

# Oracle® Communications Session Border Controller ACLI Reference Guide



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# About This Guide

The ACLI Reference Guide provides a comprehensive explanation of all commands and configuration parameters available to you in the Acme Command Line Interface (ACLI). This document does not explain configurations and the logic involved in their creation.

This publication is used with Oracle Communications Session Border Controller and Oracle Enterprise Session Border Controller.

## Document Organization

- About this Guide—This chapter
- How to Use the ACLI—Explains how to use the ACLI, the CLI-based environment for configuring the Oracle Communications Session Border Controller
- Commands A-M—Lists commands starting with A-M, their syntax, and their usage
- Commands N-Z—Lists commands starting with N-Z, their syntax, and their usage
- Configuration Elements A-M—Lists configuration elements starting with A-M, their syntax, and their usage. Subelements are listed directly after the element where they are located.
- Configuration Elements N-Z—Lists configuration elements starting with N-Z, their syntax, and their usage. Subelements are listed directly after the element where they are located.

## Conventions

This section explains the documentation conventions used in this guide. Each of the following fields is used in the ACLI Reference Guide. The following are the fields associated with every command or configuration element in this guide. When no information is applicable, the field is omitted (this occurs mostly with the Notes field).

- Description—Describes each command, its purpose, and use.
- Syntax—Describes the proper syntax needed to execute the command. Syntax also includes syntax-specific explanation of the command.
- Arguments—Describes the argument place holders that are typed after a command. For commands only.
- Parameters—Describes the parameters available in a configuration element. For configuration elements only.
  - Default—Default value that populates this parameter when the configuration element is created.
  - Values—Valid values to enter for this parameter.
- Notes—Lists additional information not included in the above fields.



- **Mode**—Indicates whether the command is executed from User or Superuser mode.
- **Path**—Describes the CLI path used to access the command.
- **Example**—Gives an example of how the command should be entered using one of the command's valid arguments.

This guide uses the following callout conventions to simplify or explain the text.

**Caution or Note:** This format is used to advise administrators and users that failure to take or avoid a specified action can result in loss of data or damage to the system.

## Documentation Set

The following table describes the documentation set for this release.

Document Name	Document Description
Acme Packet 3900 Hardware Installation Guide	Contains information about the components and installation of the Acme Packet 3900.
Acme Packet 4600 Hardware Installation Guide	Contains information about the components and installation of the Acme Packet 4600.
Acme Packet 4900 Hardware Installation Guide	Contains information about the components and installation of the Acme Packet 3950 and Acme Packet 4900.
Acme Packet 6100 Hardware Installation Guide	Contains information about the components and installation of the Acme Packet 6100.
Acme Packet 6300 Hardware Installation Guide	Contains information about the components and installation of the Acme Packet 6300.
Acme Packet 6350 Hardware Installation Guide	Contains information about the components and installation of the Acme Packet 6350.
Release Notes	Contains information about the current documentation set release, including new features and management changes.
Known Issues & Caveats	Contains known issues and caveats
Configuration Guide	Contains information about the administration and software configuration of the Service Provider Session Border Controller (SBC).
ACLI Reference Guide	Contains explanations of how to use the CLI, as an alphabetical listings and descriptions of all CLI commands and configuration parameters.
Maintenance and Troubleshooting Guide	Contains information about SBC logs, performance announcements, system management, inventory management, upgrades, working with configurations, and managing backups and archives.
MIB Guide	Contains information about Management Information Base (MIBs), Oracle Communication's enterprise MIBs, general trap information, including specific details about standard traps and enterprise traps, Simple Network Management Protocol (SNMP) GET query information (including standard and enterprise SNMP GET query names, object identifier names and numbers, and descriptions), examples of scalar and table objects.
Accounting Guide	Contains information about the SBC's accounting support, including details about RADIUS and Diameter accounting.

Document Name	Document Description
HDR Guide	Contains information about the SBC's Historical Data Recording (HDR) feature. This guide includes HDR configuration and system-wide statistical information.
Admin Security Guide	Contains information about the SBC's support for its Administrative Security license.
Security Guide	Contains information about security considerations and best practices from a network and application security perspective for the SBC family of products.
Platform Preparation and Installation Guide	Contains information about upgrading system images and any pre-boot system provisioning.
Call Traffic Monitoring Guide	Contains information about traffic monitoring and packet traces as collected on the system. This guide also includes WebGUI configuration used for the SIP Monitor and Trace application.
HMR Guide	Contains information about configuring and using Header Manipulation Rules to manage service traffic.
REST API	Contains information about the supported REST APIs and how to use the REST API interface.

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- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

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1. Access the Oracle Help Center site at <http://docs.oracle.com>.
2. Click **Industries**.
3. Under the Oracle Communications sub-header, click the **Oracle Communications documentation** link.  
The Communications Documentation page appears. Most products covered by these documentation sets appear under the headings "Network Session Delivery and Control Infrastructure" or "Platforms."
4. Click on your Product and then Release Number.  
A list of the entire documentation set for the selected product and release appears.
5. To download a file to your location, right-click the **PDF** link, select **Save target as** (or similar command based on your browser), and save to a local folder.

## Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

# Revision History

The following table lists the dates and description of the revisions to this document.

## Revision History

Date	Description
March 2024	<ul style="list-style-type: none"><li>• Initial release.</li></ul>

# 1

## How to use the ACLI

### The ACLI

The ACLI is an administrative interface that communicates with other components of the Oracle Communications Session Border Controller. The ACLI is a single DOS-like, line-by-line entry interface.

The ACLI is modeled after industry standard CLIs. Users familiar with this type of interface should quickly become accustomed to the ACLI.

### Using the ACLI

You can access the ACLI either through a direct console connection or an SSH connection.

### Privilege Levels

There are two privilege levels in the ACLI, User and Superuser. Both are password-protected.

- User—At User level, you can access a limited set of Oracle Communications Session Border Controller monitoring capabilities. You can:
  - View configuration versions and a large amount of statistical data for the system's performance.
  - Handle certificate information for IPsec and TLS functions.
  - Test pattern rules, local policies, and session translations.
  - Display system alarms.
  - Set the system's watchdog timer.
  - Set the display dimensions for your terminal.  
You know you are in User mode when your system prompt ends in the angle bracket (>).
- Superuser—At Superuser level, you are allowed access to all system commands and configuration privileges. You can use all of the commands set out in this guide, and you can perform all configuration tasks.  
You know you are in Superuser mode when your system prompt ends in the pound sign (#).

### Enabling Superuser Mode

To enable Superuser mode:

1. At the ACLI User prompt, type the enable command. You will be asked for your Superuser password.

```
ORACLE> enable
Password:
```

2. Enter your password and press <Enter>.

```
Password: [Your password does not echo on the display.]
ORACLE#
```

If your entry is incorrect, the system issues an error message and you can try again. You are allowed three failed attempts before the system issues an error message telling you that there are excess failures. If this occurs, you will be returned to User mode where you can start again.

## Debug Mode

Debug mode refers to a set of commands used to access low level functionality on the Oracle Communications Session Border Controller. Users should not access debug mode commands unless specifically instructed to do so by Oracle Engineering or Support.

After booting your Oracle Communications Session Border Controller for the first time with this image, if you have not executed the **debug-enable** command, you may not run debug level commands. The following appears on the screen:

```
ORACLE# shell

Shell access is disabled on this Session Director
ORACLE#
```

To enable debug mode access, use the **debug-enable** command. See the debug-enable command description in the ACLI Reference Guide.

Once you have executed the **debug-enable** command to set a debug level password, if you downgrade the software image, the password you set with **debug-enable** becomes the new shell password for earlier versions.

## System Access

You can access the ACLI using the different means described in this section.

### Local Console Access

Console access takes place via a serial connection to the console port directly on the Oracle Communications Session Border Controller chassis. When you are working with the Oracle Communications Session Border Controller at the console, the ACLI comes up automatically.

Accessing the ACLI through a console connection is the most secure method of connection, given that the physical location is itself secure.

## Remote SSH Access

SSH provides strong authentication and secure communications over unsecured channels. Accessing the ACLI via an SSH connection gives you the flexibility to connect to your Oracle Communications Session Border Controller from a remote location over an insecure connection.

## ACLI Help and Display

The Oracle Communications Session Border Controller's ACLI offers several features that aid with navigation and allow you to customize the ACLI so that you can work more efficiently.

- **Alphabetized help output**—When you enter either a command followed by a question mark, the output is now sorted alphabetically and aligned in columns. The exception is the exit command, which always appears at the end of a column.
- **Partial command entry help**—When you enter a partial command followed by a question mark, the new Help output displays only commands that match the letter you type rather than the entire list.
- **The more prompt**—You can set a more option in the ACLI that controls whether or not you can use more with any of the following commands: show, display, acl-show, and view-log-file. Turning this option on gives you the ability to view output from the command one page at a time. By default, this option is enabled. Your setting is persistent across ACLI sessions.

With the more feature enabled, the ACLI displays information one page at a time and does so universally across the ACLI. A line at the bottom of the screen prompts you for the action you want to take: view the displays's next line or next page, show the entire display at once, or quit the display. You cannot change setting persistently, and need to change them every time you log in.

- **Configurable page size**—The page size defaults to 24 X 80. You can change the terminal screen size by using the new cli terminal height and cli terminal width commands. The settings for terminal size are not preserved across ACLI sessions.

## Exiting the ACLI

Typing exit at any ACLI prompt moves you to the next "higher" level in the ACLI. After exiting out of the User mode, you are logged out of the system.

## Navigation Tips

This section provides information about hotkeys used to navigate the ACLI. This information applies to both User mode and Superuser mode, although the specific commands available to those modes differ.

## Hotkeys

Hotkeys can assist you in navigating and editing the ACLI, and they also allow you to scroll through a list of commands that you have recently executed. These hotkeys are similar to those found in many other CLIs. The following table lists ACLI hotkeys and a description of each.

The following list describes general system hotkeys:

- <Ctrl-D>—Equivalent of the done command when used at the end of a command line. When used within a command line, this hotkey deletes the character at the cursor.
- <UParrow>—Scrolls forward through former commands.
- <DOWNarrow>—Scrolls backward through former commands.
- <tab>—Completes a partial command or lists all options available if the characters entered match multiple commands. Executed at the beginning of the command line, this hotkey lists the available commands or configurable elements/parameters.  
The following list describes context-sensitive help hotkeys:
- <?>—Provides context-sensitive help. It functions both for ACLI commands and configuration elements and is displayed in alphabetical order.  
The following list describes hotkeys to move the cursor:
- <Ctrl-B>—Moves the cursor back one character.
- <Esc-B>—Moves the cursor back one word.
- <Ctrl-F>—Moves the cursor forward one character.
- <Esc-F>—Moves the cursor forward one word.
- <Ctrl-A>—Moves the cursor to the beginning of the command line.
- <Ctrl-E>—Moves the cursor to the end of the command line.
- <Ctrl-L>—Redraws the screen.  
The following list describes hotkeys to delete characters:
- <Delete>—Deletes the character at the cursor.
- <Backspace>—Deletes the characters behind the cursor.
- <Ctrl-D>—Deletes the character at the cursor when used from within the command line.
- <Ctrl-K>—Deletes all characters from the cursor to the end of the command line.
- <Ctrl-W>—Deletes the word before the cursor.
- <Esc-D>—Deletes the word after the cursor.  
The following list describes hotkeys to display previous command lines:
- <Ctrl-P>—Scrolls backward through the list of recently executed commands.

## Command Abbreviation and Completion

This section describes how you can use abridged commands in the ACLI. Command completion can save you extra keystrokes and increase efficiency.

### Command Abbreviation

Commands can be abbreviated to the minimum number of characters that identify a unique selection. For example, you may abbreviate the configure terminal command to “config t.” You cannot abbreviate the command to “c t” because more than one command fits this criteria.



