



Configuring Paging

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This chapter describes the paging feature in Cisco Unified Communications Manager Express (Cisco Unified CME).

Finding Feature Information in This Module

Your Cisco Unified CME version may not support all of the features documented in this module. For a list of the versions in which each feature is supported, see the [“Feature Information for Paging” section on page 999](#).

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Information About Paging

To enable paging, you should understand the following concept:

- [Audio Paging, page 989](#)

Audio Paging

A paging number can be defined to relay audio pages to a group of designated phones. When a caller dials the paging number (ephone-dn), each idle IP phone that has been configured with the paging number automatically answers using its speakerphone mode. Displays on the phones that answer the page show the caller ID that has been set using the **name** command under the paging ephone-dn. When the caller finishes speaking the message and hangs up, the phones are returned to their idle states.

Audio paging provides a one-way voice path to the phones that have been designated to receive paging. It does not have a press-to-answer option like the intercom feature. A paging group is created using a dummy ephone-dn, known as the paging ephone-dn, that can be associated with any number of local IP phones. The paging ephone-dn can be dialed from anywhere, including on-net.

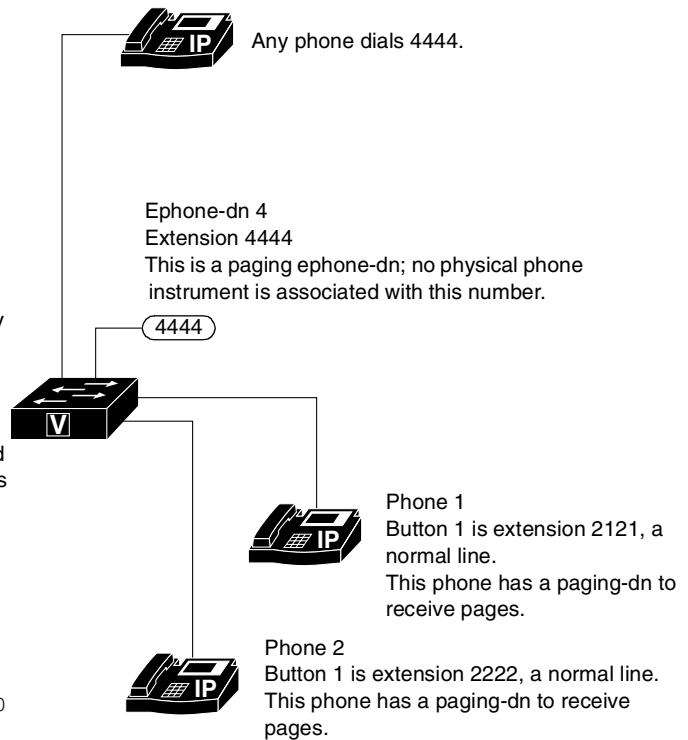
After you have created two or more simple paging groups, you can unite them into combined paging groups. By creating combined paging groups, you provide phone users with the flexibility to page a small local paging group (for example, paging four phones in a store’s jewelry department) or to page a combined set of several paging groups (for example, by paging a group that consists of both the jewelry department and the accessories department).

The paging mechanism supports audio distribution using IP multicast, replicated unicast, and a mixture of both (so that multicast is used where possible, and unicast is used for specific phones that cannot be reached using multicast).

Figure 38 shows a paging group with two phones.

Figure 38 **Paging Group**

- 1 To page all the phones in the shipping department, a person at any phone dials the number associated with the paging ephone-dn for the shipping department. The paging ephone-dn has a number that does not appear on any phone (in this example, extension 4444).
- 2 A one-way voice connection is automatically made with all idle ephones that are configured with paging ephone-dn 4. In this example, that is phone 1 and phone 2. Both phones answer the call in speakerphone mode. The voice of the calling party is heard through the speaker, and the phone displays the caller ID (name) of paging ephone-dn 4 ("Paging Shipping").



```

ephone-dn 4
 number 4444
 name Paging Shipping
 paging ip 239.0.1.20 port 2000

ephone-dn 21
 number 2121

ephone-dn 22
 number 2222

ephone 1
 mac-address 3662.0234.6ae2
 button 1:21
 paging-dn 4

ephone 2
 mac-address 9387.6738.2873
 button 1:22
 paging-dn 4
    
```

Note that paging-dns are not assigned to phone buttons.

