Configuring Extension Mobility

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This module describes features in Cisco Unified Communications Manager Express (Cisco Unified CME) that provide support for phone mobility for end users.

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 Extension Mobility" section on page 1137.

Contents

- Prerequisites for Configuring Extension Mobility, page 1111
- Information About Configuring Extension Mobility, page 1112
- How to Enable Extension Mobility, page 1117
- Configuration Examples for Extension Mobility, page 1132
- Where to Go Next, page 1134
- Additional References, page 1135
- Feature Information for Extension Mobility, page 1137

Prerequisites for Configuring Extension Mobility

- Cisco Unified CME 4.2 or a later version.
- To use the web-based Cisco Unified CME GUI to configure personal speed dials on an Extension Mobility phone, Cisco Unified CME 4.2(1) or a later version must be installed.
- To use the phone user interface to configure personal speed dials directly on an Extension Mobility phone, Cisco Unified CME 4.3 or a later version must be installed.
- SIP phone support is available with Cisco Unified CME 8.6 or a later version.

Restrictions

- Extension Mobility on remote Cisco Unified CME routers is not supported; a phone user can log into any local Cisco Unified IP phone only.

Information About Configuring Extension Mobility

To configure interoperability, you should understand the following concepts:

- Extension Mobility, page 1112
- Personal Speed Dials on an Extension Mobility Phone, page 1113
- Cisco Unified CME Extension Mobility Enhancements, page 1113
- Privacy on an Extension Mobility Phone, page 1114
- Extension Mobility for SIP Phones Enhancement, page 1115
- MIB Support for Extension Mobility in Cisco Unified SCCP IP Phones, page 1115

Extension Mobility

Extension Mobility in Cisco Unified CME 4.2 and later versions provides the benefit of phone mobility for end users.

A user login service allows phone users to temporarily access a physical phone other than their own phone and utilize their personal settings, such as directory number, speed-dial lists, and services, as if the phone is their own desk phone. The phone user can make and receive calls on that phone using the same personal directory number as is on their own desk phone.

Each Cisco Unified IP phone that is enabled for Extension Mobility is configured with a logout profile. This profile determines the default appearance of a phone that is enabled for Extension Mobility when there is no phone user logged into that phone. Minimally, the logout profile allows calls to emergency services such as 911. A single logout profile can be applied to multiple phones.

After a Cisco Unified IP phone that is enabled for Extension Mobility boots up, the Services feature button on the phone is configured with a login service URL hosted by Cisco Unified CME that points to the Extension Mobility Login page. No feature-button-specifc configuration is required to add Extension Assigner to the Services feature button. The option for Extension Mobility appears last in the list of options displayed when the phone user presses the Services feature button

A phone user logs in to a Cisco Unified IP phone that is enabled for Extension Mobility by pressing the Services button or a Unified CCX agent can log in using a Unified CCX Cisco Agent Desktop. User authentication and authorization is performed by Cisco Unified CME. If the login is successful, Cisco Unified CME retrieves the appropriate user profile, based on user name and password match, and replaces the phone's logout profile with the user profile.

After the phone user is logged in, the service URL points to a logout URL hosted by Cisco Unified CME to provide a logout prompt on the phone. Logging into a different device automatically closes the first session and start a new session on the new device. When a phone user is not logged in to any phone, incoming calls to the phone user's directory number are sent to the phone user's voice mailbox.

For button appearance, Extension Mobility associates directory numbers then speed-dial numbers in the logout profile or user profile to phone buttons. The sequence in which directory numbers are associated is based on line type and ring behavior as follows: first normal, then silent ring, beep ring, feature ring, monitor ring, and overlay, followed by speed dials. If the profile contains more numbers than there are buttons on the physical phone to which the profile is downloaded, the remaining numbers in the profile are ignored.

For configuration information, see the "How to Enable Extension Mobility" section on page 1117.

Personal Speed Dials on an Extension Mobility Phone

In Cisco Unified CME 4.2(1) and later versions, phone users can use the web-based GUI to set up personal speed dials on an Extension Mobility phone. Previously, the speed-dial configuration for a phone could only be done in Cisco Unified CME using Cisco IOS commands.

The same credential for logging on to an Extension Mobility phone is used to log into the Cisco Unified CME GUI. Any modifications made by using the phone user options in the GUI are applied to the phone user's user profile in Extension Mobility. Speed dial options in Cisco Unified CME GUI cannot be accessed from the System Administrator or Customer Administrator login screens.

For information about using the Cisco Unified CME GUI, see *Cisco Unified CME GUI User Guide*.

The user name parameter of any authentication credential must be unique and cannot be the same as the user name for any other credential. Do not use the same value for a user name when you configure any two or more authentication credentials in Cisco Unified CME, such as the username for any Cisco United CME GUI account and the user name in a logout or user profile for Extension Mobility. For configuration information, see the "Enabling the GUI" section on page 519.