## Tab Completion

When you do not supply enough characters to identify a single selection, you can press <Tab> to view a list of commands that begin with the character(s) you entered. After you press <Tab>, the ACLI returns you to the system prompt and reprints the character(s) you originally typed. This enables you to complete the command with the characters that uniquely identify the command that you need. You can continue this process until enough characters to identify a single command are entered.

```
ORACLE# gen generate-certificate-request generate-key
```

```
ORACLE# generate-key
```

## Configuration Element and System Command Menus

Command menus and configuration element menus display similarly in the ACLI. The menus for each are divided into two columns. The first column lists all of the command and configuration elements available to a user working in this mode; the second column offers short explanations of each command or configuration element's purpose.

```
ORACLE(local-policy)# ?
from-address      from address list
to-address        to address list
source-realm      source realm list
description        local policy description
activate-time      policy activation date & time
deactivate-time    policy deactivation date & time
state              enable/disable local policy
policy-priority    priority for this local policy
policy-attributes  list of policy attributes
select             select a local policy to edit
no                 delete selected local policy
show               show selected local policy
done               write local policy information
exit               return to previous menu
```

## Context-Sensitive Help

In addition to the information that ACLI menus offer, context-sensitive help can assist you with navigation and configuration. Within this one-line entry, you have access to context-sensitive help that tells you what values are valid for a given field and when you have completed an entry. When the <ENTER> no further known parameters line appears, the ACLI is informing you that there is no subsequent information to enter.

To use the context-sensitive help, enter the name of the command or field with which you require assistance, followed by a <Space> and then a question mark (?). The context-sensitive help information appears.

In general, context-sensitive help provides more detailed information than within ACLI menus. For system commands, it prompts you about the information you need to enter to execute a

system command successfully. For configuration elements, it prompts you with a brief description of the field, as well as available values, ranges of values, and data types.

## Context-Sensitive Help for System Commands

The ACLI's context-sensitive help feature displays information you need to complete system commands and the body of subcommands available for each system command. In the following example, the show command menu appears. Typing a ? after a system command asks if the system requires further information to complete a specific command. The system responds with a list of available subcommands.

```
ORACLE# show ?
about                credit information for acli
accounting           accounting statistics
acl                  show host access table
algd                 ALG status
arp                  ARP table
backup-config        show a backup configuration
balancer             show session load balancer information
bgfd                 BGFD status
buffers              show memory buffer statistics
built-in-sip-manipulations Displays all built-in sip-manipulations
call-recording-server Call Recording Server Statistics
clock                system clock
configuration        show current configuration
directory            show files in a directory
dns                  DNS information
enum                 ENUM information
ext-band-mgr         External Bandwidth Manager status
ext-clf-svr          External CLF Server status
features             currently enabled features
h248d                H248D status
h323d                H323D status
health               system health information
hosts                show host table
imports              show all files available for import
interfaces           show network interfaces
ip                   IP system information
logfile              Display a log file, 'enter' to display list
loglevel             loglevels of current processes
lrt                  LRT (local-routing) information
mbcd                 MBCD status
media                show media interface information
memory               memory statistics
monthly-minutes      monthly minutes information for a
specified realm
nat                  show NAT table
neighbor-table        ICMPv6 neighbor table
net-management-control Network Management Controls Statistics
nsep-stats           NS/EP RPH call statistics
ntp                  NTP status
packet-trace          displays the current packet trace addresses
policy-server         external policy server name
power                current state of each power supply
```

privilege	show current privilege level
processes	active process statistics
prom-info	show prom information
qos	show qos FPGA information
radius	radius accounting and authentication statistics
ramdrv	ramdrv space usage
realm	realm statistics
redundancy	redundancy status
registration	SIP Registration Cache status
route-stats	show routing statistics
routes	show routing table entries
running-config	current operating configuration
sa	security-associations information
security	security information
sessions	Session Statistics
show	
sipd	SIPD status
snmp-community-table	show snmp community table
snmp-info	show snmp
space	check the remaining space on the device specified
spl	SPL information
spl-options	display information on all SPL options
support-info	show all required support information
system-state	current system-state
tacacs	tacacs authorization, accounting and
authentication statistics	
temperature	current SD temperature readings
timezone	show timezone for the system (start and end time
in mmddHH format)	
trap-receiver	show snmp trap receivers
uptime	system uptime
users	currently logged in users
version	system version information
virtual-interfaces	show virtual interfaces
voltage	current SD voltages (SD-II only)
wancom	show wancom interfaces

The system responds with a no further known parameters if there are no subcommands.

```
ORACLE# show about ?
<ENTER!> no further known parameters
ORACLE# show about
```

## Viewing Output With the More Prompt

When the output of a command is too large to fit your screen, the system displays the output in smaller sections. At the end of a section a message is displayed with your options:

- <Space> —Display the next section of output
- <q>—Quits and returns to the system prompt

- <c>—Displays the rest of the output in its entirety

```

ORACLE# show ?
about                credit information for acli
accounting           accounting statistics
acl                  show host access table
algd                 ALG status
arp                  ARP table
backup-config        show a backup configuration
balancer             show session load balancer information
bgfd                 BGFD status
buffers              show memory buffer statistics
built-in-sip-manipulations Displays all built-in sip-manipulations
call-recording-server Call Recording Server Statistics
clock                system clock
configuration        show current configuration
directory            show files in a directory
dns                  DNS information
enum                 ENUM information
ext-band-mgr         External Bandwidth Manager status
ext-clf-svr          External CLF Server status
features             currently enabled features
h248d                H248D status
h323d                H323D status
health               system health information
hosts                show host table
imports              show all files available for import
interfaces            show network interfaces
ip                   IP system information
logfile              Display a log file, 'enter' to display
list                 list
('space' for next page; 'q' to quit; 'enter' for next line; 'c' to
continue)

```

## Disabling the More Prompt

If you don't want the Oracle Communications Session Border Controller to display the More prompt, you can disable it using the cli command.

```

ORACLE# cli more disabled
The ACLI 'more' option has been disabled
ORACLE#

```

## Configuring Using the ACLI

This section describes the two ACLI methods available for configuring the Oracle Communications Session Border Controller using line-by-line ACLI commands.

## Line-by-Line Commands

Using line-by-line commands, you can target a specific field for editing. Line-by-line commands appear in the ACLI as their name suggests: each argument consists of a parameter followed by a valid value, both on one line.

At any time, you can access either the element menu or the context-sensitive help to guide you. In the following example, you enter values for three parameters, and then issue the show command to check your work. Finally, type done to save your configuration.

```
ORACLE(trap-receiver)# ip-address 10.0.0.1
ORACLE(trap-receiver)# filter-level major
ORACLE(trap-receiver)# community-name acme
ORACLE(trap-receiver)# show
trap-receiver
    ip-address
10.0.0.1
    filter-level
community-name
ORACLE(trap-receiver)# done
```

Major  
acme

## Working with Configuration Elements

Configuring elements involves entering the ACLI path to the configuration element you want to configure, and then entering the parameter name followed by a space and proper data in accordance with the required format.

A common set of commands appear in all configuration elements, and are not applicable for user and superuser commands. These commands are:

- **select**—Used to select a configuration element to edit or view.
- **no**—Used to delete the current configuration element object.
- **show**—Used to view the current values of parameters in the selected configuration element.
- **done**—Used to save configuration changes.
- **exit**—Used to exit the current configuration element or path to the next higher level.

## Creating configurations

Creating configuration elements involves first traversing to the ACLI path to enter configurations. Once you are in the element you want to configure, enter a parameter name followed by a value.

```
ORACLE(trap-receiver)# ip-address 10.0.0.1
ORACLE(trap-receiver)# filter-level major
ORACLE(trap-receiver)# community-name acme
ORACLE(trap-receiver)# done
```

## Saving configurations with the done command

At all levels of the ACLI hierarchy, there are several methods of saving your settings and data.

- The **done** command, which is entered within a configuration element.
- The hotkey **<Ctrl-D>**, which is entered within a configuration element. This enters the done command in the command line and saves your information.

The `Save Changes y/n ? #` prompt appears when you **exit** a configuration element without saving your changes. This prompt only appears if you have changed old information and/or entered new information.

Every configuration element contains the **done** command.

We strongly recommend that you save your configuration information as you work. This ensures that your configurations have been written to the system database.

```
ORACLE(snmp-community)# done
community-name          acme_community
access-mode             READ-ONLY
ip-addresses            10.0.0.2
last-modified-by
last-modified-date
ORACLE(snmp-community)#
```

## Viewing configurations with the show command

We recommend that you view all of the information you have entered before carrying out the done command or another method of saving. Use the show command to review your configurations. Reviewing your settings will give you the opportunity to make any necessary changes before writing the information to the system database.

To view configuration information, type show when you are finished with a line-by-line entry. The following example illustrates the use of the **show** command before executing the done command.

```
ORACLE(host-route)# show
host-route
dest-network            10.1.0.0
netmask                 255.255.0.0
gateway                 172.30.0.1
description             Test host route
last-modified-by       admin@console
last-modified-date     2014-01-15 17:12:07
```

## Navigating the configuration tree with the exit command

The **exit** command moves you to the next-higher location in the configuration tree. In addition, when you use the **exit** command and have not already saved your changes, the ACLI produces the following message:

```
Save Changes y/n #
```

When this line appears, the ACLI is prompting you to save your configurations. This prompt only appears if you have changed old information or entered new information.

If you type anything other than a y in response to the `Save Changes y/n ? #` prompt, the system will interpret that character as a no response and will not save your work. You must type a y to save your work.

## Choosing configurations with the select command

Editing individual configurations in the ACLI involves finding the element or field you need to update, entering the new information, and then saving the element.

To select an existing configuration element:

1. Enter the configuration path of the element for which you want to edit.
2. Use the **select** command to choose an element to update. A list of options appears when you press <Enter> at the key field prompt (e.g., <name:>).
3. Enter the number corresponding to the element you would like to update and press <Enter>. If there are no elements configured, you will still be presented with the prompt, but no list will appear. When you press <Enter> at the key field prompt, you will be returned to the system prompt.

```
ORACLE (phy-interface) # select
<name>: <Enter>
1: phyTEST
2: phyTEST-RIGHT
3: mn1
selection:3
ORACLE (phy-interface) #
```

4. Use the **show** command to display all configured values of the selected configuration element.

```
ORACLE (phy-interface) #show
phy-interface
      name                mn1
  operation-type          Control
      port                 0
      slot                 0
  virtual-mac
  wancom-health-score     55
  overload-protection     disabled
  last-modified-by        admin@console
  last-modified-date      2012-11-12 11:02:09
```

5. Optionally make any changes you to parameters in the selected configuration element. You can also overwrite parameters by entering a new value after a previous value has been created.
6. Use the **done** command to save your updates.

## Deleting configurations with the no command

There are two methods of deleting configurations.

- You can delete the information for elements while you are still working with them.
- You can delete all configuration information for a previously configured element.

For either method, use the **no** command to clear configurations. Only Multiple Instance Elements can be deleted from the system. Single Instance Elements can not be deleted; they can only be edited.

## Deleting an existing configuration element example

You can only delete configurations from within their ACLI path. Use the **select** command to choose the configuration element you want to delete.

To delete an existing element:

1. Enter the ACLI path to the element you wish to delete.
2. Enter the **no** command. After you do so the key field prompt (e.g., <name:>) appears with a list of the existing configured elements beneath it.

```
ORACLE(media-profile)# no
<name>: <Enter>
1: PCMU
2: G723
3: G729
```

3. Enter the number corresponding to the element you wish to delete.

```
selection:3
```

4. To confirm the deletion, use the **select** command to view the list of remaining elements.

```
ORACLE(media-profile)# select
<name>: <Enter>
1: PCMU
2: G723
```

## ACLI Configuration Summaries

The ACLI offers several ways for you to view configuration summaries. While the most straightforward and commonly-used method is the **show** command, the ACLI also provides summary information every time you execute the **done** command.



## Viewing Summaries

The show command that appears for each ACLI configuration element allows you to view the configured information for a given element. The following example shows how to view media-profile configuration summaries.

