

# APPLICATION NOTES

**PRODUCTS SUPPORTED:**  
ClearOne CONVERGE® Pro 2 and Cisco® Unified  
Communications Manager (CallManager)

CLEARONE DOCUMENT NTS-0047-001  
(REVISION 1.0) May 2017

CONFIGURING THE CONVERGE Pro 2  
WITH CISCO UNIFIED COMMUNICATIONS MANAGER

## Overview

This application note defines the required configuration parameters for configuring the CONVERGE Pro 2 (CP2) to register with the Cisco Unified Communications Manager (UCM). It identifies the necessary information needed to correctly configure a CP2 to register and operate on UCM. The examples used in this document are from UCM 11.5 and CONVERGE Pro 2 CONSOLE application.

**NOTE:** This document applies to CP2 models with VoIP capability, including 128V, 128VD, and 48V.

## Cisco CallManager Setup

To set up two lines with two calls each (which allows you to make three-way calls), create a Third Party SIP Device (Basic) endpoint for the CP2. To set up two lines with up to five-party calls for each line, create a Third Party SIP Device (Advanced) endpoint.

Ensure the User has Digest Credentials set, and record these for use in the CP2 CONSOLE. If needed, refer to Cisco documentation on how to set up this type of extension. Cisco has a very helpful checklist here:

[http://www.cisco.com/c/en/us/td/docs/voice\\_ip\\_comm/cucm/admin/11\\_5\\_1/sysConfig/CUCM\\_BK\\_SE5DAF88\\_00\\_cucm-system-configuration-guide-1151/CUCM\\_BK\\_SE5DAF88\\_00\\_cucm-system-configuration-guide-1151\\_chapter\\_0101100.pdf](http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucm/admin/11_5_1/sysConfig/CUCM_BK_SE5DAF88_00_cucm-system-configuration-guide-1151/CUCM_BK_SE5DAF88_00_cucm-system-configuration-guide-1151_chapter_0101100.pdf)

**NOTE:** As new versions of this document are released, it's possible that this URL may no longer be valid. If so, you can search for "cisco x configure third party sip phones", where x is the UCM version.

## Configure UCM

To configure UCM for use with CP2, there are four steps you must complete:

- Create an end user
- Create a third-party device (Basic for 2 calls per line; Advanced for 5 calls per line)
- Create an extension/Directory Number (DN) for each line
- Associate the third-party device with the end user

### Create End User

1. Go to **User Management > End User**.

The End User Configuration dialog box appears:

**Cisco Unified CM Administration**  
For Cisco Unified Communications Solutions

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

**End User Configuration**

Save Delete Add New

User Status	Enabled Local User	
User ID*	appstest1	
Password	.....	<a href="#">Edit Credential</a>
Confirm Password	.....	
Self-Service User ID		
PIN	.....	<a href="#">Edit Credential</a>
Confirm PIN	.....	
Last name*	appstest1	
Middle name		
First name		
Title		
Directory URI		
Telephone Number	3419	
Home Number		
Mobile Number		
Pager Number		
Mail ID		
Manager User ID		
Department		
User Locale	< None >	
Associated PC		
Digest Credentials	.....	
Confirm Digest Credentials	.....	
User Profile	Use System Default( "Standard (Factory Default) U: ▾	<a href="#">View Details</a>
Name Dialing	appstest1	

Number of Digits needed for the Unique AA Name 9

2. Add the **Digest Credentials** in the End User Configuration dialog box.

**NOTE:** If you have retrieved the user information from Active Directory, other information may be included on this screen, but only the Digest Credentials are required.

3. Click **Save**.

### Create Third Party Device (Basic)

**NOTE:** The Third Party Device (Basic) lets you configure up to 2 calls per line, which permits three-way conference calls. To use up to five calls per line, skip to the Create Third Party Device (Advanced) section below.

