Configuring Call Blocking

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This chapter describes Call Blocking features in Cisco Unified Communications Manager Express (Cisco Unified CME).

Finding Feature Information in This Module

Your Cisco Unified CME version may not support all of the features documented in this module. For a list of the versions in which each feature is supported, see the "Feature Information for Call Blocking" section on page 703.

Contents

Information About Call Blocking

To configure Call Blocking features, you should understand the following concepts:

Call Blocking Based on Date and Time (After-Hours Toll Bar)

Call blocking to prevent unauthorized use of phones is implemented by matching dialed numbers against a pattern of specified digits and matching the time against the time of day and day of week or date that has been specified for Call Blocking. You can specify up to 32 patterns of digits for blocking.

When a user attempts to place a call to digits that match a pattern that has been specified for Call Blocking during a time period that has been defined for Call Blocking, a fast busy signal is played for approximately 10 seconds. The call is then terminated and the line is placed back in on-hook status.

The Cisco Unified CME session application accesses the current after-hours configuration and applies it to calls originated by phones that are registered to the Cisco Unified CME router. Call blocking applies to all IP phones in Cisco Unified CME, although individual IP phones can be exempted from all call blocking.

In Cisco CME 3.4 and later versions, the same time-based call-blocking mechanism that is provided for SCCP phone and on analog phones connected to SCCP-controlled analog telephone adaptors (Cisco ATA) or SCCP-controlled foreign exchange station (FXS) ports is expanded to SIP endpoints.

In Cisco CME 3.4 and later, call-blocking configuration applies to all SCCP, H.323, SIP and POTS calls that go through the Cisco Unified CME router. All incoming calls to the router, except calls from an exempt phone, are also checked against the after-hours configuration.

Prior to Cisco Unified CME 4.2(1), all Call Blocking features are implemented globally and uniformly on each phone in the system. All phones are similarly restricted according to time, date, location, and other call blocking characteristics. Call Blocking is not supported on ephone-dns that are configured to use the trunk feature, and Call Blocking did not apply to second-stage trunk dialing.

In Cisco Unified CME 4.2(1) and later versions, you have the flexibility to set different call block calendars and call block patterns to phones in different departments, to block certain trunk dialing as required, and to configure Call Blocking on a particular SCCP IP phone by creating and applying a template to that phone.

For configuration information, see the "Configuring Call Blocking" section on page 686.

After-Hours Pattern-Blocking Support for Regular Expressions

In Cisco Unified CME 9.5, support for afterhours pattern blocking is extended to regular expression patterns for dial plans on Cisco Unified SIP phones and Cisco Unified SCCP IP phones. With this support, users can add a combination of fixed dial plans and regular expression-based dial plans.

When a call is initiated after hours, the dialed number is matched against a combination of dial plans. If a match is found, the call is blocked.

To enable regular expression patterns to be included when configuring afterhours pattern blocking, the **after-hours block pattern** command is modified to include regular expressions as a value for the *pattern* argument in the following command syntax:

after-hours block pattern *pattern-tag pattern*

This command is available in the following configuration modes:

- telephony-service—For both SCCP and SIP Phones.
- ephone-template—For SCCP phones only.

Note The maximum length of a regular expression pattern is 32 for both Cisco Unified SIP and Cisco Unified SCCP IP phones.

If calls to the following numbers are to be blocked after hours:

- numbers beginning with ‘0’ and ‘00’
- numbers beginning with 1800, followed by four digits
- numbers 9876512340 to 9876512345

then the following configurations can be used:

- after-hours block pattern 1 0*
- after-hours block pattern 2 00*
- after-hours block pattern 3 1800….
- after-hours block pattern 4 987651234[0-5]

Note There is no change in the number of afterhours patterns that can be added. The maximum number is still 100.

For more configuration examples, see the “Configuring After-Hours Block Patterns of Regular Expressions: Example” section on page 700.

For a summary of the basic Cisco IOS regular expression characters and their functions, see the “Cisco Regular Expression Pattern Matching Characters“ section of *Terminal Services Configuration Guide*.

