CALLN HOSTED CALL RECORDING
CISCO CUCM SETUP GUIDE

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1. Introduction

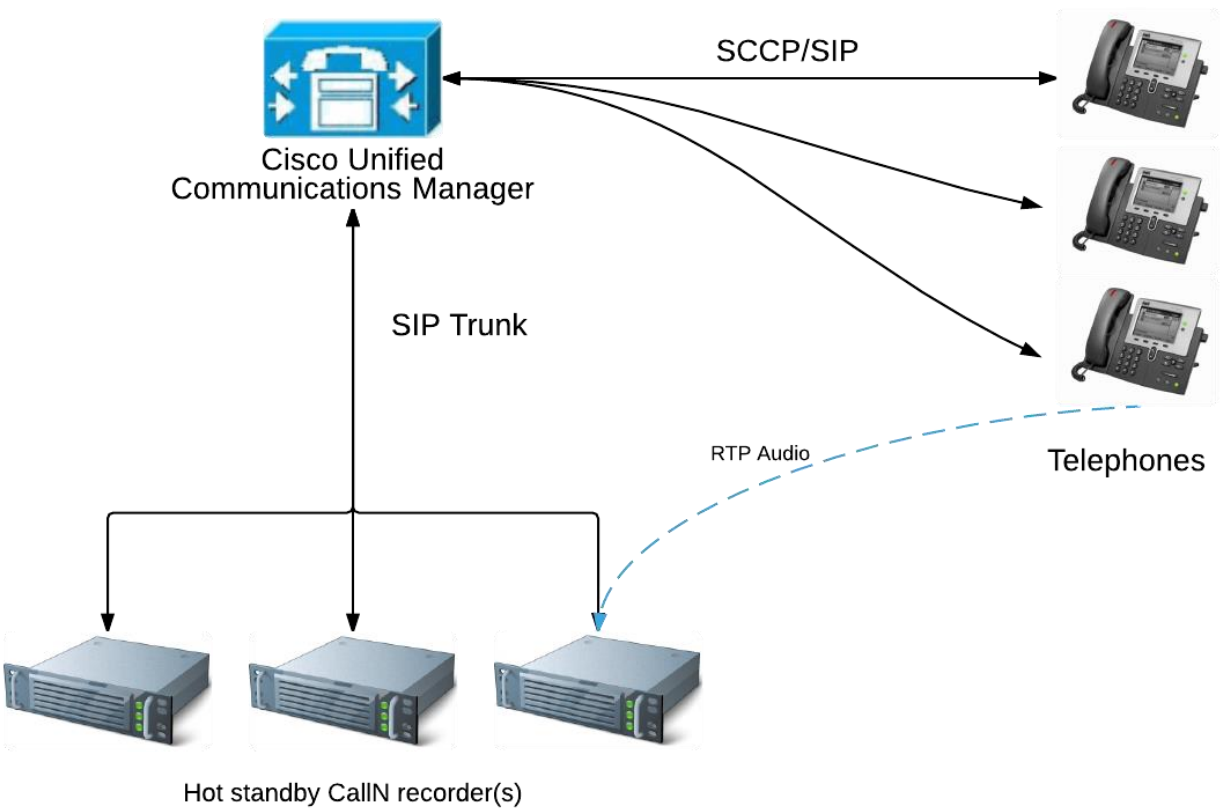
This document describes how to configure your Cisco CUCM platform as well as the CallN recording client software for the recording of telephone calls.

Note: The steps in this document are **ONLY** necessary when deploying in an Active recording integration deployment where SPAN capture is not possible nor desired.

Note: Not all CISCO handsets support the Built-in-Bridge. Supported handsets can be found at **https://developer.cisco.com/site/uc-manager-sip/documents/supported/**

2. Connectivity

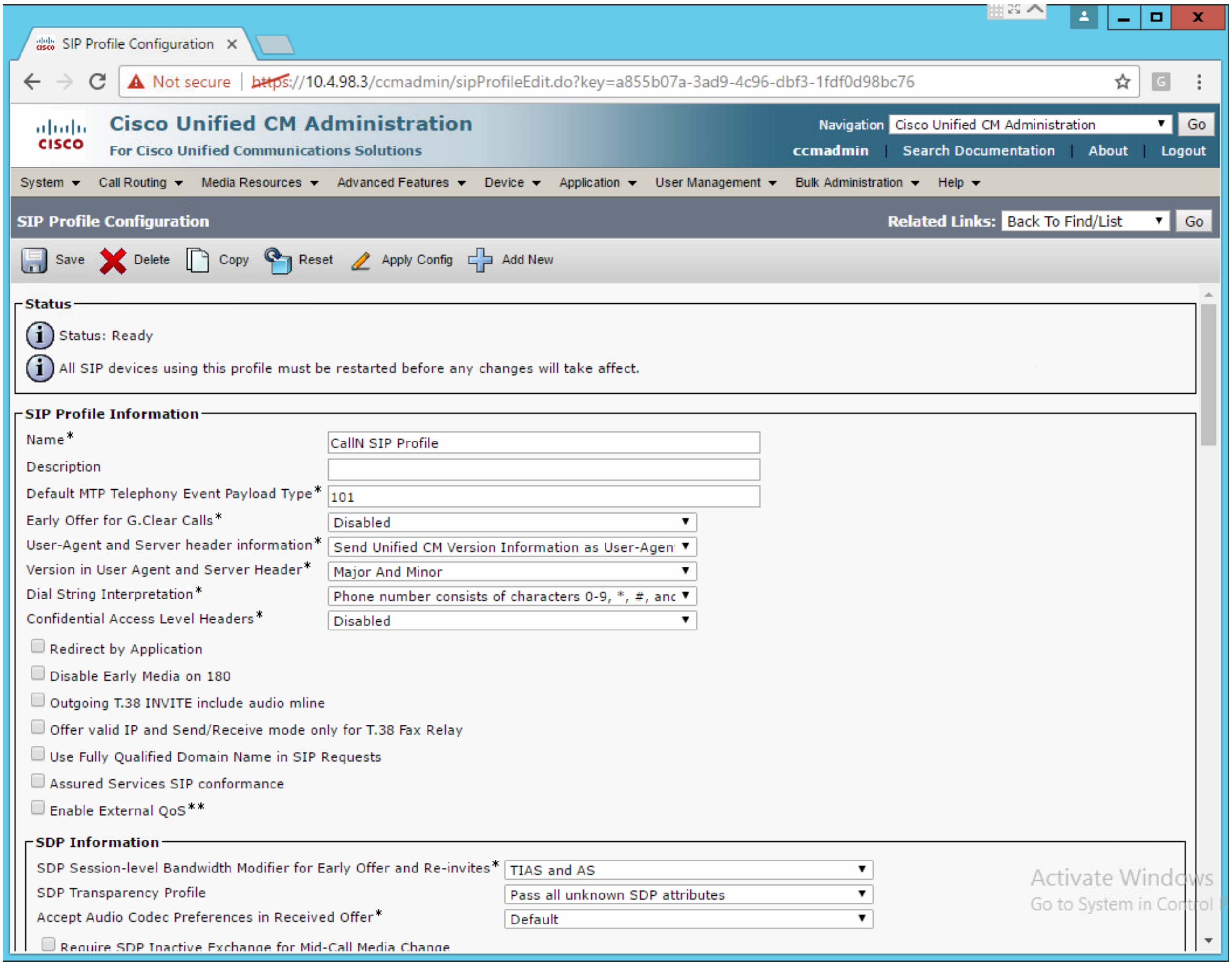
CallN utilises the Built-in-Bridge feature of the Cisco IP handset to record calls (see compatible handset list). When a call is to be recorded the CUCM initiates a SIP call to the CallN platform via a SIP trunk interface and then informs the handset to send the CallN server the RTP audio directly.



3. Configuration of CUCM

3.1. Create a SIP profile

Use the Device > Device Settings > SIP Profile menu option in Cisco Unified Communications Manager Administration to perform the necessary configuration.



SIP Profile Information / Name – Enter a name for this profile. Something like 'CallN SIP Profile'.

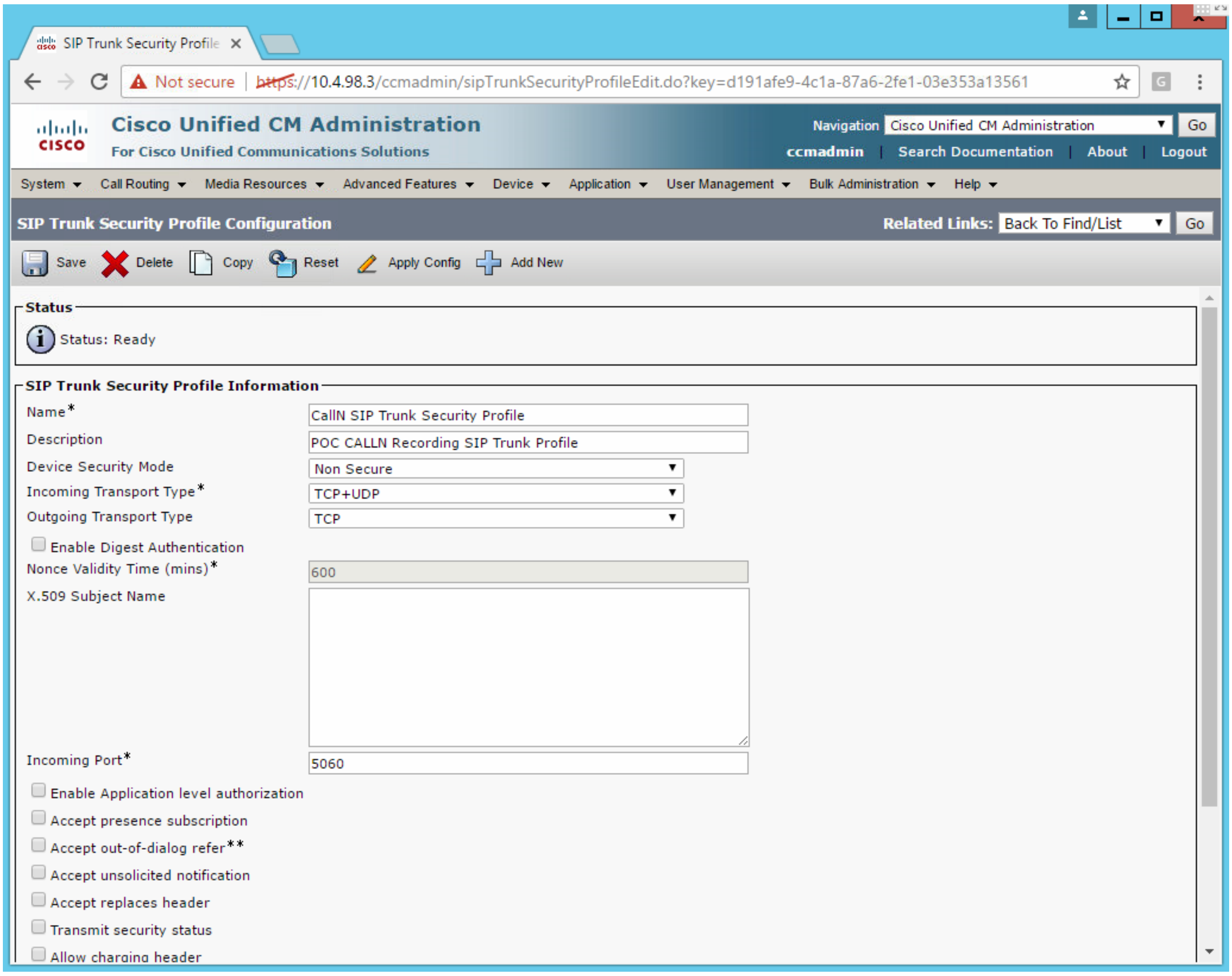
Trunk Specific Configuration / Deliver Conference Bridge Identifier – Enable this setting.

