The configuration changes to be done on CUCM prior installation of DGVox as follows:

The screen shots are from CUCM 6.0(1) and there may be slight variation in the screen shots of the latest version CUCM. The step by step configuration remains the same.

1) Add User for Monitoring or Recording Application

Create the application user for monitoring or recording, and the application user must belong to a group with monitoring and recording privileges.

Add an application or end user from Application User Configuration window or the End User
Configuration window.

Use the *User Management > Application User* menu option in CUCM Administration to perform the necessary configuration.

Figure 1 illustrates adding a user for the monitoring or recording application.

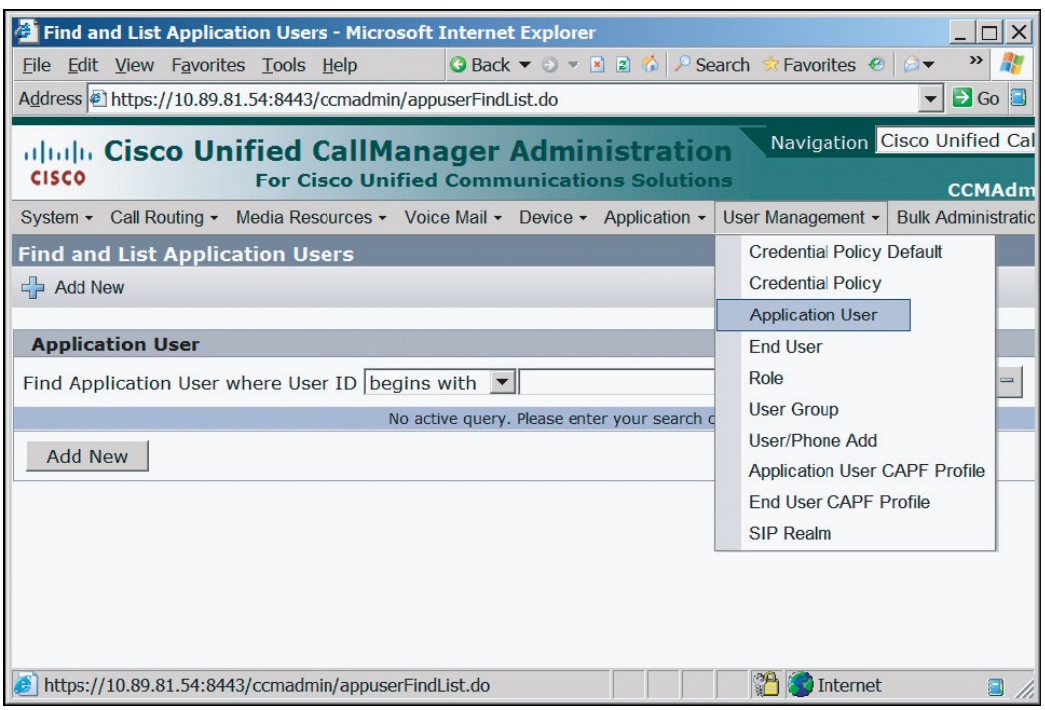


Figure 1

2) Add User to Groups That Allow Monitoring and Recording

Add the user to the user groups:

- *Standard CTI Allow Call Monitoring user group*
- *Standard CTI Allow Call Recording user group.*
- *Standard CTI Enabled user group.*

Use the *User Management > Application User* menu option in CUCM Administration to perform the necessary configuration.

Figure 2 illustrates adding the user to these user groups.

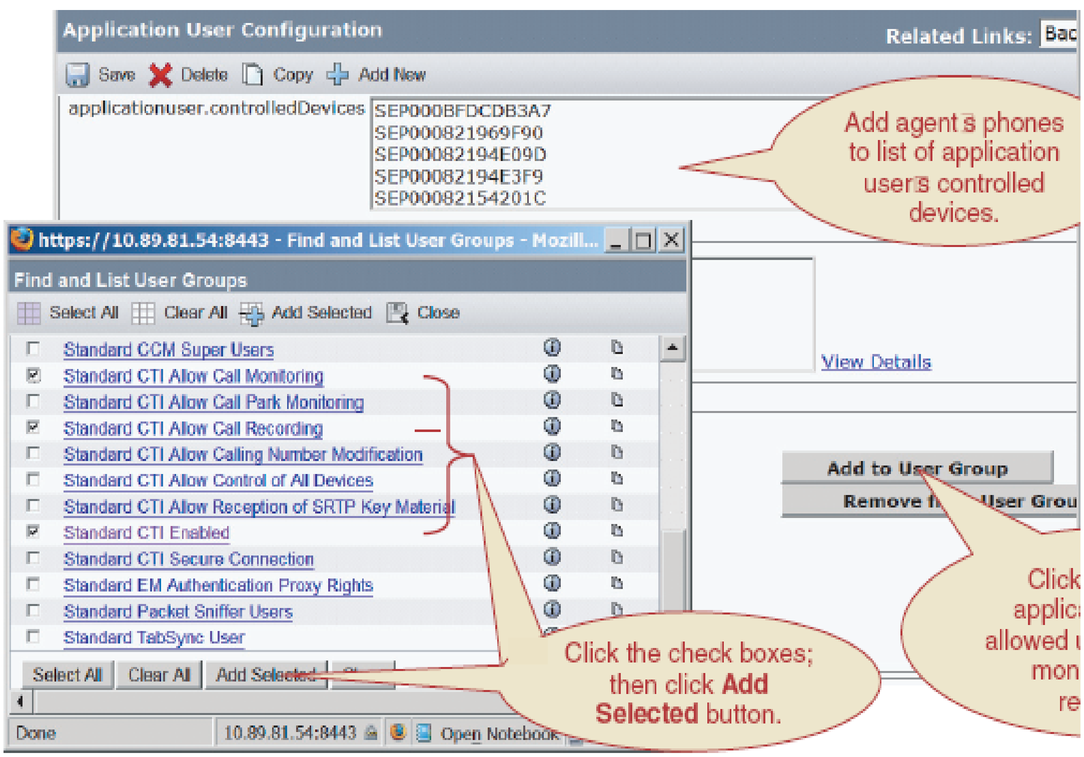


Figure 2

3) Create Recording Profile

Create a recording profile from the Device Setting pull-down menu.

