



SIP Speaker Cisco Call Manager Setup Guide

Document Part #930280D

*CyberData Corporation
3 Justin Court
Monterey, CA 93940
(831) 373-2601*

CyberData Corporation
3 Justin Court, Monterey, CA 93940
www.cyberdata.net
P 831.373.2601 | F 831.373.4193

SIP Speaker Cisco Call Manager Setup Guide
Document #930280D

COPYRIGHT NOTICE:

© 2020, CyberData Corporation, ALL RIGHTS RESERVED.

This configuration guide and related materials are the copyrighted property of CyberData Corporation. No part of this configuration guide or related materials may be reproduced or transmitted, in any form or by any means (except for internal use by licensed customers), without prior express written permission of CyberData Corporation. This configuration guide, and the products, software, firmware, and/or hardware described in this configuration guide are the property of CyberData Corporation, provided under the terms of an agreement between CyberData Corporation and recipient of this configuration guide, and their use is subject to that agreement and its terms.

DISCLAIMER: Except as expressly and specifically stated in a written agreement executed by CyberData Corporation, CyberData Corporation makes no representation or warranty, express or implied, including any warranty or merchantability or fitness for any purpose, with respect to this configuration guide or the products, software, firmware, and/or hardware described herein, and CyberData Corporation assumes no liability for damages or claims resulting from any use of this configuration guide or such products, software, firmware, and/or hardware. CyberData Corporation reserves the right to make changes, without notice, to this configuration guide and to any such product, software, firmware, and/or hardware.

OPEN SOURCE STATEMENT: Certain software components included in CyberData products are subject to the GNU General Public License (GPL) and Lesser GNU General Public License (LGPL) “open source” or “free software” licenses. Some of this Open Source Software may be owned by third parties. Open Source Software is not subject to the terms and conditions of the CyberData COPYRIGHT NOTICE or software licenses. Your right to copy, modify, and distribute any Open Source Software is determined by the terms of the GPL, LGPL, or third party, according to who licenses that software. Software or firmware developed by CyberData that is unrelated to Open Source Software is copyrighted by CyberData, subject to the terms of CyberData licenses, and may not be copied, modified, reverse-engineered, or otherwise altered without explicit written permission from CyberData Corporation.

TRADEMARK NOTICE: CyberData Corporation and the CyberData Corporation logos are trademarks of CyberData Corporation. Other product names, trademarks, and service marks may be the trademarks or registered trademarks of their respective owners.

