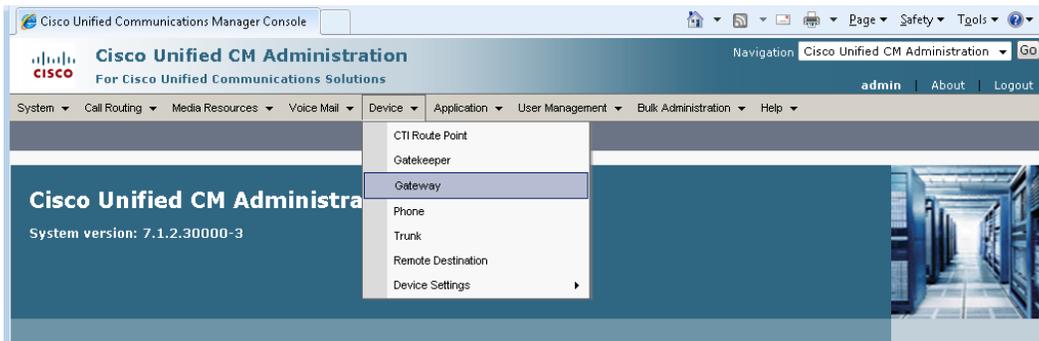


Valcom Paging Controllers are compatible with Cisco Unified Communications Manager systems that use H.323 to communicate with an FXO port on a gateway device. This document outlines a method to connect a Valcom page controller to the FXO port and use one directory number to access the paging system. The configuration includes setting a single destination for inbound calls from Valcom Talkback page controllers.

The systems used in this example are Cisco Unified Communications Manager version 7.1(2) and a Cisco 2801 Router with a VIC2-2FXO module and IOS version 12.4.

The following steps outline the typical configuration process:

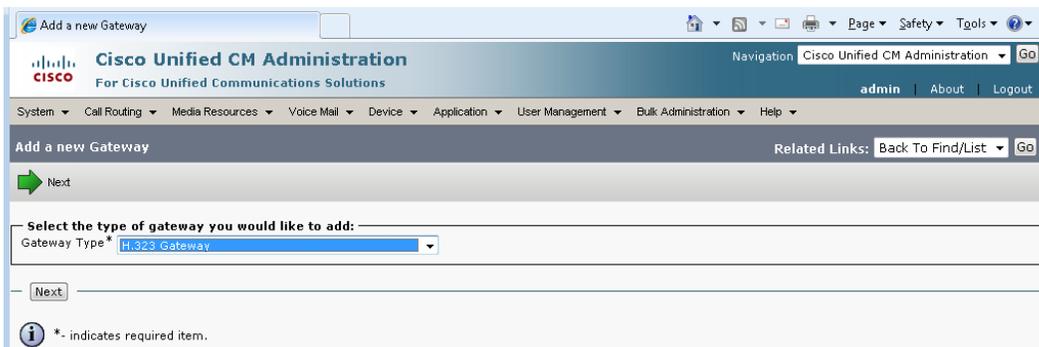
1. Navigate your web browser to the Cisco Communications Manager Administration web page and login using the proper credentials. Under the “Device” menu, select “Gateway”



2. Click on “Add New”



3. Select the Gateway Type as “H.323 Gateway” from the dropdown list box, then click Next



4. In the Gateway Configuration screen, enter the appropriate information for the required entries (those marked with the asterisk). For this example, the Device Name is entered as the IP address of the gateway (192.168.97.49). Most entries will work satisfactorily using the system default values, but these should be reviewed for appropriateness for your environment.

Make all appropriate entries, then click the Save button.

Gateway Configuration

Cisco Unified CM Administration
For Cisco Unified Communications Solutions

Navigation: Cisco Unified CM Administration Go

admin | About | Logout

System | Call Routing | Media Resources | Voice Mail | Device | Application | User Management | Bulk Administration | Help

Gateway Configuration Related Links: Back To Find/List Go

Save

Status
Status: Ready

Device Information

Product	H.323 Gateway
Device Protocol	H.225
Device Name*	192.168.97.49
Description	192.168.97.49
Device Pool*	Default
Common Device Configuration	< None >
Call Classification*	OnNet
Media Resource Group List	< None >
Packet Capture Mode*	None
Packet Capture Duration	0
Location*	Hub_None
AAR Group	< None >
Tunneled Protocol*	None
QSIG Variant*	No Changes
ASN.1 ROSE OID Encoding*	No Changes
Use Trusted Relay Point*	Default
Signaling Port*	1720

