Configuring Presence Service

Last Updated: November 05, 2010

This module describes presence support in a Cisco Unified Communications Manager Express (Cisco Unified CME) system.

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 Presence Service" section on page 1303.

Contents

Prerequisites for Presence Service

- Cisco Unified CME 4.1 or a later version.

Restrictions for Presence Service

- Presence features such as Busy Lamp Field (BLF) notification are supported for SIP trunks only; these features are not supported on H.323 trunks.
- Presence requires that SIP phones are configured with a directory number (using **dn** keyword in **number** command); direct line numbers are not supported.

Information About Presence Service

To configure presence service in a Cisco Unified CME system, you should understand the following concept:

Presence Service

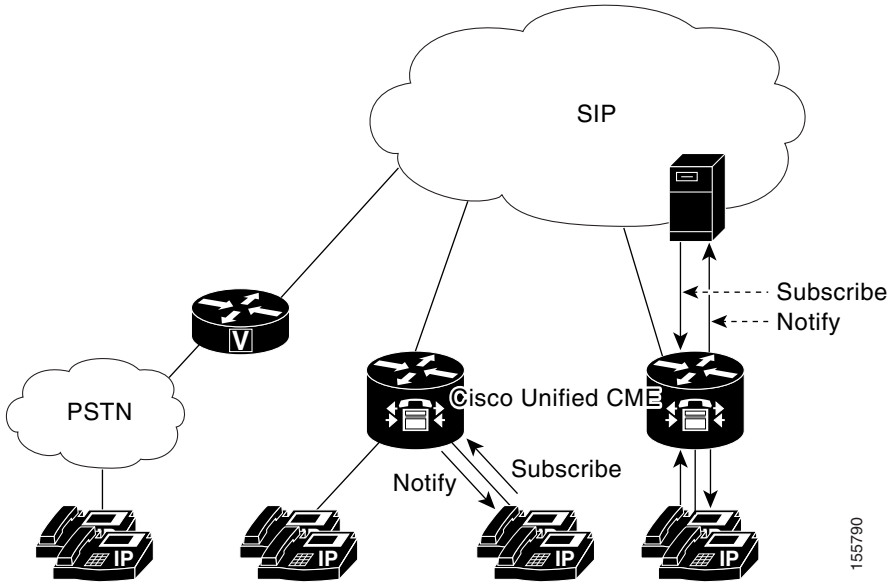
A presence service, as defined in RFC 2778 and RFC 2779, is a system for finding, retrieving, and distributing presence information from a source, called a presence entity (presentity), to an interested party called a watcher. When you configure presence in a Cisco Unified CME system with a SIP WAN connection, a phone user, or watcher, can monitor the real-time status of another user at a directory number, the presentity. Presence enables the calling party to know before dialing whether the called party is available. For example, a directory application may show that a user is busy, saving the caller the time and inconvenience of not being able to reach someone.

Presence uses SIP SUBSCRIBE and NOTIFY methods to allow users and applications to subscribe to changes in the line status of phones in a Cisco Unified CME system. Phones act as watchers and a presentity is identified by a directory number on a phone. Watchers initiate presence requests (SUBSCRIBE messages) to obtain the line status of a presentity. Cisco Unified CME responds with the presentity's status. Each time a status changes for a presentity, all watchers of this presentity are sent a notification message. SIP phones and trunks use SIP messages; SCCP phones use presence primitives in SCCP messages.

Presence supports Busy Lamp Field (BLF) notification features for speed-dial buttons and directory call lists for missed calls, placed calls, and received calls. SIP and SCCP phones that support the BLF speed-dial and BLF call-list features can subscribe to status change notification for internal and external directory numbers.

Figure 49 shows a Cisco Unified CME system supporting BLF notification for internal and external directory numbers. If the watcher and the presentity are not both internal to the Cisco Unified CME router, the subscribe message is handled by a presence proxy server.

Figure 49 BLF Notification Using Presence



The following line states display through BLF indicators on the phone:

- Line is idle—Displays when this line is not being used.
- Line is in-use—Displays when the line is in the ringing state and when a user is on the line, whether or not this line can accept a new call.
- BLF indicator unknown—Phone is unregistered or this line is not allowed to be watched.

Cisco Unified CME acts as a presence agent for internal lines (both SIP and SCCP) and as a presence server for external watchers connected through a SIP trunk, providing the following functionality:

- Processes SUBSCRIBE requests from internal lines to internal lines. Notifies internal subscribers of any status change.
- Processes incoming SUBSCRIBE requests from a SIP trunk for internal SCCP and SIP lines. Notifies external subscribers of any status change.
- Sends SUBSCRIBE requests to external presentities on behalf of internal lines. Relays status responses to internal lines.

Presence subscription requests from SIP trunks can be authenticated and authorized. Local subscription requests cannot be authenticated.

For configuration information, see the "How to Configure Presence Service" section on page 1282.