SIP Options Ping / Enable OPTIONS Ping to monitor destination status for Trunks – Enable this setting.

Click Save.

3.2. Create a SIP Trunk Security Profile

Use the System > Security > SIP Trunk Security Profile menu option in Cisco Unified Communications Manager Administration to perform the necessary configuration.



SIP Trunk Security Profile Information / Name – Enter a name for this security profile. Something like 'CallN SIP Trunk Security Profile'.

SIP Trunk Security Profile Information / Incoming Transport Type – Set as 'TCP+UDP'.

SIP Trunk Security Profile Information / Outgoing Transport Type – Set as 'TCP'.

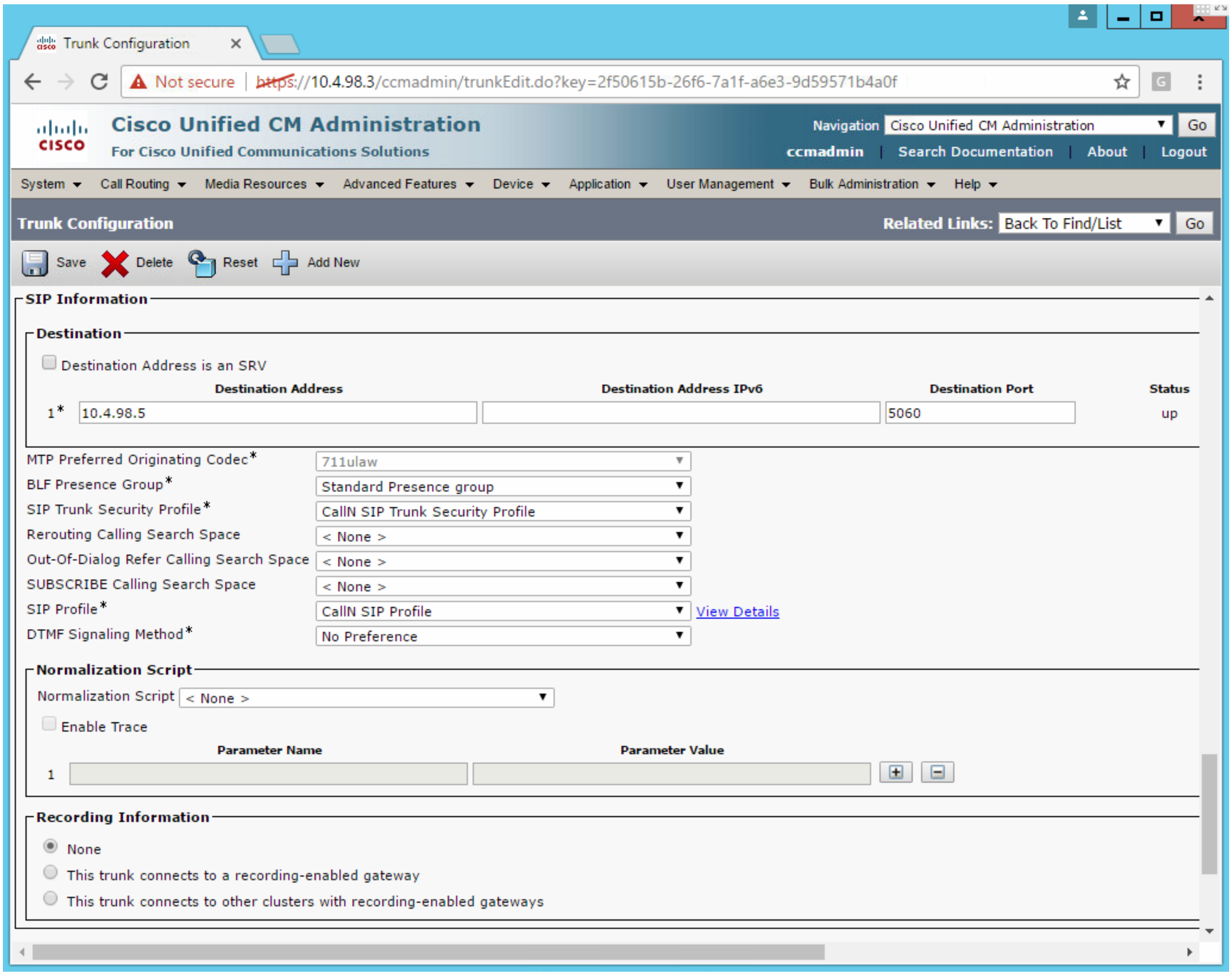
SIP Trunk Security Profile Information / Enable Digest Authentication – Uncheck.

SIP Trunk Security Profile Information / Device Security Mode – Set to 'Not Secure'.

Click Save.

3.3. Create a SIP trunk that points to the recording server(s)

Use the Device > Trunk menu option in Cisco Unified Communications Manager Administration to perform the necessary configuration



Device Name – Enter a name for this trunk. Something like 'CallN_SIP_Trunk'.

Select the Device Pool to the pool containing the phones to record.

Select the Inbound Calls / Calling Search Space to the CSS containing the phones to record.

SIP Information / SIP Trunk Security Profile - Select the CallN SIP Trunk Security profile that you configured earlier, probably 'CallN SIP Trunk Security Profile'.

SIP Information / SIP Profile - Select the CallN SIP profile that you configured earlier, probably 'CallN SIP Profile'.

SIP Information / Destination / Destination Address – set as the IP address or DNS name of the CallN recording server.

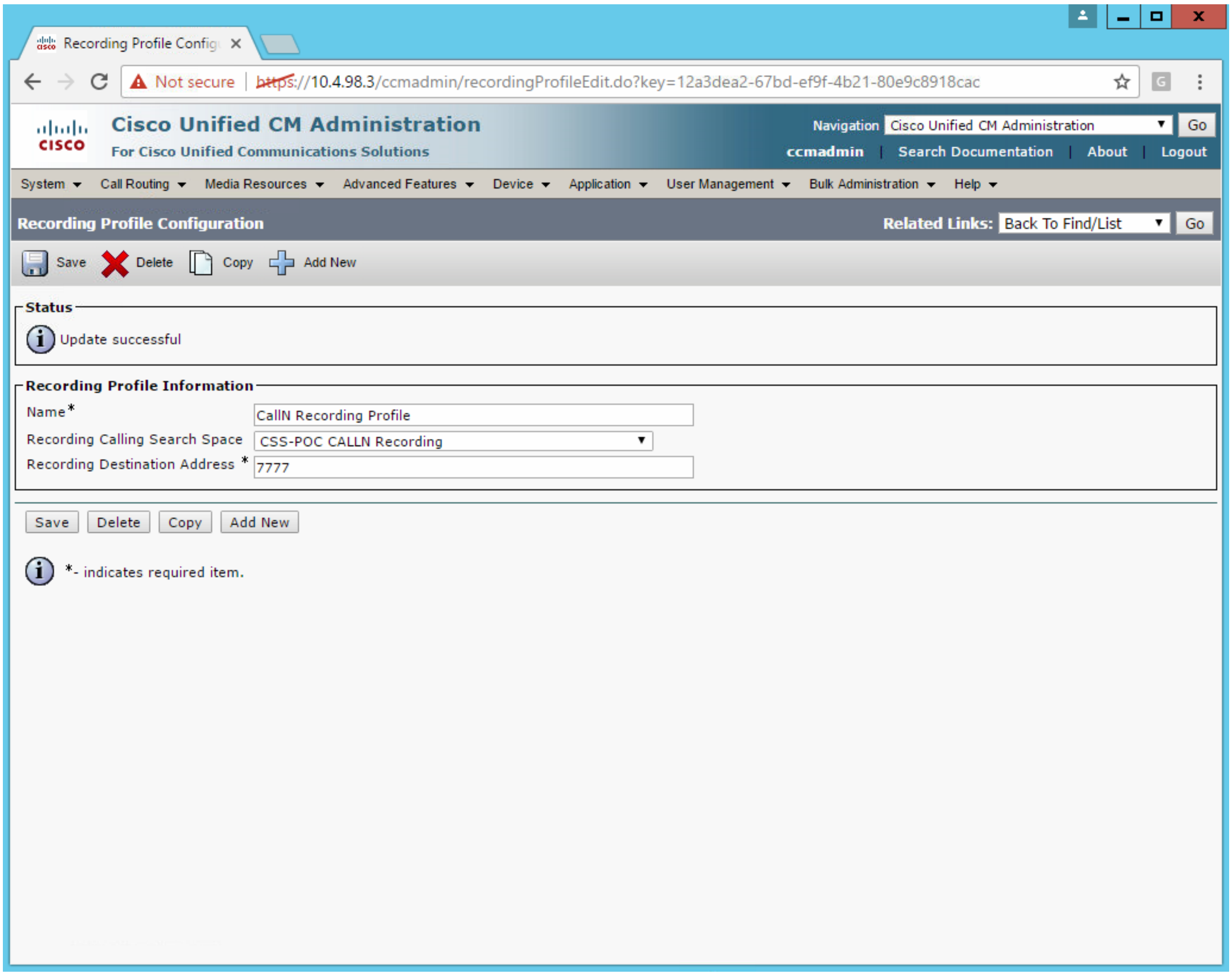
SIP Information / Destination / Destination Port – set as 5060. This should match the configuration in the CallN recording client.

Call Routing Information / SIP Privacy – Set to ‘None’.

Click Save.

3.4. Create a recording profile

Use the Device > Device Settings > Recording Profile menu option in Cisco Unified Communications Manager Administration to perform the necessary configuration.



Recording Profile Information / Name – Enter a name for this recording profile. Something like 'CallN Recording Profile'.

