



Application Note

Provisioning Cisco® Unified Communications Manager (CallManager) for the Bose ControlSpace EX-1280C conferencing processor

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Summary

This application note describes the basic configuration steps required to integrate the Bose ControlSpace EX-1280C processor with Cisco Unified Communications Manager (CallManager) platform. Depending on the already configured CallManager, other steps might be required.

Overview

The Bose ControlSpace EX-1280C processor behaves as a third-party Session Initiation Protocol (SIP) device. It makes outbound calls and receives incoming calls. Two dedicated VoIP lines can be supported. Review the project requirements with your AV contractor or consultant to determine the number of lines needed.

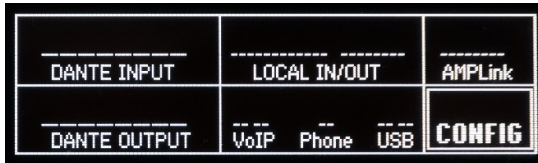
Required Software:

- Cisco CallManager: Version 10.5.2.11900-3
- Bose ControlSpace Designer: Version 5.1 or higher

Configuring Cisco Unified Communications Manager (CallManager)

Documenting the VoIP MAC address

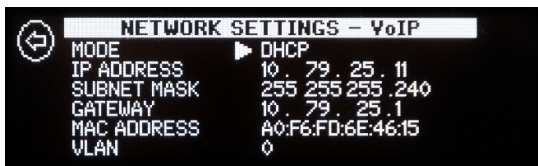
1. On the Bose EX-1280C, turn the **rotary knob** to select **CONFIG**, and then press the **rotary knob** to enter its menu.



2. Turn the **rotary knob** to select **VoIP NETW SETTINGS**, and then press the **rotary knob** to show the settings.

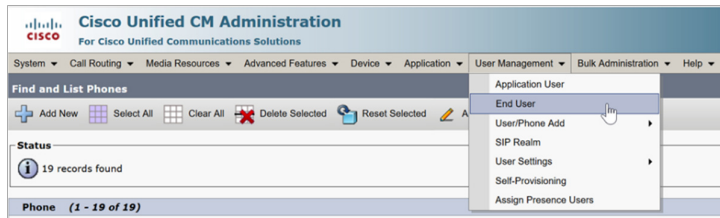


3. Document the **MAC ADDRESS** (e.g., A0:F6:FD:6E:46:15).



Adding Users to CallManager

1. Sign into CallManager with your administration credentials.
2. Click **Call Routing**, and then click **Route Plan Report**.
3. Find one or two numbers that are not in use, and document them (e.g., 314510, 314511).
4. Click the **User Management** menu, and then click **End User**.






5. Click **Add New**.

6. In **End User Configuration**, under **User Information**, populate the following fields for the information that you documented in [Step 3](#):

User ID	Enter the user number (e.g., 314510).
Password	Enter a password.
Confirm Password	Enter the same password.
Self Service User ID	Enter the self-service user number (e.g., 314510).
PIN	Enter a PIN.
Confirm PIN	Enter the same PIN.
Last Name	Enter a name (e.g., Conferencing).
Telephone Number	Enter the user number (e.g., 314510).

End User Configuration

 Save
  Delete
  Add New

User Information

User Status	Enabled Local User	
User ID*	<input type="text" value="314510"/>	
Password	<input type="password" value="....."/>	Edit Credential
Confirm Password	<input type="password" value="....."/>	
Self-Service User ID	<input type="text" value="314510"/>	
PIN	<input type="password" value="....."/>	Edit Credential
Confirm PIN	<input type="password" value="....."/>	
Last name*	<input type="text" value="Conferencing"/>	
Middle name	<input type="text"/>	
First name	<input type="text"/>	
Title	<input type="text"/>	
Directory URI	<input type="text"/>	
Telephone Number	<input type="text" value="314510"/>	
Home Number	<input type="text"/>	
Mobile Number	<input type="text"/>	
Pager Number	<input type="text"/>	
Mail ID	<input type="text"/>	
Manager User ID	<input type="text"/>	
Department	<input type="text"/>	
User Locale	<input type="text" value="Nederlands, Koninkrijk der Nederlanden"/> ▾	
Associated PC	<input type="text"/>	
Digest Credentials	<input type="password" value="....."/>	
Confirm Digest Credentials	<input type="password" value="....."/>	
User Profile	<input (factory="" default)="" standard="" type="text" us"="" value="Use System Default("/> ▾ View Details	