BLF Monitoring of Ephone-DNs with DnD, Call Park, Paging, and Conferencing

In versions earlier than Cisco Unified CME 7.1, BLF monitoring does not provide notification of status changes when a monitored directory number becomes DND-enabled, and the Busy Lamp Field (BLF) indicators for directory numbers configured as call-park slots, paging numbers, or ad hoc or meet-me conference numbers display only the unknown line-status.

Cisco Unified CME 7.1 and later versions support idle, in-use, and unknown BLF status indicators for monitored ephone-dns configured as call-park slots, paging numbers, and ad hoc or meet-me conference numbers. This allows an administrator (watcher) to monitor a call-park slot to see if calls are parked and not yet retrieved, which paging number is available for paging, or which conference number is available for a conference.

An ephone-dn configured as a park-slot is not registered with any phone. In Cisco Unified CME 7.1 and later versions, if a monitored park-slot is idle, the BLF status shows idle on the watcher. If there is a call parked on the monitored park-slot, the BLF status indicates in-use. If the monitored park-slot is not enabled for BLF monitoring with the **allow watch** command, the BLF indicator for unknown status displays on the watcher.

An ephone-dn configured for paging or conferencing is also not registered with any phone. The indicators for the idle, in-use, and unknown BLF status are displayed for the monitored paging number and ad hoc or meet-me conference numbers, as with the call-park slots.

Cisco Unified CME 7.1 and later versions support the Do Not Disturb (DnD) BLF status indicator for ephone-dns in the DnD state. When a user presses the DnD soft key on an SCCP phone, all directory numbers assigned to the phone become DnD-enabled and a silent-ring is played for all calls to any directory number on the phone. If a monitored ephone-dn becomes DnD-enabled, the corresponding BLF speed-dial lamp (if available) on the watcher displays solid red with the DnD icon for both the idle and in-use BLF status.

The BLF status notification occurs if the monitored ephone-dn is:

- The primary directory number on only one SCCP phone
- A directory number that is not shared
- A shared directory number and all associated phones are DnD-enabled

No new configuration is required to support these enhancements. For information on configuring BLF monitoring of directory numbers, see the "SCCP: Enabling BLF Monitoring for Speed-Dials and Call Lists" section on page 1286.

Table 75 compares the different BLF monitoring features that can be configured in Cisco Unified CME.

Table 75 Feature Comparison of Directory Number BLF Monitoring

Monitor Mode (Button "m")	Watch Mode (Button "w")	BLF Monitoring
Basic Operation		
SCCP phones only. Watches a single ephone-dn instance. If there are multiple ephone-dns with the same extension (such as in an overlay), this mode watches only a single ephone-dn (specified with the **button** command using **m** keyword). Does not indicate DND state of the phone.	SCCP phones only. Watches all activity on the phone for which the designated ephone-dn is the primary extension. (The ephone-dn is "primary" for a phone if the extension appears on button 1 or on the button indicated by the **auto-line** command.) Ephone-dn can be shared but cannot be the primary extension on any other phone. Indicates DND state of the phone.	SCCP and SIP phones. Watches all ephone-dn instances with the same (primary) extension number. The BLF lamp is on if any instance of the monitored extension is in use. Indicates DND state of the phone.
Shared Lines		
Can not distinguish which phone is using the ephone-dn if the DN is shared across multiple phones.	Designed for cases where ephone-dns are shared across multiple phones. Each phone must have a unique primary ephone-dn. Used to indicate that a specific phone is in use as opposed (button m) to indicating that a specific ephone-dn is in use.	Cannot distinguish which phone is using the ephone-dn if the DN is shared across multiple phones.
Local vs. Remote		
Monitors only DNs on the local Cisco Unified CME system.	Can only monitor DNs that are on the local Cisco Unified CME system	Can monitor extension numbers on a remote Cisco Unified CME using SIP Subscribe and Notify. Cannot monitor local and remote at the same time.

Device-Based BLF Monitoring

Device-based BLF monitoring provides a phone user or administrator (watcher) information about the status of a monitored phone (presentity). Cisco Unified CME 4.1 and later versions support BLF monitoring of directory numbers associated with speed-dial buttons, call logs, and directory listings. Cisco Unified CME 7.1 and later versions support device-based BLF monitoring, allowing a watcher to monitor the status of a phone, not only a line on the phone.

To identify the phone being monitored for BLF status, Cisco Unified CME selects the phone with the monitored directory number assigned to the first button, or the directory number whose button is selected by the **auto-line** command (SCCP only). If more than one phone uses the same number as its primary directory number, the phone with the lowest phone tag is monitored for BLF status.

For Extension Mobility phones, the first number configured in the user profile indicates the primary directory number of the Extension Mobility phone. If the Extension Mobility phone is being monitored, the BLF status of the corresponding phone is sent to the watcher when an extension-mobility user logs in or out, is idle, or busy.

If a shared directory number is busy on a monitored SCCP phone, and the monitored device is on-hook, the monitored phone is considered idle.

When a monitored phone receives a page, if the paging directory number is also monitored, the BLF status of the paging directory number shows busy on the watcher.

If device-based monitoring is enabled on a directory number configured as a call-park slot, and there is a call parked on this park-slot, the device-based BLF status indicates busy.