Call Blocking Override

The after-hours configuration applies globally to all dial peers in Cisco Unified CME. You can disable the feature on phones using one of three mechanisms:

- directory number—To configure an exception for an individual directory number.
- phone-level—To configure an exception for all directory numbers associated to a Cisco Unified IP phone regardless of any configuration for an individual directory number.
- dial peer—To configure an exception for a particular dial peer.

Individual phone users can be allowed to override call blocking associated with designated time periods by entering personal identification numbers (PINs) that have been assigned to their phones. For IP phones that support soft keys, such as the Cisco Unified IP Phone 7940G and the Cisco Unified IP Phone 7960G, the call-blocking override feature allows individual phone users to override the call blocking that has been defined for designated time periods. The system administrator must first assign a personal identification number (PIN) to any phone that will be allowed to override Call Blocking.

Logging in to a phone with a PIN only allows the user to override call blocking that is associated with particular time periods. Blocking patterns that are in effect 7 days a week, 24 hours a day, and they cannot be overridden by using a PIN.

When PINs are configured for call-blocking override, they are cleared at a specific time of day or after phones have been idle for a specific amount of time. The time of day and amount of time can be set by the system administrator, or the defaults can be accepted.

For configuration information, see the following sections:

- “SCCP: Configuring Call Blocking Override for All Phones” section on page 690
- “Configuring Call Blocking Exemption for a Dial Peer” section on page 689.
- “SCCP: Configuring Call Blocking Exemption for an Individual Phone” section on page 691.

- "SIP: Configuring Call Blocking Exemption for an Individual Phone or Directory Number" section on page 692.

Class of Restriction

Class of restriction (COR) is the capability to deny certain call attempts based on the incoming and outgoing class of restrictions provisioned on the dial peers. COR specifies which incoming dial peer can use which outgoing dial peer to make a call. Each dial peer can be provisioned with an incoming and an outgoing COR list.

COR functionality provides flexibility in network design by allowing users to block calls (for example, calls to 900 numbers) and allowing different restrictions to call attempts from different originators.

For SIP phones, multiple COR lists can be applied under the voice register pool. A maximum of ten lists (five incoming and five outgoing) can be defined. The final COR list that is applied depends on the DN that the phone registers with the CME. This DN should match any one of the ranges defined in the COR list under the voice register pool.

How to Configure Call Blocking

This section contains the following tasks:

- Configuring Call Blocking, page 686 (required)
- Configuring Call Blocking Exemption for a Dial Peer, page 689 (optional)
- SCCP: Configuring Call Blocking Override for All Phones, page 690 (optional)
- SCCP: Configuring Call Blocking Exemption for an Individual Phone, page 691 (optional)
- SIP: Configuring Call Blocking Exemption for an Individual Phone or Directory Number, page 692 (optional)
- Verifying Call Blocking Configuration, page 693 (optional)

Applying and Verifying Class of Restriction

- SCCP: Applying Class of Restriction to a Directory Number, page 694 (required)
- SIP: Applying Class of Restriction to Directory Number, page 695 (required)
- Verifying Class of Restriction, page 697 (optional)

Configuring Call Blocking

To define blocking patterns and time periods during which calls to matching patterns are blocked for all SCCP and SIP endpoints in Cisco Unified CME, to define blocking patterns to be matched to block calls from PSTN lines, and to deactivate logins on SCCP phones at a specific time or for a specified time period, perform the following steps.

Prerequisites

- Dial-peers are configured to provide PSTN access using router voice-ports or H.323/SIP trunk connections.

Restrictions

- Prior to Cisco CME 3.3, Call Blocking is not supported on analog phones connected to Cisco ATAs or FXS ports in H.323 mode.
- Prior to Cisco CME 3.4, Call Blocking is not supported on SIP IP phones connected directly in Cisco Unified CME.
- Prior to Cisco Unified CME 4.2(1), selective Call Blocking on IP phones and PSTN trunk lines is not supported.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **telephony-service**
4. **after-hours block pattern** *tag pattern* [**7-24**]
5. **after-hours day** *day start-time stop-time*
6. **after-hours date** *month date start-time stop-time*
7. **after-hours pstn-prefix** *tag pattern*
8. **login** [**timeout** [*minutes*]] [**clear** *time*]
9. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**telephony service** **Example:** `Router(config)# telephony service`	Enters telephony service configuration mode.
Step 4	**after-hours block pattern** *pattern-tag pattern* [**7-24**] **Example:** `Router(config-telephony)# after-hours block pattern 2 91`	Defines pattern to be matched for blocking calls from IP phones. • *pattern-tag*—Unique number pattern for call blocking. Define up to 32 call-blocking patterns in separate commands. Range is 1 to 32. • This command can also be configured in ephone-template configuration mode. The value set in ephone-template configuration mode has priority over the value set in telephony-service mode

