



# Using Cisco Unified SIP Proxy Software

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This chapter provides helpful tips for understanding and configuring Cisco Unified SIP Proxy software using the command-line interface (CLI). It contains the following sections:

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## Understanding Command Modes

The Cisco Unified SIP Proxy CLI commands have a structure very similar to that of Cisco IOS CLI commands. However, the Cisco Unified SIP Proxy CLI commands do not affect Cisco IOS configurations. After you have logged in to the Cisco Unified SIP Proxy module, the command environment is no longer the Cisco IOS environment.

The Cisco Unified SIP Proxy module command environment is divided into four modes:

- **Module EXEC**—This is the mode that you are in after you log in to the Cisco Unified SIP Proxy network or service module. The module EXEC commands affect the system's parameters in different ways. Some commands only display or clear parameter values, stop or start the entire system, or start troubleshooting procedures. However, unlike Cisco IOS EXEC mode, the module EXEC mode has a few commands that change parameter values. These changes are stored in the module's memory, rather than in the startup configuration, so that the system has some minimum information available if a catastrophic event, such as a power or disk failure, occurs.
- **Configuration**—This mode permits you to make system configuration changes for the module, which are stored in the running configuration. If you later save the running configuration to the startup configuration, the changes made with the configuration commands are restored when the software is rebooted.
- **Cisco Unified SIP Proxy EXEC**—This is the mode that you are in after you log in to the Cisco Unified SIP Proxy command environment. Cisco Unified SIP Proxy EXEC commands affect the system's parameters in different ways. This mode includes commands that allow you to display the Cisco Unified SIP Proxy configuration for diagnostic and troubleshooting purposes.

- Cisco Unified SIP Proxy Configuration—This Cisco Unified SIP Proxy Configuration—This mode permits you to make configuration changes to the Cisco Unified SIP Proxy. Unlike other Linux-based applications that are supported on the Cisco Integrated Services Routers, Cisco Unified SIP Proxy does not use the concept of a running configuration. Instead, the Cisco Unified SIP Proxy uses the concepts of the “candidate configuration” and the “active configuration.”
  - Candidate configuration: When you make configuration changes for the Cisco Unified SIP Proxy, these changes are stored in the candidate configuration. While in the candidate configuration state, these configuration parameters do not take effect.
  - Active configuration: The active configuration includes all configuration parameters that are currently effective on the Cisco Unified SIP Proxy.



**Note** Module EXEC and configuration modes *do* use the concept of a running configuration. Only the Cisco Unified SIP Proxy modes *do not* use this concept.

To enable configuration changes to take effect, you must enter the **commit** command. After you enter the **commit** command, all configuration changes in the candidate configuration become part of the active configuration. Separate commands in Cisco Unified SIP Proxy configuration mode allow you to display the current candidate and active configurations. In Cisco Unified SIP Proxy EXEC mode only the active configuration can be displayed.

Commands in the following configuration modes do not require that you use the commit command for the commands to take effect:

- Accounting
- SIP network
- SIP commands in CUSP configuration mode
- Trigger

Cisco Unified SIP Proxy configuration mode has some subconfiguration levels. The global configuration mode changes the command environment from EXEC to configuration. You can modify many software parameters at this level. However, certain configuration commands change the environment to more specific configuration modes where modifications to the system are entered. For example, the **sip network** *samplenetwork* command changes the environment from *cuspl-config* to *cuspl-config-network*. At this point, you can enter or modify application parameter values.

The commands available to you at any given time depend on the mode that you are currently in. Entering a question mark (?) at the CLI prompt displays a list of commands available for each command mode. The descriptions in this command reference indicate each command’s environment mode.

[Table 1](#) describes how to access and exit various common command modes of the Cisco Unified SIP Proxy software. It also shows examples of the prompts displayed for each mode.