All directory numbers associated with a phone are in the DnD state when the DnD soft key is pressed. If a monitored phone becomes DnD-enabled, watchers are notified of the DnD status change.

For configuration information, see the "SCCP: Enabling BLF Monitoring for Speed-Dials and Call Lists" section on page 1286 or "SIP: Enabling BLF Monitoring for Speed-Dials and Call Lists" section on page 1289.

Phone User Interface for BLF-Speed-Dial

Cisco Unified CME 8.5 and later versions allows the extension mobility (EM) users to configure dn-based Busy Lamp Field (BLF)-speed-dial settings directly on the phone through the services feature button. BLF-speed-dial settings are added or modified (changed or deleted) on the phone using a menu available with the Services button. Any changes to the BLF-speed-dial settings made through the phone user interface are applied to the user's profile in extension mobility. You can configure the BLF-speed-dial menu for SCCP phones using the **blf-speed-dial** command in ephone or ephone-template mode. For more information, see "Enabling BLF-Speed-Dial Menu" section on page 1291.

For information on how phone users configure BLF-speed-dial using the phone user-interface, see the Cisco Unified IP Phone documentation for Cisco Unified CME .

For phones that do not have EM feature, the BLF-speed-dial service is available in service url page. You can disable the BLF-speed- dial feature using the **no phone-ui blf-speed-dial** command on phones that do not have Extension Mobility.

How to Configure Presence Service

This section contains the following tasks:

Enabling Presence for Internal Lines

Perform the following steps to enable the router to accept incoming presence requests from internal watchers and SIP trunks.

Restrictions

- A presentity can be identified by a directory number only.
- BLF monitoring indicates the line status only.
- Instant Messaging is not supported.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **sip-ua**
4. **presence enable**
5. **exit**
6. **presence**
7. **max-subscription** *number*
8. **presence call-list**
9. **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	**sip-ua** **Example:** `Router(config)# sip-ua`	Enters SIP user-agent configuration mode to configure the user agent.

	Command or Action	Purpose
Step 4	**presence enable** **Example:** `Router(config-sip-ua)# presence enable`	Allows the router to accept incoming presence requests.
Step 5	**exit** **Example:** `Router(config-sip-ua)# exit`	Exits SIP user-agent configuration mode.
Step 6	**presence** **Example:** `Router(config)# presence`	Enables presence service and enters presence configuration mode.
Step 7	**presence call-list** **Example:** `Router(config-presence)# presence call-list`	Globally enables BLF monitoring for directory numbers in call lists and directories on all locally registered phones. • Only directory numbers that you enable for watching with the **allow watch** command display BLF status indicators. • This command enables the BLF call-list feature globally. To enable the feature for a specific phone, see the "SCCP: Enabling BLF Monitoring for Speed-Dials and Call Lists" section on page 1286.
Step 8	**max-subscription** *number* **Example:** `Router(config-presence)# max-subscription 128`	(Optional) Sets the maximum number of concurrent watch sessions that are allowed. • *number*—Maximum watch sessions. Range: 100 to the maximum number of directory numbers supported on the router platform. Type **?** to display range. Default: 100.
Step 9	**end** **Example:** `Router(config-presence)# end`	Exits to privileged EXEC mode.

Enabling a Directory Number to be Watched

To enable a line associated with a directory number to be monitored by a phone registered to a Cisco Unified CME router, perform the following steps. The line is enabled as a presentity and phones can subscribe to its line status through the BLF call-list and BLF speed-dial features. There is no restriction on the type of phone that can have its lines monitored; any line on any IP phone or on an analog phone on supported voice gateways can be a presentity.

Restrictions

- A presentity is identified by a directory number only.
- BLF monitoring indicates the line status only.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone-dn** *dn-tag*
   or
   voice register dn *dn-tag*
4. **number** *number*
5. **allow watch**
6. **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* [**dual-line**]
	or
	voice register dn *dn-tag*
	
	Example:
	`Router(config)# ephone-dn 1`
	or
	`Router(config)# voice register dn 1`
		Enters the configuration mode to define a directory number for an IP phone, intercom line, voice port, or a message-waiting indicator (MWI).
		• *dn-tag*—Identifies a particular directory number during configuration tasks. Range is 1 to the maximum number of directory numbers allowed on the router platform, or the maximum defined by the **max-dn** command. Type **?** to display range.

Step 4	**number** *number*
	
	Example:
	`Router(config-ephone-dn)# number 3001`
	or
	`Router(config-register-dn)# number 3001`
		Associates a phone number with a directory number to be assigned to an IP phone in Cisco Unified CME.
		• *number*—String of up to 16 characters that represents an E.164 telephone number.

	Command or Action	Purpose

Step 5	**allow watch**
	
	Example:
	`Router(config-ephone-dn)# allow watch`
	or
	`Router(config-register-dn)# allow watch`
		Allows the phone line associated with this directory number to be monitored by a watcher in a presence service.
		• This command can also be configured in ephone-dn template configuration mode and applied to one or more phones. The ephone-dn configuration has priority over the ephone-dn template configuration.

