# **Cisco Unified CM**

This document covers the requirements, features and highlights some of the configuration of the DuVoice integration with Cisco Unified Communications Manager (CUCM). This interface will not work with Cisco Communications Manager Express.

# Requirements

- Cisco Unified Communications System version: 8.6.2.20000-2 or above.
- DuVoice 5.10.030 or above.
- Network connection between DuVoice and Cisco.
- Cisco Administration XML version 8.5.

# **PBX Configuration**

# **SIP Account**

Create an end user account for the voicemail to login.

-User Information -		
User ID*	2001	
Password	•••••	Edit Credential
Confirm Password	•••••	
PIN	•••••	Edit Credential
Confirm PIN	•••••	
Last name*	Voicemail	
Middle name		
First name	Hospitality	
Telephone Number	2001	
Mail ID		
Manager User ID		
Department		
User Locale	< None >	
Associated PC		
Digest Credentials		
Confirm Digest Credentials		

#### • User ID

Enter the primary number for the DuVoice system. In these examples we used the extension 2001.

#### Password

Enter any alphanumeric value you like. This will be entered in the Password field when configuring the voicemail port.

• PIN

Enter anything you like, this field is not used.

• Last name

You must enter a something in this field.

- First name
- Not required.

#### Telephone Number

Enter the extension number entered for the User ID field.

Device Information	
Controlled Devices	Device Association
Available Profiles	
CTI Controlled Device Profiles	
Extension Mobility-	
Available Profiles	
	<
Controlled Profiles	
Default Profile	Not Selected 🗸
Presence Group*	Standard Presence group 🗸
SUBSCRIBE Calling S	arch Space < None >
Allow Control of D	rice from CTI
Enable Extension 1	bility Cross Cluster
Directory Number	
Directory Number A Primary Extension <	

┌ Mobility Information	
Enable Mobility	
Primary User Device	< None >
Enable Mobile Voice Access	
Maximum Wait Time for Desk Pickup*	10000
Remote Destination Limit*	4
Remote Destination Profiles	View Details
CAPF Information	
Associated CAPF Profiles	View Details
Permissions Information	
Groups	Add to User Group  View
Details Roles	*
<u>Details</u>	▼ <u>View</u>

# Phone Device

Create a phone device to represent the voicemail system.

•

•

•

•

•

Device Information —					
Registration	Unregiste	ered			
IP Address	192.168.	11.25			
Active Load ID	Unknowr	1			
Device is Active					
🛆 Device is not trusted					
MAC Address*					
Description	DuVoice	voicemail			
Device Pool*	Default		•	View Details	
Common Device Configuration	< None	>	•	<u>View Details</u>	
Phone Button Template $^{*}$	Third-pa	arty SIP Device (Basic)	•		
Common Phone Profile*	Standar	d Common Phone Profile	-		
Calling Search Space	< None	>	-		
AAR Calling Search Space	< None	>	•		
Media Resource Group List	< None	>	•		
Location*	Hub_No	ne	-		
AAR Group	< None	>	-		
Device Mobility Mode*	Off		-	View Current	
		1obility Settings			
Owner User ID	< None	>	-		
Use Trusted Relay Point*	Default		-		
Always Use Prime Line*	Default		•		
Always Use Prime Line for Voice Message*	Default		•		
Calling Party Transformation CSS	< None	>	•		
Geolocation	< None	>	-		
Vse Device Pool Callin	ng Party T	ransformation CSS			
Ignore Presentation Ir	ndicators	(internal calls only)			
🗹 Logged Into Hunt Grou	qu				
Remote Device					
Protocol Specific Infor	mation-				
Presence Group*		Standard Presence group		<b>-</b>	
MTP Preferred Originating Codec* 711ulaw					
Device Security Profile*					
		This party of Device basic - Standard S			

Standard SIP Profile

2001

Require DTMF Reception

Media Termination Point Required

Rerouting Calling Search Space

SUBSCRIBE Calling Search Space < None >

#### MLPP Information-

Unattended Port

SIP Profile\*

Digest User

MLPP Domain < None >

#### MAC Address

Enter the same MAC address which the Dialogic HMP is licensed for. This field is entered without any colons.

• Digest User

Choose the end user account you created in the previous step.

# Line Device

Create a line device for this phone device.