Revision Information

- 7/9/2020 – Major Guide Update

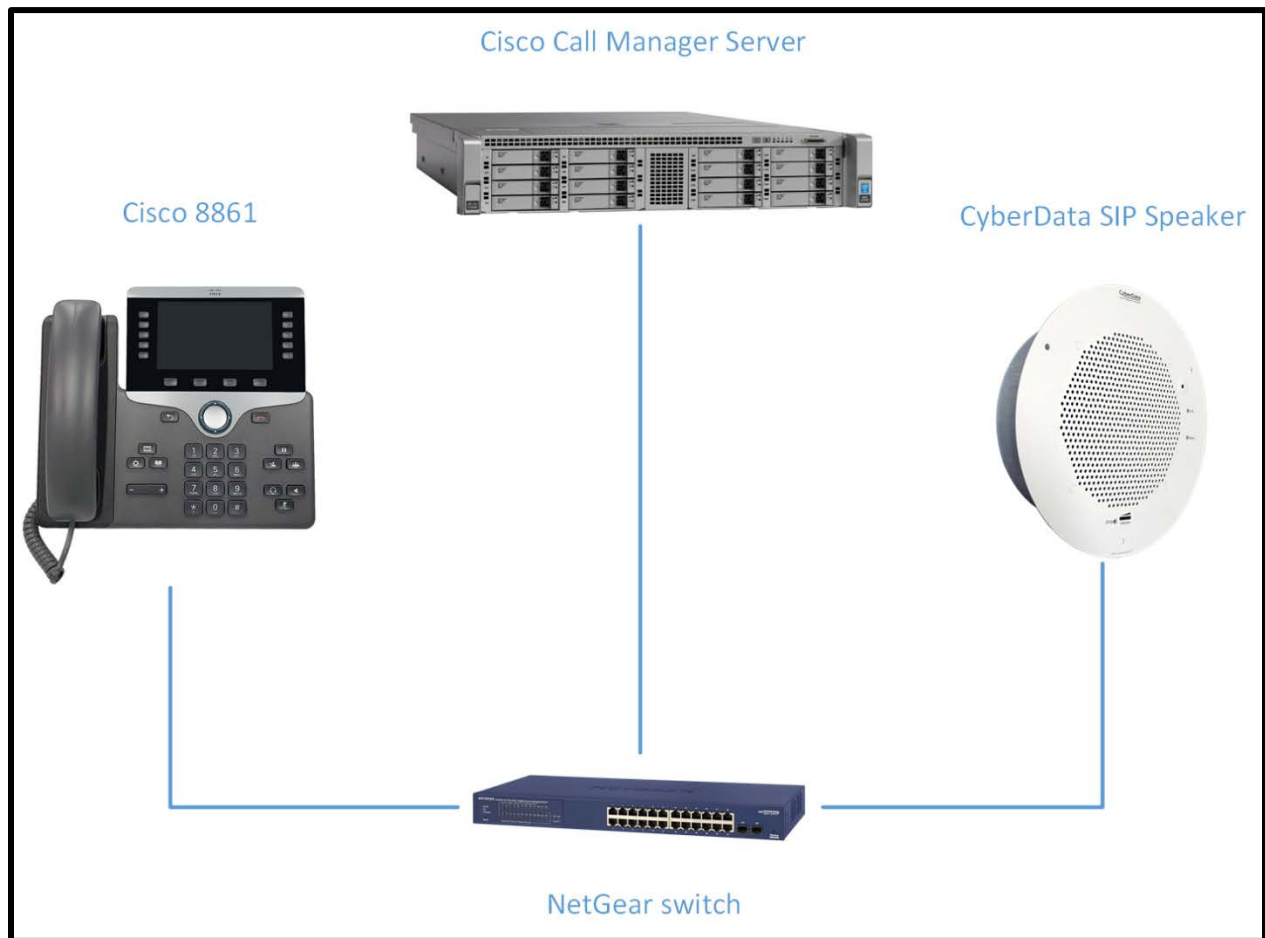
Table of Contents

1.0 Setup Diagram	4
2.0 Test Equipment	5
3.0 Verify in Cisco Call Manager that the IP Voice Media Streaming Application is Activated	6
3.1 Obtain the MAC Address from the CyberData Device to be Added to the System.....	9
3.2 Setup a New User in Cisco Call Manager	10
3.3 Set Up a New Phone Device in Cisco Call Manager	12
3.4 Create a New Directory Number (DN) and Associate it with the New Phone Device	18
3.5 Associate the Phone Device and Directory Number with the New User.....	20
4.0 Setup CyberData Device Parameters.....	24
4.1 Setting Up the CyberData Device Parameters	24
5.0 Contact CyberData Corporation	27

1.0 Setup Diagram

Figure 1-1 is a setup diagram for a SIP Speaker configuration. In this configuration, the speaker acts as a standalone SIP telephony device.

Figure 1-1. Setup Diagram



2.0 Test Equipment

Table 2-1. Test Setup Equipment

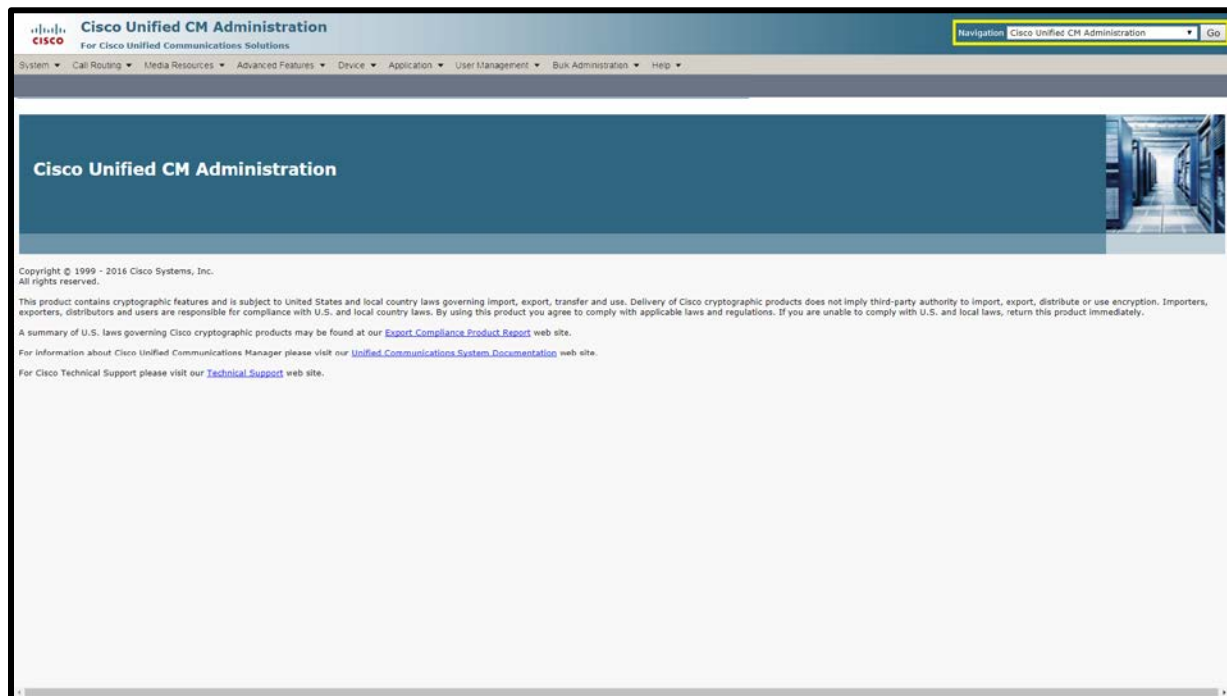
Equipment	Model	Version
Cisco 8861	8861	12.8
CyberData SIP Speaker	011398	12.1.0
Netgear ProSafe POE Switch	FS108P	NA

3.0 Verify in Cisco Call Manager that the IP Voice Media Streaming Application is Activated

It is important to verify that the IP Voice Media Streaming Application is running on Cisco Call Manager.

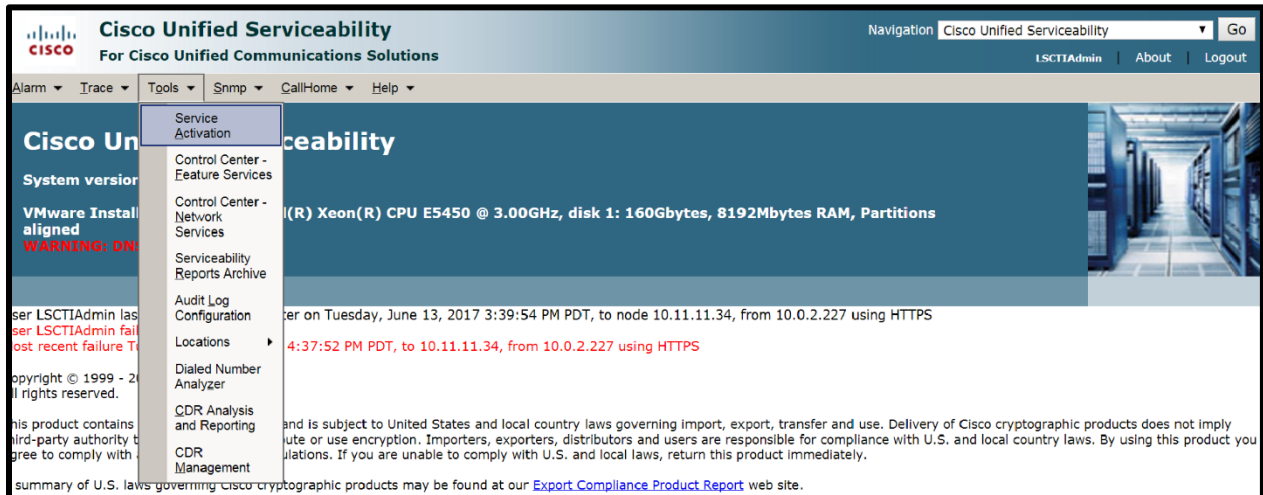
1. Log into Cisco Call Manager.
2. Click on the **Navigation** drop-down menu and select '**Cisco Unified Serviceability**'.
3. Click on the **Go** Button.

