Cisco Unified CME Commands: P

paging

To define an extension (ephone-dn) as a paging extension that can be called to broadcast an audio page to a set of Cisco IP phones, use the **paging** command in ephone-dn configuration mode. To disable this feature, use the **no** form of this command.

paging [**ip** *multicast-address* **port** *udp-port-number*]
no paging [**ip**]

Syntax Description

ip *multicast-address*	(Optional) Uses an IP multicast address to multicast voice packets for audio paging; for example, 239.0.1.1. Note that 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 is from 2000 to 65535. Default is 2000.

Command Default

No paging number is established.

Command Modes

Ephone-dn configuration (config-ephone-dn)

Command History

Cisco IOS Release	Cisco Product	Modification
12.2(2)XT	Cisco ITS 2.0	This command was introduced.
12.2(8)T	Cisco ITS 2.0	This command was integrated into Cisco IOS Release 12.2(8)T.

Usage Guidelines

To configure a set of phones to receive an audio page, follow these steps:

1. Use the **paging** command in ephone-dn configuration mode to define a number that people can dial to send a page. The following example defines a paging-dn tag (21) and extension number (34455) to dial to send a page.

```
ephone-dn 21
 paging
 number 34455
```

1. Use the **paging-dn** command in ephone configuration mode to assign the same paging-dn tag that you defined in Step 1 to all the phones that you want to receive the page. This set of phones is called a “paging set.” You can have more than one paging set in a Cisco CME system. The following example assigns the paging-dn tag from Step 1 (21) to two phones (3 and 4) so that they will receive audio pages.

```
ephone 3
 paging-dn 21
ephone 4
 paging-dn 21
```

The **paging** command configures an ephone-dn as an extension that people can dial to broadcast audio pages to a specified set of idle Cisco IP phones. The extension associated with this command does not appear on any ephone; it is a “dummy” extension. The dn-tag associated with this extension becomes the paging-dn tag for this paging set.

When a person dials the number assigned to the dummy extension and speaks into the phone, the audio stream is sent as a page to the paging set (the set of all phones that have been configured with this paging-dn tag as an argument to the **paging-dn** command). Idle phones in the paging set automatically answer the paging call in one-way speakerphone mode. Paging sets can be joined into a single combined paging group with the **paging group** command.

The optional **ip** keyword and *multicast-address* argument define a paging multicast address for this paging set. If an IP multicast address is not configured, IP phones are paged individually using IP unicast transmission (to a maximum of ten IP phones). The recommended operation is with an IP multicast address. When multiple paging-dn tags are configured using the **paging** command, each paging-dn tag should use a unique IP multicast address.

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

Each ephone-dn and paging-dn tag that is used for paging can support a maximum of ten distinct targets (IP addresses and interfaces). A multicast address counts as a single target for each physical interface in use (regardless of the number of phones connected via the interface). Paging using a single IP multicast address that requires output on three different Ethernet interfaces represents use of three counts out of the maximum ten. Each unicast target counts as a single target, such that paging that does not use multicast at all is limited to paging ten phones. For example, ten IP phones paged through multicast on Fast Ethernet interface 0/1.1 plus five IP phones paged through multicast on Fast Ethernet interface 0/1.2 are counted as two targets.

For simultaneous paging to more than one paging ephone-dn, Cisco recommends that you use different IP multicast addresses (not just different port numbers) for paging configuration.

Examples

The following example creates a paging extension number that uses IP multicast paging:

```
Router(config)# ephone-dn 20
Router(config-ephone-dn) number 2000
Router(config-ephone-dn) paging ip 239.0.1.1 port 2000
```

A more complete configuration example follows, in which paging sets 20 and 21 are created. Pages to extension 2000 are multicast to ephones 1 and 2. Pages to extension 2001 are multicast to ephones 3 and 4.

```
ephone-dn 1
 number 2345
ephone-dn 2
 number 2346
ephone-dn 3
 number 2347
ephone-dn 4
 number 2348
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
 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
```

Related Commands

Command	Description
paging-dn	Assigns audio paging reception capability to a Cisco IP phone.
paging group	Combines two or more paging sets into a combined paging group.

paging group

To create a combined paging group from two or more previously established paging sets, use the **paging group** command in ephone-dn configuration mode. To remove a paging group, use the **no** form of this command.

paging group*paging-dn-tag, paging-dn-tag...*

no paging group

Syntax Description

paging-dn-tag	Comma-separated list of paging-dn-tags (unique sequence numbers associated with paging ephone-dns) that have previously been associated with the paging extension of a paging set using the **paging-dn** or **paging-dn (voice register)** command. You can include up to ten paging-dn-tags separated by commas. For example, 4, 6, 7, 8.

Command Default

Paging is disabled on all Cisco IP phones.

Command Modes

Ephone-dn configuration (config-ephone-dn)

Command History

Cisco IOS Release	Cisco Product	Modification
12.2(2)XT	Cisco ITS 2.0	This command was introduced.
12.2(8)T	Cisco ITS 2.0	This command was integrated into Cisco IOS Release 12.2(8)T.
15.2(2)T	Cisco Unifide CME 9.0	This command was modified to include voice register pools in the ephone-dn and paging groups.

Usage Guidelines

Use this command to combine previously defined sets of phones associated with individual paging extensions (ephone-dns) into a combined group to enable a single page to be sent to large numbers of phones at once. To remove a paging group, use the **no** form of the command. All paging-dn tags included in the list must have already been defined as paging-dns using the **paging** or **paging-dn (voice register)** command.

The use of paging groups not only allows phones to participate in a small local paging set (for example, paging to four phones in a company's shipping and receiving department) but also supports company-wide paging when needed (for example, by combining the paging sets for shipping and receiving with the paging sets for accounting, customer support, and sales into a single paging group).

Note

The correct paging port for the paging-dn of Cisco Unified SIP IP phones in the **paging** command 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.

Examples

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

The first set of configuration tasks shows 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
```

The second set of configuration tasks shows how Cisco Unified SIP IP phone directory numbers can be configured and added to the previously established paging groups of the first set of configuration tasks to form a new combined paging group 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 (newsecond 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
```

Related Commands

Command	Description
paging	Creates a paging extension (ephone-dn) that can be called in order to broadcast an audio page to a group of Cisco IP phones.
paging-dn	Assigns a paging extension (paging-dn) to a Cisco IP phone.
paging-dn (voice register)	Registers a Cisco Unified SIP IP phone to an ephone-dn paging directory number.

paging-dn

To create a paging extension (paging-dn) to receive audio pages on a Cisco Unified IP phone in a Cisco Unified CME system, use the **paging-dn** command in ephone or ephone-template configuration mode. To disable this feature, use the **no** form of this command.

paging-dn *paging-dn-tag* {**multicast** | **unicast**}
paging-dnno

Syntax Description

paging-dn-tag	Dn-tag of an ephone-dn that was designated as a paging ephone-dn with the **paging** command.
multicast	Uses multicast if available. By default, audio paging is transmitted to the Cisco Unified IP phone using multicast.
unicast	Forces unicast paging for this phone. This keyword indicates that the Cisco Unified IP phone is not capable of receiving audio paging through multicast and requests that all pages to this phone be sent through unicast. The maximum number of phones supported through unicast is ten.

Command Default

Paging is disabled on all Cisco Unified IP phones.

Command Modes

Ephone configuration (config-ephone)
Ephone-template configuration (config-ephone-template)

Command History

Cisco IOS Release	Cisco Product	Modification
12.2(2)XT	Cisco ITS 2.0	This command was introduced.
12.2(8)T	Cisco ITS 2.0	This command was integrated into Cisco IOS Release 12.2(8)T.
12.4(4)XC	Cisco Unified CME 4.0	This command was made available in ephone-template configuration mode.
12.4(9)T	Cisco Unified CME 4.0	This command in ephone-template configuration mode was integrated into Cisco IOS Release 12.4(9)T.

Usage Guidelines

To configure a set of phones to receive an audio page, follow these steps:

1. Use the **paging** command in ephone-dn configuration mode to define a number that people can dial to send a page. The following example defines a paging-dn tag (21) and extension number (34455) to dial to send a page.

```
ephone-dn 21
 paging
 number 34455
```

1. Use the **paging-dn** command in ephone configuration mode to assign the same paging-dn tag that you defined in Step 1 to all the phones that you want to receive the page. This set of phones is called a “paging set.” You can have more than one paging set in a Cisco Unified CME system. The following example assigns the paging-dn tag from Step 1 (21) to two phones (3 and 4) so that they will receive audio pages.

```
ephone 3
 paging-dn 21
ephone 4
 paging-dn 21
```

This command creates a paging extension (paging-dn) associated with an IP phone. Each phone can support only one paging-dn extension. This extension does not occupy a phone button and is therefore not configured on the phone with the **button** command. The paging-dn allows the phone to automatically answer audio pages in one-way speakerphone mode. There is no press-to-answer option as there is with an intercom extension.

The *paging-dn-tag* argument in this command takes the value of the dn-tag of an extension (ephone-dn) that has been made a paging ephone-dn using the **paging** command. This command is the extension that callers dial to deliver an audio page. All of the phones that are going to receive the same audio pages are configured with the same *paging-dn-tag*. These phones form a paging set.

An IP phone can belong to only one paging set, but any number of phones can belong to the same paging set using multicast. There can be any number of paging sets in a Cisco Unified CME system, and paging sets can be joined to create a combined paging group using the **paging group command.** For example, you may create separate paging sets for each department (sales, support, shipping) and combine them into a single combined paging group (all departments). Only single-level grouping is supported (no support for groups of groups).

Normal phone calls that are received while an audio page is in progress interrupt the page.

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 with specific phones that cannot be reached through multicast).

Note For unicast paging to all phones, omit the IP multicast address in the ephone-dn configuration. For unicast paging to a specific phone using an ephone-dn configured for multicast, add the **unicast** keyword as part of the **paging-dn** command in ephone configuration mode.

If you use an ephone template to apply a command to a phone and you also use the same command in ephone configuration mode for the same phone, the value that you set in ephone configuration mode has priority.

Examples

The following example creates paging number 5001 on ephone-dn 22 and adds ephone 4 as a member of the paging set. Multicast is set for the paging-dn. Note that IP phones do not support multicast at 224.x.x.x addresses.

```
ephone-dn 1
 number 5123
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
 paging-dn 22 multicast
```

Related Commands

	Description
ephone-template (ephone)	Applies a template to an ephone configuration.

	Description
number	Configures a valid number for the Cisco Unified IP phone.
paging	Creates a paging extension (ephone-dn) that can be called in order to broadcast an audio page to a group of Cisco Unified IP phones.
paging group	Combines two or more paging sets into a combined paging group.

paging-dn (voice register)

To register a Cisco Unified SIP IP phone to an ephone-dn paging directory number (DN), use the **paging-dn** command in voice register pool or voice register template configuration mode. To unregister the Cisco Unified SIP IP phone from the paging directory number, use the **no** form of this command.

paging-dn *paging-dn-tag* {**multicast** | **unicast**}
no paging-dn

Syntax Description

paging-dn-tag	Ephone-dn tag designated as the paging ephone-dn to which a Cisco Unified SIP IP phone is registered.
multicast	Transmits audio paging to the Cisco Unified IP phone using multicast. This is the default.
unicast	Transmits audio paging to the Cisco Unified IP phone using unicast.This indicates that the Cisco Unified IP phone is not capable of receiving audio paging through multicast and requests that all pages to this phone be sent through unicast. The maximum number of phones supported through unicast is 12.

Command Default

The Cisco Unified SIP IP phone is not registered to an ephone-dn paging DN and paging is disabled.

Command Modes

Voice register pool configuration (config-register-pool)

Voice register template configuration (config-register-temp)

Command History

Release	Modification
15.2(2)T	This command was introduced.

Usage Guidelines

The **paging-dn** command applies to both voice register pool and voice register template configuration modes. When voice register pool is configured with the template and paging is configured in voice register pool configuration mode, paging in voice register pool configuration mode has higher precedence over paging in voice register template configuration mode.

The correct paging port for the paging-dn of Cisco Unified SIP IP phones in the **paging** command 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.

Examples

The following example shows how the Cisco Unified 7961 SIP IP phone is registered to both paging-dns 251 and 252:

```
ephone-dn  2  dual-line
 number 60012
ephone-dn  250
number 7770
 paging ip 239.1.1.0 port 20480
 paging group 251,252
ephone-dn  251
 number 7771
 paging ip 239.1.1.1 port 20480
ephone-dn  252
```

```
 number 7772
 paging ip 239.1.1.2 port 20480

ephone-dn  253
 number 7773
 paging ip 239.1.1.3 port 20480
ephone  2
 mac-address 001E.4A91.F27D
 paging-dn 252
 type 7961
 button  1:2
voice register dn  1
 number 60001
voice register dn  2
 number 60002
voice register pool  1
 id mac 0019.305D.82B8
 type 7961
 number 1 dn 1
 codec g711ulaw
 paging-dn 251
voice register pool  2
 id mac 0019.305D.2153
 type 7961
 number 1 dn 2
 codec g711ulaw
 paging-dn 252
```

Related Commands

Command	Description
paging-dn	Creates a paging extension to receive audio pages on a Cisco Unified SCCP IP phone in a Cisco Unified CME system.
paging group	Creates a combined paging group from two or more previously established paging sets.

param

To load and configure parameters in a package or a service (application) on the gateway, use the **param** command in application configuration mode. To reset a parameter to its default value, use the **no** form of this command.

param *param-name* [{**param max-retries** | **param passwd** | **param passwd-prompt filename** | **param user-prompt filename** | **param term-digit** | **param abort-digit** | **param max-digits**}]
no param *param-name*

Syntax Description

param-name	Name of the parameter.
param max-retries	(Optional) Number of attempts to re-enter account or password. Value ranges from 0-10, default value is 0.
param passwd	(Optional) Character string that defines a predefined password for authorization.
param passwd-prompt filename	(Optional) Announcement URL to request password input. filename defines the name and location of the audio filename to be used for playing the password prompt.
param user-prompt filename	(Optional) Announcement URL to request authorization code username. filename defines the name and location of the audio filename to be used for playing the username prompt.
param term-digit	Digit for terminating username or password digit input.
param abort-digit	Digit for aborting username or password digit input. Default value is *.
param max-digits	Maximum number of digits in a username or password. Range of valid value: 1 - 32. Default value is 32.

Command Default

No default behavior or value.

Command Modes

Application configuration

Command History

Release	Modification
12.3(14)T	This command was introduced.
15.1(3)T	This command was modified. The following keywords and arguments were added: param max-retries, param passwd, param passwd-prompt filename, param user-prompt filename, param term-digit, param max-digit.

Usage Guidelines

Use this command in application parameter configuration mode to configure parameters in a package or service. A package is a linkable set of C or Tcl functions that provide functionality invoked by applications or other packages. A service is a standalone application.

The parameters available for configuration differ depending on the package or service that is loaded on the gateway. The **param register** Tcl command in a service or package registers a parameter and provides a description and default values which allow the parameter to be configured using the CLI. The **param register** command is executed when the service or package is loaded or defined, along with commands such as **package provide**, which register the capability of the configured module and its associated scripts. You must configure and load the Tcl scripts for your service or package and load the package in order to configure its parameters. See the *Tcl IVR API Version 2.0 Programming Guide* for more information.

When a package or service is defined on the gateway, the parameters in that package or service become available for configuration when you use this command. Additional arguments and keywords are available for different parameters. To see a list of available parameters, enter **param** ?.

To avoid problems with applications or packages using the same parameter names, the *parameter namespace,* or *parameterspace* concept is introduced. When a service or a package is defined on the gateway, its parameter namespace is automatically defined. This is known as the service or package's local parameterspace, or "myparameterspace." When you use this command to configure a service or package's parameters, the parameters available for configuration are those contained in the local parameterspace. If you want to use parameter definitions found in different parameterspace, you can use the **paramspace** *parameter-namespace* command to map the package's parameters to a different parameterspace. This allows that package to use the parameter definitions found in the new parameterspace, in addition to its local parameterspace.

Use this command in Cisco Unified Communication Manager Express 8.5 and later versions to define the username and password parameters to authenticate packages for Forced Authorization Code (FAC)

When a predefined password is entered using the param passwd keyword, callers are not requested to enter a password. You must define a filename for user-prompt to play an audio prompt requesting the caller to enter a valid username (in digits) for authorization. Similarly, you must define a filename for passwd-prompt to play an audio prompt requesting the caller to enter a valid password (in digits) for authorization.

Examples

The following example shows how to configure a parameter in the httpios package:

```
application
package httpios
param paramA value4
```

Related Commands

Command	Description
call application voice	Defines the name of a voice application and specify the location of the Tcl or VoiceXML document to load for this application.
param account-id-method	Configures an application to use a particular method to assign the account identifier.
param convert-discpi-after-connect	Enables or disables conversion of a DISCONNECT message with Progress Indicator set to PROG_INBAND (PI=8) to a regular DISCONNECT message when the call is in the active state.
param event-log	Enables or disables logging for linkable Tcl functions (packages).
param language	Configures the language parameter in a service or package on the gateway.
param mode	Configures the call transfer mode for a package.

Command	Description
param pin-len	Defines the number of characters in the personal identification number (PIN) for an application.
param redirect-number	Defines the telephone number to which a call is redirected—for example, the operator telephone number of the service provider—for an application.
param reroutemode	Configures the call transfer reroutemode (call forwarding) for a package.
param retry-count	Defines the number of times a caller is permitted to reenter the PIN for a designated application and passes that information to the application.
param security	Configures security for linkable Tcl functions (packages).
paramspace	Enables an application to use parameters from the local parameter space of another application.
param uid-length	Defines the number of characters in the UID for a package.
param warning-time	Defines the number of seconds of warning that a user receives before the allowed calling time expires.

param aa-hunt

To declare a Cisco Unified CME B-ACD menu number and associate it with the pilot number of an ephone hunt group, use the **param aa-hunt** command in application-parameter configuration mode. To remove the menu number and the ephone hunt group pilot number, use the **no** form of this command.

param aa-hunt *menu-number pilot-number*
no param aa-hunt *menu-number pilot-number*

Syntax Description

menu-number	Number that callers must dial to reach the pilot number of an ephone hunt group. The range is from 1 to 10. The default is 1.
pilot-number	Ephone hunt group pilot number.

Command Default

Menu number 1 is configured, but it is not associated with a pilot number**.**

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)XC	Cisco CME 3.3	This command was introduced to replace the **call application voice aa-hunt** command.

Usage Guidelines

This command is used with Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. It is configured under the **service** command for the call-queue script.

Up to ten aa-hunt menu options, or hunt groups, are allowed per call-queue service. You can use any of the allowable numbers in any order.

This command associates a menu option with the pilot number of an ephone hunt group. When a caller presses the digit of a menu option that has been associated with an ephone hunt group using this command, the call is routed to the pilot number of the hunt group.

Menu options for B-ACD services can be set up in many ways. For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

The highest aa-hunt number that you establish using this command also automatically maps to zero (0) and can therefore be used to represent operator services to your callers. In the following example, callers can dial either 8 or 0 to reach aa-hunt8, the hunt group with the pilot number 8888.

```
application
 service queue flash:
  param aa-hunt1 1111
  param aa-hunt3 3333
  param aa-hunt8 8888
```

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

Examples

The following example configures a call-queue service called queue to associate three menu numbers with three pilot numbers of three ephone hunt groups:

- Pilot number 1111 for ephone hunt group 1 (sales)

- Pilot number 2222 for ephone hunt group 2 (customer service)
- Pilot number 3333 for ephone hunt group 3 (operator)

If a caller presses 2 for customer service, the call is transferred to 2222 and then is sent to the next available ephone-dn from the group of ephone-dns assigned to ephone hunt group 1: 2001, 2002, 2003, 2004, 2005, and 2006. The sequencing of ephone-dns within a hunt group is handled by the ephone hunt group itself, not by the B-ACD service. (Note that the configuration for ephone hunt groups used with Cisco Unified CME B-ACD services do not use the **final** command.)

```
ephone-hunt 1 peer
 pilot 1111
 list 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010
ephone-hunt 2 peer
 pilot 2222
 list 2001, 2002, 2003, 2004, 2005, 2006
ephone-hunt 3 peer
 pilot 3333
 list 3001, 3002, 3003, 3004
application
 service queue flash:
  param aa-hunt1 1111
  param aa-hunt2 2222
  param aa-hunt3 3333
.
.
.
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param aa-pilot

To assign a pilot number to a Cisco Unified CME B-ACD automated attendant (AA) service, use the **param aa-pilot** command in application-parameter configuration mode. To remove the AA pilot number, use the **no** form of this command.

param aa-pilot *aa-pilot-number*
no param aa-pilot *aa-pilot-number*

Syntax Description

aa-pilot-number	Telephone number that callers dial in order to reach this AA service.

Command Default

Cisco Unified CME B-ACD menu number 1 is configured, but it has no pilot number**.**

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice aa-pilot** command.

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. Each AA has one AA pilot number, although there may be more than one AA used with a B-ACD service.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

The following example sets up a B-ACD with two AAs, both in drop-through mode. The first AA is called acdaa and it has an AA pilot number of (800) 555-0121. The second AA is aa-bcd and has an AA pilot number of (800) 555-0123. Both AAs use the call-queue service named callq. Incoming POTS dial peers are established for both AA pilot numbers.

```
dial-peer voice 1010 pots
 service acdaa
 port 1/1/0
 incoming called-number 8005550121
dial-peer voice 1020 pots
 service aa-bcd
 port 1/1/1
 incoming called-number 8005550123
.
.
.
application
 service callq tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 5071
  param aa-hunt2 5072
  param number-of-hunt-grps 2
  param queue-len 10
```

```
!
 service acdaa tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550121
  param service-name callq
  param max-time-vm-retry 2
  param voice-mail 5007
  param call-retry-timer 20
  param number-of-hunt-grps 1
  param drop-through-prompt _bacd_welcome.au
  param drop-through-option 2
  param second-greeting-time 45
  param handoff-string acdaa
  param max-time-call-retry 360
!
 service aa-bcd tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550123
  param service-name callq
  param second-greeting-time 60
  param max-time-call-retry 180
  param max-time-vm-retry 2
  param voice-mail 5007
  param call-retry-timer 5
  param handoff-string aa-bcd
  param drop-through-option 1
  param number-of-hunt-grps 1
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param call-retry-timer

To specify the time interval before each attempt to retry to connect a call to an ephone hunt group used with a Cisco CME B-ACD service, use the **param call-retry-timer** command in application-parameter configuration mode. To return to the default, use the **no** form of this command.

param call-retry-timer *seconds*
no param call-retry-timer *seconds*

Syntax Description

seconds	Time that a call must wait before attempting or reattempting to transfer a call to an ephone hunt group pilot number, in seconds. Range is from 5 to 30 seconds.

Command Default

Default is 15 seconds.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice call-retry-timer command.**

Usage Guidelines

This command is used with Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured under the **service** command for an AA service. A Cisco Unified CME B-ACD service can have more than one AA, and each AA can specify a different interval for retries to connect to ephone hunt group phones.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

The following example sets up a B-ACD with two AAs. The first AA is called acdaa and it has an AA pilot number of (800) 555-0121. The second AA is aa-bcd and has an AA pilot number of (800) 555-0123. Both AAs use the call-queue service named callq. The first AA has a call-retry timer set to 10 seconds, and the second AA has a call-retry timer set to 5 seconds.

```
dial-peer voice 1010 pots
 service acdaa
 port 1/1/0
 incoming called-number 8005550121
dial-peer voice 1020 pots
 service aa-bcd
 port 1/1/1
 incoming called-number 8005550123
.
.
.
application
 service callq tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 5071
  param aa-hunt2 5072
```

```
  param number-of-hunt-grps 2
  param queue-len 10
!
 service acdaa tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550121
  param service-name callq
  param max-time-vm-retry 2
  param voice-mail 5007
  param call-retry-timer 10
  param number-of-hunt-grps 1
  param drop-through-prompt _bacd_welcome.au
  param drop-through-option 2
  param second-greeting-time 45
  param handoff-string acdaa
  param max-time-call-retry 60
!
 service aa-bcd tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550123
  param service-name callq
  param second-greeting-time 60
  param max-time-call-retry 180
  param max-time-vm-retry 2
  param voice-mail 5007
  param call-retry-timer 5
  param handoff-string aa-bcd
  param drop-through-option 1
  param number-of-hunt-grps 1
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param co-did-max

To set the upper boundary of the range of valid digits coming from the PSTN Central Office (CO) for use with the Direct Inward Dial (DID) Digit Translation Service, use the **param co-did-max** command in application-parameter configuration mode. To disable this option, use the **no** form of this command.

param co-did-max *max-co-value*
no param co-did-max *max-co-value*

Syntax Description

max-co-value	Maximum value of digits coming from the CO. The digit string can be any length, but the string length must be the same in the **param co-did-min**, **param co-did-max**, **param store-did-min**, and **param store-did-max** commands.

Command Default

No maximum value is defined for the range of digits coming from the CO.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)XC	Cisco Unified CME 4.0	This command was introduced to replace the **call application voice co-did-max command.**
12.4(9)T	Cisco Unified CME 4.0	This command replaced the **call application voice co-did-max** command and was integrated into Cisco IOS Release 12.4(9)T.

Usage Guidelines

This command defines the upper limit of the range of digits accepted from the CO when it is used with the Cisco Unified CallManager Express (Cisco Unified CME) DID Digit Translation Service. This service provides number translation for DID calls when the range of DID digits provided by the PSTN Central Office (CO) does not match the digits in the Cisco Unified CME extension numbers.

The Tcl script that provides the service accepts PSTN DID numbers of any length and maps them to the internal extension numbers that are assigned by a system administrator. Where necessary, a prefix is appended to the DID digits to create a valid extension number. The script uses the parameters that you input to determine the valid range of digits to be accepted from the CO, the valid range of digits in the local dial plan, and the prefix to append, if necessary. The script also handles DID calls that map to invalid extension numbers: a prompt is played and the calls are disconnected.

Examples

The following example configures DID Digit Translation Service on the Cisco Unified CME router. It sets a lower boundary of 00 and an upper boundary of 79 for the valid range of digits coming from the CO.