Table 1 Accessing and Exiting Command Modes

| Command Mode                          | Access Method  | Prompt                            | Exit Method  |
|---------------------------------------|--|-----------------------------------|--|
| Module EXEC                           | When the integrated services engine <b>module</b> software prompt appears, enter the <b>enable</b> command. If a password has been configured, enter the password at the password: prompt. | se-10-0-0-0#>                     | Press <b>CTRL-SHIFT-6</b> , and then enter <b>x</b> .  |
| Module configuration                  | From module EXEC mode, enter the <b>configure terminal</b> command.  | se-10-0-0-0#(config) >            | To return to module EXEC mode from the module configuration mode, use the <b>end</b> or <b>exit</b> command.                               |
| Cisco Unified SIP Proxy EXEC          | From module EXEC mode, enter the <b>cusp</b> command.  | se-10-0-0-0#(cusp) >              | To return to module EXEC mode from Cisco Unified SIP Proxy EXEC mode, use the <b>end</b> or <b>exit</b> command.                           |
| Cisco Unified SIP Proxy configuration | From Cisco Unified SIP Proxy EXEC mode, use the <b>configure</b> command.  | se-10-0-0-0(cusp-config) >        | To return to Cisco Unified SIP Proxy EXEC mode from Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command. |
| Accounting                            | From Cisco Unified SIP Proxy configuration mode, use the <b>accounting</b> command.  | se-10-0-0-0(cusp-config-acct) >   | To return to Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command.  |
| Policy lookup                         | From Cisco Unified SIP Proxy configuration mode, use the <b>policy lookup</b> <i>policy-name</i> command.  | se-10-0-0-0(cusp-config-lookup) > | To return to Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command.  |

Table 1 Accessing and Exiting Command Modes (continued)

| Command Mode                                     | Access Method  | Prompt                                 | Exit Method   |
|--|--|--|---|
| Policy lookup sequence field and sequence header | From Cisco Unified SIP Proxy policy lookup configuration mode, entering one of the following commands takes you into the sequence field or sequence header configuration modes: <ul style="list-style-type: none"> <li>• <b>sequence</b><br/><i>sequence-number table-name field</i><br/>{<b>in-network</b>   <i>local-address</i>   <i>remote-address</i>}</li> <li>• <b>sequence</b><br/><i>sequence-number table-name header</i><br/>{<b>diversion</b>   <b>from</b>   <b>paid</b>   <b>rpaid</b>   <b>ruri</b>}<br/><b>uri-component</b> {<b>domain</b>   <b>param</b> <i>name</i>   <b>phone</b>   <b>uri</b>   <b>user</b>}</li> </ul> | se-10-0-0-0 (cusp-config-lookup-seq) > | To return to Cisco Unified SIP Proxy policy lookup configuration mode, use the <b>end</b> or <b>exit</b> command. |
| Policy normalization                             | From Cisco Unified SIP Proxy configuration mode, use the <b>policy normalization</b> <i>policy_name</i> command.   | se-10-0-0-0 (cusp-config-norm) >       | To return to Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command.               |
| Policy time                                      | From Cisco Unified SIP Proxy configuration mode, use the <b>policy time</b> <i>time_policy_name</i> command.   | se-10-0-0-0 (cusp-config-time) >       | To return to Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command.               |
| Policy time sequence                             | From Cisco Unified SIP Proxy policy time configuration mode, use the <b>sequence</b> <i>sequence-number</i> command.   | se-10-0-0-0 (cusp-config-time-seq) >   | To return to Cisco Unified SIP Proxy policy time configuration mode, use the <b>end</b> or <b>exit</b> command.   |
| RADIUS server group                              | From Cisco Unified SIP Proxy configuration mode, use the <b>server-group radius</b> <i>servergroup name</i> [ <i>source-ipaddress</i> ] command.   | se-10-0-0-0 (cusp-config-radius) >     | To return to Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command.               |
| Route group                                      | From Cisco Unified SIP Proxy configuration mode, use the <b>route group</b> <i>route-group name</i> [ <i>time-policy</i> ] [ <b>weight</b> ] command.  | se-10-0-0-0 (cusp-config-rg) >         | To return to Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command.               |