4. Go to **Device > Phones** and click **Add New Phone**.

The Phone Configuration dialog box appears:

**Cisco Unified CM Administration**  
For Cisco Unified Communications Solutions

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

**Phone Configuration**

Save

**Status**  
Status: Ready

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

**Device Information**

⚠ Device is not trusted

MAC Address*	0010FA6E384A
Description	SEP0010FA6E384A
Device Pool*	Default <a href="#">View Details</a>
Common Device Configuration	< None > <a href="#">View Details</a>
Phone Button Template*	Third-party SIP Device (Basic)
Common Phone Profile*	Standard Common Phone Profile <a href="#">View Details</a>
Calling Search Space	< None >
AAR Calling Search Space	< None >
Media Resource Group List	< None >
Location*	Hub_None
AAR Group	< None >
Device Mobility Mode*	Default
Owner	<input checked="" type="radio"/> User <input type="radio"/> Anonymous (Public/Shared Space)
Owner User ID*	clearone3

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

**Phone Configuration**

Save

**Protocol Specific Information**

BLF 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 <a href="#">View Details</a>
Digest User	clearone3
<input type="checkbox"/> Media Termination Point Required	
<input type="checkbox"/> Unattended Port	
<input type="checkbox"/> Require DTMF Reception	

**MLPP and Confidential Access Level Information**

MLPP Domain	< None >
Confidential Access Mode	< None >
Confidential Access Level	< None >

Save

- For phone type, choose **Third-party SIP Device (Basic)**.
- Be sure to enter the MAC address of the CP2 in the MAC Address field.
- Scroll down to Protocol Specific Information and fill it in as shown below:

**Cisco Unified CM Administration**  
For Cisco Unified Communications Solutions

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

**Phone Configuration**

Save

**Protocol Specific Information**

BLF 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 ▾ [View Details](#)  
Digest User clearone3 ▾

Media Termination Point Required  
 Unattended Port  
 Require DTMF Reception

**MLPP and Confidential Access Level Information**

MLPP Domain < None > ▾  
Confidential Access Mode < None > ▾  
Confidential Access Level < None > ▾

Save

8. Click **Save**.
9. Go to **Association Information** and add your directory number.
10. Skip to the Associate Third Party Phone with End User section below.

### Create Third Party Device (Advanced)

**NOTE:** The Third Party Device (Advanced) lets you configure up to 5 calls per line.

11. Go to **Device > Phones** and click **Add New Phone**.

The Phone Configuration dialog box appears:

**Cisco Unified CM Administration**  
For Cisco Unified Communications Solutions

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

**Phone Configuration**

Save

**Status**

**Status:** Ready

**Phone Type**

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

**Device Information**

⚠ Device is not trusted

MAC Address\* 0010FA6E384A  
Description SEP0010FA6E384A  
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 ▾  
Owner  User  Anonymous (Public/Shared Space)  
Owner User ID\* clearone3 ▾

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

### Phone Configuration

Save

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**Protocol Specific Information**

BLF 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 ▾ [View Details](#)

Digest User clearone3 ▾

Media Termination Point Required

Unattended Port

Require DTMF Reception

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**MLPP and Confidential Access Level Information**

MLPP Domain < None > ▾

Confidential Access Mode < None > ▾

Confidential Access Level < None > ▾

Save

- For phone type, choose **Third-party SIP Device (Advanced)**.
- Scroll down to Protocol Specific Information and fill it in as shown below:

**Phone Type**

**Product Type:** Third-party SIP Device (Advanced)  
**Device Protocol:** SIP

---

**Real-time Device Status**

**Registration:** Unknown  
**IPv4 Address:** None

---

**Device Information**

Device is Active  
 Device is not trusted

MAC Address\* 0006240DFF3E

Description Appstest

Device Pool\* SLC-DPA ▾ [View Details](#)

Common Device Configuration < None > ▾ [View Details](#)

Phone Button Template\* Third-party SIP Device (Advanced) ▾

Common Phone Profile\* Standard Common Phone Profile ▾ [View Details](#)

