GUI Administration Guide for Cisco Unified SIP Proxy Release 10.0.x

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Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

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CHAPTER 1

Change History

This table lists all the changes made to this guide, the most recent changes appearing at the top.

Change	See	Date
Support for TLS Version 1.2 was introduced and SIP Stack General Settings was enhanced to enable the TLS versions 1.0, 1.1, and 1.2.	SIP Stack General Settings, on page 5	April 26, 2019

CHAPTER 2

Welcome to Cisco Unified SIP Proxy

Logging in to Cisco Unified SIP Proxy Graphical User Interface (GUI)

Note Mozilla Firefox is the recommended browser to use with the Cisco Unified SIP Proxy GUI.

Restriction Cisco Unified SIP Proxy restricts simultaneous administrator logins to the graphical user interface (GUI) .

Before you begin

- Install Cisco Unified SIP Proxy Release 10.0. See Installation Guide for Cisco Unified SIP Proxy Release 10.0 for information.
- Gather the administrator username and password that you entered during installation.

Procedure

Step 1 Open a web browser.

Step 2 Enter the following URL: **`http://<CUSP_IP_address>/admin/Common/HomePage.do`**.

The system displays the log-in screen.

Step 3 Enter the administrator name.

Step 4 Enter the administrator password.

Step 5 Click **Log In**.

The system displays the Cisco Unified SIP Proxy dashboard within the Cisco Unified SIP Proxy GUI.

About the Dashboard

The dashboard contains general information about the health and status of the system.

- Under the Server Group Status, the system displays the operational status of any server groups. The status can be either up or down.
- Under Call Routing Summary (Last Hour), the system displays the number of the following:
    - Total calls processed
    - Dropped calls
    - Peak CPS
    - Average CPS
    - Peak Supported CPS

Clicking on any of the first four headers takes you to the Monitoring page. See Monitoring the Cisco Unified SIP Proxy System, on page 143. Clicking on the Peak Supported CPS header takes you to the Performance Control page. See Configuring Performance Control, on page 95.

- Under Call Admission Control, the system displays the status of the call admission control feature. The feature can be either enabled or disabled. To enable or disable call admission control, see Configuring Call Admission Control, on page 97.
- Under License Status, the system displays the number and the mode of license.

Commercial Open Source Licensing

Some components of the software created for Cisco Unified SIP Proxy Release 10.0 are provided through open source or commercial licensing. These components and the associated copyright statements can be found at: Cisco Unified SIP Proxy Licensing Information.

CHAPTER 3

Configuring SIP Stacks

Viewing and Editing General Settings for SIP Stacks

Procedure

Step 1 Choose **Configure** > **SIP Stack** > **General Settings**.

The system displays the SIP Stack Settings page with the SIP General Settings tab highlighted. It lists the general SIP settings.

Step 2 Update the values as described in the section SIP Stack General Settings, on page 5.

Step 3 Click **Update**.

Related Topics

SIP Stack General Settings, on page 5

SIP Stack General Settings

Table 1: SIP Stack General Settings

Parameter	Description
SIP Message	

Parameter	Description
SIP Header Compaction	Whether or not to enable SIP header compaction. When enabled, compact header forms are used for the following SIP headers: • Call-ID • Contact • Content-Encoding • Content-Length • Content-Type • From • Subject • To • Via When header compaction is disabled, complete SIP headers are used in all outgoing messages, regardless of the header format.
SIP Message Logging	Whether or not to enable the logging of all incoming and outgoing SIP messages. We recommend that you use the SIP Message Logging under SIP Stack General Settings to log messages without impacting the CUSP performance.
SIP Statistics	Whether to display statistics for active SIP queues.
Period Time	(Optional, only available if you check Configuring SIP Stacks, on page 5) Determines how often to collect the peg-logging statistics.
Reset Time	(Optional, only available if you check Configuring SIP Stacks, on page 5) Determines how often to reset the peg-logging statistics.

Parameter	Description
Max Forwards	Specifies the maximum number of times that a request can be forwarded to another server. Each time a request is received by a server, this value is decremented by one. (If the request does not have a Max Forwards header, one is added.) When the value reaches zero, the server responds with a 483 (too many hops) response and terminates the transaction. You can use the Max Forwards header field to detect forwarding loops within a network. The allowed values are 0 to 255. The default value is 70. **Note** We recommend that you set this command to a value greater than or equal to 10, and less than or equal to 100.
Overload	
Reject	Configures the server to send a 503 (Server Unavailable) response when the server is overloaded.
Retry After	(Optional, only available if you choose Reject) The number of seconds sent in the SIP Retry-After header field of the 503 (Server Unavailable) response, which indicates when the sender can attempt the transaction again. If not specified, the 503 (Server Unavailable) response does not contain a Retry-After header field. The minimum value allowed is 0. The default value is 0.
Redirect	Configures the server to send a 300 (Redirect) response when the server is overloaded.
IP Address	(Optional, only available if you choose Redirect) The redirect interface host name or IP address sent in the SIP Contact header field. Subsequent requests will be redirected to the server at this address.
Port	(Optional, only available if you choose Redirect) The port of the redirect host. The valid range is from 1024 to 65535. The default is 5060.
Transport Type	(Optional, only available if you choose Redirect) The transport protocol used by the redirect host. Can be UDP, TCP, or TLS.
DNS Settings	
DNS SRV Lookups	Configures SIP DNS SRV lookup commands.

Parameter	Description
DNS NAPTR Lookups	Enables the use of DNS NAPTR for domain hostname/IP address mapping.
TCP Settings	
Idle Connection Timeout	Configures the amount of idle time that is allowed to pass before sending a keep-alive probe.
Maximum Connections	Configures the maximum number of TCP/TLS connections. When the maximum number of TCP/TLS connections is reached, passive (incoming) connections are not accepted, and additional active (outgoing) connections can be made.
TLS Settings	
TLS Settings	Enables the use of SIP Transport Layer Security (TLS) connections with other SIP entities, providing secure communication over the Internet. TLS Versions 1.0, 1.1, and 1.2 can be enabled or disabled.

Adding and Deleting an Alias FQDN

Procedure

Step 1 Choose **Configure** > **SIP Stack** > **Alias FQDNs**.

The system displays the Alias FQDNs page with the Alias FQDNs tab highlighted.

Step 2 To add an alias FQDN, do the following:

a) Enter a name.
b) Click **Add Alias**.

Step 3 To delete an alias FQDN, do the following:

a) Check the check box next to the name of the alias FQDN to delete.
b) Click **Remove**.

Adding and Deleting a Trusted Peer

This procedure creates one or more SIP TLS trusted peers. The establishment of TLS connections fails unless the identity of the remote side matches the identifier of a configured trusted peer. If there are no trusted peers configured, the connection is accepted as long as the TLS handshake succeeds.

Procedure

Step 1 Choose **Configure > SIP Stack > TLS Trusted Peers**.

The system displays the TLS Trusted Peers page with the TLS Trusted Peers tab highlighted.

Step 2 To add a TLS trusted peer, do the following:

a) Enter a name.
b) Click **Add Trusted Peer**.

Step 3 To delete a TLS trusted peer, do the following:

a) Check the check box next to the name of the TLS trusted peer to delete.
b) Click **Remove**.

CHAPTER 4

Configuring Networks

Viewing a List of Networks

A SIP network is a logical collection of local interfaces that can be treated the same for general routing purposes.

Procedure

Choose **Configure** > **Networks**.

The system displays the Networks page, listing all of the current networks.

Adding a Network

☛ **Restriction** After a SIP network is created, you cannot remove it.

Procedure

Step 1 Choose **Configure** > **Networks**.

The system displays the Networks page.

Step 2 Click **Add**.

The system displays the Network page.

Step 3 Enter the information for the network as shown in the section Network Information, on page 12.

Step 4 Click **Add**.

The system displays the Networks page with all the networks listed, including the network that you just added.

Step 5 To add a SIP Listen Point, do the following:

a) Under the SIP Listen Points heading, click **click here** on the line for your network.
b) Click **Add**.
c) Enter the following required values:

  - IP address for the SIP Listen Point
  - Port for the SIP Listen Point
  - Transport type (UDP, TCP, or TLS) for the SIP Listen Point

d) Click **Add**.

Step 6 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Network Information, on page 12

Network Information

Network Information

Parameter	Description
Name	Contains a name for this network. Network names can contain alphanumeric characters, period, dash, and underscore. **Tip** You cannot rename networks, so choose the network name carefully.

Parameter	Description
Type	Can be one of the following: • standard—Configures the network interface to use standard SIP. The network has full UDP support. The network interface supports ICMP and different sockets can be used for each endpoint. • icmp—Configures the network interface to use Internet Control Message Protocol (ICMP). • noicmp—Specifies that the network interface does not use a separate socket for each endpoint. With this configuration, no ICMP errors are supported. • nat—Configures the network interface to use Network Address Translation (NAT).
Allow Outbound Connections	Determines if you will allow this network to enable or disable outbound TCP/TLS client connections. Can be either enable or disable. Default value is enable.
SIP Header Hiding: Hide VIA	Check this check box to have the system strip the VIA header, so that downstream elements will not know the message path.
UDP Settings: Maximum Packet Size	Configures the maximum size of a UDP datagram for this network. The value must be between 1500 and 16,000.
TCP Settings: TCP Connection Setup Timeout (ms)	Configures the time (ms) up to which the TCP connection request waits before dropping the TCP connection request.
TLS Certificate verification Setting	
Verify Client Certificate	Enables client authentication verification for TLS connections.
Verify Server Certificate	Enables server authentication verification for TLS connections.

Editing the General Settings for a Network

Before you begin

You cannot edit the name of a network.

Procedure

Step 1 Choose **Configure** > **Networks**.

The system displays the Networks page.

Step 2 Click the underlined name of the network.

The system displays the Network **'<name of the network>'** page, with the information for the network. There are four tabs at the top of the page: General Settings, SIP Retransmissions, SIP Listen Points, and SIP Record-Route.

Step 3 Click the **General Settings** tab.

Step 4 Update the values.

Step 5 Click **Update**.

Step 6 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Editing the SIP Retransmission Settings for a Network

Procedure

Step 1 Choose **Configure** > **Networks**.

The system displays the Networks page.

Step 2 Click the underlined name of the network.

The system displays the Network **'<name of the network>'** page, with the information for the network.

Step 3 Click the **SIP Retransmissions** tab. For more information, see SIP Retransmissions, on page 14.

The system automatically populates many of the SIP retransmissions and timer fields.

Step 4 Update the values.

Step 5 Click **Update**.

Step 6 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

SIP Retransmissions, on page 14

SIP Retransmissions

Table 2: SIP Retransmissions

Field	Description
T1	Sets the initial request retransmission interval.

Field	Description
T2	Sets the maximum request retransmission value.
T4	Sets the amount of time a NONINVITE client transaction or INVITE server transaction remains active after completion to handle request or response retransmissions.
TU1	Sets the amount of time an INVITE transaction remains active after completion with a 2xx response to handle response retransmissions.
TU2	Sets the amount of time the server waits for a provisional or final response for an INVITE client transaction or NONINVITE server transaction after which the transaction is considered timed out.
clientTn	Sets the maximum lifetime of a client transaction.
serverTn	Sets the maximum lifetime of a server transaction.
Provisional (TU3)	(Optional) Configures SIP networks with TU3 transmission type only.
INVITE Client Transaction	Specifies the retransmit count for the INVITE request.
INVITE Server Transaction	Specifies the retransmit counts for final responses of INVITE requests.
Client Transaction	Specifies the retransmit count for requests other than INVITE.

Viewing and Deleting SIP Listen Points

A SIP listen point, or listener, listens for SIP traffic on a specific SIP network, host, and port. You can configure multiple SIP listen points for a single network; however, you must create at least one before the server can accept SIP traffic.

- You do not have to disable listeners on the network when you make configuration changes to the network.
- You cannot run TCP and TLS listeners on the same port.

Procedure

Step 1 Choose **Configure** > **Networks**.

The system displays the Networks page, listing all of the current networks.

Step 2 To see the SIP listen points associated with a network, under the SIP Listen Points header, click **click here**.

The system displays the Network **'<name of the network>'** page with the SIP Listen Points tab highlighted.

Note To see a different number of SIP listen points on each page, on the top right, choose another number from the drop-down box and click **Go**. You can choose to see 10, 25, 50, 100, or all SIP listen points. To move to another page, use the left and right arrow buttons on the bottom right, or enter another page number and press **Enter**.

Step 3 To delete a SIP listen point, do the following:

a) Check the check box next to the name of the SIP listen point.

b) Click **Remove**.

Adding a SIP Listen Point

Procedure

Step 1 Choose **Configure** > **Networks**.

The system displays the Networks page, listing all of the current networks.

Step 2 To see the SIP listen points associated with a network, under the SIP Listen Points header, click **click here**.

The system displays the Network **'<name of the network>'** page with the SIP Listen Points tab highlighted.

Step 3 To add a SIP listen point, do the following:

a) Click **Add**.

b) Enter the IP address, port, and transport type for the SIP listen point.

c) Click **Add**.

Step 4 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Editing the SIP Record-Route for a Network

Before you begin

If your system is enabled for Lite Mode, then the system deletes the record route configurations and you cannot access the SIP Record-Route tab. To enable or disable Lite Mode, see Configuring Performance Control, on page 95.

Procedure

Step 1 Choose **Configure** > **Networks**.

The system displays the Networks page.

Step 2 Click the underlined name of the network.

The system displays the Network **'<name of the network>'** page with the information for the network.

Step 3 Click the **SIP Record-Route** tab.

Step 4 Choose either enable or disable.

Step 5 If you chose enable, enter the following information:

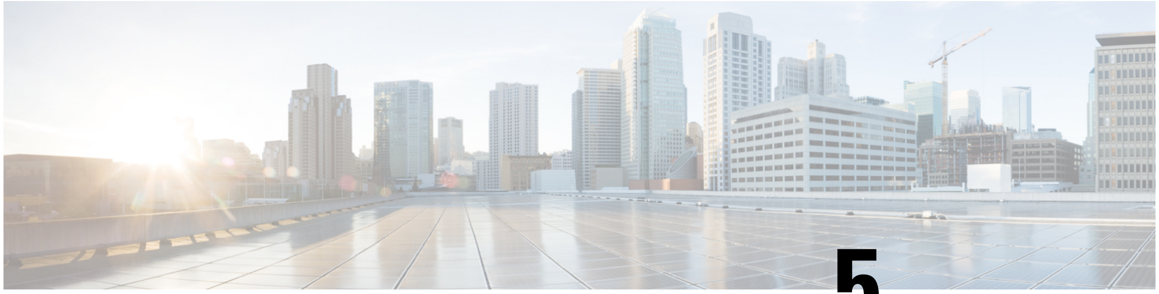
- Host for the SIP Record-Route
- Port for the SIP Record-Route
- Transport type (udp, tcp, or tls) for the SIP Record-Route

Step 6 Click **Update**.

Step 7 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161



CHAPTER 5

Configuring Triggers

Viewing and Deleting Triggers

Procedure

Step 1 Choose **Configure** > **Triggers**.

The system displays the Triggers page and displays all triggers.

Step 2 To view the condition cases associated with this trigger, click the underlined name of the trigger.

Step 3 To delete a trigger, do the following:

a) Check the check box next to the name of the trigger to delete.

b) Click **Remove**.

c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Configuring Triggers, on page 19
Example of a Trigger, on page 20
Available Trigger Conditions and Cases, on page 21
Managing the System Configuration, on page 161

About Triggers

A trigger is a set of conditions that can be used to dictate routing and normalization logic. It is automatically executed in response to a certain event (or condition case). Conditions can have multiple cases.

Note the structure:

- A trigger is made up of one or more rules.

- A rule is made up of one or more conditions.
- A condition is made up of one or more cases.

For information on available triggers, see Available Trigger Conditions and Cases, on page 21.

Example of a Trigger

You might have a trigger called New_Trigger. New_Trigger might have three rules, numbered 1, 2, and 3. Each rule has at least one condition and each condition has a case.

Table 3: Structure for the Trigger Called New_Trigger

Trigger Rules			
	Logic	Condition	
1		Inbound Network is exactly ‘100’	AND
		Local IP Address is exactly ‘100.10.10.101’	AND
		SIP Message request	
2	OR	Time Of Day is exactly ‘200’	AND
		Mid-Dialog	AND
		SIP Method UPDATE	
3	OR	Outbound Network is exactly ‘300’	AND
		Transport Protocol tcp	

In the previous table, the trigger is called New_Trigger. New_Trigger has three rules. Because of the “OR” logic, only one of the three rules has to be true before the trigger is launched.

Rule 1 has three conditions:

- Inbound Network is exactly ‘100’
- Local IP Address is exactly ‘100.10.10.101’
- SIP Message request

Because of the “AND” logic, all three conditions must be true before the rule is true.

In the condition “Inbound Network is exactly ‘100’”, the condition is “Inbound Network” and the case is “is exactly ‘100’”.

Available Trigger Conditions and Cases

The table lists the available trigger conditions and cases.

Table 4: Available Trigger Conditions and Cases

Trigger Name	Trigger Description	Trigger Condition Case
Inbound Network	Configures the inbound network for a trigger condition for a server-side transaction.	Enter the case: • is exactly (default) • contains • starts with • ends with • regex Enter the condition: • IP for remote IP address
Outbound Network	Configures the outbound network for a trigger condition for a client-side transaction.	Enter the case: • is exactly (default) • contains • starts with • ends with • regex Enter the condition: • IP for remote IP address
Local IP Address	Assigns a local-listen IP address that accepts incoming requests to a trigger condition.	Enter the case: • is exactly (default) • contains • starts with • ends with • regex Enter the condition: • IP for remote IP address

Trigger Name	Trigger Description	Trigger Condition Case
Local Port	Assigns a local-listen port to a trigger condition.	Enter the case: • is exactly (default) • contains • starts with • ends with • regex Enter the condition: • IP for remote IP address
Remote IP Address	Configures the remote IP network for a trigger condition.	Enter the case: • is exactly (default) • contains • starts with • ends with • regex Enter the condition: • IP for remote IP address
Remote Port	Configures the remote port for a trigger condition.	Enter the case: • is exactly (default) • contains • starts with • ends with • regex Enter the condition: • IP for remote IP address
SIP Message	Determines whether the trigger condition will fire based on whether the headers in the SIP message are request or response headers.	Enter the case: • request (default) • response

Trigger Name	Trigger Description	Trigger Condition Case
SIP Method	Configures a trigger condition in which the trigger is fired on the given SIP method name in the request.	• INVITE (default) • ACK • PRACK • UPDATE • BYE • REFER • INFO • MESSAGE • OPTIONS • SUBSCRIBE • NOTIFY • REGISTER • PUBLISH • regular expression
SIP Response Code	Configures a trigger condition to fire on a specific response.	Enter the case: • is exactly (default) • contains • starts with • ends with • regex Enter the condition: • IP for remote IP address

Trigger Name	Trigger Description	Trigger Condition Case
SIP Header	Configures the trigger to fire when matching the regular expression for this header.	Set the SIP header name. Choose the SIP header index: • first (default) • last • all Choose the type of match: • is exactly (default) • contains • starts with • ends with • regex
Mid-Dialog	Configures the trigger to fire on mid-dialog responses.	none
Time Of Day	Configures the trigger to fire if the specified time policy is met.	Enter the case: • is exactly (default) • contains • starts with • ends with • regex Enter the condition: • IP for remote IP address
Transport Protocol	Assigns a transport protocol to the trigger condition.	Enter the case: • none (default) • udp • tcp • tls

Trigger Name	Trigger Description	Trigger Condition Case
Proxy Route	Ability to configure proxy route rule.	Choose the parameter: • uri (default) • uri-user • uri-host • uri-port • uri-scheme • uri-parameter • header-parameter Choose the type of match: • is exactly (default) • contains • starts with • ends with • regex Enter the condition: • IP for remote IP address

Trigger Name	Trigger Description	Trigger Condition Case
Request URI	Configures a trigger to fire when matching the regular expression for the specified Uniform Resource Identifier (URI) parameter.	Choose the parameter: • uri (default) • uri-user • uri-host • uri-port • uri-scheme • uri-parameter • header-parameter Choose the type of match: • is exactly (default) • contains • starts with • ends with • regex Enter the condition: • IP for remote IP address

Adding a Trigger

Restriction You cannot change the name of an existing trigger, so choose the name carefully.