```
application
 service didapp tftp://192.168.254.254/scripts/did/app-THD-DID-2.0.0.1.tcl
  paramspace english index 1
  paramspace english language en
  paramspace english location tftp://192.168.254.254/apps/dir25/
  param secondary-prefix 4
  param did-prefix 5
  param co-did-min 00
  param co-did-max 79
```

```
param store-did-min 00
param store-did-max 79
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.
param co-did-min	Sets the lower boundary of the range of valid digits coming from the PSTN Central Office (CO) that is used with the DID Digit Translation Service.
param store-did-max	Sets the upper boundary of the range of digits that is valid in the Cisco Unified CME numbering plan that is used with the DID Digit Translation Service.
param store-did-min	Sets the lower boundary of the range of digits that is valid in the Cisco Unified CME numbering plan that is used with the DID Digit Translation Service.

param co-did-min

To set the lower boundary of the range of valid digits coming from the PSTN Central Office (CO) that is used with the Direct Inward Dial (DID) Digit Translation Service, use the **param co-did-min** command in application-parameter configuration mode. To disable this option, use the **no** form of this command.

param co-did-min *min-co-value*
no param co-did-min *min-co-value*

Syntax Description

min-co-value	Minimum value of digits coming from the CO. The digit string can be any length, but the string length must be the same in the **param co-did-max**, **param co-did-max**, **param store-did-min**, and **param store-did-max** commands.

Command Default

No minimum value is defined for the range of digits coming from the CO.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)XC	Cisco Unified CME 4.0	This command was introduced to replace the **call application voice co-did-min command.**
12.4(9)T	Cisco Unified CME 4.0	This command replaced the **call application voice co-did-min** command and was integrated into Cisco IOS Release 12.4(9)T.

Usage Guidelines

This command defines the upper limit of the range of digits accepted from the CO when it is used with the Cisco Unified CallManager Express (Cisco Unified CME) DID Digit Translation Service. This service provides number translation for DID calls when the range of DID digits provided by the PSTN Central Office (CO) does not match the digits in the Cisco Unified CME extension numbers.

The Tcl script that provides the service accepts PSTN DID numbers of any length and maps them to the internal extension numbers that are assigned by a system administrator. Where necessary, a prefix is appended to the DID digits to create a valid extension number. The script uses the parameters that you input to determine the valid range of digits to be accepted from the CO, the valid range of digits in the local dial plan, and the prefix to append, if necessary. The script also handles DID calls that map to invalid extension numbers: a prompt is played and the calls are disconnected.

Examples

The following example configures DID Digit Translation Service on the Cisco Unified CME router. It sets a lower boundary of 00 and an upper boundary of 79 for the valid range of digits coming from the CO.

```
application
 service didapp tftp://192.168.254.254/scripts/did/app-THD-DID-2.0.0.1.tcl
  paramspace english index 1
  paramspace english language en
  paramspace english location tftp://192.168.254.254/apps/dir25/
  param secondary-prefix 4
  param did-prefix 5
  param co-did-min 00
  param co-did-max 79
```

```
param store-did-min 00
param store-did-max 79
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.
param co-did-max	Sets the upper boundary of the range of valid digits coming from the PSTN Central Office (CO) that is used with the DID Digit Translation Service.
param store-did-max	Sets the upper boundary of the range of digits that is valid in the Cisco Unified CME numbering plan that is used with the DID Digit Translation Service.
param store-did-min	Sets the lower boundary of the range of digits that is valid in the Cisco Unified CME numbering plan that is used with the DID Digit Translation Service.

param dial-by-extension-option

To assign a menu number to an Cisco CME B-ACD option by which callers can directly dial known extension numbers, use the **param dial-by-extension-option** command in application-parameter configuration mode. To disable this option, use the **no** form of this command.

param dial-by-extension-option *menu-number*
no param dial-by-extension-option *menu-number*

Syntax Description

menu-number	Menu option number to be associated with the dial-by-extension option. Range is from 1 to 9. There is no default.

Command Default

Dial-by-extension option is not assigned.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice dial-by-extension-option** command.

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured under the **service** command for an AA service.

This command allows you to designate a menu option number for callers to press if they want to dial an extension number that they already know. This command also enables the playing of the en_bacd_enter_dest.au audio file after a caller presses the dial-by-extension menu number. The default announcement in this audio file is “Please enter the extension number you want to reach.”

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

The following example sets up a B-ACD with an AA called acd1, which has an AA pilot number of (800) 555-0121. The call-queue service used with this AA is named callq. Callers to (800) 555-0121 can press 1 to dial an extension number (**param dial-by-extension-option 1** under **service acd1**) or press 2 to be connected to the hunt group with the pilot number 5072 (**param aa-hunt2 5072** under **service callq**).

```
dial-peer voice 1010 pots
 service acd1
 port 1/1/0
 incoming called-number 8005550121
.
.
.
application
 service callq tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt2 5072
```

```
  param number-of-hunt-grps 1
  param queue-len 10
!
 service acd1 tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param handoff-string acd1
  param service-name callq
  param aa-pilot 8005550121
  param number-of-hunt-grps 1
  param dial-by-extension-option 1
  param second-greeting-time 45
  param call-retry-timer 20
  param max-time-call-retry 360
  param max-time-vm-retry 2
  param voice-mail 5007
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param did-prefix

To set a prefix to add to digits coming from the PSTN Central Office (CO) to create valid extension numbers when using the Direct Inward Dial (DID) Digit Translation Service, use the **param did-prefix** command in application-parameter configuration mode. To disable this option, use the **no** form of this command.

param did-prefix *did-prefix*
no param did-prefix *did-prefix*

Syntax Description

did-prefix	Prefix to add. Range is from 0 to 99.

Command Default

No prefix is defined.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)XC	Cisco Unified CME4.0	This command was introduced to replace the **call application voice did-prefix** command**.**
12.4(9)T	Cisco Unified CME4.0	This command replaced the **call application voice did-prefix** command and was integrated into Cisco IOS Release 12.4(9)T.

Usage Guidelines

This command is used with the Cisco Unified CallManager Express (Cisco Unified CME) DID Digit Translation Service, which provides number translation for DID calls when the range of DID digits provided by the PSTN Central Office (CO) does not match the digits in the Cisco Unified CME extension numbers.

The Tcl script that provides the service accepts PSTN DID numbers of any length and maps them to the internal extension numbers that are assigned by a system administrator. Where necessary, a prefix is appended to the DID digits to create a valid extension number. The script uses the parameters that you input to determine the valid range of digits to be accepted from the CO, the valid range of digits in the local dial plan, and the prefix to append, if necessary. The script also handles DID calls that map to invalid extension numbers: a prompt is played and the calls are disconnected.

Examples

The following example configures DID Digit Translation Service on the Cisco Unified CME router. It specifies that a prefix of 5 should be applied to the digits coming from the CO in order to construct a valid extension number.

```
application
 service didapp tftp://192.168.254.254/scripts/did/app-THD-DID-2.0.0.1.tcl
  paramspace english index 1
  paramspace english language en
  paramspace english location tftp://192.168.254.254/apps/dir25/
  param secondary-prefix 4
  param did-prefix 5
  param co-did-min 00
  param co-did-max 79
  param store-did-min 00
  param store-did-max 79
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param drop-through-option

To assign the drop-through option to a Cisco Unified CME B-ACD auto-attendant (AA) application, use the **param drop-through option** command in application-parameter configuration mode. To disable this option, use the **no** form of this command.

param drop-through-option *menu-number*
no param drop-through-option *menu-number*

Syntax Description

menu-number	Menu option number (aa-hunt number) to be associated with the drop-through option.

Command Default

Drop-through option is not assigned.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice drop-through-option** command.

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured under the **service** command for an AA service.

When an AA is configured for drop-through mode, the AA sends incoming calls directly to the call queue associated with the menu number specified in this command. Once in the queue, a caller hears ringback if an agent is available or music on hold (MOH) if all agents are busy. If a greeting prompt for drop-through mode is configured using the **param drop-through-prompt** command, a caller hears the prompt before being sent to the queue as described.

The menu option number is an aa-hunt number that is associated with an ephone hunt group using the **param aa-hunt** command.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

The following example sets up a B-ACD with two AAs, both in drop-through mode. The first AA is called acdaa and it has an AA pilot number of (800) 555-0121. The second AA is aa-bcd and has an AA pilot number of (800) 555-0123. Both AAs use the call-queue service named callq. Callers to (800) 555-0121 drop directly through to the hunt group with the pilot number 5072 after hearing the greeting prompt in the audio file named en_dto_welcome.au. Callers to (800) 555-0123 drop directly through to the hunt group with the pilot number 5071 without hearing any greeting.

```
dial-peer voice 1010 pots
 service acdaa
 port 1/1/0
 incoming called-number 8005550121
dial-peer voice 1020 pots
 service aa-bcd
 port 1/1/1
```

```
 incoming called-number 8005550123
.
.
.
application
 service callq tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 5071
  param aa-hunt2 5072
  param number-of-hunt-grps 2
  param queue-len 10
!
 service acdaa tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550121
  param service-name callq
  param max-time-vm-retry 2
  param voice-mail 5007
  param call-retry-timer 20
  param number-of-hunt-grps 1
  param drop-through-prompt _bacd_dto_welcome.au
  param drop-through-option 2
  param second-greeting-time 45
  param handoff-string acdaa
  param max-time-call-retry 360
!
 service aa-bcd tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550123
  param service-name callq
  param second-greeting-time 60
  param max-time-call-retry 180
  param max-time-vm-retry 2
  param voice-mail 5007
  param call-retry-timer 5
  param handoff-string aa-bcd
  param drop-through-option 1
  param number-of-hunt-grps 1
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param drop-through-prompt

To associate an audio prompt file with the drop-through option for a Cisco Unified CME B-ACD automated attendant (AA) application, use the **param drop-through-prompt** command in application-parameter configuration mode. To disable the prompt, use the **no** form of this command.

param drop-through-prompt *audio-filename*
no param drop-through-prompt *audio-filename*

Syntax Description

audio-filename	Identifying part of the filename of the prompt to be played when calls for the drop-through option are answered.

Command Default

No prompt is designated for the drop-through option.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice drop-through-prompt** command.

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured under the **service** command for an AA service.

When an AA is configured for drop-through mode, the AA sends incoming calls directly to the call queue associated with the menu number specified in this command. Once in the queue, a caller hears ringback if an agent is available or music on hold (MOH) if all agents are busy. If an greeting prompt for drop-through mode is configured, a caller hears the prompt before being sent to the queue as described.

The menu option number is an aa-hunt number that is associated with an ephone hunt group using the **param aa-hunt** command.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

The following example sets up a B-ACD with two AAs, both in drop-through mode. The first AA is called acdaa and it has an AA pilot number of (800) 555-0121. The second AA is aa-bcd and has an AA pilot number of (800) 555-0123. Both AAs use the call-queue service named callq. Callers to (800) 555-0121 drop directly through to the hunt group with the pilot number 5072 after hearing the greeting prompt in the audio file named en_dto_welcome.au. (The prefix en is specified in the **paramspace language** command and is automatically added to the filename provided in the **param drop-through-prompt** command.) Callers to (800) 555-0123 drop directly through to the hunt group with the pilot number 5071 without hearing any greeting.

```
dial-peer voice 1010 pots
 service acdaa
 port 1/1/0
 incoming called-number 8005550121
```

```
dial-peer voice 1020 pots
 service aa-bcd
 port 1/1/1
 incoming called-number 8005550123
.
.
.
application
 service callq tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 5071
  param aa-hunt2 5072
  param number-of-hunt-grps 2
  param queue-len 10
!
 service acdaa tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550121
  param service-name callq
  param max-time-vm-retry 2
  param voice-mail 5007
  param call-retry-timer 20
  param number-of-hunt-grps 1
  param drop-through-prompt _bacd_dto_welcome.au
  param drop-through-option 2
  param second-greeting-time 45
  param handoff-string acdaa
  param max-time-call-retry 360
!
 service aa-bcd tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550123
  param service-name callq
  param second-greeting-time 60
  param max-time-call-retry 180
  param max-time-vm-retry 2
  param voice-mail 5007
  param call-retry-timer 5
  param handoff-string aa-bcd
  param drop-through-option 1
  param number-of-hunt-grps 1
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param ea-password

To create a password for accessing the extension assigner application, use the **param ea-password** command in application-parameter configuration mode.

param ea-password *password*

Syntax Description

password	Numeric string to be used as password for the extension assigner application. Password string must be 2 to 10 characters long and can contain numbers 0 to 9.

Command Default

No password is created.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)XC4	Cisco Unified CME 4.0(3)	This command was introduced.
12.4(11)XJ	Cisco Unified CME 4.1	This command was introduced.
12.4(15)T	Cisco Unified CME 4.1	This command was integrated into Cisco IOS Release 12.4(15)T.

Usage Guidelines

This command creates a password for using the extension assigner application.

If this command is not configured, you cannot use the extension assigner application.

Note There is no **no** form of this command. To change or remove the password for the extension assigner application, remove the service using the **no** form of the **service** command in application configuration mode.

Examples

The following example shows that a password (1234) is configured for the extension assigner application:

```
application
 service EA flash:ea/app-cme-ea-2.0.0.0.tcl
  paramspace english index 0
  paramspace english language en
  param ea-password 1234
  paramspace english location flash:ea/

paramspace english prefix en
```

Related Commands

	Description
application	Enters application configuration mode.

	Description
service	Loads and configures a specific, standalone application on a dial peer.

param handoff-string

To specify the name of a Cisco Unified CME B-ACD auto-attendant (AA) to be passed to the call-queue script, use the **param handoff-string** command in application-parameter configuration mode. To disable the handoff string, use the no form of this command.

param handoff-string *aa-service-name*
no param drop-through-prompt *aa-service-name*

Syntax Description

aa-service-name	Service name that was assigned to the AA script with the **service** command.

Command Default

No string is designated to be passed to the call-queue service.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice handoff-string** command.

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured under the **service** command for an AA service.

The handoff string is used only when the call-queue script starts for the first time or restarts after a failure.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

The following example sets parameters for an AA application called aa and a call-queue application called queue. The direct-dial number to reach the AA service is (800) 555-0100. Callers to this number drop through to the ephone hunt group that has a pilot number of 5071 after hearing the initial prompt from the file en_dt_prompt.au. The AA name, aa is passed to the call-queue service in the **param handoff-string** command.

```
dial-peer voice 1000 pots
 service aa
 port 1/1/0
 incoming called-number 8005550100
ephone-hunt 10 sequential
 pilot 5071
 list 5011, 5012, 5013, 5014, 5015
!
application
 service callq tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 5071
  param number-of-hunt-grps 1
  param queue-len 10
!
 service aa tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
```

```
paramspace english location tftp://192.168.254.254/user1/prompts/
paramspace english index 0
paramspace english language en
param aa-pilot 8005550100
param number-of-hunt-groups 1
param service-name callq
param handoff-string aa
param second-greeting-time 60
param drop-through-option 1
param drop-through-prompt _dt_prompt.au
param call-retry-timer 15
param max-time-call-retry 700
param voice-mail 5000
param max-time-vm-retry 2
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param max-extension-length

To specify the maximum number of digits callers can dial when they choose the dial-by-extension option from the Cisco Unified CME B-ACD service, use the **param max-extension-length** command in application-parameter configuration mode. To return to the default, use the **no** form of this command.

param max-extension-length *number*
no param max-extension-length *number*

Syntax Description

number	Number of digits. The lower limit is 0; there is no upper limit. The default is 5.

Command Default

The default number of digits callers can dial using the dial-by-extension option is 5.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice max-extension-length** command.

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured under the **service** command for an AA service.

Use this command to restrict the number of digits that callers can dial when using the dial-by-extension option.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

The following example sets parameters for an AA application called aa and a call-queue application called queue. The direct-dial number to reach the AA service is (800) 555-0100. Callers to this number can press 1 to be connected to the ephone hunt group with the pilot number 5071 or can press 2 to dial an extension number of 4 or fewer digits.

```
dial-peer voice 1000 pots
 service aa
 port 1/1/0
 incoming called-number 8005550100
ephone-hunt 10 sequential
 pilot 5071
 list 5011, 5012, 5013, 5014, 5015
!
application
 service callq tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 5071
  param number-of-hunt-grps 1
  param queue-len 10
!
 service aa tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
```

```
paramspace english index 0
paramspace english language en
param aa-pilot 8005550100
param welcome-prompt _aa_welcome.au
param number-of-hunt-groups 1
param dial-by-extension-option 2
param max-extension-length 4
param service-name callq
param handoff-string aa
param second-greeting-time 60
param call-retry-timer 15
param max-time-call-retry 700
param voice-mail 5000
param max-time-vm-retry 2
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param max-time-call-retry

To specify the maximum length of time for which calls to the Cisco Unified CME B-ACD service can stay in a call queue, use the **param max-time-call-retry command in** application-parameter configuration mode. To return to the default, use the **no** form of this command.

param max-time-call-retry *seconds*
no param max-time-call-retry

Syntax Description

seconds	Maximum length of time that the call-queue service can keep redialing a hunt group pilot number, in seconds. Range: 20 to 3600. Default: 600.

Command Default

A call in a B-ACD call queue continues to try to connect to a hunt group for 600 seconds.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice max-time-call-retry** command.
12.4(20)YA	Cisco Unified CME 7.0(1)	The minimum value of the *seconds* argument was increased from 0 to 20.
12.4(22)T	Cisco Unified CME 7.0(1)	This command was integrated into Cisco IOS Release 12.4(22)T.

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution (B-ACD) and Auto-Attendant (AA) service. Configure this command under the **service** command for an AA service.

A call to a Cisco Unified CME B-ACD service is put into a call queue if the hunt group that the call tried to reach has no phones available to take the call because they are all busy. While the call is in the queue, a second greeting is played at intervals specified by the **param second-greeting-time** command. From the queue, the call makes retries to connect at intervals specified by the **param call-retry-timer** command until the maximum amount of time to be spent in the queue expires. The maximum amount of time is set by the **param max-time-call-retry** command. After the maximum amount of time expires, the call is routed to the alternate destination specified in the **param voice-mail** command. If the alternate destination number is busy, the call makes the number of retries to connect specified in the **param max-time-vm-retry** command. If the call is unable to connect to the alternate destination after the number of retries that has been specified, it is disconnected.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For configuration information, see the "Setting Up Call-Queue and AA Services" section in the *Cisco Unified CME B-ACD and Tcl Call-Handling Applications* document.

Examples

The following example sets parameters for an AA application called aa and a call-queue application called queue. The direct-dial number to reach the AA service is (800) 555-0100. Callers to this number can press 1 to be connected to the ephone hunt group with the pilot number 5071 or can press 2 to dial an extension number of 4 or fewer digits.

If a caller presses 2 and all the phones in ephone-hunt group 10 are busy, the call is put into a queue for hunt group 10. Every 60 seconds, the caller hears the second greeting, which is “Please continue to hold. An agent will be with you shortly.” Every 15 seconds, the call-queue service tries again to connect the call to the hunt group. If no phones become available before 700 seconds expire, the call is routed to extension 5000. If that extension is busy, the call-queue service retries it 2 times more. If the call still cannot be connected, it is disconnected.

```
dial-peer voice 1000 pots
 service aa
 port 1/1/0
 incoming called-number 8005550100

ephone-hunt 10 sequential
 pilot 5071
 list 5011, 5012, 5013, 5014, 5015
!
application
 service callq tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 5071
  param number-of-hunt-grps 1
  param queue-len 10
!
 service aa tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550100
  param welcome-prompt _aa_welcome.au
  param number-of-hunt-groups 1
  param dial-by-extension-option 2
  param max-extension-length 4
  param service-name callq
  param handoff-string aa
  param second-greeting-time 60
  param call-retry-timer 15
  param max-time-call-retry 700
  param voice-mail 5000
  param max-time-vm-retry 2
```

Related Commands

Command	Description
application	Enters application configuration mode.
call application voice load	Reloads the selected voice application script after it is modified.
param call-retry-timer	Specifies the time interval before each attempt to retry to connect a call to an ephone hunt group in a Cisco Unified CME B-ACD service.
param max-time-vm-retry	Specifies the maximum number of times that calls in a Cisco Unified CME B-ACD call queue can attempt to connect to the alternate destination number.

Command	Description
param second-greeting-time	Sets the length of the intervals between replays of the second greeting to calls waiting in hunt group call queues that are part of a Cisco Unified CME B-ACD service.
param voice-mail	Sets an alternate destination number to which to route calls that cannot be connected to a hunt group that is part of a Cisco Unified CME B-ACD service.
service	Enters application-parameter configuration mode to specify the name of the application and the location of the Tcl script to load.

param max-time-vm-retry

To specify the maximum number of times that calls in a Cisco Unified CME B-ACD call queue can attempt to connect to the alternate destination number, use the **param max-time-vm-retry** command in application-parameter configuration mode. To return to the default, use the **no** form of this command.

param max-time-vm-retry *number*
no param max-time-vm-retry *number*

Syntax Description

number	Number of times that the alternate destination number is redialed by the call-queue service. Range is from 1 to 3. Default is 1.

Command Default

A call in a B-ACD call queue tries to connect to an alternate destination number 1 time.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice max-time-vm-retry** command.

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured under the **service** command for an AA service.

A call to a Cisco Unified CME B-ACD service is put into a call queue if the hunt group that the call tried to reach has no phones available to take the call because they are all busy. While the call is in the queue, a second greeting is played at intervals specified by the **param second-greeting-time** command. From the queue, the call makes retries to connect at intervals specified by the **param call-retry-timer** command until the maximum amount of time to be spent in the queue expires. The maximum amount of time is set by the **param max-time-call-retry** command. After the maximum amount of time expires, the call is routed to the alternate destination specified in the **param voice-mail** command. If the alternate destination number is busy, the call makes the number of retries to connect specified in the **param max-time-vm-retry command.** If the call is unable to connect to the alternate destination after the number of retries that has been specified, it is disconnected.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

The following example sets parameters for an AA application called aa and a call-queue application called queue. The direct-dial number to reach the AA service is (800) 555-0100. Callers to this number can press 1 to be connected to the ephone hunt group with the pilot number 5071 or can press 2 to dial an extension number of 4 or fewer digits.

If a caller presses 2 and all the phones in ephone-hunt group 10 are busy, the call is put into a queue for hunt group 10. Every 60 seconds, the caller hears the second greeting, which is “Please continue to hold. An agent will be with you shortly.” Every 15 seconds, the call-queue service tries again to connect the call to the hunt group. If no phones become available before 700 seconds expire, the call is routed to extension 5000. If that extension is busy, the call-queue service retries it 2 times more. If the call still cannot be connected, it is now disconnected.

```
dial-peer voice 1000 pots
 service aa
 port 1/1/0
 incoming called-number 8005550100
ephone-hunt 10 sequential
 pilot 5071
 list 5011, 5012, 5013, 5014, 5015
!
application
 service callq tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 5071
  param number-of-hunt-grps 1
  param queue-len 10
!
 service aa tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550100
  param welcome-prompt _aa_welcome.au
  param number-of-hunt-groups 1
  param dial-by-extension-option 2
  param max-extension-length 4
  param service-name callq
  param handoff-string aa
  param second-greeting-time 60
  param call-retry-timer 15
  param max-time-call-retry 700
  param voice-mail 5000
  param max-time-vm-retry 2
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param menu-timeout

To set the number of times the AA service will loop the menu prompt before connecting the caller to an operator if the caller does not select a menu option, use the **param menu-timeout** command in application-parameter configuration mode. To return to the default, use the **no** form of this command.

param menu-timeout *number*
no param menu-timeout

Syntax Description

number	Times to replay menu prompt before connecting a caller to an operator. Range: 0 to 10. Default: 4.

Command Default

Auto-attendant service replays menu prompt 4 times before connecting the caller to an operator.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced.
12.4(22)YA	Cisco Unified CME 7.0(1)	The minimum value of the *number* argument was decreased from 1 to 0.
12.4(22)T	Cisco Unified CME 7.0(1)	This command was integrated into Cisco IOS Release 12.4(22)T.

Usage Guidelines

This command is used with Cisco Unified CME Basic Automatic Call Distribution (B-ACD) and Auto-Attendant (AA) service.