	Command or Action	Purpose
Step 5	**after-hours date** *month date start-time stop-time* **Example:** `Router(config-telephony)# after-hours date jan 1 0:00 23:59`	Defines a recurring period based on date of month during which outgoing calls that match defined block patterns are blocked on IP phones. • Enter beginning and ending times for call blocking in an HH:MM format using a 24-hour clock. The *stop-time* must be greater than the *start-time*. The value 24:00 is not valid. If you enter 00:00as a stop time, it is changed to 23:59. If you enter 00:00 for both start time and stop time, calls are blocked for the entire 24-hour period on the specified date. • This command can also be configured in ephone-template configuration mode. The value set in ephone-template configuration mode has priority over the value set in telephony-service mode
Step 6	**after-hours day** *day start-time stop-time* **Example:** `Router(config-telephony)# after-hours day sun 0:00 23:59`	Defines a recurring period based on day of the week during which outgoing calls that match defined block patterns are blocked on IP phones • Enter beginning and ending times for call blocking, in an HH:MM format using a 24-hour clock. The *stop-time* must be greater than the *start-time*. The value 24:00 is not valid. If you enter 00:00 as a stop time, it is changed to 23:59. If you enter 00:00 for both start time and stop time, calls are blocked for the entire 24-hour period on the specified day. • This command can also be configured in ephone-template configuration mode. The value set in ephone-template configuration mode has priority over the value set in telephony-service mode
Step 7	**after-hours pstn-prefix** *tag pattern* **Example:** `Router(config-telephony)# after-hours pstn_prefix 1 9`	Defines the leading digits of the pattern to be skipped when pattern matching dialed digits on a trunk ephone-dn. • *tag*: Unique number pattern for PSTN call blocking. Define up to 4 call-blocking patterns in separate commands. Range is 1-4. • *pattern*: Identifies the unique leading digits, normally used to dial a trunk PSTN line, that are blocked by this configuration.

	Command or Action	Purpose
Step 8	**login** [**timeout** [*minutes*]] [**clear** *time*] **Example:** `Router(config-telephony)# login timeout 120 clear 23:00`	Deactivates all user logins at a specific time or after a designated period of idle time on a phone. • For SCCP phones only. Not supported on SIP endpoints in Cisco Unified CME. • *minutes*—(Optional) Range: 1 to 1440. Default: 60. Before Cisco Unified CME 4.1, the minimum value for this argument was 5 minutes.
Step 9	**end** **Example:** `Router(config-telephony)# end`	Returns to privileged EXEC mode.

Configuring Call Blocking Exemption for a Dial Peer

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, follow the steps in this section.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **dial-peer voice** *tag* {**pots** | **voatm** | **vofr** | **voip**}
4. **paramspace callsetup after-hours-exempt true**
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**dial-peer voice** *tag* {**pots** | **voatm** | **vofr** | **voip**} **Example:** `Router(config)# dial peer voice 501 voip`	Defines a particular dial peer, specifies the method of voice encapsulation, and enters dial-peer configuration mode.

	Command or Action	Purpose
Step 4	**paramspace callsetup after-hours-exempt true** **Example:** `Router(config-dialpeer)# paramspace callsetup after-hours-exempt true`	Exempts a dial peer from Call Blocking configuration.

Step 5	**end**
	
	Example:
	`Router(config-dialpeer)# end`
	or
	`Router(config-register-dn)# end`
		Exits configuration mode and enters privileged EXEC mode.