7. Click **Save**.
8. Repeat [Steps 4-7](#) to enter a second line.

9. Scroll down to the **Permission Information** section.

Permissions Information

Groups

Standard CCM Admin Users
Standard CCM End Users

^
v

Roles

Standard CCM Admin Users
Standard CCM End Users
Standard CCMUSER Administration
Standard CUREporting

^
v

Add to Access Control Group

Remove from Access Control Group

[View Details](#)

[View Details](#)

Save

Delete

Add New

10. Click **Add to Access Control Group**.

11. Click **Find**.

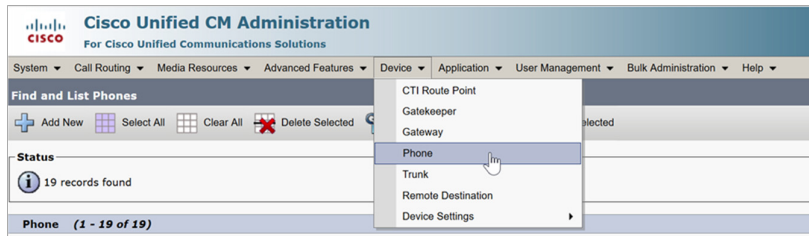
12. Select **Standard CCM Admin Users** and **Standard CCM End Users**.

13. Click **Add Selected**.

14. Click **Save**.

Adding a SIP Device in CallManager

1. Click the **Device** menu, and then click **Phone**.



2. In the **Create a phone using the phone type or a phone template** section, click **Phone Type** to select it.

3. Click the menu next to **Phone Type**, and then select **Third-party SIP Device (Basic)**.
4. Click **Next**.

5. In the **Device Information**, populate the fields with the following information:

MAC Address	Documented in Documenting the VoIP MAC address, Step 3 .
Description	SEP followed by the MAC address (e.g., SEPA0F6FD6E4615).
Device Pool*	Provided by the IT specialist.
Phone Button Template	Select Third-party SIP device (Basic) .
Common Phone Profile*	Provided by the IT specialist.
Owner	Select Anonymous (Public/Shared Space) .

Device Information

☒ Device is Active

☐ Device is not trusted

MAC Address*

Description

Device Pool* [View Details](#)

Common Device Configuration [View Details](#)

Phone Button Template*

Common Phone Profile* [View Details](#)

Calling Search Space

AAR Calling Search Space

Media Resource Group List

Location*

AAR Group

Device Mobility Mode* [View Current Device Mobility Settings](#)

Owner ☐ User ☒ Anonymous (Public/Shared Space)

Owner User ID

Use Trusted Relay Point*

Always Use Prime Line*

Always Use Prime Line for Voice Message*

Geolocation

☐ Ignore Presentation Indicators (internal calls only)

☒ Logged Into Hunt Group

☐ Remote Device

6. Click **Save**.
7. Scroll down to the **Protocol Specific Information** section.

8. Click the following menus to select the following options:

Device Security Profile* Select **Third-party SIP Device (Basic) - Digest Required**

SIP Profile* Select **Standard SIP Profile**.

Digest User Click **Find** next to the menu, and then select **User ID** in the search drop-down menu. Select **Begin with**, and then enter the user number (e.g., 314510).

Protocol Specific Information	
BLF Presence Group *	Standard Presence group
MTP Preferred Originating Codec *	711ulaw
Device Security Profile *	Third-party SIP Device Basic - Digest Required
Rerouting Calling Search Space	< None >
SUBSCRIBE Calling Search Space	< None >
SIP Profile *	Standard SIP Profile View Details
Digest User	314510 Find
<input type="checkbox"/> Media Termination Point Required	
<input type="checkbox"/> Unattended Port	
<input type="checkbox"/> Require DTMF Reception	

9. Click **Save**.

Adding Directory Numbers to SIP Service

1. On the left side of the **Phone Configuration** window, in the **Association** section, click **Line [1] - Add a new DN**.

