration is non-secure.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- CUCM
- CUC

Components Used

The information in this document is based on these software and hardware versions:

- CUCM 8.x and higher
- CUC 8.x and higher

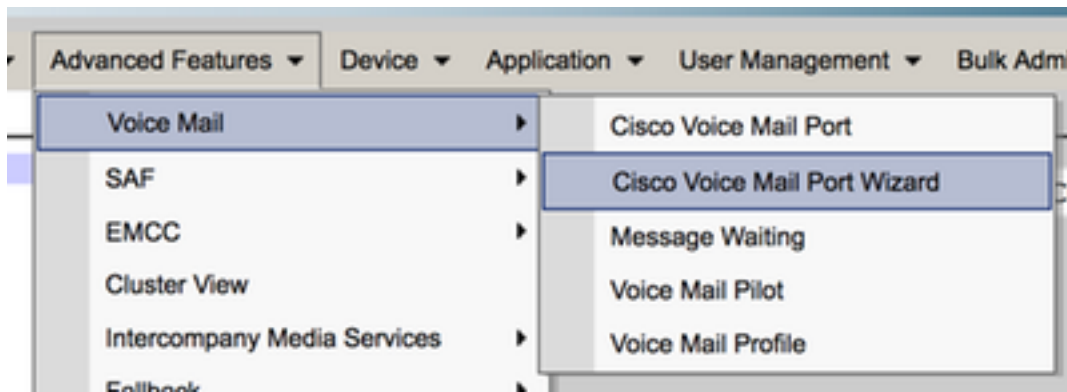
The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Configure

Configuration on CUCM

CUCM has an inbuilt wizard to create ports for Unity Connection. Complete these steps in order to create ports on CUCM:

Step 1. On CUCM Administration page, Navigate to **Advanced Features > Voicemail > Cisco Voice Mail Port Wizard**.

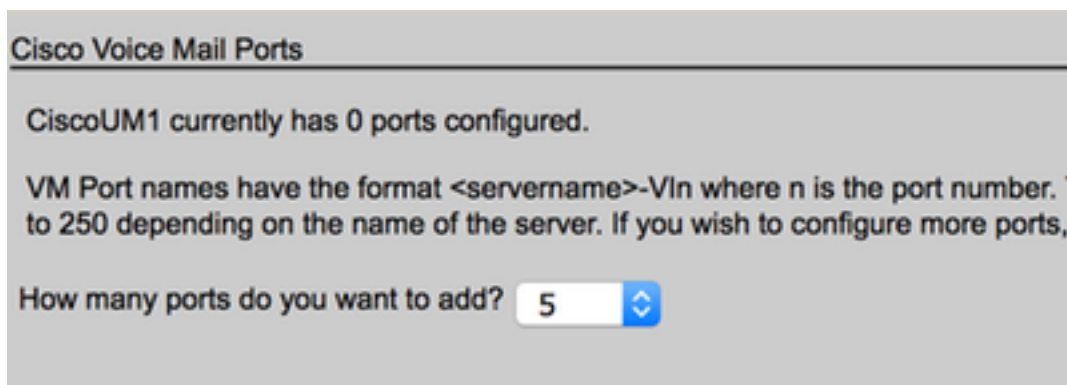


Step 2. Choose a Device name. The default is **CiscoUM1**.



Note: Use the same device name on Unity Connection. CUCM appends '-VI' along with the port number. For example, CiscoUM1-VI1, CiscoUM1-VI2, etc. On Unity Connection, configure device name as **CiscoUM1-VI**. CUC does not append '-VI' to the device name.

Step 3. From the drop down menu, select the number of ports. Unity Connection can handle up to 255 ports on a single server.



Note: Unity Connection 8.x requires port license. Select the number of ports here based on the available ports in Unity Connection license.

