Configuring Paging

Last Updated: November 11, 2011

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 1275.

Contents

Restrictions for Paging

- Paging is not supported on IP phones without speakerphones.
- Paging is not supported on Cisco Unified 3905 SIP IP phones.

Information About Paging

To enable paging, you should understand the following concepts:

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).

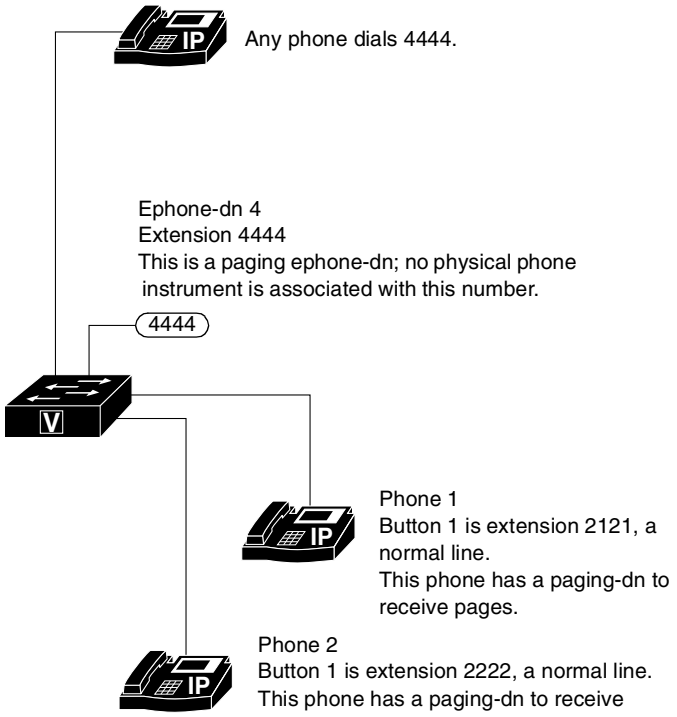
The paging mechanism supports audio distribution using IP multicast, replicated unicast, and a mixture of both (so that multicast is used where possible, and unicast is used for specific phones that cannot be reached using multicast).

Figure 48 shows a paging group with two phones.

