# MGCP Configuration Guide for Cisco Unified Communications Manager

Valcom Paging Controllers are compatible with Cisco Unified Communications Manager systems that use MGCP 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 systems used in this example are Cisco Unified Communications Manager version 6.1(4) and a Cisco 2801 Router with a VIC2-2FXO module and IOS version 12.4.

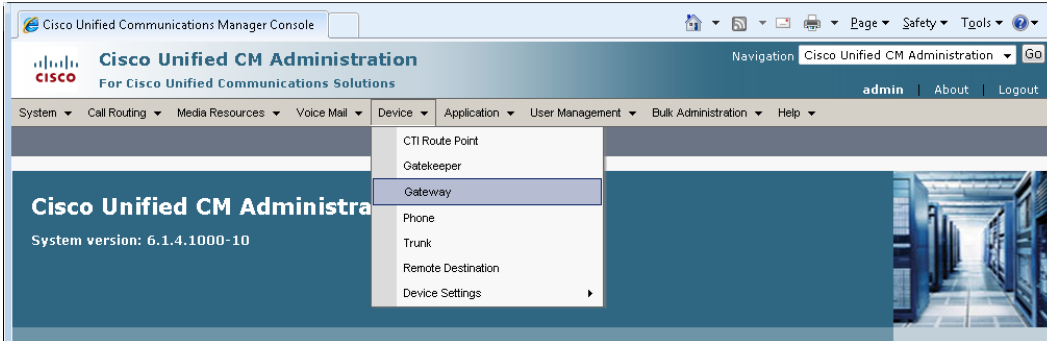The following steps outline the typical configuration process:

1.  Navigate your web browser to the IP address of your Cisco Communications Manager Server, then select "Cisco Unified Communications Manager Administration"
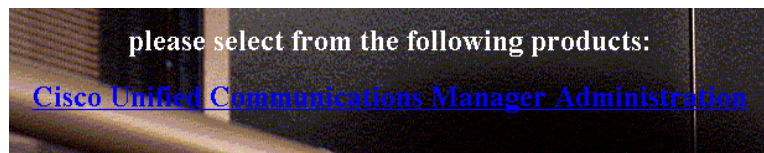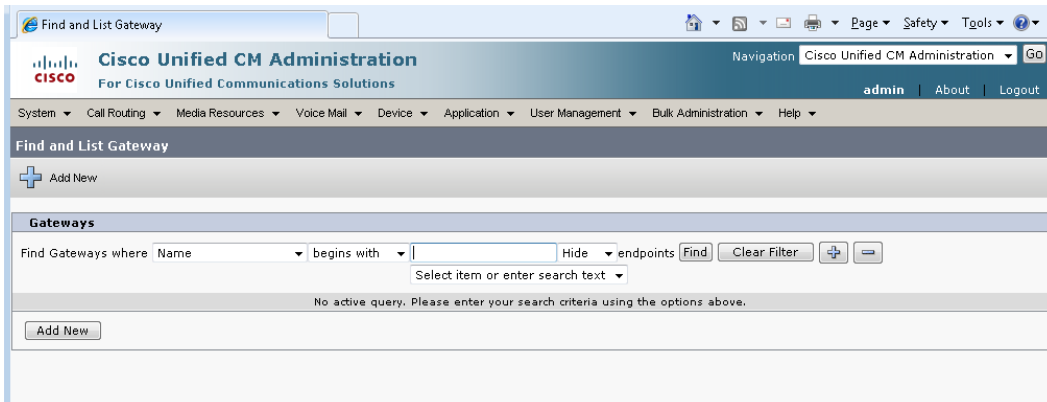