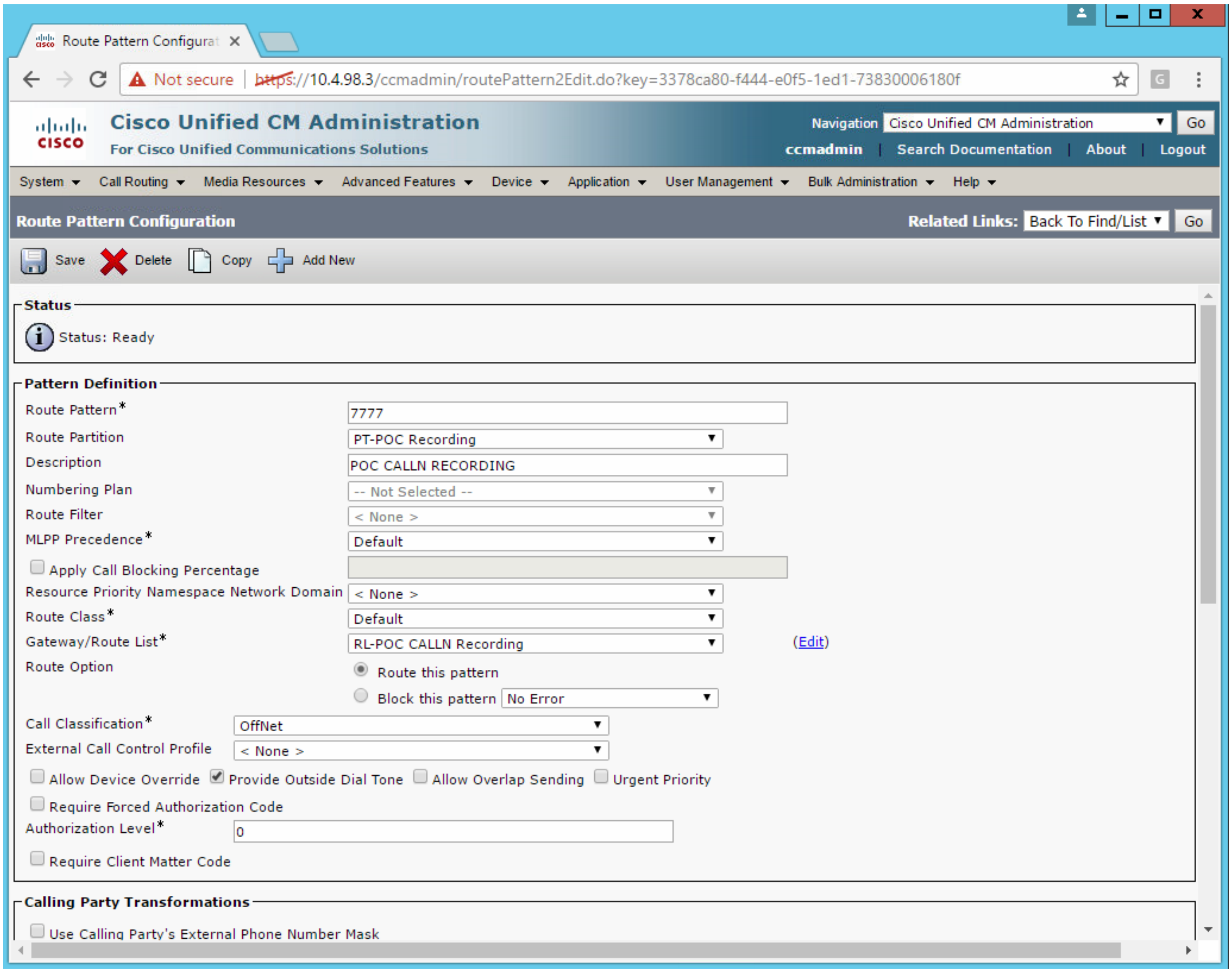
Recording Profile Information / Recording Call Search Space – Set to the CSS containing the phones to record.

Recording Profile Information / Recording Destination Address – Set as a directory number that is associated with the recorder. This number should not clash with other number plan entries. A good example is 7777.

Click Save.

3.5. Create a Route Pattern

Use the Call Routing > Route/Hunt > Route Pattern menu option in Cisco Unified Communications Manager Administration to perform the necessary configuration.



Route Pattern – Set this with the same value that was configured earlier for the CallN recording profile. In the example, it was 7777.

Route Partition – Set this to the partition that contains the phones to record.

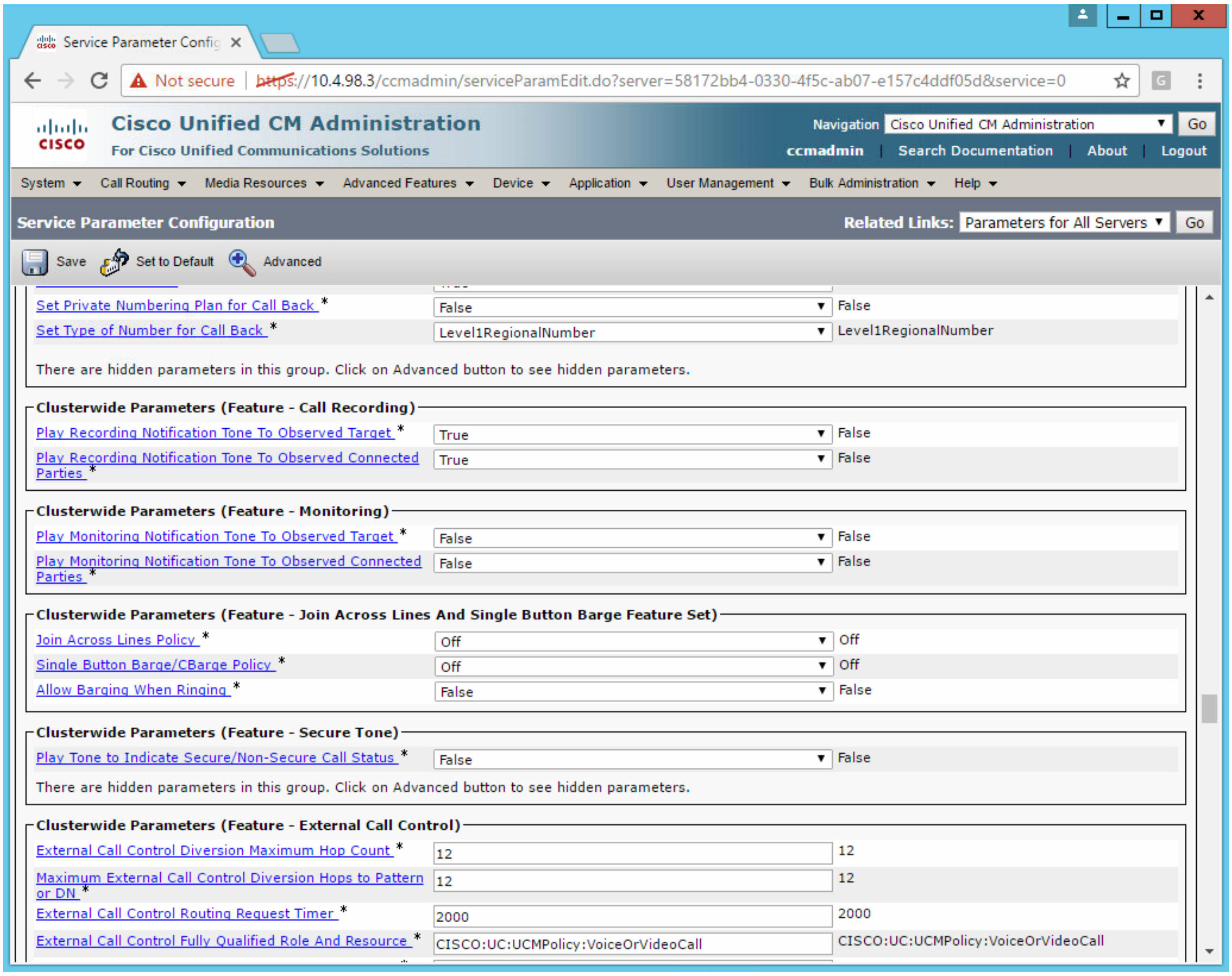
Gateway / Route List - Select the CallN SIP trunk that was created earlier.

Click Save.

3.6. Configure Tones for Recording

Use the System > Service Parameters menu option in Cisco Unified Communications Manager Administration to perform the necessary configuration.

Select your appropriate Server from the drop-down list and then select ‘Cisco CallManager’.



You can use the service parameters for playing tone to True to allow tone to be played either to agent only, to customer only, or to both.

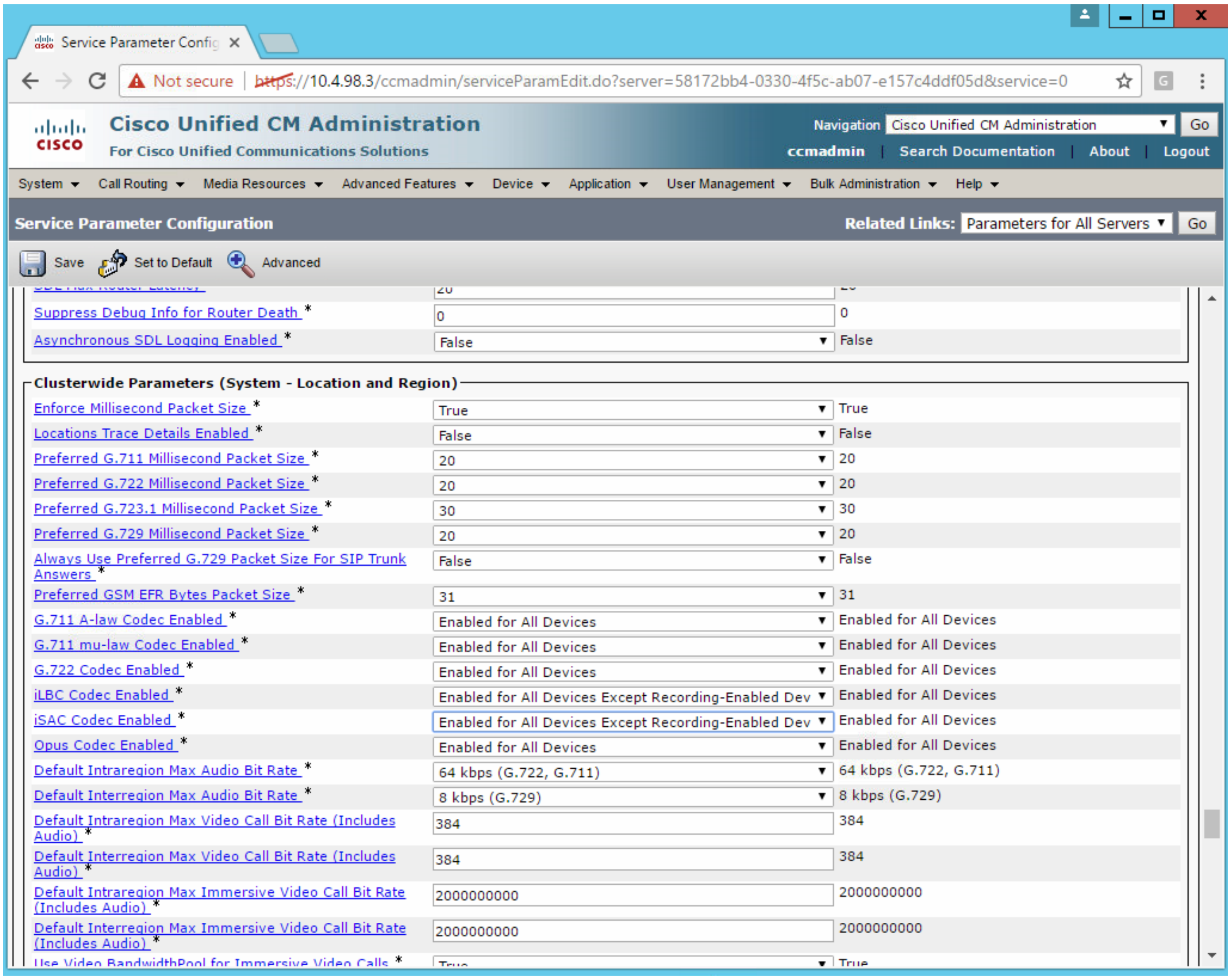
Click Save.