To view the settings for the media-profile element:

1. Enter the media-profile configuration element through the ACLI path.

```
ORACLE# configure terminal
ORACLE(configure)# session-router
ORACLE(session-router)# media-profile
ORACLE(media-profile)#
```

2. From media-profile, use the select command. The **<name>**: prompt and a list of configured media-profile elements appear.

```
ORACLE(media-profile)# select
<name>:
1: PCMU
2: G723
3: G729
```

3. Select the configured media profile you want to view by entering the corresponding number and press the <Enter> key.

```
selection: 1
```

4. Type **show** and press the <Enter> key.

```
ORACLE(media-profile)# show
media-profile
      name                PCMU
      subname
      media-type          audio
      payload-type
      transport           RTP/AVP
      req-bandwidth       0
      frames-per-packet   0
      parameters
      average-rate-limit  0
      peak-rate-limit     0
      max-burst-size      0
      sdp-rate-limit-headroom 0
      sdp-bandwidth       disabled
      police-rate         0
      standard-pkt-rate   0
      last-modified-by
      last-modified-date
```

## Data Entry

To enter data using the ACLI, your entries must conform to required field formats. This section describes these formats, gives information about preset values, default values, and error messages.

The final part of this section covers information about using quotation marks (""") and parentheses (()) to enhance your data entry options and capabilities.

Note that, unless specified by the criteria of a specific field, the maximum number of characters that you can enter to a single ACLI command is 1023.

## ACLI Field Formats

This section describes required data entry formats. You can learn the data type for a field by using the menu or the help function.

## Boolean Format

Boolean entries take the form of either enabled or disabled. To choose one of these two values, type either enabled or disabled.

## Carrier Format

Carrier entries can be from 1 to 24 characters in length and can consist of any alphabetical character (Aa-Zz), numerical character (0-9), punctuation mark (! "\$ % ^ & \* () + - = ' | { } [ ] @ / \ ' ~ , . \_ : ; ), or any combination of alphabetical characters, numerical characters, or punctuation marks. For example, both 1-0288 and acme\_carrier are valid carrier field formats.

## Date Format

Date entries must adhere to the ccYY-mM-dD format, where cc is the century, YY is the year, mM is the month, and dD is the day (e.g., 2005-06-10). The minimum entry requirement for date fields is YY-M-D.

The Oracle Communications Session Border Controller can assign the current century (cc) information, as well as leading zeroes for the month (m) and the day (d). Date fields must be entered in the valid format described above.

## Date and Time Format

The date and time format displays both the date and time and adheres to the yyyy-mm-dd hh:mm:ss.zzz or yyyy-mm-dd-hh:mm:ss.zzz where y=year, m=month, d=day, h=hours, m=minutes, s=seconds, and z=milliseconds.

## Day of Week Format

Day of week entries set any combination of day(s) of the week plus holidays that the local-policy-attributes can use for preference determination. The day of week field options are:

- U—Sunday
  - M—Monday
  - T—Tuesday
  - W—Wednesday
  - R—Thursday
  - F—Friday
  - S—Saturday
  - H—Holiday
- This field format cannot accept spaces. For example, U-S and M,W,F are valid day of week field entries.

## Enumerated Format

Enumerated parameters allow you to choose from a preset list of values. To access the list of choices from within the ACLI, use the help function for the appropriate parameter.

## Hostname (or FQDN) Format

Hostname (FQDN) entries consist of any number of Domain Labels, separated by periods, and one Top Label. The minimum field value is a single alphabetical character to indicate the top label value (e.g., c to indicate '.com').

All hostname fields support IPv4 addresses as well as hostnames.

For Example: In the hostname `acme-packet.domainlabel.example100.com`, `acme-packet` is a domain label, `domainlabel` is a domain label, `example100` is a domain label, and `com` is the top label.

- domain label—`acme-packet`, `domainlabel`, `example100`
- top label—`com`  
Note that each label is separated by a period.

The following describes hostname (FQDN) format label types:

- Domain Label—A domain label consists of any number or combination of alphabetical or numerical characters, or any number or combination of alphabetical or numerical characters separated by a dash (-). A dash must be surrounded on both sides by alphabetical or numerical characters, any number or combination. A dash cannot immediately follow or precede a period (.). A domain label is not required in a hostname field value.
- Top Label—A top label is the last segment of the hostname. A top label must start with an alphabetical character; it cannot start with a numerical character or with a dash (-). After the first character, a top label can consist of any number, or combination of alphabetical or numerical characters or any number or combination of alphabetical or numerical characters separated by a dash. Similar to dashes in domain labels, a top label dash must be surrounded on both sides by alphabetical or numerical characters, any number or combination. A single alphabetical character is the minimum requirement for a hostname field value.

## IP Address Format

IP address entries must follow the dotted decimal notation format and can only include numerical characters (0-9). Entries for an IP address field should be between 0.0.0.0 and 255.255.255.255.

## Name Format

Name entries must start with an upper- or lower- case alpha numeric character(A-Z, a-z, 0-9) or an underscore symbol (\_). The length of a name entry can continue for another 127 characters for a total of 128 characters. Additional valid characters in the 2nd -128th position include period (.), dash (-), and additional underscores (\_) (e.g., acmepacket\_configuration).

## Number Format

Number entries (e.g., phone number digits without dashes, any address that is not a hostname, etc.) can be any numerical character (0-9) or alphabetical character from A through F (A-Fa-f) or any combination of numerical and alphabetical characters from A through F (0-9A-Fa-f) (e.g., 18005551212 or 18005552CAB). The minimum number of characters for a number entry is 1, and the maximum number is 32.

## Text Format

Text entries (e.g., description fields) do not need to follow a particular format. Text fields can accommodate any combination of printable numerical and alphabetical characters, spaces, and most symbols. Noted exceptions are the ampersand (&), the apostrophe ('), and the less than symbol (<). Entries with spaces must be entered fully within quotation marks. For example, "This is the official Oracle Communications Session Border Controller configuration" is a valid text entry.

## Time of Day Format

Time of day entries must include only numerical characters (0-9) and must follow the 4-digit military time format (e.g., 1400). Time of day entries set the time of day that attributes can be considered for preference determination. The minimum field value is 0000, and the maximum field value is 2400.

## Preset Values

All configurations share one field: last-modified-date. This field value is set by the system database and can not be altered. It displays the date and time of the last modified action. The system sets this value automatically.

## Default Values

By default, the system populates some ACLI values with preset system values if you do not configure them.

## Error Messages

The ACLI produces error messages when information cannot be saved or commands cannot be executed. These events may occur when there is a problem either with the command itself, the information entered, the format of the information entered, or with the system in general.

For example, if you enter several words for a description and you do not put the entry inside quotation marks, the ACLI will tell you that you have entered an invalid number of arguments. In the example below, a user entered a media-type field value of “audio visual,” but did not enclose the value in quotation marks (“”).

```
ORACLE(media-profile)# media-type audio visual
invalid number of arguments
ORACLE(media-profile)#
```

When the value does not conform to format requirements, the ACLI returns a message that you have made an invalid entry for a given field. In the example below, a user entered an invalid IP address.

```
ORACLE(snmp-community)# ip-addresses (1877.5647.457.2 45.124 254.65.23)
invalid IP address
ORACLE(snmp-community)#
```

Message	Description
error invalid data...	You have entered a value not permitted by the system. This error includes numeric values that exceed defined parameters and misspellings of specifically spelled values (such as “enabled” or “disabled”).
% command not found	You entered a command that is not valid. The command may be misspelled, or it may not exist where you are working.
invalid selection...	You have selected an item that does not exist in the system.
invalid number of arguments	You either have entered too many arguments (or commands) on one line or you may not have quotation marks (“”) around your multi-word entry.
error 500 saving ...	The system could not save the data you entered to the system database.

## Special Entry Types Quotation Marks and Parentheses

The ACLI uses certain syntax in order to increase ease of use.

- Quotation marks (“”)—The values inside quotation marks are read as being one argument; commonly used in text fields.
- Parentheses (())—The values inside parentheses are read as being multiple arguments for an element.

## Multiple Values for the Same Field

To enter multiple values for the same field, you can either use quotation marks (“”) or parentheses (()) in order to express these values to the system. In a field that might contain multiple values, you must use either of these when you enter more than one value.

Your use of either of these methods signals to the system that it should read the data within the punctuation marks as multiple values. The following example shows how parentheses (()) are used in an instance of the local-policy element.

In the example that follows, there are three entries for the to-address in the parentheses (()).



### Note:

If you enter multiple values within either quotation marks (") or parentheses (()), be sure that the closing marks are made directly after the final value entered. Otherwise, the system will not read your data properly.

```
ORACLE(local-policy)# to-address (196.154.2.3 196.154.2.4
196.154.2.5)
ORACLE(local-policy)# show
local-policy
    from-address
                                *
    to-address
                                196.154.2.3
                                196.154.2.4
                                196.154.2.5
    source-realm
                                public
    description
    activate-time
                                N/A
    deactivate-time
                                N/A
    state
                                enabled
    policy-priority
                                none
    last-modified-by
    last-modified-date
```

## Multi-Word Text Values

For many fields, you may want to enter a multi-word text value. This value may either be a series of descriptive words, a combination of words and numbers that identify a location, or a combination of words and numbers that identify a contact person.

To enter a multi-word text value, surround that value either with quotation marks (") or parentheses (()). Generally, quotation marks are most commonly used to configure text fields. The example below shows how quotation marks (") surround a multi-word value.

```
ORACLE(session-router-config)# holidays
ORACLE(session-router-holidays)# date 2008-01-01
ORACLE(session-router-holidays)# description "new year's day"
ORACLE(session-router-holidays)# done
    holiday
        date
                                2010-10-10
        description
                                sample day
```

## An Additional Note on Using Parentheses

Parentheses can be used in the ACLI to enter multiple arguments on the same line. A command line can contain any number of entries inside parentheses. Single parentheses (()) connote one list, nested parentheses ((( ))) connote a list within a list, and so forth.

## Option Configuration

The options parameter shows up in many configuration elements. This parameter is used for configuring the Oracle Communications Session Border Controller to behave with either non-standard or customer-specific behavior.

Several options might be configured for a single configuration element. Every time you configure the option parameter, you overwrite the previously configured option list for the selected instance of the configuration element.

There is a shortcut to either add or delete a single option to the full option list. By typing a "+" to add or a "-" to subtract immediately before an option, you can edit the currently configured option list.

## Append Example

With the forceH245 option preconfigured, you can append a new option without deleting the previously configured option :

```
ORACLE (h323) # options +noAliasInRCF
ORACLE (h323) # show
h323-config
    state                enabled
    log-level            NOTICE
    response-tmo         4
    connect-tmo          32
    rfc2833-payload      101
    alternate-routing    proxy
    codec-fallback        disabled
    enum-sag-match       disabled
    remove-t38           disabled
    options               noAliasInRCF
    last-modified-by     admin@console
    last-modified-date   2014-01-14 20:17:42
```

## Delete Example

You can also delete a single existing option from the options list. Continuing from the previous example:

```
ORACLE (h323) # options -forceH245
ORACLE (h323) # show
h323-config
    state                enabled
    log-level            NOTICE
    response-tmo         4
```

connect-tmo	32
rfc2833-payload	101
alternate-routing	proxy
codec-fallback	disabled
enum-sag-match	disabled
remove-t38	disabled
options	noAliasInRCF
last-modified-by	admin@console
last-modified-date	2014-01-14 20:19:43



# 2

## ACLI Commands A-M

### acl-show

The `acl-show` command shows a list of denied ACL entries.

#### Syntax

```
acl-show
```

#### Mode

Superuser

#### Notes

The `acl-show` command displays a list of the following denied ACL entries:

- Incoming port, slot, and VLAN tag
- Source IP, bit mask, port, and port mask
- Destination IP address and port
- Protocol
- ACL entry as static or dynamic
- ACL entry index

#### Example

```
ORACLE# acl-show
```

### acquire-config

The `acquire-config` command retrieves the configuration from one SBC for configuration checkpointing an HA node.

#### Syntax

```
acquire-config <IPAddress>
```

#### Arguments

<IPAddress> Enter the IP address of the SBC to acquire a configuration from.

**Mode**

Superuser

**Notes**

This command forces one SBC in an HA node to learn the configuration from the other system. If configuration checkpointing is already running, the **acquire-config** command has no effect.

The acquire-config command is not supported on wancom interfaces that use both VLANs and IPv6.