Directory Number I	nformation —				
Directory Number*	2001				
Route Partition	< None >				
Description	All DuVoice por	ts			
Alerting Name					
ASCII Alerting Name					
	SEP00241DDAE	R3BF			
	51, 552, 1255		Edit Device Edit Line Appearance	e -	
Dissociate Devices		••••	~		
Directory Number S	ettings —				
Voice Mail Profile	< N	lone >	✓ (Choose <none> to us</none>	se system default)	
Calling Search Space	< N	lone >	•		
Presence Group*	Star	ndard Pre	esence group 🔻		
User Hold MOH Audio	Source < N	lone >	▼		
Network Hold MOH Au	dio Source < N	lone >	<b></b>		
AAR Settings					
	Voice Mail		AAR Destination Mask	AAR Group	
AAR 🔲 o	or			< None >	•
Retain this destination forwarding history	ation in the call				
🔽 Retain this destina		ings —			
Retain this destination forwarding history	all Pickup Setti Vo	ings iice ail	Destination	Calling Search Space	
Retain this destination forwarding history	all Pickup Setti Vo Mi	oice ail	Destination	Calling Search Space Use System Default	•
Retain this destina forwarding history - Call Forward and Ca	all Pickup Setti Vo Mi	oice ail Cy	Destination		•
Retain this destin forwarding history Call Forward and Ca Calling Search Space	all Pickup Setti Vo Mi e Activation Polic	<b>ail</b> Cy Dr		Use System Default	
Retain this destin forwarding history Call Forward and Ca Calling Search Space Forward All	all Pickup Setti Vo Mi a Activation Polic constant constant o constant cons	nice ail Cy Dr Forward /		Use System Default < None >	•
Retain this destin forwarding history Call Forward and Ca Calling Search Space Forward All Secondary Calling Se Forward Busy Interna	all Pickup Setti Vo Ma e Activation Polic o earch Space for al o	Forward /	All	Use System Default < None > < None >	•
Retain this destination     forwarding history     Call Forward and Call     Calling Search Space     Forward All     Secondary Calling Sea     Forward Busy Internation     Forward Busy Externation	all Pickup Setti Vo Mi e Activation Polic e arch Space for al 0 o al 0	ice ail Cy For Forward / pr 1 pr 1	All 1141 1141	Use System Default < None >	• • •
Retain this destini forwarding history Call Forward and Ca Calling Search Space Forward All Secondary Calling Se Forward Busy Interna Forward Busy Externa Forward No Answer I	all Pickup Setti Vo Mi e Activation Polic earch Space for al o al o internal o	Forward A pr 1 pr 1 pr 1 pr 1 pr 1	All 1141 1141 1141	Use System Default < None >	• • •
Retain this destini forwarding history	all Pickup Setti Vo Mi e Activation Polic earch Space for al 0 al 0 internal 0 external 0	ice ail cy for 7 forward / for 1 for 1 for 1 for 1	All 1141 1141	Use System Default < None >	• • • •
Retain this destini forwarding history Call Forward and Ca Calling Search Space Forward All Secondary Calling Se Forward Busy Interna Forward Busy Externa Forward No Answer I	all Pickup Setti Vo Mi e Activation Polic e o earch Space for al 0 o al 0 internal 0 c e 0 o c	vice avii Cy Forward / or 1 or 1 or 1 or 1 or 1	All 1141 1141 1141	Use System Default < None >	• •
Retain this destini forwarding history	all Pickup Setti Vo Mi e Activation Polic e arch Space for al 0 internal 0 e 0 o	vice avii Cy Forward / or 1 or 1 or 1 or 1 or 1	All 1141 1141 1141	Use System Default < None >	• • • •
Retain this destini forwarding history	all Pickup Setti Vo Mi e Activation Polic e o e o e o e o e o e o	vice avii Cy Forward / or 1 or 1 or 1 or 1 or 1 or 1 or 1 or 1	All 1141 1141 1141	Use System Default < None >	•
Retain this destina forwarding history	all Pickup Setti Vo Mi e Activation Polic e arch Space for al 0 al 0 internal 0 e 0 e 0 e 0 re 0 0	vice avid For Cy Forward / Dor 1 Dor 1 Dor 1 Dor 1 Dor 1 Dor 2 Dor	All 1141 1141 1141	Use System Default < None >	
Retain this destination     forwarding history     Call Forward and Call     Calling Search Space     Forward All     Secondary Calling Se     Forward Busy Internation     Forward Busy Externation     Forward No Answer E     Forward No Answer E     Forward No Answer E     Forward No Coverage     Internation     Forward No Coverage     Internation     Forward No Coverage     Externation     Forward On CTI Failu     Forward Unregistered	all Pickup Setti Vo Mi e Activation Polici e arch Space for al 0 al 0 al 0 cinternal 0 e 0 e 0 c	vice avii Forvard / por 1 por 1 por 1 por 1 por 1 por 1 por 1 por 1	All 1141 1141 1141 1141	Use System Default < None > < None >	
Retain this destinat forwarding history     Call Forward and Call     Calling Search Space     Forward All     Secondary Calling Se     Forward Busy Internat     Forward Busy Externat     Forward No Answer I     Forward No Answer I     Forward No Answer I     Forward No Answer I     Forward No Coverage     Internat     Forward No Coverage     Externat     Forward on CTI Failu     Forward Unregistered     Internat     Forward Unregistered     Internat	all Pickup Setti Vo Mi e Activation Polic e arch Space for al 0 al 0 al 0 caternal 0 e 0 e 0 e 0 c tre 0 d 0 o d 0 o	vice avit Forward / Forward / Dor 1 Dor 1	All 1141 1141 1141 1141 1141 1141 1141 1	Use System Default < None >	