In Cisco Unified CME 4.3 and later versions, Extension Mobility users can configure their own speed-dial settings directly on the phone. Speed-dial settings are added or modified on the phone by using a menu available with the Services feature button. Any changes to the speed-dial settings made through the phone user interface are applied to the user's profile in Extension Mobility. For information about using the phone user interface on a Cisco Unified IP phone, see the Cisco Unified IP Phone 7900 Series End-User Guides.

The phone user-interface is enabled by default on all phones with displays. You can disable the capability for an individual phone to prevent a phone user from accessing the interface. For configuration information, see the "SCCP: Enabling User Interface for Speed-Dial and Fast-Dial" section on page 1388.

Cisco Unified CME Extension Mobility Enhancements

Enhancements to Extension Mobility in Cisco Unified CME 4.3 include the following:

- Configurable Automatic Logout
- Automatic Clear Call History

Automatic Logout

Cisco Unified CME 4.3 and later versions includes an Automatic Timeout feature for Extension Mobility. After an automatic logout is executed, Cisco Unified CME sends the logout profile to the phone and restarts the phone. After an automatic logout, Extension Mobility users can log in again.

You can configure up to three different times on a 24-hour clock for automatically logging out Extension Mobility users based on time-of-day. The system clock triggers an alarm at the specified time and the EM Manager in Cisco Unified CME logs outs every logged in Extension Mobility user in the system. If an Extension Mobility user is using the phone when automatic logout occurs, the user is logged out after the active call is completed.

For configuration information, see the "Configuring Cisco Unified CME for Extension Mobility" section on page 1117.

Users log out from Extension Mobility by pressing the Services button and choosing Logout. If a user does not manually log out before leaving the phone, the phone is idle and the individual's user profile remains loaded on that phone. To automatically log out individual users from idle Extension Mobility phones, configure an idle-duration timer for Extension Mobility. The timer monitors the phone and if the specified maximum idle time is exceeded, the EM Manager logs out the user. The idle-duration timer is reset whenever the phone goes offhook.

For configuration information, see the "Configuring a User Profile" section on page 1129.

Automatic Clear Call History

In Cisco Unified CME 4.3 and later versions, the EM manager in Cisco Unified CME issues commands to phones to clear call history whenever a user logs out of Extension Mobility. An HTTP GET/POST is sent between the Extension Mobility phone and the authentication server in Cisco Unified CME. The authentication server authorizes the request and the call history is cleared based on the result.

You can configure Cisco Unified CME to disable Automatic Clear Call History. For configuration information, see the "Configuring Cisco Unified CME for Extension Mobility" section on page 1117.

Privacy on an Extension Mobility Phone

In Cisco Unified CME 4.3 and later versions, the Privacy feature enables phone users to block other users from seeing call information or barging into a call on a shared octo-line directory number. When a phone receives an incoming call on a shared octo-line, the user can make the call private by pressing the Privacy feature button, which toggles between on and off to allow the user to alter the privacy setting on their phone. The privacy state is applied to all new calls and current calls owned by the phone user.

For Extension Mobility phones, you can enable the privacy button in the user profile and logout profile. To enable the privacy button, see the "Configuring a Logout Profile for an IP Phone" section on page 1120 and the "Configuring a User Profile" section on page 1129.

For more information about Privacy, see the "Configuring Barge and Privacy" section on page 667.

Extension Mobility for SIP Phones Enhancement

Cisco Unified CME 8.6 enhances the Extension Mobility feature to allow support for SIP phones.

Extension Mobility allows you to access any EM enabled physical phone and utilize your own personal settings, such as directory numbers, speed-dials, after-hour personal identification number (PIN), and feature button layout, as if the phone is your own desk phone.

A user login service allows you to temporarily access a physical phone other than your own phone and utilize your personal settings, such as directory number, speed-dial lists, and services, as if the phone is your own desk phone.

The features of Extension Mobility for SIP phones is identical to SCCP phones, only the configuration procedure is different. For information on configuring Extension Mobility for SIP phones, see the "Configuring Extension Mobility for SIP Phones" section on page 1125

Note You can login to either an SCCP phone or a SIP phone with the same user profile.

Note Only the normal lines configured in your user profile are applied when you login to a SIP phone. Other lines such as overlay, monitor, and feature-ring lines are ignored.

Note Only Cfwdall, Confrn, DnD, Endcall, Hold, NewcallGroup Pickup, Park, Privacy, Redial, and Trnsfer feature buttons configured in your user profile will be applied when you login to a SIP phone. Other feature buttons will be ignored.