Figure 3-1. Main Page



4. On the Cisco Unified Serviceability page, select the **Tools** menu and select **Service Activation**

Figure 3-2. Cisco Unified Serviceability Page



5. Scroll to the **CM Services** section and check the activation status of the **Cisco IP Voice Media Streaming App**. If the **Activation Status** column does not display the word 'Activated' then click on the checkbox next to the **Cisco Voice Media Streaming App** service name to activate.

Figure 3-3. Cisco IP Voice Media Streaming App

CM Services		
	Service Name	Activation Status
☒	Cisco CallManager	Activated
☒	Cisco Unified Mobile Voice Access Service	Activated
☒	Cisco IP Voice Media Streaming App	Activated
☒	Cisco CTIManager	Activated
☒	Cisco Extension Mobility	Activated
☒	Cisco Extended Functions	Activated
☒	Cisco DHCP Monitor Service	Activated
☐	Cisco Intercluster Lookup Service	Deactivated
☒	Cisco Location Bandwidth Manager	Activated
☐	Cisco Directory Number Alias Sync	Deactivated
☐	Cisco Directory Number Alias Lookup	Deactivated
☒	Cisco Dialed Number Analyzer Server	Activated
☒	Cisco Dialed Number Analyzer	Activated
☒	Cisco Tftp	Activated

6. Click on the **Save** button at the top of the page.

Figure 3-4. Save Button on the Cisco Unified Serviceability Page



7. Scroll up and click on the **Navigation** drop-down menu. Select **Cisco Unified CM Administration**.

Figure 3-5. Navigation Menu



8. Click on the **Go** button.

Note: It is only necessary to follow Step 1 through Step 8 once for all CyberData Devices.

3.1 Obtain the MAC Address from the CyberData Device to be Added to the System

To complete some of the steps in this procedure, one will first need to get the MAC address from the **CyberData SIP Speaker**. The MAC Address is on the device itself and can also be taken from the web interface of the device.

1. Log into the CyberData Configuration Home page by pointing a browser to the speaker's IP address.

Note: The CyberData VoIP Discovery Utility program, allows the discovery of any CyberData devices on the network. Simply press the Launch Browser button to launch the webpage of the device.

2. When prompted, enter the following **Web Access Username** and **Web Access Password** to access the **CyberData SIP Speaker Home Page**.

Default Login:
Username: **admin**
Password: **admin**

Figure 3-6. CyberData Speaker Home Page

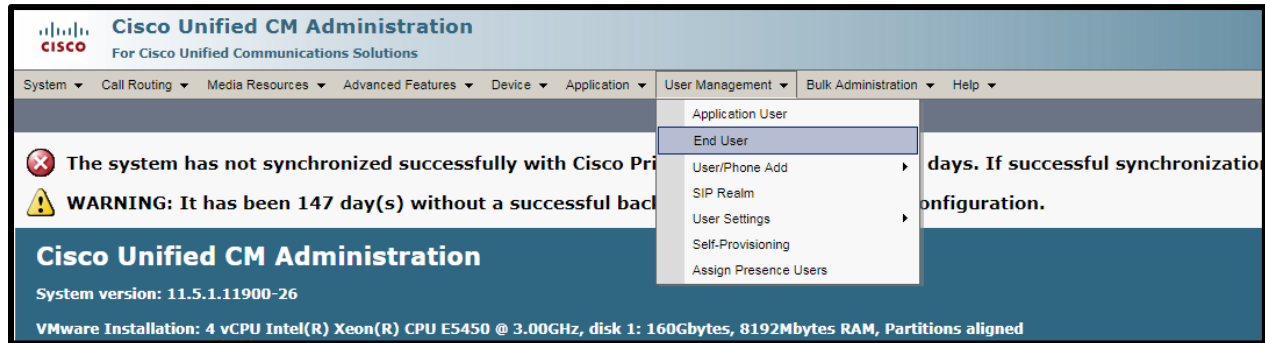
Current Status	Admin Settings	Import Settings
Serial Number: 398001862	Username: admin	Choose File No file chosen
Mac Address: 00:20:f7:04:5d:ce	Password:	Import Config
Firmware Version: v12.1.1	Confirm Password:	Export Settings
IP Addressing: DHCP	Save Reboot Toggle Help	Export Config
IP Address: 192.168.1.10		
Subnet Mask: 255.255.255.0		
Default Gateway: 192.168.1.1		
DNS Server 1: 192.168.1.1		
DNS Server 2:		
SIP Mode: Enabled		
Multicast Mode: Disabled		
Event Reporting: Disabled		
Nightringer: Disabled		
Primary SIP Server: Not registered		
Backup Server 1: Not registered		
Backup Server 2: Not registered		
Nightringer Server: Not registered		
Monitor SIP Server: Not registered		

3.2 Setup a New User in Cisco Call Manager

To setup a new user in Cisco Call Manager.