Step 6	**end**
	
	Example:
	`Router(config-ephone-dn)# end`
	or
	`Router(config-register-dn)# end`
		Exits to privileged EXEC mode.

SCCP: Enabling BLF Monitoring for Speed-Dials and Call Lists

A watcher can monitor the status of lines associated with internal and external directory numbers (presentities) through the BLF speed-dial and BLF call-list presence features. To enable the BLF notification features on an IP phone using SCCP, perform the following steps.

Prerequisites

- Presence must be enabled on the Cisco Unified CME router. See the "Enabling Presence for Internal Lines" section on page 1283.
- A directory number must be enabled as a presentity with the **allow watch** command to provide BLF status notification. See the "Enabling a Directory Number to be Watched" section on page 1284.
- Device-based monitoring requires Cisco Unified CME 7.1 or a later version. All directory numbers associated with the monitored phone must be configured with the **allow watch** command. Otherwise, if any of the directory numbers is missing this configuration, an incorrect status could be reported to the watcher.

Restrictions

- Device-based BLF monitoring for call lists is not supported.
- Device-based BLF-speed-dial monitoring is not supported for a remote watcher or presentity.

BLF Call-List

- Not supported on Cisco Unified IP Phone 7905, 7906, 7911, 7912, 7931, 7940, 7960, or 7985, Cisco Unified IP Phone Expansion Modules, or Cisco Unified IP Conference Stations.

BLF Speed-Dial

- Not supported on Cisco Unified IP Phone 7905, 7906, 7911, 7912, or 7985, or Cisco Unified IP Conference Stations.

Cisco Unified IP Phone 7931

- BLF status is displayed through monitor lamp only; BLF status icons are not displayed.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone** *phone-tag*
4. **button** *button-number*{*separator*}*dn-tag* [**,***dn-tag*...] [*button-number*{**x**}*overlay-button-number*] [*button-number*...]
5. **blf-speed-dial** *tag number* **label** *string* [**device**]
6. **presence call-list**
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** *phone-tag* **Example:** `Router(config)# ephone 1`	Enters ephone configuration mode to set phone-specific parameters for a SIP phone. • *phone-tag*—Unique sequence number of the phone to be configured. Range is version and platform-dependent; type **?** to display range. You can modify the upper limit for this argument with the **max-ephones** command.
Step 4	**button** *button-number*{*separator*}*dn-tag* [**,***dn-tag*...] [*button-number*{**x**}*overlay-button-number*] [*button-number*...] **Example:** `Router(config-ephone)# button 1:10 2:11 3b12 4o13,14,15`	Associates a button number and line characteristics with a directory number on the phone. • *button-number*—Number of a line button on an IP phone. • *separator*—Single character that denotes the type of characteristics to be associated with the button. • *dn-tag*—Unique sequence number of the ephone-dn that you want to appear on this button. For overlay lines (separator is **o** or **c**), this argument can contain up to 25 ephone-dn tags, separated by commas. • **x**—Separator that creates an overlay rollover button. • *overlay-button-number*—Number of the overlay button that should overflow to this button.

	Command or Action	Purpose
Step 5	**blf-speed-dial** *tag number* **label** *string* [**device**] **Example:** `Router(config-ephone)# blf-speed-dial 3 3001 label sales device`	Enables BLF monitoring of a directory number associated with a speed-dial number on the phone. • *tag*—Number that identifies the speed-dial index. Range: 1 to 33. • *number*—Telephone number to speed dial. • *string*—Alphanumeric label that identifies the speed-dial button. String can contain a maximum of 30 characters. • **device**—(Optional) Enables phone-based monitoring. This keyword is supported in Cisco Unified CME 7.1 and later versions.
Step 6	**presence call-list** **Example:** `Router(config-ephone)# presence call-list`	Enables BLF monitoring of directory numbers that appear in call lists and directories on this phone. • For a directory number to be monitored, it must have the **allow watch** command enabled. • To enable BLF monitoring for call lists on all phones in this Cisco Unified CME system, use this command in presence mode. See the "Enabling Presence for Internal Lines" section on page 1283.
Step 7	**end** **Example:** `Router(config-ephone)# end`	Exits to privileged EXEC mode.

Examples

The following example shows that the directory numbers for extensions 2001 and 2003 are allowed to be watched and the BLF status of these numbers display on phone 1.

```
ephone-dn  201
 number 2001
 allow watch
!
!
ephone-dn  203
 number 2003
 allow watch
!
!
ephone  1
 mac-address 0012.7F54.EDC6
 blf-speed-dial 2 201 label "sales" device
 blf-speed-dial 3 203 label "service" device
 button  1:100 2:101 3b102
```

What to Do Next

If you are done modifying parameters for SCCP phones in Cisco Unified CME, generate a new configuration profile by using the **create cnf-files** command and then restart the phones with the **restart** command. See "SCCP: Generating Configuration Files for SCCP Phones" section on page 361 and "SCCP: Using the restart Command" on page 372.