MIB Support for Extension Mobility in Cisco Unified SCCP IP Phones

In Cisco Unified CME 9.0 and later versions, new MIB objects are added to monitor Cisco Unified SCCP IP Extension Mobility (EM) phones. These enhancements allow the retrieval of the following information:

- user-profile tag for a Cisco Unified SCCP IP EM phone, when it is logged in
- logout-profile tag for a Cisco Unified SCCP IP EM phone
- DN and its type, and the overlay or call waiting numbers if applicable, for each user-profile
- DN and its type, and the overlay or call waiting numbers if applicable, for each logout-profile
- number of Cisco Unified SCCP IP phones configured as EM phones
- number of registered Cisco Unified SCCP IP EM phones

Table 52 lists the MIB variables and object identifiers for retrieving the new MIB database.

Table 52 MIB Variables and Object Identifiers for EM in Cisco Unfied SCCP IP Phones

MIB Variables	Object Identifiers
ccmeEMUserProfileTag	1.3.6.1.4.1.9.9.439.1.1.43.1.19
ccmeEMLogOutProfileTag	1.3.6.1.4.1.9.9.439.1.1.43.1.20
ccmeEMUserDirNumConfTable	1.3.6.1.4.1.9.9.439.1.1.68
ccmeEMUserDirNumConfEntry	1.3.6.1.4.1.9.9.439.1.1.68.1
ccmeEMUserDirNum	1.3.6.1.4.1.9.9.439.1.1.68.1.3
ccmeEMUserDirNumOverlay	1.3.6.1.4.1.9.9.439.1.1.68.1.4
ccmeEMLogoutDirNumConfTable	1.3.6.1.4.1.9.9.439.1.1.69
ccmeEMLogoutDirNumConfEntry	1.3.6.1.4.1.9.9.439.1.1.69.1
ccmeEMLogoutDirNum	1.3.6.1.4.1.9.9.439.1.1.69.1.3
ccmeEMLogoutDirNumOverlay	1.3.6.1.4.1.9.9.439.1.1.69.1.4
ccmeEMphoneTot	1.3.6.1.4.1.9.9.439.1.2.9
ccmeEMphoneTotRegistered	1.3.6.1.4.1.9.9.439.1.2.10

Table 53 provides a description of each of the MIB variables for EM in Cisco Unified SCCP IP Phones.

Table 53 Descriptions of MIB Variables for EM in Cisco Unfied SCCP IP Phones

MIB Variables	Descriptions
ccmeEMUserProfileTag	User-profile tag for the EM phone
ccmeEMLogOutProfileTag	Logout-profile tag for the EM phone
ccmeEMUserDirNumConfTable	Table of entries for the EM phone's user profile
ccmeEMUserDirNumConfEntry	A user-profile entry for the EM phone
ccmeEMUserDirNum	A directory number for the user profile
ccmeEMUserDirNumOverlay	Number type for the user profile, including the overlay identifier
ccmeEMLogoutDirNumConfTable	Table of entries for the EM phone's logout profile
ccmeEMLogoutDirNumConfEntry	A logout entry for the EM phone
ccmeEMLogoutDirNum	A directory number for the logout profile
ccmeEMLogoutDirNumOverlay	Number type for the logout profile, including the overlay identifer
ccmeEMphoneTot	Total number of EM phones
ccmeEMphoneTotRegistered	Total number of registered EM phones

Extension mobility is supported in Cisco Unified CME but not in Cisco Unified SRST.

How to Enable Extension Mobility

Perform the following tasks to enable Extension Mobility in Cisco Unified CME:

- Configuring Cisco Unified CME for Extension Mobility, page 1117 (required)
- Configuring a Logout Profile for an IP Phone, page 1120 (required)
- Enabling an IP Phone for Extension Mobility, page 1123 (required)
- Configuring Extension Mobility for SIP Phones, page 1125
- Enabling SIP Phones for Extension Mobility, page 1128 (required)
- Configuring a User Profile, page 1129 (required)

Configuring Cisco Unified CME for Extension Mobility

To configure Extension Mobility in Cisco Unified CME, perform the following steps.

Prerequisites

- For authentication server in Cisco Unified CME, Cisco Unified CME 4.3 or a later version.
- For Automatic Logout, Cisco Unified CME 4.3 or a later version.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip http server**
4. **telephony-service**
5. **url authentication** *url-address application-name password*
6. **service phone webAccess 0**
7. **authentication credential** *application-name password*
8. **em keep-history**
9. **em logout** *time1* [*time2*] [*time3*]
10. **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	**ip http server** **Example:** `Router(config)# ip http server`	Enables the HTTP server on the Cisco Unified CME router that hosts the service URL for the Extension Mobility Login and Logout pages.
Step 4	**telephony-service** **Example:** `Router(config)# telephony-service`	Enters telephony-service configuration mode.