Note: Unity Connection 9.x and higher does not have port license. The maximum number of ports depends on the hardware (Physical & Virtual Machine (VM)) configuration. Refer to the Unity Connection Supported Platforms List document. For a VM, the OVA template number of Users option determines the available ports on Unity Connection. Select the number of ports here based on the Unity Connection hardware configuration.

Step 4. Provide the Device Information such as **Description**, **Device Pool**, **Calling Search Space** and **Location**. Set **Device Security Profile** to **Non Secure Voice Mail Port**.

Cisco Voice Mail Device Information

Enter the device information for ports A Device Pool selection is required. The Wizard applies these :

Device Information

Description	UnityPorts
Device Pool*	Default
Calling Search Space	< None >
AAR Calling Search Space	< None >
Location*	Hub_None
Device Security Mode*	Non Secure Voice Mail Port
Use Trusted Relay Point*	Default

Step 5. Enter the directory number of the first port. The port number of the subsequent ports increments by one. For example, the **Beginning Directory Number** is set to 2001. The port numbers are 2001 to 2005. Assign an appropriate **Partition** and **Calling Search Space**.

Cisco Voice Mail Directory Numbers

Enter the directory number settings for the new Cisco Voice Mail Server If a Partition is selected, you must select a Partition.

Beginning Directory Number *	2001 (external number)
Partition	< None >
Calling Search Space	< None >
AAR Group	< None >
Internal Caller ID Display	VoiceMail
Internal Caller ID Display (ASCII format)	VoiceMail
External Number Mask	

* - indicates required item

Step 6. Select the appropriate option on the next page. In the example, this is a new integration and a Line Group does not exist. Select **Yes. Add directory numbers to a new Line Group**.

Do you want to add these directory numbers to a Line Group?

For using these ports, you need to add corresponding directory numbers. If you decide to add it later, you can do so by using Line Group configuration.

- Yes. Add directory numbers to a new Line Group.
- Yes. Add directory numbers to an existing Line Group.
- No. I will add them later.

Step 7. Provide a Line Group name.

Line Group

Enter the Line Group settings for Cisco Voice Mail Server

Line Group Name

Step 8. The next page provides a summary of the configuration provided in the previous steps. If there are any issues, go back to the previous page and make changes. Click **Finish** after verification.

Ready to Add Cisco Voice Mail Ports

The information shown below will be applied to the Cisco Voice Mail Ports being created. If the information shown is not correct, click the Back button to edit the information, or Cancel to abort the operation.

Cisco Voice Mail Device Information (apply to all ports)