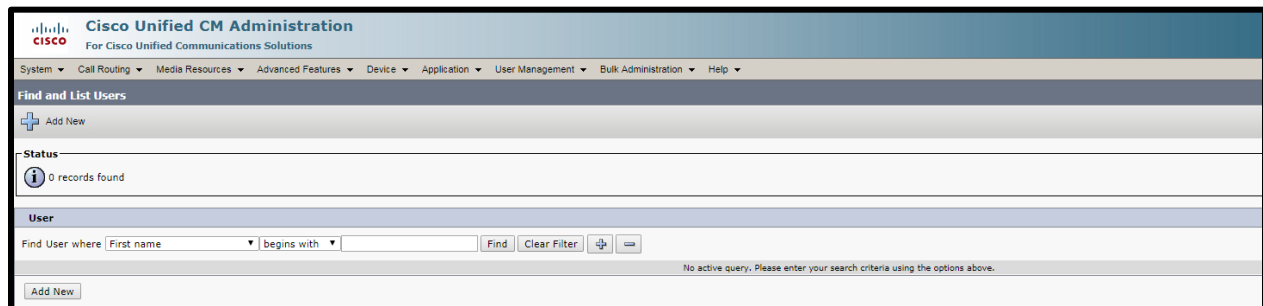
1. From the **Cisco Unified CM Administration** page. Go to the **User Management** menu and select **End User**. This will lead to the **Find and List Users** page.

Figure 3-7. User Management Menu



2. From the **Find and List Users** page, click on **Add New** (Figure 3-8). This is the **End User Configuration** page.

Figure 3-8. Find and List Users Page



3. On the **End User Configuration** page (Figure 3-9), complete the following steps:
 - Type a user ID into the **User ID** field.

Note: Write down this **User ID**, it will be needed in later steps.

- Type a name into the **Last name** field.
- Set and confirm a Digest Credential. This will be used for the device's password during registration.

Figure 3-9. End User Configuration Page

User Information	
User Status	Enabled Local User
User ID *	SIP Speaker 1
Password	
Confirm Password	
Self-Service User ID	
PIN	
Confirm PIN	
Last name *	Speaker

4. Scroll down and click **Save** at the bottom of the page. After a short time, the screen will show 'Add Successful'.

Figure 3-10. End User Configuration Page – Add Successful

Status	
 Add successful	
User Information	
User Status	Enabled Local User
User ID *	SIP Speaker 1
Password	 Edit Credential
Confirm Password	
Self-Service User ID	
PIN	 Edit Credential
Confirm PIN	
Last name *	Speaker

3.3 Set Up a New Phone Device in Cisco Call Manager

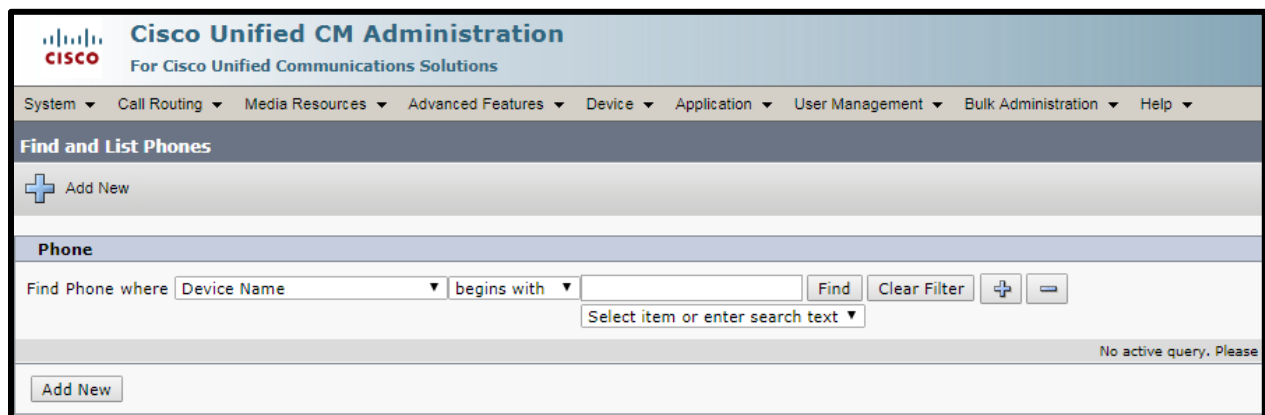
1. Go to the **Device** menu and select **Phone**. This will lead to the **Find and List Phones** menu.