If a caller does not select a menu option before the timeout set with this command expires, the call is transferred to the operator hunt group. The operator hunt-group is the hunt group with the highest aa-hunt number set with the **param aa-hunt** command.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For configuration information, see the "Setting Up Call-Queue and AA Services" section in the *Cisco Unified CME B-ACD and Tcl Call-Handling Applications* document.

Examples

The following example shows the menu timeout set to 5 replays for the AA application called order1-aa:

```
application
  service acme-aa1 tftp://192.168.254.254/acme/bacd/app-b-acd-aa-2.1.2.3.tcl
  paramspace english index 1
  param menu-timeout 5
  param handoff-string acme-aa1
  param dial-by-extension-option 2
  paramspace english language en
  param max-time-vm-retry 2
  param max-extension-length 4
  param aa-pilot 8005550100
  paramspace english location flash:/bacd/
  param second-greeting-time 60
```

```
param welcome-prompt _aa_welcome.au
param number-of-hunt-groups 1
param call-retry-timer 15
param max-time-call-retry 700
param voice-mail 5000
param service-name callq
```

Related Commands

Command	Description
application	Enters application configuration mode.
call application voice load	Reloads the selected voice application script after it is modified.
param aa-hunt	Declares a Cisco Unified CME B-ACD menu number and associates it with the pilot number of an ephone hunt group.
service	Enters application-parameter configuration mode to specify the name of the application and the location of the Tcl script to load.

param number-of-hunt-grps

To specify the number of hunt groups used with a Cisco Unified CME B-ACD call-queue or AA service, use the **param number-of-hunt-grps** command in application-parameter configuration mode. To return to the default, use the **no** form of this command.

param number-of-hunt-grps *number*
no param number-of-hunt-grps *number*

Syntax Description

number	Number of ephone hunt groups used by the service. Range is 1 to 10 for the call-queue service and 1 to 3 for an automated attendant (AA) service.

Command Default

This parameter is not set.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice number-of-hunt-grps** command.

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured both under the **service** command for the call-queue service and under the **service** command for an AA service.

The number of hunt groups specified for the call-queue service is the total of the number of hunt groups used with all the AAs with which it is associated. For example, if a B-ACD has three AAs, each with two hunt groups, the number of hunt groups for each AA is two and the number of hunt groups for the call-queue service is six.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

A call-queue service called CQ is set up to work with two AA services. CQ lists 4 as the number of hunt groups it uses. AA1 is associated with 3 hunt groups, and its callers hear the following prompt: “Press 1 for sales, press 2 for service, press 0 for operator.” AA2 uses drop-through mode. Its callers do not hear a prompt and are directly connected to the single hunt group that is associated with it.

```
application
 service CQ tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 1001
  param aa-hunt2 2001
  param aa-hunt3 3001
  param aa-hunt4 4001
  param number-of-hunt-grps 4
  param queue-len 10
 service AA1 tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
```

```
 paramspace english index 0
 paramspace english language en
 param aa-pilot 8005550111
 param number-of-hunt-groups 3
 param service-name CQ
 param welcome-prompt _bacd_welcome.au
 param handoff-string AA1
service AA2 tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
 paramspace english location tftp://192.168.254.254/user1/prompts/
 paramspace english index 0
 paramspace english language en
 param aa-pilot 8005550122
 param number-of-hunt-groups 1
 param service-name CQ
 param drop-through-option 4
 param handoff-string AA2
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param queue-exit-extension

To assign an extension number to a call-queue exit option, use the **param queue-exit-extension** command in application-parameter configuration mode. To remove an exit option, use the **no** form of this command.

param queue-exit-extension *option-number extension-number*
no param queue-exit-extension *option-number*

Syntax Description

option-number	Number of the call-queue exit option. Range: 1 to 3. There is no default.
extension-number	Extension number associated with the exit option.

Command Default

Call-queue exit option is not defined.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(22)YA	Cisco Unified CME 7.0(1)	This command was introduced.
12.4(22)T	Cisco Unified CME 7.0(1)	This command was integrated into Cisco IOS Release 12.4(22)T.

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution (B-ACD) and Auto-Attendant (AA) service.

Use this command together with the **param queue-exit-option** command to enable callers to select from up to three different options to exit from a call queue. The *option-number* argument in this command corresponds to the *option-number* argument in the **param queue-exit-option** command.

You can record a customized second greeting that offers callers up to three options to exit from the call queue. For example, you might record a message that says, “To leave a message, press 6; to hear more options, press 7; to speak to an operator, press 8.”

This second greeting is stored in the audio file named en_bacd_allagentsbusy.au. You can record over the default message in this file, provided you do not change the name of the file.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For configuration information, see the “Setting Up Call-Queue and AA Services” section in the *Cisco Unified CME B-ACD and Tcl Call-Handling Applications* document.

Examples

The following example shows that the acme-aa1 application has three exit options defined for its call-queue service:

```
application
  service acme-aa1 tftp://192.168.254.254/acme/bacd/app-b-acd-aa-2.1.2.3.tcl
  param dial-by-extension-option 7
  param handoff-string acme-aa1
  paramspace english index 1
  param queue-exit-option2 7
  param max-time-vm-retry 2
```

```
paramspace english language en
param aa-pilot 801
param max-extension-length 4
param queue-overflow-extension 101
param queue-exit-extension2 101
param second-greeting-time 20
param queue-exit-option1 6
paramspace english location flash:/bacd/
param send-account true
param call-retry-timer 20
param queue-exit-option3 8
param voice-mail 444
param max-time-call-retry 60
param service-name sf-queue
param queue-exit-extension1 202
param number-of-hunt-grps 1
param drop-through-option 1
param queue-exit-extension3 444
```

Related Commands

Command	Description
application	Enters application configuration mode.
call application voice load	Reloads the selected voice application script after it is modified.
param queue-exit-option	Assigns a menu number to a call-queue exit option.
service	Enters application-parameter configuration mode to specify the name of the application and the location of the Tcl script to load.

param queue-exit-option

To assign a menu number to a call-queue exit option, use the **param queue-exit-option** command in application-parameter configuration mode. To disable this option, use the **no** form of this command.

param queue-exit-option *option-number menu-number*
no param queue-exit-option *option-number*

Syntax Description

option-number	Number of the call-queue exit option. Range: 1 to 3. There is no default.
menu-number	Menu option number associated with the exit option.

Command Default

Call-queue exit option is not assigned.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(22)YA	Cisco Unified CME 7.0(1)	This command was introduced.
12.4(22)T	Cisco Unified CME 7.0(1)	This command was integrated into Cisco IOS Release 12.4(22)T.

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution (B-ACD) and Auto-Attendant (AA) service.

Use this command together with the **param queue-exit-extension** command to enable callers to select from up to three different options to exit from a call queue. The *option-number* argument in this command corresponds to the *option-number* argument in the **param queue-exit-extension** command.

You can record a customized second greeting that offers callers up to three options to exit from the call queue. For example, you might record a message that says, “To leave a message, press 6; to hear more options, press 7; to speak to an operator, press 8.”

This second greeting is stored in the audio file named en_bacd_allagentsbusy.au. You can record over the default message in this file, provided you do not change the name of the file.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For configuration information, see the “Setting Up Call-Queue and AA Services” section in the *Cisco Unified CME B-ACD and Tcl Call-Handling Applications* document.

Examples

The following example shows that the acme-aa1 application has three exit options defined for its call-queue service:

```
application
  service acme-aa1 tftp://192.168.254.254/acme/bacd/app-b-acd-aa-2.1.2.3.tcl
  param dial-by-extension-option 7
  param handoff-string acme-aa1
  paramspace english index 1
  param queue-exit-option2 7
  param max-time-vm-retry 2
```

```
paramspace english language en
param aa-pilot 801
param max-extension-length 4
param queue-overflow-extension 101
param queue-exit-extension2 101
param second-greeting-time 20
param queue-exit-option1 6
paramspace english location flash:/bacd/
param send-account true
param call-retry-timer 20
param queue-exit-option3 8
param voice-mail 444
param max-time-call-retry 60
param service-name sf-queue
param queue-exit-extension1 202
param number-of-hunt-grps 1
param drop-through-option 1
param queue-exit-extension3 444
```

Related Commands

Command	Description
application	Enters application configuration mode.
call application voice load	Reloads the selected voice application script after it is modified.
param queue-exit-extension	Assigns an extension number to a call-queue exit option.
service	Enters application-parameter configuration mode to specify the name of the application and the location of the Tcl script to load.

param queue-len

To specify the number of calls that can be held in each call queue in a Cisco Unified CME B-ACD service, use the **param queue-len** command in application-parameter configuration mode. To return to the default, use the **no** form of this command.

param queue-len *number*
no param queue-len *number*

Syntax Description

number	Number of calls that can be held in a call queue. Range is 1 to 30. Default is 10.

Command Default

The default queue length is 10.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice queue-len command.**

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured under the **service** command for a call-queue service.

This command specifies the maximum number of calls that can be held in a call queue for a hunt group used with B-ACD when all of the hunt group member phones are busy.

Note that having calls in queue keeps PSTN ports occupied for a longer time, and you may want to plan for more ports if you have longer queues. The maximum number of calls allowed in the queues of ephone hunt groups must be based on the number of ports or trunks available. For example, if you have 20 foreign exchange office (FXO) ports and two ephone hunt groups, you can configure a maximum of ten calls per ephone hunt-group queue using the **param queue-len 10** command. You can use the same configuration if you have a single T1 trunk, which supports 23 channels.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

A call-queue service called CQ is set up to work with two AA services. CQ lists four as the number of hunt groups it uses. AA1 is associated with three hunt groups, and its callers hear the following prompt: “Press 1 for sales, press 2 for service, press 0 for operator.” AA2 uses drop-through mode. Its callers do not hear a prompt and are directly connected to the single hunt group that is associated with it. Up to 12 calls can be held in the call queue for each hunt group if all the phones in the hunt group are busy.

```
application
 service CQ tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 1001
  param aa-hunt2 2001
  param aa-hunt3 3001
```

```
 param aa-hunt4 4001
 param number-of-hunt-grps 4
 param queue-len 12
service AA1 tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
 paramspace english location tftp://192.168.254.254/user1/prompts/
 paramspace english index 0
 paramspace english language en
 param aa-pilot 8005550111
 param number-of-hunt-groups 3
 param service-name CQ
 param welcome-prompt _bacd_welcome.au
 param handoff-string AA1
service AA2 tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
 paramspace english location tftp://192.168.254.254/user1/prompts/
 paramspace english index 0
 paramspace english language en
 param aa-pilot 8005550122
 param number-of-hunt-groups 1
 param service-name CQ
 param drop-through-option 4
 param handoff-string AA2
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param queue-manager-debugs

To enable the collection of call-queue debug information in a Cisco Unified CME B-ACD service, use the **param queue-manager-debugs** command in application-parameter configuration mode. To remove the setting, use the **no** form of this command with the keyword that was previously used.

param queue-manager-debugs [{**0** | **1**}]
no param queue-manager-debugs [{**0** | **1**}]

Syntax Description

0	Disables collection of call-queue debug information.
1	Enables collection of call-queue debug information

Command Default

Collection of debug information is disabled.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice queue-manager-debugs command.**

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured under the **service** command for the call-queue service.

This command enables the collection of data regarding call queue activity. It is used in conjunction with the **debug voip ivr script command.** Both commands must be enabled at the same time.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

A call-queue service called CQ is set up to work with two AA services. CQ lists four as the number of hunt groups it uses. AA1 is associated with three hunt groups, and its callers hear the following prompt: "Press 1 for sales, press 2 for service, press 0 for operator." AA2 uses drop-through mode. Its callers do not hear a prompt and are directly connected to the single hunt group that is associated with it. Up to ten calls can be held in the call queue for each hunt group if all the phones in the hunt group are busy with other calls. Call-queue debugging is enabled.

```
application
 service CQ tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 1001
  param aa-hunt2 2001
  param aa-hunt3 3001
  param aa-hunt4 4001
  param number-of-hunt-grps 4
  param queue-len 10
 service AA1 tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
```

```
 paramspace english index 0
 paramspace english language en
 param aa-pilot 8005550111
 param number-of-hunt-groups 3
 param service-name CQ
 param welcome-prompt _bacd_welcome.au
 param handoff-string AA1
service AA2 tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
 paramspace english location tftp://192.168.254.254/user1/prompts/
 paramspace english index 0
 paramspace english language en
 param aa-pilot 8005550122
 param number-of-hunt-groups 1
 param service-name CQ
 param drop-through-option 4
 param handoff-string AA2
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param queue-overflow-extension

To set the extension number to route calls to when the call queue for the auto-attendant service is full, use the **param queue-overflow-extension** command in application-parameter configuration mode. To return to the default, use the **no** form of this command.

param queue-overflow-extension *extension-number*
no param queue-overflow-extension

Syntax Description

extension-number	Extension number to which the auto-attendant service forwards calls when the call queue is full.

Command Default

No overflow extension is defined. Calls disconnect if the queue becomes full.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(22)YA	Cisco Unified CME 7.0(1)	This command was introduced.
12.4(22)T	Cisco Unified CME 7.0(1)	This command was integrated into Cisco IOS Release 12.4(22)T.

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution (B-ACD) and Auto-Attendant (AA) service.

This command specifies the extension number where calls are sent when the number of calls waiting in a B-ACD call queue exceeds the number set with the **param queue-len** command.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For configuration information, see the "Setting Up Call-Queue and AA Services" section in the *Cisco Unified CME B-ACD and Tcl Call-Handling Applications* document.

Examples

The following example shows that the AA application named acme-aa1 uses the call-queue service named CQ. When the number of calls in the queue exceeds 12, new calls that cannot be answered by an agent are sent to extension 5100.

```
application
  service CQ tftp://192.168.254.254/acme/bacd/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 1001
  param aa-hunt2 2001
  param aa-hunt3 3001
  param aa-hunt4 4001
  param number-of-hunt-grps 4
  param queue-len 12
  !
!
 application
  service acme-aa1 tftp://192.168.254.254/acme/bacd/app-b-acd-aa-2.1.2.3.tcl
  paramspace english index 1
```

```
param handoff-string acme-aa1
param dial-by-extension-option 2
paramspace english language en
param aa-pilot 8005550100
param queue-overflow-extension 5100
paramspace english location flash:/bacd/
param welcome-prompt _aa_welcome.au
param number-of-hunt-groups 1
param voice-mail 5000
param service-name CQ
```

Related Commands

Command	Description
application	Enters application configuration mode.
call application voice load	Reloads the selected voice application script after it is modified.
param queue-len	Specifies the number of calls that can be held in each call queue in a Cisco Unified CME B-ACD service.
service	Enters application-parameter configuration mode to specify the name of the application and the location of the Tcl script to load.

param secondary-prefix

To set a prefix to add to digits coming from the PSTN Central Office (CO) to route calls from a secondary Cisco Unified CME router to a primary Cisco Unified CME router when using the Direct Inward Dial (DID) Digit Translation Service, use the **param secondary-prefix** command in application-parameter configuration mode. To disable this option, use the **no** form of this command.

param secondary-prefix *secondary-prefix*
no param secondary-prefix *secondary-prefix*

Syntax Description

secondary-prefix	Prefix to add to digits in order to route calls to the primary Cisco Unified CME router. Range is from 0 to 99.

Command Default

No prefix is defined.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)XC	Cisco Unified CME 4.0	This command was introduced to replace the **call application voice secondary-prefix** command.
12.4(9)T	Cisco Unified CME 4.0	This command replaced the **call application voice secondary-prefix** command and was integrated into Cisco IOS Release 12.4(9)T.

Usage Guidelines

This command is used with the Cisco Unified CallManager Express (Cisco Unified CME) DID Digit Translation Service, which provides number translation for DID calls when the range of DID digits provided by the PSTN Central Office (CO) does not match the digits in the Cisco Unified CME extension numbers.

The Tcl script that provides the service accepts PSTN DID numbers of any length and maps them to the internal extension numbers that are assigned by a system administrator. Where necessary, a prefix is appended to the DID digits to create a valid extension number. The script uses the parameters that you input to determine the valid range of digits to be accepted from the CO, the valid range of digits in the local dial plan, and the prefix to append, if necessary. The script also handles DID calls that map to invalid extension numbers: a prompt is played and the calls are disconnected.

When calls are received by a secondary Cisco Unified CME router, they are routed to the primary router by configuring an H.323 VoIP dial peer and matching the destination pattern for that dial peer. The DID prefix that was configured for use with the DID script is appended to the incoming DID digits first. The secondary prefix is appended next. For example, if the incoming DID digits are 25, the DID prefix is 3, and the secondary prefix is 7, the transformed number will be 7325. The transformed number matches a VoIP dial peer, which uses the **forward-digits** command to send only the three relevant digits, the extension number, to the primary router.

See the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

The following example configures a Basic DID application on the Cisco Unified CME router. It sets a prefix of 5 to apply to the digits coming from the CO in order to construct a valid extension number. Then the secondary prefix (4) is appended. If the incoming DID digits are 25, the DID prefix is 5, and the secondary prefix is 4, then the transformed number is 4525. The transformed number matches VoIP dial peer 1000. The VoIP dial peer sends calls to the primary Cisco Unified CME router using the IP address that is entered in the session target command. The dial peer uses the **forward-digits** command to send the extension number, 525, to the primary Cisco Unified CME router.

```
dial-peer voice 1000 voip
 destination-pattern 45..
 session target ipv4:10.1.1.1
 dtmf-relay h245-alphanumeric
 codec g711ulaw
 forward-digits 3
application
 service didapp tftp://192.168.254.254/scripts/did/app-THD-DID-2.0.0.1.tcl
  paramspace english index 1
  paramspace english language en
  paramspace english location tftp://192.168.254.254/apps/dir25/
  param secondary-prefix 4
  param did-prefix 5
  param co-did-min 00
  param co-did-max 79
  param store-did-min 00
  param store-did-max 79
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param second-greeting-time

To set the length of the intervals between playouts of the second greeting to calls waiting in hunt group call queues that are part of a Cisco Unified CME B-ACD service, use the **param second-greeting-time** command in application-parameter configuration mode. To return to the default, use the **no** form of this command

param second-greeting-time *seconds*
no param max-time-vm-retry *seconds*

Syntax Description

seconds	Length of time intervals between playouts of the second greeting to calls in a B-ACD call queue, in seconds. Range is from 30 to 120. Default is 60.

Command Default

The second greeting is played out every 60 seconds to calls in B-ACD call queues.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice second-greeting-time command.**

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured under the **service** command for an AA service.

A call to a Cisco Unified CME B-ACD service is put into a call queue if the hunt group that the call tried to reach has no phones available to take the call because they are all busy. While the call is in the queue, a second greeting is played at intervals specified by the **param second-greeting-time** command. From the queue, the call retries to connect to the hunt group at intervals specified by the **param call-retry-timer** command until the maximum amount of time to be spent in the queue expires. The maximum amount of time is set by the **param max-time-call-retry** command. After the maximum amount of time expires, the call is routed to the alternate destination specified in the **param voice-mail** command. If the alternate destination number is busy, the call makes the number of retries to connect specified in the **param max-time-vm-retry command.** If the call is unable to connect to the alternate destination after the number of retries that has been specified, it is disconnected.

The second greeting is stored in the audio file named en_bacd_allagentsbusy.au. You can rerecord over the default message that is provided in the file, but you cannot change the name of the file.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

The following example sets parameters for an AA application called aa and a call-queue application called queue. The direct-dial number to reach the AA service is (800) 555-0100. Callers to this number can press 1 to be connected to the ephone hunt group with the pilot number 5071 or can press 2 to dial an extension number of 4 or fewer digits.

If a caller presses 2 and all the phones in ephone-hunt group 10 are busy, the call is put into a queue for hunt group 10. Every 60 seconds, the caller hears the second greeting, which is “Please continue to hold. An agent will be with you shortly." Every 15 seconds, the call-queue service tries again to connect the call to the hunt group. If no phones become available before 700 seconds expire, the call is routed to extension 5000. If that extension is busy, the call-queue service retries it 2 times more. If the call still cannot be connected, it is now disconnected.

```
dial-peer voice 1000 pots
 service aa
 port 1/1/0
 incoming called-number 8005550100
ephone-hunt 10 sequential
 pilot 5071
 list 5011, 5012, 5013, 5014, 5015
!
application
 service callq tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 5071
  param number-of-hunt-grps 1
  param queue-len 10
!
 service aa tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550100
  param welcome-prompt _aa_welcome.au
  param number-of-hunt-groups 1
  param dial-by-extension-option 2
  param max-extension-length 4
  param service-name callq
  param handoff-string aa
  param second-greeting-time 60
  param call-retry-timer 15
  param max-time-call-retry 700
  param voice-mail 5000
  param max-time-vm-retry 2
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param send-account true

To generate call detail records (CDRs) for calls that are handled by the Cisco Unified CME B-ACD service, use the **param send-account** command in application-parameter configuration mode. To return to the default, use the **no** form of this command.

param send-account true
no param send-account true

Syntax Description

This command has no arguments or keywords.

Command Default

CDRs are not generated.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)XC	Cisco Unified CME 4.0	This command was introduced.
12.4(9)T	Cisco Unified CME 4.0	This command was integrated into Cisco IOS Release 12.4(9)T.

Usage Guidelines

This command captures CDRs in RADIUS format for calls handled by the Cisco Unified CME Basic Automatic Call Distribution (B-ACD) and Auto-Attendant (AA) service. The call record includes the name of the AA service, hunt group pilot-number, and globally unique identifier (GUID).

For configuration information, see the "Setting Up Call-Queue and AA Services" section in the *Cisco Unified CME B-ACD and Tcl Call-Handling Applications* document.

For information on enabling RADIUS accounting, see the CDR Accounting for Cisco IOS Voice Gateways guide.

Examples

The following example shows that calls using the acme-aa1 service generate a call detail record:

```
application
  service acme-aa1 tftp://192.168.254.254/acme/bacd/
app-b-acd-aa-2.1.2.3.tcl
  paramspace english index 1
  param handoff-string acme-aa1
  param dial-by-extension-option 2
  paramspace english language en
  param aa-pilot 8005550100
  paramspace english location flash:/bacd/
  param welcome-prompt _aa_welcome.au
  param send-account true
  param number-of-hunt-groups 1
  param voice-mail 5000
  param service-name callq
```

Related Commands

Command	Description
application	Enters application configuration mode.

Command	Description
call application voice load	Reloads the selected voice application script after it is modified.
gw-accounting aaa	Enables the gateway to send accounting CDRs to the RADIUS server using VSAs (attribute 26).
service	Enters application-parameter configuration mode to specify the name of the application and the location of the Tcl script to load.

param service-name

To specify a Cisco Unified CME B-ACD call-queue service to use with an automated attendant (AA) service, use the **param service-name** command in application-parameter configuration mode. To return to the default, use the **no** form of this command.

param service-name *queue-service-name*
no param service-name *queue-service-name*

Syntax Description

queue-service-name	Name that was assigned to the B-ACD call-queue service with the **service** command.

Command Default

No call-queue service is specified.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice service-name command.**

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured under the **service** command for an AA service.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information, the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

A call-queue service called CQ is set up to work with two AA services. CQ lists four as the number of hunt groups it uses. AA1 is associated with three hunt groups, and its callers hear the following prompt: "Press 1 for sales, press 2 for service, press 0 for operator." AA2 uses drop-through mode. Its callers do not hear a prompt and are directly connected to the single hunt group that is associated with it. Up to ten calls can be held in the call queue for each hunt group if all the phones in the hunt group are busy with other calls. Call-queue debugging is enabled.

```
application
 service CQ tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 1001
  param aa-hunt2 2001
  param aa-hunt3 3001
  param aa-hunt4 4001
  param number-of-hunt-grps 4
  param queue-len 10
 service AA1 tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550111
  param number-of-hunt-groups 3
  param service-name CQ
  param welcome-prompt _bacd_welcome.au
```

```
 param handoff-string AA1
service AA2 tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
 paramspace english location tftp://192.168.254.254/user1/prompts/
 paramspace english index 0
 paramspace english language en
 param aa-pilot 8005550122
 param number-of-hunt-groups 1
 param service-name CQ
 param drop-through-option 4
 param handoff-string AA2
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param store-did-max

To set the upper boundary of the range of digits that is valid in the Cisco Unified CME numbering plan used with the Direct Inward Dial (DID) Digit Translation Service, use the **param store-did-max** command in global configuration mode. To disable this option, use the **no** form of this command.

param store-did-max *max-store-value*
no param store-did-max *max-store-value*

Syntax Description

max-store-value	Maximum value of digits in the Cisco Unified CME dial plan. The digit string can be any length, but the string length must be the same in the **param co-did-max**, **param co-did-min**, **param store-did-max**, and **param store-did-min** commands.

Command Default

No maximum value is defined for the range of digits in the dial plan.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)XC	Cisco Unified CME 4.0	This command was introduced to replace the **call application voice store-did-max** command.
12.4(9)T	Cisco Unified CME 4.0	This command replaced the **call application voice store-did-max** command and was integrated into Cisco IOS Release 12.4(9)T.

Usage Guidelines

This command defines the upper limit of the range of digits in the site dial plan for the Cisco Unified CallManager Express (Cisco Unified CME) Direct Inward Dial Digit Translation Service, which provides number translation for DID calls when the DID digits provided by the PSTN Central Office (CO) do not match the digits in the Cisco Unified CME extension numbers.