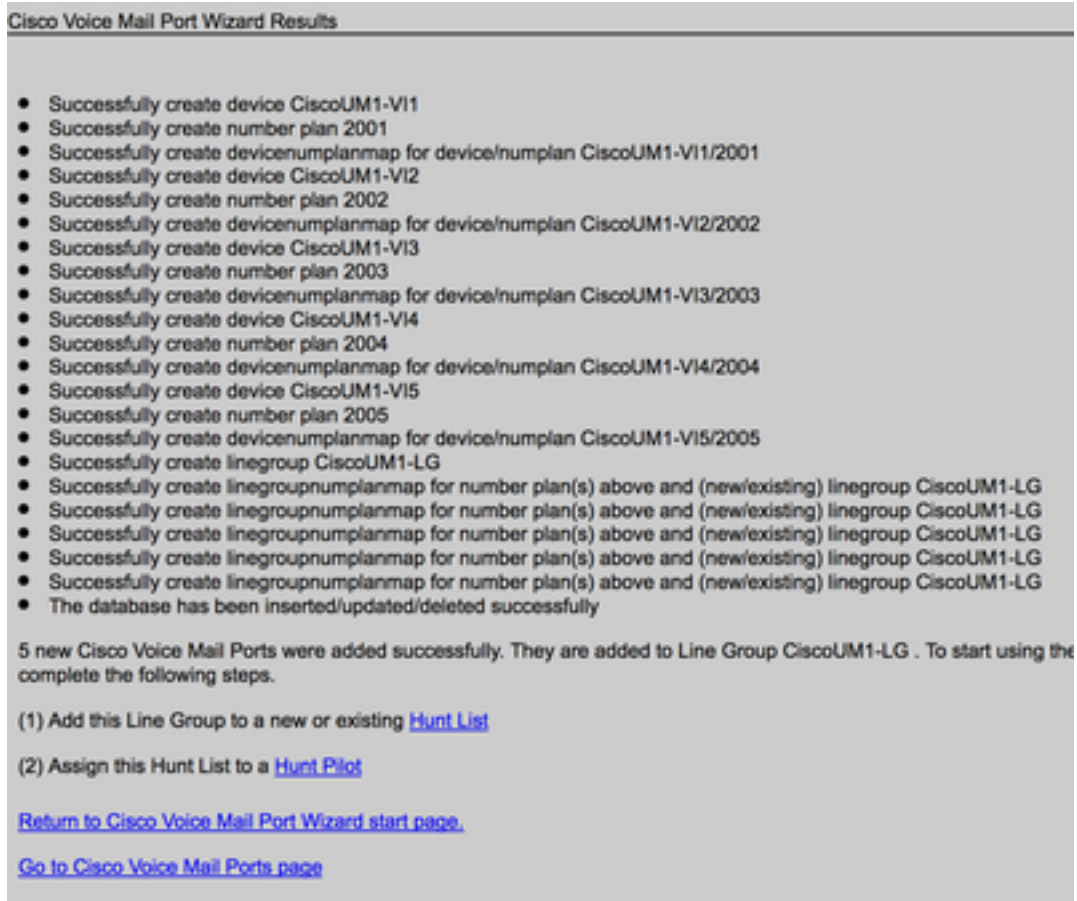
Number of Ports to Add	5 (adding ports)
Cisco Voice Mail Server Name	CiscoUM1
Description	UnityPorts
Device Pool	Default
Calling Search Space	< None >
AAR Calling Search space	< None >
Location	Hub_None
Device Security Mode	Non Secure Voice Mail Port
Use Trusted Relay Point	Default

Directory Number Information

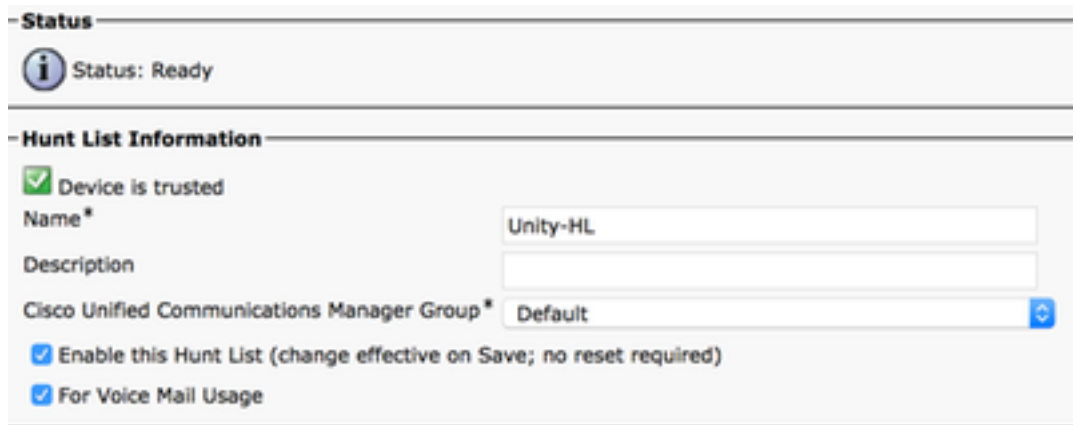
New Directory Numbers	2001 – 2005
Partition	< None >
Calling Search Space	< None >
AAR Group	< None >
Internal Caller ID Display	VoiceMail
Internal Caller ID Display (ASCII format)	VoiceMail
External Number Mask	< None >
Line Group	CiscoUM1-LG

Back < **Finish** >

Step 9. The port creation result shows on the next page.