The screenshot shows the 'Phone Configuration' window. At the top, there's a toolbar with buttons: Save, Delete, Copy, Reset, Apply Config, and Add New. Below the toolbar is a 'Status' section with an 'Add successful' message. The main area is divided into two panes. The left pane, titled 'Association', contains a 'Modify Button Items' button and a list item 'Line [1] - Add a new DN'. The right pane, titled 'Phone Type', shows 'Product Type: Third-party SIP Device (Basic)' and 'Device Protocol: SIP'. Below this, the 'Real-time Device Status' section shows 'Registration: Unknown' and 'IPv4 Address: None'.

2. In the **Directory Number Information** section, populate the fields with the following information:

Directory number*	Enter the user number (e.g., 314510).
Urgent Priority	Click this box to select it.
Route Partition	Provided by the IT specialist.
Description	Enter the user number (e.g., 314510).
Alerting Name	Enter the user number (e.g., 314510).
ASCII Alerting Name	Enter the user number (e.g., 314510).
Calling Search Space	Provided by the IT specialist.

The screenshot shows two sections of the configuration window. The top section, 'Directory Number Information', contains fields for 'Directory Number*' (314510), 'Route Partition' (00-Internal), 'Description' (314510), 'Alerting Name' (314510), 'ASCII Alerting Name' (314510), 'External Call Control Profile' (< None >), and 'Associated Devices' (SEPA0F6FD6E4615). There is a checkbox for 'Urgent Priority' which is checked. Below these fields are buttons for 'Edit Device' and 'Edit Line Appearance', and a 'Dissociate Devices' section. The bottom section, 'Directory Number Settings', contains fields for 'Voice Mail Profile' (Default), 'Calling Search Space', 'BLF Presence Group*' (Standard Presence group), 'User Hold MOH Audio Source' (< None >), and 'Network Hold MOH Audio Source' (< None >). There is also a checkbox for 'Reject Anonymous Calls' which is unchecked. At the bottom of this section is a button for 'Add Enterprise Alternate Number'.

3. Scroll down to the **Line 1 on Device** section, and populate the fields with the following information:

- Display (Caller ID)**

Enter the user number (e.g., 314510).
- ASCII Display (Caller ID)**

Enter the user number (e.g., 314510).
- External Phone Number Mask**

Provided by the IT specialist.

Line 1 on Device SEPA0F6FD6E4615

Display (Caller ID)

314510

Display text for a line appearance is person receiving a call may not see the proper identity of the caller.

ASCII Display (Caller ID)

314510

External Phone Number Mask

Monitoring Calling Search Space

< None >

4. Scroll down to the **Users Associated with Line** section.

Users Associated with Line

	Full Name	User ID
<input type="checkbox"/>	314510	314510

Associate End Users

Select All

Clear All

Delete Selected

Save

Delete

Reset

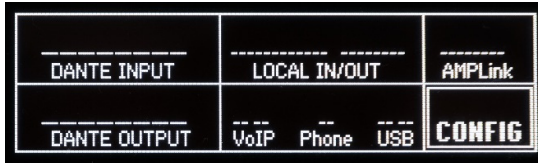
Apply Config

Add New

5. Click the box next to the user number (e.g., 314510) to select it.
6. Click **Associate End Users**.
7. Click **Save**.
8. Repeat [Steps 1-7](#) to add a second line.

Configuring the Bose ControlSpace EX-1280C

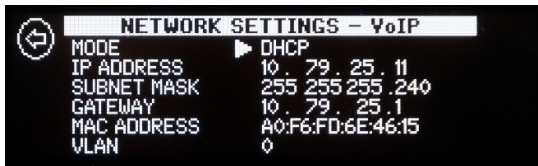
1. Turn the **rotary knob** to select **CONFIG**, and then press the **rotary knob** to enter its menu.



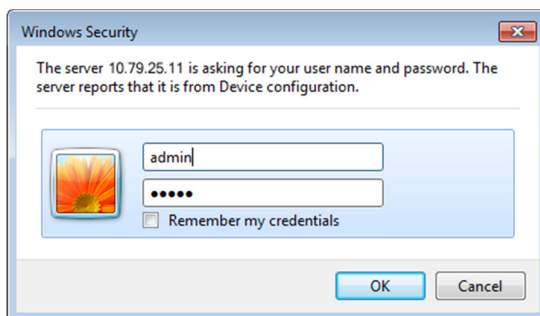
2. Turn the **rotary knob** to select **VoIP NETW SETTINGS**, and then press the **rotary knob** to enter its menu.