The Tcl script that provides the service accepts PSTN DID numbers of any length and maps them to the internal extension numbers that are assigned by a system administrator. Where necessary, a prefix is appended to the DID digits to create a valid extension number. The script uses the parameters that you input to determine the valid range of digits to be accepted from the CO, the valid range of digits in the local dial plan, and the prefix to append, if necessary. The script also handles DID calls that map to invalid extension numbers. A prompt is played and the calls are disconnected.

Examples

The following example configures Direct Inward Dial Digit Translation Service on the Cisco Unified CME router. It sets a lower boundary of 00 and an upper boundary of 79 for the range of digits in the Cisco Unified CME extension dial plan. Notice that the length of the digit string is the same (2 digits) for all related commands.

```
application
 service didapp tftp://192.168.254.254/scripts/did/app-THD-DID-2.0.0.1.tcl
  paramspace english index 1
  paramspace english language en
  paramspace english location tftp://192.168.254.254/apps/dir25/
  param secondary-prefix 4
```

```
param did-prefix 5
param co-did-min 00
param co-did-max 79
param store-did-min 00
param store-did-max 79
```

Related Commands

Command	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.
param co-did-max	Sets the upper boundary of the range of valid digits coming from the PSTN Central Office (CO) that is used with the Direct Inward Dial Digit Translation Service.
param co-did-min	Sets the lower boundary of the range of valid digits coming from the PSTN Central Office (CO) that is used with the Direct Inward Dial Digit Translation Service.
param store-did-min	Sets the lower boundary of the range of digits that is valid in the Cisco Unified CME numbering plan that is used with the Direct Inward Dial Digit Translation Service.

param store-did-min

To set the lower boundary of the range of digits that is valid in the Cisco Unified CME numbering plan used with the Direct Inward Dial (DID) Digit Translation Service, use the **param store-did-min** command in application-parameter configuration mode. To disable this option, use the **no** form of this command.

param store-did-min *min-store-value*
no param store-did-min *min-store-value*

Syntax Description

min-store-value	Minimum value of digits in the Cisco Unified CME dial plan. The digit string can be any length, but the string length must be the same in the **param co-did-max**, **param co-did-min**, **param store-did-max**, and **param store-did-min** commands.

Command Default

No minimum value is defined for the range of digits in the dial plan.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)XC	Cisco Unified CME 4.0	This command was introduced to replace the **call application voice store-did-min command.**
12.4(9)T	Cisco Unified CME 4.0	This command replaced the **call application voice store-did-min** command and was integrated into Cisco IOS Release 12.4(9)T.

Usage Guidelines

This command defines the lower limit of the range of digits in the site dial plan when it is used with the Cisco Unified CallManager Express (Cisco Unified CME) DID Digit Translation Service. This service provides number translation for DID calls when the range of DID digits provided by the PSTN Central Office (CO) does not match the digits in the Cisco Unified CME extension numbers.

The Tcl script that provides the service accepts PSTN DID numbers of any length and maps them to the internal extension numbers that are assigned by a system administrator. Where necessary, a prefix is appended to the DID digits to create a valid extension number. The script uses the parameters that you input to determine the valid range of digits to be accepted from the CO, the valid range of digits in the local dial plan, and the prefix to append, if necessary. The script also handles DID calls that map to invalid extension numbers: a prompt is played and the calls are disconnected.

Examples

The following example configures DID Digit Translation Service on the Cisco Unified CME router. It sets a lower boundary of 00 and an upper boundary of 79 for the range of digits in the Cisco Unified CME extension dial plan.

```
application
 service didapp tftp://192.168.254.254/scripts/did/app-THD-DID-2.0.0.1.tcl
  paramspace english index 1
  paramspace english language en
  paramspace english location tftp://192.168.254.254/apps/dir25/
  param secondary-prefix 4
  param did-prefix 5
  param co-did-min 00
```

```
param co-did-max 79
param store-did-min 00
param store-did-max 79
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.
param co-did-max	Sets the upper boundary of the range of valid digits coming from the PSTN Central Office (CO) that is used with the DID Digit Translation Service.
param co-did-min	Sets the lower boundary of the range of valid digits coming from the PSTN Central Office (CO) that is used with the DID Digit Translation Service.
param store-did-max	Sets the upper boundary of the range of digits that is valid in the Cisco Unified CME numbering plan that is used with the DID Digit Translation Service.

param voice-mail

To set an alternate destination number to which to route calls that cannot be connected to a hunt group that is part of a Cisco Unified CME B-ACD service, use the **param voice-mail** command in application-parameter configuration mode. To return to the default, use the **no** form of this command

param voice-mail *number*
no param voice-mail *number*

Syntax Description

number	Extension number to which to route calls. The number must be associated with a dial peer that is reachable by the Cisco Unified CME system.

Command Default

No alternate destination number is set.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice voice-mail command.**

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured under the **service** command for an AA service.

Calls are diverted to an alternate destination only when one of the following criteria is met:

- The hunt group to which the call has been transferred is unavailable because all members are logged out.
- The call-queue maximum retry timer has expired.

The alternate destination can be any number at which you can assure call coverage, such as a voice-mail number, a permanently staffed number, or a number that rings an overhead night bell. Once a call is diverted to an alternate destination, it is no longer controlled by the B-ACD service. This parameter is set with the **param voice-mail** command.

If you send calls to a voice-mail system as an alternate destination, be sure to set up the voice-mail system as specified in the documentation for the system.

If you specify a number for an alternate destination, the number must be associated with a dial peer that is reachable by the Cisco Unified CME system.

For any configuration changes to take effect, you must reload the Cisco Unified CME B-ACD scripts.

For more information about B-ACD, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

The following example sets parameters for an AA application called aa and a call-queue application called queue. The direct-dial number to reach the AA service is (800) 555-0100. Callers to this number can press 1 to be connected to the ephone hunt group with the pilot number 5071 or can press 2 to dial an extension number of 4 or fewer digits.

If a caller presses 2 and all the phones in ephone-hunt group 10 are busy, the call is put into a queue for hunt group 10. Every 60 seconds, the caller hears the second greeting, which is “Please continue to hold. An agent will be with you shortly.” Every 15 seconds, the call-queue service tries again to connect the call to the hunt group. If no phones become available before 700 seconds expire, the call is routed to extension 5000, which is the alternate destination. If that extension is busy, the call-queue service retries it 2 times more. If the call still cannot be connected, it is disconnected.

```
dial-peer voice 1000 pots
 service aa
 port 1/1/0
 incoming called-number 8005550100
ephone-hunt 10 sequential
 pilot 5071
 list 5011, 5012, 5013, 5014, 5015
!
application
 service callq tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 5071
  param number-of-hunt-grps 1
  param queue-len 10
!
 service aa tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550100
  param welcome-prompt _aa_welcome.au
  param number-of-hunt-groups 1
  param dial-by-extension-option 2
  param max-extension-length 4
  param service-name callq
  param handoff-string aa
  param second-greeting-time 60
  param call-retry-timer 15
  param max-time-call-retry 700
  param voice-mail 5000
  param max-time-vm-retry 2
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

param welcome-prompt

To specify an audio file containing a prompt to be played as a welcome for callers to an automated attendant (AA) that is part of a Cisco Unified CME B-ACD service, use the **param welcome-prompt** command in application-parameter configuration mode. To return to the default, use the **no** form of this command.

param welcome-prompt *audio-filename*
no param welcome-prompt *audio-filename*

Syntax Description

audio-filename	Identifier part of name of the audio file that contains the welcome greeting to be played when callers first reach the Cisco Unified CME B-ACD service. This name does not include the language prefix and it must begin with an underscore. Default is _bacd_welcome.au.

Command Default

The audio file named en_bacd_welcome.au is used as a welcome prompt.

Command Modes

Application-parameter configuration (config-app-param)

Command History

Cisco IOS Release	Cisco Product	Modification
12.3(14)T	Cisco CME 3.3	This command was introduced to replace the **call application voice voice-mail command.**

Usage Guidelines

This command is used with the Cisco Unified CME Basic Automatic Call Distribution and Auto-Attendant (B-ACD) service. This command is configured under the **service** command for an AA service.

Each AA service that is used with the Cisco Unified CME B-ACD service needs a welcome greeting to tell callers the destination they have reached and, sometimes, the options that they have. The en_bacd_welcome.au audio file is used by default. It announces “Thank you for calling,” and includes a two-second pause after the message. The filename of the welcome prompt audio file has two parts: a two-letter prefix that denotes a language code specified in the **paramspace language** command, and the identifying part that indicates the purpose of the file. In the default welcome prompt audio file, the prefix is en and the identifying part is _bacd_welcome.au. Note that the identifying part starts with an underscore.

If your Cisco Unified CME B-ACD service uses a single AA application, you can record a custom welcome greeting in the audio file named en_welcome_prompt.au and record instructions about menu choices in the audio file named en_bacd_options_menu.au.

If your Cisco Unified CME B-ACD service uses multiple AA applications, you will need separate greetings and menu options for each AA. Use the following guidelines:

- Record a separate welcome prompt for each AA application, using a different name for the audio file for each welcome prompt. For example, en_welcome_aa1.au and en_welcome_aa2.au. The welcome prompts that you record in these files should include both the greeting and the instructions about menu options.
- Record silence in the audio file en_bacd_options_menu.au. A minimum of one second of silence must be recorded. Note that you cannot change the identifier part of the name of this audio file.

For any Cisco Unified CME B-ACD configuration changes to take effect, you must reload the scripts.

For more information, see the *Cisco Unified CallManager Express B-ACD and Tcl Call-Handling Applications* document for your release.

Examples

The following example sets parameters for two AA applications, called aa1 and aa2, and a call-queue application called queue. The direct-dial numbers to reach the AA services are (800) 555-0100 for aa1 and (800) 555-0110 for aa2. Callers to aa1 can press 1 to be connected to the ephone hunt group with the pilot number 5071 or can press 2 to dial an extension number of 4 or fewer digits. Callers to aa2 can press 2 to dial an extension number of 4 or fewer digits or press 3 to be connected to the ephone hunt group with the pilot number 5073. Both AAs share an operator hunt group, which is menu option 4.

The welcome prompt for aa1 is “Thank you for calling the Sales department. Press 1 to place an order. Press 2 if you know the extension of the party you want, or press 0 to speak to an operator.” The filename of the audio file that contains this welcome prompt is en_aa1_welcome.au.

The welcome prompt for aa2 is “Thank you for calling the Service department. Press 2 if you know the extension of the party you want. Press 3 to speak to a service technician or press 0 to speak to an operator.” The filename of the audio file that contains this welcome prompt is en_aa2_welcome.au.

```
dial-peer voice 1000 pots
 service aa1
 port 1/1/0
 incoming called-number 8005550100
dial-peer voice 1100 pots
 service aa2
 port 1/1/1
 incoming called-number 8005550110
ephone-hunt 10 sequential
 pilot 5071
 list 5011, 5012, 5013, 5014, 5015
ephone-hunt 11 sequential
 pilot 5073
 list 5021, 5022, 5023, 5024, 5025
!
application
 service callq tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd.tcl
  param queue-manager-debugs 1
  param aa-hunt1 5071
  param aa-hunt3 5073
  param aa-hunt4 6000
  param number-of-hunt-grps 3
  param queue-len 10
!
 service aa1 tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
  param aa-pilot 8005550100
  param welcome-prompt _aa1_welcome.au
  param number-of-hunt-groups 2
  param dial-by-extension-option 2
  param max-extension-length 4
  param service-name callq
  param handoff-string aa1
  param second-greeting-time 60
  param call-retry-timer 15
  param max-time-call-retry 700
  param voice-mail 5000
  param max-time-vm-retry 2
 service aa2 tftp://192.168.254.254/user1/CallQ/B-ACD/app-b-acd-aa.tcl
  paramspace english location tftp://192.168.254.254/user1/prompts/
  paramspace english index 0
  paramspace english language en
```

```
param aa-pilot 8005550110
param welcome-prompt _aa2_welcome.au
param number-of-hunt-groups 2
param dial-by-extension-option 2
param max-extension-length 4
param service-name callq
param handoff-string aa2
param second-greeting-time 60
param call-retry-timer 15
param max-time-call-retry 700
param voice-mail 5000
param max-time-vm-retry 2
```

Related Commands

	Description
application	Enters application configuration mode.
service	Enters application-parameter configuration mode and specifies a name for the application and the location of the Tcl script to load for the application.

paramspace callsetup after-hours-exempt

To specify that an individual dial peer does not have any of its calls blocked by the Cisco router even though call blocking has been enabled, use the **paramspace callsetup after-hours-exempt** command in dial-peer configuration mode. To return to the default, use the no form of this command.

paramspace callsetup after-hours-exempt {**true** | **false**}
no paramspace callsetup after-hours-exempt

Syntax Description

true	Dial peer is exempt from call-blocking configuration.
false	Dial peer is subject to call-blocking configuration. This is default.

Command Default

All dial peers are subject to call-blocking configuration.

Command Modes

Dial-peer configuration (config-dial-peer)

Command History

Cisco IOS Release	Cisco Products	Modification
12.4(4)T	Cisco CME 3.4 Cisco SRST 3.4	This command was introduced.

Usage Guidelines

This command is intended to allow H.323 and SIP trunk calls to utilize the voice gateway in spite of the the after-hours configuration in Cisco Unified CME or Cisco Unified SRST.

A Cisco voice gateway (session application) accesses the after-hours call-blocking configuration set by Cisco Unified CME or Cisco Unified SRST and blocks *all* SCCP, SIP, H.323, and POTS calls that go through the Cisco router regardless of whether the call is from a phone controlled by the Cisco router or from a phone controlled by some other call control application, such as Cisco Unified CallManager.

To disable the After Hours Call Blocking feature for incoming calls from phones other than those registered to a Cisco Unified CME or Cisco Unified SRST router, use this command to exempt an individual H.323, SIP, or POTS dial peer from the call blocking configuration.

To disable the After Hours Call Blocking feature for an individual IP phone registered in Cisco Unified CME or Cisco Unified SRST:

- In Cisco CME 3.4 and later, disable the After Hours Call Blocking feature for a directory number on a SIP phone by using the **after-hour exempt** command in voice register pool or voice register dn configuration mode.
- In Cisco CME 3.0 and later, disable the After Hours Call Blocking feature for an individual SCCP phone by using the **after-hour exempt** command in ephone or ephone-template configuration mode.
- In Cisco SIP SRST 3.4 and later, disable the After Hours Call Blocking feature for SIP phones in a voice register pool by using the **after-hour exempt** command in voice register pool configuration mode.
- In Cisco SRST, you cannot create an exemption for an individual phone from the call-blocking configuration.

Examples

The following example shows how to set the After Hours Call Blocking feature in Cisco Unified CME, and how to configure a particular dial peer (255) so that outgoing calls through this dial peer are exempt from this after-hours call blocking configuration:

```
Router(config)# telephony-service
Router(config-telephony)# after-hours block pattern 1 9011
Router(config-telephony)# exit
Router(config)# dial-peer voice 255 voip
Router(config-dial-peer)# paramspace callsetup after-hours-exempt true
```

Related Commands

	Description
after-hour exempt	Specifies that a SCCP phone does not have any of its outgoing calls blocked even though call blocking has been defined.
after-hour exempt (voice register dn)	Specifies that an individual SIP IP phone or a phone extension on a SIP IP phone does not have any of its outgoing calls blocked even though call blocking has been defined.
after-hour exempt (voice register pool)	Specifies that an individual SIP IP phone or phones in a voice register pool does not have any of its outgoing calls blocked even though call blocking has been defined.
after-hours block pattern	Defines a pattern of digits for blocking outgoing calls from IP phones.
after-hours date	Defines a recurring period based on date during which outgoing calls that match defined block patterns are blocked on IP phones.
after-hours day	Defines a recurring period based on day of the week during which outgoing calls that match defined block patterns are blocked on IP phones.

park reservation-group

To assign a call-park reservation group to a phone, use the **reservation-group** command in ephone, ephone-template, voice register pool, or voice register template configuration mode. To remove the group from the phone, use the **no** form of this command.

park reservation-group *group-number*
no park reservation-group

Syntax Description

group-number	Unique number that identifies the reservation group. String can contain up to 32 digits.

Command Default

Extension does not belong to any reservation group.

Command Modes

Ephone configuration (config-ephone)
Ephone-template configuration (config-ephone-template)
Voice register pool configuration (config-register-pool)
Voice register template configuration (config-register-temp)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(22)YB	Cisco Unified CME 7.1	This command was introduced.
12.4(24)T	Cisco Unified CME 7.1	This command was integrated into Cisco IOS Release 12.4(24)T.

Usage Guidelines

This command allows you to assign ownership to call-park slots by using Park Reservation Groups. A phone configured with a park reservation group can retrieve calls only from park slots configured with the same park reservation group. A phone without a park reservation group can retrieve calls from any park slot without an assigned park reservation group.

To assign a reservation group to a park-slot extension, use the **park-slot reservation-group** command.

If you use a template to apply a command to a phone and you also use the same command in ephone or voice register pool configuration mode for the same phone, the value that you set in the phone configuration mode has priority.

Examples

The following example shows park reservation-group 1 is assigned to phone 3 (SCCP). When calls for the Pharmacy are parked at extension 8126, phone 3 can retrieve them:

```
ephone-dn  26
 number 8126
 park-slot reservation-group 1 timeout 15 limit 2 transfer 8100
 description park slot for Pharmacy
!
!
ephone  3
 park reservation-group 1
 mac-address 002D.264E.54FA
 type 7962
 button  1:3
```

The following example shows park reservation-group 1 is assigned to phone 120 (SIP). When calls for the Pharmacy are parked at extension 8126, phone 120 can retrieve them:

```
voice register pool  120
 park reservation-group 1
 id mac 0030.94C2.A22A
 type 7962
 number 1 dn 20
```

Related Commands

Command	Description
call-park system	Defines system parameters for the call-park feature.
park-slot	Creates an extension (call-park slot) at which calls can be temporarily held (parked).

park-slot

To create an extension (call-park slot) at which calls can be temporarily held (parked), use the **park-slot** command in ephone-dn configuration mode. To disable the extension, use the **no** form of this command.

park-slot [**directed**] [**reservation-group** *group-number*] [**reserved-for** *extension-number*] [[**timeout** *seconds* **limit** *count*] [**notify** *extension-number* [**only**]] [**recall**] [**transfer** *extension-number*] [**alternate** *extension-number*] [**retry** *seconds* **limit** *count*]]
no park-slot [**directed**] [**reservation-group** *group-number*] [**reserved-for** *extension-number*] [[**timeout** *seconds* **limit** *count*] [**notify** *extension-number* [**only**]] [**recall**] [**transfer** *extension-number*] [**alternate** *extension-number*] [**retry** *seconds* **limit** *count*]]

Syntax Description

directed	(Optional) Enables Directed Call Park for this extension.
reservation-group *group-number*	(Optional) Reserves this slot for phones configured with the same reservation group.
reserved-for *extension-number*	(Optional) Reserves this slot as a private park slot for the phone with the specified extension number as its primary line. All lines on that phone can use this park slot. **Note** This keyword is ignored if the **reservation-group** keyword is used.
timeout *seconds*	(Optional) Sets the call-park reminder timeout in seconds. Range: 0 to 65535. This reminder sends a 1-second ring to the IP phone that parked the call and displays a message on the LCD panel of all phones in the Cisco Unified CME system, indicating that a call is on hold. By default, the reminder ring is sent only to the phone that parked the call.
limit *count*	(Optional) Sets a limit on the number of reminder or retry timeouts. Range: 1 to 65535.
notify *extension-number*	(Optional) Sends a reminder ring to the specified extension in addition to the reminder ring that is sent to the phone that parked the call.
only	(Optional) Sends a reminder ring only to the extension specified with the **notify** keyword and does not send a reminder ring to the phone that parked the call. This option allows all reminder rings for parked calls to be sent to a receptionist's phone or an attendant's phone, for example.
recall	(Optional) Returns the call to the phone that parked it after the timeout expires.
transfer *extension-number*	(Optional) Returns the call to the specified extension after the timeout expires.
alternate *extension-number*	(Optional) Returns the call to this second target number if the recall or transfer target phone is in use on any of its extensions (ringing or connected).
retry *seconds*	(Optional) Sets the delay before another attempt to recall or transfer a parked call, in seconds. Range: 0 to 65535. Number of attempts is set by the **limit** keyword.

Command Default

No call-park slot is defined.

Command Modes

Ephone-dn configuration (config-ephone-dn)

Command History

Release	Cisco Product	Modification
12.3(7)T	Cisco CME 3.1	This command was introduced.
12.4(4)XC	Cisco Unified CME 4.0	The **reserved-for**, **recall**, **transfer**, **alternate**, and **retry** keywords were added.
12.4(9)T	Cisco Unified CME 4.0	This command was integrated into Cisco IOS Release 12.4(24)T.
12.4(22)YB	Cisco Unified CME 7.1	The **directed** and **reservation-group** keywords and support for SIP phones was added.
12.4(24)T	Cisco Unified CME 7.1	This command was integrated into Cisco IOS Release 12.4(24)T.

Usage Guidelines

This command creates a call-park slot that is a floating extension, or ephone-dn that is not bound to a physical phone, at which phone users can place calls on hold for later retrieval from the same phone or from another phone.

At least one call-park slot must be defined with this command before the Park soft key displays on IP phones in a Cisco Unified CME system.

Phone users park calls using the Park soft key. A phone user can then retrieve a call by dialing the extension number of the call-park slot. On SCCP phones, the phone user who parks the call can also retrieve the call by using the PickUp soft key and an asterisk (*). Other SCCP phone users can retrieve the call by using the PickUp soft key and dialing the extension number of the call-park slot.

Calls can also be transferred to a call-park slot using the Transfer key; a transfer to a call-park slot is always a blind transfer. Calls can also be forwarded to a call-park slot, and callers can directly dial call-park slots.

When a call that uses a G.711 codec is parked, the caller hears the music-on-hold (MOH) audio stream; otherwise, the caller hears the on-hold tone.

The **directed** keyword enables the extension as a park slot for Directed Call Park. To retrieve a call from a directed call-park slot, you must define the retrieval prefix with the **fac** command. The retrieval prefix is supported for both SCCP and SIP phones.

The **reservation-group** keyword allows you to assign ownership to call-park slots by using Park Reservation Groups. A park slot configured with a park reservation group can only be used by phones configured with the same park reservation group. A park slot without a park reservation group can be used by any phone not assigned to a park reservation group.

A reminder ring can be sent to the extension that parked the call by using the **timeout** keyword, which sets the interval length to wait before sending call-park reminder rings. The number of time-out intervals and reminder rings are configured with the **limit** keyword and argument. For example, a limit of 3 timeout intervals sends 2 reminder rings (interval 1, ring 1, interval 2, ring 2, interval 3). The **timeout** and **limit** keywords and arguments also set the maximum time that calls stay parked. For example, a timeout interval of 10 seconds and a limit of 5 timeout intervals (**park-slot timeout 10 limit 5**) will park calls for approximately 50 seconds.

If the **timeout** keyword is not used with this command, no reminder ring is sent to the extension that parked the call. If the **timeout** keyword is used, a reminder ring is sent only to the extension that parked the call unless the **notify** keyword is also used to specify an additional extension number to receive a reminder ring.

When an additional extension number is specified using the **notify** keyword, the phone user at that extension can retrieve a call from this slot by pressing the PickUp soft key and an asterisk (*).

Each call-park slot can hold one call at a time, so the number of simultaneous calls that can be parked is equal to the number of slots that have been created. The **reserved-for** keyword creates a call-park slot that is dedicated for use by one extension so that extension always has a slot available at which to park a call. With nonreserved slots, multiple call-park slots can be created with the same extension number so that all the calls that are parked for a particular group can be parked at a known extension number. For example, at a hardware store, calls for the plumbing department can be parked at extension 101, calls for lighting can be parked at 102, and so forth. Then, anyone in the plumbing department can pick up calls from extension 101. When multiple calls are parked at the same extension number, they are picked up in the order in which they were parked; that is, the call that has been parked the longest is the first call picked up from that extension number.

IP phone users park calls at their dedicated call-park slots using the Park soft key. Phone users can also transfer calls to dedicated call-park slots using the Transfer soft key and a standard or custom feature access code (FAC) for call park. On analog phones, users transfer calls to dedicated call-park slots using hookflash and a standard or custom FAC for call park. The standard FAC for call park is **6. Custom FACs are created using the **fac** command.

If a dedicated park slot is not found for an ephone-dn attempting to park a call, Cisco Unified CME uses the standard call-park procedure; that is, the system searches for a preferred park slot (one with an ephone-dn number that matches the last two digits of the ephone-dn attempting to park the call) and if none is found, uses any available call-park slot.

If a name has been specified for a call-park slot, that name is displayed instead of an extension number on a recall or transfer of the call.

