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 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 Search Space	< None >

☑ Allow Control of Device from CTI

☐ Enable Extension Mobility Cross Cluster

Directory Number Associations

| Primary Extension | < None > |

Phone Device

Create a phone device to represent the voicemail system.

Device Information

Registration	Unregistered
IP Address	192.168.11.25
Active Load ID	Unknown

☑ Device is Active

⚠ Device is not trusted

MAC Address*	
Description	DuVoice Voicemail
Device Pool*	Default ▾ View Details
Common Device Configuration	< None > ▾ View Details
Phone Button Template*	Third-party SIP Device (Basic) ▾
Common Phone Profile*	Standard Common Phone Profile ▾
Calling Search Space	< None > ▾
AAR Calling Search Space	< None > ▾
Media Resource Group List	< None > ▾
Location*	Hub_None ▾
AAR Group	< None > ▾
Device Mobility Mode*	Off ▾ View Current
	Device Mobility 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 > ▾

☑ Use Device Pool Calling Party Transformation CSS

☐ Ignore Presentation Indicators (internal calls only)

☑ Logged Into Hunt Group

☐ Remote Device

Protocol Specific Information

Presence Group*	Standard Presence group ▾
MTP Preferred Originating Codec*	711ulaw ▾
Device Security Profile*	Third-party SIP Device Basic - Standard SIP Non-S ▾
Rerouting Calling Search Space	< None > ▾
SUBSCRIBE Calling Search Space	< None > ▾
SIP Profile*	Standard SIP Profile ▾
Digest User	2001 ▾

☐ Media Termination Point Required

☐ Unattended Port

☐ Require DTMF Reception

MLPP Information

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 Information

Field	Value
Directory Number*	2001
Route Partition	< None >
Description	All DuVoice ports
Alerting Name	
ASCII Alerting Name	
Associated Devices	SEP00241DDAB3BE

Edit Device
Edit Line Appearance

Field	Value
Dissociate Devices	

Directory Number Settings

Field	Value	
Voice Mail Profile	< None >	(Choose <None> to use system default)
Calling Search Space	< None >	
Presence Group*	Standard Presence group	
User Hold MOH Audio Source	< None >	
Network Hold MOH Audio Source	< None >	

AAR Settings

	Voice Mail	AAR Destination Mask	AAR Group
AAR	☐ or		< None >
☑ Retain this destination in the call forwarding history			

Call Forward and Call Pickup Settings

	Voice Mail	Destination	Calling Search Space
Calling Search Space Activation Policy			Use System Default
Forward All	☐ or		< None >
Secondary Calling Search Space for Forward All			< None >
Forward Busy Internal	☐ or	1141	< None >
Forward Busy External	☐ or	1141	< None >
Forward No Answer Internal	☐ or	1141	< None >
Forward No Answer External	☐ or	1141	< None >
Forward No Coverage Internal	☐ or		< None >
Forward No Coverage External	☐ or		< None >
Forward on CTI Failure	☐ or		< None >
Forward Unregistered Internal	☐ or	1141	< None >
Forward Unregistered External	☐ or	1141	< None >
No Answer Ring Duration (seconds)		5	
Call Pickup Group		< None >	

- **Forward Busy Internal**
  Enter the operator or front desk extension.
- **Forward Busy External**
  Enter the operator or front desk extension.
- **Forward No Answer Internal**
  Enter the operator or front desk extension.
- **Forward No Answer External**
  Enter the operator or front desk extension.
- **Forward Unregistered Internal**
  Enter the operator or front desk extension.
- **Forward Unregistered Extenral**
  Enter the operator or front desk extension.

Park Monitoring

	Voice Mail	Destination	Calling Search Space	
Park Monitoring Forward No Retrieve Destination External	☐ or		< None >	A blank value means to call the parker's line.
Park Monitoring Forward No Retrieve Destination Internal	☐ or		< None >	A blank value means to call the parker's line.
Park Monitoring Reversion Timer		service parameter	A blank value will use value set in Park Monitoring Reversion Timer	

MLPP Alternate Party Settings

Target (Destination)	
MLPP Calling Search Space	< None >
MLPP No Answer Ring Duration (seconds)	

Line Settings for All Devices

Hold Reversion Ring Duration (seconds)		Setting the Hold Reversion Ring Duration to zero will disable the feature
Hold Reversion Notification Interval (seconds)		Setting the Hold Reversion Notification Interval to zero will disable the feature
Party Entrance Tone*	Default	