Media Termination Point Required

Retry Video Call As Audio

Wait for Far End H.245 Terminal Capability Set

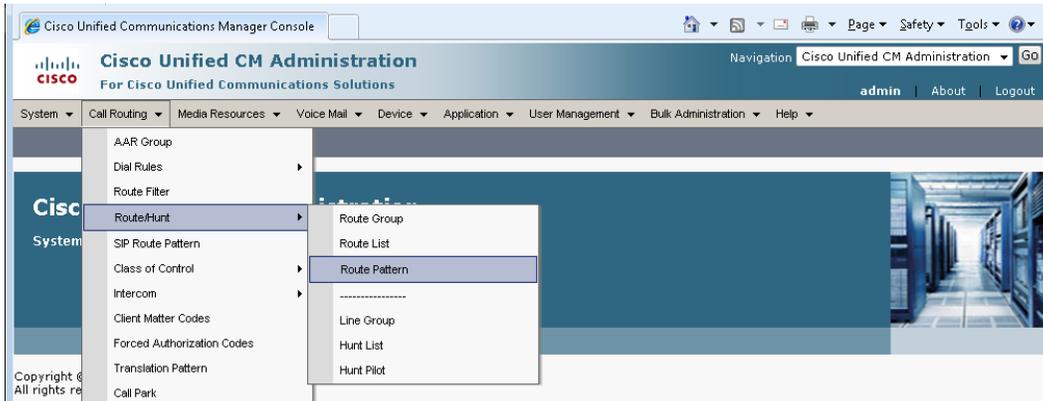
Path Replacement Support

Transmit UTF-8 for Calling Party Name

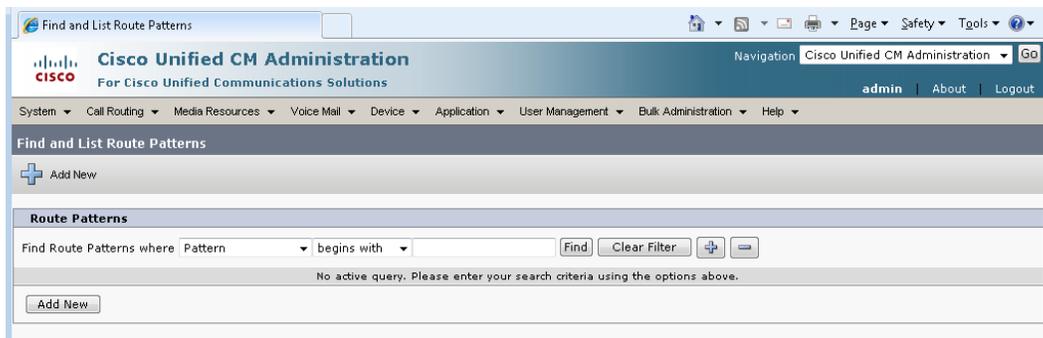
SRTP Allowed - When this flag is checked, IPsec needs to be configured in the network to provide end to end security. Failure to do so will expose keys and other information.