Procedure

Step 1 Choose **Configure** > **Triggers**.

The system displays the Triggers page.

Step 2 Click **Add**.

The system displays the Trigger (New) page.

Step 3 Enter a name for this trigger.

Step 4 To have only one rule apply before the trigger is activated (that is, to apply “OR” logic), add logic to the rule by checking the Logic box.

Step 5 Click **Add**.

The system displays the Trigger **'<name of the trigger>'** Conditions page.

Step 6 Add rules to the trigger. See Viewing, Adding, Moving, and Deleting Rules for a Trigger, on page 27.

Step 7 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Viewing, Adding, Moving, and Deleting Rules for a Trigger

Before you begin

Add a trigger. See Adding a Trigger, on page 26.

Procedure

Step 1 Choose **Configure** > **Triggers**.

The system displays the Triggers page.

Step 2 To view the rules for a trigger, click the underlined name of the trigger.

The system displays the Trigger **'<name of the trigger>'** Rules page.

Step 3 To add a rule for a trigger, do the following:

a) Click **Add**. The system displays the Trigger **'<name of the trigger>'** Conditions page.
b) Add conditions. See Adding, Editing, and Deleting Conditions for a Trigger Rule, on page 28.

Step 4 To delete a rule for a trigger, do the following:

a) Check the check box next to the rule to delete.
b) Click **Remove**.

Step 5 If your trigger has multiple rules, you can reorder them by doing the following:

Tip The trigger fires as soon as a rule is matched. To optimize the system, we recommend that you put the rule most likely to match at the top of the list.

a) Select the rule.
b) Click the up or down arrows.
c) Click **Update**.

Step 6 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Adding, Editing, and Deleting Conditions for a Trigger Rule

Note

- You cannot add condition cases to existing rules. You can only add condition cases to a rule when you originally create the rule.
- You cannot edit existing conditions attached to a rule.
- You cannot delete a condition case from a rule.

Before you begin

- Add a trigger and rules for the trigger. See Adding a Trigger, on page 26 and Viewing, Adding, Moving, and Deleting Rules for a Trigger, on page 27.

Procedure

Step 1 Choose **Configure** > **Triggers**.

The system displays the Triggers page.

Step 2 Click the underlined name of the trigger.

The system displays the Trigger **'<name of the trigger>'** Rules page.

Step 3 To add a rule, click **Add**.

The system displays the Trigger **'<name of the trigger>'** Conditions page. You are automatically adding a new rule by being on this page. This page is where you add conditions to the new rule.

Step 4 To add a condition, do the following:

a) Select a condition from the Trigger Condition drop-down menu. See Available Trigger Conditions and Cases, on page 21.
b) If necessary, select a condition case.
c) If necessary, enter a condition to match.
d) Click **Add**.

The system displays the Trigger **'<name of the trigger>'** Conditions page with the new condition.

Step 5 Add additional conditions to this rule as needed.

Related Topics

Managing the System Configuration, on page 161
Available Trigger Conditions and Cases, on page 21

CHAPTER 6

Configuring Server Groups

Viewing a List of Server Groups

Server groups define the elements with which the Cisco Unified SIP Proxy system interacts for each network.

Procedure

Step 1 Choose **Configure** > **Server Groups** > **Groups**.

The system displays the Server Groups page with the Groups tab highlighted, containing the fields described in Server Groups (Group Tab) Fields, on page 30.

Step 2 To delete a server group, do the following:

a) Check the check box next to the server group to delete.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Step 3 To revert any changes you have made back to the state they were in at the time of the last commit, do the following:

a) Check the check box next to the name of the server group that has the changes to which you want to revert.
b) Click **Revert**.

c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161
Server Groups (Group Tab) Fields, on page 30

Server Groups (Group Tab) Fields

Table 5: Server Groups (Groups Tab) Fields

Parameter	Description
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
Name	Name of this server group. **Note** The system inserts the server group name into the SIP URI of the outgoing request. Some devices, such as Cisco Unified Communications Manager, validate the URI of requests before processing, so you may need to configure the end device with a Fully Qualified Domain Name (FQDN) to allow for this functionality.

Parameter	Description
Load Balancing Scheme	Configures the load-balancing algorithm for all SIP server groups. Can be one of the following: • global (default) • call-id—Specifies that a hash algorithm with call-id is performed to select an element. • request-uri—Specifies that a hash algorithm with a request URI is performed to select an element. • to-uri—Specifies that a hash algorithm with a To header URI is performed to select an element. • weight—Specifies that the element is selected proportional to its weight relative to the weights of other elements of the same q-value. This value is only applicable if implementing weight-based routing. • highest-q—Specifies that the first element in the list of available elements with the same highest q-value is selected.
Network	Name of the network associated with this server group.
Elements	Elements associated with this server group.
Pinging Allowed	Whether pinging is allowed. Can be either true or false.
Failover Response Codes	The response code(s) that indicates the next-hop server is unable to process the request. The valid values are numbers between 500 and 599. To add multiple failover response codes, separate the individual codes by a comma and indicate ranges with a dash. Commas and dashes must be followed by a space.

Adding a Server Group

Before you begin

You must create and configure at least one network before you can add a server group. See Configuring Networks, on page 11.

Procedure

Step 1 Choose **Configure** > **Server Groups** > **Groups**.

The system displays the Server Groups page with the Groups tab highlighted.

Step 2 Click **Add**.

The system displays the Server Group (New) page.

Step 3 Enter information. See Server Groups (Group Tab) Fields, on page 30.

Step 4 Click **Add**.

Step 5 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161
Configuring Server Groups, on page 29
Server Groups (Group Tab) Fields, on page 30

Editing a Server Group

Procedure

Step 1 Choose **Configure** > **Server Groups** > **Groups**.

The system displays the Server Groups page with the Groups tab highlighted.

Step 2 Click the underlined name of the server group to edit.

The system displays the Server Group **'<name of server group>'** page with the Group Settings tab highlighted.

Step 3 Edit the information. See Server Groups (Group Tab) Fields, on page 30.

Step 4 Click **Update**.

Step 5 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161
Server Groups (Group Tab) Fields, on page 30

Viewing and Editing the General Settings for All Server Groups

Follow this procedure to view and edit the general settings that affect all server groups.

Procedure

Step 1 Choose **Configure** > **Server Groups** > **General Settings**.

The system displays the Server Groups page with the General Settings tab highlighted, containing the fields described in Server Groups (General Settings Tab) Fields, on page 33.

Step 2 To edit the settings, change the values.

Step 3 Click **Update**.

Step 4 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161
Server Groups (General Settings Tab) Fields, on page 33

Server Groups (General Settings Tab) Fields

Table 6: Server Groups (General Settings Tab) Fields

Parameter	Description
Server Group Element Retries	
UDP	Maximum number of consecutive failed attempts to send a request to a server group element via the specified protocol before the element is considered down. A failed attempt can occur because of a timeout, ICMP error, or receipt of a failure response. The valid range is from 0 to 65535.
TCP	
TLS	
Global Load Balancing Scheme	

Parameter	Description
Load Balancing Scheme	Configures the load-balancing algorithm for all SIP server groups. Can be one of the following: • call-id (default)—Specifies that a hash algorithm with call-id is performed to select an element. • request-uri—Specifies that a hash algorithm with a request URI is performed to select an element. • to-uri—Specifies that a hash algorithm with a To header URI is performed to select an element. • weight—Specifies that the element is selected proportional to its weight relative to the weights of other elements of the same q-value. This value is only applicable if implementing weight-based routing. • highest-q—Specifies that the first element in the list of available elements with the same highest q-value is selected.
Global Ping	
Pinging Allowed	Whether pinging is allowed. Can be either enable or disable.
Ping 503	
Verifies the 503 response code	Checks whether the SIP application service in the remote server element is up or down by monitoring the response. It treats the element as down for the 503 response to the PING request.
Default Failed Element Retry After Duration (in milliseconds)	
Failover Response Codes	The response code(s) that indicates the next-hop server is unable to process the request. The valid values are numbers between 500 and 599. To add multiple failover response codes, separate the individual codes by a comma and indicate ranges with a dash. Commas and dashes must be followed by a space.

Viewing and Deleting Server Group Elements

There can be multiple elements in each server group.

Procedure

Step 1 Choose **Configure** > **Server Groups** > **Groups**.

The system displays the Server Groups page with the Groups tab highlighted.

Step 2 To see the elements associated with this server group, click **click here** under the Elements header.

The system displays the Server Group **'<name of server group>'** page with the Elements tab highlighted. The page contains the fields described in Server Group (Elements Tab) Fields, on page 35.

Step 3 To delete a server group element, do the following:

a) Check the check box next to the name of the element.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Step 4 To revert any changes you have made back to the state they were in at the time of the last commit, do the following:

a) Check the check box next to the name of the server group element that has the changes to which you want to revert.
b) Click **Revert**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161
Server Group (Elements Tab) Fields, on page 35

Server Group (Elements Tab) Fields

Table 7: Server Group (Elements Tab) Fields

Parameter	Description
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
IP Address	Specifies the interface host name or IP address of the server group element.

Parameter	Description
Port	Specifies the port used by the server group element. Valid values are from 1024 to 65535. The default is 5060.
Transport	Specifies the transport type of the server group element. Can be one of the following: • UDP (default) • TCP • TLS
Nested Server Group	Whether or not this server group can contain another server group.
Q-Value	Specifies a real number that indicates the priority of the server group element with respect to others in the server group. The Q-value provides the priority of each member (element) which varies from 0.0 to 1.0, where 1.0 is the highest priority.
Weight	Specifies the percentage assigned to the IP element in the server group if implementing weight-based routing. The valid range is from 0 to 100. The default weight is 0.

Adding and Editing a Server Group Element

Procedure

Step 1 Choose **Configure** > **Server Groups** > **Groups**.

The system displays the Server Groups page with the Groups tab highlighted.

Step 2 Click **click here** under the Elements header that corresponds with the server group to which you want to add an element.

The system displays the Server Group **'<name of server group>'** page with the Elements tab highlighted.

Step 3 To add an element, do the following:

a) Click **Add**. The system displays the Server Group **'<name of server group>'** Element (New) page.
b) Choose whether this element will be for an endpoint or server group.
c) Enter information about the element as described in Server Group (Elements Tab) Fields, on page 35.
d) Click **Add**.

Step 4 To edit an element, do the following:

a) Click the underlined IP address for the element to edit. The system displays the Server Group **'<name of server group>'** Element page.
b) Make changes to the values.
c) Click **Update**.

Step 5 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161
Server Group (Elements Tab) Fields, on page 35

Viewing a List of SIP Ping Network Connections

Before you begin

You must have already created at least one network. See Configuring Networks, on page 11.

Procedure

Step 1 Choose **Configure** > **Server Groups** > **SIP Ping**.

The system displays the SIP Ping page with the SIP Ping tab highlighted, containing the fields described in SIP Ping Fields, on page 37.

Step 2 To delete a SIP ping network connection, do the following:

a) Check the check box next to the SIP ping network connection to delete.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161
Configuring Server Groups, on page 29
SIP Ping Fields, on page 37

SIP Ping Fields

Table 8: SIP Ping Fields

Parameter	Description
Network	Name of this SIP ping network connection.

Parameter	Description
IP Address	Specifies the interface host name or IP address that listens for responses to the SIP pings. **Note** When you specify a hostname, the server performs a DNS lookup to confirm that the host can be resolved. It then uses the IP address when the configuration is saved. If the system cannot resolve the hostname, it displays an "IP Address validation failed" error.
Port	The UDP port that listens for responses to the SIP pings. The valid range is from 1024 to 65535. The default value is 4000. **Note** Be sure this port number is different from the port number specified for the server's SIP listen point.
SIP Method	The request method for the SIP pings. Can be one of the following: • OPTIONS (default) • PING • INFO
Ping Type	The ping type for the SIP ping. Can be one of the following: • Proactive—Specifies that pinging is performed to both up and down elements, and both are pinged at the same interval. • Reactive—Specifies that pinging is performed to only down elements. This is the default value. • Adaptive—Specifies that pinging is performed to both up and down elements, and both are pinged at different intervals.
Up Interval	(Optional; only available if you choose Adaptive or Proactive for **Ping Type**) Specifies the consecutive ping interval for up elements. The default value is 5000 milliseconds.
Down Interval	(Optional; only available if you choose Adaptive or Reactive for **Ping Type**) Specifies the consecutive ping interval in milliseconds. For Adaptive pinging, this value configures the down element ping interval. The default value is 5000 milliseconds.

Parameter	Description
Ping Timeout	Specifies the maximum number of milliseconds between a ping and a response before the ping is considered unsuccessful. The minimum allowed value is 0. The default value is 500.

Adding a SIP Ping Configuration

Restriction

- You can only define one SIP ping configuration for each network. To create multiple SIP ping configurations, you must create and configure multiple networks.
- You can only add a SIP ping for server group elements with a transport type of UDP.

Before you begin

You must create and configure at least one network before you can add a SIP ping configuration. See Configuring Networks, on page 11.

Procedure

Step 1 Choose **Configure** > **Server Groups** > **SIP Ping**.

The system displays the SIP Ping page with the SIP Ping tab highlighted.

Step 2 Click **Add**.

The system displays the SIP Ping Configuration (New) page.

Step 3 Enter information. See SIP Ping Fields, on page 37.

Step 4 Click **Add**.

Step 5 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161
SIP Ping Fields, on page 37
Configuring Server Groups, on page 29

Editing a SIP Ping Configuration

Procedure

Step 1 Choose **Configure** > **Server Groups** > **SIP Ping**.

The system displays the SIP Ping page with the SIP Ping tab highlighted.

Step 2 Check the check box next to the SIP ping network configuration to edit.

Step 3 Click **Edit**.

The system displays the SIP Ping Configuration **'<name of network>'** page.

Step 4 Edit information. See SIP Ping Fields, on page 37.

Step 5 Click **Update**.

Step 6 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

SIP Ping Fields, on page 37

Viewing a List of Call Admission Control Endpoints

The system automatically adds call admission control endpoints when you add a server group and elements and then commit the configuration.

Procedure

Choose **Configure** > **Server Groups** > **Call Admission Control**.

The system displays the Server Groups page with the Call Admission Control tab highlighted.

For each call admission control endpoint, the system lists the IP address, port, transport, network and call admission control limit.

Related Topics

Managing the System Configuration, on page 161

Changing the Limit of a Call Admission Control Endpoint

Procedure

Step 1 Choose **Configure > Server Groups > Call Admission Control**.

The system displays the Server Groups page with the Call Admission Control tab highlighted.

Step 2 Click the underlined limit to change.

The system displays the CAC Endpoint page.

Step 3 Check the **unlimited** check box to make the limit unlimited, or enter a value in the field.

Step 4 Click **Update**.

Related Topics

Configuring Call Admission Control, on page 97

CHAPTER 7

Configuring Route Groups

Viewing a List of Route Groups and Corresponding Elements

Procedure

Step 1 Choose **Configure** > **Route Groups**.

The system displays the Route Groups page, which contains the fields described in Route Group Fields, on page 44.

Step 2 There can be multiple elements in a route group. To see the elements associated with this route group, click **click here**.

The system displays the Route Group **'<name of route group>'** page, containing the fields described in Element Fields, on page 44.

Step 3 To delete a route group, do the following:

a) Check the check box next to the name of the route group to delete.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Step 4 To revert any changes you have made back to the state they were in at the time of the last commit, do the following:

a) Check the check box next to the name of the route group that has the changes to revert back to.
b) Click **Revert**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

About Route Groups

A route group allows you to designate the order in which gateways and trunks are selected. It allows you to prioritize a list of gateways and ports for outgoing trunk selection.

For example, if you use two long-distance carriers, you could add a route group so that long-distance calls to the less expensive carrier are given priority. Calls only route to the more expensive carrier if the first trunk is unavailable.

You can add, update, or delete route groups from the Route Group page. You can also add, update, or delete elements.

Route Group Fields

The table lists the fields on the Route Groups page.

Table 9: Route Group Parameters

Parameter	Description
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
Name	Name of this route group.
Elements	Elements that belong to this route group.
Time Of Day Routing	Specifies if this route group allows for time policy-based routing. Can be either true or false. The default value is false.
Weight Based Routing	Specifies if this route group allows for weight-based routing. Can be either true or false. The default value is false.

Element Fields

The table lists the fields on the Route Group **'<name of route group>'** page when the Elements tab is highlighted.

Table 10: Route Group Element Parameters

Parameter	Description
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
Target Destination	
Host/Server Group	Specifies the interface host name or IP address of the route group element. **Note** If you select Server Group, you must not enter the port and transport type details.
Port	Specifies the port used by the route group element. Valid values are from 1024 to 65535. The default is 5060.
Transport	Specifies the transport type of the route group element. Can be one of the following: • none (default) • UDP • TCP • TLS
Next Hop	
SIP URI	The URI of the next hop.
Options	
Network	The name of the network to which this route group is associated.
Q-Value	(Optional) Specifies a real number that indicates the priority of the route group element with respect to others in the route group. The Q-value provides the priority of each member (element) which varies from 0.0 to 1.0, where 1.0 is the highest priority.

Parameter	Description
Weight	(Optional) Specifies the percentage assigned to the IP element in the route group if implementing weight-based routing. The valid range is from 0 to 100. The default weight is 0.
Time Policy	Specifies the time policy if time-based routing is being used.
Failover Response Codes	The response code(s) that indicates the next-hop server is unable to process the request. The valid values are numbers between 400 and 599. To add multiple failover response codes, separate the individual codes by a comma and indicate ranges with a dash. Commas and dashes must be followed by a space.

Related Topics

Managing the System Configuration, on page 161

Adding a Route Group

Procedure

Step 1 Choose **Configure** > **Route Groups**.

The system displays the Route Groups page.

Step 2 Click **Add**.

The system displays the Route Group (New) page.

Step 3 Enter a name for this route group. If you will enable time-of-day routing or weight-based routing, check those check boxes.

Step 4 Click **Add**.