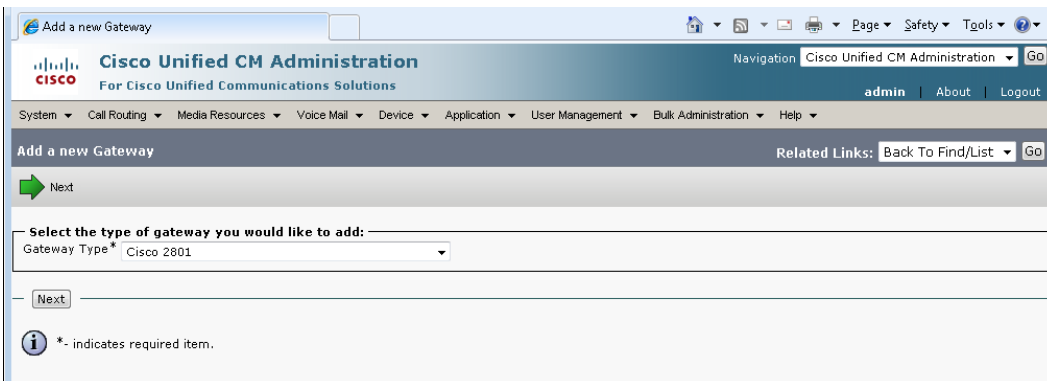2.  Login, using the proper credentials.
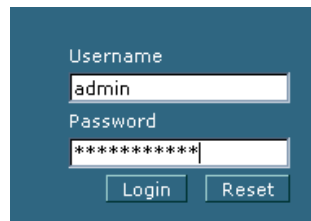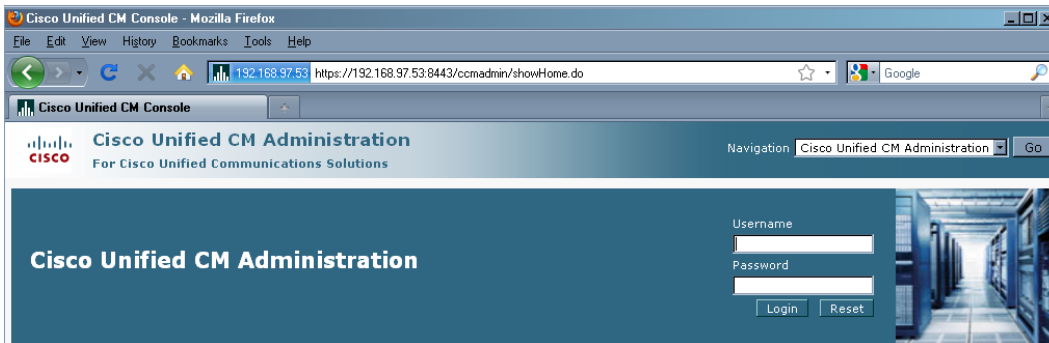
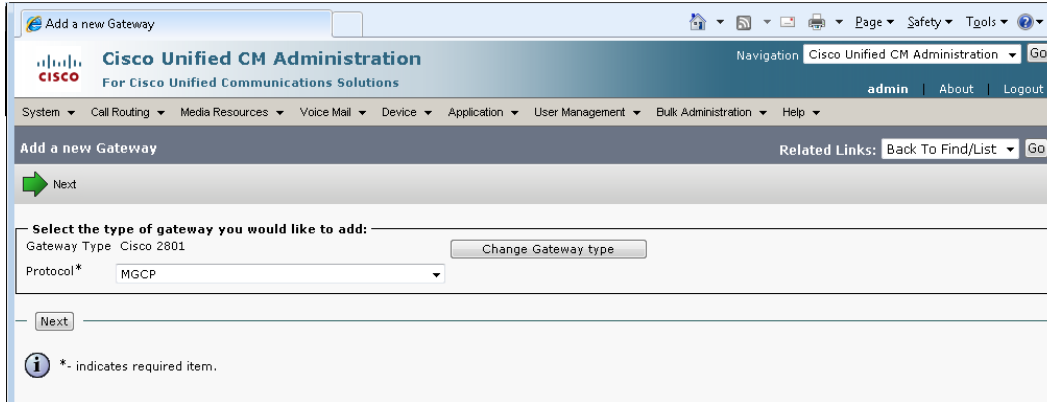3. Under the "Device" menu, select "Gateway"