Figure 3-11. Cisco Device Menu



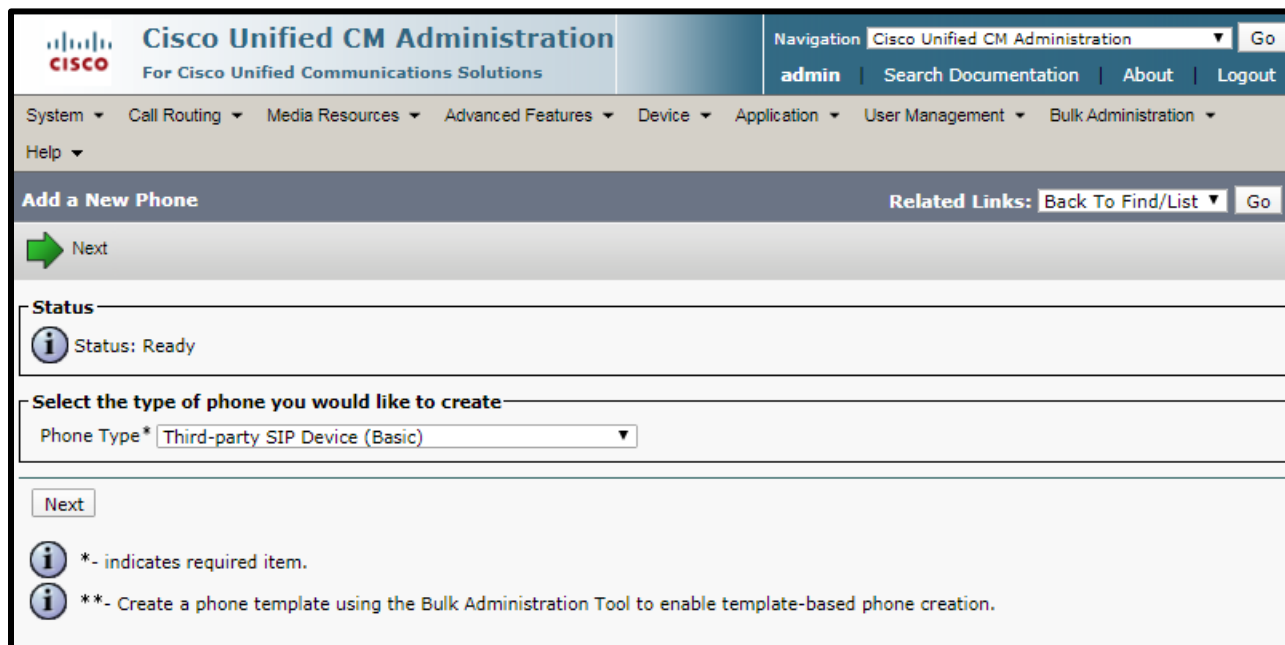
2. In the **Find and List Phones** menu, click on **Add New**. This is the **Add a new Phone** page.

Figure 3-12. Find and List Phones Menu



3. On the **Add a New Phone** select **Third Party SIP Device (Basic)** from the **Phone Type** drop-down menu.

Figure 3-13. Phone Configuration Page



4. Click **Next**.

For a summary of all the required settings for the **Phone configuration** page please see Table 3-1.

For a step-by-step description of the settings that are necessary for the Phone Configuration page, go to Step 5.

Table 3-1. Phone Configuration Page Settings

Phone Device Parameter	Selected Setting
MAC Address Field	Type the number that was written down for the Ethernet Address field of the CyberData SIP Speaker.
Description Field	Type any description desired
Device Pool drop-down menu	Select Default
Phone Button Template Drop-down Menu	Select Third party SIP device (Basic)
Owner User ID Drop-down menu	Select the name of the user, this was set in step 3 of Section 4.5
Device Security Profile drop-down menu	Select Third-Party Basic - Standard SIP Non-Secure Profile .
SIP Profile drop-down menu	Select Standard SIP Profile .
Digest User drop-down menu	Select the name of the user, this was set in step 3 of Section 4.5

5. On the **Phone Configuration** page (Figure 3-14), get the number written down from the MAC Address field of the CyberData SIP Speaker page (Figure 3-6), and type it into the **Mac Address** field.

Figure 3-14. Phone Configuration Page

Phone Type
Product Type: Third-party SIP Device (Basic)
Device Protocol: SIP

Device Information

 Device is not trusted

MAC Address*	0020F7045DCE	
Description	SEP0020F7045DCE	
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 ▼	View Details
Calling Search Space	< None > ▼	
AAR Calling Search Space	< None > ▼	
Media Resource Group List	< None > ▼	
Location*	Hub_None ▼	
AAR Group	< None > ▼	
Device Mobility Mode*	Default ▼	

6. In the **Description** field, type a description.
7. In the Device Pool drop down menu select **Default**.
8. In the **Phone Button Template** drop-down menu, select **Third party SIP Device (Basic)**.

Note: Leave the **Common Phone Profile** set to **Standard Common Phone Profile**.

9. Scroll down to the **Owner User ID** drop-down menu (Figure 3-15). Select the UserID created for the speaker.

Figure 3-15. Phone Configuration Page

Owner User ID*	SIP Speaker 1 ▼
Mobility User ID	< None > ▼
Use Trusted Relay Point*	Default ▼
Always Use Prime Line*	Default ▼
Always Use Prime Line for Voice Message*	Default ▼
Geolocation	< None > ▼
☐ Ignore Presentation Indicators (internal calls only)	
☒ Logged Into Hunt Group	
☐ Remote Device	

Note: Please leave the **Use Trusted Relay Point** and **Always Use Prime Line** in their default values.

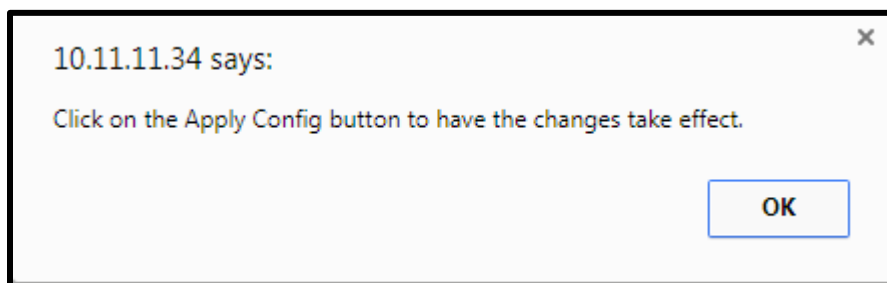
10. Scroll down to the **Device Security Profile** drop-down menu (Figure 3-16) and select the **Third-Party SIP Device Basic-Standard SIP Non-Secure Profile**.