The system displays the Route Groups page, with the new route group listed in the table.

Step 5 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Viewing and Deleting Route Group Elements

Procedure

Step 1 Choose **Configure** > **Route Groups**.

The system displays the Route Groups page.

Step 2 On the line of the route group that has the element to delete, under the title Elements, click **click here**.

The system displays the Route Group **'<name of route group>'** page with the Elements tab highlighted.

Step 3 To delete a route group element, do the following:

a) Check the check box next to the name of the element.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Step 4 To revert any changes you have made back to the state they were in at the time of the last commit, do the following:

a) Check the check box next to the name of the route group element that has the changes to revert back to.
b) Click **Revert**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Adding and Editing Route Group Elements

Procedure

Step 1 Choose **Configure** > **Route Groups**.

The system displays the Route Groups page.

Step 2 Under Elements, click **click here** on the line for the route group for which you want to add an element.

The system displays the Route Group **'<name of route group>'** page with the Elements tab highlighted.

Step 3 To add an element, do the following:

a) Click **Add**. The system displays the Route Group '**<name of route group>'** Element (New) page.
b) Choose whether this element will use a target destination or next hop.
c) Enter information about the element as described in Element Fields, on page 44.
d) Click **Add**.

Step 4 To edit an element, do the following:

a) Click the underlined Host/Server Group of the element. The system displays the Route Group **'<name of route group>'** Element page.
b) Make changes to the information about the element as described in Element Fields, on page 44.
c) Click **Update**.

Step 5 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Editing a Route Group

Procedure

Step 1 Choose **Configure** > **Route Groups**.

The system displays the Route Groups page.

Step 2 Click the underlined name of the route group to edit.

The system displays the Route Group **'<name of route group>'** page with the Group Settings tab highlighted.

Step 3 You can change if this route group will enable time-of-day routing or weight-based routing.

Step 4 Click **Update**.

Step 5 To edit the elements of the route group, follow the procedure Adding and Editing Route Group Elements, on page 47.

Step 6 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

CHAPTER 8

Configuring Route Tables

Viewing a List of Route Tables

Procedure

Step 1 Choose **Configure** > **Route Tables**.

The system displays the Route Tables page, containing the fields described in the section Route Table Fields.

Step 2 To delete a route table, do the following:

a) Check the check box next to the name of the route table to delete.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Step 3 To revert any changes you have made back to the state they were in at the time of the last commit, do the following:

a) Check the check box next to the name of the route table that has the changes to revert back to.
b) Click **Revert**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

About Route Tables

You configure route tables to direct SIP requests to their appropriate destinations. Each route table consists of a set of keys that are matched based on the lookup policy.

For example, in one table, each key might represent the prefix of the phone number dialed. The table performs a task depending on the prefix dialed. In this example, the table is designed to respond to calls with a 404 message (not found) unless the phone number dialed begins with 510. Another table might be designed to respond to calls with a 404 message (not found) unless the phone number dialed begins with the escape sequence (91).

You can add, update, or delete route tables from the Route Tables page. You can also add, update, or delete routes.

Related Topics

Managing the System Configuration, on page 161

Route Table Fields

The table lists the fields on the Route Tables page.

Table 11: Route Tables Parameters

Parameter	Description
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
Name	Name of this route table. The valid characters are alphanumeric characters, dash, period, and underscore.

Related Topics

Viewing a List of Route Tables, on page 49

Managing the System Configuration, on page 161

Route Fields

The table lists the fields on the Route Table **'<name of route>'** Routes page.

Note Depending on the route type that you choose, you will see some or all of these parameters.

Table 12: Route Table Route Parameters

Parameter	Description
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
Candidate Value	
Key	Specifies the route table lookup key number. The lookup key represents the portion of the SIP message that is being matched, and must be unique to the routing table.
Route Type	Can be one of the following: • destination • route-group • route-policy • response • default-sip
Destination Route Type (Optional; only available if you choose a Route Type of destination or default-sip)	
Destination Route Type	The type of route. Can be either target destination, next hop, or both.
Network	Specifies the SIP network name.
Target Destination (Optional; only available if you choose a Destination Route Type of target destination or both)	
Host/Server Group	Hostname or IP address of the target destination. **Note** If you select Server Group, you must not enter the port and transport type details.
Port	Port of the target destination. Values can be 1024 to 65535.

Parameter	Description
Transport Type	Can be one of the following: • none • UDP • TCP • TLS
Next Hop (Optional; only available if you choose a **Destination Route Type** of next hop or both)	
SIP URI	URI of the next hop.
Route-Group Route Type (Optional; only available if you choose a Route Type of route-group)	
Route Group	The name of the route group.
Response Route Type (Optional; only available if you choose a Route Type of response)	
Response	Specifies the response code to a lookup key in a routing table.
Route-Policy Route Type (Optional; only available if you choose a Route Type of route-policy)	
Lookup Route Policy	Specifies the route lookup policy to be used in the routing table.
Default SIP Route	Simple routing following RFC 3263.

Related Topics

Viewing a List of Route Tables, on page 49

Managing the System Configuration, on page 161

Adding a Route Table

Procedure

Step 1 Choose **Configure** > **Route Tables**.

The system displays the Route Tables page.

Step 2 Click **Add**.

The system displays the Route Tables page.

Step 3 Enter a name for this route table.

Step 4 Click **Add**.

The system displays the Route Tables page, with the new route table listed.

Step 5 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Viewing a List of Route Table Routes

Procedure

Step 1 Choose **Configure** > **Route Tables**.

The system displays the Route Tables page, containing the fields described in Route Table Fields, on page 50.

Step 2 To see the routes associated with the route table, click the underlined name of the route table.

The system displays the Route Table **'<name of route table>'** Routes page, containing some or all of the fields described in Route Fields, on page 50.

Step 3 To see a different number of routes on each page, on the top right, choose another number from the drop-down box and click **Go**. You can choose to see 10, 25, 50, 100, or all routes.

Step 4 To move to another page, use the left and right arrow buttons on the bottom right, or enter another page number, and press **Enter**.

Step 5 To delete a route, do the following:

a) Check the check box next to the name of the route to delete.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Step 6 To revert any changes you have made back to the state they were in at the time of the last commit, do the following:

a) Check the check box next to the name of the route table that has the changes to revert back to.
b) Click **Revert**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Adding a Route to a Route Table

Procedure

Step 1 Choose **Configure** > **Route Tables**.

The system displays the Route Tables page.

Step 2 Click the underlined name of the route table for which you want to add a route.

The system displays the Route Table **'<name of route table>'** Routes page.

Step 3 Click **Add**.

The system displays the Route Table **'<name of route table>'** Route (New) page.

Step 4 Enter information about the route as described in Route Fields, on page 50.

Step 5 Click **Add**.

Step 6 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Exporting Active Routes

Restriction You can only export routes that are in the active state. To move a route to the active state, commit the configuration.

Procedure

Step 1 Choose **Configure** > **Route Tables**.

The system displays the Route Tables page.

Step 2 Click the underlined name of the route table that contains the routes to export.

The system displays the Route Table **'<name of route table>'** Routes page.

Step 3 Click **Export Active Routes**.

The system displays a dialog box.

Step 4 Click **Save**.

Step 5 Enter the location to which you want to export the file. Click **OK**.

The system saves the route to that location.

Editing the Routes Associated with a Route Table

Procedure

Step 1 Choose **Configure** > **Route Tables**.

The system displays the Route Tables page.

Step 2 Click the underlined name of the route table that contains the route to edit.

The system displays the Route Table **'<name of route table>'** Routes page.

Step 3 Click the underlined name of the key for the route to edit.

The system displays the Route Table **'<name of route table>'** Route page.

Step 4 Make changes to the values.

Step 5 Click **Update**.

Step 6 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

CHAPTER 9

Configuring Route Policies

Viewing a List of Route Policies

A route policy defines the behavior of the route.

Note Route policies are also called lookup policies in the CLI.

Procedure

Step 1 Choose **Configure** > **Route Policies**.

The system displays the Route Policies page, containing the fields described in Route Policy Fields, on page 58.

Step 2 To delete a route policy, do the following:

a) Check the check box next to the name of the route policy to delete.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Step 3 To revert a route policy to the settings it had at the time of the last commit, do the following:

a) Check the check box next to the name of the route policy whose settings you want to revert back to.
b) Click **Revert**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Route Policy Fields

The table lists the fields on the Route Policies page.

Table 13: Route Policy Fields

Parameter	Description
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
Name	Name of this route policy.

Route Policy Step Fields

The table lists the fields on the Route Policy Step page.

Table 14: Route Policy Step Fields

Parameter	Description
Route Table	
Name	The name of the route table to which this route policy is attached.

Parameter	Description
Lookup Key Matches:	Can be one of the following: • Exactly (default)—Specifies that the lookup policy searches for the exact match of the key in the specified table. • Prefix-Longest-Match—Specifies that the lookup policy searches for the longest prefix match. • Subdomain—Specifies that the lookup policy searches for the longest subdomain of the keys in the table. Domain name matching is case-sensitive and the most specific match prevails, and IP address matching must be exact. If a request contains a non-SIP request URI, this lookup fails. To prevent this from happening, check the check box next to Case Sensitive. • Subnet—Specifies that the lookup policy searches for the longest IP addresses of the keys in the table. • Prefix-Fixed-Length—Specifies that a fixed number of characters from the key is looked up instead of the complete key.
Case Sensitive	Check this check box if you want the lookup policy for the route table to be case sensitive.
Route Table Lookup Key	

Parameter	Description
Lookup Key	Select a target destination from the drop-down menu. Values are: • Request URI—Specifies the lookup policy to apply to the Request-URI header. • Field • SIP Header—Specifies the header for which the lookup policy is applicable. Select a URI component from the drop-down menu, Values are: • URI—Specifies the lookup policy to apply to the full URI. • User—Specifies the lookup policy to apply to the user URI component. • Phone—Specifies the lookup policy to apply to the phone URI component. • Host—Specifies the lookup policy to apply to the host URI component. • Host-Port—Specifies the lookup policy to apply to the host-port URI component. • Param—Specifies the URI component parameter name.
Lookup Key Modifiers	
Regular Expression Match	Specifies the key modifier to match the regular expression.
Regular Expression Replace	Specifies the key modifier to replace the regular expression.

Related Topics

Managing the System Configuration, on page 161

Adding a Route Policy

Before you begin

You must create and configure at least one route table before you can add a route policy. See Configuring Route Tables, on page 49.

Procedure

Step 1 Choose **Configure** > **Route Policies**.

The system displays the Route Policies page.

Step 2 Click **Add**.

The system displays the Route Policy (New) page.

Step 3 Enter a name for this route policy.

Click **Add**.

The system displays the Route Policy Step (New) page.

Step 4 Enter route policy steps. See Adding or Editing a Route Policy Step, on page 62.

Step 5 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Configuring Route Policies, on page 57
Managing the System Configuration, on page 161

Viewing a List of Route Policy Steps

Procedure

Step 1 Choose **Configure > Route Policies**.

The system displays the Route Policies page.

Step 2 Click the underlined name of the route policy for which you want to see the route policy steps.

The system displays the Route Policy **'<name of route policy>'** Steps page and displays all the steps associated with this route policy.

Step 3 To delete a route policy step, do the following:

a) Check the check box next to the name of the route policy step to delete.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Step 4 To revert a route policy step to the settings it had at the time of the last commit, do the following:

a) Check the check box next to the name of the route policy step whose settings you want to revert back to.
b) Click **Revert**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Adding or Editing a Route Policy Step

Note When you edit a route policy, you can only edit the steps associated with it.

Procedure

Step 1 Choose **Configure** > **Route Policies**.

The system displays the Route Policies page.

Step 2 Click the underlined name of the route policy for which you want to add or edit a route policy step.

The system displays the Route Policy Steps: **<name of route policy>** page and displays all the steps associated with this route policy.

Step 3 To add a route policy step, do the following:

a) Click **Add**. The system displays the Route Policy Step (New) page.
b) Enter information about the route policy step as described in Route Policy Step Fields, on page 58.
c) Click **Add**.

Step 4 To edit a route policy step, do the following:

a) Click the underlined name of the route policy step. The system displays the Route Policy Step: *Edit* page.
b) Make changes to the values for the route policy step as described in Route Policy Step Fields, on page 58.
c) Click **Update**.

Step 5 To move a route policy step, check the check box next to it and click the up or down arrows.

Step 6 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

CHAPTER 10

Configuring Normalization Policies

Viewing a List of Normalization Policies

Procedure

Step 1 Choose **Configure** > **Normalization Policies**.

The system displays the Normalization Policies page, containing the fields described in the section Normalization Policy Fields.

Step 2 To delete a normalization policy, do the following:

a) Check the check box next to the name of the normalization policy to delete.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Step 3 To revert any changes you have made back to the state they were in at the time of the last commit, do the following:

a) Check the check box next to the name of the normalization policy that has the changes to revert back to.
b) Click **Revert**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

About Normalization Policies

Normalization policies modify SIP messages to account for incompatibilities between networks.

Normalization Policy Fields

The table lists the fields on the Normalization Policies page.

Table 15: Normalization Policy Parameters

Parameter	Description
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
Name	Name of this normalization policy.

Request URI, URI Component Fields

The table lists the fields on the Normalization Policy **'<name of normalization policy>'** page when the Request URI and URI Component tabs are displayed.

Table 16: Request URI, URI Component Fields

Parameter	Description
Category	There are five boxes on this page, one for each of the following: • User—Specifies the normalization policy to apply to the user URI component. • Phone—Specifies the normalization policy to apply to the phone URI component. • Host—Specifies the normalization policy to apply to the host URI component. • Host and Port—Specifies the normalization policy to apply to the host-port URI component. • URI—Specifies the normalization policy to apply to the full URI. For each box, enter the match pattern and replace value.
Match Pattern	Specifies the regular expression string in the URI component that is matched. If you enter **all**, the full header is replaced.
Replace Value	Specifies the regular expression string in the URI component that replaces the matched string.

Related Topics

Managing the System Configuration, on page 161

Request URI, URI Conversion Fields

The table lists the fields on the Normalization Policy **'<name of normalization policy>'** page when the Request URI and URI Conversion tabs are displayed.

Table 17: Request URI, URI Conversion Fields

Parameter	Description
SIP URI to TEL URI Conversion	
Conversion	Whether this conversion is enabled or disabled. The default is disabled.
TEL URI to SIP URI Conversion	
Conversion	Whether this conversion is enabled or disabled. The default is disabled.

Parameter	Description
Host	Specifies the host of the URI.
Port	Specifies the port of the URI.

Related Topics

Managing the System Configuration, on page 161

Request URI, URI Parameter Fields

The table lists the fields on the Normalization Policy **'<name of normalization policy>'** page when the Request URI and URI Parameter tabs are displayed.

Table 18: Request URI, URI Parameter Fields

Parameter	Description
Add URI Parameters	
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
Name	Specifies the URI parameter name to which the normalization rule applies.
Value	Specifies the value to be added to the URI parameter.
Remove URI Parameters	
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
Name	Specifies the URI parameter name.

Parameter	Description
Update URI Parameters	
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
Name	Specifies the header parameter name.
Match Pattern	Specifies the regular expression string in the URI parameter that is matched. If you enter **all**, the full header is replaced.
Replace Value	Specifies the regular expression string in the URI parameter that replaces the matched string.

Related Topics

Managing the System Configuration, on page 161

SIP Headers Fields

The table lists the fields on the Normalization Policy **'<name of normalization policy>'** page when the SIP Header tabs are displayed.

Table 19: SIP Header Parameter Fields

Parameter	Description
Add SIP Headers	
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.

Parameter	Description
SIP Header Name	Specifies the SIP message header for which the normalization step is applicable. Examples include: From, To, Record-Route, Diversion, Request-URI, and P-Asserted-Identity.
SIP Header Instances	The SIP header instances to be added.
Remove SIP Headers	
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
SIP Header Name	Specifies the SIP message header for which the normalization step is applicable. Examples include: From, To, Record-Route, Diversion, Request-URI, and P-Asserted-Identity.
Total Number of Header Instances	Total number of SIP header instances to be removed.
Update SIP Headers	
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
SIP Header Name	Specifies the SIP message header for which the normalization step is applicable. Examples include: From, To, Record-Route, Diversion, Request-URI, and P-Asserted-Identity.

Parameter	Description
SIP Header Index	Can be one of the following: • first—Specifies that if there are multiple occurrences of a given header parameter, this normalization step is applied only to the first occurrence. • last—Specifies that if there are multiple occurrences of a given header parameter, this normalization step is applied only to the last occurrence. • all—Specifies that if there are multiple occurrences of a given header parameter, this normalization step is applied to all occurrences.
Match Pattern	Specifies the regular expression string in the header parameter that is matched. If you enter **all**, the full header is replaced.
Replace Value	Specifies the regular expression string in the header parameter that replaces the matched string.

Related Topics

Managing the System Configuration, on page 161

SIP Header, URI Component Fields

The table lists the fields on the Normalization Policy **'<name of normalization policy>'** page when the SIP Header and URI Component tabs are displayed.

Table 20: SIP Header, URI Component Fields

Parameter	Description
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.

Parameter	Description
SIP Header Name	Specifies the SIP message header for which the normalization step is applicable. Examples include: From, To, Record-Route, Diversion, Request-URI, and P-Asserted-Identity.
SIP Header Index	Can be one of the following: • first—Specifies that if there are multiple occurrences of a given URI component, apply this normalization step only to the first occurrence. • last—Specifies that if there are multiple occurrences of a given URI component, apply this normalization step only to the last occurrence. • all—Specifies that if there are multiple occurrences of a given URI component, apply this normalization step to all occurrences.
URI Component Type	Can be one of the following: • URI—Specifies the lookup policy to apply to the full URI. • User (default)—Specifies the lookup policy to apply to the user URI component. • Phone—Specifies the lookup policy to apply to the phone URI component. • Host—Specifies the lookup policy to apply to the host URI component. • Host-Port—Specifies the lookup policy to apply to the host-port URI component.
Match Pattern	Specifies the regular expression string in the URI component that is matched. If you enter **all**, the full header is replaced.
Replace Value	Specifies the regular expression string in the URI component that replaces the matched string.

Related Topics

Managing the System Configuration, on page 161

SIP Header, URI Conversion Fields

The table lists the fields on the Normalization Policy **'<name of normalization policy>'** page when the SIP Header and URI Conversion tabs are displayed.

Table 21: SIP Header, URI Conversion Fields

Parameter	Description
TEL URI to SIP URI Conversions	
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
SIP Header Name	Specifies the SIP message header for which the normalization step is applicable. Examples include: From, To, Record-Route, Diversion, Request-URI, and P-Asserted-Identity.
SIP Header Index	Can be one of the following: • first—Specifies that if there are multiple occurrences of a given TEL URI, apply this normalization step only to the first occurrence. • last—Specifies that if there are multiple occurrences of a given TEL URI, apply this normalization step only to the last occurrence. • all—Specifies that if there are multiple occurrences of a given TEL URI, apply this normalization step to all occurrences.
Host	Specifies the host of the URI.
Port	Specifies the port of the URI.
SIP URI to TEL URI Conversions	
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.