Enter the recording calling search space and recording destination address.

Use the *Device > Device Settings > Recording Profile* menu option in CUCM Administration to perform the necessary configuration.

Figure 3 illustrates creating a recording profile.

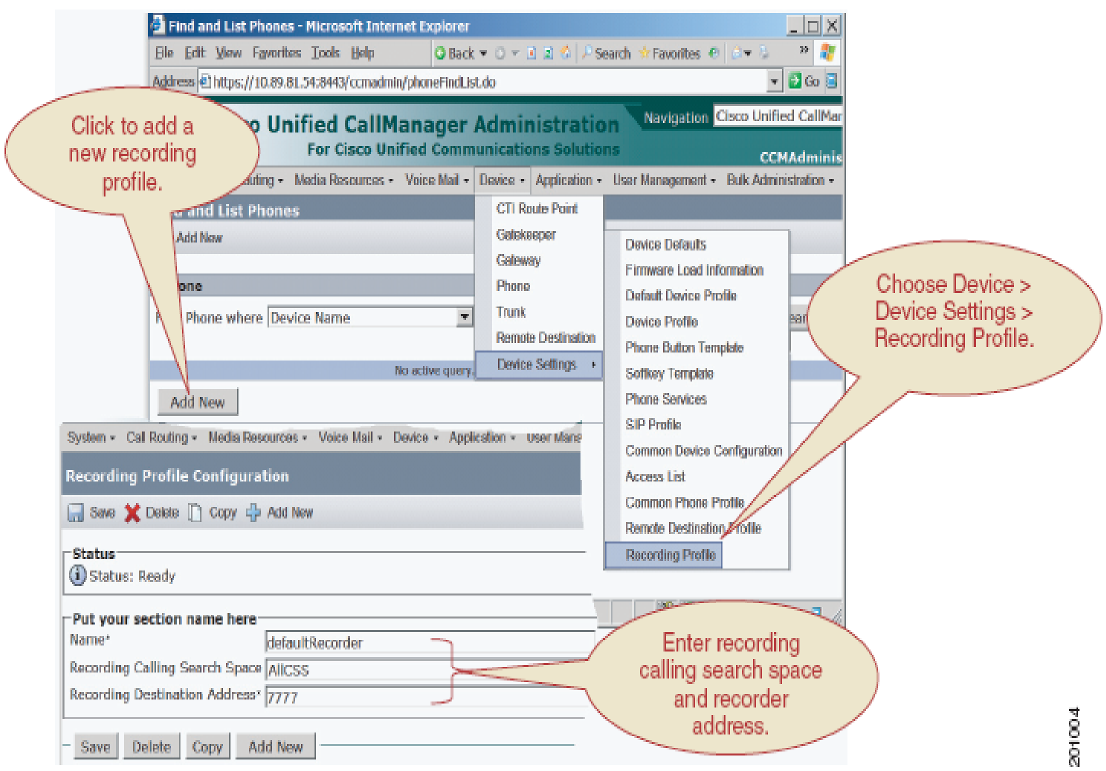


Figure 3

4) Create a SIP trunk security profile

Create a SIP trunk security profile for the recorder. Menu as *System > Security profile > SIP Trunk Security Profile*

Non secure SIP trunk security profile can be selected and edit the field *Outgoing transport type as UDP*. Incoming transport type will be TCP + UDP. Save the selection and reset the trunks.