Line 1 on Device SEP00241DDAB3BE

Display (Internal Caller ID)		Display text for a line appearance is intended for displaying text such as a name instead of a directory number for internal calls. If you specify a number, the person receiving a call may not see the proper identity of the caller.
ASCII Display (Internal Caller ID)		
External Phone Number Mask		
Monitoring Calling Search Space	< None >	

Multiple Call/Call Waiting Settings on Device SEP00241DDAB3BE

Note:The range to select the Max Number of calls is: 1-2

Maximum Number of Calls*	2	
Busy Trigger*	2	(Less than or equal to Max. Calls)

Forwarded Call Information Display on Device SEP00241DDAB3BE
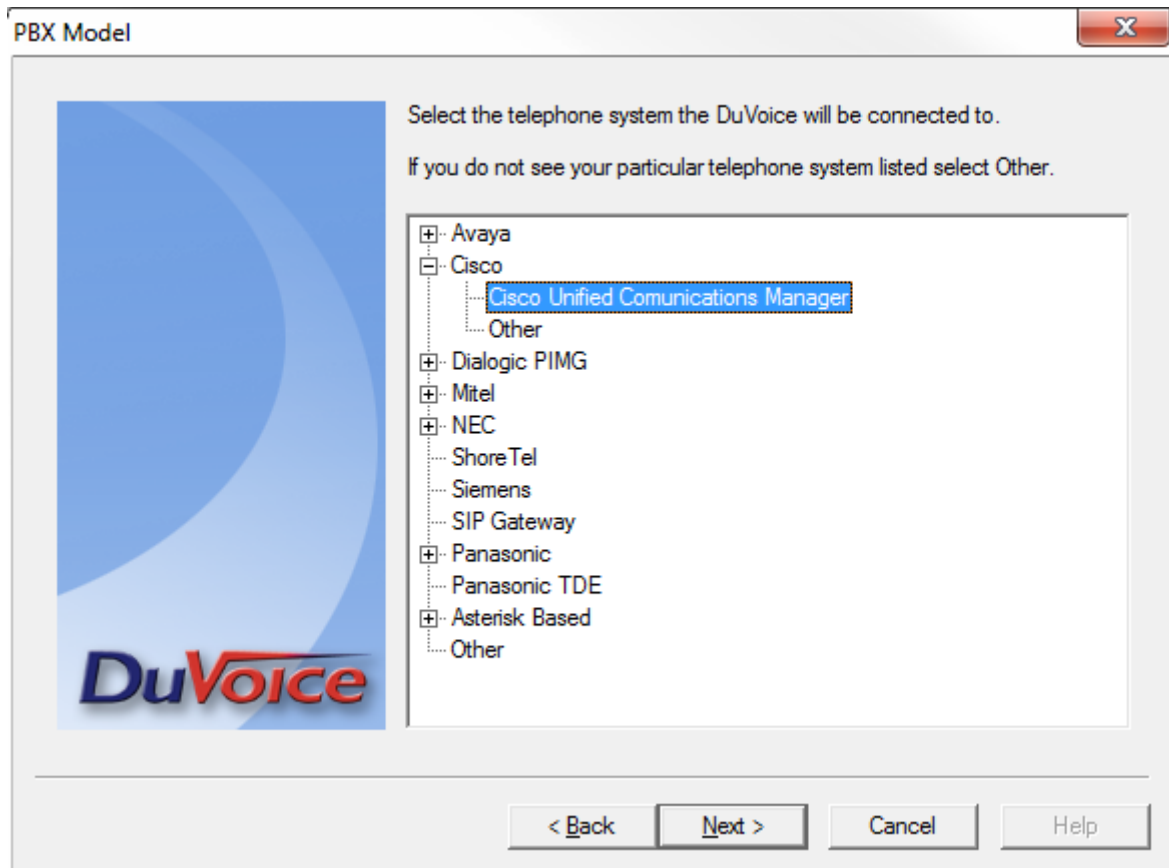
- ☑ Caller Name
- ☐ Caller Number
- ☐ Redirected Number
- ☑ Dialed Number