Step 5	**url authentication** *url-address application-name password*
	
	Example:
	`Router(config-telephony)# url authentication http://192.0.2.0/CCMCIP/authenticate.asp secretname psswrd`
	or
	To support Extension Mobility *and* VoiceView Express 3.2 or earlier versions
	`Router(config-telephony)# url authentication http://192.0.2.0/voiceview/authentication/authenticate.do secretname psswrd`
		Instructs phones to send HTTP requests to the authentication server and specifies which credential to use in the requests.
		• This command is supported in Cisco Unified CME 4.3 and later versions. Required to support Automatic Clear Call history.
		• URL for internal authentication server in Cisco Unified CME is **http://***CME IP Address***/CCMCIP/authenticate.asp**.
		• To support Extension Mobility *and* Cisco VoiceView Express 3.2 or an earlier version only:
		– In Cisco Unified CME: Configure the **url authentication** command using the URL for Cisco Unity Express.
		The URL for Cisco Unity Express is **http://***CUE IP Address***/voiceview/authentication/authenticate.do**.
		– In Cisco Unity Express: Configure the **fallback-url** command using the URL for the authentication server in Cisco Unified CME.
		– See the "Examples" section on page 1120.

Step 6	**service phone webAccess 0** **Example:** `Router(config-telephony)# service phone webAccess 0`	Enables webAccess for IP phones. This is required for 9.x firmware because the web server is disabled by default. 8.x firmware and lower had the web server enabled by default.

	Command or Action	Purpose
Step 7	**authentication credential** *application-name password* **Example:** `Router(config-telephony)#authentication credential secretname psswrd`	(Optional) Creates an entry for an application's credential in the database used by the Cisco Unified CME authentication server. • This command is supported in Cisco Unified CME 4.3 and later versions. • Required to support requests requests from applications other than Extension Mobility, such as Cisco VoiceView Express.
Step 8	**em keep-history** **Example:** `Router(config-telephony)# em keep-history`	(Optional) Specifies that Extension Mobility will keep, and not automatically clear, call histories when users log out from Extension Mobility phones. • This command is supported in Cisco Unified CME 4.3 and later versions. • Default: Automatic Clear Call History is enabled.
Step 9	**em logout** *time1* [*time2*] [*time3*] **Example:** `Router(config-telephony)# em logout 19:00 24:00`	(Optional) Defines up to three time-of-day timers for automatically logging out all Extension Mobility users. • This command is supported in Cisco Unified CME 4.3 and later versions. • *time*—Time of day after which logged-in users are automatically logged out from Extension Mobility. Range: 00:00 to 24:00 on a 24-hour clock. • To configure a idle-duration timer for automatically logging out an individual user, see the "Configuring a User Profile" section on page 1129.
Step 10	**end** **Example:** `Router(config-telephony)# end`	Exits configuration mode and returns to privileged EXEC mode.

Examples

The following example shows how to configure Cisco Unified CME 4.3 or a later version and Cisco Unity Express 3.2 or an earlier version to support Extension Mobility and Cisco VoiceView Express.

Note When running Extension Mobility and Cisco VoiceView Express 3.2 or an earlier version, you must also configure the **fallback-url** command in Cisco Unity Express. For configuration information, see the appropriate *Cisco Unity Express Administrator Guide*.

Cisco Unified CME 4.3 or a later version

```
telephony-service
 url authentication http://192.0.2.0/voiceview/authentication/authenticate.do secretname
psswrd
 authentication credentials secretname psswrd
```

Cisco Unity Express 3.2 or an earlier version

```
service phone-authentication
 fallback-url http://192.0.2.0/CCMCIP/authenticate.asp?UserID=secretname&Password=psswrd
```

Configuring a Logout Profile for an IP Phone

To create a logout profile to define the default appearance for a Cisco Unified IP phone that is enabled for Extension Mobility, perform the following steps.

Prerequisites

- All directory numbers to be included in a logout profile or a user profile must be already configured in Cisco Unified CME. For configuration information, see the "Configuring Phones to Make Basic Calls" section on page 189.
- For Privacy on extension mobility phones, Cisco Unified 4.3 or a later version.

Restrictions

- For button appearance, Extension Mobility associates directory numbers, then speed-dial definitions in the logout profile or user profile to phone buttons. The sequence in which directory numbers are associated is based on line type and ring behavior as follows: first normal, then silent ring, beep ring, feature ring, monitor ring, and overlay, followed by speed dials. If the profile contains more directory numbers and speed-dial numbers than there are buttons on the physical phone to which the profile is downloaded, not all numbers are downloaded to buttons.
- The first number to be configured for line appearance cannot be a monitored directory number.
- The user name parameter of any authentication credential must be unique. Do not use the same value for a user name when you configure any two or more authentication credentials in Cisco Unified CME, such as the user name for any Cisco Unified CME GUI account and the user name in a logout or user profile for Extension Mobility.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice logout-profile** *profile-tag*
4. **user** *name* **password** *password*
5. **number** *number* **type** *type*
6. **speed-dial** *speed-tag number* [**label** *label*] [**blf**]
7. **pin** *number*
8. **privacy-button**
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	**voice logout-profile** *profile-tag* **Example:** `Router(config)# voice logout-profile 1`	Enters voice logout-profile configuration mode for creating a logout profile to define the default appearance for a Cisco Unified IP phone enabled for Extension Mobility. • *profile-tag*—Unique number that identifies this profile during configuration tasks. Range: 1 to maximum number of phones supported by the Cisco Unified CME router. Type **?** to display the maximum number.
Step 4	**user** *name* **password** *password* **Example:** `Router(config-logout-profile)# user 23C2-8 password 43214`	Creates credential to be used by a TAPI phone device to log into Cisco Unified CME. • *name*—Unique alphanumeric string to identify a user for this authentication credential only. • *password*—Alphanumeric string.