Parameter	Description
SIP Header Name	Specifies the SIP message header for which the normalization step is applicable. Examples include: From, To, Record-Route, Diversion, Request-URI, and P-Asserted-Identity.
SIP Header Index	Can be one of the following: • first—Specifies that if there are multiple occurrences of a specific SIP URI, apply this normalization step only to the first occurrence. • last—Specifies that if there are multiple occurrences of a specific SIP URI, apply this normalization step only to the last occurrence. • all—Specifies that if there are multiple occurrences of a specific SIP URI, apply this normalization step to all occurrences.

Related Topics

Managing the System Configuration, on page 161

SIP Header, URI Parameter Fields

The table lists the fields on the Normalization Policy **'<name of normalization policy>'** page when the SIP Header and URI Parameter tabs are displayed.

Table 22: SIP Header, URI Parameter Fields

Parameter	Description
Add URI Parameters	
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
SIP Header Name	Specifies the SIP message header for which the normalization step is applicable. Examples include: From, To, Record-Route, Diversion, Request-URI, and P-Asserted-Identity.

Parameter	Description
SIP Header Index	Can be one of the following: • first—Specifies that if there are multiple occurrences of a given URI parameter, apply this normalization step only to the first occurrence. • last—Specifies that if there are multiple occurrences of a given URI parameter, apply this normalization step only to the last occurrence. • all—Specifies that if there are multiple occurrences of a given URI parameter, apply this normalization step to all occurrences.
Parameter Name	Specifies the URI parameter name to which the normalization rule applies.
Value	Specifies the value to be added.
Remove URI Parameters	
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
SIP Header Name	Specifies the SIP message header for which the normalization step is applicable. Examples include: From, To, Record-Route, Diversion, Request-URI, and P-Asserted-Identity.
SIP Header Index	Can be one of the following: • first—Specifies that if there are multiple occurrences of a given URI parameter, apply this normalization step only to the first occurrence. • last—Specifies that if there are multiple occurrences of a given URI parameter, apply this normalization step only to the last occurrence. • all—Specifies that if there are multiple occurrences of a given URI parameter, apply this normalization step to all occurrences.

Parameter	Description
Parameter Name	Specifies the URI parameter name.
Update URI Parameters	
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
SIP Header Name	Specifies the SIP message header for which the normalization step is applicable. Examples include: From, To, Record-Route, Diversion, Request-URI, and P-Asserted-Identity.
SIP Header Index	Can be one of the following: • first—Specifies that if there are multiple occurrences of a given URI parameter, apply this normalization step only to the first occurrence. • last—Specifies that if there are multiple occurrences of a given URI parameter, apply this normalization step only to the last occurrence. • all—Specifies that if there are multiple occurrences of a given URI parameter, apply this normalization step to all occurrences.
Parameter Name	Specifies the header parameter name.
Match Pattern	Specifies the regular expression string in the URI parameter that is matched. If you enter **all**, the full header is replaced.
Replace Value	Specifies the regular expression string in the URI parameter that replaces the matched string.

Related Topics

Managing the System Configuration, on page 161

SIP Header, Header Parameter Fields

The table lists the fields on the Normalization Policy **‘<name of normalization policy>’** page when the SIP Header and Header Parameter tabs are displayed.

Table 23: SIP Header, Header Parameter Fields

Parameter	Description
Add Header Parameters	
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
SIP Header Name	Specifies the SIP message header for which the normalization step is applicable. Examples include: From, To, Record-Route, Diversion, Request-URI, and P-Asserted-Identity.
SIP Header Index	Can be one of the following: • first—Specifies that if there are multiple occurrences of a given header parameter, this normalization step is applied only to the first occurrence. • last—Specifies that if there are multiple occurrences of a given header parameter, this normalization step is applied only to the last occurrence. • all—Specifies that if there are multiple occurrences of a given header parameter, this normalization step is applied to all occurrences.
Parameter Name	Name of this add URI parameter.
Value	Value of the add URI parameter.
Remove Header Parameters	

Parameter	Description
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
SIP Header Name	Specifies the SIP message header for which the normalization step is applicable. Examples include: From, To, Record-Route, Diversion, Request-URI, and P-Asserted-Identity.
SIP Header Index	Can be one of the following: • first—Specifies that if there are multiple occurrences of a given header parameter, this normalization step is applied only to the first occurrence. • last—Specifies that if there are multiple occurrences of a given header parameter, this normalization step is applied only to the last occurrence. • all—Specifies that if there are multiple occurrences of a given header parameter, this normalization step is applied to all occurrences.
Parameter Name	Name of this remove URI parameter.
Update Header Parameters	
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.

Parameter	Description
SIP Header Name	Specifies the SIP message header for which the normalization step is applicable. Examples include: From, To, Record-Route, Diversion, Request-URI, and P-Asserted-Identity.
SIP Header Index	Can be one of the following: • first—Specifies that if there are multiple occurrences of a given header parameter, this normalization step is applied only to the first occurrence. • last—Specifies that if there are multiple occurrences of a given header parameter, this normalization step is applied only to the last occurrence. • all—Specifies that if there are multiple occurrences of a given header parameter, this normalization step is applied to all occurrences.
Parameter Name	Name of this update URI parameter.
Match Pattern	Specifies the regular expression string in the URI component that is matched. If you enter **all**, the full header is replaced.
Replace Value	Specifies the regular expression string in the URI component that replaces the matched string.

Related Topics

Managing the System Configuration, on page 161

Adding a Normalization Policy

Procedure

Step 1 Choose **Configure** > **Normalization Policies**.

The system displays the Normalization Policies page.

Step 2 Click **Add**.

The system displays the Normalization Policies page.

Step 3 Enter a name for this normalization policy.

Click **Add**.

The system displays the Normalization Policies page, with the new normalization policy listed.

Step 4 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Working With URI Components for a Request URI

Procedure

Step 1 Choose **Configure** > **Normalization Policies**.

The system displays the Normalization Policies page.

Step 2 Click the underlined name of the normalization policy to work with.

The system displays the Normalization Policy **'<name of normalization policy>'** page and the URI Component tab is highlighted.

Step 3 To add or edit a URI component, do the following:

a) Check the check box of the component to which you want to add or edit values.
b) Enter or change values. See Request URI, URI Component Fields, on page 64.
c) Click **Update**.

Step 4 To delete a URI component, do the following:

a) Uncheck the check box of the component to delete.
b) Click **Update**.

Step 5 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Working With URI Conversion Parameters for a Request URI

Follow this procedure to configure a normalization policy step that converts a destination TEL URI to a SIP URI with the given host-port value.

Procedure

Step 1 Choose **Configure** > **Normalization Policies**.

The system displays the Normalization Policies page.

Step 2 Click the underlined name of the normalization policy to work with.

The system displays the Normalization Policy **'<name of normalization policy>'** page.

Step 3 Click the URI Conversion tab.

Step 4 Enter or update values. See Request URI, URI Conversion Fields, on page 65.

Step 5 Click **Update**.

Step 6 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Working With URI Parameters for a Request URI

Procedure

Step 1 Choose **Configure** > **Normalization Policies**.

The system displays the Normalization Policies page.

Step 2 Click the underlined name of the normalization policy to work with.

The system displays the Normalization Policy **'<name of normalization policy>'** page.

Step 3 Click the URI Parameter tab.

Step 4 To add a URI parameter to the Request URI, do the following:

a) Under the Add URI Parameters heading, click **New**.
b) Enter the name of the parameter and a value.
c) Click **Add**.

Step 5 To remove a parameter from the URI, do the following:

a) Under the Remove URI Parameters heading, click **New**.
b) Enter the name of the parameter to remove.
c) Click **Add**.

Step 6 To update a parameter in the URI, do the following:

a) Under the Update URI Parameters heading, click **New**.
b) Enter the name of the parameter to update and the pattern to match. Optionally, you can enter a value to replace the pattern.
c) Click **Add**.

Step 7 To remove any parameters that you added in **Step 4** to Step 6Step 6, check the check box next to the parameter and click **Remove**.

Step 8 To revert to the previous setting for any parameters that you added in **Step 4** to **Step 6**, check the check box next to the parameter and click **Revert**.

Step 9 To edit the add or update parameters that you added in **Step 4** or **Step 6**, click the name of the parameter and make changes.

Step 10 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Working With SIP Headers

Procedure

Step 1 Choose **Configure** > **Normalization Policies**.

The system displays the Normalization Policies page.

Step 2 Click the underlined name of the normalization policy to which you want to add a SIP header.

The system displays the Normalization Policy **'<name of normalization policy>'** page.

Step 3 Click the SIP Header tab.

The system displays the Normalization Policy **'<name of normalization policy>'** page with the SIP Header tabs displayed.

Step 4 To add a SIP header, do the following:

a) Under the Add SIP Headers heading, click **New**.
b) Enter the name of the parameter.
c) Click **Add**.
d) Enter a SIP header index and value.
e) Click **Add**.
f) Click **Cancel** to go back to the Normalization Policy: **<name of normalization policy>** page with the SIP Header tabs displayed.

Step 5 To remove a SIP header, do the following:

a) Under the Remove SIP Headers heading, click **New**.
b) Enter the name of the SIP header to remove. Enter the number of header instances to be removed from the top and the number to be removed from the bottom.
c) Click **Add**.

Step 6 To update a SIP header, do the following:

a) Under the Update SIP Headers heading, click **New**.
b) Enter the name of the SIP header to update and the pattern to match. You can optionally enter a SIP header index and a value to replace the pattern with.
c) Click **Add**.

Step 7 To remove any SIP headers that you added in **Step 4** to **Step 6**, check the check box next to the parameter and click **Remove**.

Step 8 To revert to the previous setting for any SIP headers that you added in **Step 4** to **Step 6**, check the check box next to the SIP header and click **Revert**.

Step 9 To edit the add or update parameters that you added in **Step 4** or **Step 6**, click the name of the SIP header and make changes.

Step 10 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Working With URI Components for SIP Headers

Follow this procedure to configure a normalization policy step that updates a URI component field within a header of the source message.

Procedure

Step 1 Choose **Configure** > **Normalization Policies**.

The system displays the Normalization Policies page.

Step 2 Click the underlined name of the normalization policy to work with.

The system displays the Normalization Policy **'<name of normalization policy>'** page.

Step 3 Click the SIP Header tab.

Step 4 Click the URI Component tab.

Step 5 To add a URI component to a SIP header, do the following:

a) Click **New**.
b) Enter values. See SIP Header, URI Component Fields, on page 69.
c) Click **Add**.

Step 6 To edit a URI component for a SIP header, do the following:

a) Click the underlined name of the SIP header.
b) Update the match pattern or replace values. See SIP Header, URI Component Fields, on page 69.
c) Click **Update**.

Step 7 To remove a URI component for a SIP header, check the check box next to the URI component and click **Remove**.

Step 8 To revert to the previous setting for a URI component for a SIP header, check the check box next to the URI component and click **Revert**.

Step 9 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Working With URI Conversion Parameters for SIP Headers

Procedure

Step 1 Choose **Configure** > **Normalization Policies**.

The system displays the Normalization Policies page.

Step 2 Click the underlined name of the normalization policy to work with.

The system displays the Normalization Policy **'<name of normalization policy>'** page.

Step 3 Click the SIP Header tab.

Step 4 Click the URI Conversion tab.

Step 5 To add a new conversion parameter, do the following:

a) Click **New** under either the TEL URI to SIP URI Conversions header or the SIP URI to TEL URI Conversions header.
b) Enter values. See SIP Header, URI Conversion Fields, on page 70the section SIP Header, URI Conversion Fields.
c) Click **Add**.

Step 6 To edit a TEL URI to SIP URI conversion parameter, do the following:

a) Click the underlined name of the SIP header.
b) Update values. See SIP Header, URI Conversion Fields, on page 70.
c) Click **Update**.

Step 7 To remove a URI conversion parameter, check the check box next to the URI conversion parameter and click **Remove**.

Step 8 To revert to the previous setting for a URI conversion parameter, check the check box next to the URI conversion parameter and click **Revert**.

Step 9 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Working With URI Parameters for SIP Headers

Procedure

Step 1 Choose **Configure** > **Normalization Policies**.

The system displays the Normalization Policies page.

Step 2 Click the underlined name of the normalization policy to work with.

The system displays the Normalization Policy **'<name of normalization policy>'** page.

Step 3 Click the SIP Header tab.

Step 4 Click the URI Parameter tab.

Step 5 To add a URI parameter to the SIP header do the following:

a) Under the Add URI Parameters heading, click **New**.
b) Enter values. See SIP Header, URI Parameter Fields, on page 72the section SIP Header, URI Parameter Fields.
c) Click **Add**.

Step 6 To remove a URI parameter from the SIP header, do the following:

a) Under the Remove URI Parameters heading, click **New**.
b) Enter values. See SIP Header, URI Parameter Fields, on page 72.
c) Click **Add**.

Step 7 To update a URI parameter in the SIP header, do the following:

a) Under the Update URI Parameters heading, click **New**.
b) Enter values. See SIP Header, URI Parameter Fields, on page 72.
c) Click **Add**.

Step 8 To remove any parameters that you added in **Step 5** to **Step 7**, check the check box next to the parameter and click **Remove**.

Step 9 To revert to the previous setting for any parameters that you added in **Step 5** to **Step 7**, check the check box next to the parameter and click **Revert**.

Step 10 To edit the add or update parameters that you added in **Step 5** or **Step 7**, click the name of the parameter and make changes.

Step 11 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Working With Header Parameters for SIP Headers

Procedure

Step 1 Choose **Configure** > **Normalization Policies**.

The system displays the Normalization Policies page.

Step 2 Click the underlined name of the normalization policy to work with.

The system displays the Normalization Policy **‘<name of normalization policy>’** page.

Step 3 Click the SIP Header tab.

Step 4 Click the Header Parameter tab.

Step 5 To add a header parameter to the SIP header do the following:

a) Under the Add Header Parameters heading, click **New**.
b) Enter values. See SIP Header, Header Parameter Fields, on page 74.

c) Click **Add**.

Step 6 To remove a header parameter from the SIP header, do the following:

a) Under the Remove Header Parameters heading, click **New**.
b) Enter values. See SIP Header, Header Parameter Fields, on page 74.
c) Click **Add**.

Step 7 To update a header parameter in the SIP header, do the following:

a) Under the Update Header Parameters heading, click **New**.
b) Enter values. See SIP Header, Header Parameter Fields, on page 74.
c) Click **Add**.

Step 8 To remove any parameters that you added in **Step 5** to **Step 7**, check the check box next to the parameter and click **Remove**.

Step 9 To revert to the previous setting for any parameters that you added in **Step 5** to **Step 7**, check the check box next to the parameter and click **Revert**.

Step 10 To edit the add or update parameters that you added in **Step 5** or **Step 7**, click the name of the parameter and make changes.

Step 11 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

CHAPTER 11

Configuring Time Policies

Viewing a List of Time Policies

Procedure

Step 1 Choose **Configure** > **Time Policies**.

The system displays the Time Policies page showing the time policies with the fields in Time Policy Fields, on page 86.

Step 2 To delete a time policy, do the following:

a) Check the check box next to the name of the time policy to delete.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Step 3 To revert any changes you have made back to the state they were in at the time of the last commit, do the following:

a) Check the check box next to the name of the time policy that has the changes to revert back to.
b) Click **Revert**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

About Time Policies

Time policies are time-based routing configurations that a route group will use if implementing time-based routing.

Time Policy Fields

The table lists the fields on the Time Policies page.

Table 24: Time Policy Parameters

Parameter	Description
State	Can be one of the following: • New—New record. Will be added to the active configuration when it is committed. • Modified—Modified record. Will become the active configuration when it is committed. • Deleted—Deleted record. Will be removed from the active configuration when it is committed. • Active—Active record and active configuration.
Name	Name of this time policy.

Adding a Time Policy

Procedure

Step 1 Choose **Configure** > **Time Policies**.

The system displays the Time Policies page.

Step 2 Click **Add**.

The system displays the Time Policy (New) page.

Step 3 Enter a name for this time policy.

Click **Add**.

The system displays the Time Policy **'<name of time policy>'** Step (New) page.

Step 4 Add steps to the time policy. See Adding or Editing a Time Policy Step, on page 87.

Step 5 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Viewing a List of Time Policy Steps

Procedure

Step 1 Choose **Configure** > **Time Policies**.

The system displays the Time Policies page.

Step 2 Click the underlined name of a time policy.

The system displays the Time Policy **'<name of time policy>'** Step page.

Adding or Editing a Time Policy Step

Procedure

Step 1 Choose **Configure** > **Time Policies**.

The system displays the Time Policies page.

Step 2 Click the underlined name of a time policy.

The system displays the Time Policy **'<name of time policy>'** Steps page.

Step 3 To add a time policy step, do the following:

a) Click **Add**. The system displays the Time Policy **'<name of time policy>'** Step (New) page.
b) Enter values in the fields. See Time Policy Steps, on page 88the section Time Policy Steps.
c) Click **Update**.

Step 4 To edit a time policy step, do the following:

a) Click the underlined name of a time policy step. The system displays the Time Policy **'<name of time policy>'** Step page.
b) Update values in the fields.
c) Click **Update**.

Step 5 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Time Policy Steps

Table 25: Time Policy Steps

Parameter	Description
Active Dates	
Start Date & Time	Start date and time of this time policy. Enter the date, hour, minute, and either AM or PM.
End Date & Time	End date and time of this time policy. If you check this check box and click **Update**, the system prompts you to enter a date.
Schedule Restrictions	
Weekdays/Dates	Defines any weekday or date restrictions that your time policy may have. If you check this check box and click **Update**, the system prompts you to choose either Days of the Week or Days of the Month. • If you check Days of the Week, the system prompts you to check which days of the week this policy covers. • If you check Days of the Month, the system prompts you to check which days of the month this policy covers.
Months	Defines any monthly restrictions that your time policy may have. If you check this check box and click **Update**, the system prompts you to check which months this policy covers.
Time of Day	Defines any time of day restrictions that your time policy may have. If you check this check box and click **Update**, the system prompts you to enter a time. After you enter a time, click **Add**. You can enter additional times.

CHAPTER 12

Configuring Routing Triggers

Viewing a List of Routing Triggers

Routing triggers correlate trigger conditions with routing policies (which are also known as lookup policies). A single policy is chosen based on which corresponding condition is matched. The conditions are evaluated in ascending order based on sequence number.

A routing trigger is a set of conditions that can be used to dictate routing logic. It is automatically executed in response to a certain event (or condition case). Conditions can have multiple cases.

Procedure

Step 1 Choose **Configure** > **Routing Triggers**.

The system displays the Routing Triggers page and displays all routing triggers.

Step 2 To delete a routing trigger, do the following:

a) Check the check box next to the name of the routing trigger to delete.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Adding or Editing a Routing Trigger

Before you begin

You must have at least one trigger in your system. See Configuring Triggers, on page 19.

Procedure

Step 1 Choose Configure > **Routing** Triggers.

The system displays the Routing Triggers page.

Step 2 To add a routing trigger, do the following:

a) Click **Add**.
b) The system displays the Routing Trigger (New) page.
c) Select a routing policy from the drop-down box.
d) Select a trigger condition from the drop-down box.
e) Click **Add**.