Step 10. Add the Line Group to a Hunt List. Click on the Hunt List option to create a new Hunt List or choose an existing one. Add the Line Group **CiscoUM1-LG** to the Hunt List **Unity-HL**. On the Hunt List enable the two options as shown in the image.



Step 11. Configure a Hunt Pilot number. Either go to the wizard and click on **Hunt Pilot** or navigate to **Call Routing > Route/Hunt > Hunt Pilot** to create a Hunt Pilot. Select the Hunt List **Unity-HL** from the drop down list.

Status

 Status: Ready

Pattern Definition

Hunt Pilot*

Route Partition

Description

Numbering Plan

Route Filter

MLPP Precedence*

Hunt List* [\(Edit\)](#)

Call Pickup Group

Alerting Name

ASCII Alerting Name

Step 12. Configure a Voicemail Pilot number. The VM Pilot number is same as the Hunt Pilot number. Navigate to **Advanced Features > Voicemail > Voicemail Pilot** to add a new VM Pilot number. Users can dial the VM Pilot / Hunt Pilot number to reach Unity Connection.

- Voice Mail Pilot Information

Voice Mail Pilot Number

Calling Search Space

Description

Make this the default Voice Mail Pilot for the system

Step 13. Configure a Voicemail Profile. The VM Pilot is associated with the VM Profile. Navigate to **Advanced Features > Voicemail > Voicemail Profile** to add a new VM Profile. The VM Profile is associated with a Line Directory Number (DN) on a user's phone. Users can press the message button on the phone to reach Unity Connection.

Voice Mail Profile Information

Voice Mail Profile Name*

Description

Voice Mail Pilot**

Voice Mail Box Mask

Make this the default Voice Mail Profile for the System

Step 14. Configure Message Waiting Indicator (MWI) On and Off number. Navigate to **Advanced Features > Voicemail > Message Waiting** to create MWI numbers

Message Waiting Numbers (1 - 2 of 2)		
Find	Message Waiting Numbers	where Directory Number
<input type="checkbox"/>		Directo
<input type="checkbox"/>		2998
<input type="checkbox"/>		2999

Configuration on Cisco Unity Connection

Complete these steps in order to create ports on CUC:

Step 1. On CUC Administration page, navigate to **Telephony Integrations > Phone System**. Click **Add** and provide a Phone System name.

Phone System

Phone System Name*

Step 2. The defaults are used on the Phone System Basics page. In order to view information about the additional configuration for the Phone System, navigate to **Help > This page**.

Phone System Basics (Unity-SCCP)

Phone System Edit Refresh Help

Phone System

Phone System Name*

Step 3. [Optional] In order to import CUCM users to CUC, configure AXL servers on the Phone System. Navigate to **Edit > Cisco Unified Communications Manager AXL server**.

AXL Servers			
<input type="button" value="Delete Selected"/>		<input type="button" value="Add New"/>	
<input type="checkbox"/>	Order	IP Address	Port
<input type="checkbox"/>	0	10.106.98.95	8443
<input type="button" value="Delete Selected"/>		<input type="button" value="Add New"/>	

AXL Server Settings

Username:

Password:

Add the CUCM Publisher and the Subscribers that run the AXL service. Use port 8443/443. The username is an application user (on CUCM) with AXL roles assigned to it. In this example, the CUCM Admin user is used. This user has all the roles by default.

Step 4. Navigate back to the Phone System basic page. On the top right corner, select **Add a Port Group** from the related links menu.

Search Phone Systems ▶ Phone System Basics (Unity-SCCP)

Related Links

Step 5. Create a Port Group. Provide a Display Name for the Port Group. The Device Prefix here should match the name of the Voice Mail server provided in **Step 3 of the CUCM configuration** with a suffix of VI. In this example, the Voice Mail server name is CiscoUM1 on CUCM. On CUC, the Device Prefix is CiscoUM1-VI.