H.235 Pass Through Allowed

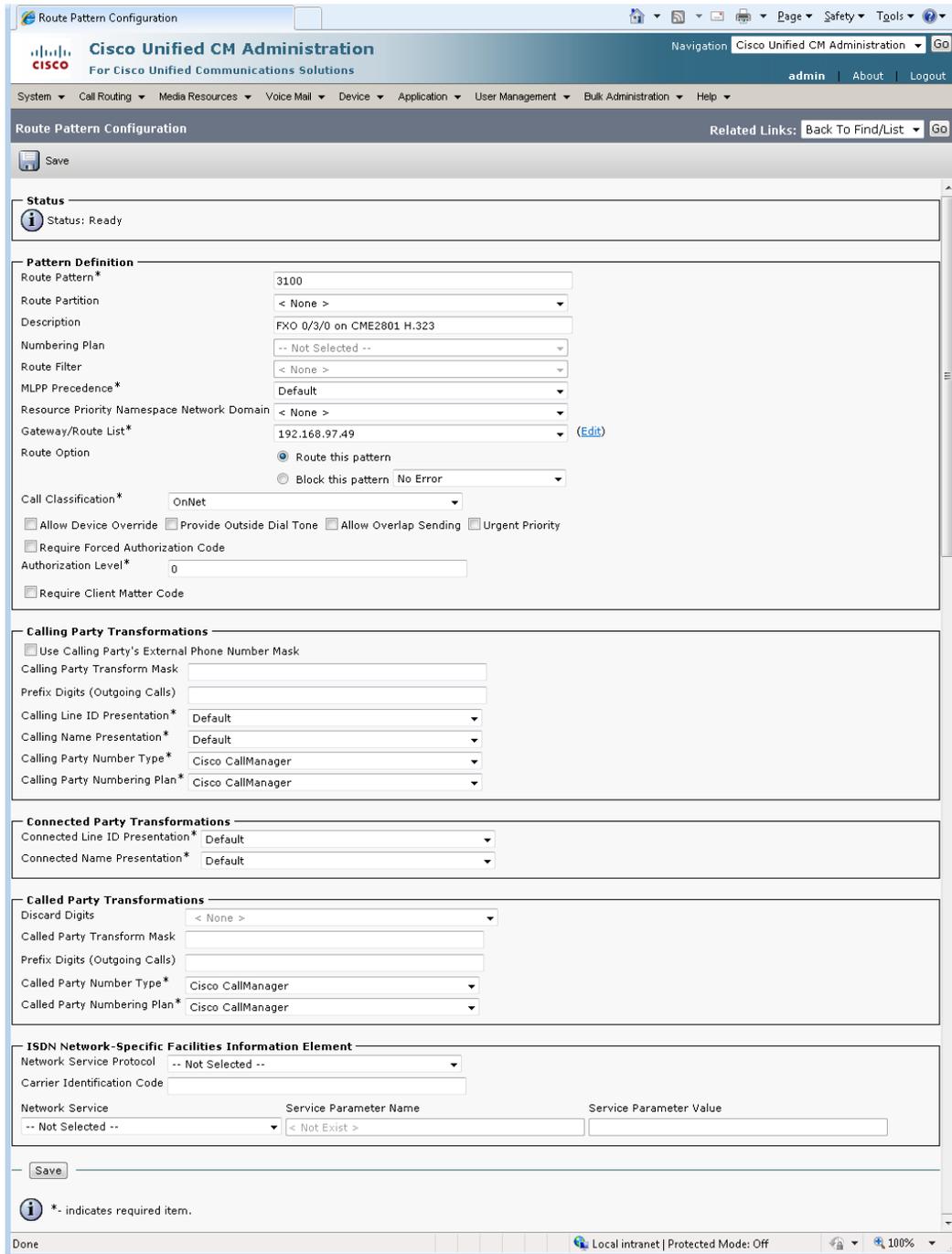
5. After configuring the gateway, a Route must be created to direct calls to the gateway. For this example, a simple Route Pattern will be created to send a specific phone number to the gateway. From the menu bar, select Call Routing, then Route/Hunt, then Route Pattern.



6. Click "Add New"



- In the Route Pattern Configuration screen, enter the required information (marked with an asterisk). For the Route Pattern, enter the phone number that will be used to access the Valcom Page Controller. For this example, the phone number dialed to make a page will be "3100", so the Route Pattern is "3100". Within the Pattern Definition section, uncheck the Provide Outside Dial Tone option. Click the Save button when all entries have been made.



The screenshot shows the 'Route Pattern Configuration' page in the Cisco Unified CM Administration interface. The page title is 'Route Pattern Configuration' and it includes a 'Save' button at the top left. The configuration is organized into several sections:

- Status:** Status: Ready
- Pattern Definition:**
 - Route Pattern*: 3100
 - Route Partition: < None >
 - Description: FXO 0/3/0 on CME2801 H.323
 - Numbering Plan: -- Not Selected --
 - Route Filter: < None >
 - MLPP Precedence*: Default
 - Resource Priority Namespace Network Domain: < None >
 - Gateway/Route List*: 192.168.97.49 (Edit)
 - Route Option:
 - Route this pattern
 - Block this pattern: No Error
 - Call Classification*: OnNet
 - Allow Device Override
 - Provide Outside Dial Tone
 - Allow Overlap Sending
 - Urgent Priority
 - Require Forced Authorization Code
 - Authorization Level*: 0
 - Require Client Matter Code
- Calling Party Transformations:**
 - Use Calling Party's External Phone Number Mask
 - Calling Party Transform Mask: [Empty]
 - Prefix Digits (Outgoing Calls): [Empty]
 - Calling Line ID Presentation*: Default
 - Calling Name Presentation*: Default
 - Calling Party Number Type*: Cisco CallManager
 - Calling Party Numbering Plan*: Cisco CallManager
- Connected Party Transformations:**
 - Connected Line ID Presentation*: Default
 - Connected Name Presentation*: Default
- Called Party Transformations:**
 - Discard Digits: < None >
 - Called Party Transform Mask: [Empty]
 - Prefix Digits (Outgoing Calls): [Empty]
 - Called Party Number Type*: Cisco CallManager
 - Called Party Numbering Plan*: Cisco CallManager
- ISDN Network-Specific Facilities Information Element:**
 - Network Service Protocol: -- Not Selected --
 - Carrier Identification Code: [Empty]
 - Network Service: -- Not Selected --
 - Service Parameter Name: < Not Exist >
 - Service Parameter Value: [Empty]

At the bottom of the form, there is a 'Save' button and a note: '* indicates required item.' The browser status bar at the bottom shows 'Local intranet | Protected Mode: Off' and a zoom level of 100%.