The system displays the Routing Triggers page with the new routing trigger displayed.

Step 3 To edit an existing routing trigger, do the following:

a) Check the check box next to the name of the routing trigger to edit.
b) Click **Edit**.
c) Choose a different routing policy or trigger condition. You can change one or both.
d) Click **Update**.

Step 4 To move an existing routing trigger, do the following:

a) Check the check box next to the name of the routing trigger to move.
b) Click the up or down arrows.

Step 5 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Configuring Routing Triggers, on page 89
Managing the System Configuration, on page 161

CHAPTER 13

Configuring Normalization Triggers

Viewing a List of Pre-Normalization Triggers

Procedure

Step 1 Choose **Configure** > **Normalization Triggers** > **Pre-Normalization**.

The system displays the Pre-Normalization Triggers page and displays all pre-normalization triggers.

Step 2 To delete a pre-normalization trigger, do the following:

a) Check the check box next to the name of the pre-normalization trigger to delete.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

About Normalization Triggers

Normalization triggers correlate trigger conditions with normalization policies. There are two types of normalization triggers:

- pre-normalization, which occur before routing
- post-normalization, which occur after routing

A special policy bypasses normalization on mid-dialog messages.

You can add, update, or delete normalization triggers from the Pre-Normalization Triggers and Post-Normalization Triggers pages.

Related Topics

Managing the System Configuration, on page 161

Viewing a List of Post-Normalization Triggers

For information on normalization triggers, see About Normalization Triggers, on page 91.

Procedure

Step 1 Choose **Configure** > **Normalization Triggers** > **Post-Normalization**.

The system displays the Post-Normalization Triggers page and displays all post-normalization triggers.

Step 2 To delete a post-normalization trigger, do the following:

a) Check the check box next to the name of the post-normalization trigger to delete.
b) Click **Remove**.
c) In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Managing the System Configuration, on page 161

Adding and Editing a Pre-Normalization Trigger

Procedure

Step 1 Choose **Configure** > **Normalization Triggers** > **Pre-Normalization**.

The system displays the Pre-Normalization Triggers page.

Step 2 To add a pre-normalization trigger, do the following:

a) Click **Add**. The system displays the Pre-Normalization Trigger (New) page.
b) Choose a normalization policy from the drop-down menu.
c) Choose a trigger condition from the drop-down menu.
d) Click **Add**.

   The system displays the Pre-Normalization Triggers page and displays all of the triggers.

Step 3 To add, edit, or delete rules for a pre-normalization trigger, follow the procedure in Viewing, Adding, Moving, and Deleting Rules for a Trigger, on page 27.

Step 4 To edit a pre-normalization trigger, do the following:

a) Check the check box of the pre-normalization trigger to edit.
b) Click **Edit**. The system displays the Pre-Normalization Trigger page.
c) Choose a normalization policy from the drop-down menu.
d) Choose a trigger condition from the drop-down menu.

e) Click **Update**. The system displays the Pre-Normalization Triggers page and displays all of the triggers.

Step 5 If you have multiple pre-normalization triggers, you can reorder them by doing the following:

Tip Once one pre-normalization trigger is matched, all other triggers are ignored. To optimize the system, we recommend that you put the pre-normalization trigger most likely to match at the top of the list.

a) Select the pre-normalization trigger.
b) Click the up or down arrows.
c) Click **Update**.

Step 6 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Configuring Triggers, on page 19
Managing the System Configuration, on page 161

Adding and Editing a Post-Normalization Trigger

Procedure

Step 1 Choose **Configure** > **Normalization Triggers** > **Post-Normalization**.

The system displays the Post-Normalization Triggers page.

Step 2 To add a post-normalization trigger, do the following:

a) Click **Add**. The system displays the Post-Normalization Trigger (New) page.
b) Choose a normalization policy from the drop-down menu.
c) Choose a trigger condition from the drop-down menu.
d) Click **Add**.

The system displays the Post-Normalization Triggers page and displays all of the triggers.

Step 3 To add, edit, or delete rules for a post-normalization trigger, follow the procedure in Viewing, Adding, Moving, and Deleting Rules for a Trigger, on page 27.

Step 4 To edit a post-normalization trigger, do the following:

a) Check the check box of the post-normalization trigger to edit.
b) Click **Edit**. The system displays the Post-Normalization Trigger page.
c) Choose a normalization policy from the drop-down menu.
d) Choose a trigger condition from the drop-down menu.
e) Click **Update**. The system displays the Post-Normalization Triggers page and displays all of the triggers.

Step 5 If you have multiple post-normalization triggers, you can reorder them by doing the following:

Tip Once one post-normalization trigger is matched, all other triggers are ignored. To optimize the system, we recommend that you put the post-normalization trigger most likely to match at the top of the list.

a) Select the post-normalization trigger.

b) Click the up or down arrows.
c) Click **Update**.

Step 6 In the Cisco Unified SIP Proxy header, click **Commit Candidate Configuration** to commit this change.

Related Topics

Configuring Triggers, on page 19

Managing the System Configuration, on page 161

CHAPTER 14

Configuring Performance Control

Configuring Performance Control

Use this page to enable or disable Lite Mode and to set the maximum number of calls per second that the system can process.

Restriction

- If you enable Lite Mode, the system deletes the record route configurations and you cannot access the SIP Record-Route tab. For information about the SIP Record-Route tab, see Editing the SIP Record-Route for a Network, on page 16.
- Because call admission control relies on record-route, call admission control is disabled whenever Lite Mode is enabled.

Procedure

Step 1 Choose **Configure** > **Performance Control**.

The system displays the Performance Control page.

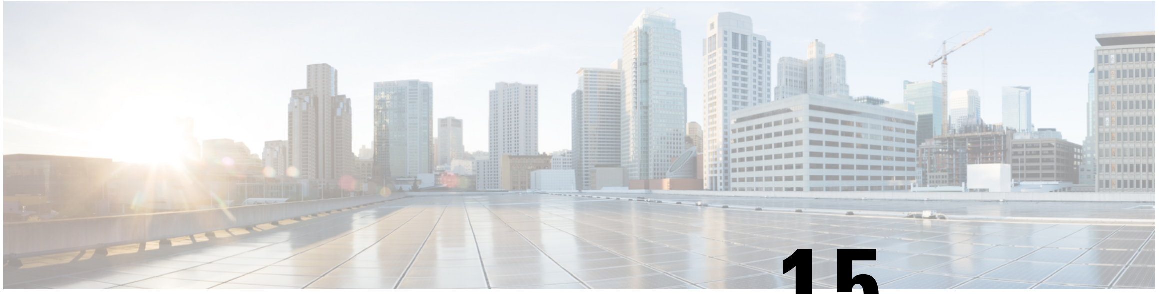
Step 2 Select if you want to enable or disable Lite Mode:

- Select **enable (<*license limit*> CPS)** to enable Lite Mode, which allows the system to process the number of calls up to the limit which is based on the license type. If you choose this option, the system asks you to confirm that you want to enter Lite Mode, which will disable record-routing. Click **OK**.
- Select **disable (<*license limit*> CPS)** to disable Lite Mode, which limits the system to only processing the number of calls up to the limit. If you choose this option, the system asks you to confirm that you want to disable Lite Mode, which will reset performance to licensed limits. Click **OK**.

Step 3 (Optional) Enter the maximum limit for the calls per second on the system:

- If you selected **enable (<*license limit*> CPS)** to enable Lite Mode, the value must be the value of the license limit or less. Click **Set Limit**.

- If you selected **disable (<*license limit*> CPS)** to disable Lite Mode, the value must be the value of the licensed limit or less. Click **Set Limit**.



CHAPTER 15

Configuring Call Admission Control

Configuring Call Admission Control

The call admission control feature allows you to count and limit the number of calls for a certain location. This can only be performed for server group elements.

When call admission control is enabled, the system monitors the start and stop time for each call. You can also set the session timeout which tells the system how long to wait before a call is considered dead.

For call admission control to work correctly, record route needs to be enabled on Cisco Unified SIP Proxy. If record route is not enabled, call admission control will not work reliably.

Procedure

Step 1 Choose **Configure** > **Call Admission Control**.

The system displays the Call Admission Control page.

Step 2 Select if you want to enable or disable Call Admission Control.

Step 3 Enter the Call Admission Control session timeout in minutes.

Note If call admission control is enabled and you change the configuration value, the system only uses the updated value for new calls. Any existing calls will continue to use the session timeout value that was configured when those calls were originally set up. Changing the session timeout has no effect on the timeout for existing, active calls.

Step 4 Click **Update**.

CHAPTER 16

Configuring Users

Viewing a List of Users

Important A user can only be subscribed as a member of either any of the default group, or one or more newly created groups.

You can delete a user, who is subscribed as member of non-default group, only on unsubscribing from the associated non-default groups.

Procedure

Step 1 Choose **Configure** > **Users**.

The system displays the Configure Users page, containing the following fields:

- User ID—By default, the system displays users in alphabetical order by user ID.
- Display Name
- Primary Extension

Step 2 To delete a user from the Cisco Unified SIP Proxy system, do the following:

a) Check the check box next to the user ID to delete.
b) Click **Delete**.
c) Click **OK** to confirm the deletion.

Step 3 To move to another page, use the left and right arrow buttons on the bottom right, or enter another page number and press **Enter**.

Step 4 To sort users, click any of the headers.

Step 5 To delete a user from the Cisco Unified SIP Proxy system, do the following:

a) Check the check box next to the user ID to delete.

b) Click **Delete**.

c) Click **OK** to confirm the deletion.

User Profile Fields

The table lists the fields on the User Profile page.

Table 26: User Profile Parameters

Parameter	Description
User ID	Alphanumeric user identifier.
First Name	First name of a user. Callers use these names to access the extension using the dial-by-name feature. These fields cannot contain special characters, spaces, or numbers.
Last Name	Last name of a user. Callers use these names to access the extension using the dial-by-name feature. These fields cannot contain special characters, spaces, or numbers.
Nick Name	Optional nickname of the user.
Display Name	User's name displayed within Cisco Unified SIP Proxy application.
Primary E.164 Number	User's primary telephone number, including area code.
Fax Number	Fax number for this user.
Language	The languages available depends on the version of Cisco Unified SIP Proxy that you have installed.
Password options	For the password used by the user to access the GUI, select one of the following: • Generate a Random Password—To have the system generate a random password. • Blank Password—To leave the password blank. • Password Specified Below—To specify a password for this user.
Password	Consists of letters and numbers and is at least 3 characters but not more than 32 characters long.

Parameter	Description
PIN options	**Note** Although there is space to set a PIN, the Cisco Unified SIP Proxy system does not use PINs. If you set values here, they will not be used.
PIN	Not used.

Adding a New User

Use this procedure to add a new user to the system.

Procedure

Step 1 Choose **Configure** > **Users**.

The system displays the Configure Users page.

Step 2 Click **Add**. The Add a New User window appears.

Step 3 Enter information into the following fields. See User Profile Fields, on page 100.

Step 4 Click **Add**.

Note If you selected a random password or PIN, a message appears with the new password or PIN. Write these values in a secure place to give to the user. They are The value is also displayed on the user profile page (see Displaying or Changing a User Profile, on page 101).

Displaying or Changing a User Profile

The system displays the User Profile page, containing the fields in the section User Profile Fields.

Procedure

Step 1 Select **Configure** > **Users**.

The system displays the Configure Users page.

Step 2 Click the underlined user ID of the person whose profile you want to see.

Note If you do not see the user you are looking for, click **Find**. (See Finding a User, on page 102.)

Related Topics

Finding a User, on page 102

Displaying or Changing Group Subscriptions

Use this procedure to modify the groups to which a user is assigned.

Procedure

Step 1 Choose **Configure** > **Users**.

The system displays the Configure Users page.

Step 2 Click the underlined name of the user whose group subscription you want to view or modify.

The system displays the User Profile page.

Step 3 Click the **Groups** tab. The following fields are displayed:

- Group ID
- Rights—whether the user is a member or owner of the group.
- Description
- Primary extension—primary extension assigned to the group.

Step 4 To subscribe the user as the owner of another group, click **Subscribe as owner**. To subscribe the user as a member of another group, click **Subscribe as member**.

The system displays the Find page.

Step 5 Enter the group ID, description, or extension number, and click **Find**.

Step 6 Check the check box next to the group for this user to join and click **Select Rows**.

Step 7 (Optional) To unsubscribe the user from a group, check the check box next to the group name and click **Unsubscribe**.

Related Topics

Configuring Groups, on page 107

Finding a User

Procedure

Step 1 Choose **Configure** > **Users**.

The system displays the Configure Users window.

Step 2 Click **Find**.

The system displays the following fields:

- User ID
- Name
- Extension

Step 3 Enter the search criteria in one or more fields and click **Find**.

The system displays the results of your search.

Changing Your Password

Restriction

- Passwords should be at least three and no more than 32 alphanumeric characters in length.
- Use a mixture of uppercase and lowercase letters and numbers.
- Spaces are not allowed.

Procedure

Step 1 Select **Configure** > **Users**.

The system displays the Configure Users page.

Step 2 Click your name in the list of users.

Step 3 Ensure that **Password specified below** is selected in the Password options field.

Step 4 Enter your new password.

Step 5 Enter your new password again for verification.

Step 6 Click **Apply**.

CHAPTER 17

Setting User Defaults

User Defaults

When you create a user, the defaults that you set in the Configure User window take effect. Use these procedures to specify the default global password and PIN policy settings for all users. This default set of parameters is applied when a new user is created.

Perform the following tasks from the Configure User Defaults window:

Note Even after you have set defaults in this window, you can change the password policy for an individual user. See Adding a New User, on page 101 and Changing Your Password, on page 103.

Related Topics

Configuring Users, on page 99

Configuring Password Options

If you chose to generate passwords for users automatically, they are configured in the following steps.

Procedure

Step 1 Choose **Configure** > **User Defaults**.

The system displays the Configure User Defaults page.

Step 2 Configure password options by performing the following tasks in the Password columns:

Note Although there is space to set a PIN, the Cisco Unified SIP Proxy system does not use PINs. If you set values here, they will not be used.

a) Select whether the auto-generation policy will be **random** or **blank**.
b) (Optional) Check **Enable expiry (days)** to set an expiration date for the password. The range is 3 to 365.
c) Set the history depth. The range is 1 to 10.
d) Select the minimum length of the password. The range for the password is 8 to 64.

Step 3 Click **Apply**.

Configuring Account Lockout Policy

The account lockout policy determines how the system acts when a user tries to log in and fails.

Procedure

Step 1 Choose **Configure** > **User Defaults**.

The system displays the Configure User Defaults page.

Step 2 Choose one of the following lockout policy types for the Password field:

Note Although there is space to set a PIN, the Cisco Unified SIP Proxy system does not use PINs. If you set values here, they will not be used.

- Disable lockout—The user can continue to try to login with no consequences for failing.
- Permanent—The user is permanently locked out after a certain number of failed login attempts. Enter the maximum number of failed attempts. The range is 1 to 200.
- Temporary—The user is temporarily locked out of the system. Enter values for the following:
    - Number of allowable attempts. The range is 1 to 200.
    - Temporary lockout duration. Pick any number in minutes.
    - Maximum number of failed attempts. The range is 1 to 200.

Step 3 Click **Apply** to save your settings.

CHAPTER 18

Configuring Groups

Viewing a List of Groups

Important You cannot modify the default group and associated capabilities. You can only associate the non-default group with one or more newly created privileges.

You cannot associate the default or non-default group as a member of a non-default group.

You can delete the non-default group only on unsubscribing all the users who are subscribed as its members.

Procedure

Step 1 Choose **Configure** > **Groups**.

The system displays the Configure Groups page, containing the following fields:

- Group ID
- Display Name
- Primary Extension
- Privileges

Step 2 To see a different number of groups on each page, choose another number from the drop-down box on the top right and click **Go**. You can choose to see 10, 25, 50, 100, or all groups.

Step 3 To move to another page, use the left and right arrow buttons on the bottom right, or enter another page number and press **Enter**.

Step 4 To sort groups, click any of the headers.

Group Fields

The table lists the fields on the page.

Table 27: Group Parameters

Parameter	Description
Group ID	Alphanumeric user identifier.
Full name	Long name of the group as it should appear on telephone displays.
Description	Description of the group. The word “group” is automatically added to the Group ID entry.
Primary Extension	Primary extension of the group.
Primary E.164 Number	Associates a full telephone number and area code with this group.
Fax Number	Associates a fax number with this group.

Related Topics

Managing the System Configuration, on page 161

Adding a New User Group

Before you begin

- Configuring one or more groups is optional.
- Determine the primary extension to be assigned to the group. Ensure that this extension is active.

Procedure

Step 1 Choose **Configure** > **Groups**.

The system displays the Configure Groups page.

Step 2 Click **Add**.

The system displays the Add a New Group page.

Step 3 Enter information into the fields shown below:

- Group ID
- Full name
- Description—The word “group” is automatically added to the Group ID entry. You can add more text to this description.
- Primary Extension for the group
- Primary E.164 Number
- Fax Number

Step 4 Check the check box next to the capabilities for this group to have. See About Capabilities, on page 113.

Step 5 Click **Add**.

The system displays the Configure Groups page, with the new group in the table.

Subscribing Members or Owners to a Group

To subscribe members or owners of a group, complete the following steps:

Procedure

Step 1 Choose **Configure** > **Groups**.

The system displays the Configure Groups page.

Step 2 Click the underlined name of the group to which you are adding new members or owners.

The system displays the Group Profile page for that group.

Step 3 Click the **Owners/Members** tab.

The system displays all owners and members of the group.

Step 4 To add a new member, click **Subscribe Member**. To add a new owner, click **Subscribe Owner**.

The system displays the Find page.

Step 5 Under type, select either users or groups. Enter the user ID or Group ID, name or description, or the extension of the person or group to add to this group.

Step 6 **Click** > **Find**.

The system displays all users or groups that meet the search criteria.

Step 7 Do one of the following:

- Add one or more member or owner to the group by checking the check box next to each selected member's or owner's name and clicking **Select Rows**. The system displays the Group page with the new member or owner added.
- Look for other people to add by clicking **Back to Find** without checking a check box next to any name. The system displays the Find page. Return to **Step 5** and continue.

Step 8 To add more members or owners to the group, repeat **Step 4** through **Step 7**.

Unsubscribing Members and Owners from a Group

Restriction Only group owners can delete members and owners.

Procedure

Step 1 Choose **Configure** > **Groups**.

The system displays the Configure Groups page.

Step 2 Click the underlined name of the group to manage.

The system displays the Group Profile page for this group.

Step 3 Click the **Owners/Members** tab.

The system displays all owners and members of the group.

Step 4 Check the check box next to the name of each member or owner who you want to unsubscribe from this group.

Step 5 Click **Unsubscribe**.

The system displays the Group Members page with the members or owners removed.

Displaying or Modifying Group Parameters

Procedure

Step 1 Choose **Configure** > **Groups**.

The system displays the Configure Groups page.

Step 2 Click the underlined name of the group to view or modify.

The system displays the Group Profile page for this group, with the following fields:

- Group ID
- Full name
- Description
- Primary Extension
- Primary E.164 number
- Fax Number
- Capabilities. See About Capabilities, on page 113.