	Command or Action	Purpose

Step 5	**number** *number* **type** *type*
	
	Example:
	`Router(config-logout-profile)# number 3001 type silent-ring`
	`Router(config-logout-profile)# number 3002 type beep-ring`
	`Router(config-logout-profile)# number 3003 type feature-ring`
	`Router(config-logout-profile)# number 3004 type monitor-ring`
	`Router(config-logout-profile)# number 3005,3006 type overlay`
	`Router(config-logout-profile)# number 3007,3008 type cw-overly`
		Creates line definition.
		• *number*—Directory number to be associated with and displayed next to a button on a Cisco Unified IP phone that is configured with this profile.
		• [**,** *...number*]—(Optional) For overlay lines only, with or without call waiting. The directory number that is the far left in command list is the highest priority. Can contain up to 25 numbers. Individual numbers must be separated by commas (**,**).
		• **type** *type*—Denotes characteristics to be associated with this line. Type **?** for list of options.

Step 6	**speed-dial** *speed-tag number* [**label** *label*] [**blf**]
	
	Example:
	`Router(config-logout-profile)# speed-dial 1 2001`
	`Router(config-logout-profile)# speed-dial 2 2002 blf`
		Creates speed-dial definition.
		• *speed-tag*—Unique sequence number that identifies a speed-dial definition during configuration tasks. Range: 1 to 36.
		• *number*—Digits to be dialed when the speed-dial button is pressed.
		• **label** *label*—(Optional) String that contains identifying text to be displayed next to the speed-dial button. Enclose the string in quotation marks if the string contains a space.
		• **blf**—(Optional) Enables Busy Lamp Field (BLF) monitoring for a speed-dial number.

Step 7	**pin** *number* **Example:** `Router(config-logout-profile)# pin 1234`	Sets a personal identification number (PIN) to be used by a phone user to disable the call blocking configuration for a Cisco Unified IP phone on which this profile is downloaded. • *number*—Numeric string containing four to eight digits.
Step 8	**privacy-button** **Example:** `Router(config-logout-profile)# privacy-button`	(Optional) Enables the privacy feature button on the IP phone. • Enable this command only on phones that share an octo-line directory number. • This command is supported in Cisco Unified CME 4.3 and later versions.
Step 9	**end** **Example:** `Router(config-logout-profile)# end`	Exits to privileged EXEC mode.

Enabling an IP Phone for Extension Mobility

To enable the Extension Mobility feature on an individual Cisco Unified IP phone in Cisco Unified CME, perform the following steps.

Note All SCCP Cisco Unified IP phones with displays that support URL provisioning for Feature buttons are supported by Extension Mobility, including the Cisco Unified Wireless IP Phone 7920, Cisco Unified Wireless IP Phone 7921, and Cisco IP Communicator.

Prerequisites

- HTTP server is enabled on the Cisco Unified CME router. For configuration information, see the "Configuring Cisco Unified CME for Extension Mobility" section on page 1117.
- Logout profile to be assigned to a phone must be configured in Cisco Unified CME.
- Cisco IP Communicator to be enabled for Extension Mobility must be already registered in Cisco Unified CME.

Restrictions

- Extension Mobility is not supported on Cisco Unified IP phones without phone screens.
- Extension Mobility is not supported for analog devices.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone** *phone-tag*
4. **mac-address** *mac-address*
5. **type** *phone-type*
6. **logout-profile** *profile-tag*
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.

	Command or Action	Purpose
Step 3	**ephone** *phone-tag* **Example:** `Router(config)# ephone 1`	Enables phone configuration mode. • phone-tag—Unique number that identifies this phone during configuration tasks. Range is 1 to maximum number supported phones, where maximum is platform and version dependent and defined by using the **max-ephone** command.
Step 4	**mac-address** *mac-address* **Example:** `Router(config-ephone)# mac-address 000D.EDAB.3566`	Associates a physical phone with this ephone configuration.
Step 5	**type** *phone-type* **Example:** `Router(config-ephone)# type 7960`	Defines a phone type for the phone being configured.
Step 6	**logout-profile** *profile-tag* **Example:** `Router(config-ephone)# logout-profile 1`	Enables Cisco Unified IP phone for Extension Mobility and assigns a logout profile to this phone. • tag—Unique identifier of logout profile to be used when no phone user is logged in to this phone. This tag number corresponds to a tag number created when this logout profile was configured by using the **voice logout-profile** command.
Step 7	**end** **Example:** `Router(config-ephone)# end`	Exits to privileged EXEC mode.