Figure 4 illustrates creating the SIP Trunk security profile

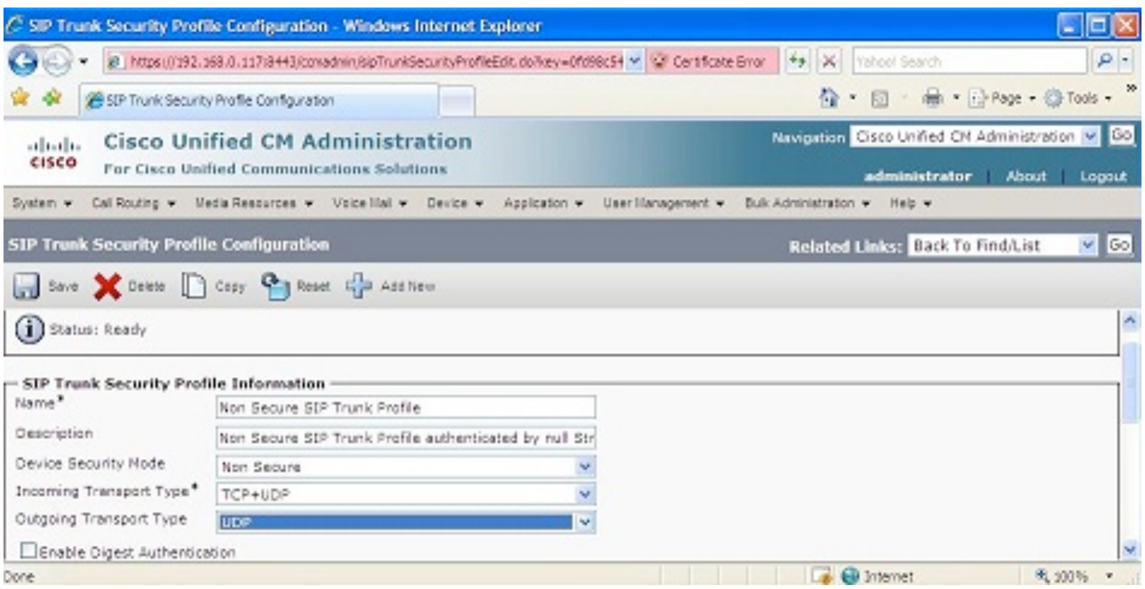


Figure 4

5) Create a SIP Trunk that points to the Recorder

Create a SIP trunk that points to the recorder.

Enter the recorder DN, which must match a route pattern for the SIP trunk or a route list that includes the recorder.

Use the *Device > Trunk* menu option in CUCM Administration to perform the necessary configuration.

Figure 5 illustrates creating a SIP trunk that points to the recorder.

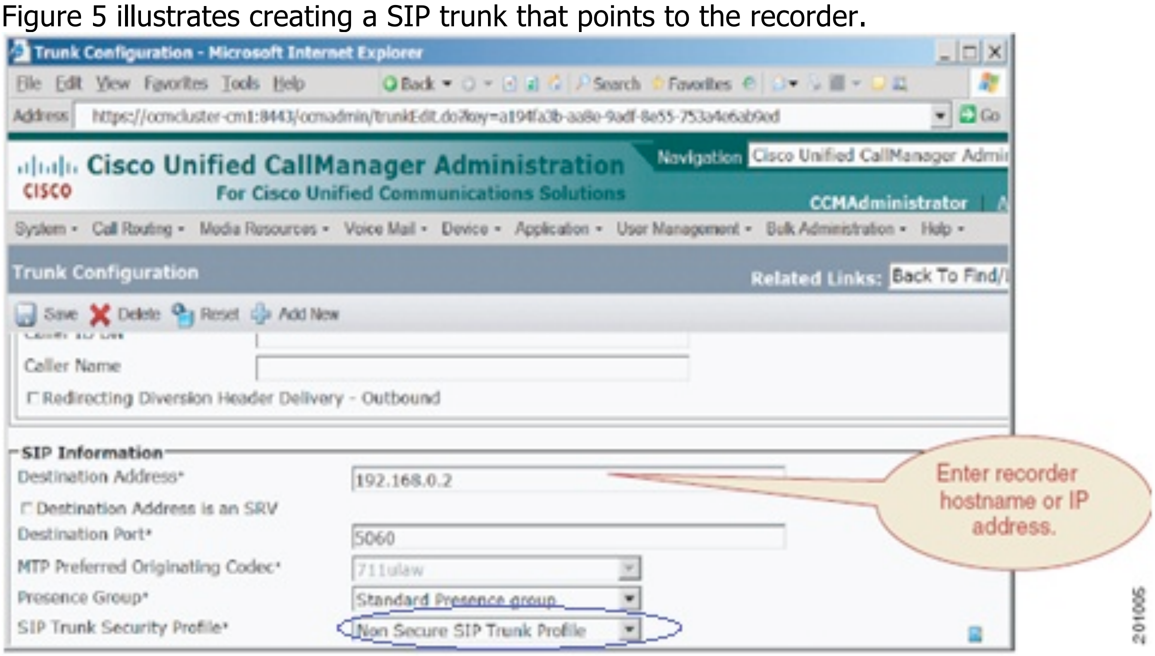


Figure 5

6) Create a Route Pattern for the Recorder

Create a route pattern for the recorder SIP trunk. The Recording Destination Address in the recording profile must match this pattern.

Select the SIP trunk that points to the recorder, or select a route list of which the recorder is a member.

Use the *Call Routing > Route/Hunt > Route Pattern* menu option in CUCM Administration to perform the necessary configuration.

Figure 6 illustrates creating a route pattern for the recorder.