2014/03/28 22:14	DuVoice	cisco-cucm-i
<ul> <li>Forward Busy Internal</li> </ul>		
Enter the operator or front desk extension.		
<ul> <li>Forward Busy External</li> </ul>		
Enter the operator or front desk extension.		
<ul> <li>Forward No Answer Internal</li> </ul>		
Enter the operator or front desk extension.		
<ul> <li>Forward No Answer External</li> </ul>		
Enter the operator or front desk extension.		
<ul> <li>Forward Unregistered Internal</li> </ul>		
Enter the operator or front desk extension.		
<ul> <li>Forward Unregistered Extenral</li> </ul>		
Enter the operator or front desk extension.		
·		
- Daule Manifestina		
Park Monitoring		

Park Monitoring						
	Voice Mail	Destination			Calling Search Space	
Park Monitoring	or			< None >		▼ A blank
Forward No Retrieve Destination External				value means to call	the parker's line.	
Park Monitoring	or			< None >		▼ A blank
Forward No Retrieve Destination Internal				value means to call	the parker's line.	
Park Monitoring Revers Timer		parameter	A blan	nk value will use value	set in Park Monitoring Re	eversion Timer
MLPP Alternate Party	/ Settings —					
Target (Destination)						
MLPP Calling Search Sp	ace	< None >	-			
MLPP No Answer Ring [	Duration (secon	ds)				
Line Settings for All	Devices					
Hold Reversion Ring Du	uration			Setting the Hold R	leversion Ring Duration t	o zero will disable the
(seconds)		feature		-	2	
Hold Reversion Notifica	tion Interval			Setting the Hold R	leversion Notification Inte	erval to zero will
(seconds) Party Entrance Tone*		disable the feature				
		Default	•			
-Line 1 on Device SEP	00241DDAB3	BE				
Display (Internal Caller ID)	name instead o caller.	f a directory number for internal calls. If you spec			is intended for displaying a call may not see the p	
ASCII Display (Internal Caller ID)						
External Phone Number Mask						
Monitoring Calling Search Space	< None >	•				
		on Device SEP00241DDAB3BE				
Note:The range to sele Maximum Number of C						
	diis	2				
Busy Trigger*		2			Less than or equal to Ma	x. Calls)
- Forwarded Call Info	mation Displa	ay on Device SEP00241DDAB3BE				
Caller Name						
Caller Number						
Redirected Number						
🗹 Dialed Number						
Users Associated wit	h Line					
		Full Name		User ID	Permis	sion
Voicemail,Hosp	itality		2001		<b>i</b>	
Associate End	Users	All Clear All Delete Selected				

# **DuVoice Configuration**

These steps assume you are performing a new install and guide you through the Cisco Specific settings in the Setup Wizard.

#### Wizard

PBX Model		×
DuVoice	Select the telephone system the DuVoice will be connected to. If you do not see your particular telephone system listed select Other. • Avaya • Cisco • Cisco • Cisco Unified Comunications Manager • Other • Dialogic PIMG • Mitel • NEC • Shore Tel • Siemens • SIP Gateway • Panasonic • Panasonic TDE • Asterisk Based • Other	
	< <u>B</u> ack <u>N</u> ext > Cancel H	elp

- Choose Cisco Unified Communications Manager.
- Click Next

MWI Method	×
	Choose the method by which message waiting lights will be set and cleared. © <u>SIP Notify</u> © TAPI © SMDI © Inband using a feature or shortcode © HTTP Inband codes Enter the code used to set and clear the message waiting lights. Enter an E for the extension number. If an E is not specified it will be automatically added to the end of the code. For example: *81*E* or *4E
DuVoice	Set code Clear code
	< <u>B</u> ack <u>N</u> ext > Cancel Help

- Cisoc only support SIP Notify.
- Click Next

SIP Information	×
	Enter the server name or IP address of the SIP registrar with which the SIP ports will be registered; this is optional but recommended. Typically, this will be the server name or IP address of the IP PBX.           Server IP Address or DNS name:         192.168.11.19
DuVoice	
	< Back Next > Cancel Help

• Enter the IP Address of the Cisco.