SIP: Enabling BLF Monitoring for Speed-Dials and Call Lists

A watcher can monitor the status of lines associated with internal and external directory numbers (presentities) through the BLF speed-dial and BLF call-list presence features. To enable the BLF notification features on a SIP phone, perform the following steps.

Prerequisites

- Presence must be enabled on the Cisco Unified CME router. See the "Enabling Presence for Internal Lines" section on page 1283.
- A directory number must be enabled as a presentity with the **allow watch** command to provide BLF status notification. See the "Enabling a Directory Number to be Watched" section on page 1284.
- SIP phones must be configured with a directory number under voice register pool configuration mode (use **dn** keyword in **number** command); direct line numbers are not supported.
- Device-based monitoring requires Cisco Unified CME 7.1 or a later version. All directory numbers associated with the monitored phone must be configured with the **allow watch** command. Otherwise, if any of the directory numbers is missing this configuration, an incorrect status could be reported to the watcher.

Restrictions

- Device-based BLF-speed-dial monitoring is not supported for a remote watcher or presentity.

BLF Call-List

- Not supported on Cisco Unified IP Phone 7905, 7906, 7911, 7912, 7931, 7940, 7960, or 7985, Cisco Unified IP Phone Expansion Modules, or Cisco Unified IP Conference Stations.

BLF Speed-Dial

- Not supported on Cisco Unified IP Phone 7905, 7906, 7911, 7912, or 7985, or Cisco Unified IP Conference Stations.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice register pool** *pool-tag*
4. **number** *tag* **dn** *dn-tag*
5. **blf-speed-dial** *tag number* **label** *string* [**device**]

6. **presence call-list**
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	**voice register pool** *pool-tag* **Example:** `Router(config)# voice register pool 1`	Enters voice register pool configuration mode to set phone-specific parameters for a SIP phone. • *pool-tag*—Unique sequence number of the SIP phone to be configured. Range is version and platform-dependent; type **?** to display range. You can modify the upper limit for this argument with the **max-pool** command.
Step 4	**number** *tag* **dn** *dn-tag* **Example:** `Router(config-register-pool)# number 1 dn 2`	Assigns a directory number to the SIP phone. • tag—Identifier when there are multiple **number** commands. Range: 1 to 10. • *dn-tag*—Directory number tag that was defined using the **voice register dn** command.
Step 5	**blf-speed-dial** *tag number* **label** *string* [**device**] **Example:** `Router(config-register-pool)# blf-speed-dial 3 3001 label sales device`	Enables BLF monitoring of a directory number associated with a speed-dial number on the phone. • *tag*—Number that identifies the speed-dial index. Range: 1 to 7. • *number*—Telephone number to speed dial. • *string*—Alphanumeric label that identifies the speed-dial button. The string can contain a maximum of 30 characters. • **device**—(Optional) Enables phone-based monitoring. This keyword is supported in Cisco Unified CME 7.1 and later versions.

	Command or Action	Purpose
Step 6	**presence call-list** **Example:** `Router(config-register-pool)# presence call-list`	Enables BLF monitoring of directory numbers that appear in call lists and directories on this phone. • For a directory number to be monitored, it must have the **allow watch** command enabled. • To enable BLF monitoring for call lists on all phones in this Cisco Unified CME system, use this command in presence mode. See the "Enabling Presence for Internal Lines" section on page 1283.
Step 7	**end** **Example:** `Router(config-register-pool)# end`	Exits to privileged EXEC mode.

What to Do Next

If you are done modifying parameters for SIP phones in Cisco Unified CME, generate a new configuration profile by using the **create profile** command and then restart the phones with the **restart** command. See "SIP: Generating Configuration Profiles for SIP Phones" section on page 363 and "SIP: Using the restart Command" on page 376.

Enabling BLF-Speed-Dial Menu

Prerequisites

- Cisco Unified CME 8.5 or later versions.

Restrictions

- EM user cannot modify the logout profile from phone user interface (UI).
- Extension Mobility (EM) users must log into EM profile to update BLF-speed-dial number.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone** *phone-tag*
4. **blf-speed-dial** [index *index number*] [phone-number *number*] [**label** *label text*]
5. **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** *phone-tag* **Example:** `Router(config)# ephone 10`	Enters ephone configuration mode. • *phone-tag*—Unique number of the phone for which you want to configure BLF-speed-dial numbers.
Step 4	**blf-speed-dial** [**index** *index number*] [**phone-number** *number*] [**label** *label text*] **Example:** `Router(config-ephone)#blf-speed-dial 1 2001 label "customer support"`	Creates an entry for a BLF-speed-dial number on this phone. • BLF-speed-dial index—Unique identifier to identify this entry during configuration. Range is 1 to 75. • phone number—Telephone number or extension to be dialed.
Step 5	**end** **Example:** `Router(config-ephone)# end`	Returns to privileged EXEC mode.

Configuring Presence to Watch External Lines

To enable internal watchers to monitor external directory numbers on a remote Cisco Unified CME router, perform the following steps.