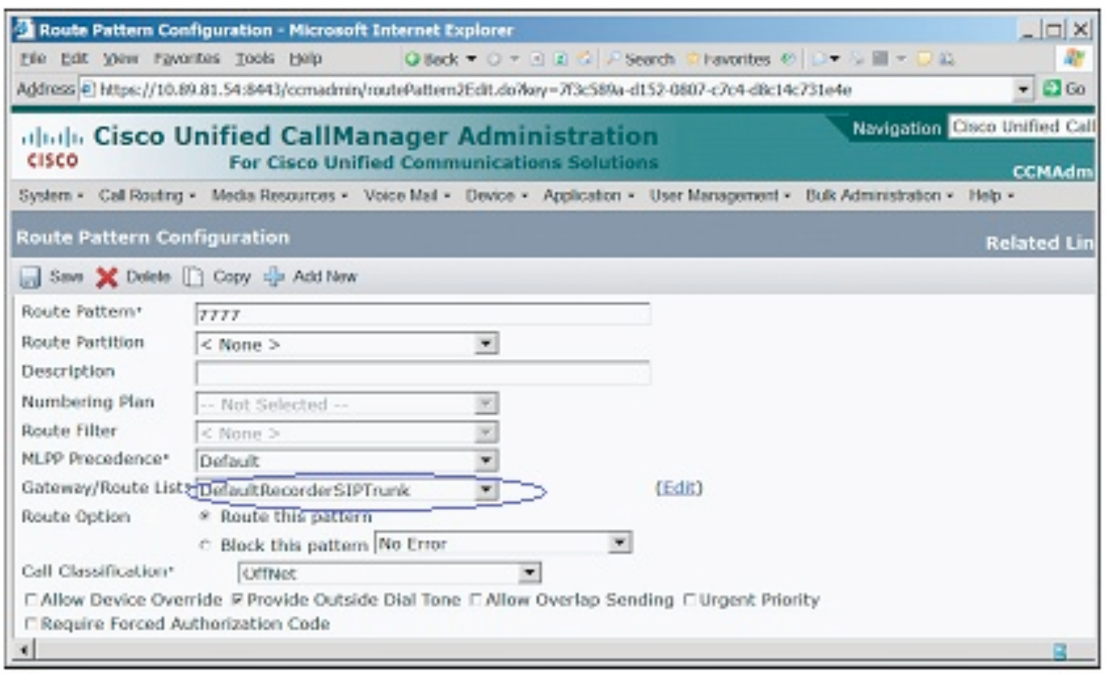


Figure 6

7) Turn on IP Phone BIB to Allow Monitoring or Recording

The built-in bridge of the agent phone must be set to *On* to allow its calls to be monitored or recorded. You can also set the Built-in Bridge Enable service parameter to *On* and leave the Built-in Bridge in the Phone Configuration window set to *Default*.

Use the *Device > Phone* menu option in CUCM Administration to perform the necessary configuration.

Figure 7 below illustrates turning on the IP phone BIB to allow monitoring or recording.

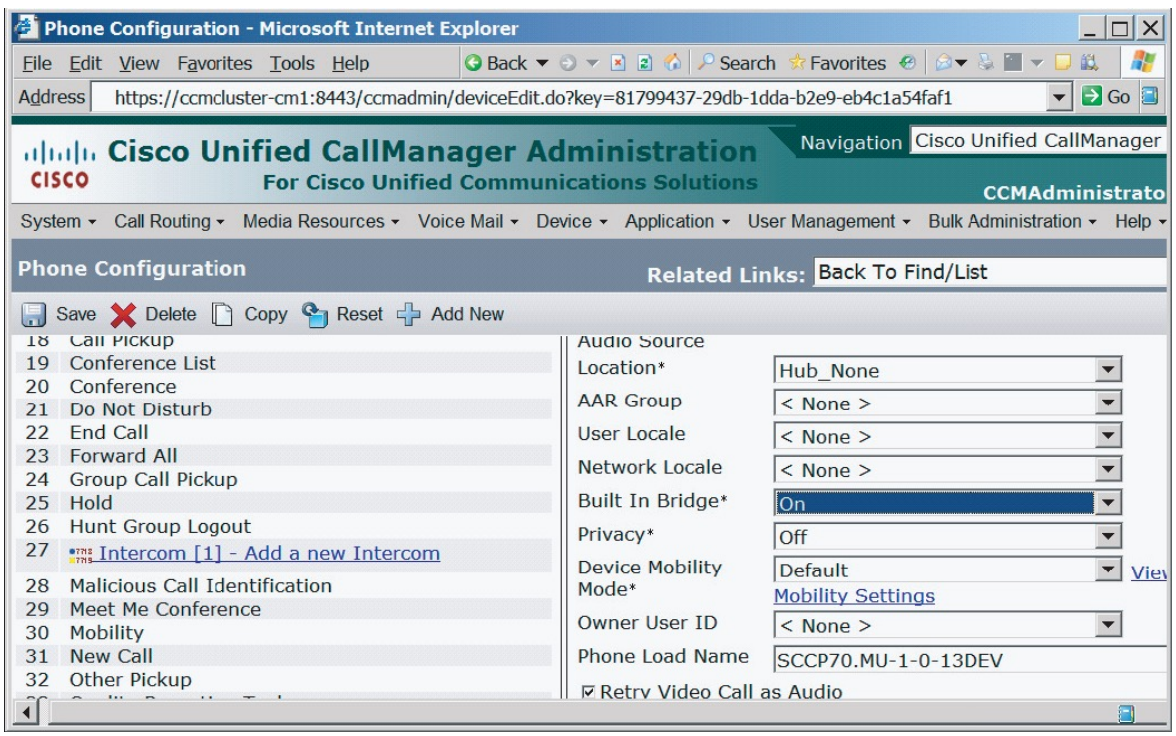


Figure 7

8) Enable Recording on the Line Appearance

To enable recording of an agent, set the Recording Option in the line appearance of the agent to *Automatic Call Recording Enabled or Application Invoked Call Recording Enabled.*

Select the pre-created recording profile from the drop-down list box.

Use the *Device > Phone*, Select the specified device name and on the left hand side you can see *Line [1], Line [2]* menu option in CUCM Administration to perform the necessary configuration.

Figure 8 illustrates enabling recording on the line appearance.