Figure 48 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
```

Paging Group Support for Cisco Unified SIP IP Phones

Paging provides a one-way voice path from the paging phone to the paged phone. The paged phone automatically answers the page in speakerphone mode with Mute activated.

The paged phone receives a page when it is idle or busy. When it is busy with a connected call, the user of the paged phone can hear both the active conversation and whisper paging.

Before Cisco Unified CME 9.0, you can specify a paging-dn tag and dial the paging extension number to page the Cisco Unified SCCP IP phone associated with the paging-dn tag or paging group using the **paging-dn** command in ephone or ephone-template configuration mode. You can also page a combined paging group composed of two or more previously established paging groups of Cisco Unified SCCP IP phone directory numbers using the **paging group** command in ephone-dn configuration mode.

In Cisco Unified CME 9.0 and later versions, support is extended so that you can specify a paging-dn tag and dial the paging extension number to page the Cisco Unified SIP IP phone associated with the paging-dn tag or paging group using the **paging-dn** command in voice register pool or voice register template configuration mode. Paging on Cisco Unified SIP IP phones support both unicast and multicast paging in the same way that these features are supported on Cisco Unified SCCP IP Phones.

In Cisco Unified CME 9.0 and later versions, support is also extended so that you can create a combined paging group composed of two or more previously established paging groups of ephone and voice register directory numbers using the same **paging group** command used for paging groups of Cisco Unified SCCP IP phone directory numbers.

Note The paging port for Cisco Unified SIP IP phones is an even number from 20480 to 32768. If you enter a wrong port number, a SIP REFER message request is sent to the IP phone but the Cisco Unified SIP IP phone is not paged.

With a paging-dn, there is only one paging endpoint and there is only one paging number for both Cisco Unified SCCP and Cisco Unified SIP IP phones. However, when paging to a Cisco Unified SIP shared line, each phone on the shared line is treated separately.

A phone that can be paged by two paging-dns receives the page from the first paging-dn and ignores the page from the second paging-dn. When the first paging-dn is disconnected, the phone can receive the page from the second paging-dn.

The paging group support for Cisco Unified SIP IP phones uses an ephone paging-dn to dial the paging number before branching out to each Cisco Unified SCCP and Cisco Unified SIP IP phone.

The **show ephone-dn paging** command displays which paging dn is specified and which phone is being paged.

Because paging is not considered a call, a paging phone that is in a connected state can press another line to make a call using the phone's soft keys.

The Cisco Unified SIP IP phone Paging feature also supports:

- multicast paging (default)
- unicast paging

For more information, see the "SIP: Configuring Paging Group Support" section on page 1264.

How to Configure Paging

This section contains the following tasks:

- SCCP: Configuring a Simple Paging Group, page 1259 (required)
- SCCP: Configuring a Combined Paging Group, page 1261 (optional)
- SIP: Configuring Paging Group Support, page 1264 (optional)
- Verifying Paging, page 1268 (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. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**ephone-dn** *paging-dn-tag* **Example:** `Router(config)# ephone-dn 42`	Enters ephone-dn configuration mode. • *paging-dn-tag*—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.

	Command or Action	Purpose
Step 4	**number** *number* **Example:** `Router(config-ephone-dn)# number 3556`	Defines an extension number associated with the paging ephone-dn. This is the number that people call to initiate a page.
Step 5	**name** *name* **Example:** `Router(config-ephone-dn)# name paging4`	Assigns to the paging number a name to appear in caller-ID displays and directories.
Step 6	**paging** [**ip** *multicast-address* **port** *udp-port-number*] **Example:** `Router(config-ephone-dn)# paging ip 239.1.1.10 port 2000`	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: • **ip** *multicast-address* **port** *udp-port-number*—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. **Note** IP phones do not support multicast at 224.x.x.x addresses. **Note** The correct paging port for the paging-dn of Cisco Unified SIP IP phones is an even number from 20480 to 32768. If you enter a wrong port number, a SIP REFER message request is sent to the IP phone but the Cisco Unified SIP IP phone is not paged.
Step 7	**end** **Example:** `Router(config-telephony)# end`	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 1259.

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. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**ephone-dn** *paging-dn-tag* **Example:** `Router(config)# ephone-dn 42`	Enters ephone-dn configuration mode to create a paging number for a combined paging group. • *paging-dn-tag*—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.

	Command or Action	Purpose
Step 4	**number** *number* **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** *name* **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.
Step 6	**paging group** *paging-dn-tag*,*paging-dn-tag* [[,*paging-dn-tag*]...] **Example:** `Router(config-ephone-dn)# paging group 20,21`	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. • *paging-dn-tag*—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. **Note** Configure the **paging** command for all ephone-dns in a paging group before configuring the **paging group** command for that group.
Step 7	**exit** **Example:** `Router(config-ephone-dn)# exit`	Exits ephone-dn configuration mode.
Step 8	**ephone** *phone-tag* **Example:** `Router(config)# ephone 2`	Enters ephone configuration mode to add IP phones to the paging group. • *phone-tag*—Unique sequence number of a phone to receive audio pages when the paging ephone-dn is called.

	Command or Action	Purpose
Step 9	**paging-dn** *paging-dn-tag* {**multicast** | **unicast**} **Example:** `Router(config-ephone)# paging-dn 42 multicast`	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. 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). • *paging-dn-tag*—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. **Note** The number of phones supported through unicast is limited to a maximum of ten phones.
Step 10	**exit** **Example:** `Router(config-ephone)# exit`	Exits ephone configuration mode.
Step 11	Repeat Step 8 to Step 10 to add additional IP phones to a paging group.	—
Step 12	**end** **Example:** `Router(config-telephony)# end`	Returns to privileged EXEC mode.

SIP: Configuring Paging Group Support

To configure paging group support for Cisco Unified SIP IP phones, perform the following steps.

Prerequisites

Cisco Unified CME 9.0 or a later version.

Restrictions

- Paging Group is supported in Cisco Unified CME but not in Cisco Unified SRST.
- Paging is not supported on Cisco Unified 3905 SIP IP phones.
- Cisco Unified SCCP IP phones do not support whisper paging. Only idle IP phones can receive paging requests.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone-dn** *dn-tag*
4. **number** *number*
5. **paging** [**ip** *multicast-address* **port** *udp-port-number*]
6. Repeat Step 3 to Step 5 to add more Cisco Unified SCCP IP phones to the paging group. Skip Step 7 for each IP phone except for the last one.
7. **paging group** *paging-dn-tag, paging-dn-tag*
8. **exit**
9. **voice register dn** *dn-tag*
10. **number** *number*
11. **exit**
12. Repeat Step 9 to Step 11 to associate more telephone or extension numbers with Cisco Unified SIP IP phones.
13. **voice register pool** *pool-tag*
14. **id mac** *address*
15. **type** *phone-type*
16. **number** *tag* **dn** *dn-tag*
17. **paging-dn** *paging-dn-tag*
18. Repeat Step 13 to Step 17 to register additional Cisco Unified SIP IP phones to ephone-dn paging directory numbers. Exit from voice register pool configuration mode after each additional phone is registered. After the last phone is added, go directly to Step 19.
19. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**ephone-dn** *dn-tag* **Example:** `Router(config)# ephone-dn 20`	Enters ephone-dn configuration mode. • *dn-tag*—Unique number that identifies an ephone-dn during configuration tasks. Range is 1 to the number set by the **max-dn** command.
Step 4	**number** *number* **Example:** `Router(config-ephone-dn)# number 2000`	Associates a telephone or extension number with this ephone-dn. • *number*—String of up to 16 characters that represents an E.164 telephone number. Normally, the string is composed of digits, but the string may contain alphabetic characters when the number is dialed only by the router, as with an intercom number. One or more periods (.) can be used as wildcard characters.
Step 5	**paging** [**ip** *multicast-address* **port** *udp-port-number*] **Example:** `Router(config-ephone-dn)# paging ip 239.0.1.20 port 20480`	Defines an extension (ephone-dn) as a paging extension that can be called to broadcast an audio page to a set of Cisco Unified IP phones. • **ip** *multicast-address*—(Optional) Uses an IP multicast address to multicast voice packets for audio paging; for example, 239.0.1.1. **Note** IP phones do not support multicast at 224.x.x.x addresses. Default is that multicast is not used and IP phones are paged individually using IP unicast transmission (up to ten phones). • **port** *udp-port-number*—(Optional) Uses this UDP port for the multicast. Range: 2000 to 65535. **Note** If any of the paged phones is a Cisco Unified SIP IP phone, the correct paging port for the paging-dn is an even number from 20480 to 32768. If you enter a wrong port number, a SIP REFER message request is sent to the IP phone but the Cisco Unified SIP IP phone is not paged.
Step 6	Repeat Step 3 to Step 5 to add more Cisco Unified SCCP IP phones to the paging group. Skip Step 7 for each IP phone except for the last one.	—

	Command or Action	Purpose
Step 7	**paging group** *paging-dn-tag, paging-dn-tag* **Example:** `Router(config-ephone-dn)# paging group 20`	Creates a combined paging group from two or more previously established paging sets. • *paging-dn-tag*—Comma-separated list of paging-dn-tags that have previously been associated with the paging extension of a paging set using the **paging-dn** command. You can include up to ten paging-dn-tags separated by commas; for example, 4, 6, 7, 8.
Step 8	**exit** **Example:** `Router(config-ephone-dn)# exit`	Exits ephone-dn configuration mode.
Step 9	**voice register dn** *dn-tag* **Example:** `Router(config)# voice register dn 1`	Enters voice register dn configuration mode. • *dn-tag*—Unique sequence number that identifies a particular directory number during configuration tasks. Range is 1 to 150 or the maximum defined by the **max-dn** command.
Step 10	**number** *number* **Example:** `Router(config-register-dn)# number 1201`	Associates a telephone or extension number with a Cisco Unified SIP IP phone in a Cisco Unified CME system. • *number*—String of up to 16 characters that represents an E.164 telephone number. Normally, the string is composed of digits, but the string may contain alphabetic characters when the number is dialed only by the router, as with an intercom number.
Step 11	**exit** **Example:** `Router(config-register-dn)# exit`	Exits voice register dn configuration mode.
Step 12	Repeat Step 9 to Step 11 to associate more telephone or extension numbers with Cisco Unified SIP IP phones.	—
Step 13	**voice register pool** *pool-tag* **Example:** `Router(config)# voice register pool 1`	Enters voice register pool configuration mode and creates a pool configuration for a Cisco Unified SIP IP phone in Cisco Unified CME. • *pool-tag*—Unique number assigned to the pool. Range: 1 to 100. **Note** For Cisco Unified CME systems, the upper limit for this argument is defined by the **max-pool** command.
Step 14	**id mac** *address* **Example:** `Router(config-register-pool)# id mac 0019.305D.82B8`	Identifies a locally available Cisco Unified SIP IP phone. • **mac** *address*—Identifies the MAC address of a particular Cisco Unified SIP IP phone.

	Command or Action	Purpose
Step 15	**type** *phone-type* **Example:** `Router(config-register-pool)# type 7961`	Defines a phone type for a Cisco Unified SIP IP phone. • *phone-type*—Type of Cisco Unified SIP IP phone that is being defined.
Step 16	**number** *tag* **dn** *dn-tag* **Example:** `Router(config-register-pool)# number 1 dn 1`	Indicates the E.164 phone numbers that the registrar permits to handle the Register message from the Cisco Unified SIP IP phone. • *tag*—Identifies the telephone number when there are multiple number commands. Range: 1 to 10. • **dn** *dn-tag*—Identifies the directory number tag for this phone number as defined by the **voice register dn** command. Range: 1 to 150.
Step 17	**paging-dn** *paging-dn-tag* **Example:** `Router(config-register-pool)# paging-dn 20`	Registers a Cisco Unified SIP IP phone to an ephone-dn paging directory number. • *paging-dn-tag*—Ephone-dn tag designated as the paging ephone-dn to which a Cisco Unified SIP IP phone is registered.
Step 18	Repeat Step 13 to Step 17 to register additional Cisco Unified SIP IP phones to ephone-dn paging directory numbers. Exit from voice register pool configuration mode after each additional phone is registered. After the last phone is added, go directly to Step 19.	—
Step 19	**end** **Example:** `Router(config-register-pool)# end`	Exits voice register pool configuration mode and enters privileged EXEC mode.

Troubleshooting Tips

Use the **debug ephone paging** command to collect debugging information on paging for both Cisco Unified SIP IP and Cisco Unified SCCP IP phones.

The following example shows debug messages from the **debug ephone paging** command:

```
*Dec  7 21:53:42.519: Paging-dn 250 sccp count=1 sip count=2
*Dec  7 21:53:42.527: SkinnyBuildPagingList for DN 250
*Dec  7 21:53:42.527: SkinnySetPagingList added DN 251 to list for DN 250
*Dec  7 21:53:42.527: SkinnySetPagingList added DN 252 to list for DN 250
*Dec  7 21:53:42.527: Paging Group List: 251 252 0 0 0 0 0 0 0 0
*Dec  7 21:53:42.527: SkinnySetupPagingDnMulticast 239.1.1.0 20480 for DN 250
*Dec  7 21:53:42.527: Found paging DN 250 on ephone-2
*Dec  7 21:53:42.527: Added interface GigabitEthernet0/0 to multicast list for DN 250
*Dec  7 21:53:42.527: SkinnyStartPagingPhone 1 for DN 250 with multicast
*Dec  7 21:53:42.527: Found paging DN 250 on pool 1[40001] is_paging=FALSE
*Dec  7 21:53:42.527: SipPagingPhoneReq for pool 1[40001] with multicast start
*Dec  7 21:53:42.527: Found paging DN 250 on pool 2[40003] is_paging=FALSE
*Dec  7 21:53:42.527: SipPagingPhoneReq for pool 2[40003] with multicast start
*Dec  7 21:53:42.531: SkinnyBuildPagingList DN 250 for 1 targets
*Dec  7 21:53:42.531: SkinnyStartPagingMedia for 1 targets for DN 250
```