Only after the **acquire-config** command is executed and the SBC is rebooted will the process of acquiring the configuration be complete.

**Example**

```
ORACLE#acquire-config 10.1.1.1
```

## activate-config

The activate-config command activates the current configuration on the Oracle Communications Session Border Controller to make it the running configuration.

**Syntax**

```
activate-config
```

**Mode**

Superuser

**Notes**

Before executing this command, be aware of the real time configuration (RTC) consequences on the operation of the Oracle Communications Session Border Controller.

To use RTC, the activate-config command is executed to alert the Oracle Communications Session Border Controller that the current configuration has changed and that it needs reload configuration information.

**Example**

```
ORACLE# activate-config
```

## archives

The archives command is used for creating, moving, and manipulating archived log files. All archive files are created in .tar.gz format in SD Software versions 2.0 and above. All commands are executed from within the archives menu.

Log files contain a record of system events. Log files are stored in the /code/logs directory. The CFG archive type is no longer supported in C6.2.0. When an archive command is entered with the CFG type, the Oracle Communications Session Border Controller responds with an error message.

### Path

Type **archives** at the topmost prompt before executing any of the below commands to enter the archives shell.

### Syntax

#### archives > create

```
create LOGS <logfile-name>
```

### Arguments

<logfile-name> Enter the name of archive file that contains all logs To create an archive file of a log, type create LOGS and enter a logfile name. Archives are created in .tar.gz (tared and gzipped) format.

### Example

```
ORACLE(archives)# create LOGS jun_30.gz
```

### Syntax

#### archives > delete

```
delete LOGS <logfile-name>
```

### Arguments

<filename> Enter the filename of the log archive to delete The archives > delete command deletes the specified archive file from the Oracle Communications Session Border Controller. You must append “.tar.gz” to the filename when using this command. Use the archives > display command to list the available log archives to delete.

### Example

```
ORACLE(archives)# delete LOGS july_16.gz
```

### Syntax

#### archives > display

```
display LOGS
```

### Arguments

This command lists the log archives currently saved on the Oracle Communications Session Border Controller's file system.

**Example**

```
ORACLE(archives)# display LOGS
```

**Syntax****archives > exit**

```
exit
```

**Example**

```
ORACLE(archives)# exit
```

**Note:**

This command exits from the archives session and returns you to the ACLI Superuser system prompt.

**Syntax****archives > extract**

This command is no longer supported in release C6.2.0.

**Syntax****archives > get**

```
get LOGS <archive-name> <remote-host> <user-name> <password>
```

**Arguments**

<remote-name> Enter the full path and filename to retrieve

<host> Enter the IP address of the remote host

<user-name> Enter the user name on remote host

<password> Enter the password on remote host

**Example**

```
ORACLE(archives)# get LOGS may_31.gz
```

 **Note:**

This command retrieves an archived log. If you do not include all the necessary arguments, the get command will prompt you for the arguments you omitted. The get command writes the retrieved file to the /code/logs/<archive-name> path.

**Syntax****archives > rename**

```
rename LOGS <old-archive> <new-archive>
```

**Arguments**

<current\_name> Enter the old archive name

<new\_name> Enter the new archive name

**Example**

```
ORACLE(archives)# rename LOGS june sept
```

 **Note:**

Renames an archived log. You do not need to append “.tar.gz” to the filename when using this command.

**Syntax****archives > send**

```
send LOGS <archive-name> <host-ip-address> <username>
```

**Arguments**

<archive-name> Enter the name of archive file to send

<host-ip-address> Enter the IP address of FTP server

<username> Enter the FTP username on server

**Example**

```
ORACLE(archives)# send LOGS Oct_24.gz 1.0.100.7 user1
```

**Note:**

This command sends an archived log file to a remote host using FTP. If you do not include all the necessary arguments, the send command will prompt you for the arguments you omitted.

## archives create

**Syntax**

```
create LOGS <logfile-name>
```

**Arguments**

- <logfile-name> Enter the name of archive file that contains all logs

To create an archive file of a log, type create LOGS and enter a logfile name. Archives are created in .tar.gz (tarred and gzipped) format.

**Example**

```
ORACLE(archives)# create LOGS jun_30.gz
```

## archives delete

**Syntax**

```
delete LOGS <logfile-name>
```

**Arguments**

<filename> Enter the filename of the log archive to delete

The archives > delete command deletes the specified archive file from the Oracle Communications Session Border Controller. You must append “.tar.gz” to the filename when using this command. Use the archives > display command to list the available log archives to delete.

**Example**

```
ORACLE(archives)# delete LOGS july_16.gz
```

## archives display

**Syntax**

```
display LOGS
```

This command lists the log archives currently saved on the Oracle Communications Session Border Controller file system.

**Example**

```
ORACLE(archives)# display LOGS
```

## archives exit

**Syntax**

```
exit
```

**Note:**

This command exits from the archives session and returns you to the ACLI Superuser system prompt.

**Example**

```
ORACLE(archives)# exit
```

## archives extract

This command is unsupported.

## archives get

**Syntax**

```
get LOGS <archive-name> <remote-host> <user-name> <password>
```

**Arguments**

- <remote-name> Enter the full path and filename to retrieve
- <host> Enter the IP address of the remote host
- <user-name> Enter the user name on remote host
- <password> Enter the password on remote host

**Note:**

This command retrieves an archived log. If you do not include all the necessary arguments, the get command will prompt you for the arguments you omitted. The get command writes the retrieved file to the `/code/logs/<archive-name>` path.

**Example**

```
ORACLE(archives)# get LOGS may_31.gz
```

## archives rename

**Syntax**

```
rename LOGS <old-archive> <new-archive>
```

**Arguments**

- <current\_name> Enter the old archive name
- <new\_name> Enter the new archive name

**Note:**

Renames an archived log. You do not need to append “.tar.gz” to the filename when using this command.

**Example**

```
ORACLE(archives)# rename LOGS june sept
```

## archives send

**Syntax**

```
send LOGS <archive-name> <host-ip-address> <username>
```

**Arguments**

- <archive-name> Enter the name of archive file to send
- <host-ip-address> Enter the IP address of FTP server
- <username> Enter the FTP username on server

**Note:**

This command sends an archived log file to a remote host using FTP. If you do not include all the necessary arguments, the send command will prompt you for the arguments you omitted.



**Example**

```
ORACLE(archives)# send LOGS Oct_24.gz 1.0.100.7 user1
```

## arp-add

The arp-add command manually adds ARP entries for media interfaces to the ARP table.

**Syntax**

```
arp-add <slot> <port> <vlan ID> <ip-address> <mac-address>
```

**Arguments**

<slot> Select the media interface slot

Values:

- 0—Left slot
- 1—Right slot

<port> Select the media interface port

Values:

- 0—Leftmost port
- 1— Second from left port
- 2 —Third from left port (not applicable for GigE cards)
- 3 —Rightmost port (not applicable for GigE cards)

<vlan ID> VLAN identifier

<ip-address> Enter the IP address

<mac-address> Enter the MAC address in hexadecimal notation

**Mode**

Superuser

**Example**

```
ORACLE# arp-add 1 0 0 172.16.1.102 ab:cd:ef:01:23:14
```

## arp-check

The arp-check command forces the SD to send an ARP request for the specified IP address. The command does not send an ARP request if the specified address is already in the ARP table or is in a different subnet.

**Syntax**

```
arp-check <slot> <port> <vlan-ID> <ip-address>
```

**Arguments**

<slot> Select the media interface slot

Values

- 0—Left slot
- 1—Right slot

<port> Select the media interface port

Values

- 0—Leftmost port
- 1— Second from left port
- 2 —Third from left port (not applicable for GigE cards)
- 3 —Rightmost port (not applicable for GigE cards)

<vlan ID> Enter the VLAN identifier

<ip-address> Enter the IP address

**Mode**

Superuser

**Example**

```
ORACLE# arp-check 0 0 0 11.21.0.10
```

## arp-delete

The arp-delete command manually removes ARP entries from the ARP table.

**Syntax**

```
arp-delete <slot> <port> <vlan-ID> <ip-address>
```

**Arguments**

<slot> Select the media interface slot

Values:

- 0—Left slot
- 1—Right slot

<port> Select the media interface port

Values:

- 0—Leftmost port
- 1— Second from left port
- 2 —Third from left port (not applicable for GigE cards)
- 3 —Rightmost port (not applicable for GigE cards)

<vlan ID> Enter the VLAN identifier

<ip-address> Enter the IP address

### Mode

Superuser

### Example

```
ORACLE# arp-delete 1 0 1 12.11.0.100
```

## backup-boot-loader

The **backup-boot-loader** command copies the current bootloader into the `/code/images` directory.

### Syntax

```
backup-boot-loader <filename>
```

### Arguments

#### <filename>

Enter the filename of the bootloader.

### Mode

Superuser

### Example

```
ORACLE# backup-boot-loader bootloader
```

```
Successfully copied bootloader to '/code/images/bootloader'  
ORACLE#
```

## backup-config

The **backup-config** command backs up the current flash memory configuration to the specified filename in the `/code/bkups` directory.

### Syntax

```
backup-config <name-of-backup> [running | editing] [standard | non-standard]
```

## Arguments

**<name-of-backup>** Enter the name of the backup configuration file  
**running**- Backup the configuration from the running configuration cache. This is an optional argument

**editing**- Backup the configuration from the editing configuration cache. This is an optional argument.

**standard**- Use standard XML as the file format

**non-standard**- Use non-standard, legacy XML for the file format

## Mode

Superuser

## Example

```
ORACLE# backup-config FEB_BACKUP.gz running
```



### Note:

If insufficient disk space is available, the Oracle Communications Session Border Controller will not complete the task.

# capture

The **capture** command is an ACLI command that specifies a dynamic filter specifying traffic to be sent to the Monitor and Trace GUI interface. This command is only supported by Oracle Enterprise Session Border Controller.

## Syntax

The syntax for **capture** follows.

```
capture <start|stop> <main filter> <subfilter(s)>
```



### Note:

Initiating these commands does not change the values set in the ACLI-configured filters. Dynamic filters remain active until you initiate a stop command.

The syntax for the dynamic filter commands are:

```
capture start <main filter> <subfilter(s)>
```

```
capture stop <main filter> <subfilter(s)>
```

You must enter a <main filter> and a <subfilter(s)> when initiating the **capture start** and **capture stop** commands.

### Arguments

**<start | stop>**—Specifies whether to start or stop the dynamic capture specified by the ensuing filters.

### <filter>

- global—Monitors and captures all traffic.
- int-ev <short-session | local-rejection>—Monitors and captures traffic matching the short-session and/or local-rejection configured within the **sip-monitoring** element.
- realm <realm name>—Monitors and captures traffic in the matching realm
- session-agent <session-agent name>—Monitors and captures traffic passing through the matching session agent.

### <subfilter>

- \* —Monitors and captures all sessions.
- user <Phone Number or User Part URI>—Monitors and captures everything that matches this phone number or user part.
- addr-prefix <IP address or IP address and netmask>—Monitors and captures everything that matches this address or address prefix.

### Mode

Superuser

### Example

```
ORACLE# capture start realm core1 user user1
```

## check-space-remaining

The check-space-remaining command displays the remaining amount of space in the boot directory, code (or flash memory), and ramdrv devices.

### Syntax

```
check-space-remaining <device>
```

### Argument

<device> Select where to check the remaining space

Values:

- boot
- code
- ramdrv

**Mode**

Superuser

**Example**

```
ORACLE# check-space-remaining boot
```



**Note:**

The output of this command is in bytes.

## check-stack

This command is not supported in this software release.

## check-upgrade-readiness

The check-upgrade-readiness command displays system status information targeting users who are upgrading software. The system runs the command automatically after a reboot during which the system detects a change in software version.

**Syntax**

```
check-upgrade-readiness < verbose >
```

When issued without the verbose argument, the command presents a summary status on the system. When issued with the verbose argument, the system displays each individual system check, categorized and presented with status and technical detail.

**Argument**

<verbose> Extends the output beyond status report to present lines on each individual system check.

**Mode**

Superuser

**Example**

```
ORACLE# check-upgrade-readiness
```

## clear-alarm

The clear-alarm command clears a specified alarm.