Users Associated with Line

	Full Name	User ID	Permission
☐	Voicemail,Hospitality	2001	ⓘ

[Associate End Users] [Select All] [Clear All] [Delete Selected]
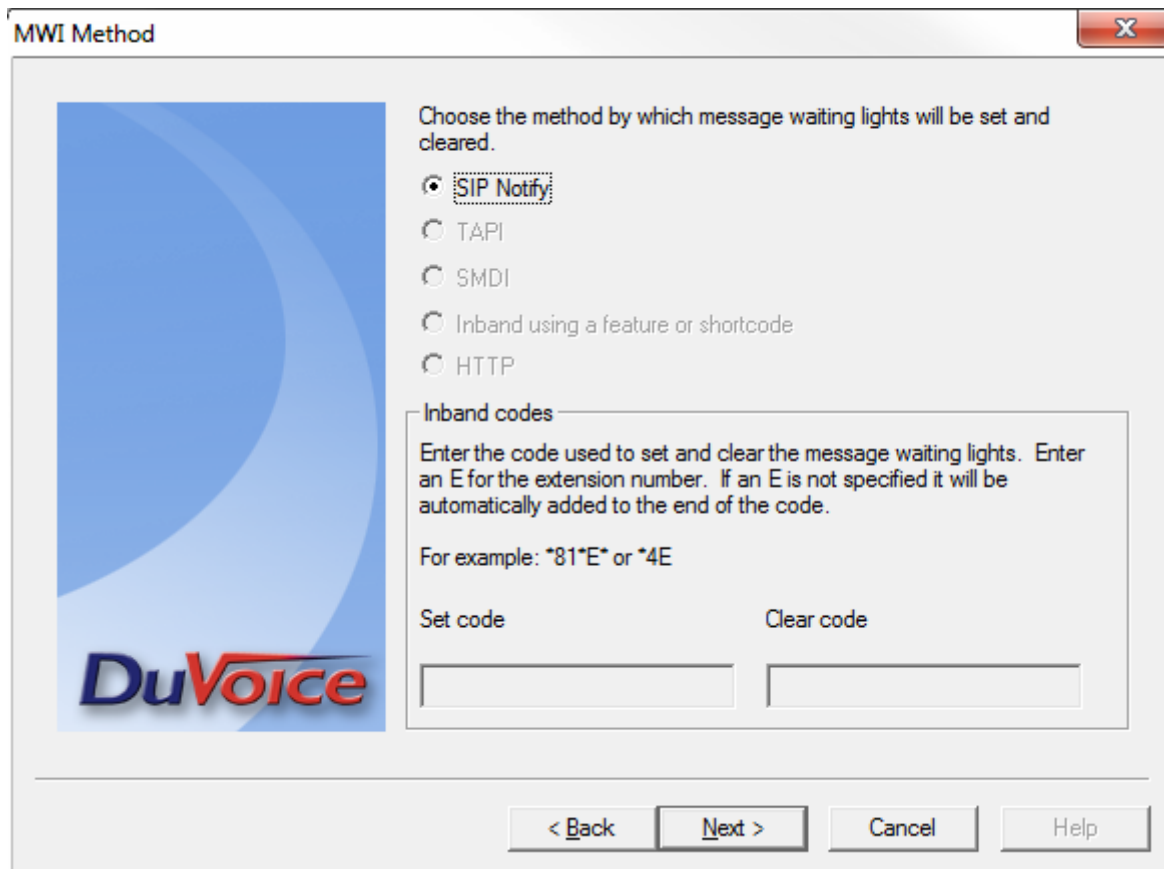
DuVoice Configuration