3.7. Configure Codecs

There are a few codecs that must be disabled when recording because either CallN doesn't support them, or the Cisco handset built-in-bridge doesn't support them.

Use the System > Service Parameters menu option in Cisco Unified Communications Manager Administration to perform the necessary configuration.

Select your appropriate Server from the drop-down list and then select 'Cisco CallManager'.

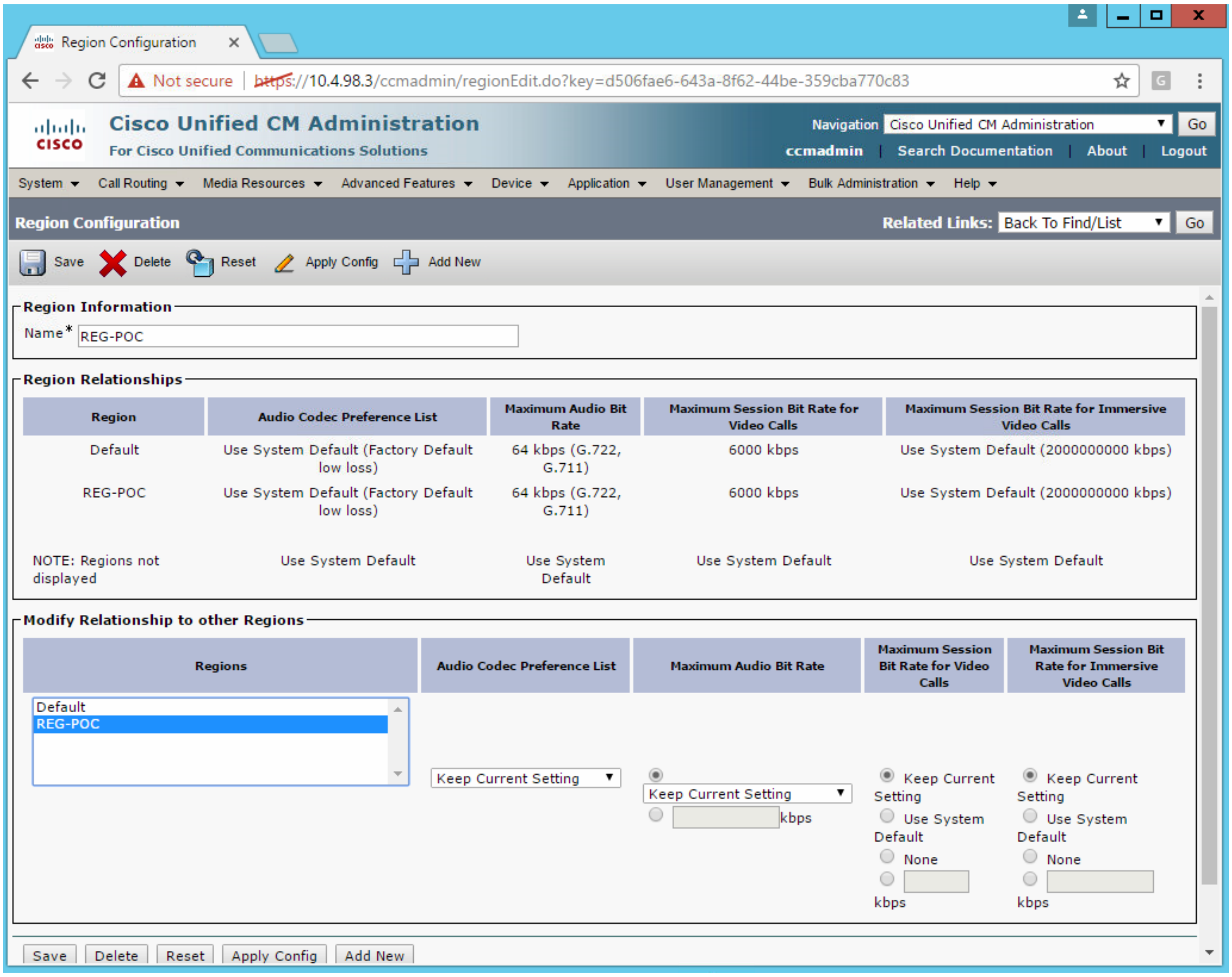


Clusterwide Parameters (System – Location and Region) / iLBC Codec Enabled – Set to 'Enabled for All Devices Except Recording-Enabled Devices'

Clusterwide Parameters / iSAC Codec Enabled – Set to 'Enabled for All Devices Except Recording-Enabled Devices'

Clusterwide Parameters / Default Intraregion Max Audio Bit Rate – Set to '64 kbps (G.722, G.711)

Use the System > Region Information > Region menu option in Cisco Unified Communications Manager Administration to perform the necessary configuration.



Max Audio Bit Rate – Set to 'Use System Default' or '64 kbps (G.722, G.711)'.

Click Save.

4. Configure each phone for recording

4.1. Turn on IP Phone Built-In-Bridge to Allow Monitoring and Recording

The built-in bridge feature of the agent phone must be set to On to allow its calls to be recorded

This feature can be enabled as a system wide setting or on a more granular per-handset setting.

4.1.1. System Wide

Use the System > Service Parameters menu option in Cisco Unified Communications Manager Administration to perform the necessary configuration.

Select your appropriate Server from the drop-down list and then select ‘Cisco CallManager’.

Clusterwide Parameters (Device – Phone) / Builtin Bridge Enable – Set to On.

4.1.2. Per Handset

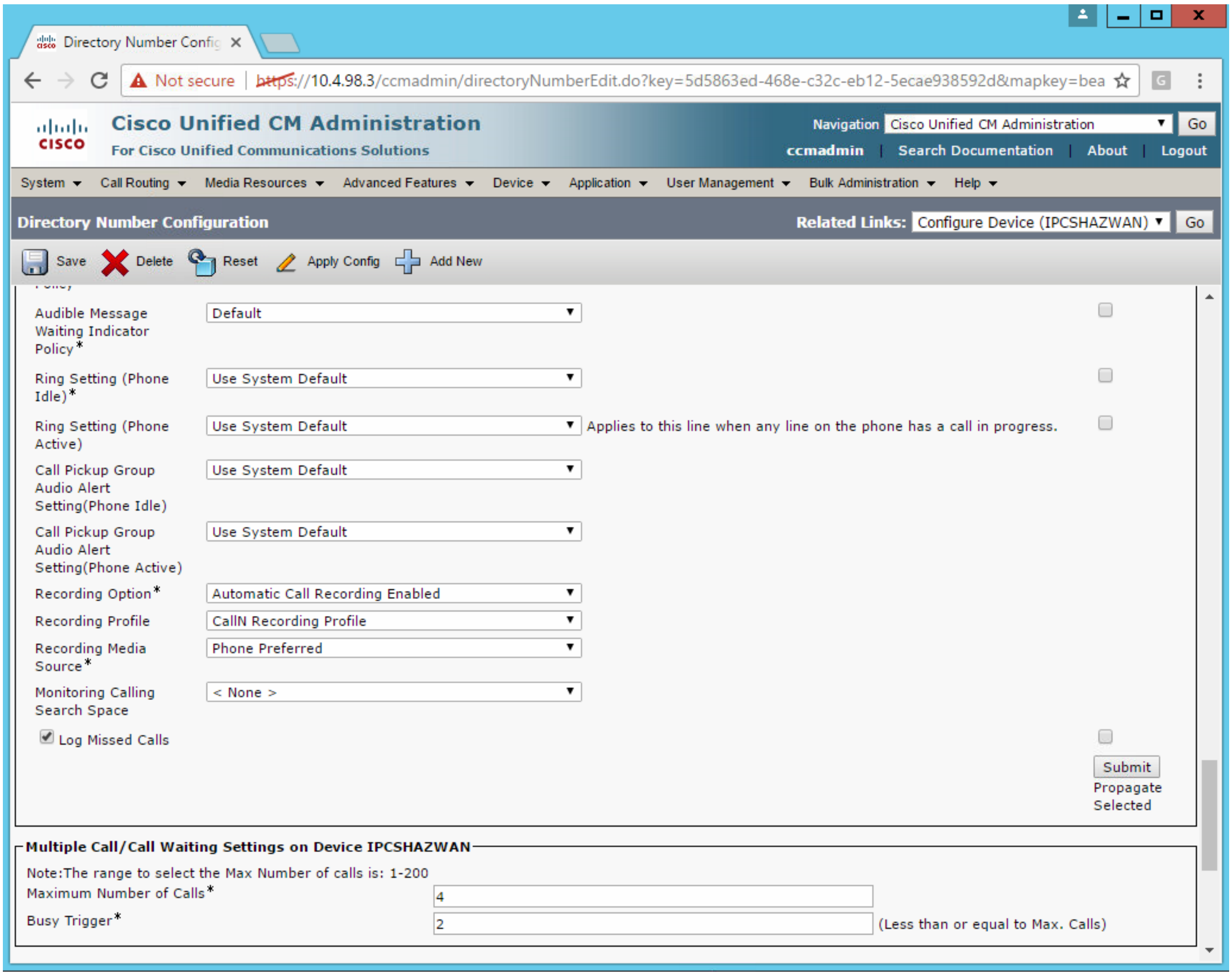
Use the Device > Phone menu option in Cisco Unified Communications Manager Administration to perform the necessary configuration.

Built In Bridge – Set to On.

4.2. Enable Recording for a Line Appearance

Select a pre-created recording profile from the drop-down list box. (Use Device > Device Settings > Recording Profile to configure a recording profile.)

Use the Call Routing > Directory Number menu option in Cisco Unified Communications Manager Administration to perform the necessary configuration.



Set the Recording Option to

- Automatic Call Recording Enabled
- Selective Call Recording Enabled

Set Recording Profile to ‘CallN Record Profile’.

Set Recording Media Source to ‘Phone Preferred’.

Click Save.

4.3. Add a Recording Softkey or Programmable Line Key to the Device Template (Optional)

To enable a user to start and stop recording from a Cisco IP device, add the Record softkey or programmable line key to the device template.

To add the Record softkey, use the Device > Device Settings > Softkey Template menu option in Cisco Unified Communications Manager Administration to create or modify a nonstandard softkey template. Configure the softkey layout for call state *connected* to have the Record softkey in the selected softkeys list.

To add the Record programmable line key, use the Device > Device Settings > Phone Button Template menu option in Cisco Unified Communications Manager Administration. Enter the button template name, feature, and label.

4.4. Compatible handsets

Below is a list of compatible handsets which support the Built-in-Bridge feature.