Figure 3-16. Phone Configuration Page

The screenshot shows a web form titled "Protocol Specific Information". It contains several dropdown menus and checkboxes. The dropdown menus are: BLF Presence Group* (Standard Presence group), MTP Preferred Originating Codec* (711ulaw), Device Security Profile* (Third-party SIP Device Basic - Standard SIP Non-Se), Rerouting Calling Search Space (< None >), SUBSCRIBE Calling Search Space (< None >), SIP Profile* (Standard SIP Profile), and Digest User (SIP Speaker 1). There is a "View Details" link next to the SIP Profile dropdown. Below the dropdowns are three checkboxes: Media Termination Point Required, Unattended Port, and Require DTMF Reception, all of which are currently unchecked.

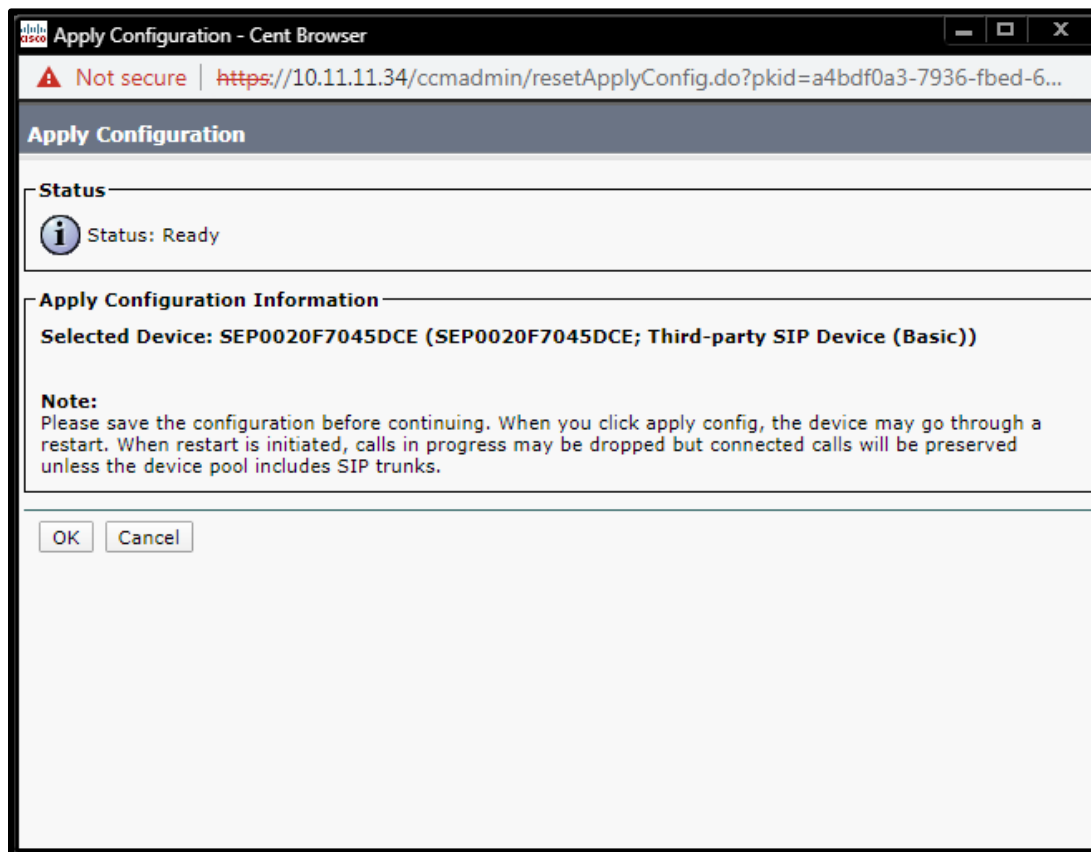
11. In the **SIP Profile** drop-down menu, select **Standard SIP Profile**.
12. In the **Digest user** drop-down menu, please select the name that was used in the **UserID** field in step 3 of [Section 3.2](#).
13. Click on the **Save** button at the bottom of the page. The page will take a moment to refresh and the following message will popup:

Figure 3-17. Click on the apply Config button popup



14. After the page finishes processing it will show the **Phone Configuration** guide again, please press the **Apply Config** button.
15. A new **Apply Config** window will appear (Figure 3-18). Click on the **OK** button.

Figure 3-18. Apply Configuration Window



16. After the server is done applying the configuration, the **Status** section will show **Add Successful**.

3.4 Create a New Directory Number (DN) and Associate it with the New Phone Device

1. Underneath the **Modify Button Items** button, please click on “**Line (1) – Add a new DN.**”

Figure 3-20. Add a new Directory Number (DN)

Status	
Add successful	

Association	
Modify Button Items 1 Line (1) - Add a new DN	

Phone Type	
Product Type:	Third-party SIP Device (Basic)
Device Protocol:	SIP

Real-time Device Status	
Registration:	Unknown
IPv4 Address:	None

Device Information	
☒	Device is Active
	Device is not trusted
MAC Address*	0020F7045DCE
Description	SEP0020F7045DCE

2. In the **Directory Number** field, please type an extension number that is within the range of extensions.

Note: Please write down the **Directory Number**, it will be needed in further steps.

Note: The extension ‘1800’ was used in this example.

Figure 3-21. Directory Number Configuration

Cisco Unified CM Administration
For Cisco Unified Communications Solutions

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application ▾ User Management ▾ Bulk Administration ▾ Help ▾

Directory Number Configuration

Save

Status

Directory Number Configuration has refreshed due to a directory number change. Please click Save button to save the configuration.

Directory Number Information

Directory Number* ☐ Urgent Priority

Route Partition

Description

Alerting Name

ASCII Alerting Name

External Call Control Profile

☒ Active

Directory Number Settings

Voice Mail Profile (Choose <None> to use system default)

Calling Search Space

BLF Presence Group*

User Hold MOH Audio Source

Network Hold MOH Audio Source

☐ Reject Anonymous Calls

3. Scroll down and click on the **Save** button on the bottom of the page.

Figure 3-22. Directory Number Configuration Page

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*

Line 1 on Device SEP0020F70386E3

Display (Caller ID) Display text for a line appearance is intended for displaying text such as a name instead of a directory

ASCII Display (Caller ID)

External Phone Number Mask

Monitoring Calling Search Space

Multiple Call/Call Waiting Settings on Device SEP0020F70386E3

Note: The range to select the Max Number of calls is: 1-16

Maximum Number of Calls*

Busy Trigger* (Less than or equal to Max. Calls)

Forwarded Call Information Display on Device SEP0020F70386E3

☐ Caller Name

☐ Caller Number

☐ Redirected Number

☐ Dialed Number

Save

*- indicates required item.