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How to Configure Paging

This section contains the following tasks:

- [SCCP: Configuring a Simple Paging Group, page 991](#) (required)
- [SCCP: Configuring a Combined Paging Group, page 992](#) (optional)
- [Verifying Paging, page 995](#) (optional)

SCCP: Configuring a Simple Paging Group

To set up a paging number that relays incoming pages to a group of phones, perform the following steps.

Restrictions

IP phones do not support multicast at 224.x.x.x addresses.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone-dn** *paging-dn-tag*
4. **number** *number*
5. **name** *name*
6. **paging** [**ip** *multicast-address* **port** *udp-port-number*]
7. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	ephone-dn <i>paging-dn-tag</i> Example: Router(config)# ephone-dn 42	Enters ephone-dn configuration mode. <ul style="list-style-type: none"> • <i>paging-dn-tag</i>—A unique sequence number that identifies this paging ephone-dn during all configuration tasks. This is the ephone-dn that is dialed to initiate a page. This ephone-dn is not associated with a physical phone. Range is 1 to 288. <p>Note Do not use the dual-line keyword with this command. Paging ephone-dns cannot be dual-line.</p>

	Command or Action	Purpose
Step 4	<p>number <i>number</i></p> <p>Example: Router(config-ephone-dn)# number 3556</p>	Defines an extension number associated with the paging ephone-dn. This is the number that people call to initiate a page.
Step 5	<p>name <i>name</i></p> <p>Example: Router(config-ephone-dn)# name paging4</p>	Assigns to the paging number a name to appear in caller-ID displays and directories.
Step 6	<p>paging [ip <i>multicast-address</i> port <i>udp-port-number</i>]</p> <p>Example: Router(config-ephone-dn)# paging ip 239.1.1.10 port 2000</p>	<p>Specifies that this ephone-dn is to be used to broadcast paging messages to the idle IP phones that are associated with the paging dn-tag. If the optional keywords and arguments are not used, IP phones are paged individually using IP unicast transmission (to a maximum of ten IP phones). The optional keywords and arguments are as follows:</p> <ul style="list-style-type: none"> ip <i>multicast-address</i> port <i>udp-port-number</i>—Specifies multicast broadcast using the specified IP address and UDP port. When multiple paging numbers are configured, each paging number must use a unique IP multicast address. We recommend port 2000 because it is already used for normal non-multicast RTP media streams between phones and the Cisco Unified CME router. <p>Note IP phones do not support multicast at 224.x.x.x addresses.</p>
Step 7	<p>end</p> <p>Example: Router(config-telephony)# end</p>	Returns to privileged EXEC mode.

SCCP: Configuring a Combined Paging Group

To set up a combined paging group consisting of two or more simple paging groups, perform the following steps.

Prerequisites

Simple paging groups must be configured. See the [“SCCP: Configuring a Simple Paging Group”](#) section on page 991.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone-dn** *paging-dn-tag*
4. **number** *number*
5. **name** *name*
6. **paging group** *paging-dn-tag,paging-dn-tag*[[,*paging-dn-tag*]...]

7. **exit**
8. **ephone** *phone-tag*
9. **paging-dn** *paging-dn-tag* {**multicast** | **unicast**}
10. **exit**
11. Repeat [Step 8](#) to [Step 10](#) to add additional IP phones to the paging group.
12. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	ephone-dn <i>paging-dn-tag</i> Example: Router(config)# ephone-dn 42	Enters ephone-dn configuration mode to create a paging number for a combined paging group. <ul style="list-style-type: none"> • <i>paging-dn-tag</i>—A unique sequence number that identifies this paging ephone-dn during all configuration tasks. This is the ephone-dn that is dialed to initiate a page. This ephone-dn is not associated with a physical phone. Range is 1 to 288. Note Do not use the dual-line keyword with this command. Paging ephone-dns cannot be dual-line.
Step 4	number <i>number</i> Example: Router(config-ephone-dn)# number 3556	Defines an extension number associated with the combined group paging ephone-dn. This is the number that people call to initiate a page to the combined group.
Step 5	name <i>name</i> Example: Router(config-ephone-dn)# name paging4	(Optional) Assigns to the combined group paging number a name to appear in caller-ID displays and directories.