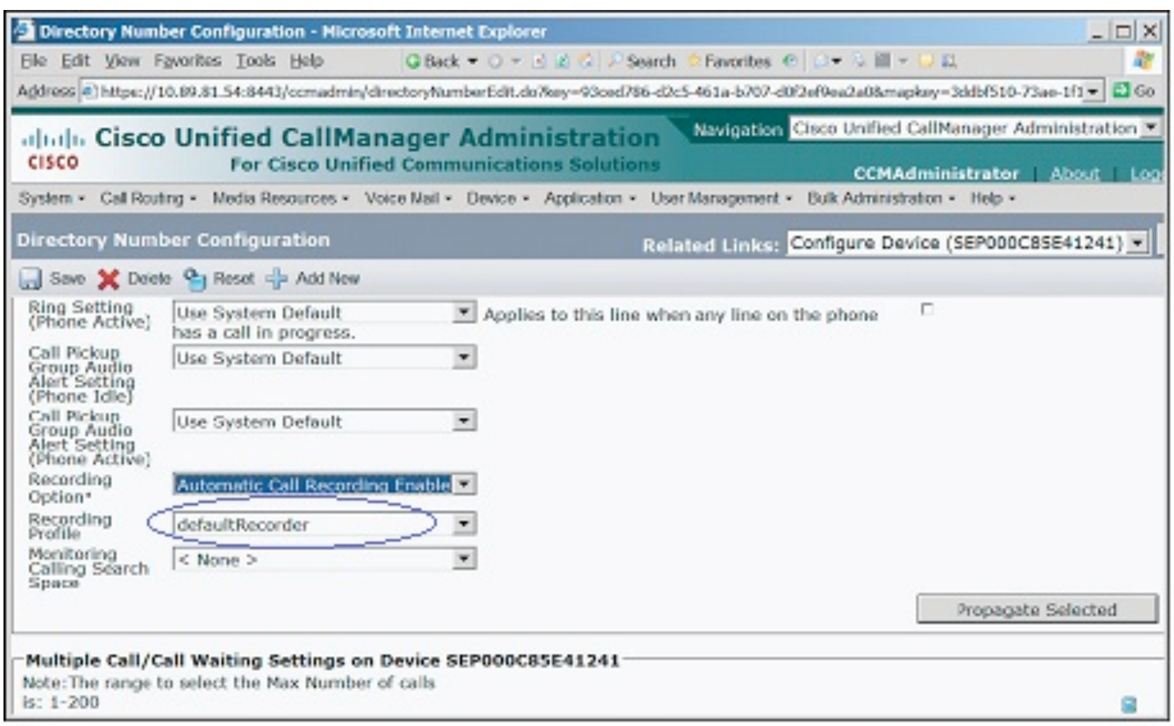


Figure 8

9) Edit the Clusterwide parameters (Device-SIP) "*SIP Session Expires Timer*" in CUCM.

Menu is *System > service parameters > Server - Active, Service - Cisco call manager (Active) > SIP Session Expires Timer .*

The default value will be 1800 and the recording will get stopped after half of this value, i.e. 900 seconds. Make it 86400 (higher value) and Apply.

Figure 9 illustrates the service parameter option.

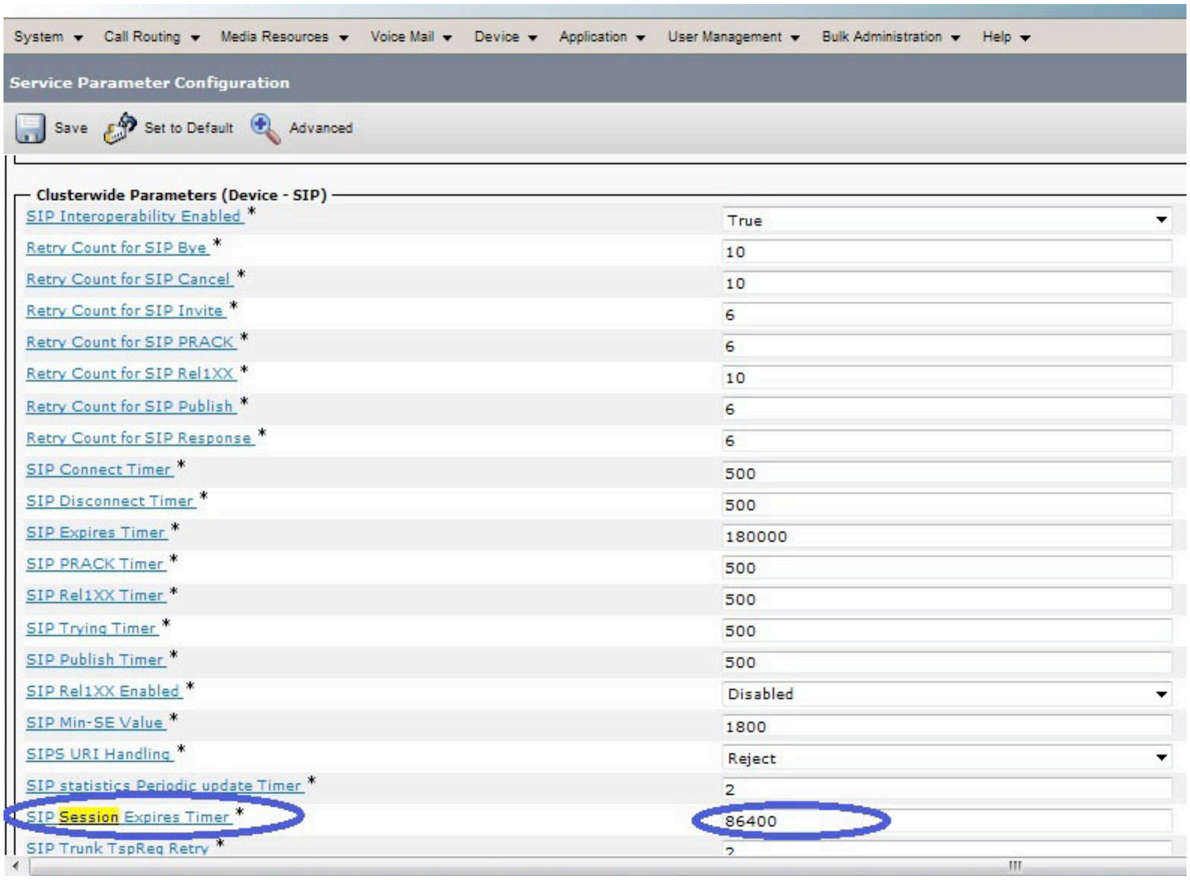


Figure 9

10) Check the Clusterwide parameters (System- Location and Region) *"G722 Codec Enabled"*

Menu is *System > service parameters > Server - Active, Service - Cisco call manager (Active) > G722 Codec Enabled .*

The default value will be **Enabled** for all devices. Make it to *"Disabled" or " Enabled for all devices Except Recording-Enabled Devices"* and Apply.