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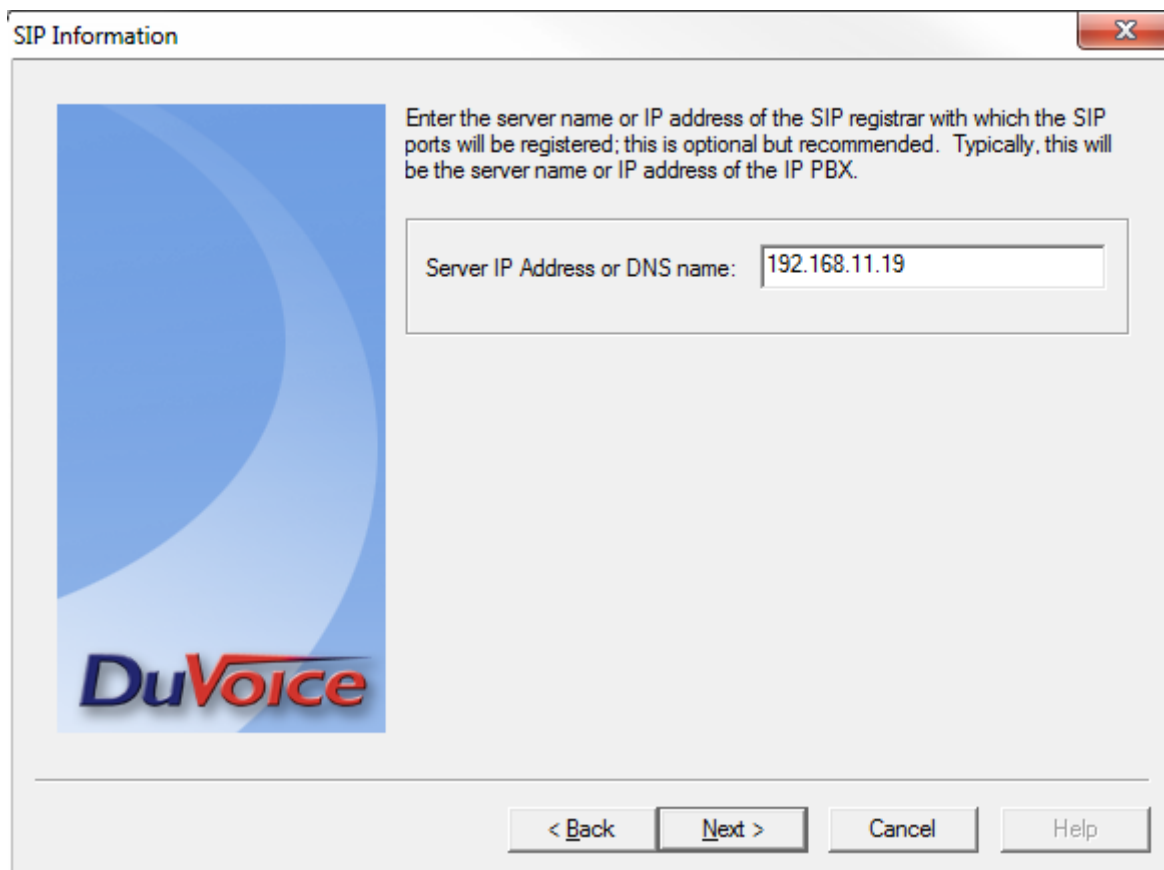
Wizard

- Choose Cisco Unified Communications Manager.
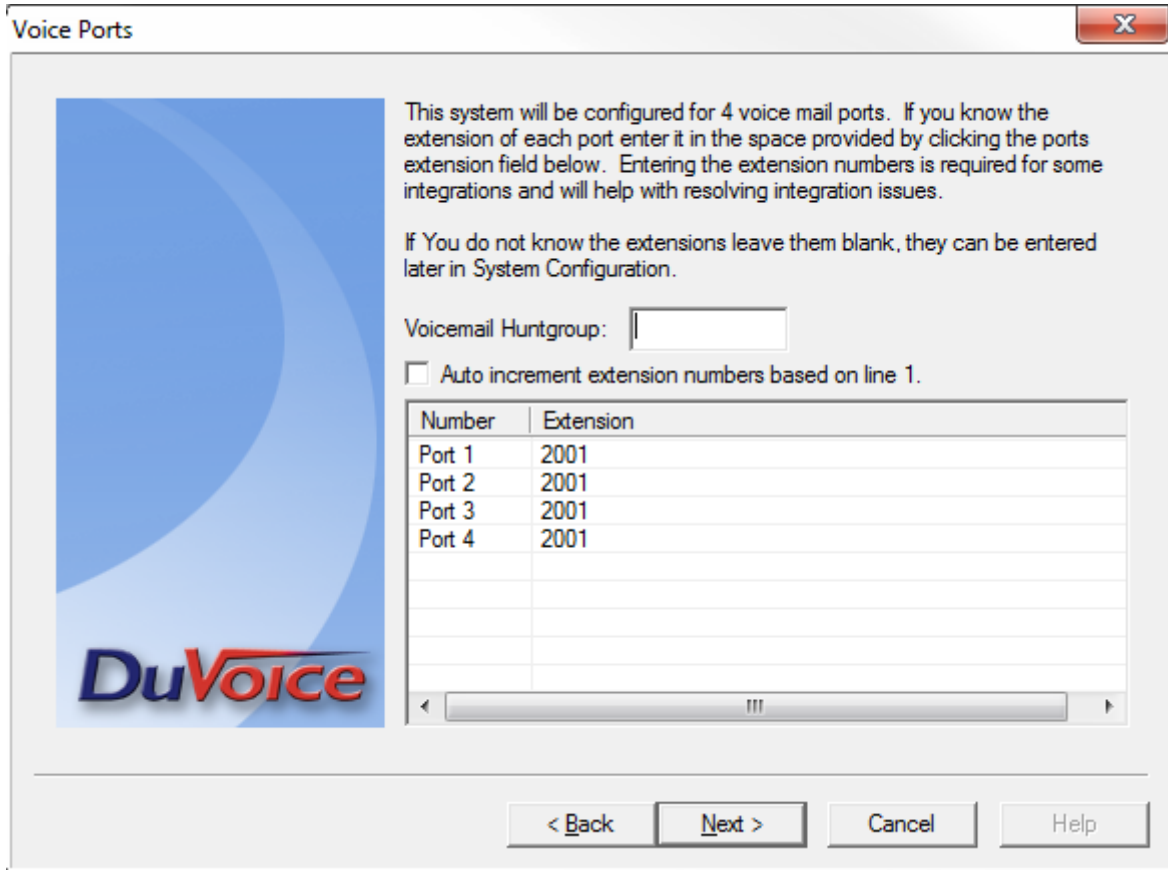- Click Next