SCCP: Configuring Call Blocking Override for All Phones

To define the Call Blocking override code to be entered by a phone user to override all call-blocking rules, perform the following steps.

Prerequisites

- Cisco Unified CME 4.2(1) or a later version

Restrictions

- Call Blocking override is supported only on phones that support soft-key display.
- If the after-hours override code is the same as the night-service code, after hours Call Blocking is disabled.
- Both override codes defined in telephony-service and override codes defined in ephone-template are enabled on all phones.
- If a global telephony-service override code overlaps an ephone-template override code and contains more digits, an outgoing call is disabled wherever the telephony-service override code is used on phones with the ephone template applied. For example, if the telephony-service override code is 6241 and the ephone-template override code is 62, those phones with the ephone template applied will sound a fast busy tone if the 6241 override code is dialed.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **telephony-service**
4. **after-hours override-code** *pattern*
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**telephony-service** **Example:** `Router(config)# telephony-service`	Enters telephony service configuration mode.
Step 4	**after-hours override-code** *pattern* **Example:** `Router(config-telephony)# after-hours override-code 1234`	Defines the pattern of digits (0-9) that overrides an after-hours call blocking configuration. • *pattern*: Identifies the unique set of digits that, when dialed after pressing the login soft key, can override the after-hours call blocking configuration. • This command can also be configured in ephone-template configuration mode. The value set in ephone-template configuration mode has priority over the value set in telephony-service mode
Step 5	**end** **Example:** `Router(config-telephony)# end`	Returns to privileged EXEC mode.

SCCP: Configuring Call Blocking Exemption for an Individual Phone

To exempt all directory numbers associated with an individual SCCP phone from the Call Blocking configuration, follow the steps in this section.

Restrictions

- Call Blocking override is supported only on phones that support soft-key display.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone** *phone-tag*
4. **after-hour exempt**
5. **pin** *pin-number*

6. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**ephone** *phone-tag* **Example:** `Router(config)# ephone 4`	Enters ephone configuration mode. • *phone-tag*—The unique sequence number for the phone that is to be exempt from call blocking.
Step 4	**after-hour exempt** **Example:** `Router(config-ephone)# after-hour exempt`	Specifies that this phone is exempt from call blocking. Phones exempted in this manner are not restricted from any call-blocking patterns and no authentication of the phone user is required.
Step 5	**pin** *pin-number* **Example:** `Router(config-ephone)# pin 5555`	Declares a personal identification number (PIN) that is used to log into an ephone. • *pin-number—N*umber from four to eight digits in length.
Step 6	**end** **Example:** `Router(config-ephone)# end`	Returns to privileged EXEC mode.

SIP: Configuring Call Blocking Exemption for an Individual Phone or Directory Number

To exempt all extensions associated with an individual SIP phone or an individual directory number from the Call Blocking configuration, follow the steps in this section.

Restrictions

- The Login toll-bar override is not supported on SIP IP phones; there is no pin to bypass blocking on IP phones that are connected to Cisco Unified CME and running SIP.

SUMMARY STEPS

1. **enable**
2. **configure terminal**

3. **voice register pool** *pool-tag*
   or
   voice register dn *dn-tag*
4. **after-hour exempt**
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.

Step 3	**voice register pool** *pool-tag*
	or
	voice register dn *dn-tag*
	
	Example:
	`Router(config)# voice register pool 1`
	or
	`Router(config)# voice register dn 1`
		Enters voice register pool configuration mode to set parameters for specified SIP phone.
		or
		Enters voice register dn mode to define a directory number for a SIP phone, intercom line, voice port, or an MWI.

Step 4	**after-hour exempt**
	
	Example:
	`Router(config-register-pool)# after-hour exempt`
	or
	`Router(config-register-dn)# after-hour exempt`
		Exempts all numbers on a SIP phone from call blocking.
		or
		Exempts an individual directory number from call blocking.

Step 5	**end**
	
	Example:
	`Router(config-register-pool)# end`
	or
	`Router(config-register-dn)# end`
		Exits configuration mode and enters privileged EXEC mode.