A parked call can have the following dispositions after its timeouts expire:

- Recall—If you specify that a call should be recalled to the parking phone after the timeout interval expires, the call is always returned to the phone's primary extension number, regardless of which extension on the phone did the parking.
- Transfer—If you specify a transfer target, the call is transferred to the specified number after the timeout intervals expire instead of returning to the primary number of the phone that did the parking.
- Alternate—You can also specify an alternate target extension to which to transfer a parked call if the recall or transfer target is in use. *In use* is defined as either ringing or connected to a call. For example, a call is parked at the dedicated park slot for the phone with the primary extension of 2001. After the timeouts expire, the system attempts to recall the call to extension 2001, but that line is now connected to a different call. The system transfers the call to the alternate target that was specified when the park slot was defined.
- Disconnect—When a timeout limit is set and no other disposition has been specified, a call parked at a call-park slot is disconnected after the number of reminder timeouts are reached.

Examples

Basic Call Park

The following example shows a basic call-park slot at extension 1001. After a call is parked at this number, the system provides 10 reminder rings at intervals of 30 seconds to the extension that parked the call. Any phone can retrieve calls parked at this extension.

```
ephone-dn 45
 number 1001
 park-slot timeout 30 limit 10
```

Directed Call Park (Cisco Unified CME 4.4 and Later Versions)

The following example shows two call-park slots, extension 3110 and 3111, that can be used to park calls for the pharmacy using Directed Call Park.

```
ephone-dn  10
 number 3110
 park-slot directed
 description park-slot for Pharmacy
!
ephone-dn  11
 number 3111
 park-slot directed
 description park-slot for Pharmacy
```

Park Reservation Groups (Cisco Unified CME 4.4 and Later Versions)

The following example shows park reservation groups set up for two call-park slots. Extension 8126 is configured for group 1 and assigned to phones 3 and 4. Extension 8127 is configured for group 2 and assigned to phones 10 and 11. When calls for the Pharmacy are parked at extension 8126, only phones 3 and 4 can retrieve them.

```
ephone-dn  26
 number 8126
 park-slot reservation-group 1 timeout 15 limit 2 transfer 8100
 description park slot for Pharmacy
!
ephone-dn  27
 number 8127
 park-slot reservation-group 2 timeout 15 limit 2 transfer 8100
 description park slot for Auto
!
!
ephone  3
 park reservation-group 1
 mac-address 002D.264E.54FA
 type 7962
 button  1:3
!
ephone  4
 park reservation-group 1
 mac-address 0030.94C3.053E
 type 7962
 button  1:4
!
ephone  10
 park reservation-group 2
 mac-address 00E1.CB13.0395
 type 7960
 button  1:10
!
ephone  11
 park reservation-group 2
 mac-address 0016.9DEF.1A70
 type 7960
 button  1:11
```

Dedicated Park

The following example shows a dedicated call-park slot, 2558, that is reserved for the phone that has the primary extension of 2977. Both extension 2977 and 2976 are on the same phone, so they both can use this slot, which is reserved only for the extensions on that phone. After three timeout intervals of 60 seconds, a parked call is recalled to extension 2977. If extension 2977 is busy, the call is rerouted to extension 3754.

```
ephone-dn 24
 number 2977

ephone-dn 25
 number 2976

ephone-dn 27
 number 3754

ephone-dn 30
 number 2558
 name Park 2977
 park-slot reserved-for 2977 timeout 60 limit 3 recall alternate 3754

ephone 44
 button 1:24 2:25

ephone 45
 button 1:27
```

Related Commands

Command	Description
call-park system	Defines system parameters for the call-park feature.
fac	Enables standard FACs or creates custom FACs.
number	Associates a telephone or extension number with a directory number.
park reservation-group	Assigns a call-park reservation group to a phone.

password (auto-register)

To configure the mandatory password for automatic registration of SIP phones with the Cisco Unified CME system, use the **password** command in voice auto register configuration mode. This command is a sub-mode CLI of the command **auto-register** . To disable configuring password for auto registration of SIP phones, use the **no** form of this command.

password **[0|6]** *string*
no **password**

Syntax Description

password *string*	The mandatory word string that administrator provides for auto registration of phones on Unified CME.

Command Default

By default, this command is disabled.

Command Modes

voice auto register configuration (config-voice-auto-register)

Command History

Cisco IOS Release	Cisco Product	Modification
15.6(3)M 16.3.1	Cisco Unified CME 11.5	This command was introduced.
Cisco IOS XE Gibraltar 16.11.1a Release	Unified CME 12.6	The command was enhanced for password encryption, based on Unified CME password policy.

Usage Guidelines

This command enables the administrator to configure the password credentials for SIP phones auto registering on Unified CME. It is mandatory that the password is configured before assigning the DN range.

From Unified CME 12.6 onwards, you must configure password encryption using the parameters **[0|6]**. This in accordance with Unified CME Password Policy. The 0 in the parameter [0|6] mentioned in the CLI command represents plain, unencrypted text and 6 represents level 6 password encryption.

Examples

The following example shows how to configure password for auto registration of SIP phones:

```
Router(config)#voice register global
Router(config-register-global)#auto-register
Router(config-voice-auto-register)# ?

VOICE auto register configuration commands:
auto-assign Define DN range for auto assignment
default Set a command to its defaults
exit Exit from voice register group configuration mode
no Negate a command or set its defaults
password Default password for auto-register phones
service-enable Enable SIP phone Auto-Registration
template Default template for auto-register phones

Router(config-voice-auto-register)#password ?
 WORD Password string
```

Related Commands

Command	Description
service-enable (auto-register)	Temporarily disables the auto registration process, but retains the password and DN range configurations. Once auto-register command is entered, the service is enabled by default.
auto-register	Enables automatic registration of SIP phones with the Cisco Unified CME system.
auto-assign (auto-register)	Configures the mandatory range of directory numbers for phones auto registering on Unified CME.
template (auto-register)	Creates a basic configuration template that supports all the configurations available on the voice register template.
auto-reg-ephone	Enables automatic registration of ephones with the Cisco Unified CME system.

password-persistent

To configure password-persistent option for a vpn-profile, use the **password-persistent** command in vpn-profile configuration mode.

password-persistent [{*enabledisable*}]

Syntax Description

enable	Enables password-persistent to authenticate.
disable	Disables password-persistent to authenticate.

Command Default

Password-persistent is disabled.

Command Modes

Vpn-profile configuration (conf-vpn-profile)

Command History

Cisco IOS Release	Cisco Product	Modification
15.1(3)T	Cisco Unified CME 8.5	This command was introduced.

Usage Guidelines

Use this command to enable or disable password-persistent option for a vpn-profile.

Examples

The following example shows the password-persistent command enabled for vpn-profile 2:

```
Router#show run
!
!
voice service voip
 ip address trusted list
  ipv4 20.20.20.1
 vpn-group 1
  vpn-gateway 1 https://9.10.60.254/SSLVPNphone
  vpn-trustpoint 1 trustpoint cme_cert root
  vpn-hash-algorithm sha-1
 vpn-profile 1
  keepalive 50
  host-id-check disable
 vpn-profile 2
  mtu 1300
  password-persistent enable
  host-id-check enable
 sip
!
voice class media 10
 media flow-around
!
```

Related Commands

Command	Description
vpn-profile	Defines a VPN-profile.

pattern (voice register dialplan)

To define a dial pattern for a SIP dial plan, use the **pattern** command in voice register dialplan configuration mode. To remove the pattern, use the **no** form of this command.

pattern *tag string* [**button** *button-number*] [**timeout** *seconds*] [**user** {**ip** | **phone**}]
no pattern *tag*

Syntax Description

tag	Number that identifies the dial pattern. Range: 1 to 24.
string	Dial pattern, such as the area code, prefix, and first one or two digits of the telephone number, plus wildcard characters or dots (.) for the remainder of the dialed digits.
button *button-number*	(Optional) Button to which the dial pattern applies.
timeout *seconds*	(Optional) Time, in seconds, that the system waits before dialing the number entered by the user. Range: 0 to 30. To have the number dialed immediately, specify 0. If this parameter is not used, the phone's default interdigit timeout value is used (10 seconds).
user	(Optional) Tag that automatically gets added to the dialed number. Do not use this keyword if Cisco Unified CME is the only SIP call agent.
ip	(Optional) Sets the value of the user tag to IP in the dialed number.
phone	(Optional) Sets the value of the user tag to phone in the dialed number.

Command Default

No pattern is defined.

Command Modes

Voice register dialplan configuration (config-register-dialplan)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(11)XJ	Cisco Unified CME 4.1	This command was introduced.
12.4(15)T	Cisco Unified CME 4.1	This command was integrated into Cisco IOS Release 12.4(15)T.

Usage Guidelines

This command defines a pattern of dialed digits that are matched by the phone and passed to Cisco Unified CME to initiate a call. Dial strings that match the pattern trigger the sending of a SIP INVITE message to Cisco Unified CME. Patterns are matched sequentially in order of the *tag* number.

You must first use the **type** command to specify the type of phone that the dial plan is being defined for before you can enter a pattern. Enter this command for each dial pattern that is part of the dial plan definition. After you define a dial plan, assign it to a SIP phone by using the **dialplan** command.

The **button** keyword specifies the button to which the dial pattern applies. If the user is initiating a call on line button 1, only the dial patterns specified for button 1 apply. If this keyword is not configured, the dial pattern applies to all lines on the phone. This keyword is not supported on Cisco Unified IP Phones 7905 or 7912. The button number corresponds to the order of the buttons on the side of the screen, from top to bottom, with 1 being the top button.

The **pattern** command and **filename** command are mutually exclusive. You can use either the **pattern** command to define dial patterns manually for a dial plan, or the **filename** command to select a custom dial pattern file that is loaded in system flash.

Examples

The following example shows the dial patterns set for SIP dial plan 10:

```
Router(config)# voice register dialplan 10
Router(config-register-dialplan)# type 7905-7912
Router(config-register-dialplan)# pattern 52...
Router(config-register-dialplan)# pattern 91.......
```

Related Commands

	Description
dialplan	Assigns a dial plan to a SIP phone.
filename	Specifies a custom configuration file that contains dial patterns to use for the SIP dial plan.
show voice register dialplan	Displays all configuration information for a specific SIP dial plan.
type (voice register dialplan)	Defines a phone type for a SIP dial plan.

pattern direct

To configure the dual tone multifrequency (DTMF) digit pattern forwarding necessary to activate the voice-mail system when a user presses the Messages button on an IP phone in a Cisco CallManager Express (Cisco CME) system, use the **pattern direct** command in voice-mail integration configuration mode. To disable DTMF pattern forwarding when a user presses the Messages button on a phone, use the **no** form of this command.

pattern direct *tag1* {**CDN** | **CGN** | **FDN**} [*tag2* {**CDN** | **CGN** | **FDN**}] [*tag3* {**CDN** | **CGN** | **FDN**}] [*last-tag*]
no pattern direct

Syntax Description

tag1	Alphanumeric string of fewer than four DTMF digits in length. The alphanumeric string can consist of a combination of four letters (A, B, C, and D), two symbols (* and #), and ten digits (0 to 9). The tag numbers match the numbers defined in the voice-mail system's integration file and immediately precede the number of the calling party, the number of the called party, or a forwarding number.
CDN	Called number (CDN) information is sent to the voice-mail system.
CGN	Calling number (CGN) information is sent to the voice-mail system.
FDN	Forwarding number (FDN) information is sent to the voice-mail system.
tag2, *tag3*	(Optional) Same as *tag1*. The router supports a maximum of four tags.
last-tag	(Optional) Same as *tag1*. This tag indicates the end of the pattern.

Command Default

This feature is disabled.

Command Modes

Voice-mail integration configuration (config-vm-integration)

Command History

Cisco IOS Release	Cisco Product	Modification
12.2(2)XT	2.0	This command was introduced
12.2(8)T	2.0	This command was integrated into Cisco IOS Release 12.2(8)T.

Usage Guidelines

The **pattern direct** command is used to configure the sequence of dual tone multifrequency (DTMF) digits passed to a voice-mail system attached to the router through one or more voice ports. When a call is placed directly from a Cisco IP phone attached to the router, the voice-mail system expects to receive a sequence of DTMF digits at the beginning of the call to identify the user's mailbox, accompanied by a string of digits to indicate that the caller is attempting to access the designated mailbox in order to retrieve messages.

Although it is unlikely that you will use multiple instances of the **CDN**, **CGN**, or **FDN** keywords in a single command line, it is permissible to do so.

Examples

The following example sets the DTMF pattern for a calling number (CGN) for a direct call to the voice-mail system:

```
Router(config) vm-integration
Router(config-vm-integration) pattern direct 2 CGN *
```

Related Commands

	Description
pattern ext-to-ext busy	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system once an internal extension fails to connect to a busy extension and the call is forwarded to voice mail.
pattern ext-to-ext no-answer	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system once an internal extension attempts to connect to an extension that does not answer and the call is forwarded to voice mail.
pattern trunk-to-ext busy	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system once an external trunk call reaches a busy extension and the call is forwarded to voice mail.
pattern trunk-to-ext no-answer	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system when an external trunk call reaches an unanswered extension and the call is forwarded to voice mail.
vm-integration	Enters voice-mail integration configuration mode and enables voice-mail integration with DTMF and an analog voice-mail systems.

pattern ext-to-ext busy

To configure the dual tone multifrequency (DTMF) digit pattern forwarding necessary to activate a voice-mail system after an internal extension attempts to connect to a busy extension and the call is forwarded to voice mail, use the **pattern ext-to-ext busy** command in voice-mail integration configuration mode. To disable the feature, use the **no** form of this command.

pattern ext-to-ext busy *tag1* {**CDN** | **CGN** | **FDN**} [*tag2* {**CDN** | **CGN** | **FDN**}] [*tag3* {**CDN** | **CGN** | **FDN**}] [*last-tag*]
no pattern ext-to-ext busy

Syntax Description

tag1	Alphanumeric string of fewer than four DTMF digits in length. The alphanumeric string can consist of a combination of four letters (A, B, C, and D), two symbols (* and #), and ten digits (0 to 9). The tag numbers match the numbers defined in the voice-mail system's integration file and immediately precede the number of the calling party, the number of the called party, or a forwarding number.
CDN	Called number (CDN) information is sent to the voice-mail system.
CGN	Calling number (CGN) information is sent to the voice-mail system.
FDN	Forwarding number (FDN) information is sent to the voice-mail system.
tag2, *tag3*	(Optional) Same as *tag1*. The router supports a maximum of four tags.
last-tag	(Optional) Same as *tag1*. This tag indicates the end of the pattern.

Command Default

This feature is disabled.

Command Modes

Voice-mail integration configuration (config-vm-integration)

Command History

Cisco IOS Release	Cisco Product	Modification
12.2(2)XT	Cisco ITS 2.0	This command was introduced.
12.2(8)T	Cisco ITS 2.0	This command was integrated into Cisco IOS Release 12.2(8)T.
12.2(13)T	Cisco SRST 2.02	This command was added for Cisco SRST.

Usage Guidelines

The **pattern ext-to-ext busy** command is used to configure the sequence of DTMF digits passed to a voice-mail system attached to the router through one or more voice ports. When a call is routed to the voice-mail system by call forward on busy from a Cisco IP phone attached to the router, the voice-mail system expects to receive digits that identify the mailbox associated with the forwarding phone together with digits that identify the extension number of the calling IP phone.

Although it is unlikely that you will use multiple instances of the **CDN**, **CGN**, or **FDN** keywords in a single command line, it is permissible to do so.

Examples

The following example sets the DTMF pattern for a local call forwarded on busy to the voice-mail system:

```
Router(config) vm-integration
Router(config-vm-integration) pattern ext-to-ext busy 7 FDN * CGN *
```

Related Commands

	Description
pattern direct	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system when the user presses the Messages button on the phone.
pattern ext-to-ext no-answer	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system once an internal extension fails to connect to an extension that does not answer and the call is forwarded to voice mail.
pattern trunk-to-ext busy	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system once an external trunk call reaches a busy extension and the call is forwarded to voice mail.
pattern trunk-to-ext no-answer	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system when an external trunk call reaches an unanswered extension and the call is forwarded to voice mail.
vm-integration	Enters voice-mail integration configuration mode and enables voice-mail integration with DTMF and an analog voice-mail systems.

pattern ext-to-ext no-answer

To configure the dual tone multifrequency (DTMF) pattern forwarding necessary to activate the voice-mail system once an internal extension fails to connect to a non answering extension and the call is forwarded to voice mail, use the **pattern ext-to-ext no-answer** command in voice-mail integration configuration mode. To disable this feature, use the **no** form of this command.

pattern ext-to-ext no-answer *tag1* {**CDN** | **CGN** | **FDN**} [*tag2* {**CDN** | **CGN** | **FDN**}] [*tag3* {**CDN** | **CGN** | **FDN**}] [*last-tag*]
no pattern ext-to-ext no-answer

Syntax Description

tag1	Alphanumeric string of fewer than four DTMF digits in length. The alphanumeric string can consist of a combination of four letters (A, B, C, and D), two symbols (* and #), and ten digits (0 to 9). The tag numbers match the numbers defined in the voice-mail system's integration file and immediately precede the number of the calling party, the number of the called party, or a forwarding number.
CDN	Called number (CDN) information is sent to the voice-mail system.
CGN	Calling number (CGN) information is sent to the voice-mail system.
FDN	Forwarding number (FDN) information is sent to the voice-mail system.
tag2, *tag3*	(Optional) Same as *tag1*. The router supports a maximum of four tags.
last-tag	(Optional) Same as *tag1*. This tag indicates the end of the pattern.

Command Default

This feature is disabled.

Command Modes

Voice-mail integration configuration (config-vm-integration)

Command History

Cisco IOS Release	Cisco Product	Modification
12.2(2)XT	Cisco ITS 2.0	This command was introduced.
12.2(8)T	Cisco ITS 2.0	This command was integrated into Cisco IOS Release 12.2(8)T.
12.2(13)T	Cisco SRST 2.02	This command was added for Cisco SRST.

Usage Guidelines

The **pattern ext-to-ext no-answer** command is used to configure the sequence of DTMF digits passed to a voice-mail system attached to the router through one or more voice ports. When a call is routed to the voice-mail system by call forward on no-answer from an IP phone attached to the router, the voice-mail system expects to receive digits that identify the mailbox associated with the forwarding phone together with digits that identify the extension number of the calling IP phone.

Although it is unlikely that you will use multiple instances of the **CDN**, **CGN**, or **FDN** keywords in a single command line, it is permissible to do so.

Examples

The following example sets the DTMF pattern for a local call forwarded on no-answer to the voice-mail system:

```
Router(config) vm-integration
Router(config-vm-integration) pattern ext-to-ext no-answer 5 FDN * CGN *
```

Related Commands

	Description
pattern direct	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system when the user presses the Messages button on the phone.
pattern ext-to-ext busy	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system once an internal extension fails to connect to an extension and the call is forwarded to voice mail.
pattern trunk-to-ext busy	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system once an external trunk call reaches a busy extension and the call is forwarded to voice mail.
pattern trunk-to-ext no-answer	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system when an external trunk call reaches an unanswered extension and the call is forwarded to voice mail.
vm-integration	Enters voice-mail integration configuration mode and enables voice-mail integration with DTMF and an analog voice-mail systems.

pattern trunk-to-ext busy

To configure the dual tone multifrequency (DTMF) digit pattern forwarding necessary to activate the voice-mail system once an external trunk call reaches a busy extension and the call is forwarded to voice mail, use the **pattern trunk-to-ext busy** command in voice-mail integration configuration mode. To return to the default, use the **no** form of this command.

pattern trunk-to-ext busy *tag1* {**CDN** | **CGN** | **FDN**} [*tag2* {**CDN** | **CGN** | **FDN**}] [*tag3* {**CDN** | **CGN** | **FDN**}] [*last-tag*]
no pattern trunk-to-ext busy

Syntax Description

tag1	Alphanumeric string of fewer than four DTMF digits in length. The alphanumeric string can consist of a combination of four letters (A, B, C, and D), two symbols (* and #), and ten digits (0 to 9). The tag numbers match the numbers defined in the voice-mail system's integration file and immediately precede the number of the calling party, the number of the called party, or a forwarding number.
CDN	Called number (CDN) information is sent to the voice-mail system.
CGN	Calling number (CGN) information is sent to the voice-mail system.
FDN	Forwarding number (FDN) information is sent to the voice-mail system.
tag2, *tag3*	(Optional) Same as *tag1*. The router supports a maximum of four tags.
last-tag	(Optional) Same as *tag1*. This tag indicates the end of the pattern.

Command Default

This feature is disabled by default.

Command Modes

Voice-mail integration configuration (config-vm-integration)

Command History

Cisco IOS Release	Cisco Product	Modification
12.2(2)XT	Cisco ITS 2.0	This command was introduced.
12.2(8)T	Cisco SRST 2.02	This command was integrated into Cisco IOS Release 12.2(8)T.
12.2(13)T	Cisco ITS 2.0	This command was added for Cisco SRST.

Usage Guidelines

The **pattern trunk-to-ext busy** command is used to configure the sequence of DTMF digits passed to a voice-mail system attached to the router through one or more voice ports. When a call is routed to the voice-mail system by call forward on busy from an IP phone attached to the router, the voice-mail system expects to receive a sequence of digits identifying the mailbox associated with the forwarding phone together with digits indicating that the call originated from a PSTN or VoIP caller.

Although it is unlikely that you will use multiple instances of the **CDN**, **CGN**, or **FDN** keywords in a single command line, it is permissible to do so.

Examples

The following example sets the DTMF pattern for call forwarding when an external trunk call reaches a busy extension and the call is forwarded to the voice-mail system:

```
Router(config) vm-integration
Router(config-vm-integration) pattern trunk-to-ext busy 6 FDN * CGN *
```

Related Commands

	Description
pattern direct	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system when the user presses the Messages button on the phone.
pattern ext-to-ext busy	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system once an internal extension fails to connect to an extension and the call is forwarded to voice mail.
pattern ext-to-ext no-answer	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system once an internal extension fails to connect to an extension and the call is forwarded to voice mail.
pattern trunk-to-ext no-answer	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system when an external trunk call reaches an unanswered extension and the call is forwarded to voice mail.
vm-integration	Enters voice-mail integration configuration mode and enables voice-mail integration with DTMF and an analog voice-mail systems.

pattern trunk-to-ext no-answer

To configure the dual tone multifrequency (DTMF) digit pattern forwarding necessary to activate the voice-mail system when an external trunk call reaches an unanswered extension and the call is forwarded to voice mail, use the **pattern trunk-to-ext no-answer** command in voice-mail integration configuration mode. To disable this feature, use the **no** form of this command.

pattern trunk-to-ext no-answer *tag1* {**CDN** | **CGN** | **FDN**} [*tag2* {**CDN** | **CGN** | **FDN**}] [*tag3* {**CDN** | **CGN** | **FDN**}] [*last-tag*]
no pattern trunk-to-ext no-answer

Syntax Description

tag1	Alphanumeric string of fewer than four DTMF digits in length. The alphanumeric string can consist of a combination of four letters (A, B, C, and D), two symbols (* and #), and ten digits (0 to 9). The tag numbers match the numbers defined in the voice-mail system's integration file and immediately precede the number of the calling party, the number of the called party, or a forwarding number.
CDN	Called number (CDN) information is sent to the voice-mail system.
CGN	Calling number (CGN) information is sent to the voice-mail system.
FDN	Forwarding number (FDN) information is sent to the voice-mail system.
tag2, *tag3*	(Optional) Same as *tag1*. The router supports a maximum of four tags.
last-tag	(Optional) Same as *tag1*. This tag indicates the end of the pattern.

Command Default

This feature is disabled.

Command Modes

Voice-mail integration configuration (config-vm-integration)

Command History

Cisco IOS Release	Cisco CME Version	Modification
12.2(2)XT	2.0	This command was introduced.
12.2(8)T	2.0	This command was integrated into Cisco IOS Release 12.2(8)T.
12.2(13)T	2.02	This command was added for Cisco SRST.

Usage Guidelines

The **pattern trunk-to-ext no-answer** command is used to configure the sequence of DTMF digits passed to a voice-mail system attached to the router through one or more voice ports. When a call is routed to the voice-mail system by call forward on no-answer from an IP phone attached to the router, the voice-mail system expects to receive digits that identify the mailbox associated with the forwarding phone together with digits that indicate that the call originated from a PSTN or VoIP caller.

Although it is unlikely that you will use multiple instances of the **CDN**, **CGN**, or **FDN** keywords in a single command line, it is permissible to do so.

Examples

The following example sets the DTMF pattern for call forwarding when an external trunk call reaches an unanswered extension and the call is forwarded to a voice-mail system:

```
Router(config) vm-integration
Router(config-vm-integration) pattern trunk-to-ext no-answer 4 FDN * CGN *
```

Related Commands

	Description
pattern direct	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system when the user presses the Messages button on the phone.
pattern ext-to-ext busy	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system once an internal extension fails to connect to an extension and the call is forwarded to voice mail.
pattern ext-to-ext no-answer	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system once an internal extension fails to connect to an extension and the call is forwarded to voice mail.
pattern trunk-to-ext busy	Configures the DTMF digit pattern forwarding necessary to activate the voice-mail system once an external trunk call reaches a busy extension and the call is forwarded to voice mail.
vm-integration	Enters voice-mail integration configuration mode and enables voice-mail integration with DTMF and an analog voice-mail systems.

phone-display

To enable a phone user to display voice hunt group information using the Services button on the phone, use the **phone-display** command in voice hunt group configuration mode. To remove the configuration, use the **no** form of this command.

phone-display
no phone-display

Syntax Description

This command has no arguments or keywords.