Step 3 To edit these fields, enter the new information and click **SaveApply**.

Viewing Owners and Members of a Group

Procedure

Step 1 Choose **Configure** > **Groups**.

The system displays the Configure Groups page.

Step 2 Click the underlined name of the group to view.

The system displays the Group Profile page for that group.

Step 3 Click the **Owners/Members** tab to see the users who are owners or members of this group.

The system displays the Owners/Members page.

Step 4 Click any column heading to sort by that subject.

Modifying Group Ownership and Membership in Other Groups

A group has its own set of members, but a group can also be assigned as a member or an owner of one or more other groups. If a group is assigned as an owner of another group, any individual member of the owner group has privileges as an owner of the owned group. For example, if the Administrator group is added as an owner of the Technical Support group, any individual member of the Administrator group can add, modify, or delete members of the Technical Support group. Additionally, individual users that do not belong to another group can be added as owners of the Technical Support group.

Procedure

Step 1 Choose **Configure** > **Groups**.

The system displays the Configure Groups page.

Step 2 Click the name of the group whose membership you want to modify.

The system displays the Group Profile page for that group.

Step 3 Click the **Owner/Member of Groups** tab.

The system displays the Owner/Member of Groups page.

Step 4 To see a different number of groups on each page, on the top right, choose another number from the drop-down box and click **Go**. You can choose to see 10, 25, 50, 100, or 500 groups.

Step 5 To move to another page, use the left and right arrow buttons on the bottom right, or enter another page number and press **Enter**.

Step 6 To sort groups, click any of the headers.

Step 7 To designate your group as an owner of another group, click **Subscribe as owner**. To subscribe your group as a member of another group, click **Subscribe as member**.

The system displays the Find page.

Step 8 Enter the group ID, description, or extension of the groups to find.

Step 9 Click **Find**.

The system displays all the groups that meet the search criteria.

Step 10 To select one or more groups, check the check box next to each group's name and click **Select Rows**.

The system adds the new groups to the list of groups on the Owner/Member of Groups page.

Deleting a Group

Deleting a group does not delete the members of the group.

Procedure

Step 1 Choose **Configure** > **Groups**.

The system displays the Configure Groups page.

Step 2 Check the check box next to the name of the group to delete.

Step 3 Click **Delete**.

Step 4 At the prompt, click **OK** to delete the group.

Finding a Group

Use this procedure to search for a group.

Procedure

Step 1 Choose **Configure** > **Groups**.

The system displays the Configure Groups page.

Step 2 Click **Find**. The following fields appear in the Find Groups window:

- Group ID
- Description
- Extension

Step 3 Enter the search criteria in one or more fields and click **Find**.

The system displays the Configure Groups page with the results of your search.

About Capabilities

You can assign capabilities to groups. Cisco Unified SIP Proxy has three capabilities:

- pfsread—Allows users to read from the public file system (PFS).
- pfsreadwrite—Allows users to read from and write to the PFS.
- superuser—Gives administrator privileges to users in this group.

CHAPTER 19

Configuring Privileges

Viewing Privileges

Procedure

Step 1 Choose **Configure** > **Privileges**.

The system displays the Configure Privileges page.

Step 2 To see a different number of privileges on each page, on the top right, choose another number from the drop-down box and click **Go**. You can choose to see 10, 25, 50, 100, or all privileges.

Step 3 To move to another page, use the left and right arrow buttons on the bottom right, or enter another page number and press **Enter**.

Step 4 To sort the privileges, click any header.

Step 5 To delete a privilege, do the following:

a) Select the privilege to delete.

b) Click **Delete**.

Tip You cannot delete the pfsread, pfsreadwrite, or the superuser privileges. However, privileges that are linked to a group can be deleted without prior warning and this will result in the group not having any privileges.

Overview of Privileges

Cisco Unified SIP Proxy provides three predefined privileges that you can assign to groups. You can also create your own privileges and modify the predefined privileges.

When you assign a privilege to a group, any member of the group is granted the privilege rights. An administrator group is created automatically by the software initialization process from the imported subscribers designated as administrators.

When you create or modify privileges, you add or delete the operations allowed by that privilege. Operations define the CLI commands and GUI functions that are allowed. Most operations include only one CLI command and GUI function. In addition to adding operations to a privilege, you can also configure a privilege to have another privilege nested inside of it. A privilege configured with a nested privilege includes all operations configured for the nested privilege.

List of Operations, on page 116 describes all available operations that you can add to privileges.

Note You cannot modify the superuser privilege. The superuser privilege includes all the operations.

To configure privileges, see Creating a Privilege, on page 118.

Related Topics

Viewing Privileges, on page 115

List of Operations

Table 28: List of Operations

Operation	Description
cusp.configuration	Configure cusp read and write access.
cusp.readonlyconfiguration	Configure cusp readonly access.
group.configuration	Create, modify, and delete groups.
security.aaa	Configure and modify AAA service settings.
security.access	Configure system level security regarding encryption of data, including defining crypto keys. **Note** Also includes permission to reload the system.
security.password	Configure settings for the system password and policy, such as: • Expiry • Lockout (temporary and permanent) • History • Length

Operation	Description
security.pin	Configure settings for the system PIN and policy, such as: • Expiry • Lockout (temporary and permanent) • History • Length
services.configuration	Configure system services: DNS, NTP/clock, SMTP, SNMP, Fax Gateway, Cisco UMG, hostname, domain, interfaces (counters), and system default language. **Note** Also includes permission to reload the system.
services.manage	System level services commands not related to configuration like clearing DNS cache and ping.
software.install	Install, upgrade, or inspect system software or add-ons such as languages and licenses. **Note** Also includes permission to reload the system.
system.backup	Configure backup.
system.configuration	Configure system settings such as the clock, hostname, domain name, default language, and interfaces (counters).
system.debug	Collect and configure trace and debug data. Includes copying data like core and log files.
system.view	View system settings and configuration.
user.configuration	Create, modify, and delete users and groups, including the configuration of: • First and Last Name • Nickname • Display Name • Language
user.password	Create, set, or remove others passwords.
user.pin	Create, set, or remove others PINs.

Related Topics

Configuring Privileges, on page 115

Creating a Privilege

Procedure

Step 1 Choose **Configure** > **Privileges**.

The system displays the Configure Privileges page.

Step 2 Click **Add**.

Step 3 Enter a name and description for the privilege.

Step 4 Check the operations to add to the privilege. See List of Operations, on page 116.

Step 5 Click **Add**.

Editing a Privilege

Before you begin

- You cannot modify the pfsread, pfsreadwrite, or the superuser privilege.
- Some operations are mandatory and cannot be removed.
- Create a privilege. See Creating a Privilege, on page 118.

Procedure

Step 1 Choose **Configure** > **Privileges**.

The system displays the Configure Privileges page.

Step 2 Click the underlined name of the privilege to customize.

Step 3 Select the operations to add to the privilege or deselect the operations to remove.

Step 4 Click **Apply**.

Step 5 Click **OK** to save your changes.

CHAPTER 20

Configuring Authentication, Authorization, and Accounting

Configuring the AAA Authentication Server

The two procedures for configuring AAA authentication consist of:

- Configuring connection parameters for the AAA authentication server
- Configuring whether the authentication servers or local authentication database will be queried first

Note To help protect the cryptographic information of the RADIUS server, you must view the running configuration to see this information.

About the Authentication Order

The AAA policy specifies the failover functionality that you can optionally configure for the authentication server. You can use these two types of failover functionality separately or in combination:

- Authentication failover
- Unreachable failover

About Authentication Failover

The authentication failover feature enables you to optionally use a remote RADIUS server for user login authentication, in addition to the local database. The procedure in this section configures the order in which authentication is resolved. You can configure authentication to use:

- The local database only
- The remote server only
- The local database first, then the remote server
- The remote server first, then the local database

When using both local and remote authentication, you can also configure whether you want the user attributes that are retrieved from a remote RADIUS AAA server to be merged with the attributes found in the local user database for the same username.

Note When using AAA authentication, a user configured only on the remote radius server (and not on the local Cisco Unified SIP Proxy user database) will have low privilege levels and limited GUI access upon logging into Cisco Unified SIP Proxy. To enable higher privilege levels for this user, configure a local user with the same username as that on the Radius server, and assign the appropriate authorization levels. For detailed information, see the Application Note on AAA based authentication.

The authentication failover feature has the following limitations:

- Authentication with a RADIUS server is available only when accessing the GUI or CLI interface and requires only a user ID and password.
- Login information is not synchronized between the local system and the remote server. Therefore:
    - Any security features such, as password expiration, must be configured separately for Cisco Unified SIP Proxy and the RADIUS server.
    - Cisco Unified SIP Proxy users are not prompted when security events, such as password expiration or account lockout, occur on the RADIUS server.
    - RADIUS server users are not prompted when security events, such as password expiration or account lockout, occur on Cisco Unified SIP Proxy.

About Unreachable Failover

The Unreachable Failover feature is used only with RADIUS servers. This feature enables you to configure up to two addresses that can be used to access RADIUS servers.

As Cisco Unified SIP Proxy attempts to authenticate a user with the RADIUS servers, the system sends messages to users to notify them when a RADIUS server either cannot be reached or fails to authenticate the user.

Example of Authentication Sequence

In this example, authentication is performed by the remote server first, then by the local database. Also, two addresses are configured for the remote RADIUS server.

This sequence of events could occur during authentication for this example:

1. Cisco Unified SIP Proxy tries to contact the first remote RADIUS server.
2. If the first RADIUS server does not respond or does not accept the authentication credentials of the user, Cisco Unified SIP Proxy tries to contact the second remote RADIUS server.
3. If the second RADIUS server does not respond or does not accept the authentication credentials of the user, the user receives the appropriate error message and Cisco Unified SIP Proxy tries to contact the local database.
4. If the local database does not accept the authentication credentials of the user, the user receives an error message.

Configuring Connection Parameters for the AAA Authentication Server

Procedure

Step 1 Choose **Configure** > **AAA** > **Authentication**.

The system displays the AAA Authentication Server Configuration page.

Step 2 Enter the following information in the appropriate fields for the primary server, and optionally, for the secondary server:

- Server IP address or DNS name
- Port number used
- Cryptographic shared secret and security credentials
- Authentication order
- Number of login retries
- Length of login timeout
- Hostname
- Port
- Password

Step 3 Click **Apply**.

Step 4 Click **OK** to save your changes.

Specifying the Policy that Controls the Behavior of Authentication and Authorization

Use this procedure to configure the information used to log into the authentication server.

Procedure

Step 1 Choose **Configure** > **AAA** > **Authorization**.

The system displays the Configure AAA Authorization Server Configuration window page.

Step 2 Select or deselect whether you want to merge the attributes of the remote AAA server with the attributes in the local database.

Step 3 Click **Apply**.

Step 4 Click **OK** to save your changes.

Configure AAA Accounting Server

You can configure up to two AAA accounting servers. Automatic failover functionality is provided if you have two accounting servers configured. If the first server is unreachable, the accounting information is sent to the second server. If both accounting servers are unreachable, accounting records are cached until a server becomes available. If a server cannot be reached before the cache is full, the oldest accounting packets are dropped to make room for the new packets.

Because the configuration of the AAA accounting server is completely independent of the AAA authentication server, you can configure the AAA accounting server to be on the same or different machine from the AAA authentication server.

If you use a syslog server, it is not affected by the AAA configuration and continues to use the existing user interfaces. When the RADIUS server sends AAA accounting information to a syslog server, it is normalized into a single string before being recorded. If no syslog server is defined, the AAA accounting logs are recorded by the syslog server running locally on Cisco Unified SIP Proxy.

Note Only RADIUS servers are supported.

AAA Accounting Event Logging

AAA accounting logs contain information that enables you to easily:

- Audit configuration changes.
- Maintain security.
- Accurately allocate resources.

- Determine who should be billed for the use of resources.

You can configure AAA accounting to log the following types of events:

- Logins—All forms of system access, including access to the CLI and GUI, when a login is required.
- Logouts—All forms of system access, including access to the CLI and GUI, when a login is required before logout.
- Failed logins—Failed login attempts for all forms of system access, including access to the CLI and GUI, when a login is required.
- Configuration mode commands—Any changes made to the Cisco Unified SIP Proxy configuration using any interface such as CLI and GUI.
- EXEC mode commands—Any commands entered in Cisco Unified SIP Proxy EXEC mode using any interface such as CLI and GUI.
- System startups—System startups, which include information about the system's software version, installed licenses, installed packages, installed languages, and so on.
- System shutdowns—System shutdowns, which include information about the system's software version, installed licenses, installed packages, installed languages, and so on.

Log Name	Description
login	All forms of system access when a login is required.
logout	All forms of system access when a login is required before logout.
login-fail	Failed login attempts for all forms of system access when a login is required.
config-commands	Any changes made to the system configuration using any interface.
exec-commands	Any commands entered in EXEC mode using any interface.
system-startup	System startups, which include information about the system's software version, installed licenses, installed packages, installed languages, and so on.
system-shutdown	System shutdowns, which include information about the system's software version, installed licenses, installed packages, installed languages, and so on.

In addition to information specific to the type of action performed, the accounting logs also indicate the following:

- User that authored the action
- Time when the action was executed
- Time when the accounting record was sent to the server

Note Account logging is not performed during the system power-up playback of the startup configuration. When the system boots up, the startup-config commands are not recorded.

Configuring the AAA Accounting Server

Use this procedure to configure the information used to log into the accounting server.

Procedure

Step 1 Choose **Configure** > **AAA** > **Accounting**.

The AAA Accounting Server Configuration window appears.

Step 2 Click **Accounting Enabled**.

Step 3 Enter the following information in the appropriate field for the primary server, and optionally, for the secondary server:

- Server IP address or DNS name
- Port number used
- Cryptographic shared secret and security credentials
- Number of login retries
- Length of login timeout

Step 4 Click **Apply**.

Step 5 Click **OK** to save your changes.

Configuring Accounting Event Logging

Use this procedure to configure which event types to log for AAA accounting.

Procedure

Step 1 Choose **Configure** > **AAA** > **Accounting**.

The system displays the Accounting Server Configuration window.

Step 2 Select the log events that you want to include in the log and deselect those you do not want to include.

Step 3 Click **Apply** to save your changes.

Configuring the AAA Accounting Server and Event Logging

Use this procedure to configure the information used to log into the accounting server.

Procedure

Step 1 Choose **Configure** > **AAA** > **Accounting**.

The system displays the Configure AAA Accounting page.

Step 2 Enter the following information in the appropriate fields:

- If accounting is enabled
- Number of login retries
- Length of login timeout, in seconds
- Server IP address or DNS name for the primary server
- Port number used for the primary server
- Password for the primary server
- Server IP address or DNS name for the secondary server
- Port number used for the secondary server
- Password for the secondary server

Step 3 Select the log events to include in the log and deselect those to not include.

Step 4 Click **Apply**.

Step 5 Click **OK** to save your changes.

CHAPTER 21

Viewing System Information

System Information

The system displays the System Information page with the following information:

Parameter	Description
Module SKU	Unique ordering identifier for a Cisco Unified SIP Proxy.
Module Serial Number	Serial number of the Cisco Unified SIP Proxy.
Chassis Type	Not applicable
Chassis Serial Number	Not applicable
Software Version	Version of Cisco Unified SIP Proxy software that is running on this system.
Uptime	Amount of time that the Cisco Unified SIP Proxy has been running.

CHAPTER 22

Configuring Domain Name Settings

Changing a DNS Server

Use this procedure to change the DNS servers if their names or IP addresses have changed.

Before you begin

Gather the following information:

- The hostname of the Cisco Unified SIP Proxy system.
- The domain name and IP address of the DNS server.

Procedure

Step 1 Choose **System** > **Domain Name Settings**.

The system displays the Domain Name Settings page.

Step 2 Change hostname or domain name of the server that stores the application files.

Step 3 Click **Apply**.

What to do next

Save the configuration. See Managing the System Configuration, on page 161.

Reload the configuration. See Using the Administration Control Panel, on page 159.

Related Topics

Using the Administration Control Panel, on page 159
Managing the System Configuration, on page 161

Adding a DNS Server

Enter additional DNS servers as alternate server destinations, to be used if the system cannot access the primary domain name server.

Restriction You can have a maximum of four DNS servers.

Procedure

Step 1 Choose **System** > **Domain Name Settings**.

The system displays the Domain Name Settings page.

Step 2 Click **Add** under Domain Name Service (DNS) Servers.

The system displays the Add a DNS server page.

Step 3 Enter the IP address of the server.

Step 4 Click **Add**.

What to do next

Save the configuration. See Managing the System Configuration, on page 161.

Reload the configuration. See Using the Administration Control Panel, on page 159.

Related Topics

Using the Administration Control Panel, on page 159

Managing the System Configuration, on page 161

Removing a DNS Server

Use this procedure to delete a DNS server:

Procedure

Step 1 Choose **System** > **Domain Name Settings**.

The system displays the Domain Name Settings page.

Step 2 Check the check box next to the DNS server to delete.

Step 3 Click **Delete**.

Step 4 At the prompt, click **OK**.

What to do next

Save the configuration. See Managing the System Configuration, on page 161.

Reload the configuration. See Using the Administration Control Panel, on page 159.

Related Topics

Using the Administration Control Panel, on page 159
Managing the System Configuration, on page 161

CHAPTER 23

Configuring Network Time and Time Zone Settings

Adding NTP Server and Configuring Time Zone

You must add an NTP server to your Cisco Unified SIP Proxy system and configure the time zone to ensure that system processes have the correct date and time associated with them.

Adding an NTP Server

Restriction You can have a maximum of three NTP servers.

Procedure

Step 1 Choose **System** > **Network Time & Time Zone Settings**.

The system displays the Network Time & Time Zone Settings page.

Step 2 Click **Add**.

The system displays the Add a NTP Server page.

Step 3 Enter the hostname or IP address of the NTP server. To make it the primary NTP server, check the **Preferred** check box.

Step 4 Click **Add**.

The system displays the Network Time and Time Zone Settings page with the new server listed in the table.

What to do next

Save the configuration. See Managing the System Configuration, on page 161.

Reload the configuration. See Using the Administration Control Panel, on page 159.

Related Topics

Using the Administration Control Panel, on page 159
Managing the System Configuration, on page 161

Removing an NTP Server

Procedure

Step 1 Choose **System** > **Network Time & Time Zone Settings**.

The system displays the Network Time & Time Zone Settings page.

Step 2 Check the check box next to the NTP server to remove.

Step 3 Click **Delete**.

Step 4 Click **OK** at the prompt.

What to do next

Save the configuration. See Managing the System Configuration, on page 161.

Reload the configuration. See Using the Administration Control Panel, on page 159.

Related Topics

Using the Administration Control Panel, on page 159
Managing the System Configuration, on page 161

Setting an NTP Server as the Preferred Server

Restriction You must have at least two NTP servers.

Procedure

Step 1 Choose **System** > **Network Time & Time Zone Settings**.

The system displays the Network Time & Time Zone Settings page.

Step 2 Check the check box next to the NTP server to set as the preferred server.

Step 3 Click **Preferred**.

Step 4 Click **OK**.

What to do next

Save the configuration. See Managing the System Configuration, on page 161.