Calling Search Space SLC\_Unrestricted ▾

AAR Calling Search Space SLC\_Unrestricted ▾

Media Resource Group List < None > ▾

Location\* SLC ▾

AAR Group < None > ▾

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

Owner  User  Anonymous (Public/Shared Space)

Owner User ID\* appstest1 ▾

- Be sure to enter the MAC address of the CP2 in the MAC Address field.
- Go to Association Information and add your directory number.
- In the Directory Number Configuration screen, scroll down to the Multiple Call/Call Waiting Settings section and set the Maximum Number of Calls and Busy Trigger to a number up to 5:

**Multiple Call/Call Waiting Settings on Device SEP0006240DFF3E**

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

Maximum Number of Calls\* 5

Busy Trigger\* 5 (Less than or equal to Max. Calls)

17. Click Save.

### Associate Third-party Phone with End User

18. Go to User Management > End User > Find/Search.

19. Search for the user you create earlier in step 2.

20. Once you have found the user, select that user and click Open.

21. Scroll down the page until you locate the Device Information section:

**Device Information**

Controlled Devices: SEPBA7E87993C7F

Available Profiles: 7965 SCCP, 7971 Device profile, Cisco 7965 EM SCCP, Cisco 7971 SIP, EM\_2056

CTI Controlled Device Profiles: [Empty]

Buttons: Device Association, Line Appearance Association for Presence

22. Click the **Device Association** button.

23. Select the user DN to be associated with the End User as shown below:

**User Device Association**

Find User Device Association where Directory Number begins with 7900

Device Name	Directory Number	Description
[Redacted]	7900	BRIAUSER

Buttons: Select All, Clear All, Save Selected/Changes, Remove All Associated

Once the Third-party Device is associated the phone will be listed under the Controlled Devices as shown here:

**End User Configuration**

**Device Information**

Controlled Devices: SEPBA7E87993C7F

Available Profiles: 7965 SCCP, 7971 Device profile, Cisco 7965 EM SCCP, Cisco 7971 SIP, EM\_2056

**Extension Mobility**

Available Profiles: 7965 SCCP, 7971 Device profile, Cisco 7965 EM SCCP, Cisco 7971 SIP, EM\_2056

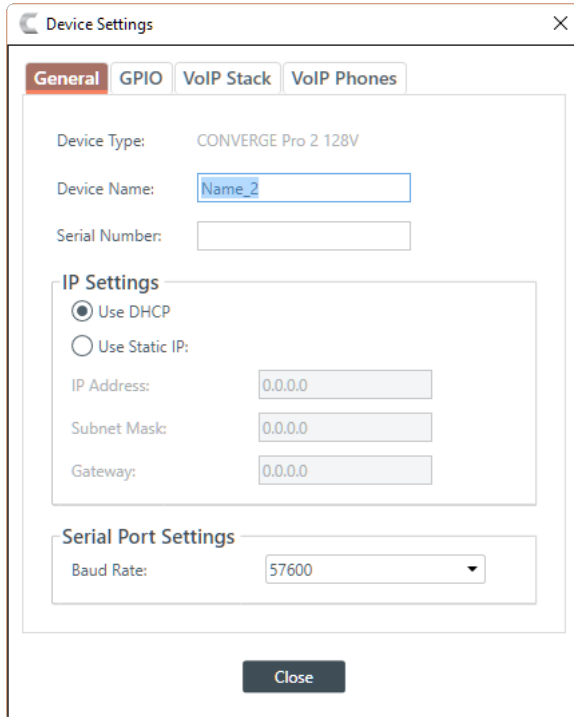
Controlled Profiles: [Empty]

## Configure CONVERGE Pro 2 CONSOLE

Log in to the CP2 with the CONSOLE application. For detailed information on how to use the CONVERGE Pro 2 CONSOLE application, consult the CONVERGE Pro 2 CONSOLE User Manual found at: [http://www.clearone.com/resources#professional\\_audio](http://www.clearone.com/resources#professional_audio).

1. In the CONSOLE application, from the Navigation Panel (the options at the left of the interface), under **Stack**, choose **Devices**.
2. Click **Settings**.