### Syntax

```
clear-alarm <alarm_id> <task_id>
```

### Arguments

<alarm\_id> Enter a unique 32-bit integer that contains a 16-bit category name or number and a unique 16-bit identifier for the error or failure within that category

<task\_id> Enter the task ID of the task that sent the alarm

### Example

```
ORACLE# clear-alarm 65524 sip
```



#### Note:

For alarm identification and task codes for specific alarms, use the **display-alarms** command.

## clear-cache

The clear-cache command allows you to clear a specified cache entry on the Oracle Communications Session Border Controller.

## clear-cache dns

### Syntax

```
clear-cache dns <realm id | "all" > <cache entry key | "all">
```

This command allows you to clear a specified DNS cache entry or all entries.

### Arguments

- <realm id | all> Specify the realm whose DNS cache you want to clear or enter all if you want to clear the cache of all realms
- <cache entry key> Enter a specific cache entry key or enter all for all entries. A specified cache entry key should take one of the following forms.
  - NAPTR entries—NAPTR:test.com
  - SRV entries—SRV:\_sip\_udp.test.com
  - A entries—A:test.com

**Example**

```
ORACLE# clear-cache dns public A:test.com
```

## clear-cache enum

This command allows you to clear a specified ENUM cache entry or all entries.

**Syntax**

```
clear-cache enum <EnumConfig Name | "all"> [cache entry key | "all"]
```

**Arguments**

- <EnumConfig Name> Enter the name of the specific EnumConfig for which you want to clear the cache
- <cache entry key> Enter the cache key of the specific EnumConfig for which you want to clear the cache
- <all> Enter all to clear all caches. In order for this command to work the DNS cache needs to be cleared.

**Example**

```
ORACLE# clear-cache enum enum1
```

## clear-cache registration

The clear-cache registration command allows you to clear the registration cache for a specified protocol.

**Syntax**

```
clear-cache registration <sipd | h323d> <type>
```

**Arguments**

- <sip> Clear the SIP registration cache. The following are the types of information for which you can clear:
  - all
  - by-ip <IPAddress>
  - by-user <phone number>
  - expired-contacts [ all | by-aor <AOR> ]
- <h323> Clear the H.323 registration cache. The following are the types of information for which you can query:
  - all
  - by-alias <terminalAlias>



**Example**

```
ORACLE# clear-cache registration sip all
```

## clear-cache tls

This command allows you to clear the TLS cache.

**Syntax**

```
clear-cache tls
```

**Example**

```
ORACLE# clear-cache tls
```

**Mode**

Superuser

## clear-resource-monitor-actions

Clear the cache of resource-monitor actions.

**Syntax**

```
clear-resource-monitor-actions [ all | <RESOURCE> ]
```

**Arguments**

- <all> Clear the cache of all resource-monitor actions.
- <resource> Clear the cache of the resource-monitor actions for a specific resource.

**Example**

```
ORACLE# clear-resource-monitor-actions all
```

## clear-deny

The clear-deny command deletes a denied ACL entry.

**Syntax**

```
clear-deny [<index> | "all"]
```

**Arguments**

- <index> Enter the index number of the ACL entry to delete

- <"all"> Delete all denied ACL entries

**Mode**

Superuser

**Example**

```
ORACLE# clear-deny all
```

 **Note:**

Use the `acl-show` command to identify the index of a specific ACL entry. Use the `clear-deny all` command to delete all of the deny entries. This command replaces the `acl-delete` command from previous versions.

## clear-sess

The `clear-sess` command deletes SIP, H.323, and IWF sessions from the system.

**Syntax**

```
clear-sess <sipd | h323d> <"sessions"> <all | by-agent | by-callid |  
by-ip | by-user>
```

**Arguments**

- <all> Delete all sessions for the specified protocol
- <by-agent> Delete sessions for a specified session agent
- <by-callid> Delete sessions for a specified call identifier
- <by-ip> Delete sessions for a specified endpoint IP address (entered in quotation marks)
- <by-user> Delete sessions for a specified calling or called number

**Mode**

Superuser

**Example**

```
ORACLE# clear-sess sipd sessions all
```

 **Note:**

Use the `show <sipd | h323d> sessions` with similar arguments to view information about sessions you might want to clear from the system.

## clear-trusted

The clear-trusted command deletes a trusted ACL entry.

### Syntax

```
clear-trusted [<index> | "all"]
```

### Arguments

<index> Enter the index number of ACL entry to delete

<"all"> Delete all trusted ACL entries

### Mode

Superuser

### Example

```
ORACLE# clear-trusted all
```



#### Note:

Use the acl-show command to identify the index of a specific ACL entry. Use the **clear-trusted all** command to delete all of the trusted entries.

## cli

The cli command allows you to modify ACLI session terminal settings and "more" options on your Oracle Communications Session Border Controller.

### Syntax

```
cli ["more" | "terminal-height"]
```

### Arguments

#### more

Enable or disable the more prompt you see when the output on the screen is larger than the size of the screen.

- Values: enabled | disabled

#### terminal-height

Enter the number of rows in the terminal.

- Disable: 0
- Default: 24

- Range: 5 - 1000

**Mode**

User

**Example**

```
ORACLE# cli more disabled
```

```
ORACLE# cli terminal-height 500
```

## configure terminal

The **configure terminal** command enters you into the system level where you can configure all operating and system elements on your Oracle Communications Session Border Controller.

**Syntax**

```
configure terminal
```

**Arguments**

```
configure terminal
```

**Mode**

Superuser

**Example**

```
ORACLE# configure terminal
```

## control

The **control** command provides debug-level system access. Do not execute this command unless instructed by Oracle Engineering or Support.

**Syntax**

```
control
```

**Mode**

Debug

## debug-disable

The **debug-disable** command removes access to the **shell**, **control**, and **lshell** commands.

Executing this command prompts you to enter the password you set when you executed the **debug-enable** command. After entering that password, access to the **shell**, **control**, and **lshell** commands is unavailable.

### Syntax

```
debug-disable
```

### Mode

Superuser

## debug-enable

The **debug-enable** command is used to enable access to the **shell**, **control**, and **lshell** commands by setting a single password that provides authorization to executing them.

This command enables and sets the password used to access the **shell**, **control**, and **lshell** commands. Until debug password is set, you may not access the three debug commands.

To remove access to the three debug commands, use the **debug-disable** command. You will be prompted for the previously configured password you set by using **debug-enable**.

If you use the **debug-enable** command to set a debug password, and revert to a previous version of Oracle Communications Session Border Controller, the password set here is used to access the **shell** (or similar) command for earlier versions.

### Syntax

```
debug-enable
```

### Mode

Superuser

## delete realm-specifics

The delete realm-specifics command used with a realm identifier deletes the specified realm, and its configuration objects. This command should be used with the utmost care.

### Syntax

```
delete realm-specifics <realm identifier>
```

### Arguments

- <realm identifier>—Enter the identifier for the realm you want to delete

**Mode**

Superuser (in addition, you need to be in configuration mode)

**Example**

```
ORACLE(configure)# delete realm-specifics peer_1
```

**Note:**

This command should be used with the utmost care.

## delete-backup-config

The delete-backup-config command deletes a saved configuration file from the Oracle Communications Session Border Controller flash memory.

**Syntax**

```
delete-backup-config <backup-name>
```

**Arguments**

- <backup-name> - Enter the name of the backup configuration you want to delete

**Mode**

Superuser

**Example**

```
ORACLE#delete-backup-config JAN_BACKUP.gz
```

**Note:**

Use display-backups to list backup configurations to delete.

## delete-boot-file

The **delete-boot-file** command deletes any system image file in the /boot directory.

**Syntax**

```
delete-boot-file <filename>
```

## Arguments

### <filename>

Enter the filename of the old boot file located in the /boot directory.

## Mode

Superuser

## Example

```
ORACLE# delete-boot-file nnSCZ840p1.bz
Verifying signature of /boot/nnSCZ840p1.bz
Version: Acme Packet SCZ8.4.0 Patch 1 (Build 91) 202006281454

Image integrity verification passed

Successfully deleted /boot/nnSCZ840p1.bz

ORACLE#
```

# delete-config

The delete-config command deletes the current configuration located in the /code/data and /code/config directories from the system's flash memory.

## Syntax

```
delete-config [cached]
```

## Arguments

- [cached] Delete the cached configuration. This is an optional argument.

## Mode

Superuser

## Example

```
ORACLE# delete-config
```

### Note:

When the delete-config command is entered, the system gives the warning asking if you really want to erase either the current config or the current cached config. Enter a y to complete the deletion.

## delete-crashfiles

Deletes all crash files in /opt/crash.

### Syntax

```
delete-crashfiles [older-than <days>]
```

### Arguments

**older-than**—Specify if you want all crashfiles older than an indicated age, in days, to be deleted.

### Mode

Superuser

### Example

```
ORACLE# delete-crashfiles 100
```



#### Note:

This command presents you with an Are you sure prompt.

## delete-import

This command enables the user to delete imported SIP-manipulation rules as files from the /code/import directory.

### Syntax

```
delete-import <file name>
```

### Arguments

- **<file name>** - The name of the SIP manipulation rules file to delete

### Mode

Superuser

### Example

```
ORACLE# delete-import 12012009.gz
```



**Note:**

Include the complete file name in the argument, including .gz.

## delete-logfiles

Deletes all closed log files in /opt/logs.

**Syntax**

```
delete-logfiles [older-than <days>]
```

**Arguments**

older-than—Specify if you want all log files older than an indicated age, in days, to be deleted.

**Mode**

Superuser

**Example**

```
ORACLE# delete-logfiles 100
```

**Note:**

This command presents you with an Are you sure prompt.

## delete-status-file

The delete-status-file deletes the reboot status file.

**Syntax**

```
delete-status-file
```

**Arguments**

none

**Mode**

Superuser

**Example**

```
ORACLE# delete-status-file
```

 **Note:**

This command deletes the `/code/statsDump.dat` file which retains all system data if the Oracle Communications Session Border Controller has to reboot. This command also removes the contents of the `/code/taskCheckDump.dat` file which contains system failure information.

## display-alarms

The `display-alarms` command displays details about the specific alarms on the Oracle Communications Session Border Controller.

### Syntax

```
display-alarms
```

### Arguments

none

### Mode

User

### Example

```
ORACLE# display-alarms
```

 **Note:**

This command shows the current alarms on the Oracle Communications Session Border Controller. Each alarm entry lists alarm ID, task ID, alarm severity code, number of occurrences, when the alarm first and last occurred, the number of times it has occurred, and a description of the alarm.

## display-backups

The `display-backups` command displays the configuration backup files located in the `/code/bkups` directory.

### Syntax

```
display-backups [sort-by-name]
```

### Arguments

- `<sort-by-name>` - Sort the output of the `display-backups` command output. This is an optional command.

**Mode**

User

**Example**

```
ORACLE# display-backups
```

## display-current-cfg-version

The display-current-cfg-version command displays the current configuration version.

**Syntax**

```
display-current-cfg-version
```

**Arguments**

none

**Mode**

User

**Example**

```
ORACLE# display-current-cfg-version
```

**Note:**

This command displays the saved version number of the current configuration. This integer value is incremented by one for each new configuration version.

## display-logfiles

The display-logfiles command lists the current logfiles located in the `/code/logs` directory.

**Syntax**

```
display-logfiles
```

**Arguments**

none

**Mode**

User

**Example**

```
ORACLE# display-logfiles
```

## display-running-cfg-version

The `display-running-cfg-version` command displays the current configuration version.

**Syntax**

```
display-running-cfg-version
```

**Arguments**

none

**Mode**

User

**Example**

```
ORACLE# display-running-cfg-version
```

**Note:**

This command displays the version number of the running configuration, an integer value that is incremented by one for each new configuration version.

## dump\_csv\_format

The **dump\_csv\_format** command changes the system mode from generating local CDR files to generating files that specify CSV organization. You would use this file to create a template from which you can interpret all the data in your CSV files. The system writes these format files to the same directory as local CDR files using the same naming convention as local CDR files.

While this command is activated, the system produces layout files instead of actual CDRs. After the layout files have been created, turn the generation feature off with the **no\_dump\_csv\_format** command.