Command Default

By default, this command is disabled.

Command Modes

ephone configuration mode

Command History

Cisco IOS Release	Cisco Product	Modification
15.4(3)M	Cisco Unified CME 10.5	This command was introduced.

Usage Guidelines

This command when configured, enables the user to view the information of a specific voice hunt group on the phone.

Example

The following example shows how the voice hunt group display option is enabled for a phone :

```
Router(config)# voice hunt-group 1 parallel
Router(config-voice-hunt-group)# phone-display
```

phone-mode only

To enable Jabber phone-only client support, use the **phone-mode only** command. To remove t the configuration, use the **no** form of this command.

phone-mode *phone only*
nophone-mode*phone only*

Syntax Description

This command has no arguments or keywords.

Command Default

By default, this feature is disabled.

Command Modes

voice register global (config-register global)

voice register pool (config-register pool)

voice register template (config-register template)

Command History

Cisco IOS Release	Cisco Product	Modification
15.4(3)M	Cisco Unified CME 10.5	This command was introduced.

Usage Guidelines

This command enables Jabber phone-only client support.

Example

The following example shows how phone-mode is enabled:

```
Router(config)# voice register pool
Router(config-register pool)# phone-mode phone-only
```

Related Commands

Command	Description
voice register global	Enters voice register global configuration mode.
voice register pool	Enters voice register pool configuration mode.
voice register template	Enters voice register template configuration mode.

phone-key-size

To specify the size of the RSA key pair that is generated on phones, use the **phone-key-size** command in CAPF-server configuration mode. To return the size to the default, use the **no** form of this command.

phone-key-size {**512** | **1024** | **2048**}
no phone-key-size

Syntax Description

512	512 bits
1024	1024 bits. This is the default key size.
2048	2048 bits

Command Default

RSA key pair size is 1024.

Command Modes

CAPF-server configuration (config-capf-server)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)XC	Cisco Unified CME 4.0	This command was introduced.
12.4(9)T	Cisco Unified CME 4.0	This command was integrated into Cisco IOS Release 12.4(9)T.

Usage Guidelines

This command is used with Cisco Unified CME phone authentication.

If you choose a higher key size than the default setting, the phones take longer to generate the entropy that is required to generate the keys. Key generation, which is set at low priority, allows the phone to function while the action occurs. Depending on the phone model, you may notice that key generation takes up to 30 or more minutes to complete.

Examples

The following example specifies a key size of 2048 bits.

```
Router(config)# capf-server
Router(config-capf-server)# source address 10.10.10.1
Router(config-capf-server)# trustpoint-label server25
Router(config-capf-server)# cert-oper upgrade all
Router(config-capf-server)# cert-enroll-trustpoint server12 password 0 x8oWiet
Router(config-capf-server)# auth-mode auth-string
Router(config-capf-server)# auth-string generate all
Router(config-capf-server)# port 3000
Router(config-capf-server)# keygen-retry 5
Router(config-capf-server)# keygen-timeout 45
Router(config-capf-server)# phone-key-size 2048
```

phoneload

To define the phone firmware support for a phone type, use the **phoneload** command in ephone-type configuration mode. To remove firmware support, use the **no** form of this command.

phoneload
no phoneload

Syntax Description

This command has no arguments or keywords.

Command Default

Phone type supports firmware configuration.

Command Modes

Ephone-type configuration (config-ephone-type)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(15)XZ	Cisco Unified CME 4.3 Cisco Unified SRST 4.3	This command was introduced.
12.4(20)T	Cisco Unified CME 7.0	This command was integrated into Cisco IOS Release 12.4(20)T.

Usage Guidelines

This command specifies whether the phone type defined in the phone-type template supports firmware configuration using the **load** command.

Examples

The following example shows that support for phone firmware is disabled for the Nokia E61 phone type:

```
Router(config)# ephone-type E61
Router(config-ephone-type)# no phoneload
```

Related Commands

Command	Description
device-name	Assigns a name to a phone type in an ephone-type template.
load	Associates a type of Cisco Unified IP phone with a phone firmware file.

phoneload-support

To define the phone support for firmware download from CME, use the **phoneload-support** command in voice register pool-type mode. To disable phoneload support, use the **no** form of this command.

phoneload-support
noponeload-support

Syntax Description

This command has no arguments or keywords.

Command Default

The phoneload support is disabled. When the **reference-pooltype** command is configured, phoneload support property of the reference phone is inherited.

Command Modes

Voice Register Pool Configuration (config-register-pool)

Command History

Cisco IOS Release	Cisco Product	Modification
15.3(3)M	Cisco SIP CME 10.0	This command was introduced.

Usage Guidelines

Use this command to define the default transport type. If the new phone supports the phoneload, you can use the **load** command in voice register global" mode to configure the corresponding phoneload for the new phone model. When you use the no form of this command, the inherited properties of the reference phone takes precedence over the default value.

Example

The following example shows how to define the phoneload support for a new phone model using the **phoneload-support** command:

```
Router(config)# voice register global
Router(config--register-global)# mode cme
Router(config-register-global)# load 9900 P0S3-06-0-00
Router(config-register-global)# phoneload-support
```

Related Commands

Command	Description
voice register pool-type	Adds a new Cisco Unified SIP IP phone to Cisco Unified CME.
load	Associates a type of IP phone with a phone firmware file.

phone-redirect-limit (voice register global)

To set the number of 3XX responses an originating SIP phone in a Cisco CallManager Express (Cisco CME) system can accept for a single call, use the **phone-redirect-limit** command in voice register global configuration mode. To revert to the default, use the **no** form of this command.

phone-redirect-limit *number*
no phone-redirect-limit

Syntax Description

number	Maximum number of 3XX responses accepted for a single call. Range: 5 to 20. Default: 5.

Command Default

Default is 5

Command Modes

Voice register global configuration (config-register-global)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)T	Cisco CME 3.4	This command was introduced.

Usage Guidelines

Use this command to control how many subsequent 3XX responses an originating SIP phone can handle for a single call. The terminating side is any forwarding party which does not use B2BUA, but sends 3XX directly to the originating calling phone. When Cisco CME gets a 3XX from the terminating side, Cisco CME relays the 3XX to the originating SIP phone. The default number of 3XXs that the originating phone can accept is 5.

The following example shows how to set the maximum number of redirects to 6:

```
Router(config)# voice register global
Router(config-register-global)# phone-redirect-limit 6
```

Related Commands

	Description
voice register global	Enters voice register global configuration mode in order to set global parameters for all supported Cisco SIP phones in a Cisco CME or Cisco SIP SRST environment.

phone-ui park-list

To enable a phone user to view the list of active parked calls, use the **phone-ui park-list** command in the ephone configuration mode. To remove the configuration, use the **no** form of this command.

phone-ui park-list
no phone-ui park-list

Syntax Description

This command has no arguments or keywords.

Command Default

By default, this feature is enabled for Skinny Call Control Protocol (SCCP) phones.

Command Modes

ephone configuration (config-ephone)

Command History

Cisco IOS Release	Cisco Product	Modification
15.4(3)M	Cisco Unified CME 10.5	This command was introduced.

Usage Guidelines

This command enables the park-list menu option under My-Phone-Apps service button menu.

Example

The following example shows how to enable the park list display option for phone 7:

```
Router(config)# ephone 7
Router(config-ephone-type)# phone-ui park-list
```

Example

The following example shows how to disable park list display option for phone 7:

```
Router(config)# ephone 7
Router(config-ephone-type)# no phone-ui park-list
```

Related Commands

Command	Description
url button	Enables the configuration of the URL Services feature button on a line key.
url services	Associates a URL with the Programmable Services feature button on the supported Cisco Unified SCCP phones.

phone-ui speeddial-fastdial

To enable a phone user to configure speed-dial and fast-dial numbers from their phone, use the **phone-ui speeddial-fastdial** command in ephone configuration mode. To reset to the default value, use the **no** form of this command.

phone-ui speeddial-fastdial
no phone-ui speeddial-fastdial

Syntax Description

This command has no arguments or keywords.

Command Default

Enabled (speed-dial and fast-dial numbers are configurable from phone).

Command Modes

Ephone configuration (config-ephone)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(15)XZ	Cisco Unified CME 4.3	This command was introduced.
12.4(20)T	Cisco Unified CME 7.0	This command was integrated into Cisco IOS Release 12.4(20)T.

Usage Guidelines

This command enables the speed-dial and fast-dial configuration menu on the phone so that users can configure these options directly.

The services URL must be configured using the **url services** command.

Examples

The following example shows that the speed-dial and fast-dial user interface is disabled for phone 7:

```
Router(config)# ephone 7
Router(config-ephone-type)# no phone-ui speeddial-fastdial
```

Related Commands

Command	Description
fastdial	Creates an entry for a personal speed-dial number.
speed-dial	Creates speed-dial definitions for a phone.
url services	Associates a URL with the programmable Services feature button on supported Cisco Unified IP phones.

phone-ui voice-hunt-groups

To enable a Skinny Call Control Protocol (SCCP) phone user to display voice hunt group information using the Services button on a phone, use the **phone-ui voice-hunt-groups** command in ephone configuration mode. To remove the configuration, use the **no** form of this command.

phone-ui voice-hunt-groups
no phone-ui voice-hunt-groups

Syntax Description

This command has no arguments or keywords.

Command Default

By default, this command is enabled.

Command Modes

ephone configuration (config-ephone)

Command History

Cisco IOS Release	Cisco Product	Modification
15.4(3)M	Cisco Unified CME 10.5	This command was introduced.

Usage Guidelines

This command enables the Voice Hunt Groups menu option under the My-Phone-Apps service button menu .

Example

The following example shows how to disable the voice hunt group display option for phone 7:

```
Router(config)# ephone 7
Router(config-ephone-type)# no phone-ui voice-hunt-groups
```

Related Commands

Command	Description
url services	Associates a URL with the Programmable Services feature button on supported Cisco Unified IP phones.

pickup-call any-group

To enable a phone user to pickup a ringing call on extensions in any pickup group, use the **pickup-call any-group** command in ephone-dn or voice register dn configuration mode. To reset to the default value, use the **no** form of this command.

pickup-call any-group
no pickup-call any-group

Syntax Description

This command has no arguments or keywords.

Command Default

User can pickup calls in other groups by pressing GPickUp soft key and dialing pickup group number.

Command Modes

Ephone-dn configuration (config-ephone-dn)
Voice register dn configuration (config-register-dn)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(22)YB	Cisco Unified CME 7.1	This command was introduced.
12.4(24)T	Cisco Unified CME 7.1	This command was integrated into Cisco IOS Release 12.4(24)T.

Usage Guidelines

This command allows a phone user to pickup any ringing call within the local Cisco Unified CME system by pressing the GPickUp soft key and asterisk (*), if the ringing extension is configured with a pickup group using the **pickup-group** command.

If this command is not configured, a phone user can pickup calls only from their local group by pressing the GPickUp soft key and *. To pickup calls in another group, the user must press the GPickUp soft key and dial the pickup group number.

Examples

The following example shows that extension 1020 can pick up calls ringing on extension 1030 by pressing the GPickUp softkey and *:

```
ephone-dn  102
 number 1020
 pickup-call any-group
!
ephone-dn  103
 number 1030
 pickup-group 5
```

Related Commands

Command	Description
pickup-group	Assigns an extension to a call-pickup group.
service directed-pickup	Enables Directed Call Pickup and modifies the function of the GPickUp and PickUp soft keys.
softkeys idle	Modifies the soft-key display on IP phones during the idle call state.

pickup-group

To assign an extension to a call-pickup group, use the **pickup-group** command in ephone-dn, ephone-dn-template, or voice register dn configuration mode. To remove the extension from a group, use the **no** form of this command.

pickup-group *group-number*
no pickup-group

Syntax Description

group-number	String representing a pickup group. The string can contain up to 32 characters.

Command Default

An extension does not belong to any pickup group.

Command Modes

Ephone-dn configuration (config-ephone-dn)
Ephone-dn-template configuration (config-ephone-dn-template)
Voice register dn configuration (config-register-dn)

Command History

Cisco IOS Release	Cisco Product	Modification
12.2(15)ZJ	Cisco CME 3.0	This command was introduced.
12.3(4)T	Cisco CME 3.0	This command was integrated into Cisco IOS Release 12.3(4)T.
12.4(4)XC	Cisco Unified CME 4.0	This command was added to ephone-dn-template configuration mode.
12.4(9)T	Cisco Unified CME 4.0	This command in ephone-dn-template configuration mode was integrated into Cisco IOS Release 12.4(9)T.
12.4(22)YB	Cisco Unified CME 7.1	This command was added to voice register dn configuration mode for SIP directory numbers.
12.4(24)T	Cisco Unified CME 7.1	This command was integrated into Cisco IOS Release 12.4(24)T.

Usage Guidelines

This command allows you to assign an individual directory number to a call-pickup group. Phone users can pick up ringing calls within their own pickup group more easily than calls outside their group.

You can assign each directory number to only one pickup group. There is no limit to the number of directory numbers that can be assigned to a single pickup group, and there is no limit to the number of pickup groups that can be defined in a Cisco Unified CME system.

Pickup group numbers can vary in length, but must have unique leading digits. For example, you cannot define pickup group 17 and pickup group 177 in the same Cisco Unified CME system because a pickup in group 17 will always be triggered before the user can enter the final 7 for group 177. You can, however, define pickup groups 27 and 177 in the same Cisco Unified CME system.

If you use an ephone-dn template to apply a command to an ephone-dn and you also use the same command in ephone-dn configuration mode for the same ephone-dn, the value that you set in ephone-dn configuration mode has priority.

Examples

The following examples assign extension 3242 to pickup group 25:

```
Router(config)# ephone-dn 4
Router(config-ephone-dn)# number 3242
Router(config-ephone-dn)# pickup-group 25

Router(config)#  voice register dn 4
Router(config-register-dn)# number 3242
Router(config-register-dn)# pickup-group 25
```

The following example uses an ephone-dn-template to assign extension 3242 to pickup group 25:

```
Router(config)# ephone-dn-template 8
Router(config-ephone-dn-template)# pickup-group 25
Router(config-ephone-dn-template)# exit
Router(config)# ephone-dn 4
Router(config-ephone-dn)# number 3242
Router(config-ephone-dn)# ephone-dn-template 8
```

Related Commands

Command	Description
ephone-dn-template (ephone-dn)	Applies a template to an ephone-dn configuration.
service directed-pickup	Enables Directed Call Pickup and modifies the function of the PickUp and GPickUp soft keys.

pilot

To define the ephone-dn that callers dial to reach a Cisco CallManager Express (Cisco CME) ephone hunt group, use the **pilot** command in ephone-hunt configuration mode. To remove the pilot number from the ephone hunt group, use the **no** form of this command.

pilot *number* [**secondary** *number*]
no pilot *number* [**secondary** *number*]

Syntax Description

number	String of up to 27 characters that represents an E.164 telephone number. Normally the string is composed of digits, but the string may contain alphabetic characters if the number is dialed only by the router, as with an intercom number, or is not intended to be dialed at all. Secondary numbers can contain wildcards in the string. For details, see "Usage Guidelines."
secondary	(Optional) Defines the number that follows as an additional pilot number for the ephone hunt group.

Command Default

No pilot number is defined.

Command Modes

Ephone-hunt configuration (config-ephone-hunt)

Command History

Cisco IOS Release	Cisco product	Modification
12.2(15)ZJ	Cisco CME 3.0	This command was introduced.
12.3(4)T	Cisco CME 3.0	This command was integrated into Cisco IOS Release 12.3(4)T.
12.3(7)T	Cisco CME 3.1	The **secondary** *secondary-number* keyword-argument pair was introduced.

Usage Guidelines

This command defines a valid number for an ephone-dn (extension) that is to be assigned to an ephone hunt pilot group. The dial-plan pattern can be applied to the pilot number.

The **secondary** keyword allows you to associate a second telephone number with this ephone-dn so that the hunt group can be called by dialing either the main or secondary phone number. The secondary number may contain one or more wildcards instead of digits, even if the wildcard number overlaps the primary number. For example, 50.. (the number 50 followed by periods, which stand for wildcards) matches all four-digit extensions that start with 50. Wildcard characters cannot be used in the primary pilot number.

Alphabetic characters can be used to create a primary or secondary pilot number that cannot be dialed from a phone and is not part of the dial plan.

Examples

The following example sets the pilot number to 2345 for peer ephone hunt group number 5:

```
ephone-hunt 5 peer
 pilot 2345
 list 2346, 2347, 2348
 hops 3
 timeout 45
```

```
 final 6000
```

The following example sets the pilot number for ephone hunt group 3 to 2222 and the secondary pilot number to 4444:

```
ephone-hunt 3 sequential
 pilot 2222 secondary 4444
 list 2555, 2556, 2557
 final 6000
```

The following example uses wildcards in the secondary pilot number to create a hunt group that receives the calls made to all numbers that start with 555. The primary pilot number, A0, cannot be dialed.

```
ephone-hunt 1 longest-idle
 pilot A0 secondary 555....
 list 1000, 1001, 1002
 timeout 5
 hops 3
 final 1100
```

Related Commands

	Description
ephone-hunt	Enters ephone-hunt configuration mode to define a Cisco CME ephone hunt group.
final	Defines the last ephone-dn in an ephone hunt group.
hops	Defines the number of times that a call is redirected to the next ephone-dn in a peer ephone-hunt-group list before proceeding to the final ephone-dn.
list	Lists the ephone-dns that participate in an ephone hunt group.
max-redirect	Changes the current number of allowable redirects in a Cisco CME system.
no-reg (ephone-hunt)	Specifies that the pilot number of an ephone hunt group should not register with the H.323 gatekeeper.
preference (ephone-hunt)	Sets preference order for the ephone-dn associated with an ephone-hunt-group pilot number.
timeout (ephone-hunt)	Sets the number of seconds after which a call that is not answered is redirected to the next number in the ephone-hunt-group list.

pilot (voice hunt-group)

To define the number that callers dial to reach a Cisco Unified CME voice hunt group, use the **pilot** command in voice hunt-group configuration mode. To remove the pilot number from the voice hunt group, use the **no** form of this command.

pilot *number* [**secondary** *number*]
no pilot

Syntax Description

number	String of up to 32 characters that represents an extension or E.164 telephone number.
secondary	(Optional) Defines an additional pilot number for the voice hunt group.

Command Default

No pilot number is defined.

Command Modes

Voice hunt-group configuration (config-voice-hunt-group)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)T	Cisco CME 3.4	This command was introduced.

Usage Guidelines

This command defines an extension that is assigned as the pilot number of a voice hunt group. The dial-plan pattern can be applied to the pilot number.

Normally the pilot number is composed of digits, but the string may contain alphabetic characters if the number is dialed only by the router, as with an intercom number, or is not intended to be dialed at all.

The **secondary** keyword allows you to associate a second telephone number so that the hunt group can be called by dialing either the primary or secondary phone number. The secondary number can contain one or more wild cards instead of digits, even if the wildcard number overlaps the primary number. For example, 50.. (the number 50 followed by periods, which stand for wild card) matches all four-digit extensions that start with 50. Wildcard characters cannot be used in the primary pilot number.

Alphabetic characters can be used to create a primary or secondary pilot number that cannot be dialed from a phone and is not part of the dial plan.

Voice hunt groups do not support the expansion of pilot numbers using the **dialplan-pattern** command. To enable external phones to dial the pilot number, you must configure a secondary pilot number using a fully qualified E.164 number.

Examples

The following example shows how to set the pilot number to 2345 for voice hunt group hunt group number 5:

```
voice-hunt 5 peer
 pilot 2345
 list 2346, 2347, 2348
 hops 3
 timeout 45
 final 6000
```

The following example shows how to set the pilot number for voice hunt group 3 to 2222 and the secondary pilot number to 4444:

```
voice hunt-group 3 sequential
 pilot 2222 secondary 4444
 final 6000
```

The following example shows how to use wild cards in the secondary pilot number to create a voice hunt group that receives the calls made to all numbers that start with 55501. The primary pilot number, A0, cannot be dialed.

```
voice hunt-group 1 longest-idle
 pilot A0 secondary 55501..
 list 1000, 1001, 1002
 timeout 5
 hops 3
 final 1100
```

The following example shows how to use a secondary pilot number in a parallel hunt group. Local phones can dial the primary pilot number, 1100. External phones (PSTN) must dial the full E.164 number, 4085550100.

```
voice hunt-group 4 parallel
 final 1109
 list 1101,1102,1103,1104
 timeout 60
 pilot 1100 4085550100
```

Related Commands

	Description
dialplan-pattern	Defines a pattern that is used to expand extension numbers into fully qualified E.164 numbers.
final (voice hunt-group)	Defines the last extension in a voice hunt group.
hops (voice hunt-group)	Defines the number of times that a call is redirected to the next directory number in a peer voice hunt-group list before proceeding to the final directory number.
list (voice hunt-group)	Defines the directory numbers that participate in a hunt group.
voice hunt-group	Defines the type of hunt group.

pin

To set a personal identification number (PIN) for an IP phone in a Cisco CallManager Express (Cisco CME) system, use the **pin** command in ephone configuration mode. To remove a PIN, use the **no** form of this command.

pin *number*
no pin

Syntax Description

number	PIN that will be used to log in to a Cisco IP phone. This is a numeric string from four to eight digits in length.

Command Default

No PIN is set.

Command Modes

Ephone configuration (config-ephone)

Command History

Cisco IOS Release	Cisco Product	Modification
12.2(15)ZJ	Cisco CME 3.0	This command was introduced.
12.3(4)T	Cisco CME 3.0	This command was integrated into Cisco IOS Release 12.3(4)T.

Usage Guidelines

The **pin** command allows individual phone users to override call-blocking patterns that are associated with defined time periods. Call-blocking patterns that are in effect at all times (7 days a week, 24 hours a day) cannot be overridden using a PIN.

Call blocking on IP phones is defined in the following way. First, one or more patterns of outgoing digits to be blocked are defined using the **after-hours block pattern** command. Next, one or more time periods during which calls to those patterns are to be blocked are defined using the **after-hours date** or **after-hours day** command or both. By default, all IP phones in a Cisco CME system are restricted if at least one pattern and at least one time period are defined. Individual phones can be completely exempted from call blocking using the **after-hour exempt** command**.** An individual with a PIN can override call blocking by entering the PIN after pressing the Login soft key to log in to a phone that has been configured for that PIN using the **pin** command.

The PIN functionality applies only to IP phones that have soft keys, such as the Cisco IP Phones 7940 and 7940G and the Cisco IP Phones 7960 and 7960G.

Examples

The following example sets a PIN for an IP phone:

```
Router(config)# ephone 1
Router(config-ephone)# pin 1000
```

Related Commands

	Description
after-hour exempt	Specifies that an IP phone does not have any of its outgoing calls blocked even though call blocking has been defined for a Cisco CME system.

	Description
after-hours block pattern	Defines a pattern of digits to be blocked for outgoing calls from IP phones.
after-hours date	Defines a recurring period based on month and day during which outgoing calls that match defined call-block patterns are blocked on IP phones.
after-hours day	Defines a recurring period based on day of the week during which outgoing calls that match defined call-block patterns are blocked on IP phones.
login	Defines when IP phones in a Cisco CME system are logged out automatically.
show ephone login	Displays the login states of all phones.

pin (voice logout-profile and voice user-profile)

To configure a personal identification number (PIN) for accessing a particular IP phone that is enabled for extension mobility, use the **pin** command in voice logout-profile configuration mode or voice user-profile configuration mode. To remove a PIN, use the **no** form of this command.

pin **[0|6]** *number*
no **pin** **[0|6]** *number*

Syntax Description

number	Four- to eight-digit numeric string for accessing Cisco Unified IP phone.
[0|6]	The 0 in the parameter [0|6] mentioned in the CLI command represents plain, unencrypted text and 6 represents level 6 password encryption.

Command Default

No PIN is configured.

Command Modes

Voice logout-profile configuration (config-logout-profile)
Voice user-profile configuration (config-user-profile)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(11)XW	Cisco Unified CME 4.2	This command was introduced.
12.4(15)XY	Cisco Unified CME 4.2(‘1)	This command was introduced.
12.4(15)XZ	Cisco Unified CME 4.3	This command was introduced.
Cisco IOS XE Gibraltar 16.11.1a Release	Unified CME 12.6	The command was enhanced for password encryption.

Usage Guidelines

Use this command in voice logout-profile configuration mode to create a PIN to be used by a phone user to disable the call blocking configuration for a Cisco Unified IP phone on which a logout profile is downloaded.

Use this command in voice user-profile configuration mode to create a PIN to be used by a phone user to disable the call blocking configuration for a Cisco Unified IP phone on which a user profile is downloaded.

PIN functionality applies only to IP phones that have soft keys, such as the Cisco Unified IP Phone 7940 and 7940G.

From Unified CME 12.6 onwards, you must configure password encryption using the parameters **[0|6]** for this command. The 0 in the parameter [0|6] mentioned in the CLI command represents plain, unencrypted text and 6 represents level 6 password encryption.