Phone model	Status
Cisco 6901	not supported
Cisco 12 S	not supported
Cisco 12 SP	not supported
Cisco 30 SP+	not supported
Cisco 3905	not supported
Cisco 3911	not supported
Cisco 6901	not supported
Cisco 6911	supported
Cisco 6921	supported
Cisco 6941	supported
Cisco 6945	supported
Cisco 6961	supported
Cisco 7811	supported
Cisco 7821	supported
Cisco 7841	supported
Cisco 7861	supported
Cisco 7902	not supported
Cisco 7905	not supported
Cisco 7906	supported
Cisco 7910	not supported
Cisco 7911	supported
Cisco 7912	not supported
Cisco 7914 Sidecar	supported
Cisco 7915 Sidecar	supported
Cisco CKEM Sidecar	supported
Cisco 7920	not supported
Cisco 7921	supported
Cisco 7925	supported
Cisco 7926	supported
Cisco 7931	supported
Cisco 7935	not supported
Cisco 7936	not supported
Cisco 7937	supported
Cisco 7940	not supported
Cisco 7941	supported

Cisco 7941G-GE	supported
Cisco 7942	supported
Cisco 7945	supported
Cisco 7960	not supported
Cisco 7961	supported
Cisco 7961G-GE	supported
Cisco 7962	supported
Cisco 7965	supported
Cisco 7970	supported
Cisco 7971	supported
Cisco 7975	supported
Cisco 7985	supported
Cisco 8811	supported
Cisco 8831	supported
Cisco 8841	supported
Cisco 8845	supported
Cisco 8851	supported
Cisco 8861	supported
Cisco 8865	supported
Cisco 8941	supported
Cisco 8945	supported
Cisco 8961	supported
Cisco 9951	supported
Cisco 9971	supported
Cisco DX650	supported
Cisco E20	not supported
Cisco EX60	not supported
Cisco EX90	not supported
Cisco CTS 500	not supported
Cisco CTS 500-32	not supported
Cisco ATA 186	not supported
Cisco ATA 187	not supported
Cisco ATA 188	not supported
Cisco IP Communicator	supported
Cisco Jabber for Windows	supported
Cisco Jabber for Mac	supported
Cisco Jabber for iPad	not supported
Cisco Jabber for Android	not supported
Cisco Unified Personal Communicator	not supported
Cisco VGC Phone	not supported
VG224	not supported
VG248	not supported

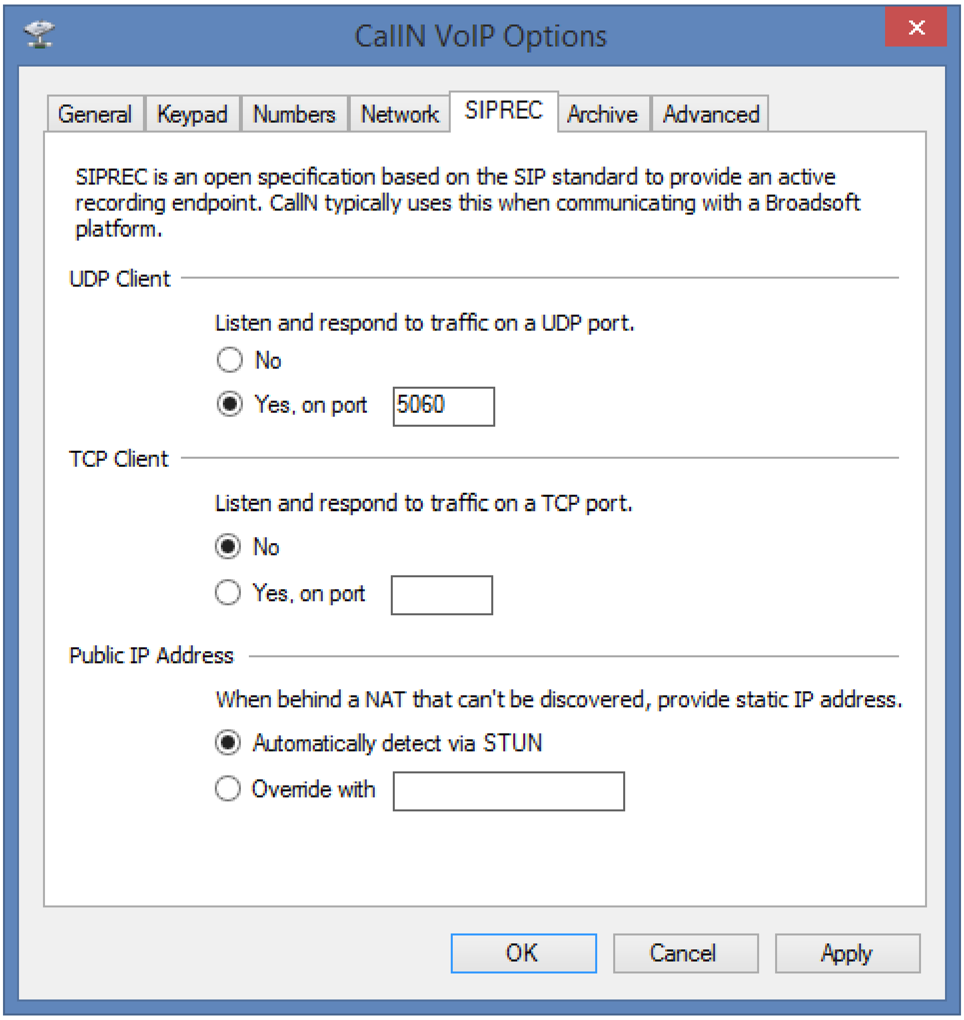
CTI Port	not supported
CTI Remote Device	not supported
CTI Route Point	not supported

Note: List of supported handsets can also be found at
https://developer.cisco.com/site/uc-manager-sip/documents/supported/

5. Configuration of CallN

5.1. Configure call recording client software

The recording client contains various setting to enable communication with the CUCM Platform. Please make sure they match the settings configured in section 3.3 – Create a SIP trunk that points to the recording server(s).



5.1.1. UDP Client

The UDP port number to listen on for incoming SIP messages.

5.1.2. TCP Client

The TCP port number to listen on for incoming SIP messages.

5.1.3. Public IP Address

When the machine is behind a firewall and the Public IP address cannot be discovered via STUN then enter an override public IP address in this field.

5.2. Configure machine firewall

5.2.1. Incoming rules

Make sure the machine allows the following inbound traffic.
Please note: When receiving traffic from the internet, it is also best practice to limit traffic to the incoming source IP address as well.

Protocol	Port	Description
UDP	5060	When listening as a SIP UDP client, the port that was selected. By default, usually 5060.
TCP	5060	When listening as a SIP TCP client, the port that was selected. By default, usually 5060.
UDP	16384 - 32767	Port range for RTP media.

5.2.1. Outgoing rules

Generally, by default traffic is not limited outbound, but make sure the machine allows the following outbound traffic.

Protocol	Port	Description
UDP	5060	When listening as a SIP UDP client, the port that was selected. By default, usually 5060.
TCP	5060	When listening as a SIP TCP client, the port that was selected. By default, usually 5060.
UDP	16384 - 32767	Port range for RTP media. Verify with CUCM.

6. TAPI Setup

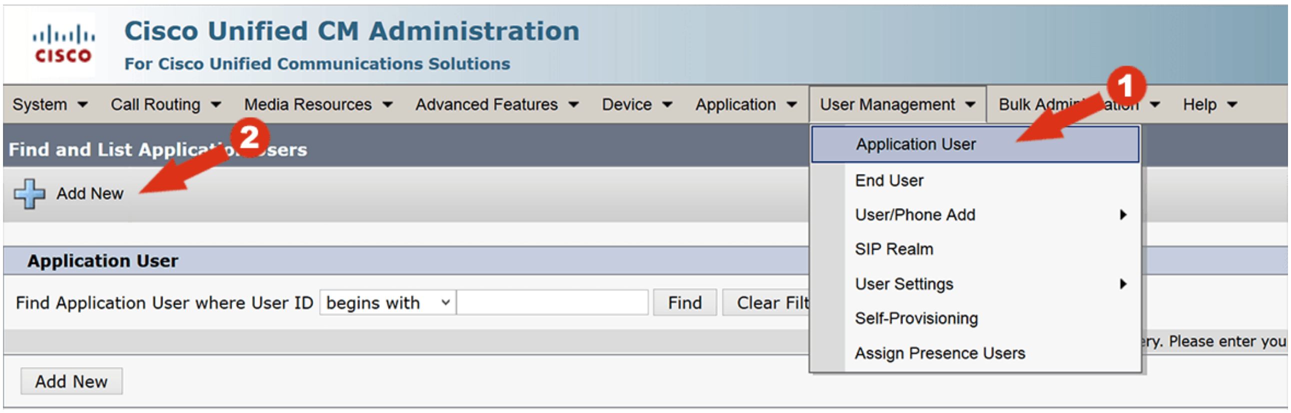
The following describes how to configure your Cisco CUCM platform for TAPI integration which will allow additional metadata to be captured with each call. The primary one is call direction.

Note: This is an additional set after setting up your CUCM for Active recording.
For CISCO TSP Windows compatibility and TSP CUCM compatibility please check the following links:
https://developer.cisco.com/site/tapi/documents/supported-windows-os/
https://developer.cisco.com/site/tapi/documents/tapi-operations-by-release/

7. Create a TAPI user

An application user is required for CallN to monitor and control handsets.

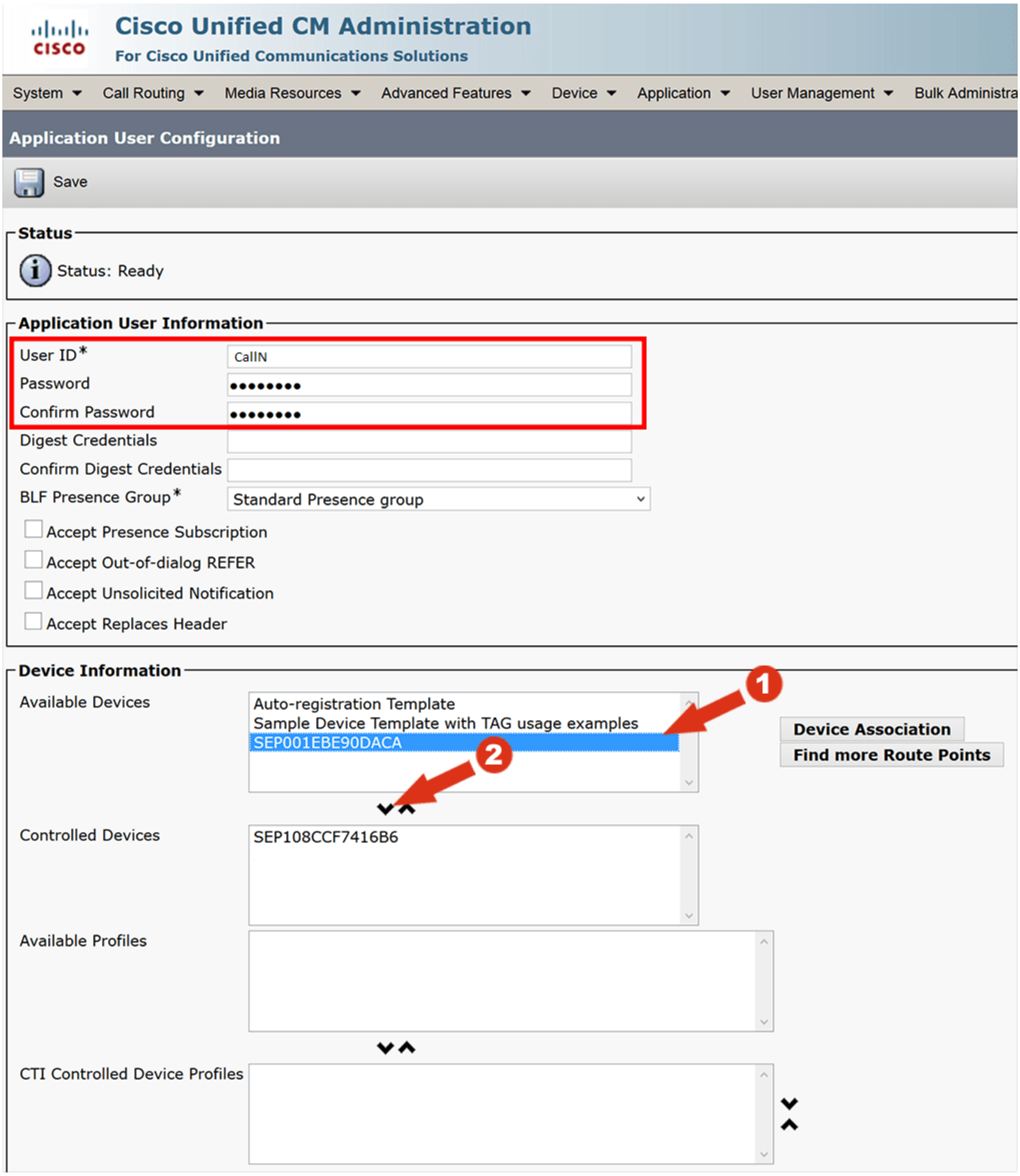
Open the Cisco Unified CM Administration web portal
Navigate to User Management / Application User
Click the Add New button