Prerequisites

Presence service must be enabled for internal lines. See the "Enabling Presence for Internal Lines" section on page 1283.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **presence**
4. **server** *ip-address*
5. **allow subscribe**

6. **watcher all**
7. **sccp blf-speed-dial retry-interval** *seconds* **limit** *number*
8. **exit**
9. **voice register global**
10. **authenticate presence**
11. **authenticate credential** *tag location*
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	**presence** **Example:** `Router(config)# presence`	Enables presence service and enters presence configuration mode.
Step 4	**server** *ip-address* **Example:** `Router(config-presence)# server 10.10.10.1`	Specifies the IP address of a presence server for sending presence requests from internal watchers to external presentities.
Step 5	**allow subscribe** **Example:** `Router(config-presence)# allow subscribe`	Allows internal watchers to monitor external directory numbers.
Step 6	**watcher all** **Example:** `Router(config-presence)# watcher all`	Allows external watchers to monitor internal directory numbers.
Step 7	**sccp blf-speed-dial retry-interval** *seconds* **limit** *number* **Example:** `Router(config-presence)# sccp blf-speed-dial retry-interval 90 limit number 15`	(Optional) Sets the retry timeout for BLF monitoring of speed-dial numbers on phones running SCCP. • *seconds*—Retry timeout in seconds. Range: 60 to 3600. Default: 60. • *number*—Maximum number of retries. Range: 10 to 100. Default: 10.

	Command or Action	Purpose
Step 8	**exit** **Example:** `Router(config-presence)# exit`	Exits presence configuration mode.
Step 9	**voice register global** **Example:** `Router(config)# voice register global`	Enters voice register global configuration mode to set global parameters for all supported SIP phones in a Cisco Unified CME environment.
Step 10	**authenticate presence** **Example:** `Router(config-register-global)# authenticate presence`	(Optional) Enables authentication of incoming presence requests from a remote presence server.
Step 11	**authenticate credential** *tag location* **Example:** `Router(config-register-global)# authenticate credential 1 flash:cred1.csv`	(Optional) Specifies the credential file to use for authenticating presence subscription requests. • *tag*—Number that identifies the credential file to use for presence authentication. Range: 1 to 5. • *location*—Name and location of the credential file in URL format. Valid storage locations are TFTP, HTTP, and flash memory.
Step 12	**end** **Example:** `Router(config-register-global)# end`	Exits to privileged EXEC mode.

Verifying Presence Configuration

Step 1 **show running-config**

Use this command to verify your configuration.

```
Router# show running-config
!
voice register global
 mode cme
 source-address 10.1.1.2 port 5060
 load 7971 SIP70.8-0-1-11S
 load 7970 SIP70.8-0-1-11S
 load 7961GE SIP41.8-0-1-0DEV
 load 7961 SIP41.8-0-1-0DEV
 authenticate presence
 authenticate credential 1 tftp://172.18.207.15/labtest/cred1.csv
 create profile sync 0004550081249644
.
.
.
presence
 server 10.1.1.4
 sccp blf-speed-dial retry-interval 70 limit 20
 presence call-list
 max-subscription 128
 watcher all
 allow subscribe
!
sip-ua
 presence enable
```

Step 2 **show presence global**

Use this command to display presence configuration settings.

```
Router# show presence global

Presence Global Configuration Information:
==========================================
Presence feature enable            : TRUE
Presence allow external watchers   : FALSE
Presence max subscription allowed  : 100
Presence number of subscriptions   : 0
Presence allow external subscribe  : FALSE
Presence call list enable          : TRUE
Presence server IP address         : 0.0.0.0
Presence sccp blfsd retry interval : 60
Presence sccp blfsd retry limit    : 10
Presence router mode               : CME mode
```

Step 3 **show presence subscription** [**details** | **presentity** *telephone-number* | **subid** *subscription-id* **summary**]

Use this command to display information about active presence subscriptions.

```
Router# show presence subscription summary

Presence Active Subscription Records Summary: 15 subscription
Watcher                 Presentity              SubID  Expires SibID  Status
======================= ======================= ====== ======= ====== ======
6002@10.4.171.60        6005@10.4.171.34        1      3600    0      idle
6005@10.4.171.81        6002@10.4.171.34        6      3600    0      idle
6005@10.4.171.81        6003@10.4.171.34        8      3600    0      idle
6005@10.4.171.81        6002@10.4.171.34        9      3600    0      idle
6005@10.4.171.81        6003@10.4.171.34        10     3600    0      idle
6005@10.4.171.81        6001@10.4.171.34        12     3600    0      idle
6001@10.4.171.61        6003@10.4.171.34        15     3600    0      idle
6001@10.4.171.61        6002@10.4.171.34        17     3600    0      idle
6003@10.4.171.59        6003@10.4.171.34        19     3600    0      idle
6003@10.4.171.59        6002@10.4.171.34        21     3600    0      idle
6003@10.4.171.59        5001@10.4.171.34        23     3600    24     idle
6002@10.4.171.60        6003@10.4.171.34        121    3600    0      idle
6002@10.4.171.60        5002@10.4.171.34        128    3600    129    idle
6005@10.4.171.81        1001@10.4.171.34        130    3600    131    busy
6005@10.4.171.81        7005@10.4.171.34        132    3600    133    idle
```