```
*Dec  7 21:53:57.471: SkinnyStopPagingPhone 1 for DN 250 with multicast
*Dec  7 21:53:57.471: SipPagingPhoneReq for pool 1[40001] with multicast stop
*Dec  7 21:53:57.471: SipPagingPhoneReq for pool 2[40003] with multicast stop
```

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:

- Example: Simple Paging Group, page 1268
- Example: Combined Paging Groups, page 1269
- Example: Configuring a Combined Paging Group of Cisco Unified SIP IP Phones and Cisco Unified SCCP IP Phones, page 1270

Example: Simple Paging Group

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
```

Example: Combined Paging Groups

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
```

Example: Configuring a Combined Paging Group of Cisco Unified SIP IP Phones and Cisco Unified SCCP IP Phones

The following example shows how to configure a combined paging group composed of Cisco Unified SIP IP phones and Cisco Unified SCCP IP phones.

In the following configuration tasks, paging sets 20 and 21 are defined and then combined into paging group 22. Paging set 20 has a paging extension of 2000. When someone dials extension 2000 to deliver a page, the page is sent to Cisco Unified SCCP IP phones (ephones) 1 and 2. Paging set 21 has a paging extension of 2001. When someone dials extension 2001 to deliver a page, the page is sent to ephones 3

and 4. Paging group 22 combines sets 20 and 21, and when someone dials its paging extension, 2002, the page is sent to all the phones in both sets and to ephone 5, which is directly subscribed to the combined paging group.