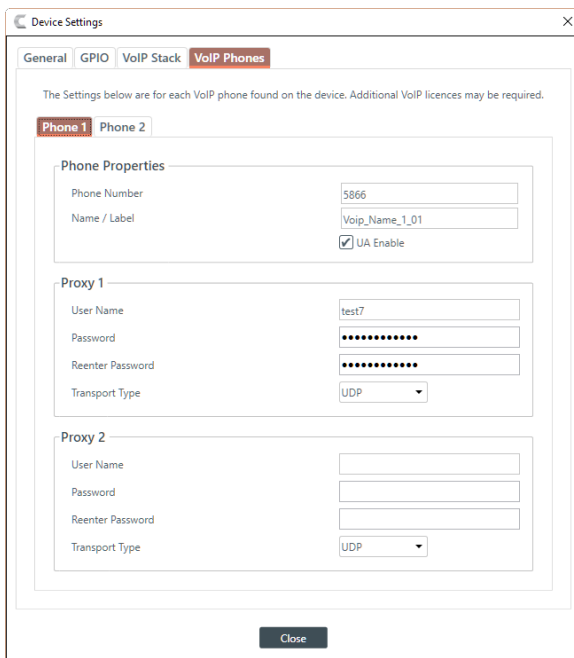
The Device Settings dialog box appears:



The screenshot shows the 'Device Settings' dialog box with the 'General' tab selected. The 'Device Type' is 'CONVERGE Pro 2 128V'. The 'Device Name' field contains 'Name\_2'. The 'Serial Number' field is empty. Under 'IP Settings', 'Use DHCP' is selected. The 'IP Address', 'Subnet Mask', and 'Gateway' fields all contain '0.0.0.0'. Under 'Serial Port Settings', the 'Baud Rate' is set to '57600'. A 'Close' button is at the bottom.

3. Click the **VoIP Phones** tab.

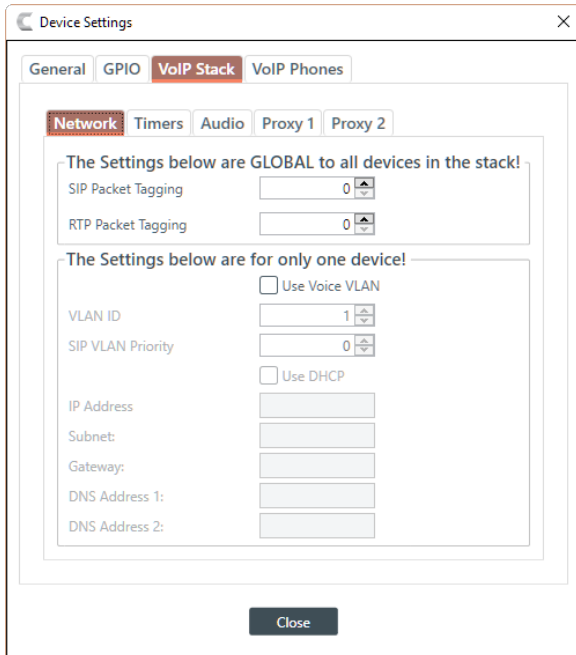
The VoIP Phones dialog box appears:



The screenshot shows the 'Device Settings' dialog box with the 'VoIP Phones' tab selected. A note states: 'The Settings below are for each VoIP phone found on the device. Additional VoIP licences may be required.' There are two tabs: 'Phone 1' and 'Phone 2'. Under 'Phone 1', 'Phone Properties' shows 'Phone Number' as '5866', 'Name / Label' as 'Voip\_Name\_1\_01', and 'UA Enable' checked. 'Proxy 1' shows 'User Name' as 'test7', 'Password' and 'Reenter Password' as masked, and 'Transport Type' as 'UDP'. 'Proxy 2' has empty fields for 'User Name', 'Password', and 'Reenter Password', and 'Transport Type' as 'UDP'. A 'Close' button is at the bottom.