Configuring Extension Mobility for SIP Phones

To prepare Extension Mobility for use with SIP phones, perform the following steps.

Prerequisites

- Cisco IOS Release 15.1(4)M.
- Cisco Unified CME 8.6 or a later version.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip http server**
4. **voice register global**
5. **url authentication** *url-address application-name password*
6. **exit**
7. **telephony-service**
8. **authentication credential** *application-name password*
9. **em keep-history**
10. **em logout** *time1* [*time2*][*time3*]
11. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. **Note** Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**ip http server** **Example:** `Router(config)# ip http server`	Enables the HTTP server on the Cisco Unified CME router which hosts the service URL for the Extension Mobility login and logout pages.
Step 4	**voice register global** **Example:** `Router(config)# voice register global`	Defines global voice register commands.
Step 5	**url authentication** *url-address application-name password* **Example:** `Router(config-register-global)# url authentication http://192.0.2.0/CCMCIP/authenticate.asp secretname psswrd`	Instructs phones to send HTTP requests to the authentication server and specifies which credential to use in the requests. • Required to support Automatic Clear Call history. • application-name—user name you choose and define in this command. • password—password you define using this command. • URL—URL address for the authentication server in Cisco Unified CME is **http://***CME IP Address***/CCMCIP/authenticate.asp**.
Step 6	**exit** **Example:** `Router(config-register-global)# exit`	Exits voice register global confiuration mode.
Step 7	**telephony-service** **Example:** `Router(config)# telephony-service`	Enters telephony service configuration mode.
Step 8	**authentication credential** *application-name password* **Example:** `Router(config-telephony)# authentication credential application-name password`	Specifies authorized credentials. Use credentials from Step 5. **Note** This step is needed only when you set the CME internal authentication server as your phone authentication server in Step 5.

	Command or Action	Purpose
Step 9	**em keep-history** **Example:** `Router(config-telephony)# em keep-history`	(Optional) Specifies that Extension Mobility will keep, and not automatically clear, call histories when users log out from Extension Mobility phones. **Note** Default: Automatic Clear Call History is enabled.
Step 10	**em logout** *time1* [*time2*] [*time3*] **Example:** `Router(config-telephony)# em logout 19:00 24:00`	(Optional) Defines up to three time-of-day timers for automatically logging out all Extension Mobility users. • *time*—Time of day after which logged-in users are automatically logged out from Extension Mobility. Range: 00:00 to 24:00 on a 24-hour clock.
Step 11	**end** **Example:** `Router(config-telephony)# end`	Returns to privileged EXEC mode.

Enabling SIP Phones for Extension Mobility

To enable the Extension Mobility feature on a SIP phone in Cisco Unified CME, perform the following steps.

Note All Cisco Unified SIP phones with displays that support URL provisioning are supported by Extension Mobility.

Prerequisites

- HTTP server is enabled on the Cisco Unified CME router.
- Default logout and user profiles to be assigned to a phone must be configured in Cisco Unified CME.
- The voice register directory numbers in default logout and user profiles must be configured in Cisco Unified CME. To configure SIP directory numbers, see the *Cisco Unified Communications Manager Express Command Reference* document.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice register pool** *pool-tag*
4. **id mac** *mac-address*
5. **type** *phone-type*
6. **logout-profile** *profile-tag*
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 22`	Enables phone configuration mode. • pool-tag—Unique number that identifies this register pool during configuration tasks. Range is 1 to 42.

	Command or Action	Purpose

Step 4	**id mac** *mac-address*
	
	Example:
	`Router(config-register-pool)#`
	`id mac 0123.4567.89AB`
		Associates a physical phone with this ephone configuration.
		• mac-address—mac address of the physical phone

Step 5	**type** *phone-type* **Example:** `Router(config-register-pool)# type 7970`	Defines a phone type for the phone being configured.
Step 6	**logout-profile** *profile-tag* **Example:** `Router(config-register-pool)# logout-profile 22`	Enables Cisco Unified SIP phone for Extension Mobility and assigns a logout profile to this phone. • profile tag—Unique identifier of a logout profile to be used when no phone user is logged in to this phone. This tag number corresponds to a tag number created when this logout profile was configured by using the **voice logout-profile** command.
Step 7	**end** **Example:** `Router(config-ephone)# end`	Exits to privileged EXEC mode.

Configuring a User Profile

To configure a user profile for a phone user who logs into a Cisco Unified IP phone that is enabled for Extension Mobility, perform the following steps.

Note Templates created using the **ephone-template** and **ephone-dn-template** commands can be applied to a user profile for Extension Mobility.

Prerequisites

- All directory numbers to be included in a logout profile or user profile must be already configured in Cisco Unified CME. For configuration information, see the "Configuring Phones to Make Basic Calls" section on page 189.
- For Automatic Logout, Cisco Unified CME 4.3 or a later version.
- For Privacy on extension mobility phones, Cisco Unified CME 4.3 or a later version.