Examples

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, including a PIN of 12345:

```
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
```

Related Commands

Command	Description
logout-profile	Enable an SCCP phone for Extension Mobility and apply logout profile to phone being configured.
reset (voice logout-profile and voice user-profile)	Performs complete reboot of all IP phones on which a particular logout-profile or user-profile is downloaded.

pin (voice register pool)

To set a personal identification number (PIN) to bypass the after-hour call block on a Cisco Unified SIP IP phone, use the **pin** command in voice register pool configuration mode. To remove the PIN, use the **no** form of the command.

pin **[0|6]** *digits*
no **pin**

Syntax Description

digits	PIN to bypass the after-hour call block on the Cisco Unified SIP IP phone. Numeric string from four to eight digits in length. The 0 in the parameter [0|6] mentioned in the CLI command represents plain, unencrypted text and 6 represents level 6 password encryption.

Command Default

No valid PIN is set.

Command Modes

Voice register pool configuration (config-register-pool)

Command History

Cisco IOS Release	Cisco Product	Modification
15.2(2)T	Unified CME 9.0	This command was introduced.
Cisco IOS XE Gibraltar 16.11.1a Release	Unified CME 12.6	The command was enhanced for password encryption.

Usage Guidelines

The **pin** command allows individual Cisco Unified SIP IP phone users to override call-blocking patterns that are associated with defined time periods. Call-blocking patterns that are in effect at all times (7 days a week, 24 hours a day) cannot be overridden using a PIN.

From Unified CME 12.6 onwards, you must configure password encryption using the parameters **[0|6]** for this command. The 0 in the parameter [0|6] mentioned in the CLI command represents plain, unencrypted text and 6 represents level 6 password encryption.

Examples

The following example shows how to set a PIN to bypass the after-hour call block on a Cisco Unified SIP IP phone in voice register pool 80:

```
Router(config)# voice register pool 80
Router(config-register-pool)# pin 12345
```

Related Commands

Command	Description
voice register pool	Enters voice register pool configuration mode and creates a pool configuration for Cisco Unified SIP IP phones in Cisco Unified CME.

port (CAPF-server)

To define the TCP port number on which the CAPF server listens for incoming socket connections, use the **port** command in CAPF-server configuration mode. To use the default, use the **no** form of this command.

port *tcp-port*
no port

Syntax Description

tcp-port	Port for secure communication. Range is from 2000 to 9999. Default is 3804.

Command Default

TCP port number 3804.

Command Modes

CAPF-server configuration (config-capf-server)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)XC	Cisco Unified CME 4.0	This command was introduced.
12.4(9)T	Cisco Unified CME 4.0	This command was integrated into Cisco IOS Release 12.4(9)T.

Usage Guidelines

This command is used with Cisco Unified CME phone authentication.

Examples

The following example specifies TCP port 3000 instead of the default port 3804:

```
Router(config)# capf-server
Router(config-capf-server)# source address 10.10.10.1
Router(config-capf-server)# trustpoint-label server25
Router(config-capf-server)# cert-oper upgrade all
Router(config-capf-server)# cert-enroll-trustpoint server12 password 0 x8oWiet
Router(config-capf-server)# auth-mode auth-string
Router(config-capf-server)# auth-string generate all
Router(config-capf-server)# port 3000
Router(config-capf-server)# keygen-retry 5
Router(config-capf-server)# keygen-timeout 45
Router(config-capf-server)# phone-key-size 2048
```

preemption reserve timer

To set the amount of time to reserve a channel for a preemption call, use the **preemption reserve timer** command in voice MLPP configuration mode. To reset to the default, use the **no** form of this command.

preemption reserve timer *seconds*
no preemption reserve timer

Syntax Description

seconds	Number of seconds to reserve the channel. Range: 3 to 30. Default: 0.

Command Default

Preemption reserve timer is disabled (0).

Command Modes

Voice MLPP configuration (config-voice-mlpp)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(22)YB	Cisco Unified CME 7.1	This command was introduced.
12.4(24)T	Cisco Unified CME 7.1	This command was integrated into Cisco IOS Release 12.4(24)T.

When a channel on a SCCP phone is preempted by a higher priority MLPP call, the channel is reserved for the MLPP call so that other calls cannot use that channel before the call is connected.

Examples

The following example shows the reserve timer set to 10 seconds.

```
Router(config)# voice mlpp
Router(config-voice-mlpp)# preemption reserve timer 10
```

Related Commands

Command	Description
preemption enable	Enables preemption capabilities on a trunk group.
preemption tone timer	Sets the expiry time for the preemption tone for the outgoing call being preempted by a DDR backup call.
preemption user	Enables phones to preempt calls.

preemption tone timer (voice MLPP)

To set the amount of time the preemption tone plays on the called phone when a lower precedence call is being preempted, use the **preemption tone timer** command in voice MLPP configuration mode. To reset to the default, use the **no** form of this command.

preemption tone timer *seconds*
no preemption tone timer

Syntax Description

seconds	Length of preemption tone, in seconds. Range: 3 to 30. Default: 0.

Command Default

Preemption tone timer is disabled (0).

Command Modes

Voice MLPP configuration (config-voice-mlpp)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(22)YB	Cisco Unified CME 7.1	This command was introduced.
12.4(24)T	Cisco Unified CME 7.1	This command was integrated into Cisco IOS Release 12.4(24)T.

This command sets how long a phone user hears the preemption tone play when a lower precedence call is being preempted by a higher priority call. The preemption tone stops playing when the timer expires or the user goes onhook.

For calls to Cisco Unified IP phones, the called party can hang up immediately to connect to the new higher precedence call, or if the called party does not hang up, Cisco Unified CME forces the phone on-hook after the preemption tone timer expires and connects the call.

For FXS ports, the called party must acknowledge the preemption by going on-hook, before being connected to the new higher precedence call.

The **mlpp indication** command must be enabled (default) for a phone to play preemption tones.

Examples

The following example shows the tone timer is set to 15 seconds:

```
Router(config)# voice mlpp
Router(config-voice-mlpp)# preemption tone timer 15
```

Related Commands

Command	Description
mlpp indication	Enables MLPP indication on an SCCP phone or analog FXS port.
mlpp preeemption	Enables the preemption capability on an SCCP phone or analog FXS port.
preemption reserve timer	Sets the amount time to reserve a channel for a preemption call.
preemption user	Enables the preemption capability for all supported phones.

preemption trunkgroup

To enable preemption capabilities for trunk groups, use the **preemption trunkgroup** command in voice MLPP configuration mode. To disable preemption capabilities, use the **no** form of this command.

preemption trunkgroup
no preemption trunkgroup

Syntax Description

This command has no arguments or keywords.

Command Default

Preemption is disabled for trunk groups.

Command Modes

Voice MLPP configuration (config-voice-mlpp)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(22)YB	Cisco Unified CME 7.1	This command was introduced.
12.4(24)T	Cisco Unified CME 7.1	This command was integrated into Cisco IOS Release 12.4(24)T.

The following example enables preemption capabilities for trunk groups:

```
Router(config)# voice mlpp
Router(config-voice-mlpp)# preemption trunkgroup
```

Related Commands

Command	Description
mlpp preemption	Enables calls on an SCCP phone or analog FXS port to be preempted.
preemption user	Enables phones to preempt calls.

preemption user

To enable phones to preempt calls, use the **preemption user** command in voice MLPP configuration mode. To disable preemption capabilities, use the **no** form of this command.

preemption user
no preemption user

Syntax Description

This command has no arguments or keywords.

Command Default

Preemption is disabled for phones.

Command Modes

Voice MLPP configuration (config-voice-mlpp)

Command History

Cisco IOS Release	Cisco Products	Modification
12.4(22)YB	Cisco Unified CME 7.1	This command was introduced.
12.4(24)T	Cisco Unified CME 7.1	This command was integrated into Cisco IOS Release 12.4(24)T.

This command enables SCCP and analog FXS phones in the system to preempt calls if the called party is busy with lower precedence calls.

Examples

The following example enables preemption capabilities for phones:

```
Router(config)# voice mlpp
Router(conf-voi-mlpp)# preemption user
```

Related Commands

Command	Description
mlpp preemption	Enables preemption capabilities on an SCCP phone or analog FXS port.
preemption trunkgroup	Enables preemption capabilities on a trunk group.

preference (ephone-dn)

To set dial-peer preference order for an extension (ephone-dn) associated with a Cisco IP phone, use the **preference** command in ephone-dn configuration mode. To reset the preference order to the default, use the **no** form of this command.

preference *preference-order* [**secondary** *secondary-order*]
no preference

Syntax Description

preference-order	Preference order for the primary number associated with an extension (ephone-dn). Type **?** for a range, where 0 is the highest preference. Default is 0.
secondary *secondary-order*	(Optional) Preference order for the secondary number associated with the ephone-dn. Type **?** for a range, where 0 is the highest preference. Default is 9.

Command Default

Preference order for the primary number is 0 (highest preference). Preference order for the secondary number is 9 (lowest preference).

Command Modes

Ephone-dn configuration (config-ephone)

Command History

Cisco IOS Release	Cisco Product	Modification
12.1(5)YD	Cisco ITS 1.0	This command was introduced.
12.2(8)T	Cisco ITS 2.0	This command was integrated into Cisco IOS Release 12.2(8)T.
12.2(15)ZJ	Cisco CME 3.0	The **secondary** *secondary-order* keyword-argument pair was introduced.
12.3(4)T	Cisco CME 3.0	This command was integrated into Cisco IOS Release 12.3(4)T.

Usage Guidelines

When you create an ephone-dn for an IP phone in a Cisco CallManager Express (Cisco CME) system, you automatically create a virtual voice port and one to four virtual dial peers to be used by that ephone-dn. This command sets a preference value for the primary and secondary numbers that are associated with the ephone-dn that you are creating. The preference values are passed transparently into the dial peer or dial peers created by the ephone-dn. The preference values allow you to control the selection of a desired dial peer when multiple dial peers are matched on the same destination-pattern (target) number value. In this way, the **preference** command can be used to establish a hunt strategy for incoming calls.

The **huntstop** command can be used to prevent further hunting for a dial-peer match when an ephone-dn is busy or does not answer.

Examples

The following example sets a preference of 2 for the directory number 3000:

```
ephone-dn 1
 number 3000
 preference 2
```

In the following example, the number 1222 under ephone-dn 4 has a higher preference than the number 1222 under ephone-dn 5.

```
ephone-dn 4
 number 1222
 preference 0
!
!
ephone-dn 5
 number 1222
 preference 1
```

The following example shows an ephone-dn with two numbers. The primary number has a higher preference than the secondary number.

```
ephone-dn 6
 number 2233 secondary 2234
 preference 0 secondary 1
```

Related Commands

Command	Description
ephone-dn	Enters ephone-dn configuration mode.
huntstop	Discontinues call hunting behavior for an extension (ephone-dn) or an extension channel.

preference (ephone-hunt)

To set preference order for the ephone-dn associated with an ephone-hunt-group pilot number in Cisco Unified CME, use the **preference** command in ephone-hunt configuration mode. To delete this preference order, use the **no** form of this command.

preference *preference-order* [**secondary** *secondary-order*]
no preference *preference-order* [**secondary** *secondary-order*]

Syntax Description

preference-order	Preference order. Range is 0 to 8, where 0 is the highest preference and 8 is the lowest preference. Default is 0.
secondary *secondary-order*	(Optional) Preference order for the secondary pilot number. Range is 1 to 8, where 1 is the highest preference and 8 is the lowest preference. Default is 7.

Command Default

Preference order for the primary number is 0 (highest preference). Preference order for the secondary number is 7 (lowest preference).

Command Modes

Ephone-hunt configuration (config-ephone-hunt)

Command History

Cisco IOS Release	Cisco Product	Modification
12.2(15)ZJ	Cisco CME 3.0	This command was introduced.
12.3(4)T	Cisco CME 3.0	This command was integrated into Cisco IOS Release 12.3(4)T.
12.3(7)T	Cisco CME 3.1	The **secondary** *secondary-order* keyword-argument pair was introduced.

Usage Guidelines

This command sets a preference value that is used for matching dial peers in a Cisco IP phone virtual dial-peer group. The preference value is associated with a pilot number for a Cisco CME ephone hunt group. The preference value is passed transparently into the dial peer created by the pilot number. Setting the preference enables the desired dial peer to be selected when multiple dial peers within a hunt group are matched for a dial string.

Examples

The following example sets the preference for the pilot number of hunt group 23 to 1:

```
Router(config)# ephone-hunt 23 sequential
Router(config-ephone-hunt)# pilot 2355
Router(config-ephone-hunt)# preference 1
```

Related Commands

Command	Description
final	Defines the last ephone-dn in an ephone hunt group.
hops	Defines the number of times that a call is redirected to the next ephone-dn in a peer ephone-hunt-group list before proceeding to the final ephone-dn.

Command	Description
list	Lists the ephone-dns that participate in an ephone hunt group.
max-redirect	Changes the current number of allowable redirects in an Cisco CME system.
no-reg (ephone-hunt)	Specifies that the pilot number of an ephone hunt group not register with the H.323 gatekeeper.
pilot	Defines the ephone-dn that callers dial to reach an ephone hunt group.
timeout (ephone-hunt)	Sets the number of seconds after which a call that is not answered is redirected to the next number in the ephone-hunt-group list.

preference (voice hunt-group)

To set preference order for the voice dial peer associated with a voice hunt-group pilot number in Cisco Unified CME, use the **preference** command in voice hunt-group configuration mode. To delete this preference order, use the **no** form of this command.

preference *preference-order* [**secondary** *secondary-order*]
no preference *preference-order* [**secondary** *secondary-order*]

Syntax Description

preference-order	Preference order for the extension or telephone number associated with a dial peer. Range is 0 to 8. Default is 0.
secondary *secondary-order*	(Optional) Preference order for the secondary pilot number. Range is 1 to 8, where 1 is the highest preference and 8 is the lowest preference. Default is 7.

Command Default

Preference for primary number is 0 (highest preference). Preference for secondary number is 7 (lower preference).

Command Modes

Voice hunt-group configuration (config-voice-hunt-group)

Command History

Cisco IOS Release	Version	Modification
12.4(4)T	Cisco CME 3.4	This command was introduced.

Usage Guidelines

This command sets a preference value that is used for matching dial peers in a Cisco IP phone virtual dial-peer group. The preference value is associated with a pilot number for a Cisco CME voice hunt group. The preference value is passed transparently into the dial peer created by the pilot number. Setting the preference enables the desired dial peer to be selected when multiple dial peers within a hunt group are matched for a dial string.

Note It is recommended that the parallel hunt-group pilot number be unique in the system. Parallel hunt groups may not work if there are more than one partial or exact dial-peer match. For example, this happens if the pilot number is "8000" and there is another dial peer that matches "8...". If multiple matches cannot be avoided, give call parallel hunt group the highest priority to run by assigning a lower preference to the other dial peers. Note that 8 is the lowest preference value. By default, dial peers created by parallel hunt groups have a preference of 0.

Examples

The following is an example of a parallel voice hunt group. The pilot number is 6000 and the preference assigned to the pilot number is 1:

```
voice hunt-group 2 parallel
 pilot 6000
 preference 1
 list 3000, 3010, 3020
 final 9999
 timeout 10
```

Related Commands

Command	Description
pilot (voice hunt-group)	Defines the voice dn that callers dial to reach a Cisco CallManager Express (Cisco CME) voice hunt group.
voice hunt-group	Defines the type of hunt group.

preference (voice register dn)

To set the dial-peer preference order for VoIP dial peer to be created for a directory number on a SIP phone, use the **preference** command in voice register dn configuration mode. To reset the preference order to the default, use the **no** form of this command.

preference *preference-order*
no preference

Syntax Description

preference-order	Preference order for the extension or telephone number associated with a directory number. Range is 0 to 10. Default is 0.

Command Default

Preference for primary number is 0 (highest preference).

Command Modes

Voice register dn configuration (config-register-dn)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)T	Cisco CME 3.4 and Cisco SIP SRST 3.4	This command was introduced.

Usage Guidelines

When you create a directory number for a SIP phone in a Cisco CallManager Express (Cisco CME) or Cisco SIP SRST environment, you automatically create a virtual voice port and one to four virtual dial peers to be used by that directory number. This command sets a preference value for the extension or telephone number that is associated with the directory number hat you are creating. The preference value is passed transparently to dial peers created by the directory number. The preference value allows you to control the selection of a desired dial peer when multiple dial peers are matched on the same destination pattern (extension or telephone number). In this way, the **preference** command can be used to establish a hunt strategy for incoming calls.

The **huntstop** command can be used to prevent further hunting for a dial-peer match when a number is busy or does not answer.

Note This command can also be used for Cisco SIP SRST.

Examples

The following example shows how to set a preference of 2 for extension number 3000:

```
voice register dn 1
 number 3000
 preference 2
```

In the following example, extension number 1222 under voice register dn 4 has a higher preference than number 1222 under voice register dn 5.

```
voice register dn 4
 number 1222
 preference 0
!
```

```
!
voice register dn 5
 number 1222
 preference 1
```

Related Commands

	Description
huntstop (voice register dn)	Discontinues call hunting behavior for an extension (directory number) or an extension channel.
voice register dn	Enters voice register dn configuration mode to define an extension for a SIP phone line.

preference (voice register pool)

To set the preference order for creating the VoIP dial peers created for a number associated with a voice pool, use the **preference** command in voice register pool configuration mode. To put the number in default preference order, use the **no** form of this command.

preference *preference-order*
no preference

Syntax Description

preference-order	Preference order for the extension or telephone number associated with a pool. Range is 0 to 10. Default is 0, which is the highest preference.

Command Default

Preference for primary number is 0 (highest preference order).

Command Modes

Voice register pool configuration (config-register-pool)

Command History

Cisco IOS Release	Cisco Product	Modification
12.2(15)ZJ	Cisco SIP SRST 3.0	This command was introduced.
12.3(4)T	Cisco SIP SRST 3.0	This command was integrated into Cisco IOS Release 12.3(4)T.
12.4(4)T	Cisco CME 3.4 Cisco SIP SRST 3.4	This command was added to Cisco CallManager Express (Cisco CME).

Usage Guidelines

When you create a voice register pool for a SIP phone or a group of SIP phones in a Cisco Unified CME or Cisco Unified Session Initiation Protocol (SIP) Survivable Remote Site Telephony (SRST) environment, you automatically create a virtual voice port and one to four virtual dial peers to be used by the number associated with that pool. The preference value is passed transparently to dial peers created for the number. The preference value allows you to control the selection of a desired dial peer when multiple dial peers are matched on the same destination pattern (extension or phone number) associated with the pool. In this way, the **preference** command can be used to establish a hunt strategy for incoming calls.

Note Configure the **id** (voice register pool) command before any other voice register pool commands, including the preference command. The id command identifies a locally available individual SIP phone or set of Cisco SIP phones.

Examples

The following example shows how to set a preference of 2 for extension number 3000:

```
voice register pool 1
 number 3000
 preference 2
```

In the following example, extension number 1222 under voice register dn 4 has a higher preference than number 1222 under voice register pool 5.

```
voice register pool 4
 number 1222
 preference 0
!
!
voice register dn 5
 number 1222
 preference 1
```

Related Commands

	Description
id (voice register pool)	Explicitly identifies a locally available individual Cisco SIP IP phone, or when running Cisco Unified SIP SRST, set of Cisco SIP IP phones.
voice register pool	Enters voice register pool configuration mode for SIP phones.

presence

To enable presence service and enter presence configuration mode, use the **presence** command in global configuration mode. To disable presence service, use the **no** form of this command.

presence
no presence

Syntax Description

This command has no arguments or keywords.

Command Default

Presence service is disabled.

Command Modes

Global configuration (config)

Command History

Release	Cisco Product	Modification
12.4(11)XJ	Cisco Unified CME 4.1	This command was introduced.
12.4(15)T	Cisco Unified CME 4.1	This command was integrated into Cisco IOS Release 12.4(15)T.

Usage Guidelines

This command enables the router to perform the following presence functions:

- Process presence requests from internal lines to internal lines. Notify internal subscribers of any status change.
- Process incoming presence requests from a SIP trunk for internal lines. Notify external subscribers of any status change.
- Send presence requests to external presentities on behalf of internal lines. Relay status responses to internal lines.

Examples

The following example shows how to enable presence and enter presence configuration mode to set the maximum subscriptions to 150:

```
Router(config)# presence
Router(config-presence)# max-subscription 150
```

Related Commands

	Description
allow watch	Allows a directory number on a phone registered to Cisco Unified CME to be watched in a presence service.
debug presence	Displays debugging information about the presence service.
max-subscription	Sets the maximum number of concurrent watch sessions that are allowed.
presence enable	Allows the router to accept incoming presence requests.
server	Specifies the IP address of a presence server for sending presence requests from internal watchers to external presence entities.

	Description
show presence global	Displays configuration information about the presence service.
show presence subscription	Displays information about active presence subscriptions.

presence call-list

To enable Busy Lamp Field (BLF) monitoring for call lists and directories on phones registered to the Cisco Unified CME router, use the **presence call-list** command in ephone, presence, or voice register pool configuration mode. To disable BLF indicators for call lists, use the **no** form of this command.

presence call-list
no presence call-list

Syntax Description

This command has no arguments or keywords.

Command Default

BLF monitoring for call lists is disabled.

Command Modes

Ephone configuration (config-ephone)
Presence configuration (config-presence)
Voice register pool configuration (config-register pool)

Command History

Release	Modification
12.4(11)XJ	This command was introduced.
12.4(15)T	This command was integrated into Cisco IOS Release 12.4(15)T.

Usage Guidelines

This command enables a phone to monitor the line status of directory numbers listed in a directory or call list, such as a missed calls, placed calls, or received calls list. Using this command in presence mode enables the BLF call-list feature for all phones. To enable the feature for an individual SCCP phone, use this command in ephone configuration mode. To enable the feature for an individual SIP phone, use this command in voice register pool configuration mode.

If this command is disabled globally and enabled in voice register pool or ephone configuration mode, the feature is enabled for that voice register pool or ephone.

If this command is enabled globally, the feature is enabled for all voice register pools and ephones regardless of whether it is enabled or disabled on a specific voice register pool or ephone.

To display a BLF status indicator, the directory number associated with a telephone number or extension must have presence enabled with the **allow watch** command.

For information on the BLF status indicators that display on specific types of phones, see the Cisco Unified IP Phone documentation for your phone model.

Examples

The following example shows the BLF call-list feature enabled for ephone 1. The line status of a directory number that appears in a call list or directory is displayed on phone 1 if the directory number has presence enabled.

```
Router(config)# ephone 1
Router(config-ephone)# presence call-list
```

Related Commands

	Description
allow watch	Allows a directory number on a phone registered to Cisco Unified CME to be watched in a presence service.
blf-speed-dial	Enables BLF monitoring for a speed-dial number on a phone registered to Cisco Unified CME.
presence	Enables presence service and enters presence configuration mode.
show presence global	Displays configuration information about the presence service.

presence enable

To allow incoming presence requests, use the **presence enable** command in SIP user-agent configuration mode. To block incoming requests, use the **no** form of this command.

presence enable
no presence enable

Syntax Description

This command has no arguments or keywords.

Command Default

Incoming presence requests are blocked.

Command Modes

SIP UA configuration (config-sip-ua)

Command History

Release	Modification
12.4(11)XJ	This command was introduced.
12.4(15)T	This command was integrated into Cisco IOS Release 12.4(15)T.

Usage Guidelines

This command allows the router to accept incoming presence requests (SUBSCRIBE messages) from internal watchers and SIP trunks. It does not impact outgoing presence requests.

Examples

The following example shows how to allow incoming presence requests:

```
Router(config)# sip-ua
Router(config-sip-ua)# presence enable
```

Related Commands

	Description
allow subscribe	Allows internal watchers to monitor external presence entities (directory numbers).
allow watch	Allows a directory number on a phone registered to Cisco Unified CME to be watched in a presence service.
max-subscription	Sets the maximum number of concurrent watch sessions that are allowed.
show presence global	Displays configuration information about the presence service.
show presence subscription	Displays information about active presence subscriptions.
watcher all	Allows external watchers to monitor internal presence entities (directory numbers).

present-call

To present ephone-hunt-group calls only to member phones that are idle or onhook, use the **present-call** command in ephone-hunt configuration mode. To return to the default, use the **no** form of this command.

present-call {**idle-phone** | **onhook-phone**}
no **present-call** {**idle-phone** | **onhook-phone**}

Syntax Description

idle-phone	Presents calls from the ephone-hunt group only if all lines are idle on the phone on which the hunt-group line appears. This option does not consider monitored lines that have been configured on the phone using the **button m** command.
onhook-phone	Presents calls from the ephone-hunt group only if the phone on which the number appears is in the onhook state. When this keyword is configured, calls in the ringing or hold state that are unrelated to the hunt group do not prevent the presentation of calls from the ephone-hunt group.

Command Default

Ephone hunt group calls are presented to lines (ephone-dns) that are not in use, regardless of the state of other lines on the same ephone.

Command Modes

Ephone-hunt configuration (config-ephone-hunt)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)XC	Cisco Unified CME 4.0	This command was introduced.
12.4(9)T	Cisco Unified CME 4.0	This command was integrated into Cisco IOS Release 12.4(9)T.