4. Click on "Add New"



5. Select the Gateway Type from the dropdown list box, then click Next

6. Select the Protocol, then click Next



7. Enter the Domain Name for the gateway device.  For this example, the router name is CME-2801, and the router is configured with a domain name of valcom.com, so the full name CME-2801.valcom.com is entered.  Choose the type of module installed in the system in the "Configured Slots, VICs and Endpoints" section, and other product-specific settings as needed, then click Save.
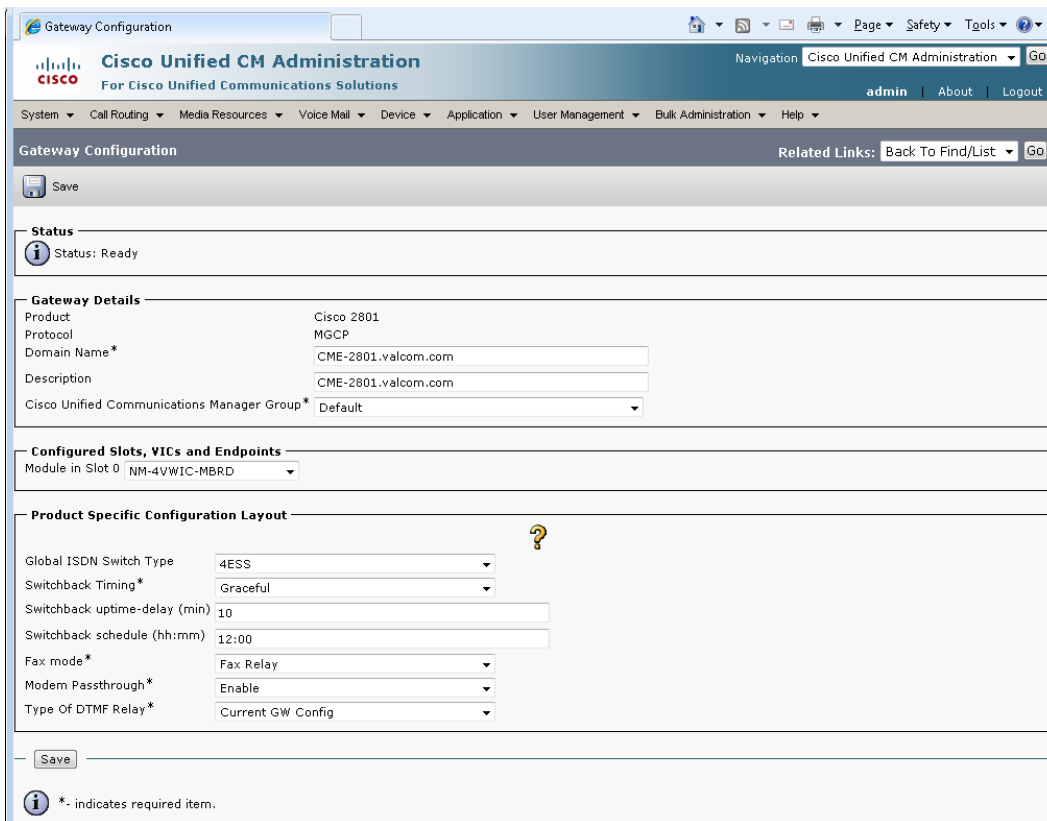
8.  After clicking Save, the screen will refresh to display the ports installed on the selected module.  Use the dropdown boxes to select the type(s) of ports installed.  For our example, Subunit 2 has a VIC2-2FXS card and Subunit 3 has a VIC2-2FXO card.  Click Save after making the appropriate selections.
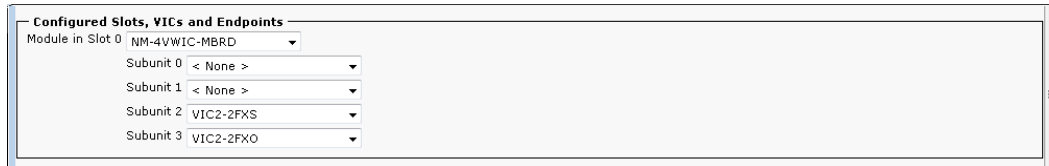