**Table 1** Accessing and Exiting Command Modes (continued)

| Command Mode                  | Access Method  | Prompt                                  | Exit Method   |
|-------------------------------|--|---|---|
| Element                       | From Cisco Unified SIP Proxy route group configuration mode, use the <b>element route-uri</b> or <b>element target-destination</b> command.  | se-10-0-0-0 (cusp-config-rg-element) >  | To return to Cisco Unified SIP Proxy route group configuration mode, use the <b>end</b> or <b>exit</b> command. |
| Route table                   | From Cisco Unified SIP Proxy configuration mode, use the <b>route table</b> <i>table_name</i> command.   | se-10-0-0-0 (cusp-config-rt) >          | To return to Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command.             |
| SIP DNS server                | From Cisco Unified SIP Proxy configuration mode, use the <b>sipdns-serv</b> command.   | se-10-0-0-0 (cusp-config-dns) >         | To return to Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command.             |
| SIP server group              | From Cisco Unified SIP Proxy configuration mode, use the <b>server-group sip</b> <i>servergroup-name</i> command.  | se-10-0-0-0 (cusp-config-sg) >          | To return to Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command.             |
| SIP server group ping-options | From Cisco Unified SIP Proxy configuration mode, use the <b>server-group sip ping-options</b> <i>network ip-address</i> [ <i>port</i> ] command.   | se-10-0-0-0 (cusp-config-ping) >        | To return to Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command.             |
| SIP network                   | From Cisco Unified SIP Proxy configuration mode, use the <b>sip network</b> <i>network</i> { <b>standard</b>   <b>icmp</b>   <b>noicmp</b> } command.  | se-10-0-0-0 (cusp-config-network) >     | To return to Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command.             |
| SIP queue                     | From Cisco Unified SIP Proxy configuration mode, use the <b>sip queue</b> { <b>message</b>   <b>request</b>   <b>st-callback</b>   <b>ct-callback</b>   <b>timer</b>   <b>xcl</b>   <b>radius</b> } command. | se-10-0-0-0 (cusp-config-queue) >       | To return to Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command.             |
| Trigger                       | From Cisco Unified SIP Proxy configuration mode, use the <b>trigger condition</b> <i>trigger-condition-name</i> command.   | se-10-0-0-0 (cusp-config-trigger) >     | To return to Cisco Unified SIP Proxy configuration mode, use the <b>end</b> or <b>exit</b> command.             |
| Trigger sequence              | From trigger configuration mode, use the <b>sequence</b> <i>sequence-number</i> command.   | se-10-0-0-0 (cusp-config-trigger-seq) > | To return to Cisco Unified SIP Proxy trigger configuration mode, use the <b>end</b> or <b>exit</b> command.     |

## Entering the Command Environment

Use this procedure to enter the different modes in the command environment.

## Prerequisites

Gather the following information:

- IP address of the router that contains the Cisco Unified SIP Proxy module
- Username and password to log in to the router
- Slot number of the module

### SUMMARY STEPS

1. Open an SSH session.
2. **SSH** *username@ip-address*
3. Enter the password.
4. **cusp**
5. **configure**

### DETAILED STEPS

|        | Command or Action  | Purpose  |
|--------|--|--|
| Step 1 | Open an SSH session.   | Use a DOS window, a secure shell, or a software emulation tool such as Reflection.                 |
| Step 2 | <b>SSH</b> <i>username@ip-address</i><br><br><b>Example:</b><br><code>ssh cusp@10.64.86.234</code>                                     | Specifies the username and IP address of the Cisco Unified SIP Proxy.                              |
| Step 3 | Password:  | Enter your password credentials for Cisco Unified SIP Proxy.                                       |
| Step 4 | <b>cusp</b><br><br><b>Example:</b><br><code>se-10-0-0-0# cusp</code><br><code>se-10-0-0-0(cusp) &gt;</code>                            | Enters Cisco Unified SIP Proxy EXEC mode.  |
| Step 5 | <b>configure</b><br><br><b>Example:</b><br><code>se-10-0-0-0(cusp) &gt; configure</code><br><code>se-10-0-0-0(cusp-config) &gt;</code> | Enters Cisco Unified SIP Proxy configuration mode. You are ready to begin the configuration tasks. |

## Getting Help

Entering a question mark at the CLI prompt displays a list of commands available for each command mode. You can also get a list of keywords and arguments associated with any command by using the context-sensitive help feature.

To get help specific to a command mode, a command, a keyword, or an argument, use one of the commands in [Table 2](#).