**Syntax**

```
dump_csv_format  
no_dump_csv_format
```

**Arguments**

none

**Mode**

User

**Example**

```
ORACLE#dump_csv_format
ORACLE#no_dump_csv_format
```

## dump\_diam\_dict

The **dump\_diam\_dict** command creates the file `/opt/logs/OracleSBCRf.xml`, which you can use to decode Oracle-specific Rf AVPs in messages using Wireshark. After creating the file, you install it and establish it as a reference within the Wireshark resource file named 'diameter'.

**Syntax**

```
dump_diam_dict
```

**Arguments**

none

**Mode**

User

**Example**

```
ORACLE#dump_diam_dict
```

## enable

The **enable** command changes the current ACLI session from User mode to Superuser mode.

**Syntax**

```
enable
```

**Arguments**

none

**Mode**

User

**Note:**

Observing the command prompt can tell you if the Oracle Communications Session Border Controller is in user or superuser mode. A ">" (close-angle-bracket) indicates User mode and a "#" (pound) sign indicates Superuser mode.

**Example**

```
ORACLE> enable
ORACLE#
```

## exit

The exit command exits from the current command shell or configuration subsystem to the next higher level.

**Syntax**

```
exit
```

**Arguments**

none

**Mode**

User

**Example**

```
ORACLE# exit
```

## format

This command allows the user to partition the Storage Expansion Module into as many as 4 file directories.

**Syntax**

```
format <device>
```

**Arguments**

- <device> - Enter the name of a device

**Mode**

Superuser

**Example**

```
ORACLE# format device1
```

## generate-certificate-request

For TLS Support, the generate-certificate-request command allows you to generate a private key and a certificate request in the PKCS10 PEM format. The generated private key is stored in the certificate record configuration. If the certificate record is designed to hold a CA certificate, there is no need to generate a certificate request.

**Syntax**

```
generate-certificate-request <certificate-record-name>
```

**Arguments**

- <certificate-record-name> - Enter the name of the certificate you want to view.

**Mode**

Superuser

**Example**

```
ORACLE# generate-certificate-request acmepacket
```

## generate-key

The generate-key command allows you to generate a security key.

**Syntax**

```
generate-key <type>
```

**Arguments**

- <type> - Select the type of key you want to generate. The following is a list of valid security keys.
- Values:
  - 3des— Generate a 3DES 192 bit, odd parity key
  - aes-128— Generate an AES 128 bit key
  - aes-256— Generate an AES 256 bit key
  - hmac-md5— Generate an HMAC MD5 secret
  - hmac-sha1— Generate an HMAC SHA1 secret
  - hmac-sha-256— Generate an HMAC SHA-256 secret
  - hmac-sha-384— Generate an HMAC SHA-384 secret

- hmac-sha-512— Generate an HMAC SHA-512 secret

**Mode**

Superuser

**Example 2-1 Example**

```
ORACLE# generate-key aes-256
```

## halt

The **halt** command prepares the platform for a clean system shutdown. This is similar to the **reboot** command, except the halt command does not explicitly reboot the system. The halt command (like the reboot command) may accept a force argument i.e. halt the system regardless of whether it would cause a service outage. The **sysprep** and **exit** arguments should only be used under Oracle direction.

**Syntax**

```
halt [force | sysprep | exit]
```

**Arguments**

**force**—Force the box halt regardless of current state.

**sysprep**—This command can only be run when in debug mode, and should only be used under Oracle direction.

**exit**—This command can only be run when in debug mode, and should only be used under Oracle direction.

**Mode**

Superuser

## import-certificate

For TLS support, the import-certificate command allows you to import a certificate record.

**Syntax**

```
import-certificate <type>
```

**Arguments**

- <type> - Enter the type of certificate you want to import.
- Values
  - pkcs7—Import using a password enhanced mail format
  - x509—Import using a password enhanced mail format
  - try-all—Try importing from both pkcs7 and x509



**Mode**

Superuser

**Example**

```
ORACLE# import-certificate x509
```

## interface-mapping

The interface-mapping command manages interfaces via MAC address to Oracle Communications Session Border Controller physical interface configuration name mapping. The element includes configuration and management controls. This element is applicable only to COTs and VM deployments; the software recognizes hardware platform during installation and makes the interface-mapping command available only with applicable platforms.

**Parameters****show**

Allows the user to display a table that shows the current mapping between interface MAC addresses and physical interface configuration names. The output of this command is the same as the show interface-mapping command.

**locate <ethernet if name> <seconds>**

Allows the user to cause the system to blink the LEDs associated with the specified ethernet interface name for the specified number of seconds. This command allows the user to physically identify an interface based on its interface name. This command is not applicable to virtual machine deployments.

**label <ethernet if name> <labeling text>**

Allows the user to specify a label used in the mapping table displayed using the interface-mapping show command.

**delete <ethernet if name>**

Allows the user to remove the specified mapping from the interface-mapping show table. The user cannot use a deleted interface within the Oracle Communications Session Border Controller's configuration.

**swap <ethernet if name1> <ethernet if name2>**

Allows the user to change the current interface mapping by swapping the specified interface names between each other.

**Path**

interface-mapping is a command (and branch) at the root path, and is only visible on COTS and VM platform deployments.

## local-accounts

Use the local-accounts command to create, modify, or delete local accounts.

### Syntax

```
local-accounts <add | change-password | delete | reset> <user>  
[<class>]
```

### Arguments

#### **add <user> <class>**

Create an account specified by a unique username and user class. The <class> parameter must be either `user` or `admin`.

#### **change-password <user>**

Change the password of the specified user.

The admin must know the current password for the specified user.

#### **delete <user>**

Delete a specified user.

#### **reset <user>**

Reset a user's password by creating a temporary, one-time password for that user.

### Mode

Superuser

### Example

```
ORACLE# local-accounts add jamie admin
```

## log-level

The log-level command sets the system wide log-level or the log-level for a specific task or process. In addition, you can set the log type for a specific log level on a per-task basis.

### Syntax

```
log-level system <log-level> log-level <task-name | "all"> <log-level>
```

### Arguments

<log-level> Select the log level either by name or by number

- Values • emergency (1)
  - critical (2)
  - major (3)
  - minor (4)

- warning (5)
- notice (6)
- info (7)
- trace (8)
- debug (9)
- detail<task-name> Enter the task name for the log level being set<all> Change the log level for all system tasks  
Superuser

You cannot set the following tasks with the log-level command.

- authqueue
- fragHandler
- heap
- healthCheckd
- SSHD
- tLFMiBd

To set the log level for the preceding tasks, you must go to system-config and use system-log-level and process-log-level.

**Note:**

The log setting changes made by the log-level command do not persist after a reboot. Upon reboot, you must change the log settings in the system configuration for them to persist. When entering multiple log types in the log-type-list argument, use a space for separation.

**Example**

```
ORACLE# log-level system warning
```

## lshell

The **lshell** command provides debug-level system access. Do not execute this command unless instructed by Oracle Engineering or Support.

**Syntax**

```
lshell
```

**Mode**

Debug

## monitor

The monitor command displays real-time media or signaling statistics.

### Syntax

```
monitor <media | session>
```

### Arguments

- <media> - Enter the media you want to monitor
- <session> - Enter the session you want to monitor

### Mode

User

#### Note:

This command outputs real-time media and signaling statistics to the ACLI. Pressing a numerical digit (0-9) changes the refresh rate to that interval in seconds. By default, there is a 2 second refresh rate. Type "q" to exit the monitor display. Monitor session will display the equivalent of show sipd statistics, and monitor media will display the equivalent of show mbcdd statistics.

### Example

```
ORACLE# monitor media
```

## mount

The mount command starts the file system. Mounting the file system is required to bring the storage device volumes back online after they have been unmounted.

### Syntax

```
mount <data-disk | system-disk | hard-disk>
```

### Arguments

data-disk— Mount the 1 or more data partitions containing the default (/mnt/sys and /mnt/app) or user-defined volumes

system-disk—Mount 2 system partitions: /opt and /opt/crash

hard-disk—Mounts both the system partition and data partition

**Mode**

Superuser

# 3

## ACLI Commands N-Z

### notify

The notify command notifies a specific task or process of a condition that it should act. Used for runtime protocol tracing for UDP/TCP sockets, this command provides for all protocol messages for ServiceSocket sockets to be written to a log file or sent out of the Oracle Communications Session Border Controller to a UDP port.

#### Syntax

```
notify <all | <process-name>> trace <all|<socket-address><file-name>> [<out-udp-port>]
notify <all | <process-name>> notrace all|<socket-address>
```

#### Arguments

- <process-name> - Enter the name of the process you want to notify
- <socket-address> - Enter the IP address and the port on which the socket is connected
- <file-name> - Enter the name of the file you want to notify
- <out-udp-port> - Enter the IP address and port to which the log messages are sent; if the <out-udp-port> is not specified, logs are written to the <file-name>

```
ORACLE# notify all trace all aug.gz
```

### notify algd

#### Syntax

```
notify algd <log>
```

#### Arguments

<log> - Each log argument is listed and described below.

- Values:
  - nolog — Disable MBCD and MGCP message exchanges processed by the ALGD task
  - log — Enable ALGD and MGCP messages in the alg.log

#### Example 3-1 Example

```
ORACLE# notify algd log
```

## notify algd mgcp-endpoint

### Syntax

```
notify algd mgcp-endpoint <endpoint>
```

### Arguments

- <endpoint> - Delete session and corresponding gateway entries for a specified gateway. The value is the endpoint name from the Audit Name field of the RSIP. If a gateway has multiple endpoints, then the last endpoint that sent the RSIP should be used as the endpoint ID.

### Example 3-2 Example

```
ORACLE# notify algd mgcp-endpoint 1.2.0.1
```

## notify berpd force

Force a manual switchover between Oracle Communications Session Border Controllers in an HA node, regardless of the Oracle Communications Session Border Controller on which the command is executed.

### Syntax

```
notify berpd force
```

### Example 3-3 Example

```
ORACLE# notify berpd force
```

## notify mbcd

### Syntax

```
notify mbcd <arguments>
```

### Arguments

- <arguments> The following are arguments for this command:
- Values:
  - nolog—Disable MBCD logging
  - log—Enable MBCD logging
  - debug—Set the log level for MBCD. Unless a specific log type is specified, this command will use its defaults: FLOW and Media
  - nodebug —Disable setting the log level for MBCD

**Example 3-4 Example**

```
ORACLE# notify mbcdd debug
```

## notify radd reload

Changes the configurations for RADIUS dynamically by reloading the configuration data in the accounting configuration.

**Syntax**

```
notify radd reload
```

**Example 3-5 Example**

```
ORACLE# notify radd reload
```

## notify sipd

**Syntax**

```
notify sipd <arguments>
```

**Arguments**

- <arguments> - The following are arguments for this command:
- Values:
  - reload—Update configuration changes dynamically by reloading the configuration data that SIP functionality might need. This command cannot tear down any in-progress sessions, and it cannot tear down any listening sockets.
  - nosiplog—Disable the logging of SIP messages, including SIP messages as seen from the perspective of the Oracle Communications Session Border Controller's SIP proxy
  - siplog—Enable SIP logging messages in the sipmsg.log
  - report—Write all SIP process statistics to the log file
  - dump limit—Write CPU limit information to the log file
  - debug—Set log level for SIP protocol for some SIP activity
  - nodebug —Disable setting the log level for the SIP protocol for some SIP activity

**Example 3-6 Example**

```
ORACLE# notify sipd nosiplog
```



## notify syslog

### Syntax

```
notify syslog <arguments>
```

### Arguments

- <arguments> - Arguments for this command
- Values:
  - ip-address—Add a syslog server with the given IP address to the configured syslog servers. When this command is executed without any arguments, the Oracle Communications Session Border Controller is prompted to re-read the current configuration, replace any pre-existing configuration information for syslog, and begin sending syslog messages to any configured syslog servers.
  - udplog
  - noudplog
  - trace
  - notrace

### Example

```
ORACLE# notify syslog 100.1.0.20
```

## notify rotate-logs

### Syntax

```
notify <task> rotate-logs
```

### Arguments

<task> Enter the tasks' process and protocol trace logs to rotate

- Values:
  - sipd
  - sysmand
  - berpd
  - brokerd
  - lemd
  - mbcd
  - h323d
  - algd
  - radd

– all

 **Note:**

This command only applies until a reboot occurs; it is not persistent after a reboot.