Figure 10 illustrates the service parameter option.

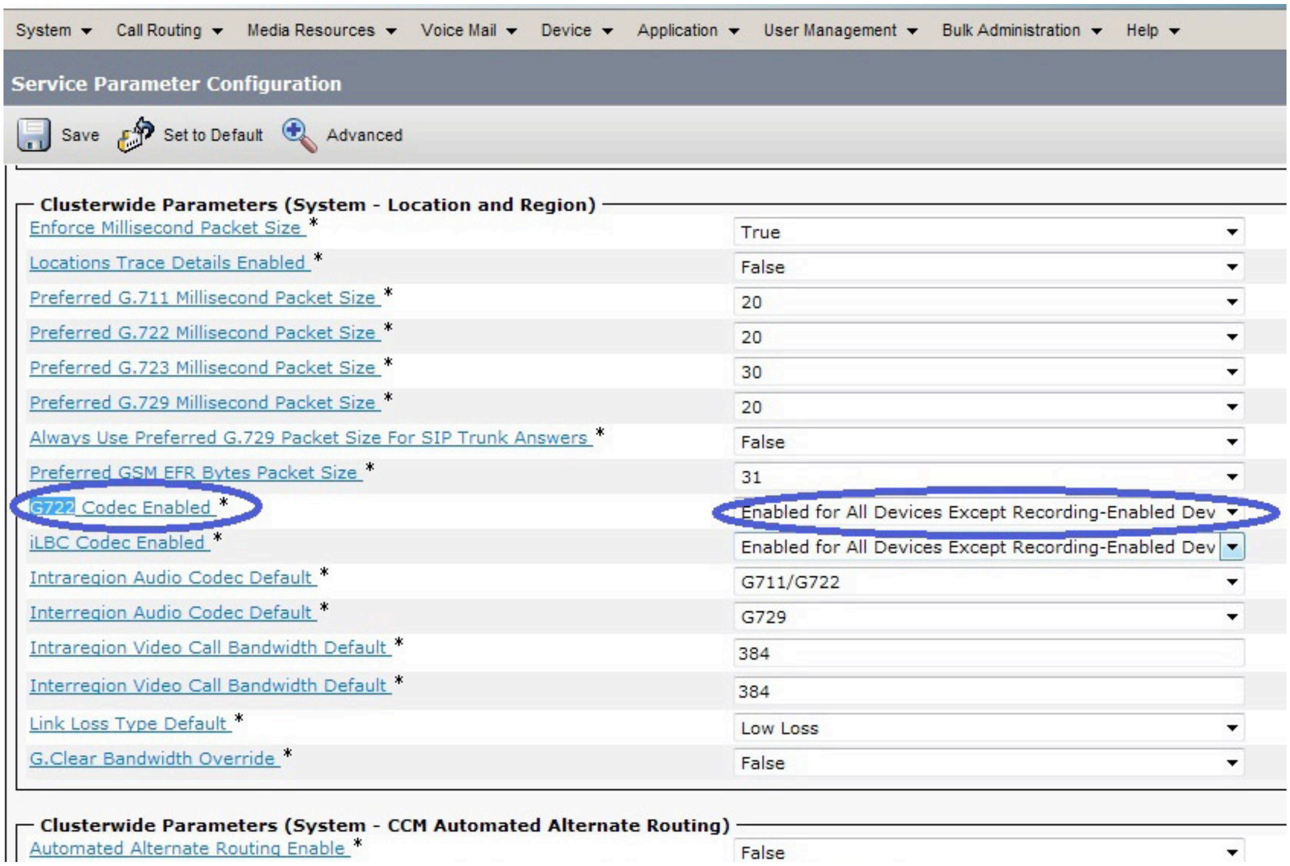


Figure 10

11) Download the CISCO TSP from the CUCM and install it on the Recording server.

Menu is *Application > Plugins.*

Refer Figure11 for the screen shot.