Table 2 Help Commands

| Command   | Purpose  |
|---|--|
| <code>help</code>   | Provides a brief description of the help system in any command mode.   |
| <code>?</code>  | Lists all the commands that are available for a specific command mode.   |
| <code>&lt;command_name&gt; ?</code>                       | Lists the keywords or arguments that you must enter next on the command line.<br><b>Note</b> There is a space between the command and the question mark. |
| <code>&lt;abbreviated_command_entry&gt;?</code>           | Provides a list of commands that begin with a particular character string.<br><b>Note</b> There is no space between the command and the question mark.   |
| <code>&lt;abbreviated_command_entry&gt;&lt;Tab&gt;</code> | Completes a partial command name.<br>Enter the beginning of a command name and press Tab. The system automatically adds the rest of the command name.    |

## Using the no and default Forms of Commands

Where available, use the **no** form of a command to disable a function. Use the command without the **no** keyword to reenable a disabled function or to enable a function that is disabled by default. The command reference entry for each command provides the complete syntax for the configuration commands and describes what the **no** form of a command does.

Configuration commands can also have a **default** form, which returns the command settings to the default values. In those cases where a command is disabled by default, using the **default** form has the same result as using the **no** form of the command. However, some commands are enabled by default and have variables set to certain default values. In these cases, the **default** form of the command enables the command and sets the variables to their default values. Where available, the command reference entry describes the effect of the **default** form of a command if the command functions differently than the **no** form.

## Saving Configuration Changes

Starting in module EXEC mode, use the following command to copy the running configuration in flash memory to another location:

```
copy running-config {ftp:user-id:password@ftp-server-address[/directory] |
startup-config | tftp:tftp-server-address} filename
```

| Keyword or Argument                   | Description   |
|---------------------------------------|---|
| <code>ftp:user-id:password@</code>    | User ID and password for the FTP server. Include the colon (:) and the at sign (@) in your entry.                                     |
| <code>ftp-server-address</code>       | IP address of the FTP server.   |
| <code>ldirectory</code>               | (Optional) Directory on the FTP server where the copied file will reside. If you use it, precede the name with the forward slash (/). |
| <code>startup-config</code>           | Startup configuration in flash memory.  |
| <code>tftp:tftp-server-address</code> | IP address of the TFTP server.  |
| <code>filename</code>                 | Name of the destination file that will contain the copied running configuration.  |

When you copy the running configuration to the startup configuration, enter the command on one line. In the following example, the running configuration is copied to the startup configuration as file start. In this instance, enter the command on a single line.

```
se-10-0-0-0# copy running-config startup-config start
```

When you copy the running configuration to an FTP or TFTP server, this command becomes interactive and the system prompts you for information. You cannot enter the parameters on one line. The following example illustrates this process. In the following example, the running configuration is copied to an FTP server, which requires a user ID and password. The IP address of the FTP server is 172.16.231.193. The running configuration is copied to the configs directory as a file called saved\_start.

```
se-10-0-0-0# copy running-config ftp:
Address or name of remote host? admin:voice@172.16.231.193/configs
Source filename? saved_start
```


**Caution**

Cisco Unified SIP Proxy has additional requirements for saving configuration changes for some commands. See the [“Committing Configuration Changes” section on page 8](#).

## Committing Configuration Changes

Unlike other Linux-based applications supported on Cisco Integrated Services Routers, Cisco Unified SIP Proxy requires that you use the **commit** command for selected commands before the configuration changes take effect. If you do not use the **commit** command, any changes to these commands are not reflected in the active configuration.

The requirement for issuing the **commit** command applies to the following configuration commands (and the commands in their respective submodes):

- **policy lookup**
- **policy normalization**
- **policy time**
- **route group**
- **route table**
- **route table file**
- **server-group sip group**

When you exit Cisco Unified SIP Proxy configuration mode, you are asked whether you want to commit your changes. If you answer no, all your changes are discarded.

## Identifying Supported Platforms

Cisco IOS software is packaged in feature sets consisting of software images that support specific platforms. Specific software images are required to support the Cisco Unified SIP Proxy module hardware. The feature sets available for a specific platform depend on which Cisco IOS software images are included in a version. To identify the set of software images available in a specific version or to find out if a feature is available in a given Cisco IOS software image, use Cisco Feature Navigator. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. You do not need an account on Cisco.com.



# Commercial Open Source Licensing

Some components of the software created for Cisco Unified SIP Proxy Release 9.1.x are provided through open source or commercial licensing. These components and the associated copyright statements can be found at

[http://www.cisco.com/en/US/docs/voice\\_ip\\_comm/cusp/rel9\\_0/licensing/opensourcelicense.pdf](http://www.cisco.com/en/US/docs/voice_ip_comm/cusp/rel9_0/licensing/opensourcelicense.pdf).