This completes the configuration on the Unified Communications Manager.



H.323 Gateway Configuration Guide for Cisco Unified Communications Manager

- These instructions assume the router is already configured appropriately for the network and voice systems it serves. The basic steps to configure the voice port and dial peers for a Valcom page controller are as follows. Login via shell (telnet, SSH, console login, etc.) to your router where the FXO module is installed, then use the `enable` command to enter privileged EXEC mode.

```
User Access Verification
Username: <enter the username>
Password: <enter the password>
CME-2801>
CME-2801> enable
Password: <enter the enable password here>
CME-2801#
```

Change to global configuration mode:

```
CME-2801# configure terminal
CME-2801(config)#
```

- Configure the FXO voice port to automatically ring a specific extension for inbound calls. This step is only required if the Valcom page controller is a Talkback controller from which inbound calls can be generated. The extension used (7084 in this example) should be changed to a valid extension on the Communications Manager. The voice port should be changed to the correct port for your installation.

```
CME-2801(config)# voice-port 0/3/0
CME-2801(config-voiceport)# connection plar 7084
```

- Create a Dial Peer to route inbound calls from the FXO port to the Unified Communications Manager server. The IP address of the CUCM server is entered in the "session target" command. The phone extension to receive inbound calls is provided in the "destination-pattern" command, and should be a valid extension on the Communications Manager. This step is optional if the Valcom controller is a one-way device and will not have Talkback capability.

```
CME-2801(config)# dial-peer voice 10 voip
CME-2801(config-dial-peer)# session target ipv4:192.168.97.56
CME-2801(config-dial-peer)# destination-pattern 7084
CME-2801(config-dial-peer)# dtmf-relay h245-alphanumeric
```

- Create a Dial Peer and associate the phone number with the voice port to be used. This example uses dial peer 4 and port 0/3/0. The dial peer number and the FXO port should be chosen based on your specific installation. This method allows the call to connect to the Valcom page controller and receive secondary dial tone from the controller. The user then dials the digit corresponding to the page zone desired.

```
CME-2801(config)# dial-peer voice 4 pots
CME-2801(config-dial-peer)# description FXO port to Valcom Page Controller
CME-2801(config-dial-peer)# destination-pattern 3100
CME-2801(config-dial-peer)# port 0/3/0
```

An alternate configuration allows an individual phone number to be called, which will connect directly to the page zone without requiring the caller to dial the zone number. This requires configuring a translation rule to map the dialed phone number with the page controller zone. The dial-peer then uses the translation rule to automatically



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provide the zone to the Valcom page controller. Additional Route Patterns will need to be created on the Communications Manager to match each of the phone numbers mapped to zones (see Step 7).

First, create a translation rule and provide the zone mapping. For this example, the phone numbers that are called are 3100, 3101, 3102 and 3103. The page zones are 0, 1, 2 and 3. Phone number 3100 maps to page zone 0, phone number 3101 maps to page zone 1, etc. Choose a translation rule number and phone numbers to match your installation.

```
CME-2801 (config) # translation-rule 1
CME-2801 (config-translate) # rule 0 3100 0
CME-2801 (config-translate) # rule 1 3101 1
CME-2801 (config-translate) # rule 2 3102 2
CME-2801 (config-translate) # rule 3 3103 3
```

Create the dial-peer to use the translation rule. This example uses dial peer 3100 and port 0/3/0. The dial peer number and port should be chosen based on your specific installation. The destination pattern in this example uses a wildcard to match consecutive numbers. Non-consecutive destination patterns will require separate dial peer statements.

```
CME-2801 (config) # dial-peer voice 3100 pots
CME-2801 (config-dial-peer) # destination-pattern 310[0-3]
CME-2801 (config-dial-peer) # translate-outgoing called 1
CME-2801 (config-dial-peer) # port 0/3/0
```

12. Exit from configuration mode, and save the configuration.

```
CME-2801 (config-dial-peer) # end
CME-2801#
CME-2801# copy running-config startup-config
```

This completes the configuration of the gateway router. If the Valcom Paging Controller has a Battery Feed switch for the Tip & Ring connection, be sure it is in the "On" position, and then connect the gateway FXO port to the Tip & Ring connection on the Valcom Paging Controller. A call placed to the phone number configured in Step 7 will connect directly to the Valcom controller. If using a single-zone controller, such as the V-2001A, the call will be connected directly to the page output. If using a multi-zone controller, such as a V-2924A, the page controller will provide a secondary dial tone. Enter the appropriate dial code to access the desired zone to which you want to page. If a reorder tone (fast busy) is heard on the first dial attempt, reverse the wires on the Tip & Ring connection.