Command or Action	Purpose
<p>Step 6</p> <p>paging group <i>paging-dn-tag,paging-dn-tag</i> [<i>,paging-dn-tag</i>...]</p> <p>Example: Router(config-ephone-dn)# paging group 20,21</p>	<p>Sets the paging directory number for a combined group. This command combines the individual paging group ephone-dns that you specify into a combined group so that a page can be sent to more than one paging group at a time.</p> <ul style="list-style-type: none"> <i>paging-dn-tag</i>—Unique sequence number associated with the paging number for an individual paging group. List the paging-dn-tags of all the individual groups that you want to include in this combined group, separated by commas. You can include up to ten paging ephone-dn tags in this command. <p>Note Configure the paging command for all ephone-dns in a paging group before configuring the paging group command for that group.</p>
<p>Step 7</p> <p>exit</p> <p>Example: Router(config-ephone-dn)# exit</p>	<p>Exits ephone-dn configuration mode.</p>
<p>Step 8</p> <p>ephone <i>phone-tag</i></p> <p>Example: Router(config)# ephone 2</p>	<p>Enters ephone configuration mode to add IP phones to the paging group.</p> <ul style="list-style-type: none"> <i>phone-tag</i>—Unique sequence number of a phone to receive audio pages when the paging ephone-dn is called.
<p>Step 9</p> <p>paging-dn <i>paging-dn-tag</i> {multicast unicast}</p> <p>Example: Router(config-ephone)# paging-dn 42 multicast</p>	<p>Associates this ephone with an ephone-dn tag that is used for a paging ephone-dn (the number that people call to deliver a page). Note that the paging ephone-dn tag is not associated with a line button on this ephone.</p> <p>The paging mechanism supports audio distribution using IP multicast, replicated unicast, and a mixture of both (so that multicast is used where possible and unicast is allowed to specific phones that cannot be reached through multicast).</p> <ul style="list-style-type: none"> <i>paging-dn-tag</i>—Unique sequence number for a paging ephone-dn. multicast—(Optional) Multicast paging for groups. By default, paging is transmitted to the Cisco Unified IP phone using multicast. unicast—(Optional) Unicast paging for a single Cisco Unified IP phone. This keyword indicates that the Cisco Unified IP phone is not capable of receiving paging through multicast and requests that the phone receive paging through a unicast transmission directed to the individual phone. <p>Note The number of phones supported through unicast is limited to a maximum of ten phones.</p>
<p>Step 10</p> <p>exit</p> <p>Example: Router(config-ephone)# exit</p>	<p>Exits ephone configuration mode.</p>

	Command or Action	Purpose
Step 11	Repeat Step 8 to Step 10 to add additional IP phones to a paging group.	—
Step 12	<code>end</code> Example: <code>Router(config-telephony)# end</code>	Returns to privileged EXEC mode.

Verifying Paging

- Step 1** Use the **show running-config** command to display the running configuration. Paging ephone-dns are listed in the ephone-dn portion of the output. Phones that belong to paging groups are listed in the ephone part of the output.

```
Router# show running-config

ephone-dn 48
  number 136
  name PagingCashiers
  paging ip 239.1.1.10 port 2000

ephone 2
  headset auto-answer line 1
  headset auto-answer line 4
  ephone-template 1
  username "FrontCashier"
  mac-address 011F.2A0.A490
  paging-dn 48
  type 7960
  no dnd feature-ring
  no auto-line
  button 1f43 2f44 3f45 4:31
```

- Step 2** Use the **show telephony-service ephone-dn** and **show telephony-service ephone** commands to display only the configuration information for ephone-dns and ephones.

Configuration Examples for Paging

This section contains the following examples:

- [Simple Paging Group: Example, page 996](#)
- [Combined Paging Groups: Example, page 996](#)

Simple Paging Group: Example

The following example sets up an ephone-dn for multicast paging. This example creates a paging number for 5001 on ephone-dn 22 and adds ephone 4 as a member of the paging set. Multicast is set for the paging-dn.

```
ephone-dn 22
 name Paging Shipping
 number 5001
 paging ip 239.1.1.10 port 2000

ephone 4
 mac-address 0030.94c3.8724
 button 1:1 2:2
 paging-dn 22 multicast
```