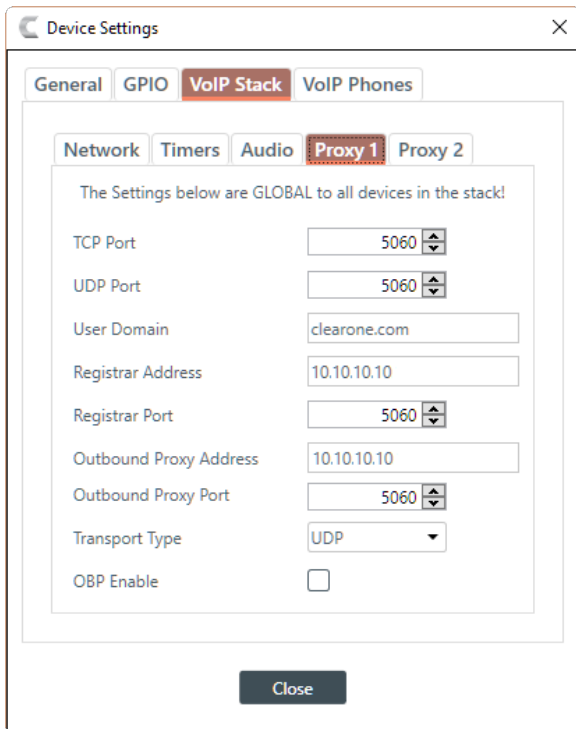
4. Enter the primary extension (Directory Number) from UCM in the **Phone Number** field.
5. Enter the Digest Credentials from UCM in the Proxy 1 **User Name** and **Password** fields.
6. If you're using two lines, click the Phone 2 tab and repeat steps 4 and 5 for the second line.
7. Click the **VoIP Stack** tab.

The VoIP Stack dialog box appears:



8. Click the **Proxy 1** tab.

The Proxy 1 dialog box appears:

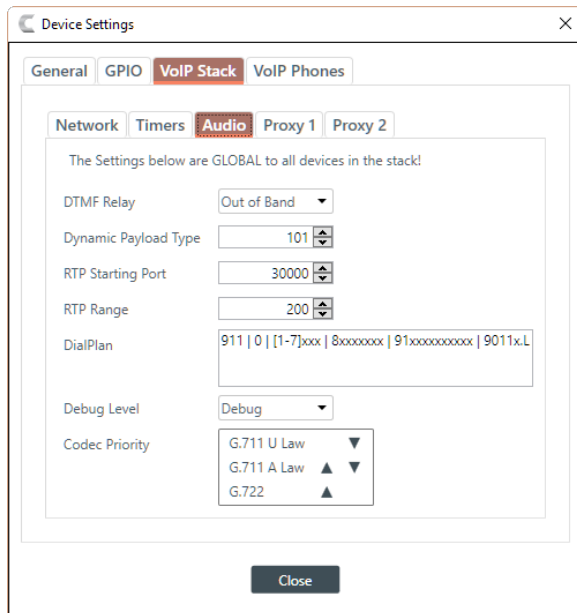


9. Type the domain and IP address of the proxy you are going to register to in the **User Domain** and **Registrar Address** fields.



10. Click the **Audio** tab.

The Audio dialog box appears:



11. Set the DialPlan to match the calling requirements for your UCM configuration.

Consult the CONVERGE Pro 2 CONSOLE User Manual for more details about dialplans.

12. Click **Close**.

13. Save the project and then load it to the CP2 device (see the CONVERGE Pro 2 CONSOLE User Manual).

**NOTE:** To help you gather information about the required VoIP settings, you can use the CONVERGE Pro 2 VoIP/SIP Worksheet in the ClearOne Resource Library at this address:

[http://www.clearone.com/uploads/resource/FRM\\_0009\\_001\\_CP2\\_VoIP\\_Worksheet.pdf](http://www.clearone.com/uploads/resource/FRM_0009_001_CP2_VoIP_Worksheet.pdf)

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