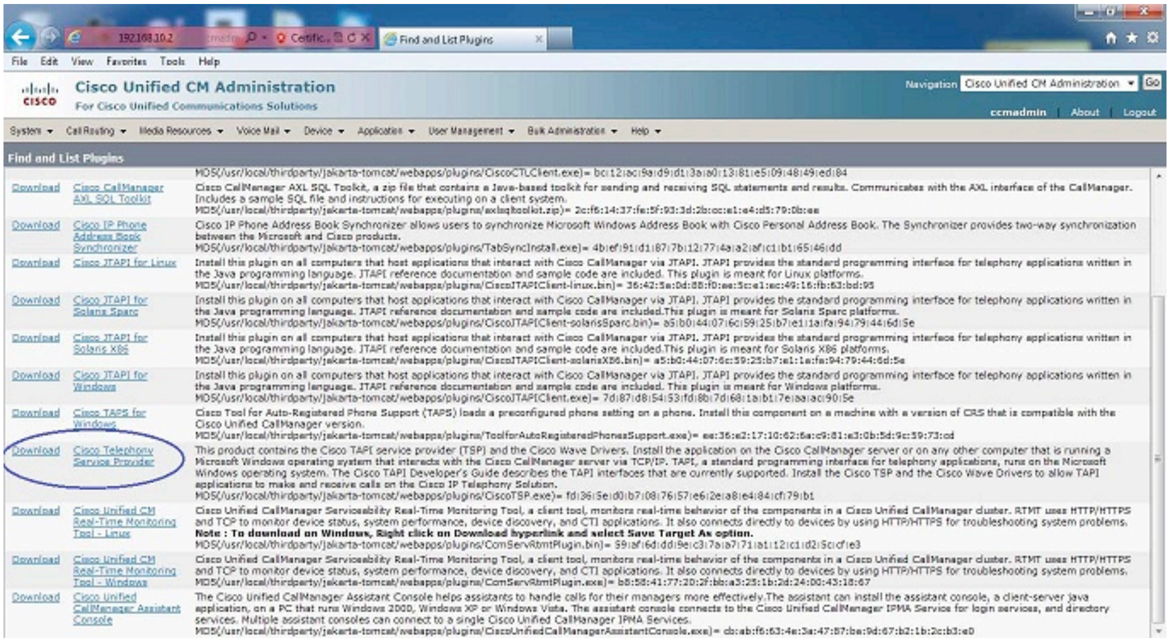


Figure 11

a) **Install the TSP application on the Recording Server with the following settings**:

- Multiple Instances of CUCM TSP – ***"No" (If you choose " Yes ", then choose the value to be 1).***
- TFTP Server IP Address – ***Enter IP address of the CUCM.***
- Once the installation completes, it will prompt to restart the system. Click ***"Yes"*****.**

b) **Configure the CISCO TSP using *Control Panel > Phone and Modem Options > Advances > CiscoTSP001.tsp* as in Figure 12 & 13.**

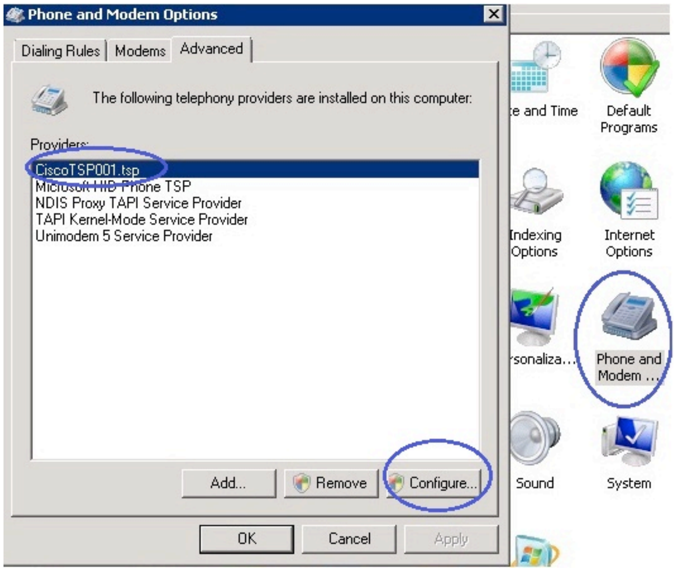


Figure 12

- ***Provide the Application User Name and Password created in CUCM (Refer step1).***
- ***Enter the CUCM IP address and Apply.***

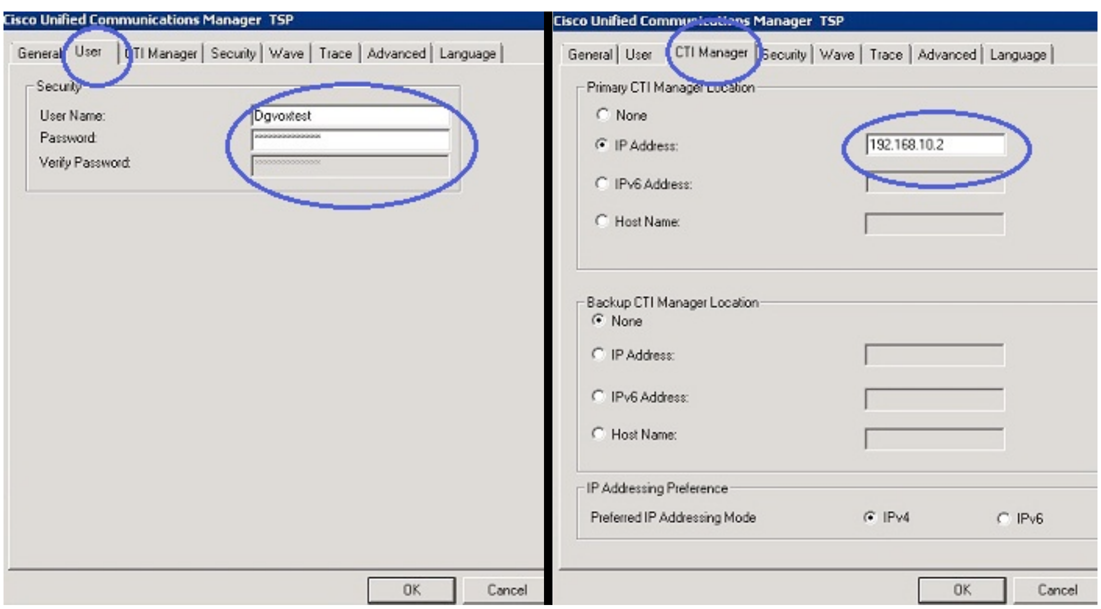


Figure 13

c) Verify the configured phones were displayed in "Dialer" application.