- Cisoc only support SIP Notify.
- Click Next

- Enter the IP Address of the Cisco.

- Click Next

- 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.

- **Account name**
  Enter the User ID created in the steps above.
- **Password**
  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.

- 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.

All other lines
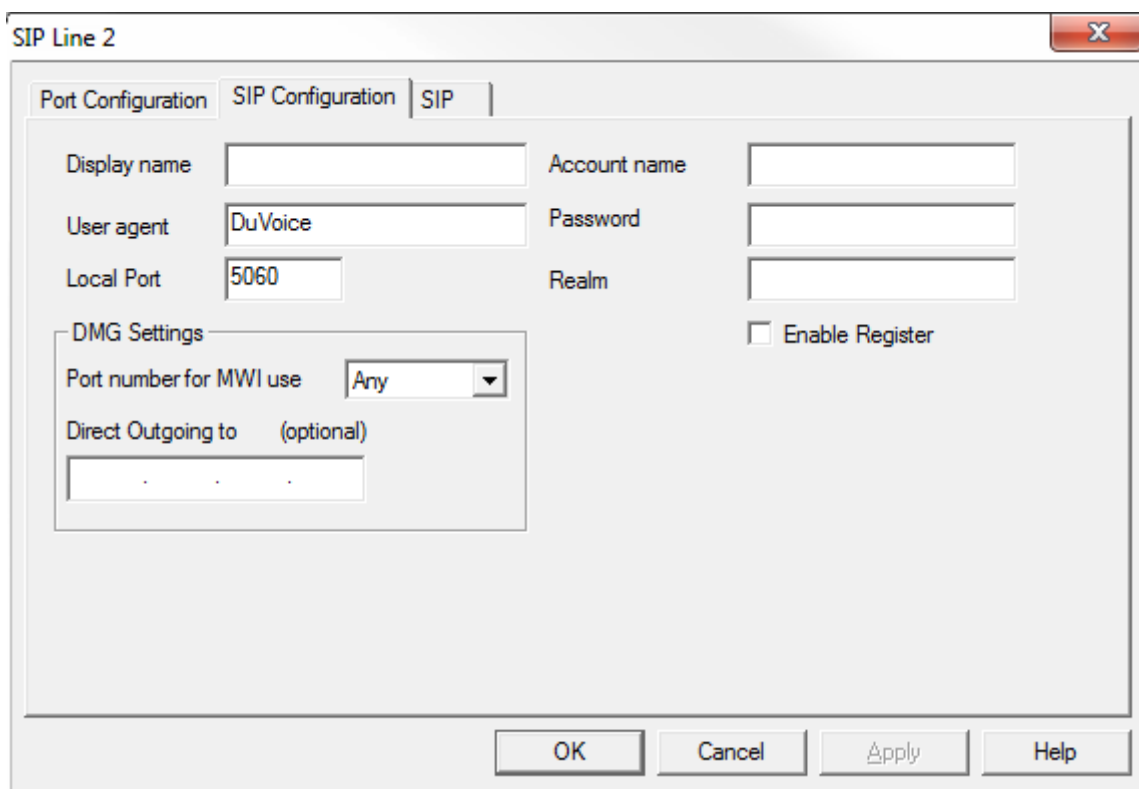
- All other lines should be configured with a blank entries for **Account name**, **Password** and **Realm**.
- **Enable Register**
  Uncheck.