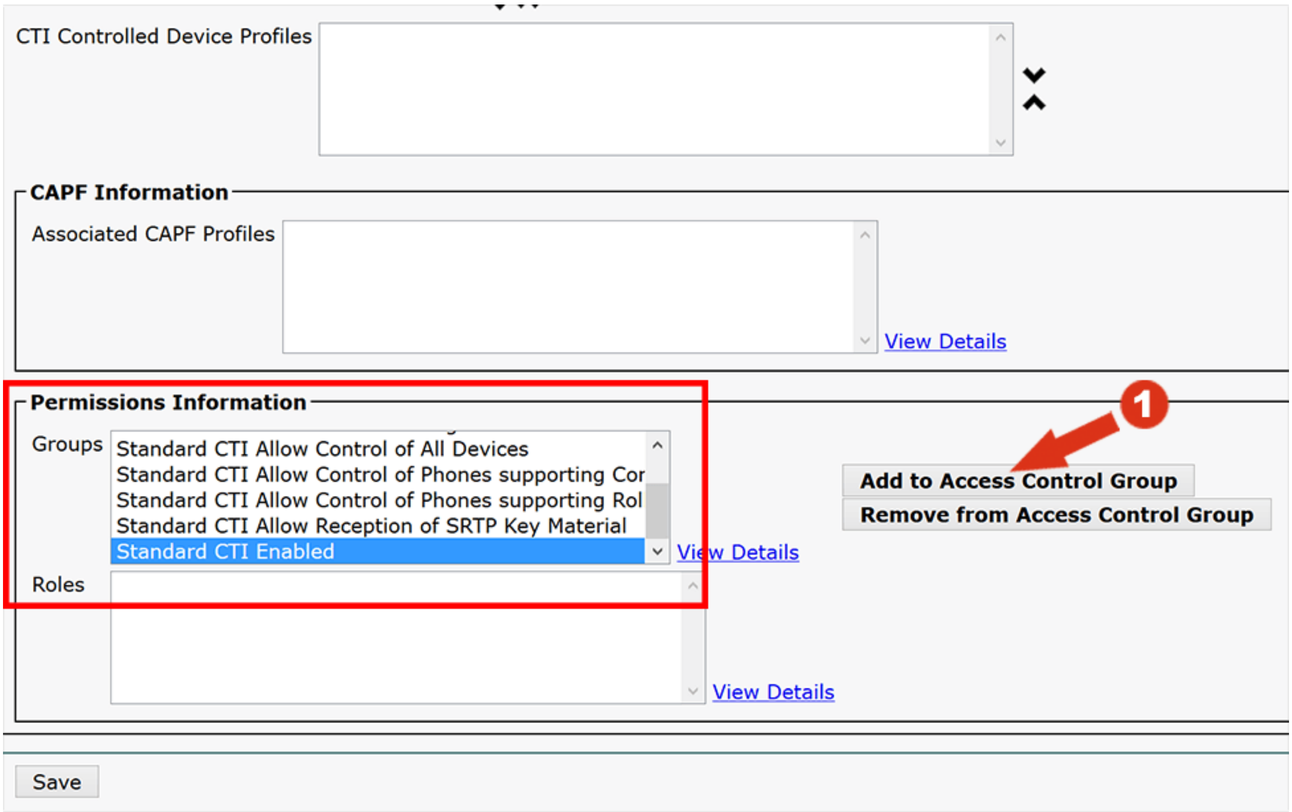
In the Application User Information set the User ID as CallN and the password as with high strength as per your password policies.

In the list **Available Devices** select all of the devices which should be monitored and click arrow **V** to move these devices to the list **Controlled Devices**.

In case of Extension Mobility, you can use **CTI Controlled Device Profiles** instead of **Controlled Devices** list.


Cisco Unified CM Administration
For Cisco Unified Communications Solutions
System
Call Routing
Media Resources
Advanced Features
Device
Application
User Management
Bulk Administra
Application User Configuration
Save
Status
Status: Ready
Application User Information
User ID*
CallN
Password
Confirm Password
Digest Credentials
Confirm Digest Credentials
BLF Presence Group*
Standard Presence group
Accept Presence Subscription
Accept Out-of-dialog REFER
Accept Unsolicited Notification
Accept Replaces Header
Device Information
Available Devices
Auto-registration Template
Sample Device Template with TAG usage examples
SEP001EBE90DACA
1
2
Device Association
Find more Route Points
Controlled Devices
SEP108CCF7416B6
Available Profiles
CTI Controlled Device Profiles

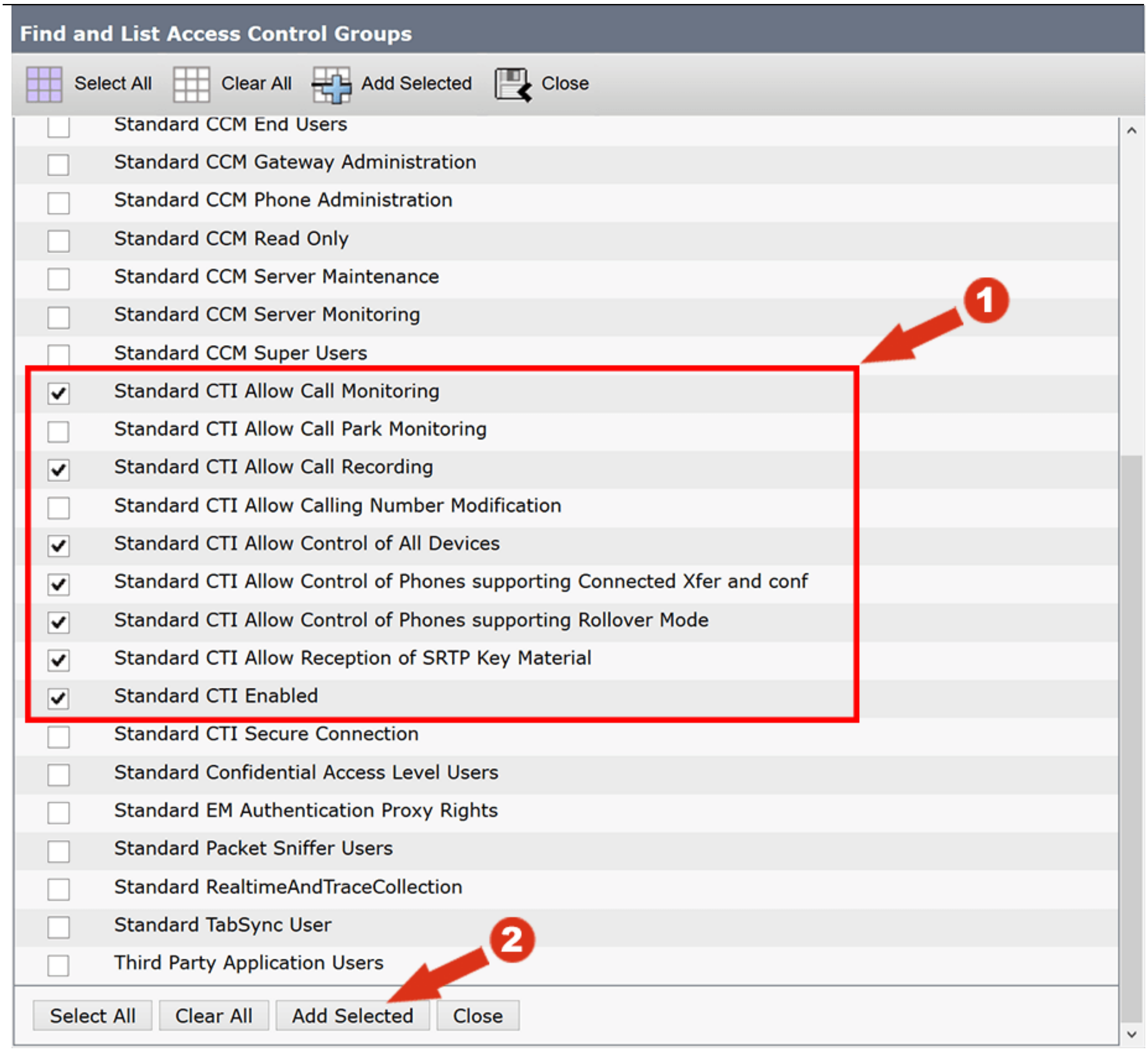
In the section **Permissions Information** click the **Add to Access Control Group** button to select permissions for application user.



In the new pop-up window select the following required options:

- Standard CTI Allow Control of All Devices
- Standard CTI Allow Control of Phones supporting Connected Xfer and conf
- Standard CTI Allow Control of Phones supporting Rollover Mode
- Standard CTI Enabled

Other options are not required.



Save the settings of new application user.