3. Document the **IP ADDRESS** (e.g., 10.79.25.11).



4. Enter the IP address from **Step 3** into a web browser and press **Enter**.
5. If a **Windows Security** notification appears, enter the administrator username and password, and then click **OK**. (The default username and password are **admin**.)



6. Click the **Accounts** tab.

7. In the **General** tab, populate the fields with the following information:

Account Name	Enter the user number (e.g., 314510).
Display Name	Enter the name to be displayed (e.g., Room A).
Username/Number	Enter the user number (e.g., 314510).
Domain	Provide by the IT specialist.
Register with domain	Click this box to select it.
Password	Enter the password.

8. Click **Save changes**.

9. Click **Restart SIP Service**. The SIP service will restart and will try to register the new account.

Status

⚠ Certain changes to the configuration require a restart to the SIP service:

Restart SIP Service

Accounts

Add an account to connect to a PBX.

Room A

Account Actions:

Disable

Register

Unregister

General
Topology
QoS
Advanced

Account Name

Display Name

Username/Number

Domain

Register with domain

Password

314510

Room A

314510

10.76.17.10

☒

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?

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Status

Room A

User: 314511@10.76.17.10

Status: Registered

(Unconfigured account)

User: (Unconfigured account)

Status: Account not configured

System

IP: 10.79.25.11 (DHCP)

MAC Address: a0:f6:fd:6e:46:15

System time: 2018-10-30 07:03:08

Uptime: 22m 53s

10. Click the **Topology** tab.

11. Depending on the CallManager settings, click **TCP** or **UDP** to set the **SIP Transport Mode**, and enter **5060** in the **Local Port** field.

Accounts

Add an account to connect to a PBX.

Room A

Account Actions:

Disable

Register

Unregister

General
Topology
QoS
Advanced

SIP Transport Mode

Local Port

STUN

☒ TCP

☐ UDP

5060

☐

?

?

?

?

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12. Click the **QoS** tab, and populate its fields. This information needs to be provided by the IT specialist.

Accounts
Add an account to connect to a PBX.

Room A General Topology **QoS** Advanced

Account Actions:

Disable 802.1Q User Priority 4 ▼

Register Audio RTP DSCP 46

Unregister Call Control DSCP 26

13. Click the **Advanced** tab, and populate the fields with the following information:

Auth Username Enter the user number (e.g., 314510).
Proxy Provided by the IT specialist.
Proxy Port Enter the **Local Port** number from [Step 11](#).
Registration Lifetime Enter the registration lifetime in **seconds**.

Accounts
Add an account to connect to a PBX.

Room A General Topology QoS **Advanced**

Account Actions:

Disable Auth Username 314510

Register Proxy

Unregister Proxy Port 5060

Registration Lifetime 3600 seconds

Keep-Alive ☐

Silence Suppression ☐

14. Click **Save changes**.

Status

⚠ After completing all changes to the configuration you must save your settings:

Save changes

Revert Changes

15. Follow [Steps 6-15](#) to create a second account, but during [Step 11](#), enter **5061** in the **Local Port** field.
16. Click the **Audio** tab.
17. In the **Available** list, click your desired codecs, and then click **Enable**.

Audio

Choose preferred codecs.

Codec Selection

Choose Preferred Codecs

Available

G.711 uLaw
G.711 aLaw
G.726 (16kbps)
G.726 (24kbps)
G.726 fixed payload
G.726 (40kbps)
G.722 HD
DVI4 Narrowband
DVI4 HD
DVI4 Ultra HD
Linear PCM
Linear PCM HD
Linear PCM Ultra HD
Linear PCM CD Audio
Linear PCM (little endian)

Enable >>

<< Disable

Move Up

Move Down

Preferred

G.711 uLaw
G.711 aLaw
SILK Wideband
SILK Narrowband
ILBC-30
ILBC-20
G.726 fixed payload
G.722 HD

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