Reload the configuration. See Using the Administration Control Panel, on page 159.

Related Topics

Using the Administration Control Panel, on page 159
Managing the System Configuration, on page 161

Changing the Time Zone

Procedure

Step 1 Choose **System** > **Network Time & Time Zone Settings**.

The system displays the Network Time & Time Zone Settings page.

Step 2 Use the drop-down menu to select the correct country.

Step 3 Use the drop-down menu to select the correct time zone.

Step 4 Click **Apply**.

Step 5 Click **OK** at the information prompt.

What to do next

Save the configuration. See Managing the System Configuration, on page 161.

Reload the configuration. See Using the Administration Control Panel, on page 159.

Related Topics

Using the Administration Control Panel, on page 159
Managing the System Configuration, on page 161

CHAPTER 24

Configuring SNMP Settings

About SNMP

Cisco Unified SIP Proxy supports SNMP MIBs and traps for monitoring its status. Cisco Unified SIP Proxy supports the following SNMP MIBs and traps:

- CISCO-USP-MIB
- CISCO-PROCESS-MIB

Adding, Editing, and Deleting an SNMP Community String

Use this procedure to add or edit an SNMP community. Communities can either be read-only or read-write only.

Restriction You can only define up to five read-only community strings and up to five read-write community strings.

Procedure

Step 1 Choose **System** > **SNMP** > **Communities**.

The system displays the SNMP Communities page.

Step 2 To add an SNMP community string, do the following:

a) In an empty space, enter the SNMP community string.

If there are no empty spaces, you must first delete another SNMP community string before you can add a new one. You can only define up to five read-only community strings and up to five read-write community strings.

b) Click **Update**.

Step 3 To edit an existing SNMP community string, do the following:

a) Go to the SNMP community string to edit and edit the name.
b) Click **Update**.

Step 4 To remove an SNMP community string, do the following:

a) Go to the SNMP community string to delete and highlight the name.
b) Click **Delete** on your keyboard.
c) Click **Update**.

Related Topics

About SNMP, on page 137

Adding, Editing, and Removing an SNMP Trap Host

Configure an SNMP trap host to be notified of SNMP events. The system is configured to send all SNMP traps as they occur.

Restriction

- The hostname that you enter must be found in the DNS.
- You cannot edit the hostname after it has been entered and saved.

Before you begin

Gather the following information:

- The hostname of the SNMP trap host
- The community string of the SNMP trap host

Procedure

Step 1 Choose **System** > **SNMP** > **Hosts**.

The system displays the SNMP Trap Hosts page.

Step 2 To add an SNMP trap host, do the following:

a) Click **Add**.

The system displays the SNMP Host Profile page.

b) Enter the hostname and the community string for the SNMP trap.
c) Click **Update**.

Step 3 To edit an existing SNMP trap host, do the following:

a) Click the underlined hostname of the SNMP trap host to edit.

The system displays the SNMP Host Profile page.

b) Edit the community string for the SNMP trap.

c) Click **Update**.

Step 4 To remove an SNMP trap host, do the following:

a) Check the check box next to the SNMP trap host.

b) Click **Remove**.

Related Topics

Enabling SNMP Traps, on page 139

Enabling SNMP Traps

Procedure

Step 1 Choose **System** > **SNMP** > **Traps**.

The system displays the SNMP Trap page.

Step 2 Select if you want to enable or disable SNMP traps.

Check **Select All** to select all traps available.

Step 3 Click **Update**.

Displaying MIBs

Use this procedure to display a list of the MIBs for Cisco Unified SIP Proxy.

Procedure

Step 1 Choose **System** > **SNMP** > **MIBs**.

The system displays the SNMP MIBs page.

Step 2 To enable the traps for all the SNMP MIBs, check **Enable SNMP Traps** and click **Update**.

Editing the SNMPv2-MIB

Restriction The only MIB that you can edit is the SNMPv2-MIB.

Procedure

Step 1 Choose **System** > **SNMP** > **MIBs**.

The system displays the SNMP MIBs page.

Step 2 Click the underlined name of the SNMPv2-MIB.

The system displays the SNMPv2-MIB page.

Step 3 Enter or update the contact or location for the SNMPv2-MIB.

Step 4 Click **Update**.

CHAPTER 25

Configuring System Login Banner

Use this procedure to change the text on the login banner that users see when they log in to the CLI.

Procedure

Step 1 Choose **System** > **Login Banner**.

The system displays the Login Banner page.

Step 2 Enter the text for the login banner.

Step 3 Click **Apply** to save your settings.

CHAPTER 26

Monitoring the Cisco Unified SIP Proxy System

Number of Calls Per Second

The number of calls per second (CPS) that the system processes is one way to determine the capacity of the system. Capacity is a measurement of the volume of traffic that a network is engineered to handle. Voice networks are typically engineered to handle a target peak-load capacity, commonly measured in CPS.

You need to monitor the number of CPS for licensing purposes. In the releases before vCUSP 9.1.5, if you exceed the number of CPS, and thus the number of licenses, the system rejects calls. In vCUSP 9.1.5 and later releases, the calls continue to connect. You can also monitor the CPS to determine traffic patterns.

The system provides two graphs that display the number of CPS including the following:

- Number of incoming CPS for the last hour
- Number of incoming CPS for the last 72 hours

Monitoring the Number of Calls Per Second

Procedure

Step 1 Choose **Monitor** > **Calls-Per-Second**.

The system displays a page that contains two sets of two graphs each. One set shows the number of incoming CPS for the last hour and the other set shows the number of incoming CPS for the last 72 hours.

Tip If you cannot see both sets of graphs, scroll down.

Step 2 On the top right of the Calls-per-Second (last 60 minutes) set of data, click **Series Selector** and check which data you want to see:

- 5-minute CPS
- Incoming CPS
- License Limit CPS

Step 3 After you have made your choices, click **Series Selector** again to see the data.

The system displays the data that you requested in two graphs. The top graph shows the CPS on the vertical scale and the last hour across the horizontal scale.

The bottom graph shows the actual number of calls on the vertical scale and the last hour across the horizontal scale.

Step 4 On the top right of the Calls-per-Second (last 72 hours) set of data, click **Series Selector** and check which data you want to see:

- Incoming Peak
- Incoming Average
- 5-Minute Peak
- 5-Minute Average
- License Limit CPS

Step 5 After you have made your choices, click **Series Selector** again to see the data.

The system displays the data that you requested in two graphs. The top graph shows the CPS on the vertical scale and the last 72 hours across the horizontal scale.

The bottom graph shows the actual number of calls on the vertical scale and the last 72 hours across the horizontal scale.

Step 6 To see more information about any point in time on any of the four graphs, hover over any line of data. The system displays one ore more popup boxes with information. The information displayed depends on which data have you checked from the Series Selector menus.

For example, if you hover over the any point on the green “routed” line on the bottom graph, you will see a box that says the exact date and time that you are hovering over, followed by the number of routed calls and the number of rejected calls at that second.

Monitoring the Call Statistics

Restriction The system only displays the Active Calls data if call admission control is enabled.

Procedure

Step 1 Choose **Monitor** > **Calls Statistics**.

The system displays the Call Statistics page with two sections:

- The Total Calls section lists the total number of calls into the server and the number of failed calls.
- The Active Calls section lists the number of active calls and the number of calls that timed out.

Step 2 To reset the number of call to zeros, check either Total Calls or Active Calls (or both) and click **Reset**.

Related Topics

Configuring Call Admission Control, on page 97

Monitoring the Server Group Status

Monitor the status of the server groups and elements to ensure that they do not stop working.

Tip If a server group or element goes down, check that SIP pinging is set up so that the proxy will know when the server group or element comes back up.

Procedure

Step 1 Choose **Monitor** > **Server Group Status**. See Server Group Status Page, on page 146.

Step 2 To expand the lists, click **Expand All**. To condense the lists, click **Collapse All**.

Step 3 To see statistics about a particular endpoint, click the underlined value under either Active Calls/Allowed Limit or Total Calls/Failures (% success). The system displays the Call Statistics page for that endpoint with the following information:

- IP address
- Port
- Transport type
- Network
- Number of total calls
- Number of failed calls
- Success percentage
- Number of active calls (only if call admission control is enabled)

You can reset some of these values by checking the check box and clicking **Reset**.

Server Group Status Page

The Server Group Status page that lists the following information:

Table 29: Status Page Information

Field	Description
Server Group/Element	Displays the name of the SIP server group.
Status	Displays the operational status of the SIP server group.
Q-Value	Displays a real number that indicates the priority of the server group element with respect to others in the server group. The Q-value provides the priority of each member (element) which varies from 0.0 to 1.0, where 1.0 is the highest priority. **Note** These values will be blank if there are multiple elements for the server group and the display is not expanded to show all elements.
Weight	Displays the percentage assigned to the request-URI or route-URI element in the route group if implementing weight-based routing. **Note** These values will be blank if there are multiple elements for the server group and the display is not expanded to show all elements.
Active Calls/Allowed Limit	Displays the following: • number of active sessions • allowed limit **Note** Only displays a value if the following criteria are met: • call admission control is enabled; otherwise, it displays “N/A” • row contains an actual endpoint (as opposed to a top-level or nested server group; otherwise, the area is blank

Field	Description
Total Calls/Failures (success %)	Displays the following: • total number of sessions handled • total number of failed sessions • success rate

Note The system does not refresh the information on this page. If you want to see updated values, refresh your browser.

Monitoring the System Resources: CPU

The following graphs display the percentage of CPU resources that your system uses. Use this information to help diagnose and prevent system problems. In general, the CPU should not use more than 80 percent of your system resources.

Tip If your system is using too much CPU, you can turn down or turn off the trace log (see Configuring Trace Settings, on page 171), or you can go into the CLI to turn down or turn off the SIP message log or the peg count log.

Before you begin

Your system must have Adobe Flash Player Release 9 or later installed to see the graphs.

Procedure

Choose **Monitor** > **System Resources** > **CPU**.

The system displays the System Resource Utilizations page that contains three graphs showing the following:

- CPU use by percentage per second for the past 60 seconds
- CPU use by percentage per minute for the past 60 minutes
- CPU use by percentage per hour for the past 72 hours

Tip If you cannot see all graphs, scroll down.

For each graph, the system displays the percentage of CPU use on the vertical scale and the time across the horizontal scale.

For the second and third graphs, the system also displays the average CPU use.

Related Topics

Troubleshooting, on page 169

Monitoring the System Resources: Memory

These graphs display the amount of memory that your system uses.

Before you begin

Your system must have Adobe Flash Player Release 9 or later installed to see the graphs.

Procedure

Choose **Monitor** > **System Resources** > **Memory**.

The system displays the System Memory Utilizations page that contains three graphs showing the following:

- Memory utilization for the past 60 seconds
- Memory utilization for the past 60 minutes
- Memory utilization for the past 72 hours

Tip If you cannot see all graphs, scroll down.

For each graph, the system displays the amount of memory used, measure in kilobytes, on the vertical scale and the time across the horizontal scale.

CHAPTER 27

Viewing Reports

Viewing the Backup History Report

Procedure

Step 1 Choose **Reports** > **Backup History**.

If there is any backup history to report, the Backup History report contains the following fields:

- ID—ID of the backup.
- Server URL—The server on which the backup history is stored.
- Backup Time and Date—Date and time when the system was last backed up.
- Version—The version of the Cisco Unified SIP Proxy software that is installed.
- Description—A description of the backup.
- Result—Status of the last backup procedure. Result shows Success or Fail.

Step 2 To see a different number of backup reports on each page, on the top right, choose another number from the drop-down box and click **Go**. You can choose to see 10, 25, 50, 100, or all backup reports.

Step 3 To move to another page, use the left and right arrow buttons on the bottom right, or enter another page number and press **Enter**.

Step 4 To sort backup reports, click any of the headers.

Viewing the Restore History Report

Procedure

Step 1 Choose **Reports** > **Restore History**.

If there is any restore history to report, the Restore History report contains the following fields:

- ID—ID of the restore.
- Server URL—The server on which the restore history is stored.
- Restore Time and Date—Date and time when the system was last backed up.
- Version—The version of the Cisco Unified SIP Proxy software that is installed.
- Result—Status of the last restore procedure. Result shows Success or Fail for the components that were restored.
- Use the dialog box to change the number of rows displayed per window.

Step 2 To see a different number of restore history reports on each page, on the top right, choose another number from the drop-down box and click **Go**. You can choose to see 10, 25, 50, 100, or all restore history reports.

Step 3 To move to another page, use the left and right arrow buttons on the bottom right, or enter another page number and press **Enter**.

Step 4 To sort restore history reports, click any of the headers.

Viewing the Network Time Protocol Report

Procedure

Choose **Reports** > **Network Time Protocol**.

The report contains the following fields:

- #—The prioritized number of the NTP server. The system attempts to synchronize its time starting with NTP server number one.
- NTP Server—IP address or hostname of the NTP server.
- Status—Indicates if the NTP server connected with the Cisco Unified SIP Proxy or if it was rejected.
- Time Difference (secs)—Time offset between the NTP server and the client.

- Time Jitter (secs)—Estimated time error of the system clock, measured as an exponential average of RMS time differences.

CHAPTER 28

Configuring Backup and Restore

Configuring the Backup Server

Before you begin the backup process, set the backup configuration parameters. See Backup Configuration Parameters, on page 153.

Procedure

Step 1 Choose **Administration** > **Backup / Restore** > **Configuration**.

The system displays the Backup / Restore Configuration page.

Step 2 Enter the information shown in the following fields. See Backup Configuration Parameters, on page 153.

Step 3 Click **Apply** to save the information.

Backup Configuration Parameters

Gather the following values before you begin the backup process.

Table 30: Backup Configuration Parameters

Parameter	Description
Server URL	The URL of the server on the network where backup files are stored. The format should be ftp://<*server/directory*>/ where <*server/directory*> is the IP address or hostname of the backup server.

Parameter	Description
User ID	The user ID on the backup server. You must have an account on the server to which you are backing up your data. Do not use an anonymous user ID.
Password	The password for the user ID on the backup server.
Maximum revisions	The maximum number of revisions of the backup data to keep on the backup server. The maximum number is 50. The default value is 5.

Note Backing up and restoring data takes your Cisco Unified SIP Proxy to offline mode.

Viewing Scheduled Backups

Procedure

Step 1 Choose **Administration** > **Backup / Restore** > **Scheduled Backups**.

The system displays the Backup / Restore Scheduled Backups page with the following information:

- Name
- Description
- Schedule
- Next Run
- Categories of backup or type of data to save

Step 2 To see a different number of scheduled backups on each page, on the top right, choose another number from the drop-down box and click **Go**. You can choose to see 10, 25, 50, 100, or all scheduled backups.

Step 3 To move to another page, use the left and right arrow buttons on the bottom right, or enter another page number and press **Enter**.

Step 4 To sort scheduled backups, click any of the headers.

Adding a Scheduled Backup

You can configure scheduled backups to occur once or recurring jobs that repeat:

- Every N days at a specific time

- Every N weeks on specific day and time
- Every N months on a specific day of the month and time
- Every N years on specific day and time

Before you begin

- Configure the server used to back up the data. See Configuring the Backup Server, on page 153.
- Save your system configuration. See Managing the System Configuration, on page 161.

Procedure

Step 1 Choose **Administration** > **Backup / Restore** > **Scheduled Backups**.

The system displays the Backup / Restore Scheduled Backup page.

Step 2 Click **Schedule Backup**.

The system displays the Backup / Restore Scheduled Backups page.

Step 3 Enter a name and description for the scheduled backup.

Step 4 Check the check box for the type of data to save. You can choose one or both:

- Configuration—Saves the configurations of the system and applications.
- Data—Saves the routes and application data.

Step 5 From the Schedule tab, select the frequency of the scheduled backup:

- Once
- Daily
- Weekly
- Monthly
- Yearly

Step 6 Select whether the scheduled backup will start:

- Once
- On a specific date and time

Step 7 Click **Add**.

Manually Starting a Backup

Before you begin

- Configure the server used to back up the data. See Configuring the Backup Server, on page 153.
- Save your configuration. See Managing the System Configuration, on page 161.

Procedure

Step 1 Click **Administration** > **Backup / Restore** > **Start Backup**.

The system displays the Backup / Restore Start Backup page and automatically generates a backup ID. The backup ID increases by one every time you back up the server.

Step 2 Enter a description of the backup file; for example, “backupdata6-2-04.”

Step 3 Check the check box for the types of data to save. You can choose one or both:

- Configuration—Saves the configurations of the system and applications.
- Data—Saves the routes and application data.

Step 4 Click **Start Backup**.

Step 5 Click **OK** at the confirmation message.

Starting a Restore

After you have backed up your configuration data, you can restore it for every new installation or upgrade.

Before you begin

Configure a backup server. See Configuring the Backup Server, on page 153.

Procedure

	Command or Action	Purpose
Step 1	Choose **Administration** > **Backup / Restore** > **Start Restore**.	The system displays the Backup / Restore Start Restore page with the following fields: • Backup ID —The backup ID of previous backups. • Version—Version • Description—Name of this backup.

	Command or Action	Purpose
		• Backup Time and Date—Date and time when this backup was made. • Categories—The type of data to restore.
Step 2	Select the row containing the configuration to restore.	
Step 3	Check the check box for the type of data to save. You can choose one or both:	• Configuration—Saves the configurations of the system and applications. • Data—Saves the routes and application data.

CHAPTER 29

Using the Administration Control Panel

Reloading Cisco Unified SIP Proxy

Restriction Reloading CUSP terminates all user sessions and lose all unsaved data.

Procedure

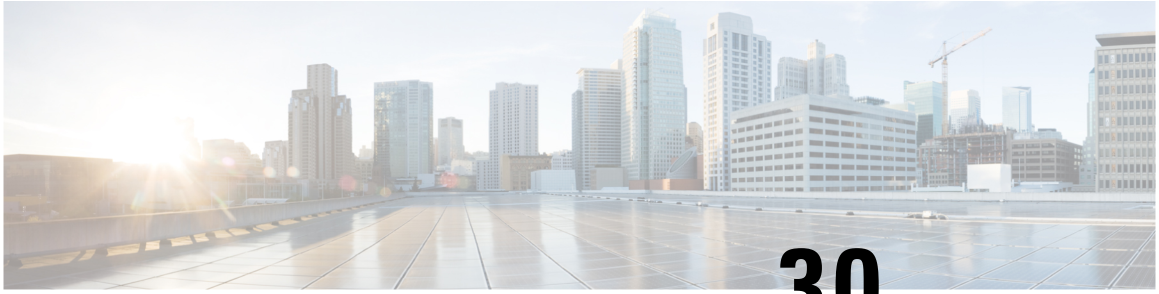
Step 1 Choose **Administration** > **Control Panel**.

The system displays the Control Panel page.

Step 2 To reload CUSP, click **Reload Module.**

The system displays a dialog box warning you that reloading the system will lose any unsaved configuration data will be lost.

Step 3 Click **OK** at the prompt.



CHAPTER 30

Managing the System Configuration

Restoring System Defaults

Procedure

Step 1 Choose **Administration** > **Manage Configuration** > **Restore Defaults / Rollback**.

The system displays the Manage Configuration page.