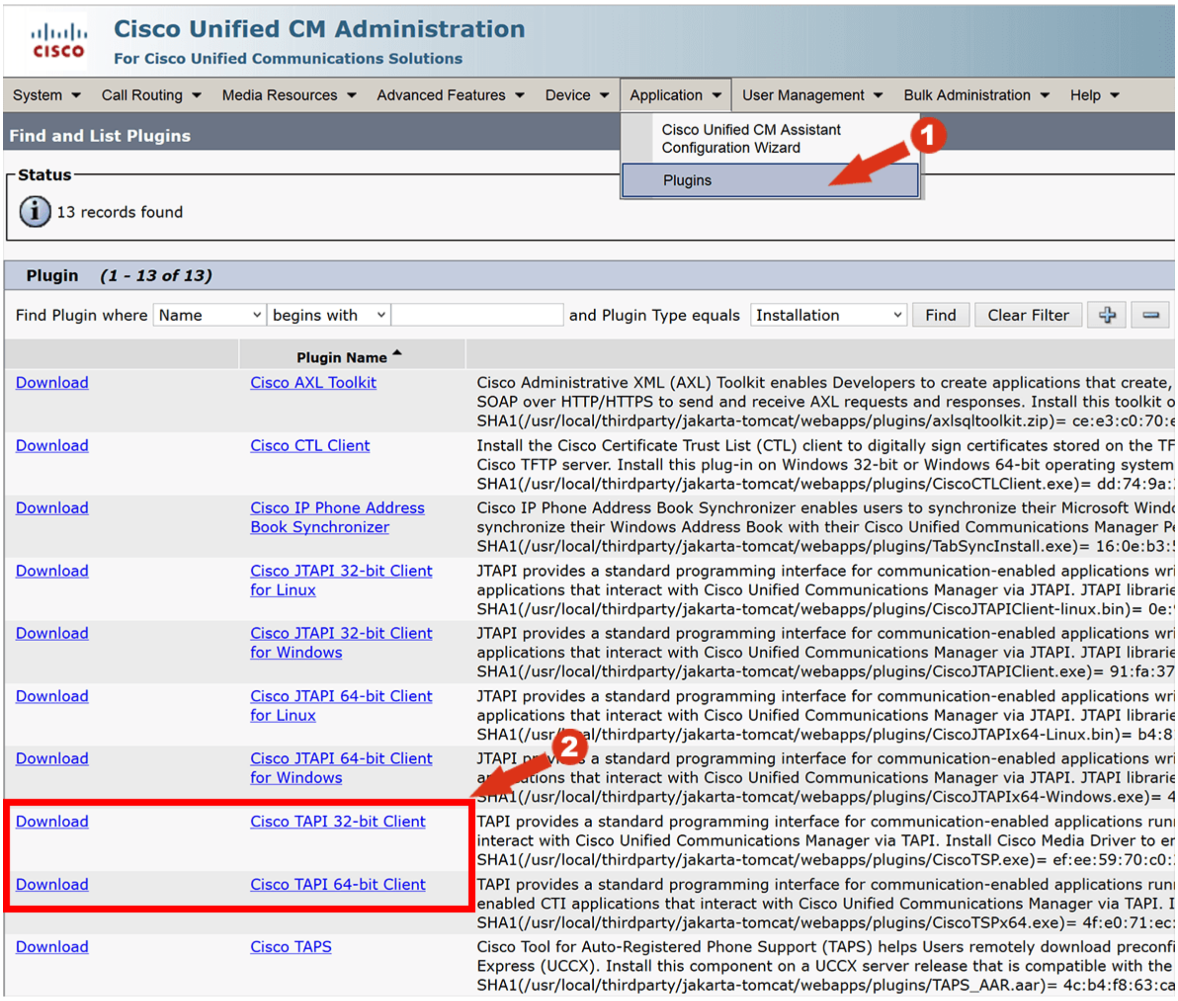
8. Install TAPI driver

The Cisco TAPI Service Provider (TSP) is a TAPI driver that is installed on the Windows server running the CallN recording software that allows communication between CallN and the Cisco UCM. For TSP Windows compatibility and TSP CUCM compatibilty please see the following links:
https://developer.cisco.com/site/tapi/documents/supported-windows-os/
https://developer.cisco.com/site/tapi/documents/tapi-operations-by-release/

8.1. Download the driver

The installer for the TAPI driver can be obtained from the Cisco Unified CM Administration portal using the following steps:

1. Open **Cisco Unified CM Administration** portal in a web browser and log in with an administrator account.
2. Navigate to **Application** menu across the top of the site and click the **Plugins** link.
3. On the Find and List Plugins page, enter **"Cisco TAPI"** into the search field and click **Find**.
4. The plugin list will load. Click the **Download** link on either 32-bit or 64-bit client depending on your operating system.



8.2. Install the driver

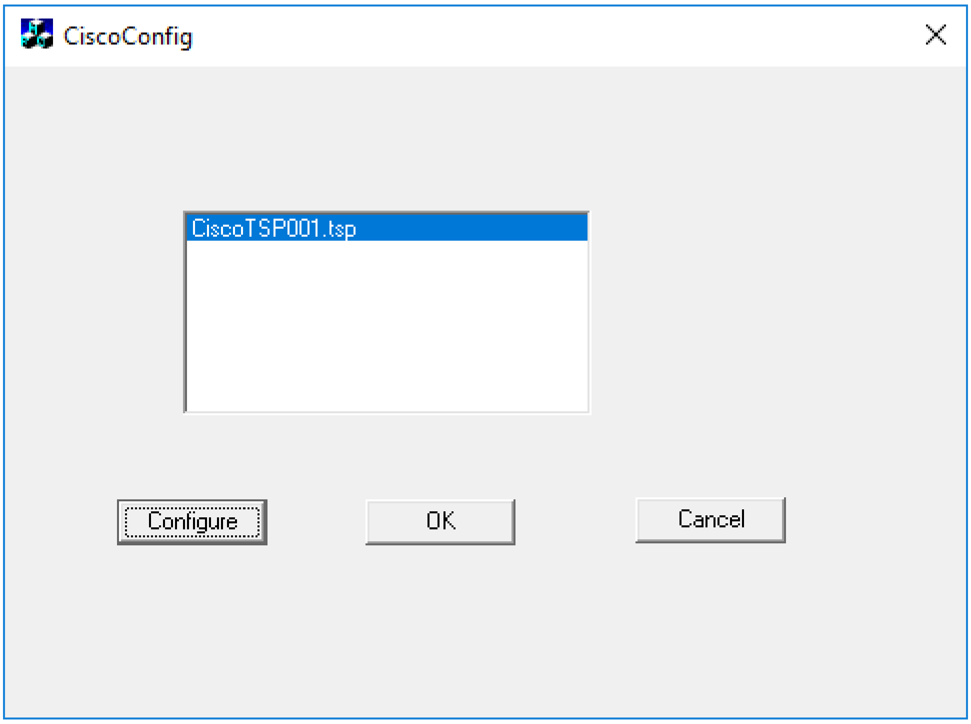
Open the **CiscoTSP.exe** installer and follow instructions on screen. You will be asked for Cisco Call Manager address and application user/password as created in previous steps.

Restart operating system is required after installation of Cisco TAPI driver.

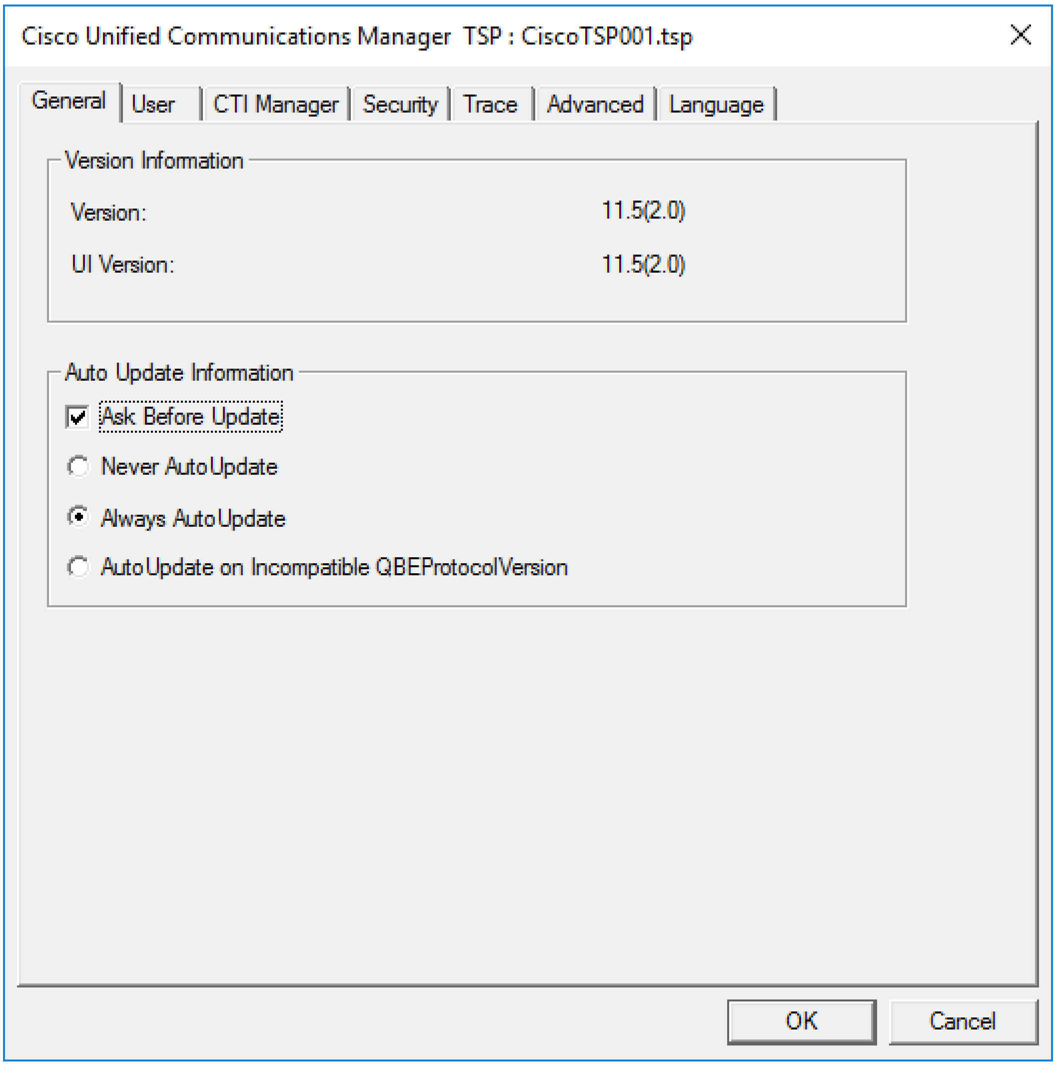
8.3. Configure the driver

Open the **CiscoConfig.exe** utility, which is installed with TAPI driver.

Click **Configure** button.