Restrictions

- For button appearance, Extension Mobility associates directory numbers, then speed-dial definitions in the logout profile or user profile to phone buttons. The sequence in which directory numbers are associated is based on line type and ring behavior as follows: first normal, then silent ring, beep ring, feature ring, monitor ring, and overlay, followed by speed dials. If the profile contains more directory numbers and speed-dial numbers than there are buttons on the physical phone to which the profile is downloaded, not all numbers are downloaded to buttons.
- The first number to be configured for line appearance cannot be a monitored directory number.
- The user name parameter of any authentication credential must be unique. Do not use the same value for a user name when you configure any two or more authentication credentials in Cisco Unified CME, such as the user name for any Cisco Unified CME GUI account and the user name in a logout or user profile for Extension Mobility.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice user-profile** *profile-tag*
4. **user** *name* **password** *password*
5. **number** *number* **type** *type*
6. **speed-dial** *speed-tag number* [**label** *label*] [**blf**]
7. **pin** *number*
8. **max-idle-time** minutes
9. **privacy-button**
10. **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 user-profile** *profile-tag* **Example:** `Router(config)# voice user-profile 1`	Enters voice user-profile configuration mode for configuring a user profile for Extension Mobility. • *profile-tag*—Unique number that identifies this profile during configuration tasks. Range: 1 to three times the maximum number supported phones, where maximum is platform dependent. Type **?** to display value.

	Command or Action	Purpose
Step 4	**user** *name* **password** *password* **Example:** `Router(config-user-profile)# user me password pass123`	Creates credential to be authenticated by Cisco Unified CME before allowing the phone user to log into a Cisco Unified IP phone phone enabled for Extension Mobility. • *name*—Unique alphanumeric string to identify a user for this authentication credential only. • *password*—Password for authorized user.

Step 5	**number** *number* **type** *type*
	
	Example:
	`Router(config-user-profile)# number 2001 type silent-ring`
	`Router(config-user-profile)# number 2002 type beep-ring`
	`Router(config-user-profile)# number 2003 type feature-ring`
	`Router(config-user-profile)# number 2004 type monitor-ring`
	`Router(config-user-profile)# number 2005,2006 type overlay`
	`Router(config-user-profile)# number 2007,2008 type cw-overly`
		Creates line definition.
		• *number*—Directory number to be associated with and displayed next to a button on a phone that is configured with this profile.
		• [**,** *...number*]—(Optional) For overlay lines only, with or without call waiting. The directory number that is far left in the command list is given the highest priority. Can contain up to 25 numbers. Individual numbers must be separated by commas (**,**)
		• **type** *type*—Denotes characteristics to be associated with this line. Type ? for list of options.

Step 6	**speed-dial** *speed-tag number* [**label** *label*] [**blf**]
	
	Example:
	`Router(config-user-profile)# speed-dial 1 3001`
	`Router(config-user-profile)# speed-dial 2 3002 blf`
		Creates speed-dial definition.
		• *speed-tag*—Unique sequence number that identifies a speed-dial definition during configuration tasks. Range: 1 to 36.
		• *number*—Digits to be dialed when the speed-dial button is pressed.
		• **label** *label*—(Optional) String that contains identifying text to be displayed next to the speed-dial button. Enclose the string in quotation marks if the string contains a space.
		• **blf**—(Optional) Enables Busy Lamp Field (BLF) monitoring for a speed-dial number.

Step 7	**pin** *number* **Example:** `Router(config-user-profile)# pin 12341`	Sets a personal identification number (PIN) to be used by a phone user to disable the call blocking configuration for a Cisco Unified IP phone on which this profile is downloaded. • *number*—Numeric string containing four to eight digits.
Step 8	**max-idle-time** minutes **Example:** `Router(config-user-profile)# max-idle-time 30`	(Optional) Creates an idle-duration timer for automatically logging out an Extension Mobility user. • This command is supported in Cisco Unified CME 4.3 and later versions. • *minutes*—Maximum number of minutes after which a user is logged out from an idle Extension Mobility phone. Range:1 to 9999.

	Command or Action	Purpose
Step 9	**privacy-button** **Example:** `Router(config-user-profile)# privacy-button`	(Optional) Enables the privacy feature button on the IP phone. • Enable this command only on phones that share an octo-line directory number. • This command is supported in Cisco Unified CME 4.3 and later versions.
Step 10	**end** **Example:** `Router(config-user-profile)# end`	Exits to privileged EXEC mode.