**Example**

```
ORACLE
```

## notify nosyslog

**Syntax**

```
notify nosyslog <ipaddress>
```

**Arguments**

- <ipaddress> - Enter the IP address of syslog server to disable the logging of syslog messages. The notify nosyslog command executed without an argument prompts the Oracle Communications Session Border Controller to disable the logging of syslog messages sent from the system to all syslog destinations.

**Mode**

Superuser

**Release**

First appearance: 1.0 / Most recent update: 1.1

**Example**

```
ORACLE# notify nosyslog 100.1.20.30
```

## package-crashfiles

Create a tar archive of crash files in `/opt/crash` called `crashes-<date>.tar.gz`. This command also collects output files when you execute the **package-logfiles** command.

**Syntax**

```
package-crashfiles [name <file>.tar.gz] [newer-than <days>] <all>
```

**Arguments**

name—Specify the path and name of the saved file. Generally, the files should be saved to `/opt`. If the system's hard drive has been formatted with partitions, `/mnt` may be used instead.

**newer-than**—Specify a time limit, in days, on the crash files to be compressed and saved. This option counts backwards, starting with the current day. Thus the option **newer-than 5** would compress and save crash files for the past 5 days only.

**all**—Collects all formed crash files and available log files. Use this argument with caution as it may impact system performance.

#### Mode

Superuser

## package-logfiles

Create a tar archive of log files in `/opt/logs`, backup configuration, and the `support-info.log` file to `logs-<date>.tar.gz`.

#### Syntax

```
package-logfiles [name <file>.tar.gz] [newer-than <days>] <all>
```

#### Arguments

**name**—Specify the path and name of the saved file. Generally, the files should be saved to `/opt`. If the system's hard drive has been formatted with partitions, `/mnt` may be used instead.

**newer-than**— Specify a time limit, in days, on the crash files to be compressed and saved. This option counts backwards, starting with the current day. Thus the option **newer-than 5** would compress and save crash files for the past 5 days only.

**all**—Collect the `np-stats` info, `support-info.log`, running configuration, and log files. Use this argument with caution as it may impact system performance.

#### Mode

Superuser

## packet-trace

The **packet-trace** command starts or stops packet tracing on the Oracle Communications Session Border Controller. The system can save packet tracing results locally or mirror traffic to another device. The syntax differs slightly between platforms that operate over the DPDK datapath. The software recognizes the platform on which it is installed, and only supports the syntax applicable to that platform.

When the user starts a local trace, the Oracle Communications Session Border Controller stores the packets it captures in a PCAP file. Syntax initiating local packet trace can include `pcap_filter` syntax, enclosed in quotes, to refine and limit the data to capture on the Oracle Communications Session Border Controller.

When the user starts a remote trace, the Oracle Communications Session Border Controller encapsulates the packets it captures, per RFC 2003, and sends them to a user-configured **capture-receiver**. Syntax initiating remote packet trace includes specifying the endpoint, identified by the IP address, that sent or received the traffic

and the Oracle Communications Session Border Controller network interface on which to capture traffic.

### Syntax

The syntax for packet tracing follows.

```
packet-trace <local|remote> [start|stop] [all] [interface name] [capture-  
filter] [ip-address] [local-port] [remote-port]
```

To simplify, the syntax below separates arguments for **packet-trace remote**, **packet-trace local** and platform-based syntax. The syntax for remote packet tracing follows.

```
packet-trace remote <start|stop> <interface name> <ip-address> [local-port]  
[remote-port]
```

The syntax for local packet tracing on hardware datapath platforms follows.

```
packet-trace local <interface name> ["capture-filter"]
```

The syntax for local packet tracing on DPDK datapath platforms follows.

```
packet-trace local start <interface name> ["capture-filter"]
```

### Arguments

**<remote | local>** - Specifies the type of trace to run. Note that software-only deployments support only **packet-trace local**.

Remote packet trace supports IPv6 addresses in addition to IPv4. Furthermore, remote packet trace is capable of capturing IPv4 traffic when configured with an IPv6 address and vice-versa. IPv6 Remote packet trace is also capable of decoding TCP handshake traces for MSRP and MSRP traffic.

**[capture filter]** - Only applicable to local packet tracing. Configure a filter in **pcap\_filter** syntax.

**[start | stop]** - Applicable to remote packet tracing and local packet tracing on DPDK platforms. Start remote packet tracing on the Oracle Communications Session Border Controller. The start argument does not apply to local packet-trace on platforms that do not use the DPDK datapath.

- **network-interface**—The name of the network interface on the Oracle Communications Session Border Controller from which you want to trace packets; this value can be entered as either a name alone or as a name and subport identifier value (name:subportid)
- **ip-address**—IP address of the endpoint to and from which the Oracle Communications Session Border Controller will mirror calls
- **local-port**—Layer 4 port number on which the Oracle Communications Session Border Controller receives and from which it sends. This is an optional parameter; if no port is specified or if it is set to 0, then all ports will be traced.

- remote-port—Layer 4 port to which the Oracle Communications Session Border Controller sends and from which it receives. This is an optional parameter; if no port is specified or if it is set to 0, then all ports are traced.

**<stop>** - Only applicable to remote packet tracing. Manually stop packet tracing on the Oracle Communications Session Border Controller. With this command you can either stop an individual packet trace or all packet traces that the Oracle Communications Session Border Controller is currently conducting.

- all—Stops all remote traces currently operating on the system. The **all** argument does not require further arguments.
- network-interface—The name of the network interface on the Oracle Communications Session Border Controller from which you want to stop packet tracing. This value can be entered either as a name alone or as a name and subport identifier value (name:subportid).
- ip-address—IP address of the endpoint to and from which you want the Oracle Communications Session Border Controller to stop mirroring calls.
- local-port—Layer 4 port number on which to stop from receiving and sending. This is an optional parameter; if no port is specified or if it is set to 0, then all port tracing will be stopped.
- remote-port—Layer 4 port number on which to stop the Oracle Communications Session Border Controller from receiving and sending. This is an optional parameter; if no port is specified or if it is set to 0, then all port tracing will be stopped.

#### Mode

Superuser

#### Example

```
ORACLE# packet-trace remote start public:0 111.0.12.5 5060 5060
```

#### WARNING:

Do not run packet-trace simultaneously with other SBC replication features. See [Monitor Warning](#) for a complete list of which replication features can conflict with each other.

## ping

The ping command pings a remote IP address.

#### Syntax

```
ping <ip-address> [if-name:vlan] [source-ip]
```

#### Arguments

<ip-address> - Enter the IP address of host to ping

<if-name:vlan> - Enter the network interface and vlan that the system must use to send out the ping. The system uses vlan 0 if unspecified. This is an optional argument.

<source-ip> - Enter the source IP address to use. This is an optional argument.

 **Note:**

This command sends ICMP echo messages, and displays:

- minimum round trip time (RTT)
  - maximum RTT
  - average RTT
  - number of packets transmitted
  - number of packets received
  - percentage of packets lost
- The default ping timeout is 64ms.

 **Note:**

The system does not allow you to ping from a secondary SBC media interface, presenting a warning if you try. This prevents you from creating conflicts in the resolution of your interfaces in neighboring switches.

**Mode**

Superuser

**Example**

```
ORACLE# ping 100.20.11.30
```

## prompt-enabled

The Oracle Communications Session Border Controller lets you know if a configuration has been changed and you've applied the done command, but have not saved and activated yet. When you issue the done command and return to Superuser mode, the ACLI prompt prefixes two asterisks (\*\*). When you have saved, but not yet activated, the ACLI prompt prefixes one asterisk (\*).

The prompt-enabled command allows you to decide whether or not you want the Oracle Communications Session Border Controller to give you this prompt. When this command is entered without an argument, the Oracle Communications Session Border Controller displays the current setting of the prompt.

**Syntax**

```
prompt-enabled <enabled | disabled>
```

**Arguments**

**enabled** - Enable the prompt-enabled feature

**disabled** - Disable the prompt-enabled feature

**Mode**

Superuser

**Example**

```
ORACLE# prompt-enabled disabled
```

## realm-specifics

The realm-specifics command displays all configuration elements that have a specified realm ID configured.

**Syntax**

```
realm-specifics <realm-ID>
```

**Arguments**

<realm-ID> Enter the name of realm

**Mode**

User

**Example**

```
ORACLE# realm-specifics test1
```

**Note:**

If a specified realm-ID appears as a configuration parameter in any configuration element, that full element is displayed on the screen. The realm-specifics command acts as a “grep” command for a realm name that appears in any configuration element.

## reboot

The reboot command reboots the Oracle Communications Session Border Controller.

**Syntax**

```
reboot <arguments>
```

### Arguments

<arguments> The following are arguments for this command:

- Values:
  - force—Reboot the Oracle Communications Session Border Controller system using the last running configuration. The confirmation prompt is bypassed when using this command.
  - activate—Reboot the Oracle Communications Session Border Controller system using the last-saved configuration. You are presented with a confirmation prompt when using this command.
  - fast—Reboot the Oracle Communications Session Border Controller system using the last-saved configuration. This reboot skips BIOS processes, making the reboot faster. This argument is relevant only to COTS deployments. Issuing the command on Virtual Machine deployments or proprietary Oracle Communications Session Border Controller hardware does not make the reboot faster. You are presented with a confirmation prompt when using this command.
  - no argument—Reboot the Oracle Communications Session Border Controller system using the last running configuration

### Mode

Superuser

### Example

```
ORACLE# reboot activate
```

## request audit

The request audit command allows you to request the audit of a specified endpoint for SIP or H.323.

### Syntax

```
request audit <registration>
```

### Arguments

<registration> Select SIP or H.323 registration

### Mode

Superuser

### Example

```
ORACLE# request audit SIP
```



# request collection

The request collection command allows you to start and stop data collection manually in one or all collection groups.

## Syntax

```
request collection [start | stop | restart | status | purge]
<collection object>
```

- **start**— Start data collection. If a collection object is not specified, collection is performed on all groups.
- **stop**— Stop data collection. If a collection object is not specified, collection stop is performed on all groups
- **restart**— Restart data collection in general or for the collection object specified
- **purge**— Delete all data files resident on the Oracle Communications Session Border Controller for collection function
- **status**— displays the current status of all record collections and push receivers

**<collection-object>** — The collection groups you can configure to collect data information from. This is an optional argument and when no group is specified, the Oracle Communications Session Border Controller collects information from all groups. The following is a list of collection groups:

- Values :
  - dnsalg-rate - DNS-ALG rate
  - dnsalg-rate-per-addr - DNS-ALG rate per addr
  - dnsalg-rate-per-realm - DNS-ALG rate per realm
  - enum-rate - ENUM rate
  - enum-rate-per-addr - ENUM rate per addr
  - enum-rate-per-name - Request action in the ENUM rate per name
  - enum-stats - ENUM stats
  - ext-rx-policy-server - external Rx Policy Server group
  - fan - fan group
  - h323-stats - H323 Statistics group
  - interface - interface group
  - msrp-stats: MSRP statistics
  - network-util - network utilization group
  - registration-realm - registration realm group
  - sa-imsaka - Request action on Security Associations for IMS-AKA group. Only Supported for Enterprise Products.
  - sa-srtp - Request action on Security Associations for SRTP group
  - session-agent - session agent group

- session-realm - session realm group
- sip-ACL-oper - SIP ACL Operations group
- sip-ACL-status - SIP ACL Status group
- sip-agent-method - SIP methods on the session agent
- sip-client - SIP Client Transaction group
- sip-codec-per-realm - SIP codecs per realm group
- sip-errors - SIP Errors/Events group
- sip-interface-method - SIP methods on the interface
- sip-invites - SIP Invites
- sip-method - SIP methods
- sip-policy - SIP Policy/Routing group
- sip-rate - SIP rate
- sip-rate-per-agent - SIP rate per agent
- sip-rate-per-inf - SIP rate per interface
- sip-realm-method - SIP methods on the realm
- sip-server - SIP Server Transaction group
- sip-sessions - SIP Session Status group
- sip-srvcc - SIP SRVCC group. Only Supported for Enterprise Products.
- sip-status - SIP Status group
- subjects - subjects group
- space - space group
- survivability-sip-errors - Survivability SIP Errors/Events group. Only Supported for Enterprise Products.
- survivability-sip-invites - Survivability SIP Invites. Only Supported for Enterprise Products.
- survivability-sip-registration - Survivability SIP Registrations. Only Supported for Enterprise Products.
- survivability-sip-status - Survivability SIP Status group. Only Supported for Enterprise Products.
- system - system group
- temperature - temperature group
- thread-event - thread event group
- thread-usage - thread usage group
- tscf-stats - tscf-stats group
- voltage - voltage group
- xcode-codec-util - Transcoding Codec Utilization group
- xcode-session-gen-info - general info about transcoding sessions
- xcode-tcm-util - Transcoding TCM Utilization group

## reset

### Mode

Superuser

The reset command resets statistic counters.