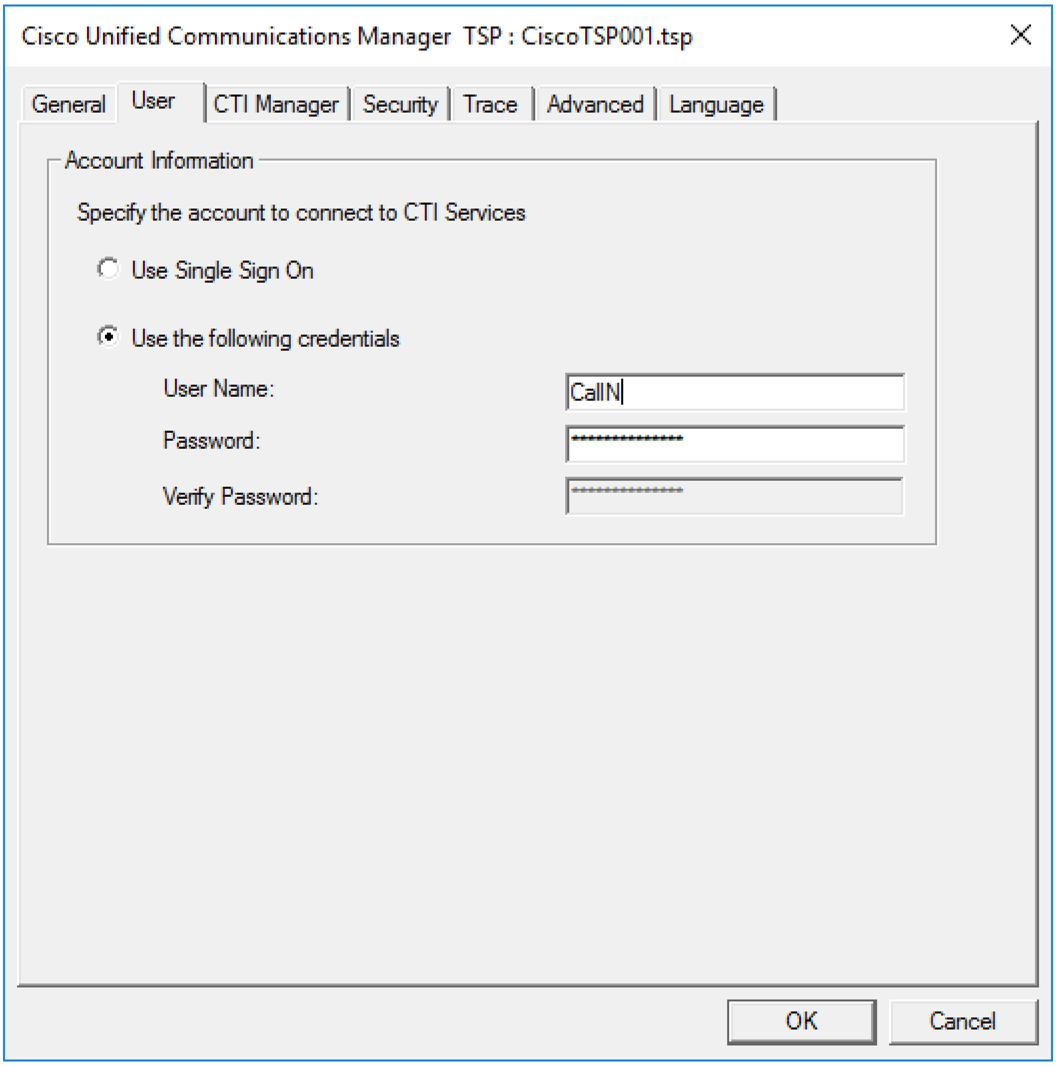


The general page will open and display what version is currently installed.



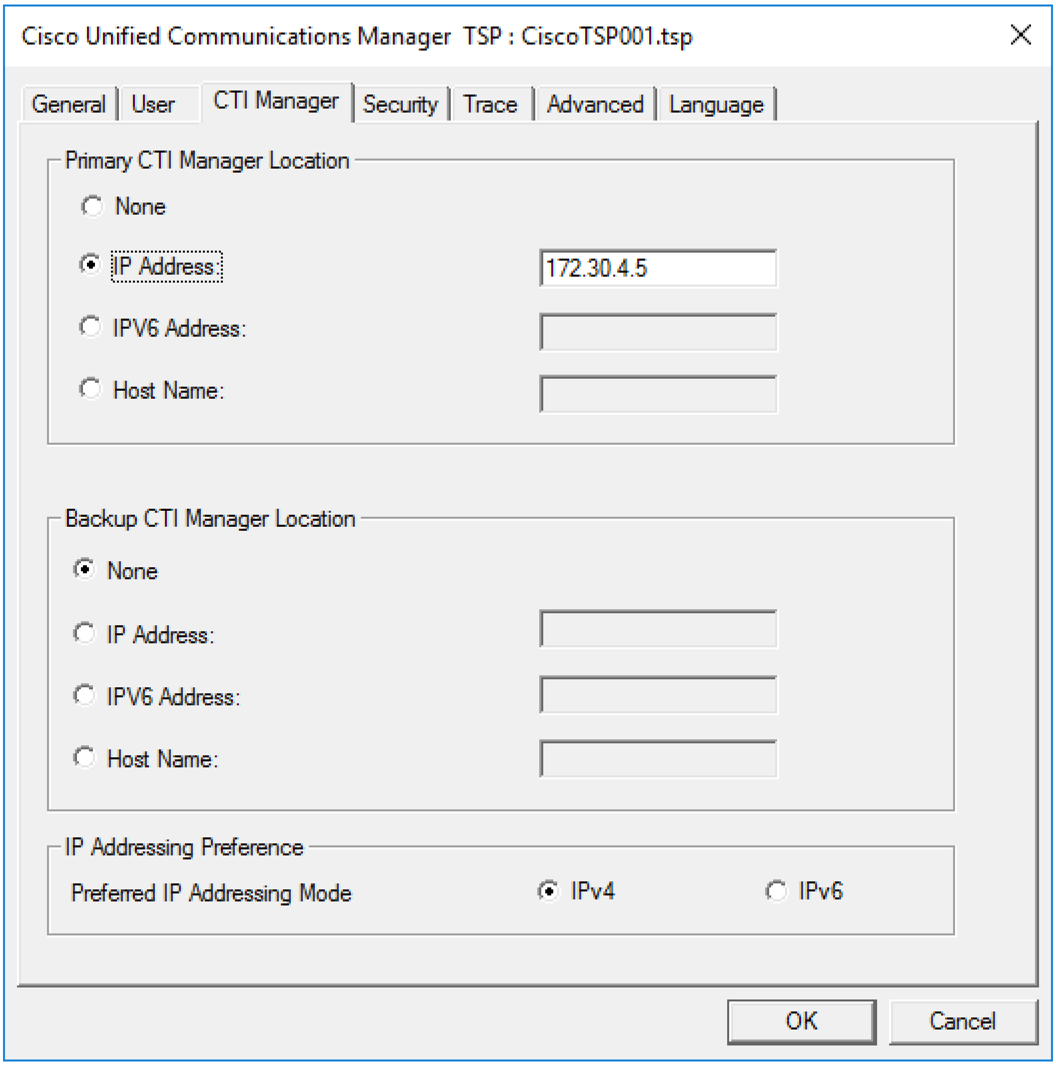
Click the **User** tab

Enter the credentials that were used when created the Application User.



Click the **CTI Manager** tab

Enter the IP address of your Call Manager installation.



8.4. Optional – Enable trace logging

Open the **CiscoConfig.exe** utility, which is installed with TAPI driver.

Click **Configure** button.

Click the **Trace** tab

Enable the Trace **On** check box.

Set the File Size to 10

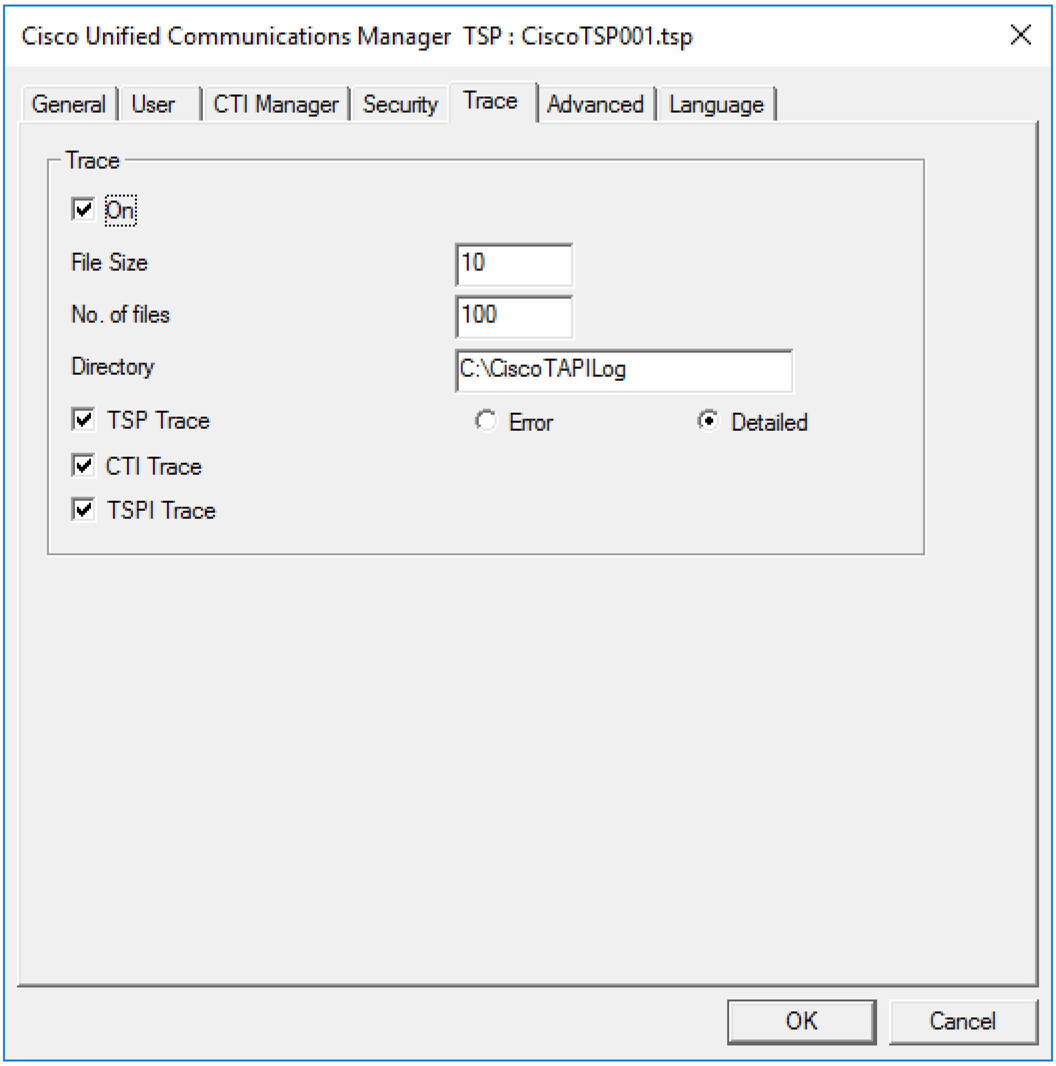
Set the No. of files to 100

Set up a **Directory** that is the path for the trace log. For example, C:\CiscoTAPILog

Select **Detailed** to log internal messages for debugging purposes.

Enable the following events; -

- **TSP Trace** to trace the TSP internal messages.
- **CTI Trace** to trace the messages sent between CTI and TSP.
- **TSPI Trace** to trace the requests and events that are sent between TSP and TAPI.


Cisco Unified Communications Manager TSP : CiscoTSP001.tsp
General
User
CTI Manager
Security
Trace
Advanced
Language
Trace
On
File Size
10
No. of files
100
Directory
C:\CiscoTAPILog
TSP Trace
Error
Detailed
CTI Trace
TSPI Trace
OK
Cancel