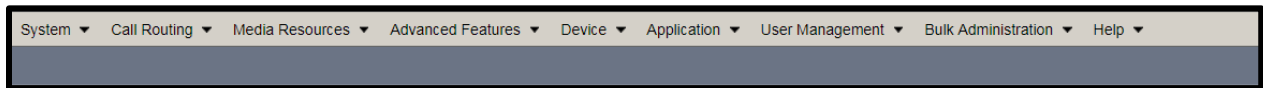
**- Changes to Line or Directory Number settings require restart.

3.5 Associate the Phone Device and Directory Number with the New User

Follow these steps to associate the phone and directory number to the user.

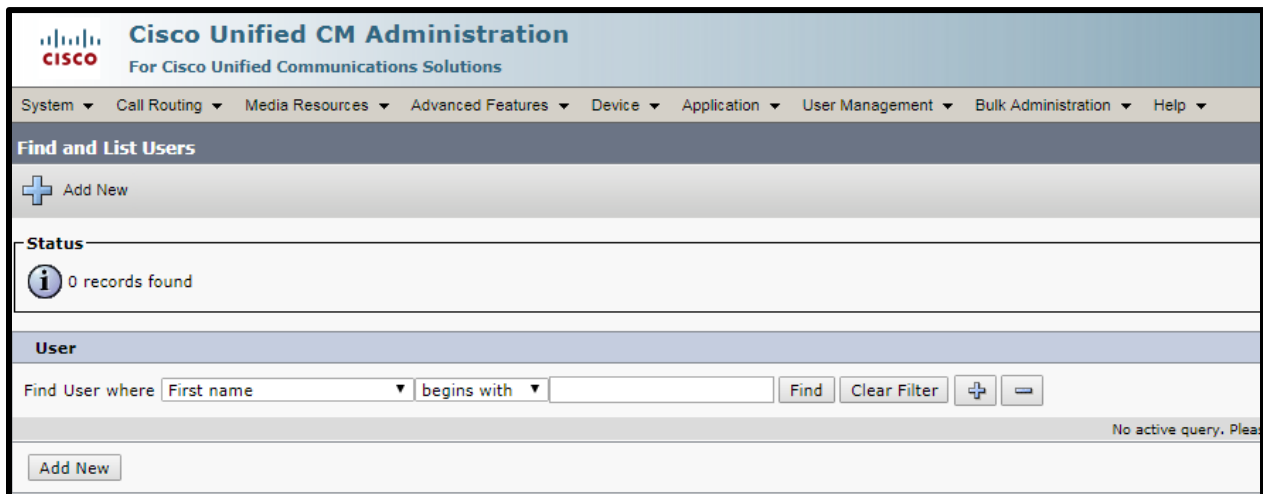
1. Please select the **User Management** menu and pick **End User** from the drop-down menu.
2. Click on **Find**.

Figure 3-23. Cisco Call Manager Toolbar



3. On the **Find and List Users** page, please click on the **Find** button.

Figure 3-24. Find and List Users



4. All the existing users will be listed in the **User ID** column.

Figure 3-25. Find User List Populated

User (1 - 14 of 14)				
Find User where First name begins with Find Clear Filter				
☐	User ID ^	Meeting Number	First Name	Last Name
☐	Video Intercom 1	1421		Video Intercom 1
☐	SupportEXT	123		test
☐	PaulT	1640		RFID
☐	Support	1234		Speaker
☐	PServer	2020		PagingServer
☐	paulVideoIntercom	1400		Video Intercom
☐	Mauricio CyberSoft	200		PC
☒	SIP Speaker 1			Speaker
☐	Mauricio Test	500		Mauricio
☐	Mauricio Test2			Mauricio
☐	GXV3140	1502		GXV3140
☐	Outdoor Intercom 1			Intercom
☐	paulJabber		Paul	Jabber
☐	Harry's Test Phone		Support	Yealink T42G
Add New Select All Clear All Delete Selected				

- Click on the User ID that has the name of the user from step 3 of [Section 3.2](#). This leads to the **End User Configuration** page.
- On the **End User Configuration** page, scroll down to the **Device Information** section. Please press the **Device Association** button.

Figure 3-26. End User Configuration

Device Information

Controlled Devices

Available Profiles

CTI Controlled Device Profiles

Device Association

Line Appearance Association for Presence

- On the **User Device Association** page, click on the **Find** button.

8. Find the device by the MAC address, then click the check box next to it.
9. Please press the **Save Selected/Changes** button.

Figure 3-27. User Device Association Page

☐		Device Name	Directory Number
☐	CTIR	CTIRDpauJabber	
☐	ICVA	ICVA-IC-001	9999
☐	ICVA	ICVA-IC-002	9998
☐	SEP	SEP000B82294403	1502
☐	SEP	SEP000EC6A9EA9A	200
☐	SEP	SEP00156553A2CA	700
☐	SEP	SEP0016477A4710	1504
☐	SEP	SEP0020F7034B4E	2020
☐	SEP	SEP0020F70360CB	501
☐	SEP	SEP0020F7039A3A	1421
☐	SEP	SEP0020F703ED15	500
☒	SEP	SEP0020F7045DCE	1800
☐	SEP	SEP1C6A7AE04050	1508
☐	SEP	SEP2834A2830C9E	1505
☐	SEP	SEP7001B5DB5B8E	1506
☐	SEP	SEP74A02FC0E18C	1507
☐	SEP	SEP881DFC6128BC	1509
☐	SEP	SEPC472955097E1	1503
☐	SEP	SEP00C789141529	1500
☐	SEP	SEPF0CFBFB111E94	1501

10. From the **Related Links**, drop-down menu. Select **Back to User** and click to **Go** button.
11. Back on the **End User Configuration** page, look at the **Device Associations** section to verify that the device is associated with the user.