Step 2 To save or commit the configuration, which makes this configuration the new starting configuration, do the following:

a) Click **Save/Commit Configuration**.

b) At the confirmation window, click **OK**.

Step 3 To restore the configuration to how it was when it was delivered from the factory, which means that you will lose all changes you have made and will reload the CUSP system, do the following:

a) Click **Restore Factory Defaults**.

b) At the confirmation window, click **OK**.

Step 4 To roll back the system to the most recent configuration, which replaces the current configuration and reloads the CUSP system, do the following:

a) Click **Rollback Active Configuration**.

b) At the confirmation window, click **OK**.

Viewing the Configuration Results

After you save and commit the configuration, the system displays this web page that presents the result (either success or failure) of the save operation.

Previewing the Candidate Configuration

The system displays the code for the candidate configuration.

Note If there have not been any changes, the system displays the following message:

```
The candidate configuration contains no changes.
```

Procedure

Step 1 Choose **Administration** > **Manage Configuration** > **Candidate Preview**.

The system displays the Candidate Configuration Preview page.

Step 2 To save or commit the configuration, which makes this configuration the new starting configuration, do the following:

a) Click **Save/Commit Configuration**.
b) At the confirmation window, click **OK**.

Step 3 To clear the system of the candidate configuration, which discards all uncommitted changes, do the following:

a) Click **Clear Candidate Configuration**.
b) At the confirmation window, click **OK**.

CHAPTER 31

About Smart Licensing

Cisco Unified SIP Proxy supports smart licensing. In smart licensing, the purchased licenses are not tied to the hardware and Product Activation Key (PAK). Licenses can be configured by communication to the Smart Manager.

The smart licenses can be configured using the following procedures:

- Configuring Smart License, on page 163
- Viewing the Smart License Summary, on page 164

Configuring Smart License

Procedure

Step 1 Launch Cisco Unified SIP Proxy GUI and choose **Administration** > **Smart License** > **Configuration**. The Smart Agent License page appears.

Step 2 Click **Enable** radio button to configure smart licensing.

Step 3 Enter the details in the fields. See Smart Agent License Fields, on page 163 for field descriptions.

Step 4 Check the **Enable Http(s)** check box.

Step 5 Enter the proxy server address and port number in **Http(s) Proxy Address** field and **Port** fields.

Step 6 Click **Update**.

Smart Agent License Fields

Table 31: Smart Agent License Fields

Parameter	Description
Smart Agent Config	

Parameter	Description
License Count (multiple of 5)	Activates the requested number of licenses. The count should be multiple of 5. The count should be less than or equal to the maximum call rate that the Cisco Unified SIP Proxy can handle.
License Server url	Enter the Smart Manager server URL that connects to the central licensing server. Use the following URL for registering to cloud CSSM: https://tools.cisco.com/its/service/oddce/services/DDCEService. Use an appropriate URL for registering to an on-prem license server.
License Token ID	Specifies the token ID. It can be generated by the license server for the account that the Cisco Unified SIP Proxy instance is registered to.
Transport Mode	Specifies the protocol used to communicate with Smart Software Manager. Call home is the recommended Cisco proprietary secure protocol. HTTP is another optional protocol for communicating with Smart Software Manager. **Note** Smart Software Manager can be the cloud-based server or an on-premises license server.
Enable Http(s) Proxy	Enables the HTTP(S) proxy mode. You can use a web proxy to provide CUSP with access to CSSM over the Internet.
Http(s) Proxy Address	Sets the HTTP(S) proxy server address for accessing CSSM over the Internet. You can either use an IP address or FQDN.

Viewing the Smart License Summary

The system displays the summary of the configured smart licenses.

Table 32: License Summary

Smart License Client State	Displays the state of the Smart Agent. The following is the list of states: • **Un-Configured**—Smart licensing is not enabled. • **Un-Identified**—Smart licensing is enabled but the Smart Agent has not contacted Cisco Smart Software Manager (CSSM) to register. • **Registered**—The Smart Agent has contacted Cisco Smart Software Manager (CSSM) and registered. • **Authorized**—The Smart Agent enters Authorized state after registration when it receives a in compliance status in response to an entitlement authorization request to the Cisco Smart Software Manager (CSSM). • **Out Of Compliance (OOC)**—The Smart Agent enters out of compliance state after registration when it receives an Out of Compliance (OOC) status in response to an Entitlement Authorization request to the Cisco licensing authority. • **Authorization Expired**—If the device cannot communicate with Cisco for an extended period of time, usually 90 days, the agent goes into the Authorization expired state.
Product Serial Number	It's really a randomly generated unique virtual machine ID.
Product ID	Unique identifier for the Cisco Unified SIP Proxy.
License UDI	Combination of product ID and serial number generated randomly for identifying the Cisco Unified SIP Proxy.
License Server Address	Displays the address of the Smart Manager server provided while configuring.
HTTP Proxy Address	The proxy server address used, if configured, to reach the licensing server.
Smart Agent Transport Mode	Displays the protocol used to communicate with Smart Manager.

Licensing State	Displays the licensing entitlement status of this instance. The following are the status: • **Eval**—The Cisco Unified SIP Proxy is in Un-Identified state and the evaluation period has not expired. • **InCompliance**—The license count requested to the server is within the purchased limits. • **OutOfcompliance**—The license count requested is more than what is available in Cisco Smart Software Manager. • **EvalExpried**—Evaluation period of 90 days has expired. Calls are not allowed in EvalExpired state. • **AuthorizationExpired**—Authorization period has expired. Calls are not allowed in AuthorizationExpired state.
Product License Version	Displays the license version that the product instance is requesting. This is the same as the major software version.
Registration Expiry Date	Displays the expiry date and time when the license service identification certificate expires. Once expires, the device reverts to Un-Identified mode.
Next Auth Date	Displays the date and time for next license renewal.
Evaluation Period(in hrs)	Displays the number of hours left for Cisco Unified SIP Proxy to run on evaluation mode. The counter starts at 2160 (90 days) and counts down while in Un-Identified (unregistered) mode. This counter cannot be reset.
CPS Count Requested	Displays the number of calls per second licenses requested for. One license is used for every 5 calls per second requested.
Registration Successful	Identifies if registration was a success or failure.
Authorization Successful	Identifies if authorization was a success or failure.
Licensing Agent Status	Identifies if the Smart Agent is enabled or disabled.
Evaluation Mode	Identifies if the product is on evaluation mode.
Latest Failure Reason	Provides the reason due to which the latest license registration failed.

CHAPTER 32

Manage Inactivity Timeout

You can increase the inactivity or idle timeout of your Cisco Unified SIP Proxy system to prevent logout of inactive sessions by setting the inactivity timer to an interval larger than the default interval duration.

Managing Inactivity Timeout

Procedure

Step 1 Choose **Administration** > **Manage Inactivity Timeout**.

The system displays the Manage Inactivity Timeout Configuration page.

Step 2 Enter the inactivity timeout for your Cisco Unified SIP Proxy system.

You can set the value from 10 minutes to 24 hours.

Step 3 Click **Set Inactivity Timeout** to save the information.

CHAPTER 33

Troubleshooting

Enabling Cisco Unified SIP Proxy Traces

Procedure

Step 1 Choose **Troubleshoot** > **Cisco Unified SIP Proxy** > **Traces**.

The system displays the Cisco Unified SIP Proxy Traces page.

Step 2 To capture the network traffic on Cisco Unified SIP Proxy interfaces, check the **Packet Capture** check box.

a) Click **Start** to start packet capture.

b) Click **Stop** to stop packet capture.

Each packet capture request is limited to 40 MB. When the buffer size of the packet goes beyond 40 MB, the packet captures are overwritten, that is, the packet capture will always provide information of the last packet capture done. This prevents disk space over utilization. You can capture two packets of 20 MB each. This log file is located at: `/opt/CUSP/dsnrs/log/packetcapture`. The Cisco Unified SIP Proxy administrator must download the latest packetcapture.zip file before starting the next packet capture request.

Step 3 To enable tracing on your system, check the **Enable Tracing** check box.

Step 4 Set the trace values for the following components (For details on the level to chose for each component, see Component Levels, on page 170):

- Base Tracing
- Routing
- Proxy-Core
- SIP-Wire-Log
- Normalization
- Proxy-Transactions
- SIP-Ping
- License-Mgmt
- Trigger-Conditions
- Accounting
- SIP-Search
- Config-Mgmt

Step 5 Click **Update** to save your changes.

Related Topics

Component Levels, on page 170

Component Levels

For each component, you can choose one of the following levels:

Component Levels

Level	Description
default	Uses the trace level of the parent.
debug	Logs messages of debug severity or higher.
info	Logs messages of info severity or higher.
warn	Logs messages of warning severity or higher.
error	Logs messages of error severity or higher.
fatal	Logs messages of fatal severity or higher.
off	Does not log messages.

Viewing the Cisco Unified SIP Proxy Log File

Procedure

Step 1 Choose **Troubleshoot** > **Cisco Unified SIP Proxy** > **Log File**.

The system displays the Cisco Unified SIP Proxy Trace Log File page and shows the contents of the trace log file.

Step 2 To move to another page, use the left and right arrow buttons, or enter another page number and press **Enter**.

Step 3 To save the trace log file information, do the following:

a) Click **Download Log File**.
b) Save the file to a convenient location.
c) Click **Close** when done.

Configuring Trace Settings

Use this procedure to enable traces, or debug message output, for components in the Cisco Unified SIP Proxy system. Components are entities and activities in the system. You can review the output by selecting **Troubleshoot > View > Trace Buffer**.

Restriction Enabling too many traces can adversely affect the system performance.

Procedure

Step 1 Choose **Troubleshoot** > **Traces**.

The system displays the Traces page, with a hierarchical listing of the system components.

Step 2 To enable a trace on a system component, check the check box next to the name of the component.

- To expand the list of components, click the + sign next to any upper-level component. To condense the list of components, click the - sign next to any upper-level component.
- Check the check box next to any upper-level component to enable the traces for all of the components under that component. Uncheck the check box next to any upper-level component to disable the traces for all of the components under that component.

Step 3 Click **Apply** to save your changes.

Step 4 Click **OK** in the confirmation window.

Related Topics

Viewing a Trace Buffer, on page 172

Viewing Tech Support Information

Procedure

Step 1 Choose **Troubleshoot** > **View** > **Tech Support**.

The system displays the Tech Support page and shows a collection of configuration data.

Step 2 To save the tech support information, click **Download Tech Support**.

Step 3 Save the file to a convenient location.

Step 4 Click **Close** when finished.

Viewing a Trace Buffer

Procedure

Step 1 Choose **Troubleshoot** > **View** > **Trace Buffer**.

The system displays the Trace Buffer page and shows the contents of the trace buffer.

Step 2 To move to another page, use the left and right arrow buttons, or enter another page number and press **Enter**.

Step 3 To save the trace buffer information, do the following:

a) Click **Download Trace Buffer**.
b) Save the file to a convenient location.
c) Click **Close** when done.

Step 4 To clear the trace buffer, do the following:

a) Click **Clear Trace Buffer**.
b) Click **OK** at the confirmation prompt.

Viewing a Log File

Procedure

Step 1 Choose **Troubleshoot** > **View** > **Log File**.

The system displays the Log File page and shows the contents of the log file.

Step 2 To move to another page, use the left and right arrow buttons, or enter another page number and press **Enter**.

Step 3 To save the log file, do the following:

a) Click **Download Log File**.
b) Save the file to a convenient location.
c) Click **Close** when done.

Enabling SIP Message Logging

Use the SIP message log to capture and troubleshoot SIP calls handled by Cisco Unified SIP Proxy. By default, the SIP message log is disabled. When the SIP message log is enabled, you can enter an optional expression to filter the messages that are stored.

Note If record-route is not configured for a network, the system does not display mid-dialog SIP messages in the SIP message log.

Caution Enabling the SIP message logging feature can have a significant performance impact on your system. We recommend that you limit the volume of calls processed by Cisco Unified SIP Proxy to less than 15 calls per second before you enable SIP message logging. We also recommend using the SIP message log filter whenever possible to limit the number of SIP messages that the system logs every second.

Procedure

Step 1 Choose **Troubleshoot** > **SIP Message Log** > **Controls**.

The system displays the SIP Message Logging page.

Step 2 Select if you want to enable or disable SIP message logging.

Step 3 (Optional) Enter a regular expression filter. This reduces the number of calls that are written to the SIP message log. An example of a regular expression filter is **999…1020**. If you enter this, the system will match any number beginning with 999 and ending with 1020. Only messages that match the regular expression will pass through the filter and be stored.

Step 4 Click **Update**.

Note In the event of a reload, the log control option in SIP message logging reverts to disabled state and the selected preferences are reset. The user needs to re-assign the preferences.

Searching SIP Message Calls

You can search the SIP message log for certain calls by entering search parameters. If you enter multiple search parameters, the system only returns values that match all the criteria. If you enter no parameters, the system returns all the calls.

There are many SIP messages within each call; if any individual SIP message matches the search criteria, the system displays that call in the search results.

Restriction The system returns a maximum of 500 calls. You can refine the results by entering more search parameters.

Procedure

Step 1 Choose **Troubleshoot** > **SIP Message Log** > **Search Calls**.

The system displays the SIP Message Log Search page.

Step 2 Enter data on which to search. See Data for Call Search, on page 174.

Step 3 Click **Search**.

The system refreshes the page and displays any calls that match the search criteria.

Step 4 To clear the SIP message log, click **Clear SIP Message Log**.

Step 5 To see more information about a call that the system returned, click it. The system displays the Call Log page with details about the call.

Data for Call Search

Data for Call Search

Field	Description
Called Party—The following parameters apply to the party initiating the call:	
Request-URI contains	Matches the supplied string against the SIP Request-URI field in each SIP message
Remote Party ID contains	Matches the supplied string against the SIP Remote Party-ID field in each SIP message
P-Asserted ID contains	Matches the supplied string against the SIP P-Asserted ID field in each SIP message
To header contains	Matches the supplied string against the SIP To Header field in each SIP message
Calling Party—The following parameters apply to the party receiving the call:	

Field	Description
From: header contains	Matches the supplied string against the SIP From Header field in each SIP message
Date and Time—The following parameters limit the search results to an inclusive window of time:	
Start Time	Calls before this time are excluded. **Note** If you enter a value in this field, it must include a time and not just a date. If you do not enter a time, the system returns nothing.
End Time	Calls after this time are excluded. **Note** If you enter a value in this field, it must include a time and not just a date. If you do not enter a time, the system returns nothing.

Viewing SIP Message Calls

The Call Log page displays the individual SIP messages that were processed by the Cisco Unified SIP Proxy during the dialog. It shows the time the message was handled and the direction relative to the Cisco Unified SIP Proxy.

Procedure

Step 1 Choose **Troubleshoot** > **SIP Message Log** > **Search Calls**.

The system displays the SIP Message Log Search page.

Step 2 Enter data on which to search. See Searching SIP Message Calls, on page 174.

Step 3 Click **Search**.

The system refreshes the page and displays any calls that match the search criteria.

Step 4 Click on any call.

The system displays the Call Log page with details about the call.

Related Topics

Searching SIP Message Calls, on page 174

Enabling the Failed Calls Log

Use the failed calls log to capture and troubleshoot calls that either fail during initial call setup or that do not terminate normally.

The failed calls log is disabled by default. After you enable it, the system automatically generates a log entry for call setup requests that result in a non-successful status. Similarly, calls that do not terminate properly, including calls exceeding the configured session timeout (when call admission control is enabled), will generate a failed calls log entry.

Note You enable the failed calls log independently from the SIP message log. If you want to review the SIP message details for a failed call, enable the SIP message log. See Enabling SIP Message Logging, on page 173.

Procedure

Step 1 Choose **Troubleshoot** > **Failed Calls Log** > **Controls**.

The system displays the Failed Call Logging page.

Step 2 Select **Enable** to enable the failed call log.

Step 3 If you want to include calls that failed due to license limitations, check **Log failed calls due to license limit**.

Step 4 Click **Update**.

Related Topics

Enabling SIP Message Logging, on page 173

Viewing the Failed Calls Log

Use the failed calls log to capture and troubleshoot calls that either fail during initial call setup or that do not terminate normally.

Procedure

Step 1 Choose **Troubleshoot** > **Failed Calls Log** > **Search Calls**.

The system displays the Failed Calls Log page and shows the contents of the log file.

Step 2 To move to another page, use the left and right arrow buttons, or enter another page number and press **Enter**.

Step 3 To see a different number of failed calls on each page, on the top right, choose another number from the drop-down box and click **Go**. You can choose to see 10, 25, 50, or 100 failed calls.

Step 4 To clear the log, click **Clear All Calls**.

Viewing the History of a Failed Call

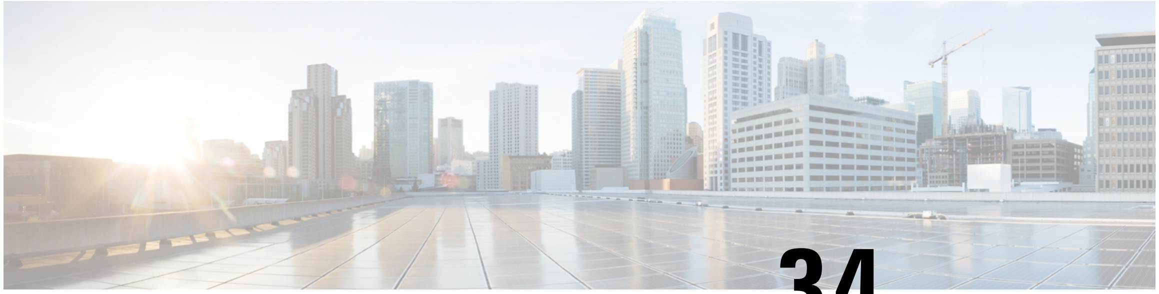
Procedure

Step 1 Choose **Troubleshoot** > **Failed Calls Log**.

The system displays the Failed Calls Log page and shows the contents of the log file.

Step 2 To see more information about a particular failed call, click the underlined call ID.

The system displays the Failed Call Session History page containing more information about the call.



CHAPTER 34

Error Messages

CUSP Internal Error

You received this error message because an unexpected internal error has occurred within the Cisco Unified SIP Proxy software.

The web page contains useful details about the problem that occurred. You can provide this information to Cisco TAC.

Try the operation again, and if the problem persists, contact Cisco TAC for assistance.

Request Not Found

You received this error message because the system received an invalid URL page request to the Cisco Unified SIP Proxy web server. If you received this message after clicking a link, it is possible that the Cisco Unified SIP Proxy web server page data is missing or has become corrupt.

If you typed the URL directly into the web browser, double check the exact spelling for typographic errors and try again. If the problem persists, contact Cisco TAC for assistance.

Authorization Failure

You received this error message because you do not have the appropriate privilege to access the web page.

If you believe that you should have permission to access the web page, contact a Cisco Unified SIP Proxy administrator that has superuser privileges. The administrator can modify your user privileges to grant you access to the web page.

Configuration Prerequisite Missing

You received this error message because the system cannot display the web page that you are requesting due to a missing configuration parameter.

The system lists the configuration parameter to be fixed and provides a link to the web page where you can configure the parameter.