In this example, paging calls to 2000 are multicast to Cisco Unified IP phones 1 and 2, and paging calls to 2001 go to Cisco Unified IP phones 3 and 4. Note that the paging ephone-dns (20 and 21) are not assigned to any phone buttons.

```
ephone-dn 20
 number 2000
 paging ip 239.0.1.20 port 2000

ephone-dn 21
 number 2001
 paging ip 239.0.1.21 port 2000

ephone 1
 mac-address 3662.024.6ae2
 button 1:1
 paging-dn 20

ephone 2
 mac-address 9387.678.2873
 button 1:2
 paging-dn 20

ephone 3
 mac-address 0478.2a78.8640
 button 1:3
 paging-dn 21

ephone 4
 mac-address 4398.b694.456
 button 1:4
 paging-dn 21
```

Combined Paging Groups: Example

This example sets the following paging behavior:

- When extension 2000 is dialed, a page is sent to ephones 1 and 2 (single paging group).
- When extension 2001 is dialed, a page is sent to ephones 3 and 4 (single paging group).
- When extension 2002 is dialed, a page is sent to ephones 1, 2, 3, 4, and 5 (combined paging group).

Ephones 1 and 2 are included in paging ephone-dn 22 through the membership of ephone-dn 20 in the combined paging group. Ephones 3 and 4 are included in paging ephone-dn 22 through membership of ephone-dn 21 in the combined paging group. Ephone 5 is directly subscribed to paging-dn 22.

```
ephone-dn 20
 number 2000
 paging ip 239.0.1.20 port 2000

ephone-dn 21
 number 2001
 paging ip 239.0.1.21 port 2000

ephone-dn 22
 number 2002
 paging ip 239.0.2.22 port 2000
 paging group 20,21

ephone-dn 6
 number 1103
 name user3

ephone-dn 7
 number 1104
 name user4

ephone-dn 8
 number 1105
 name user5

ephone-dn 9
 number 1199

ephone-dn 10
 number 1198

ephone 1
 mac-address 1234.8903.2941
 button 1:6
 paging-dn 20

ephone 2
 mac-address CFBA.321B.96FA
 button 1:7
 paging-dn 20

ephone 3
 mac-address CFBB.3232.9611
 button 1:8
 paging-dn 21

ephone 4
 mac-address 3928.3012.EE89
 button 1:9
 paging-dn 21

ephone 5
 mac-address BB93.9345.0031
 button 1:10
 paging-dn 22
```

Where to Go Next

Intercom

The intercom feature is similar to paging because it allows a phone user to deliver an audio message to a phone without the called party having to answer. The intercom feature is different than paging because the audio path between the caller and the called party is a dedicated audio path and because the called party can respond to the caller. See [“Configuring Intercom Lines” on page 915](#).

Speed Dial

Phone users who make frequent pages may want to include the paging ephone-dn numbers in their list of speed-dial numbers. See [“Configuring Speed Dial” on page 1063](#).

Additional References

The following sections provide references related to Cisco Unified CME features.

Related Documents

Related Topic	Document Title
Cisco Unified CME configuration	<ul style="list-style-type: none"> Cisco Unified CME Command Reference Cisco Unified CME Documentation Roadmap
Cisco IOS commands	<ul style="list-style-type: none"> Cisco IOS Voice Command Reference Cisco IOS Software Releases 12.4T Command References
Cisco IOS configuration	<ul style="list-style-type: none"> Cisco IOS Voice Configuration Library Cisco IOS Software Releases 12.4T Configuration Guides
Phone documentation for Cisco Unified CME	<ul style="list-style-type: none"> User Documentation for Cisco Unified IP Phones

Technical Assistance

Description	Link
<p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</p>	http://www.cisco.com/techsupport

Feature Information for Paging

Table 41 lists the features in this module and enhancements to the features by version.

To determine the correct Cisco IOS release to support a specific Cisco Unified CME version, see the *Cisco Unified CME and Cisco IOS Software Version Compatibility Matrix* at http://www.cisco.com/en/US/docs/voice_ip_comm/cucme/requirements/guide/33matrix.htm.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.



Note

Table 41 lists the Cisco Unified CME version that introduced support for a given feature. Unless noted otherwise, subsequent versions of Cisco Unified CME software also support that feature.

Table 41 *Feature Information for Paging*

Feature Name	Cisco Unified CME Version	Feature Information
Paging	2.0	Paging was introduced.