Verifying Call Blocking Configuration

Step 1 Use the **show running-config** command to display an entire configuration, including call-blocking number patterns and time periods and the phones that are marked as exempt from call blocking.

```
telephony-service
 fxo hook-flash
 load 7960-7940 P00305000600
 load 7914 S00103020002
```

```
 max-ephones 100
 max-dn 500
 ip source-address 10.115.43.121 port 2000
 timeouts ringing 10
 voicemail 7189
 max-conferences 8 gain -6
 moh music-on-hold.au
 web admin system name sys3 password sys3
 dn-webedit
 time-webedit
 transfer-system full-consult
 transfer-pattern .T
 secondary-dialtone 9
 after-hours block pattern 1 91900 7-24
 after-hours block pattern 2 9976 7-24
 after-hours block pattern 3 9011 7-24
 after-hours block pattern 4 91...976.... 7-24
!
 create cnf-files version-stamp 7960 Jul 13 2004 03:39:28
```

Step 2 Use the **show ephone login** command to display the login status of all phones.

```
Router# show ephone login

ephone 1        Pin enabled:TRUE        Logged-in:FALSE
ephone 2        Pin enabled:FALSE
ephone 3        Pin enabled:FALSE
```

Step 3 The **show voice register dial-peer** command displays all the dial peers created dynamically by SIP phones that have registered, along with configurations for after hours blocking.

SCCP: Applying Class of Restriction to a Directory Number

To apply a class of restriction to a directory number, perform the following steps.

Prerequisites

- COR lists must be created in dial peers. For information, see the "Class of Restrictions" section in the "Dial Peer Configuration on Voice Gateway Routers" document in the *Cisco IOS Voice Configuration Library*.
- Directory number to which COR is to be applied must be configured in Cisco Unified CME. For configuration information, see "SCCP: Creating Directory Numbers" on page 227.

Restrictions

- In a Call Redirection scenario (either Call Forward or Call Forward Busy), when you select an outgoing dial peer, CUCME considers the Class of Restriction applied on the originating extension instead of the one applied on the redirecting extension. This is because the redirecting extension is an intermediate dial peer that is used temporarily.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone-dn** *dn-tag*
4. **corlist** {**incoming** | **outgoing**} *cor-list-name*
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**ephone-dn** *dn-tag* **Example:** `Router(config)# ephone-dn 12`	Enters ephone-dn configuration mode.
Step 4	**corlist** {**incoming** | **outgoing**} *cor-list-name* **Example:** `Router(config-ephone-dn)# corlist outgoing localcor`	Configures a COR on the dial peers associated with an ephone-dn.
Step 5	**end** **Example:** `Router(config-ephone-dn)# end`	Returns to privileged EXEC mode.

SIP: Applying Class of Restriction to Directory Number

To apply a class of restriction to virtual dial peers for directory numbers associated with a SIP IP phone connected to Cisco Unified CME, perform the following steps.

Prerequisites

- Cisco unified CME 3.4 or a later version.
- COR lists must be created in dial peers. For information, see the "Class of Restrictions" section in the "Dial Peer Configuration on Voice Gateway Routers" document in the *Cisco IOS Voice Configuration Library*.

- Individual phones to which COR is to be applied must be configured in Cisco Unified CME. For configuration information, see "SIP: Creating Directory Numbers" on page 237.

Restrictions

- In a Call Redirection scenario (either Call Forward or Call Forward Busy), when you select an outgoing dial peer, CUCME considers the Class of Restriction applied on the originating extension instead of the one applied on the redirecting extension. This is because the redirecting extension is an intermediate dial peer that is used temporarily.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice register pool** *pool-tag*
4. **cor** {**incoming** | **outgoing**} *cor-list-name* {*cor-list-number starting-number* [**-** *ending-number]* | **default**}
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**voice register pool** *pool-tag* **Example:** `Router(config)# voice register pool 3`	Enters voice register pool configuration mode to set phone-specific parameters for a SIP phone in Cisco Unified CME.
Step 4	**cor** {**incoming** | **outgoing**} *cor-list-name* {*cor-list-number starting-number* [**-** *ending-number*] | **default**} **Example:** `Router(config-register-pool)# cor incoming call91 1 91011`	Configures a class of restriction (COR) for the dynamically created VoIP dial peers associated with directory numbers and specifies which incoming dial peer can use which outgoing dial peer to make a call. • Each dial peer can be provisioned with an incoming and an outgoing COR list.
Step 5	**end** **Example:** `Router(config-register-pool)# end`	Exits configuration mode and enters privileged EXEC mode.