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

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.

DuVoice Configuration

Connector

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

- **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.

- **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**.
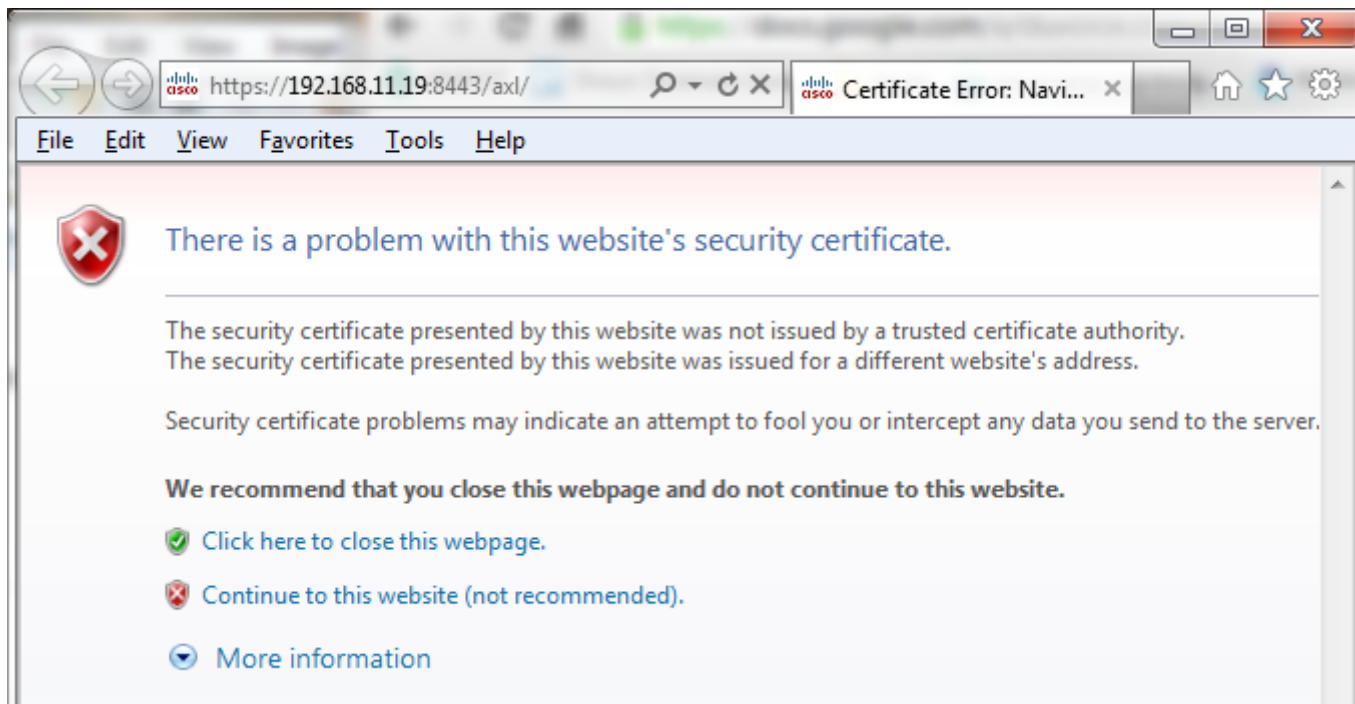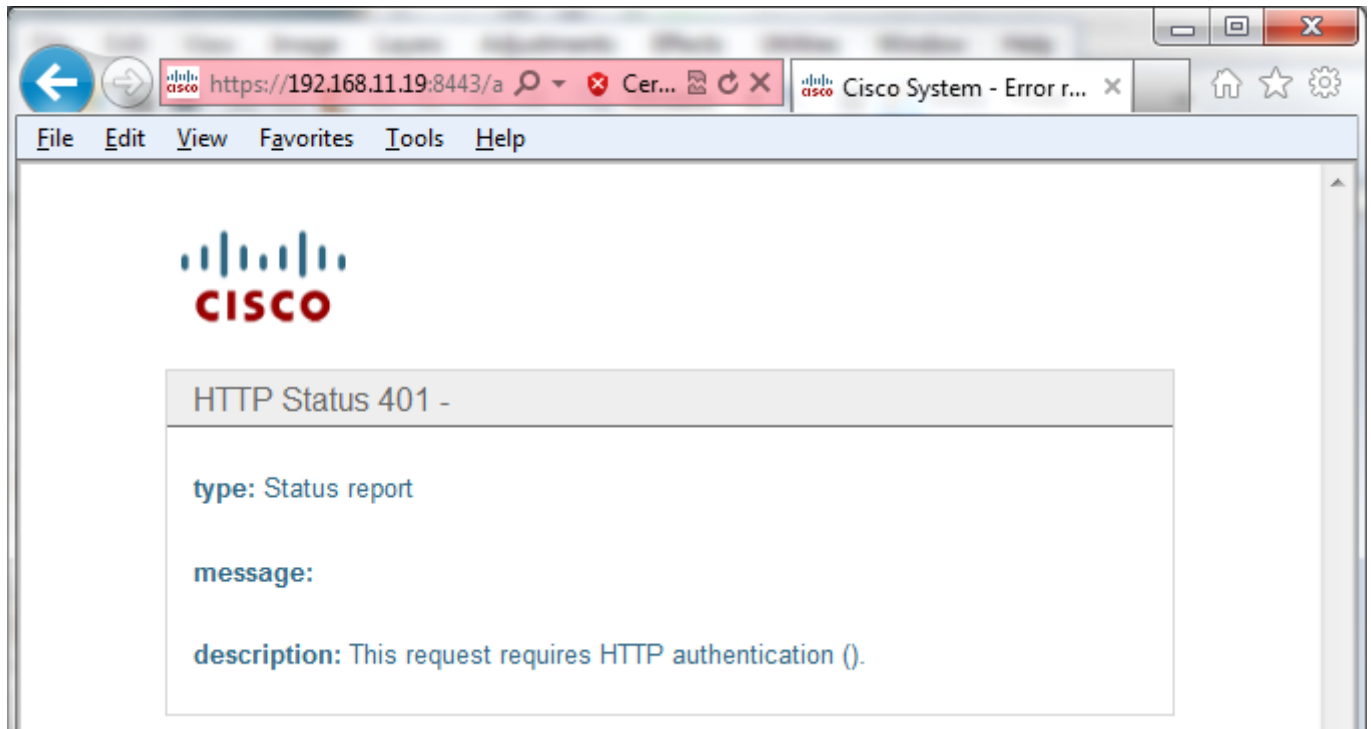
Click **Continue to this website (not recommended)**.
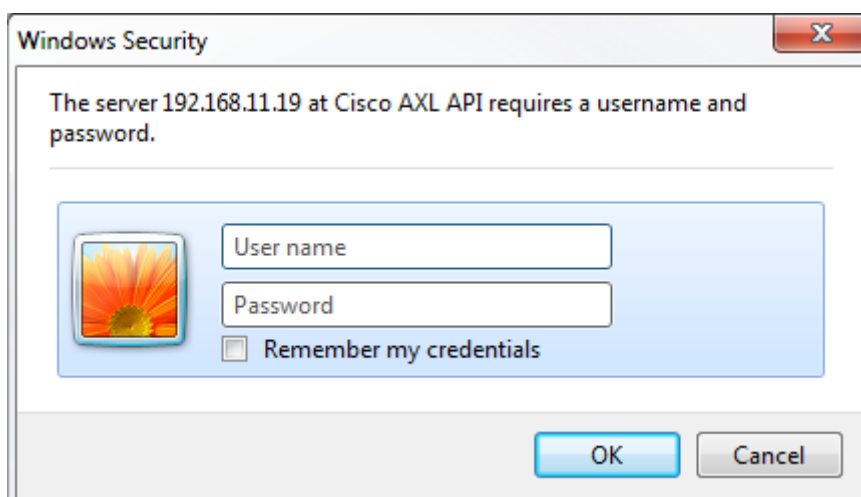
Enter the user id and password of the application account associated with the DuVoice.

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