Figure 3-28. End User Configuration Page

Device Information

Controlled Devices

SEP0020F7045DCE

Available Profiles

CTI Controlled Device Profiles

Device Association

Line Appearance Association for Presence

12. Please scroll down to the **Directory Number Associations** section. Please select the primary extension for this user.

Figure 3-29. End User Configuration

Directory Number Associations

Primary Extension

1800

< None >

1800

Mobility Information

Note: *Extension 1800 was used in this example*

13. Scroll down to the bottom of the page and select the **Save** button.

4.0 Setup CyberData Device Parameters

For the initial configuration of the SIP Speaker, please refer to the SIP Speaker Operations Manual which can be downloaded from the webpage:

http://files.cyberdata.net/assets/011397,011398/011398_931191M_SIP_Talk-Back_Speaker_Operations_Guide.pdf

Please navigate to the Downloads section to find the relevant Operations Guide.

4.1 Setting Up the CyberData Device Parameters

To setup the CyberData Device Parameters,

1. Get the IP Address of the SIP Speaker.

Note: This can be done in a few different ways. Once the device has finished booting up, if there is still direct access to the front of the speaker, press the 'RTFM' button. This will make the device announce its IP address. If the device has already been installed, CyberData has developed a program to find all the CyberData Devices on a network.

Note: The CyberData VoIP Discovery Utility can be downloaded with the following link:
<http://www.cyberdata.net/assets/common/discovery.zip>

2. Please login to the device using the default Login username and password.
3. From the device's homepage please press the SIP tab.

Table 4-1. SIP Tab Page Settings

SIP Tab Items	Settings
SIP Server	Type the address of the Call Manager Server
SIP User ID	Type the Directory Number that was written down in step 2 of Section 4.7
Authentication ID	Type the Cisco User ID that was used for the Description field in step 3 of Section 4.5
Authentication Password	Use the password set on the end user page
SIP Registration	Select Yes
Registration expiration (Seconds)	Type 120

4. On the SIP Tab please complete the following steps:
 - o In the **SIP Server** field, type the address of the Call Manager Server.
 - o In the **SIP User ID** field, type the **Directory Number**.
 - o In the **Authentication ID** field, type the Cisco User ID.
 - o In the **Password** field type the password used for the Digest Credential.
 - o Keep the **SIP Registration** field checked.
 - o In the **Register expiration (seconds)** fields, type 120.

Figure 4-1. CyberData SIP Tab

CyberData SIP Speaker

SIP Settings

Enable SIP operation: ☒

SIP Transport Protocol: UDP ▾

TLS Version: 1.2 only (recommended) ▾

Verify Server Certificate: ☐

Register with a SIP Server: ☒

Use Cisco SRST: ☐

Primary SIP Server:

Primary SIP User ID:

Primary SIP Auth ID:

Primary SIP Auth Password:

Backup SIP Server 1:

Backup SIP User ID 1:

Backup SIP Auth ID 1:

Backup SIP Auth Password 1:

Backup SIP Server 2:

Backup SIP User ID 2:

Backup SIP Auth ID 2:

Backup SIP Auth Password 2:

Remote SIP Port:

Local SIP Port:

Outbound Proxy:

Outbound Proxy Port:

Monitor User ID:

Monitor Authenticate ID:

Monitor Authenticate Password:

Disable rport Discovery: ☐

Buffer SIP Calls: ☐

Re-registration Interval (in seconds):

Unregister on Boot: ☐

Keep Alive Period:

Nightringer Settings

Enable Nightringer: ☐

SIP Server:

Remote SIP Port:

Local SIP Port:

Outbound Proxy:

Outbound Proxy Port:

User ID:

Authenticate ID:

Authenticate Password:

Re-registration Interval (in seconds):

RTP Settings

RTP Port (even):

Jitter Buffer:

SRTP: Disabled ▾

Call Disconnection

Terminate Call after delay:

Codec Selection

Force Selected Codec: ☐

Codec: PCMU (G.711, u-law) ▾

Button Settings

Dial Out Extension:

Extension ID:

Save

Reboot

Toggle Help

- Once the settings have been configured please press the **Save** button, then press the **Reboot** Button.

6. Once the device has finished rebooting please confirm that the device shows registered on the Home Page.

Figure 4-2. Registration Status

Primary SIP Server:	Registered
Backup Server 1:	Not registered
Backup Server 2:	Not registered
Nightringer Server:	Not registered

7. If the device shows **Registered**, then please take a Cisco Phone that has already been registered and make a test call to confirm that audio can from the device.

5.0 Contact CyberData Corporation

Sales

For sales-related questions, please visit our [Contact CyberData Sales](#) web page for more information.

Technical Support

For CyberData Technical Support, please submit a [Contact CyberData VoIP Technical Support](#) form on our website.

The CyberData VoIP Technical Support Contact form initiates a troubleshooting ticket which CyberData uses for quality assurance purposes.

Additionally, the Contact VoIP Tech Support form tells us which phone system you are using, the make and model of the network switch, and other essential troubleshooting information we need to efficiently assist with a resolution. Please include as much detail as possible in the Describe Problem section of the form. The success of your installation is extremely important to us.

Documentation Feedback

We realize changes to the software or hardware of the platform may render this document obsolete. We welcome and encourage documentation feedback to ensure continued applicability.