9.  After clicking Save again, the screen will refresh to display links to the ports available on each card.  Click the icon for a specific port to configure it.  For our example, the 0/3/1 FXO port will be configured.
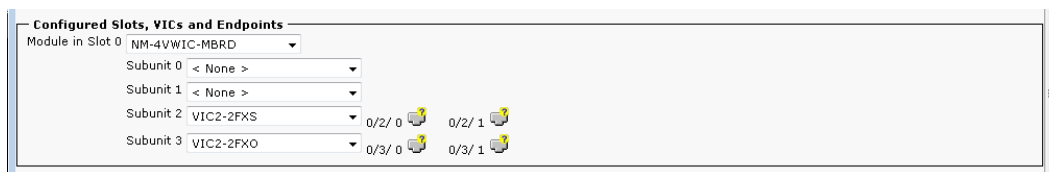


10. Clicking the FXO port icon will display the screen shown below.  Select the Port Type from the dropdown list.  For Valcom Page Controllers, choose the Loop Start option.  Click Next to continue.
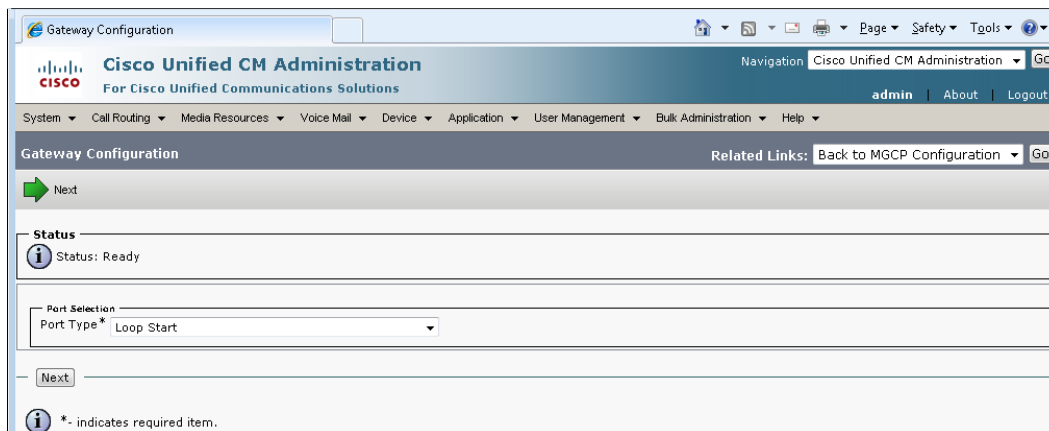
11. In the Gateway Configuration screen, enter the appropriate information for the required entries (those marked with the asterisk). Most entries will work satisfactorily using the system default values, but these should be reviewed for appropriateness for your environment.
If using a Valcom Page Controller with Talkback ability, the entry for Attendant DN is the phone number to which the Page Controller will attempt to call when the Call Button is pressed at the talkback station. For one-way Page Controllers, the Attendant DN is not necessary. The Port Direction can be set to "Outbound" for one-way controllers. Make all appropriate entries, then click the Save button, then Reset the gateway to make the changes effective.