#### Click Next

Voice Ports		×
	extension of extension fir integrations If You do no later in Syst Voicemail H	will be configured for 4 voice mail ports. If you know the f each port enter it in the space provided by clicking the ports eld below. Entering the extension numbers is required for some and will help with resolving integration issues. ot know the extensions leave them blank, they can be entered em Configuration.
	Number Port 1 Port 2 Port 3 Port 4	Extension 2001 2001 2001 2001 2001 2001
DuVoice	•	4 III
		< <u>B</u> ack <u>N</u> ext > Cancel Help

- Enter the extension number for the voicemail you created in the previous steps on all lines.
- Click Next and continue with the Wizard.

## System Configuration

Run System Configuration to continue configuring the system.

#### Line 1

- Double click SIP Line 1.
- Click SIP Configuration tab.

SIP Line 1				X
Port Configuration	SIP Configuration SIP			
Display name		Account name	2001	
User agent	DuVoice	Password	1234	
Local Port	5060	Realm	ccmsipline	
DMG Settings			Enable Register	
Port number for	MWI use Any 💌			
Direct Outgoing				
0.0.	. 0 . 0			
		OK Car		Help
			ncel <u>Apply</u>	neip

Account name

Enter the User ID created in the steps above.

Password

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Enter the password created in the steps above.

• Realm

Enter **ccmsipline**. If you have created another SIP Realm for the voicemail enter it here instead.

• Enable Register

Check.

location	Default Location	<b>•</b>	
Server address		Port 5060	
Dialogic IP Address	192 . 168 . 11 . 25		
Register expire time	3600 • seconds		
SIP Trunk			
-Optional Backup s	erver		
Server address			
Default to prim	ary on restart.		

- These settings are the default created by the Setup Wizard. Your Dialogic IP Address will be set to the IP Address your Dialogic PowerMedia HMP software has been licensed for.
- Click Ok to save these settings.

SIP Line 2				×
Port Configuration	SIP Configuration SIP			
Display name		Account name		
User agent	DuVoice	Password		
Local Port	5060	Realm		
DMG Settings			Enable Register	
Port number for	MWI use Any			
Direct Outgoing	to (optional)			
· ·	• •			
		ОКС	ancel Apply	Help

#### All other lines

• All other lines should be configured with a blank entries for Account name, Password and Realm.

#### • Enable Register Uncheck.

This concludes the configuration of the PBX and the voicemail system. System Configuration should show something like the following.

🔀 System	Configuration								
<u>P</u> assword	<u>D</u> efine Ports	Integra	ations <u>L</u> ocations	<u>F</u> eatures <u>T</u> ools	<u>H</u> elp				
Device	Extension	Hu	PBX Template	Default Mailbox	Location	SIP User	SIP Realm	Server	Enable Register
SIP Line 1	2001		SIP_CISCO_UCM	991	Default L	2001	ccmsipline	192.168.1	Yes
SIP Line 2	2001		SIP_CISCO_UCM	991	Default L			192.168.1	No
SIP Line 3	2001		SIP_CISCO_UCM	991	Default L			192.168.1	No
SIP Line 4	2001		SIP_CISCO_UCM	991	Default L			192.168.1	No
Ready									NUM

# PBXLink

The PBXLink provides all the guest name changes.

## Features

- Change DN Display.
- Change DN ASCII Display.
- Change DN Calling Search Space.
- Change DND for all devices using a DN.
- Ability to change end user settings.
  - First name
  - Last name

### Overview

DuVoice uses the Cisco Administration XML (AXL) API for all changes. This interface provides mechanisms for inserting, retrieving, updating, and removing data from the Unified CM configuration database and is provided by Cisco.

DuVoice uses it's internal extension directory to find matching DN's on the CUCM. If multiple DN's have the same number it will change the settings for each of the DN's. The extension must be an exact match and does not support partial matches.

All changes are made to the DN's with the exception of the DND state. In this case any device which a DN appears on will have it's DND changed regardless if the DN is the primary appearance or not.

The ability to change end user settings relies on the Telephone Number field matching that of the DuVoice extension number. The creation of End Users for room phones is not encouraged and therefore this feature is optional.

# **PBX Configuration**

#### Analog Gateways

When using analog gateways they should be configured to use the SCCP protocol in order for the DuVoice to resolve all the DN's.