Usage Guidelines

If you do not use this command, an ephone hunt group presents calls to an ephone whenever the phone line (ephone-dn) that corresponds to a number in an ephone-hunt list is available. The status of other phone lines on the phone is not considered.

The **present-call** command adds additional controls that allow you to take into account the activity on all lines of a phone that has an ephone-dn that is assigned to an ephone hunt group. The **present-call** command allows you to specify that hunt groups should present calls to these phones only when they are on hook or are not busy with an active call. This keeps hunt group calls from possibly going unanswered because a phone is occupied with a call on a line other than the line assigned to the hunt group.

Examples

The following example sets up a peer hunt group with three ephone-dns to answer calls. Incoming calls are sent only to ephone-dns on phones that are on-hook.

```
ephone-hunt 17 peer
pilot 3000
list 3011, 3021, 3031
hops 3
final 7600
present-call onhook-phone
```

Related Commands

	Description
ephone-hunt	Defines an ephone hunt group and enters ephone-hunt configuration mode.

present-call (voice hunt-group)

To present voice hunt-group calls only to member phones that are idle, use the **present-call** command in voice hunt group configuration mode. To return to the default, use the **no** form of this command.

present-call {**idle-phone**}
no present-call {**idle-phone**}

Syntax Description

idle-phone	Presents calls from the voice hunt group only if all lines are idle on the phone on which the hunt group line appears.

Command Default

Voice hunt group calls are presented to lines (ephone-dns or voice register dns) that are not in use, regardless of the state of other lines on the same ephone or voice register pool.

Command Modes

voice hunt-group configuration (config-voice-hunt)

Command History

Cisco IOS Release	Cisco Product	Modification
Cisco IOS XE Everest 16.4.1 15.6(3)M1	Cisco Unified CME 11.6	This command was introduced for voice hunt group.

Usage Guidelines

If you do not use this command, voice hunt group presents calls to an ephone or voice register pool whenever the phone line (ephone-dn or voice register dn) that corresponds to a number in a voice hunt group list is available. The status of other phone lines on the phone is not considered.

The **present-call** command adds additional controls that allow you to take into account the activity on all lines of a phone that has an ephone-dn or voice register dn that is assigned to a voice hunt group. The **present-call** command allows you to specify that hunt groups should present calls to these phones only when they are idle or not busy with an active call. This keeps hunt group calls from possibly going unanswered because a phone is occupied with a call on a line other than the line assigned to the hunt group.

Examples

The following example sets up a peer hunt group with three ephone-dns to answer calls. Incoming calls are sent only to ephone-dns or voice register dns on phones that are idle.

```
voice hunt-group 17 peer
pilot 3000
list 3011, 3021, 3031
final 7600
present-call idle-phone
```

Related Commands

	Description
voice hunt-group	Defines a voice hunt group and enters voice hunt-group configuration mode.

privacy (ephone)

To modify privacy support on a specific phone, use the **privacy** command in ephone or ephone-template configuration mode. To reset to the default value, use the **no** form of this command.

privacy [{**off** | **on**}]
no privacy

Syntax Description

off	(Optional) Disables privacy on the phone.
on	(Optional) Enables privacy on the phone.

Command Default

Use system-level setting configured with the **privacy** command in telephony-service mode.

Command Modes

Ephone configuration (config-ephone)
Ephone-template configuration (config-ephone-template)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(15)XZ	Cisco Unified CME 4.3	This command was introduced.
12.4(20)T	Cisco Unified CME 7.0	This command was integrated into Cisco IOS Release 12.4(20)T.

Usage Guidelines

This command modifies the privacy capability of individual phones. Privacy prevents other phone users from seeing call information or barging into a call on a shared octo-line directory number. Privacy is supported for calls on shared octo-line directory numbers only.

If only specific phones require access to privacy, disable privacy at the system-level by using the **no privacy** command in telephony-service configuration mode and enable privacy at the phone-level by using the **privacy on** command.

After a phone that is configured for privacy registers with Cisco Unified CME, the feature button on the phone is labeled “Privacy” and a status icon displays. If the button has a lamp, it lights. When the phone receives an incoming call, the user can make the call private by pressing the Privacy feature button. The privacy button toggles between on and off. The privacy state is applied to new calls and current calls that the user owns.

Users can dynamically enable privacy for shared-line calls by pressing the Privacy feature button on the phone if the **privacy-button** command is enabled.

The Privacy feature applies to all shared lines on a phone. If a phone has multiple shared lines and Privacy is enabled, other phones cannot view or barge into calls on any of the shared lines.

If you use an ephone template to apply a command to an ephone and you also use the same command in ephone configuration mode for the same ephone, the value that you set in ephone configuration mode has priority.

Examples

The following example shows privacy enabled on a specific phone and disabled at the system-level:

```
telephony-service
 no privacy
```

```
 privacy-on-hold
 max-ephones 100
 max-dn 240
!
!
ephone  10
 privacy on
 privacy-button
 max-calls-per-button 3
 busy-trigger-per-button 2
 mac-address 00E1.CB13.0395
 type 7960
 button  1:7 2:10
```

Related Commands

Command	Description
privacy (telephony-service)	Enables privacy globally for all phones in the system.
privacy-button	Enables the privacy feature button on an IP phone.
privacy-on-hold	Enables privacy for calls that are on hold on shared octo-line directory numbers.

privacy (telephony-service)

To enable privacy at the system level for all phones, use the **privacy** command in telephony-service configuration mode. To disable privacy at the system level, use the **no** form of this command.

privacy
no privacy

Syntax Description

This command has no arguments or keywords.

Command Default

Privacy is enabled at the system level for all phones.

Command Modes

Telephony-service configuration (config-telephony)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(15)XZ	Cisco Unified CME 4.3	This command was introduced.
12.4(20)T	Cisco Unified CME 7.0	This command was integrated into Cisco IOS Release 12.4(20)T.

Usage Guidelines

This command enables privacy for all phones in the system. Privacy prevents other phone users from seeing call information or joining a call on a shared octo-line directory number. Privacy is supported for calls on shared octo-line directory numbers only.

If only specific phones need access to privacy, disable privacy at the system-level by using the **no privacy** command and enable privacy at the phone level by using the **privacy on** command in ephone or ephone-template configuration mode.

After a phone that is configured for privacy registers with Cisco Unified CME, the feature button on the phone is labeled "Privacy" and a status icon displays. The button lamp, if available, lights to reflect the privacy setting of the phone. When the phone receives an incoming call, the user can make the call private by pressing the Privacy feature button.

Examples

The following example shows privacy disabled at the system-level and enabled on an individual phone:

```
telephony-service
 no privacy
 privacy-on-hold
 max-ephones 100
 max-dn 240
 timeouts transfer-recall 60
 voicemail 8900
 max-conferences 8 gain -6
 transfer-system full-consult
 fac standard
!
!
ephone  10
 privacy on
 privacy-button
 max-calls-per-button 3
```

```
busy-trigger-per-button 2
mac-address 00E1.CB13.0395
type 7960
button  1:7 2:10
```

Related Commands

Command	Description
privacy (ephone)	Modifies privacy support on a specific phone.
privacy-button	Enables the privacy feature button on an IP phone.
privacy-on-hold	Enables privacy for calls that are on hold on shared octo-line directory numbers.

privacy (voice register global)

To enable privacy at the system level for all SIP phones, use the **privacy** command in voice register global configuration mode. To disable privacy at the system level, use the **no** form of this command.

privacy
no privacy

Syntax Description

This command has no arguments or keywords.

Command Default

Privacy is enabled at the system level for all phones.

Command Modes

Voice register global configuration (config-register-global)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(22)YB	Cisco Unified CME 7.1	This command was introduced.
12.4(24)T	Cisco Unified CME 7.1	This command was integrated into Cisco IOS Release 12.4(24)T.

Usage Guidelines

This command enables privacy for all phones in the system. Privacy prevents other phone users from seeing call information or joining a call on a shared-line directory number. Privacy is supported for calls on shared-line directory numbers only.

If only specific phones need access to privacy, disable privacy at the system-level by using the **no privacy** command and enable privacy at the phone level by using the **privacy on** command in voice register pool or voice register template configuration mode.

After a phone that is configured with the **privacy-button** command registers with Cisco Unified CME, the feature button on the phone is labeled “Privacy” and a status icon displays. The button lamp, if available, lights to reflect the privacy setting of the phone. When the phone receives an incoming call, the user can make the call private by pressing the Privacy feature button.

Examples

The following example shows privacy disabled at the system-level and enabled on an individual phone:

```
voice register global
 mode cme
 privacy-on-hold
 no privacy
 max-dn 300
 max-pool 150
 voicemail 8900
 call-feature-uri pickup http://10.4.212.11/pickup
 call-feature-uri gpickup http://10.4.212.11/gpickup
!
voice register pool  130
 id mac 001A.A11B.500E
 type 7941
 number 1 dn 30
 template 6
```

```
dnd
privacy ON
```

Related Commands

Command	Description
privacy (voice register pool)	Modifies privacy support on a specific phone.
privacy-button	Enables the privacy feature button on an IP phone.
privacy-on-hold	Enables privacy for calls that are on hold on shared-line directory numbers.
shared-line	Creates a shared-line directory number for a SIP phone.

privacy (voice register pool)

To modify the phone-level privacy setting on a SIP phone, use the **privacy** command in voice register pool or voice register template configuration mode. To reset to the default value, use the **no** form of this command.

privacy {**off** | **on**}
no privacy

Syntax Description

off	Disables privacy on the phone.
on	Enables privacy on the phone.

Command Default

Use system-level setting configured with the **privacy** command in voice register global mode.

Command Modes

Voice register pool configuration (config-register-pool)
Voice register template configuration (config-register-temp)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(22)YB	Cisco Unified CME 7.1	This command was introduced.
12.4(24)T	Cisco Unified CME 7.1	This command was integrated into Cisco IOS Release 12.4(24)T.

Usage Guidelines

This command modifies the privacy setting on the SIP phone. Privacy prevents other phone users from viewing call information or barging into a call on a shared-line directory number. Privacy is supported for calls on shared-line directory numbers only.

After a phone that is configured with the **privacy-button** command registers with Cisco Unified CME, the feature button on the phone is labeled “Privacy” and a status icon displays. If the button has a lamp, it lights. When the phone receives an incoming call, the user can make the call private by pressing the Privacy feature button. The privacy button toggles between on and off. The privacy state applies to new calls and current calls that the phone user owns.

The **off** and **on** keywords specify the initial Privacy state on the phone when the Privacy feature is enabled. The phone user can then toggle the privacy state on and off using the Privacy feature button.

The Privacy state applies to all shared lines on a phone. If a phone has multiple shared lines, other phones cannot view or barge into calls on any of the shared lines if the Privacy state is enabled.

If you use a voice register template to apply a command to a phone and you also use the same command in voice register pool configuration mode for the same phone, the value that you set in voice register pool configuration mode has priority.

Examples

The following example shows privacy enabled for a specific SIP phone:

```
Router(config)# voice register pool 123
Router(config-register-pool)# privacy on
```

Related Commands

Command	Description
privacy (voice register global)	Enables privacy at the system level for all SIP phones.
privacy-button	Enables the privacy feature button on an IP phone.
privacy-on-hold	Enables privacy for calls that are on hold on shared-line directory numbers.
shared-line	Creates a shared-line directory number for a SIP phone.
softkeys remote-in-use (voice register template)	Modifies the soft-key display during the remote-in-use call state on SIP phones.
template (voice register pool)	Applies a template to a SIP phone.

privacy-button

To enable the privacy feature button on an IP phone, use the **privacy-button** command in ephone, ephone-template, voice logout-profile, and voice user-profile configuration mode. To reset to the default value, use the **no** form of this command.

privacy-button
no privacy-button

Syntax Description

This command has no arguments or keywords.

Command Default

Privacy button is disabled.

Command Modes

Ephone configuration (config-ephone)
Ephone-template configuration (config-ephone-template)
Voice logout-profile configuration (config-logout-profile)
Voice user-profile configuration (config-user-profile)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(15)XZ	Cisco Unified CME 4.3	This command was introduced.
12.4(20)T	Cisco Unified CME 7.0	This command was integrated into Cisco IOS Release 12.4(20)T.

Usage Guidelines

This command allows phone users to dynamically enable or disable privacy for calls on shared octo-lines by pressing the Privacy feature button on the phone. Privacy prevents other phone users from viewing call information or joining calls on a shared octo-line directory number.

Privacy is supported only for calls on shared octo-line directory numbers so enable this command only on phones that share an octo-line directory number.

After a phone that is configured for privacy registers with Cisco Unified CME, the feature button on the phone is labeled “Privacy” and a status icon displays. The button lamp, if available, lights to reflect the privacy setting of the phone. The privacy feature button toggles between on and off. The privacy state is applied to new calls and current calls owned by the user.

Privacy is enabled on the phone with either the **privacy** command in ephone configuration mode or the **privacy** command in telephony-service mode.

If you use an ephone template to apply a command to an ephone and you also use the same command in ephone configuration mode for the same ephone, the value that you set in ephone configuration mode has priority.

Examples

The following example shows the privacy button is enabled for ephone 10:

```
ephone  10
 privacy-button
 max-calls-per-button 3
 busy-trigger-per-button 2
 mac-address 00E1.CB13.0395
```

```
type 7960
button  1:7
```

Related Commands

Command	Description
privacy (ephone)	Modifies privacy support on a specific phone.
privacy (telephony-service)	Enables privacy globally for all phones in the system.
privacy-on-hold	Enables privacy for calls that are on hold on shared octo-line directory numbers.

privacy-button (voice register pool)

To enable the privacy feature button on an IP phone, use the **privacy-button** command in voice register pool or voice register template configuration mode. To reset to the default value, use the **no** form of this command.

privacy-button
no privacy-button

Syntax Description

This command has no arguments or keywords.

Command Default

Privacy button is disabled.

Command Modes

Voice register pool configuration (config-register-pool)
Voice register template configuration (config-register-temp)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(22)YB	Cisco Unified CME 7.1	This command was introduced.
12.4(24)T	Cisco Unified CME 7.1	This command was integrated into Cisco IOS Release 12.4(24)T.

Usage Guidelines

This command allows phone users to dynamically enable or disable privacy for calls on shared lines by pressing the Privacy feature button on the phone. Privacy prevents other phone users from viewing call information or joining calls on a shared-line directory number.

Privacy is supported only for calls on shared-line directory numbers so enable this command only on phones that use a shared-line directory number.

After a phone that is configured with this command registers with Cisco Unified CME, the feature button on the phone is labeled "Privacy" and a status icon displays. The button lamp, if available, lights to reflect the privacy setting of the phone. The privacy feature button toggles between on and off. The privacy state is applied to new calls and current calls owned by the user.

Privacy is enabled on the phone with either the **privacy** command in voice register pool configuration mode or the **privacy** command in voice register global configuration mode.

If you use a voice register template to apply a command to a phone and you also use the same command in voice register pool configuration mode for the same phone, the value that you set in voice register pool configuration mode has priority.

Examples

The following example shows the privacy button is enabled for phone 124:

```
voice register pool  124
 busy-trigger-per-button 5
 id mac 0017.E033.0284
 type 7965
 number 1 dn 24
 privacy-button
```

Related Commands

Command	Description
privacy (voice register global)	Enables privacy globally for all SIP phones in the system.
privacy (voice register pool)	Modifies privacy support on a specific phone.
privacy-on-hold (voice register global)	Enables privacy for calls that are on hold on shared-line directory numbers.
shared-line	Creates a shared-line directory number for a SIP phone.

privacy-on-hold

To enable privacy for calls that are on hold on shared octo-line directory numbers, use the **privacy-on-hold** command in telephony-service configuration mode. To disable privacy for calls on hold, use the **no** form of this command.

privacy-on-hold
no privacy-on-hold

Syntax Description

This command has no arguments or keywords.

Command Default

Privacy on hold is disabled.

Command Modes

Telephony-service configuration (config-telephony)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(15)XZ	Cisco Unified CME 4.3	This command was introduced.
12.4(20)T	Cisco Unified CME 7.0	This command was integrated into Cisco IOS Release 12.4(20)T.

Usage Guidelines

This command prevents other phone users from seeing or retrieving calls that are on hold on a shared octo-line directory number.

Privacy is enabled on the phone with either the **privacy** command in ephone configuration mode or the **privacy** command in telephony-service mode.

Examples

The following example shows how to enable privacy on hold for shared lines.

```
Router(config)# telephony-service
Router(config-telephony)# privacy-on-hold
```

Related Commands

Command	Description
privacy (ephone)	Modifies privacy support on a specific phone.
privacy (telephony-service)	Enables privacy globally for all phones in the system.
privacy-button	Enables the privacy feature button on an IP phone.

privacy-on-hold (voice register global)

To enable privacy for calls that are on hold on shared-line directory numbers, use the **privacy-on-hold** command in voice register global configuration mode. To disable privacy for calls on hold, use the **no** form of this command.

privacy-on-hold
no privacy-on-hold

Syntax Description

This command has no arguments or keywords.

Command Default

Privacy on hold is disabled.

Command Modes

Voice register global (config-register-global)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(22)YB	Cisco Unified CME 7.1	This command was introduced.

Usage Guidelines

This command prevents other phone users from seeing or retrieving calls that are on hold on a shared-line directory number.

Privacy is enabled on the phone with either the **privacy** command in voice register pool configuration mode or the **privacy** command in voice register global configuration mode.

Examples

The following example shows how to enable privacy on hold for shared lines.

```
Router(config)# voice register global
Router(config-register-global)# privacy-on-hold
```

Related Commands

Command	Description
privacy (voice register global)	Enables privacy globally for all phones in the system.
privacy (voice register pool)	Modifies privacy support on a specific phone.
privacy-button (voice register pool)	Enables the privacy feature button on an IP phone.
shared-line	Creates a shared-line directory number for a SIP phone.

protocol mode

To configure the Cisco IOS Session Initiation Protocol (SIP) stack, use the **protocol mode** command in SIP user-agent configuration mode. To disable the configuration, use the **no** form of this command.

protocol mode {**ipv4** | **ipv6** | **dual-stack** [**preference** {**ipv4** | **ipv6**}]}
no protocol mode

Syntax Description

ipv4	Specifies the IPv4-only mode.
ipv6	Specifies the IPv6-only mode.
dual-stack	Specifies the dual-stack (that is, IPv4 and IPv6) mode.
preference {**ipv4** | **ipv6**	(Optional) Specifies the preferred dual-stack mode, which can be either IPv4 (the default preferred dual-stack mode) or IPv6.

Command Default

No protocol mode is configured. The Cisco IOS SIP stack operates in IPv4 mode when the **no protocol mode** or **protocol mode ipv4** command is configured.

Command Modes

SIP user-agent configuration (config-sip-ua)

Command History

Release	Modification
12.4(22)T	This command was introduced.
15.1(1)T	This command was integrated into Cisco IOS Release 15.1(1)T.

Usage Guidelines

The **protocol mode** command is used to configure the Cisco IOS SIP stack in IPv4-only, IPv6-only, or dual-stack mode. For dual-stack mode, the user can (optionally) configure the preferred family, IPv4 or IPv6.

For a particular mode (for example, IPv6-only), the user can configure any address (for example, both IPv4 and IPv6 addresses) and the system will not hide or restrict any commands on the router. SIP chooses the right address for communication based on the configured mode on a per-call basis.

For example, if the domain name system (DNS) reply has both IPv4 and IPv6 addresses and the configured mode is IPv6-only (or IPv4-only), the system discards all IPv4 (or IPv6) addresses and tries the IPv6 (or IPv4) addresses in the order they were received in the DNS reply. If the configured mode is dual-stack, the system first tries the addresses of the preferred family in the order they were received in the DNS reply. If all of the addresses fail, the system tries addresses of the other family.

Examples

The following example configures dual-stack as the protocol mode:

```
Router(config-sip-ua)# protocol mode dual-stack
```

The following example configures IPv6 only as the protocol mode:

```
Router(config-sip-ua)# protocol mode ipv6
```

The following example configures IPv4 only as the protocol mode:

```
Router(config-sip-ua)# protocol mode ipv4
```

The following example configures no protocol mode:

```
Router(config-sip-ua)# no protocol mode
```

Related Commands

Command	Description
sip ua	Enters SIP user-agent configuration mode.

protocol-mode (telephony-service)

To configure a preferred IP address mode for SCCP IP phones in Cisco Unified CMEr, use rthe **protocol mode** command in telephony service configuration mode. To disable the router protocol mode, use the **no** form of this command.

protocol mode {**ipv4** | **ipv6** | **dual-stack** [**preference** {**ipv4** | **ipv6**}]}
no protocol mode {**ipv4** | **ipv6** | **dual-stack** [**preference** {**ipv4** | **ipv6**}]}

Syntax Description

ipv4	IPv4-only mode.
ipv6	IPv6-only mode.
dual-stack	Dual-stack mode, ipv4 and ipv6 mode.
preference	Preference dual-stack mode, either ipv4 or ipv6 mode.

Command Default

No protocol mode is configured

Command Modes

Telephony-service configuration (config-telephony)

Command History

Cisco IOS Release	Cisco Product	Modification
15.0(1)XA	Cisco Unified CME 8.0	This command was introduced.

Usage Guidelines

The **protocol mode** command is used to configure SCCP IP phones in CUCME in IPv4-only, IPv6-only, or dual-stack mode. For dual-stack mode, the user can configure the preferred family, IPv4 or IPv6.

For a specific mode, the user is free to configure any address and the system will not hide or restrict any commands on the router. On a per-call basis, SCCP phones choose the right address for communication based on the configured mode.

For example, if the DNS reply has both IPv4 and IPv6 addresses and the configured mode is IPv6-only (or IPv4-only), the system discards all IPv4 (or IPv6) addresses and tries the IPv6 (or IPv4) addresses in the order they were received in the DNS reply. If the configured mode is dual-stack, the system first tries the addresses of the preferred family in the order they were received in the DNS reply. If all of the addresses fail, the system tries addresses of the other family.

Examples

The following example configures dual-stack as the protocol mode:

```
Router(config)# telephony-service
Router(config-telephony)#protocol mode dual-stack preference ?
  ipv4  IPv4 address is prefered
  ipv6  IPv6 address is prefered
```

The following example configures IPv6-only mode as the protocol mode:

```
Router(config)# telephony-service
Router(config-telephony)#protocol mode ipv6
```

The following example configures IPv4-only mode as the protocol mode:

```
Router(config)# telephony-service
Router(config-telephony)#protocol mode ipv6
```

Related Commands

Command	Description
ip source-address	Identifies the IP address and port through which IP phones communicate with a Cisco Unified CME router.
shutdown	Allows to shut down SCCP server listening sockets.

provision-tag

To create a provision tag for identifying an ephone or voice register pool for the extension assigner application, use the **provision-tag** command in ephone configuration mode or voice register pool configuration mode. To remove the provision tag, use the **no** form of this command.

provision-tag *tag*
no provision-tag *tag*

Syntax Description

tag	Unique number that identifies this provision tag. Range: 1 to 2147483647.

Command Default

No provision tag is created.

Command Modes

Ephone configuration (config-ephone)

Voice register Pool (config-register-pool)

Command History

Cisco IOS Release	Cisco Product	Modification
12.4(4)XC4	Cisco Unified CME 4.0(3)	This command was introduced.
12.4(11)XJ	Cisco Unified CME 4.1	This command was introduced.
12.4(15)T	Cisco Unified CME 4.1	This command was integrated into Cisco IOS Release 12.4(15)T.
Cisco IOS XE Everest 16.4.1 15.6(3)M1	Cisco Unified CME 11.6	This command was supported under voice register pool for SIP phones.

Usage Guidelines

This command creates a provision tag.

For SCCP phones, a provision tag enables you to use some number other than an ephone tag, such as a jack number or an extension number, to identify an ephone configuration. The provision tag can be used with the extension assigner application to assign the corresponding ephone configuration to an IP phone. This command is ignored unless you also use the **extension-assigner tag-type** command with the **provision-tag** keyword.

Examples

The following example shows that provision tag 1001 is configured for ephone 1 and provision tag 1002 is configured for ephone 2:

```
Telephony-service
 extension-assigner tag-type provision-tag
 auto assign 101-102
 auto-reg-ephone
Ephone-dn 101
 number 1001
Ephone-dn 102
 number 1002
Ephone 1
 provision-tag 1001
 mac-address 02EA.EAEA.0001
```

```
 button 1:101
Ephone 2
 provision-tag 1002
 mac-address 02EA.EAEA.0002
 button 1:102
```

Examples

For SIP phones, a provision tag enables you to assign any number within the range as an extension number. The provision tag is used with an extension assigner application to assign the corresponding voice register pool configuration to an IP phone.

The following example shows that provision tag 1001 is configured for voice register pool 1 and provision tag 1002 is configured for voice register pool 2:

```
Voice register global
 auto-register
  password xxxx
  auto assign 101-102
voice register dn 101
 number 1001
voice register dn 102
 number 1002
voice register pool 1
 provision-tag 1001
 mac-address 02EA.EAEA.0001
 number 1 dn 101
voice register pool  2
 provision-tag 1002
 mac-address 02EA.EAEA.0002
 number 2 dn 102
```

Related Commands

	Description
extension-assigner tag-type	Specifies which type of tag is used by the extension assigner application to identify an ephone configuration.