```
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 1
 button 1:1
 paging-dn 20

ephone 2
 button 1:2
 paging-dn 20

ephone 3
 button 1:3
 paging-dn 21

ephone 4
 button 1:4
 paging-dn 21

ephone 5
 button 1:5
 paging-dn 22
```

The following configuration tasks show how to configure a combined paging group composed of Cisco Unified SCCP IP phone directory numbers only.

When extension 2000 is dialed, a page is sent to ephones 1 and 2 (first single paging group). When extension 2001 is dialed, a page is sent to ephones 3 and 4 (second single paging group). Finally, when extension 2002 is dialed, a page is sent to ephones 1, 2, 3, 4, and 5, producing the combined paging group (composed of the first single paging group, the second single paging group, and ephone 5).

Ephones 1 and 2 are included in paging ephone-dn 22 through the membership of ephone-dn 20 as paging group 20 in the combined paging group. Ephones 3 and 4 are included in paging ephone-dn 22 through membership of ephone-dn 21 as paging group 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 20480

ephone-dn 21
 number 2001
 paging ip 239.1.1.21 port 20480
```

```
ephone-dn 22
 number 2002
 paging ip 239.1.1.22 port 20480
 paging group 20,21

ephone-dn 6
 number 1103

ephone-dn 7
 number 1104

ephone-dn 8
 number 1105

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
```

In the following configuration tasks, the **paging group** command is used to configure combined paging groups composed of ephone and voice register directory numbers.

When extension 2000 is dialed, a page is sent to ephones 1 and 2 and voice register pools 1 and 2 (new first single paging group). When extension 2001 is dialed, a page is sent to ephones 3 and 4 and voice register pools 3 and 4 (new second single paging group). Finally, when extension 2002 is dialed, a page is sent to ephones 1, 2, 3, 4, and 5 and voice register pools 1, 2, 3, 4, and 5 (new combined paging group).

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

```
voice register dn 1
 number 1201
```

```
voice register dn 2
 number 1202

voice register dn 3
 number 1203

voice register dn 4
 number 1204

voice register dn 5
 number 1205

voice register pool 1
 id mac 0019.305D.82B8
 type 7961
 number 1 dn 1
paging-dn 20

voice register pool  2
 id mac 0019.305D.2153
 type 7961
 number 1 dn 2
 paging-dn 20

voice register pool  3
 id mac 1C17.D336.58DB
 type 7961
 number 1 dn 3
 paging-dn 21

voice register pool  4
 id mac 0017.9437.8A60
 type 7961
 number 1 dn 4
 paging-dn 21

voice register pool  5
 id mac 0016.460D.E469
 type 7961
 number 1 dn 5
 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 the "Configuring Intercom Lines" section on page 1177.

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 the "Configuring Speed Dial" section on page 1375.

Additional References

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

Related Documents

Related Topic	Document Title
Cisco Unified CME configuration	• *Cisco Unified CME Command Reference* • Cisco Unified CME Documentation Roadmap
Cisco IOS commands	• *Cisco IOS Voice Command Reference* • Cisco IOS Software Releases 12.4T Command References
Cisco IOS configuration	• *Cisco IOS Voice Configuration Library* • Cisco IOS Software Releases 12.4T Configuration Guides
Phone documentation for Cisco Unified CME	• User Documentation for Cisco Unified IP Phones

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. 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. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/techsupport

Feature Information for Paging

Table 74 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 74 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 74 Feature Information for Paging

Feature Name	Cisco Unified CME Version	Feature Information
Paging	2.0	Paging was introduced.
Paging Group Support for Cisco Unified SIP IP Phones	9.0	Allows you to specify a paging-dn tag and dial the paging extension number to page the Cisco Unified SIP IP phone associated with the paging-dn tag or paging group using the **paging-dn** command in voice register pool or voice register template configuration mode.