Troubleshooting Presence

Step 1 **debug presence** {**all** | **asnl** | **errors** | **event** | **info** | **timer** | **trace** | **xml**}

This command displays debugging information about the presence service.

```
Router# debug presence errors

*Sep  4 07:16:02.715: //PRESENCE:[0]:/presence_sip_line_update: SIP nothing to update
*Sep  4 07:16:02.723: //PRESENCE:[17]:/presence_handle_notify_done: sip stack response
code [29]
*Sep  4 07:16:02.723: //PRESENCE:[24]:/presence_handle_notify_done: sip stack response
code [29]
*Sep  4 07:16:02.791: //PRESENCE:[240]:/presence_handle_notify_done: sip stack response
code [17]
```

```
*Sep  4 07:16:02.791: //PRESENCE:[766]:/presence_handle_notify_done: sip stack response
code [17]
*Sep  4 07:16:04.935: //PRESENCE:[0]:/presence_sip_line_update: SIP nothing to update
*Sep  4 07:16:04.943: //PRESENCE:[17]:/presence_handle_notify_done: sip stack response
code [29]
*Sep  4 07:16:04.943: //PRESENCE:[24]:/presence_handle_notify_done: sip stack response
code [29]
*Sep  4 07:16:04.995: //PRESENCE:[240]:/presence_handle_notify_done: sip stack response
code [17]
*Sep  4 07:16:04.999: //PRESENCE:[766]:/presence_handle_notify_done: sip stack response
code [17]
```

Step 2 **debug ephone blf** [**mac-address** *mac-address*]

This command displays debugging information for BLF presence features.

```
Router# debug ephone blf

*Sep  4 07:18:26.307: skinny_asnl_callback: subID 16 type 4
*Sep  4 07:18:26.307: ASNL_RESP_NOTIFY_INDICATION
*Sep  4 07:18:26.307: ephone-1[1]:ASNL notify indication message, feature index 4, subID
[16]
*Sep  4 07:18:26.307: ephone-1[1]:line status 6, subID [16]
*Sep  4 07:18:26.307: ephone-1[1]:StationFeatureStatV2Message sent, status 2
*Sep  4 07:18:26.307: skinny_asnl_callback: subID 23 type 4
*Sep  4 07:18:26.307: ASNL_RESP_NOTIFY_INDICATION
*Sep  4 07:18:26.307: ephone-2[2]:ASNL notify indication message, feature index 2, subID
[23]
*Sep  4 07:18:26.311: ephone-2[2]:line status 6, subID [23]
*Sep  4 07:18:26.311: ephone-2[2]:StationFeatureStatV2Message sent, status 2
*Sep  4 07:18:28.951: skinny_asnl_callback: subID 16 type 4
*Sep  4 07:18:28.951: ASNL_RESP_NOTIFY_INDICATION
*Sep  4 07:18:28.951: ephone-1[1]:ASNL notify indication message, feature index 4, subID
[16]
*Sep  4 07:18:28.951: ephone-1[1]:line status 1, subID [16]
*Sep  4 07:18:28.951: ephone-1[1]:StationFeatureStatV2Message sent, status 1
*Sep  4 07:18:28.951: skinny_asnl_callback: subID 23 type 4
*Sep  4 07:18:28.951: ASNL_RESP_NOTIFY_INDICATION
*Sep  4 07:18:28.951: ephone-2[2]:ASNL notify indication message, feature index 2, subID
[23]
*Sep  4 07:18:28.951: ephone-2[2]:line status 1, subID [23]
*Sep  4 07:18:28.951: ephone-2[2]:StationFeatureStatV2Message sent, status 1
```

Configuration Examples for Presence

This section contains the following example:

Presence in Cisco Unified CME: Example

```
Router# show running-config

Building configuration...

Current configuration : 5465 bytes
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname CME-3825
!
boot-start-marker
boot-end-marker
!
logging buffered 2000000 debugging
enable password lab
!
no aaa new-model
!
resource policy
!
no network-clock-participate slot 1
no network-clock-participate slot 2
ip cef
!
!
no ip domain lookup
!
voice-card 1
 no dspfarm
!
voice-card 2
 no dspfarm
!
!
voice service voip
 allow-connections sip to sip
 h323
 sip
  registrar server expires max 240 min 60
!
voice register global
 mode cme
 source-address 11.1.1.2 port 5060
 load 7971 SIP70.8-0-1-11S
 load 7970 SIP70.8-0-1-11S
 load 7961GE SIP41.8-0-1-0DEV
 load 7961 SIP41.8-0-1-0DEV
 authenticate presence
 authenticate credential 1 tftp://172.18.207.15/labtest/cred1.csv
 create profile sync 0004550081249644
```

```
!
voice register dn  1
 number 2101
 allow watch
!
voice register dn  2
 number 2102
 allow watch
!
voice register pool  1
 id mac 0015.6247.EF90
 type 7971
 number 1 dn 1
 blf-speed-dial 1 1001 label "1001"
!
voice register pool  2
 id mac 0012.0007.8D82
 type 7912
 number 1 dn 2
!
interface GigabitEthernet0/0
 description $ETH-LAN$$ETH-SW-LAUNCH$$INTF-INFO-GE 0/0$
 ip address 11.1.1.2 255.255.255.0
 duplex full
 speed 100
 media-type rj45
 no negotiation auto
!
interface GigabitEthernet0/1
 no ip address
 shutdown
 duplex auto
 speed auto
 media-type rj45
 negotiation auto
!
ip route 0.0.0.0 0.0.0.0 11.1.1.1
!
ip http server
!
!
!
tftp-server flash:Jar41sccp.8-0-0-103dev.sbn
tftp-server flash:cvm41sccp.8-0-0-102dev.sbn
tftp-server flash:SCCP41.8-0-1-0DEV.loads
tftp-server flash:P00303010102.bin
tftp-server flash:P00308000100.bin
tftp-server flash:P00308000100.loads
tftp-server flash:P00308000100.sb2
tftp-server flash:P00308000100.sbn
tftp-server flash:SIP41.8-0-1-0DEV.loads
tftp-server flash:apps41.1-1-0-82dev.sbn
tftp-server flash:cnu41.3-0-1-82dev.sbn
tftp-server flash:cvm41sip.8-0-0-103dev.sbn
tftp-server flash:dsp41.1-1-0-82dev.sbn
tftp-server flash:jar41sip.8-0-0-103dev.sbn
tftp-server flash:P003-08-1-00.bin
tftp-server flash:P003-08-1-00.sbn
tftp-server flash:P0S3-08-1-00.loads
tftp-server flash:P0S3-08-1-00.sb2
tftp-server flash:CP7912080000SIP060111A.sbin
tftp-server flash:CP7912080001SCCP051117A.sbin
tftp-server flash:SCCP70.8-0-1-11S.loads
tftp-server flash:cvm70sccp.8-0-1-13.sbn
```

```
tftp-server flash:jar70sccp.8-0-1-13.sbn
tftp-server flash:SIP70.8-0-1-11S.loads
tftp-server flash:apps70.1-1-1-11.sbn
tftp-server flash:cnu70.3-1-1-11.sbn
tftp-server flash:cvm70sip.8-0-1-13.sbn
tftp-server flash:dsp70.1-1-1-11.sbn
tftp-server flash:jar70sip.8-0-1-13.sbn
!
control-plane
!
dial-peer voice 2001 voip
 preference 2
 destination-pattern 1...
 session protocol sipv2
 session target ipv4:11.1.1.4
 dtmf-relay sip-notify
!
presence
 server 11.1.1.4
 sccp blf-speed-dial retry-interval 70 limit 20
 presence call-list
 max-subscription 128
 watcher all
 allow subscribe
!
sip-ua
 authentication username jack password 021201481F
 presence enable
!
!
telephony-service
 load 7960-7940 P00308000100
 load 7941GE SCCP41.8-0-1-0DEV
 load 7941 SCCP41.8-0-1-0DEV
 load 7961GE SCCP41.8-0-1-0DEV
 load 7961 SCCP41.8-0-1-0DEV
 load 7971 SCCP70.8-0-1-11S
 load 7970 SCCP70.8-0-1-11S
 load 7912 CP7912080000SIP060111A.sbin
 max-ephones 100
 max-dn 300
 ip source-address 11.1.1.2 port 2000
 url directories http://11.1.1.2/localdirectory
 max-conferences 6 gain -6
 call-forward pattern .T
 transfer-system full-consult
 transfer-pattern .T
 create cnf-files version-stamp Jan 01 2002 00:00:00
!
!
ephone-dn  1  dual-line
 number 2001
 allow watch
!
!
ephone-dn  2  dual-line
 number 2009
 allow watch
 application default
!
!
ephone-dn  3
 number 2005
 allow watch
```

```
!
!
ephone-dn  4  dual-line
 number 2002
!
!
ephone  1
 mac-address 0012.7F57.62A5
 fastdial 1 1002
 blf-speed-dial 1 2101 label "2101"
 blf-speed-dial 2 1003 label "1003"
 blf-speed-dial 3 2002 label "2002"
 type 7960
 button  1:1 2:2
!
!
!
ephone  3
 mac-address 0015.6247.EF91
 blf-speed-dial 2 1003 label "1003"
 type 7971
 button  1:3 2:4
!
!
!
line con 0
 exec-timeout 0 0
 password lab
 stopbits 1
line aux 0
 stopbits 1
line vty 0 4
 password lab
 login
!
scheduler allocate 20000 1000
!
end
```

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 Presence Service

Table 76 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 76 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 76 Feature Information for Presence Service

Feature Name	Cisco Unified CME Version	Modification
Phone User Interface for BLF-Speed-Dial	8.5	Added support for BLF Speed Dial throught Phone User Interface.
BLF Monitoring	7.1	• Added support for device-based BLF monitoring. • Added support for BLF Monitoring of ephone-DNs with DnD, Call Park, Paging, and Conferencing
Presence Service	4.1	Presence with BLF was introduced.