Port Group

Display Name*

Integration Method

Device Name Prefix*

Reset Status

Message Waiting Indicator Settings

Enable Message Waiting Indicators

MWI On Extension

MWI Off Extension

Step 6. Provide the MWI On and Off numbers. The MWI numbers on CUCM and CUC match.

Step 7. Provide the CUCM Publisher's IP address/Hostname in the **IPv4 address or Host Name** field and **Save**.

MWI On Extension

MWI Off Extension

Primary Server Settings

IPv4 Address or Host Name

IPv6 Address or Host Name

Port

TLS Port

Step 8. Navigate to **Edit > Server** on the same page and add the additional CUCM servers in the same cluster for failover. Assign a preference with the help of **Order** number. Order 0 has highest preference followed by 1, 2 and so on. The ports register to the CUCM server with Order 0. If this server is not available, the ports register to the subsequent servers in the list.

<input type="checkbox"/>	Order	IPv4 Address or Host Name	IPv6 Address or Host Name	Port	TLS Port	Server Type
<input type="checkbox"/>	0	10.106.98.95		2000	2443	Cisco Unified Communications Manager

Reconnect to a Higher-order Cisco Unified Communications Manager When Available

TFTP Servers

<input type="checkbox"/>	Order	IPv4 Address or Host Name	IPv6 Address or Host Name
<input type="checkbox"/>	0	10.106.98.95	

Check the “**Reconnect to a Higher-Order Cisco Unified Communications Manager When Available**” for the ports to fall back to the higher order CUCM server once it becomes available. Otherwise, the ports remain registered to the lower preference server.

Step 9. Navigate to **Add Ports** from the **Related Links** menu on the top right corner.

Search Port Groups ▶ Port Group Basics (SCCP-PortGroup)

Related Links

Step 10. Configure number of ports. This matches the ports on CUCM.

New Phone System Port

Enabled

Number of Ports

Phone System

Port Group

Server

Step 11. Select the appropriate **Phone System**, **Port Group** and **Server**.

Note: From the **Server** drop down menu, select the Publisher CUC server and create ports. To add ports for the Subscriber CUC server, navigate to the same Port Group **SCCP-PortGroup** and choose **Add Ports** from the **Related Links** menu on the top right corner. On the **New Phone System Port page**, choose the Subscriber server from the **Server** drop down menu. With this method, both Publisher and Subscriber Unity ports register with the same Device Name prefix. Alternatively, create a new port group in the same Phone System with a different device name prefix for the Subscriber ports.

Verify

Use this section to confirm that your configuration works properly.

On CUCM Administration page, navigate to **Advanced feature > Voicemail > Voicemail Ports** to confirm port registration.

<input type="checkbox"/>	Device Name ^	Description	Device Pool	Device Security Mode	Calling Search Space	Extension	Partition	Status	IPv4 Address
<input type="checkbox"/>	CiscoUM1-VI1	UnityPorts	Default	Non Secure Voice Mail Port		2001		Registered with 10.106.98.95	10.127.226.5
<input type="checkbox"/>	CiscoUM1-VI2	UnityPorts	Default	Non Secure Voice Mail Port		2002		Registered with 10.106.98.95	10.127.226.5
<input type="checkbox"/>	CiscoUM1-VI3	UnityPorts	Default	Non Secure Voice Mail Port		2003		Registered with 10.106.98.95	10.127.226.5
<input type="checkbox"/>	CiscoUM1-VI4	UnityPorts	Default	Non Secure Voice Mail Port		2004		Registered with 10.106.98.95	10.127.226.5
<input type="checkbox"/>	CiscoUM1-VI5	UnityPorts	Default	Non Secure Voice Mail Port		2005		Registered with 10.106.98.95	10.127.226.5

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.