Verifying Class of Restriction

Step 1 Use the **show running-config** command or the **show telephony-service ephone-dn** command to verify whether the COR lists have been applied to the appropriate ephone-dns.

```
Router# show running-config

ephone-dn 23
 number 2835
 corlist outgoing 5x
```

Step 2 Use the **show dialplan dialpeer** command to determine which outbound dial peer is matched for an incoming call, based on the COR criteria and the dialed number specified in the command line. Use the **timeout** keyword to enable matching variable-length destination patters associated with dial peers. This can increase your chances of finding a match for the dial peer number you specify.

```
Router# show dialplan dialpeer 300 number 1900111

VoiceOverIpPeer900
        information type = voice,
        description = `',
        tag = 900, destination-pattern = `1900',
        answer-address = `', preference=0,
        numbering Type = `unknown'
        group = 900, Admin state is up, Operation state is up,
        incoming called-number = `', connections/maximum = 0/unlimited,
        DTMF Relay = disabled,
        modem passthrough = system,
        huntstop = disabled,
        in bound application associated: 'DEFAULT'
        out bound application associated: ''
        dnis-map =
        permission :both
        incoming COR list:maximum capability
        outgoing COR list:to900
        type = voip, session-target = `ipv4:1.8.50.7',
        technology prefix:
        settle-call = disabled
        ...
        Time elapsed since last clearing of voice call statistics never
        Connect Time = 0, Charged Units = 0,
        Successful Calls = 0, Failed Calls = 0, Incomplete Calls = 0
        Accepted Calls = 0, Refused Calls = 0,
        Last Disconnect Cause is "",
        Last Disconnect Text is "",
        Last Setup Time = 0.
Matched: 19001111   Digits: 4
Target: ipv4:1.8.50.7
```

Step 3 Use the **show dial-peer voice** command to display the attributes associated with a particular dial peer.

```
Router# show dial-peer voice 100

VoiceEncapPeer100
        information type = voice,
        description = `',
        tag = 100, destination-pattern = `',
        answer-address = `', preference=0,
        numbering Type = `unknown'
        group = 100, Admin state is up, Operation state is up,
        Outbound state is up,
        incoming called-number = `555....', connections/maximum = 0/unlimited,
```

```
DTMF Relay = disabled,
huntstop = disabled,
in bound application associated: 'vxml_inb_app'
out bound application associated: ''
dnis-map =
permission :both
incoming COR list:maximum capability
outgoing COR list:minimum requirement
type = pots, prefix = `',
forward-digits default
session-target = `', voice-port = `',
direct-inward-dial = disabled,
digit_strip = enabled,
register E.164 number with GK = TRUE

Connect Time = 0, Charged Units = 0,
Successful Calls = 0, Failed Calls = 0, Incomplete Calls = 0
Accepted Calls = 0, Refused Calls = 0,
Last Disconnect Cause is "",
Last Disconnect Text is "",
Last Setup Time = 0.
```

Configuration Examples for Call Blocking

This section contains the following examples:

Call Blocking: Example

The following example defines several patterns of digits for which outgoing calls are blocked. Patterns 1 and 2, which block calls to external numbers that begin with "1" and "011," are blocked on Monday through Friday before 7 a.m. and after 7 p.m., on Saturday before 7 a.m. and after 1 p.m., and all day Sunday. Pattern 3 blocks calls to 900 numbers 7 days a week, 24 hours a day. The IP phone with tag number 23 and MAC address 00e0.8646.9242 is not restricted from calling any of the blocked patterns.

```
telephony-service
 after-hours block pattern 1 91
 after-hours block pattern 2 9011
 after-hours block pattern 3 91900 7-24
 after-hours day mon 19:00 07:00
 after-hours day tue 19:00 07:00
 after-hours day wed 19:00 07:00
 after-hours day thu 19:00 07:00
 after-hours day fri 19:00 07:00
 after-hours day sat 13:00 12:00
 after-hours day sun 12:00 07:00
!
ephone 23
 mac 00e0.8646.9242
 button 1:33
 after-hour exempt
!
ephone 24
 mac 2234.1543.6352
 button 1:34
```

```
The following example deactivates a phone's login after three hours of idle time and
clears all logins at 10 p.m.:
ephone 1
 pin 1000
!
telephony-service
 login timeout 180 clear 2200
```