Configuration Examples for Extension Mobility

This section contains the following configuration examples:

- Configuring Extension Mobility for Use with SIP Phones: Example, page 1132
- Configuring SIP Phones for Use with Extension Mobility: Example, page 1133
- Logout Profile: Example, page 1133
- Enabling an IP Phone for Extension Mobility: Example, page 1134
- User Profile: Example, page 1134

Configuring Extension Mobility for Use with SIP Phones: Example

The following example shows a sample configuration for enabling Extension Mobility for use with SIP phones:

```
Router#en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.

Router(config)#ip http server
Router(config)#voice register global
Router(config-register-global)#$.2.0/CCMCIP/authenticate.asp admin password
Router(config-register-global)#exit
Router(config)#telephony-service
Router(config-telephony)#authentication credential admin password
Router(config-telephony)#em keep-history
Router(config-telephony)#em logout 19:00
Router(config-telephony)#end
```

Configuring SIP Phones for Use with Extension Mobility: Example

The following example shows a sample configuration for enabling a SIP phone to use Extension Mobility:

```
Router#en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.

Router#en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#voice register pool 1
Router(config-register-pool)#id mac 12.34.56
Router(config-register-pool)#type 7960
Router(config-register-pool)#logout-profile 22
Enabling extension mobility will replace current phone configuration with logout
 profile, continue?? [yes]: y
Router(config-register-pool)#end
```

Logout Profile: Example

The following example shows the configuration for a logout profile that defines the default appearance for a Cisco Unified IP phone that is enabled for Extension Mobility. Which lines and speed-dial buttons in this profile are configured on a phone depends on the phone type. For example, for a Cisco Unified IP Phone 7970, all buttons are configured according to logout profile1. However, if the phone is a Cisco Unified IP Phone 7960, all six lines are mapped to phone buttons and the speed dial is ignored because there is no button available for speed dial.

```
voice logout-profile 1
 pin 9999
 user 23C2-8 password 43214
 number 3001 type silent-ring
 number 3002 type beep-ring
 number 3003 type feature-ring
 number 3004 type monitor-ring
 number 3005,3006 type overlay
 number 3007,3008 type cw-overly
 speed-dial 1 2000
 speed-dial 2 2001 blf
```

Enabling an IP Phone for Extension Mobility: Example

The following example shows the ephone configurations for three IP phones. All three phones are enabled for Extension Mobility and share the same logout profile number 1, to be downloaded when these phones boot and when no phone user is logged into the phone.

```
ephone 1
 mac-address 000D.EDAB.3566
 type 7960
 logout-profile 1

ephone 2
 mac-address 0012.DA8A.C43D
 type 7970
 logout-profile 1

ephone 3
 mac-address 1200.80FC.9B01
 type 7911
 logout-profile 1
```

User Profile: Example

The following example shows the configuration for a user profile to be downloaded when a phone user logs into a Cisco Unified IP phone that is enabled for Extension Mobility. Which lines and speed-dial buttons in this profile are configured on a phone after the user logs in depends on the phone type. For example, if the user logs into a Cisco Unified IP Phone 7970, all buttons are configured according to voice-user profile1. However, if the phone user logs into a Cisco Unified IP Phone 7960, all six lines are mapped to phone buttons and the speed dial is ignored because there is no button available for speed dial.

```
voice user-profile 1
 pin 12345
 user me password pass123
 number 2001 type silent-ring
 number 2002 type beep-ring
 number 2003 type feature-ring
 number 2004 type monitor-ring
 number 2005,2006 type overlay
 number 2007,2008 type cw-overly
 speed-dial 1 3001
 speed-dial 2 3002 blf
```

Where to Go Next

- If you created a new or modified an existing logout or user profile, you must restart the phones to propagate the changes. See the "Resetting and Restarting Phones" section on page 369.
- If you enabled one or more Cisco Unified IP phones for Extension Mobility, generate a new configuration file and restart the phones. See the "Generating Configuration Files for Phones" section on page 359.

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

Standards

Standard	Title
None	—

MIBs

MIB	MIBs Link
CISCO-CCME-MIB	To locate and download MIBs for selected platforms, Cisco software releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFC	Title
None	—

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for Extension Mobility

Table 54 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 Communications Manager Express 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 54 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 54 Feature Information for Extension Mobility

Feature Name	Cisco Unified CME Version	Modification
MIB Support for Extension Mobility in Cisco Unified SCCP IP Phones	9.0	Adds new MIB objects to monitor Cisco Unified SCCP IP EM phones.
Support for SIP phones	8.6	Adds support for SIP phones.
Extension Mobility Enhancement	7.0/4.3	Adds support for the following: • Automatic Logout, including: – Configurable time-of-day timers for automatically logging out all Extension Mobility users. – Configurable idle-duration timer for logging out an individual user from an idle Extension Mobility phone. • Automatic Clear Call History when a user logs out from Extension Mobility.
Phone User-Interface for Speed Dial	7.0/4.3	Adds a phone user interface allowing Extension Mobility users to configure their own speed-dial settings directly on the phone.
Extension Mobility	4.2	Provides the benefit of phone mobility for end users by enabling the user to log into any local Cisco Unified IP Phone that is enabled for Extension Mobility.