Administration XML Installation

The Administration XML (AXL) interface is a an application plugin which must be installed. This installation is done from the Application|Plugins and choosing Cisco AXL Toolkit.

Calling Search Space

The Calling Search Space (CSS) is used to restrict guests phones from making certain types of calls. Only the CSS of the matching DN's are changed and not that of the device they may be configured for.

#### **DuVoice Account**

An application user account must be created for the DuVoice to access the Cisco. This account must

be a member of axlGroup and have the Role Standard AXL API Access under the Permissions Information fields. The account user id and password may be set to anything desired. These will be used in the configuration of the DuVoice system discussed later in this document.

Application User Inform	ation	
Application oser inform	ation	
User ID*	duvoice	Edit Credential
Password	•••••	
Confirm Password	••••••	
Digest Credentials		
Confirm Digest Credentials		
Presence Group*	Standard Presence group 👻	
Accept Presence Subscr	iption	
Accept Out-of-dialog RE	FER	
Accept Unsolicited Notifi	cation	
Accept Replaces Header	r	

# Permissions Information Groups axlGroup Add to User Group Roles Standard AXL API Access View Details View Details

# **DuVoice Configuration**

#### Connector

Configuration of the Cisco interface can be found in System Configuration|Features|Connectors|Cisco.

Cisco		
Location	Default Location	▼ Enabled
Server	192.168.11.19	
User ID	duvoice	
Password	******	
TCP/IP Port	8443	Туре
Retries	3 •	Call Manager     Call Manager Express
Interval (seconds)	90 <u>•</u>	

Server

For the Server enter the IP address or DNS name of the Cisco Unified Communications Manager. • User ID

Enter the user id of the DuVoice application account created in CUCM.

Password

Enter the password of the DuVoice application account created in CUCM.

• TCP/IP Port

Must be set to 8443 unless changed by the Cisco administration.

Retries

Enter the number of retries in case of failure.

Interval (seconds)

Enter the number of seconds between retries.

• Type

Choose Call manager.

# Hospitality

Phone control is configured in System Configuration|Features|Hospitality and then from the Phone Control tab.

BX	Call accouting
Type: Cisco	▼ Type:none ▼
	Enabled:no change
uto-set phone state on	Disabled:no change
Check-in:no change	Vodavi-specific settings
	Outdial prefix: 470
, ser group restrictions / call res To edit an entry, left-click on i	triction values
, ser group restrictions / call res To edit an entry, left-click on i Display Text	triction values The for all other actions, right-click any row to display a menu. PBX Value PMS Value
, ser group restrictions / call res To edit an entry, left-click on i	triction values

#### • PBX

Set to Cisco.

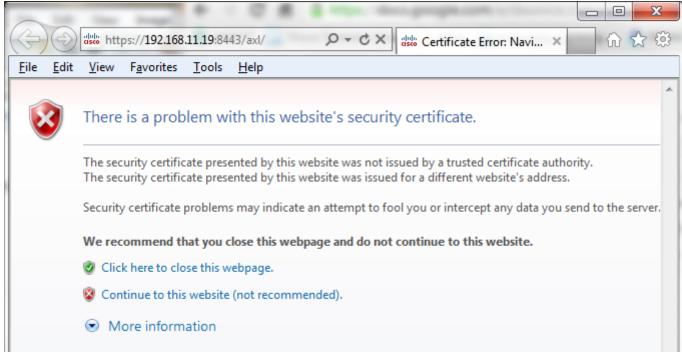
#### • User group restrictions / call restriction values

Here you enter all the different Calling Search Space configuration items you want to use. The Display Text is used in InnDesk and the PMS Value is the value sent by the PMS which matches that particular restriction. The Calling Search Space values are case-sensitive so care should be taken to insure they are entered correctly.

## Testing

#### **Quick Test**

You can quickly check if AXL is listening on the correct port by opening your browser of choice and browsing to the interface. In this example CUCM is located at the IP address 192.168.11.19 and which would be replaced with the IP address or DNS name of the local CUCM. Example URL is https://192.168.11.19:8443/axl.



Click Continue to this website (not recommended).

/indows Security	×
The server 192.1 password.	68.11.19 at Cisco AXL API requires a username and
	User name Password Remember my credentials
	OK Cancel

Enter the user id and password of the application account associated with the DuVoice.

		X
File Edit	ittis:       https://192.168.11.19:8443/a       P ▼ S       Cer       Cer       Cisco System - Error r       X         View       Favorites       Tools       Help	- 223
		~
	adaala	
	CISCO	
	HTTP Status 401 -	
	type: Status report	
	message:	
	description: This request requires HTTP authentication ().	

If the user name and password are correct you will be presented with this screen.