Class of Restriction: Example

The following example shows three dial peers for dialing local destinations, long distance, and 911. COR list user1 can access the dial peers used to call 911 and local destinations. COR list user2 can access all three dial peers. Ephone-dn 1 is assigned COR list user1 to call local destinations and 911, and ephone-dn 2 is assigned COR list user2 to call 911, local destinations, and long distance.

```
dial-peer cor custom
 name local
 name longdistance
 name 911
!
dial-peer cor list call-local
 member local
!
dial-peer cor list call-longdistance
 member longdistance
!
dial-peer cor list call-911
 member 911
!
```

```
dial-peer cor list user1
 member 911
 member local
!
dial-peer cor list user2
 member 911
 member local
 member longdistance
!
dial-peer voice 1 pots
 corlist outgoing call-longdistance
 destination-pattern 91..........
 port 2/0/0
 prefix 1
!
dial-peer voice 2 pots
 corlist outgoing call-local
 destination-pattern 9[2-9].....
 port 2/0/0
 forward-digits 7
!
dial-peer voice 3 pots
 corlist outgoing call-911
 destination-pattern 9911
 port 2/0/0
 prefix 911
!
ephone-dn 1
 corlist incoming user1
 corlist outgoing user1
!
ephone-dn 2
 corlist incoming user2
 corlist outgoing user2
```

Configuring After-Hours Block Patterns of Regular Expressions: Example

The following example shows how to configure several afterhours block patterns of regular expressions:

```
Router# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.

Router(config)# telephony-service

Router(config-telephony)# after-hours block pattern 1 ?
  WORD  Specific block pattern or a regular expression for after-hour block
        pattern

Router(config-telephony)# after-hours block pattern 1 1234
Router(config-telephony)# after-hours block pattern 2 .T
Router(config-telephony)# after-hours block pattern 3 987654([1-3])+
Router(config-telephony)# after-hours block pattern 4 98765432[1-9]
Router(config-telephony)# after-hours block pattern 5 98765(432|422|456)
```

Where to Go Next

After modifying a configuration for a Cisco Unified IP phone connected to Cisco Unified CME, you must reboot the phone to make the changes take effect. For more information, see "Resetting and Restarting Phones" on page 369.

Soft Key Control

To move or remove the Login soft key on one or more phones, create and apply an ephone template that contains the appropriate **softkeys** commands.

For more information, see "Customizing Soft Keys" on page 1335.

Ephone-dn Templates

The **corlist** command can be included in an ephone-dn template that is applied to one or more ephone-dns. For more information, see "Creating Templates" on page 1525.

Additional References

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

Related Documents

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

Technical Assistance

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

Feature Information for Call Blocking

Table 10 lists the features in this module and enhancements to the features by version.

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

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

Note Table 10 lists the Cisco Unified CME version that introduced support for a given feature. Unless noted otherwise, subsequent versions of Cisco Unified CME software also support that feature.

Table 10 Feature Information for Call Blocking

Feature Name	Cisco Unified CME Version	Feature Information
Call Blocking	4.2(1)	Added support for selective call blocking on IP phones and PSTN trunk lines.
	3.4	• Support for Call Blocking on SIP IP phones connected directly in Cisco Unified CME was introduced. • All incoming calls to the router, except calls from an exempt phone, are also checked against the after-hours configuration.
	3.3	Added support for Call Blocking on analog phones connected to Cisco ATAs or FXS ports in H.323 mode.
	3.0	• Call blocking based on date and time was introduced. • Override of Call Blocking was introduced.
Class of Restriction	3.4	Added support for COR on SIP IP Phones connected directly in Cisco Unified CME.
	2.0	Class of restriction was introduced.