Go to Windows Run > Type ***Dialer.exe*** **and the following window (Figure 14) will appear. Check whether the configured phones are displayed under the Line option.**

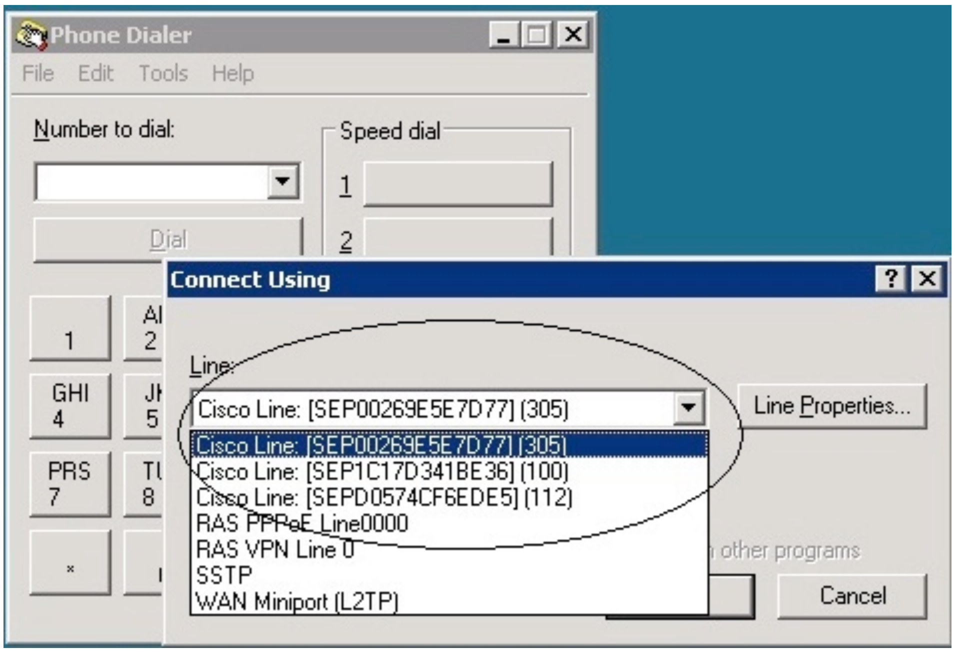


Figure 14

DGVox PORT LIST:

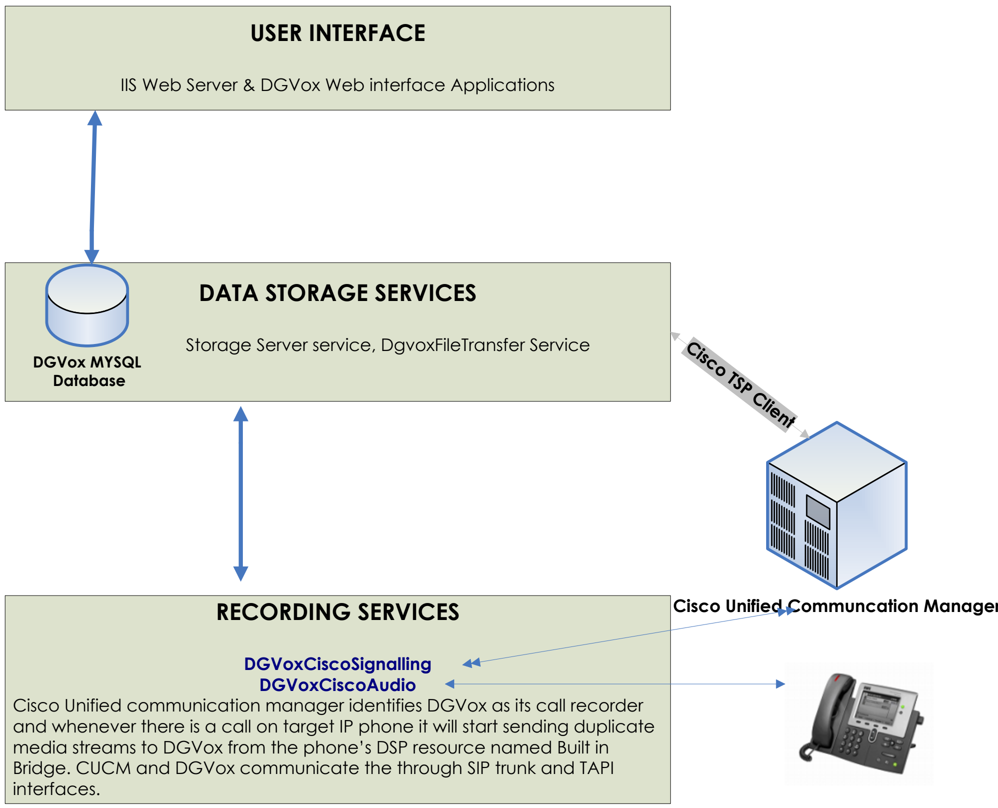
The following are the ports used by the DGVox application:

UDP ports: 3001 - 3011, 5060, 5501, 6003, 6005, 6501, 6502, 10029.

For the RTP streams, UDP Port Range: 20040 – 30030

Http port: 80

FUNCTIONAL DESIGN- DGVOX ON CUCM



Now the server is ready to install DGVox Application. Here is the schematic representation of DGVox Active mode recording on CUCM.