12. After configuring the gateway, a Route must be created to direct calls to the gateway. From the menu bar, select Call Routing, then Route/Hunt, then Route Pattern.
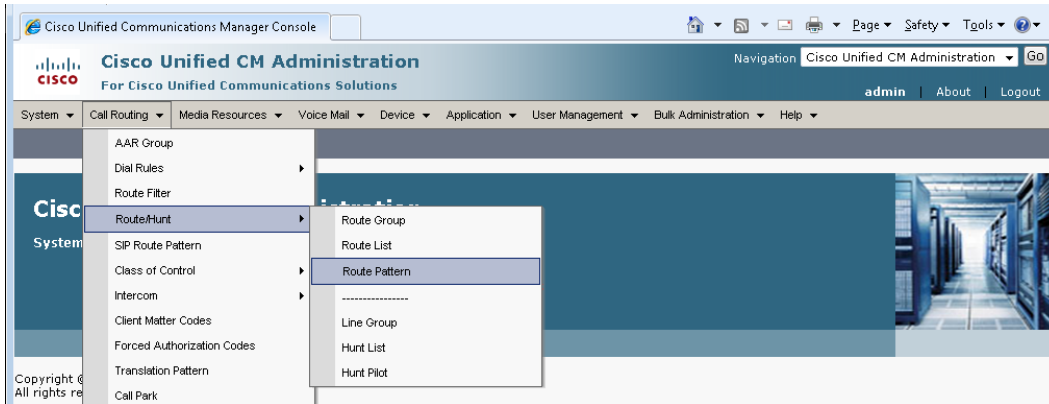


13. Click "Add New"
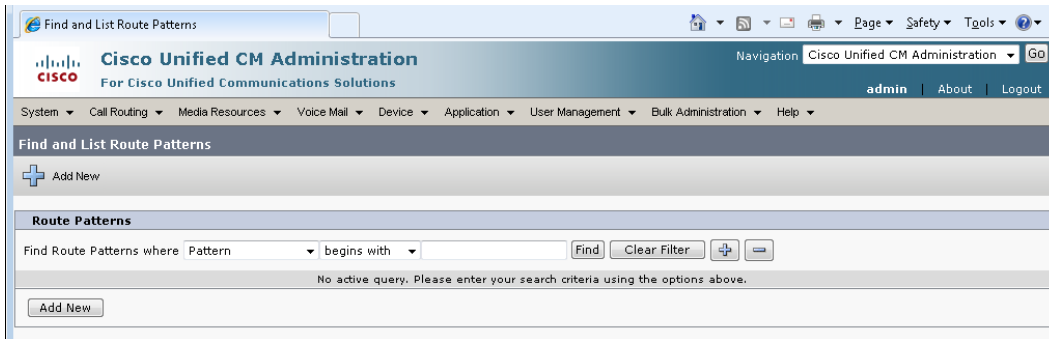
14. In the Route Pattern Configuration screen, enter the required information (marked with an asterisk).  For the Route Pattern, enter the phone number that will be used to access the Valcom Page Controller.  To avoid sending DTMF tones at the beginning of each page, use the dot notation (.) for the Route Pattern.  For this example, the phone number dialed by the person making the page will be "3101", so the Route Pattern is "3101**.**"  In the "Called Party Transformations" section, the Discard Digits selection is set to "PreDot", which will cause the CUCM to strip off the numbers preceding the dot, and therefore not send those through the FXO port to the page controller. Within the Pattern Definition section, uncheck the Provide Outside Dial Tone option.
Click the Save button when all entries have been made.



This completes the configuration on the Unified Communications Manager.

15.  These instructions assume the router is already configured appropriately for the network and voice systems it serves.  If MGCP is not already configured, the basic steps 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)#
```

16. Add MGCP as a protocol, and configure the Unified Communications Manager server as the call agent for MGCP.

```
CME-2801(config)# mgcp
CME-2801(config)# mgcp call−agent 192.168.97.53
CME-2801(config)# ccm−manager config server 192.168.97.53
CME-2801(config)# ccm−manager config
CME-2801(config)# ccm−manager mgcp
```

17. Create a Dial Peer and associate the MGCP application with the voice port to be used.  This example uses dial peer 4 and port 0/3/1.  The dial peer number and the FXO port should be chosen based on your specific installation.

```
CME-2801(config)# dial-peer voice 4 pots
CME-2801(config-dial-peer)# description MGCP fxo port to Valcom Page Controller
CME-2801(config-dial-peer)# service MGCPAPP
CME-2801(config-dial-peer)# port 0/3/1
```

18. 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 14 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.