### Syntax

```
reset <statistic>
```

### Arguments

<statistic> The following is a list of specific statistics which you can tell the Oracle Communications Session Border Controller to reset:

- `algd` — Reset `algd`-related statistics shown in the `show algd` command.
- `all` — Reset the statistics shown in the following commands: `show sipd`, `show mbcd`, `show algd`, `show mbcd redundancy`, `show algd redundancy`, `show sipd redundancy`, `show redundancy mbcd`, `show redundancy algd`, `show redundancy`, `show memory`.
- `application` — Reset the application statistics shown in the `show application` command.
- `auth`—Reset statistics related to authorization (RADIUS or DIAMETER) processes.
- `bfd`—Reset statistics being collected on BFD sessions.
- `dns` — Reset DNS statistics.
- `ebmd` — Reset EMBD (External Band Manager Daemon) statistics.
- `enum` — Reset ENUM statistics.
- `h323d` — Reset the `h323`-related signaling statistics.
- `lrt` — Reset Local Routing statistics.
- `mbcd` — Reset `mbcd`-related statistics shown in the `show mbcd` command (except statistics related to high availability).
- `net-management-control` — Reset Network Management Control statistics.
- `nsep-stats` — Reset counters for NSEP-related statistics; to reset counters for a specific `r-value`, add the specific `r-value` to the end of the command.
- `radd` — Reset accounting (RADIUS or DIAMETER accounting connection) statistics.
- `redundancy` — Resets redundancy statistics for most tasks that implement redundancy including lifetime values that are not reset after a switchover. Exceptions include the `sipd` redundancy object statistics and the `sipd` queue command statistics.
- `security-associations` — Reset Security Association statistics.
- `session-agent <hostname>` — Reset statistics for a specified session agent.
- `sipd` — Reset `sipd` statistics in the `show sipd` command.

- `snmp-community-table` — Reset the counters on SNMP community table statistic.
- `snmp-stats`—Reset the SNMPv3 statistics associated with SNMPv3 entries, which includes entries made using the **`snmp-user-entry`** and **`snmp-address-entry`** commands.
- `spl <filename>` — reloads the supplied filename.
- `stir` — Reset statistics for STIR servers.
- `tacacs-stats` — Reset the TACACS+ statistics
- `trap-receiver` — Reset the counters for trap receiver statistics.

 **Note:**

This command is used to clear existing SIP, MBCD, ALGD, high availability, and application statistics and to reset the values for one or all of these statistics to zero. Executing the reset command sets the period and lifetime statistics totals to zero, but the active statistics counts are still retained.

**Mode**

Superuser

## restore-backup-config

The `restore-backup-config` command restores a named backup configuration.

**Syntax**

```
restore-backup-config <config-name> [saved | running]
```

**Arguments**

`<config-name>` Enter the name of backup configuration to restore.  
`<saved>` Restore the configuration to the last saved configuration. This is an optional argument.  
`<running>` Restore the configuration to the last running configuration. This is an optional argument.

**Mode**

Superuser

 **Note:**

Use the `display-backups` command to view the backups that are available to be restored.

**Example**

```
ORACLE# restore-backup-config FEB_07.gz saved
```

## run configuration-assistant

Use the `run configuration-assistant` command to launch the Configuration Assistant. After you launching, the Configuration Assistant requests your input to set up the initial configuration for your deployment.

### Syntax

```
run configuration-assistant
```

### Mode

#### Superuser

```
<prompt> # run configuration-assistant
```

```
Thank you for purchasing the Oracle Enterprise Session Border  
Controller.  
The following Configuration Assistant guides you through the initial  
configuration  
and restarts the system.
```

```
-----  
-----
```

```
List of deployments
```

```
1. MSTeams
```

```
Enter '1' to choose Microsoft Teams v1.1 [MSTeams.gz].
```

```
Enter '1?' to get description of Microsoft Teams v1.1 [MSTeams.gz].
```

```
Please select a deployment (Enter 'q' to exit):
```

## save-config

The `save-config` command saves the current configuration to the Oracle Communications Session Border Controller's last-saved configuration, stored in flash memory.

### Syntax

```
save-config <type>
```

### Arguments

<type> Chooses the file format for the internal configuration file.

- Values:
  - `standard`—Use standard XML as the file format
  - `non-standard`—Use non-standard, legacy XML for the file format

 **Note:**

When this command is executed and resources are sufficient, the Oracle Communications Session Border Controller notifies you that the configuration has been saved successfully and the current configuration number will be incremented by one.

**Mode**

Superuser

**Example**

```
ORACLE# save-config
```

## secret

The secret command sets the User and Superuser passwords.

**Syntax**

```
secret <user level>
```

**Arguments**

<user level> Each user level argument is listed and explained below.

- Values:
  - login—Set the SBC's user password
  - enable—Set the SBC's superuser password
  - backup—Set the backup password
  - config—Set the configuration password

 **Note:**

The ACLI does not echo the password you enter. You will be prompted to enter the new password twice. The complexity requirements display on the screen.

 **Note:**

For security purposes, please use different passwords for the user and superuser accounts.

**Mode**

Superuser

**Example**

```
ORACLE# secret login
```

## set-system-state

The set-system-state command sets the Oracle Communications Session Border Controller as either online or offline.

**Syntax**

```
set-system-state <state>
```

**Arguments**

<state> Select the system state

- Values :
  - online—Enable online system state
  - offline—Enable offline system state

 **Note:**

The offline setting puts the Oracle Communications Session Border Controller into a state where it is powered on and available for administrative purposes, but does not accept calls. Existing calls in progress are not affected.

**Mode**

Superuser

**Example**

```
ORACLE# set-system-state online
```

## set-boot-file

The set-boot-file /boot/<filename> command allows you to change the image running on the SBC.

**Syntax**

```
set-boot-file /boot/<filename>.bz
```

**Argument**

<filename> Specify the name of the image file you want to run.

**Mode**

Superuser

**Example**

```
ORACLE# set-boot-file /boot/12-1-19.bz
```

## set-boot-loader

The **set-boot-loader** command copies the supplied filename to `/boot/bootloader`. Invalid bootloaders that fail the integrity check are not copied but return an error message.

**Syntax**

```
set-boot-loader <filename-path>
```

**Arguments****<filename-path>**

Enter the full path to the new bootloader.

**Mode**

Superuser

**Example**

```
ORACLE# set-boot-loader /code/images/nnSCZ840p4.boot
Verifying signature of /code/images/nnSCZ840p4.boot
Version: Acme Packet SCZ8.4.0 Patch 4 (Build 219) 202001050218

Image integrity verification passed

Successfully copied /code/images/nnSCZ840p4.boot to /boot/bootloader
ORACLE#
```

## setup entitlements

The **setup entitlements** command is used to self configure entitlements for the product you chose in the **setup product** command. By executing this command, you will be faced with a list of valid entitlements for the product-platform-software combination you are currently running. You can select entitlements to enable or provision capacity based entitlements from this command.

**Syntax**

```
setup entitlements
```



**Mode**

Superuser

## setup product

The setup product command is used to assign a product type to this instance of software and hardware combination. By executing this command, you will be faced with a list of valid products, based on platform, that you may provision this system as. Choose the appropriate product and hit the <Enter> key to accept.

**Syntax**

```
setup product
```

**Mode**

Superuser

```
ORACLE# setup product
```

-----  
**WARNING:**

```
Alteration of product alone or in conjunction with entitlement
changes will not be complete until system reboot
```

```
Last Modified
```

-----  

```
1 : Product          : Uninitialized
```

```
Enter 1 to modify, d' to display, 's' to save, 'q' to exit. [s]: 1
```

```
Product
```

- 1 - Session Border Controller
- 2 - Session Router - Session Stateful
- 3 - Session Router - Transaction Stateful
- 4 - Subscriber-Aware Load Balancer
- 5 - Enterprise Session Border Controller
- 6 - Peering Session Border Controller

```
Enter choice      : 1
```

```
Enter 1 to modify, d' to display, 's' to save, 'q' to exit. [s]: s
save SUCCESS
```

## ssh-password

The ssh-password command creates SSH login accounts and passwords for secure access into a Oracle Communications Session Border ControllerC.

### Syntax

```
ssh-password <username> <password>
```

### Arguments

<username> — Enter the username of the new account or the username of the existing SSH account

<password> — Enter a password for the new account or a new password for the existing account

### Mode

Superuser

 **Note:**

Passwords must be 6-9 characters with at least one non-alphabetical character. To execute this command, you must type `ssh-password` and press <enter>. You will be prompted for the user name to create and the password for the account. You can change the password of a previously existing account by entering the existing username when prompted. You will be prompted a second time to re-enter the password for confirmation.

### Example

```
ORACLE# ssh-password user1 acme
```

## shell

The shell command provides debug-level system access. Do not access the shell unless specifically instructed by Oracle Engineering and Support.

### Syntax

```
shell
```

### Mode

Debug

## show

The show command displays Oracle Communications Session Border Controller statistics, configurations, and other information. Many of the show commands display period and lifetime statistic counts.

## show about

This command displays credit information including version number for the Oracle Communications Session Border Controller. It also shows current third party licenses applicable to the software image you are running.

### Syntax

```
show about
```

### Example

```
ORACLE# show about
```

## show acl

### Syntax

```
show acl <arguments>
```

### Arguments

denied—Display denied ACL entries

untrusted—Display untrusted ACL entries

trusted—Display trusted ACL entries

info—Display amount of table space used by ACL entries. Number of entries, percent utilization, and maximum entries are displayed for each ACL type. The following are the ACL types displayed:

- Denied
- Trusted
- Media
- Untrusted
- Dynamic-trusted

reset—Reset the summary counts of all host ACL entries

summary—Displays cumulative and per-interface statistics on ACL traffic and drops, displaying Recent, Total and PerMax counts. The parameter also separates the display of traffic from trusted versus untrusted sites.

ip—Display the same output as show acl all, but takes an IP address as an argument to filter all ACL statistics for the given IP address

all—Display all ACL entries

### Example

```
ORACLE# show acl untrusted
```

## show accounting

This command displays a summary of statistics for configured external accounting servers.

### Syntax

```
show accounting [<IPPort> | All] | [connections] | [ servers ]
```

### Arguments

Entered without any arguments, the **show accounting** command displays the global Accounting Status Summary, returning the equivalent of the **show accounting all** command but without per-server message statistics. The command also reports on specific Diameter message for which you want to show information, including:

- CER/CEA—Capabilities Exchange Request /Answer
- ACR/ACA—Accounting Charging Request/Answer
- DWR/DWA—Device Watchdog Request/Answer
- DPR/DPA—Disconnect Peer Request/Answer

**IPPort** — identifies the IP address of the accounting server and the specific port for which you want to show information, in the form **IP\_Address:port**. This is useful when an Rf server has multiple connections to multiple external servers.

**All** — displays the statistics for all accounting servers

**connections** — displays a table listing socket connection information for all Rf servers

**servers** — displays a table listing server status based on the use of FQDNs to specify diameter servers, and the presence of specific servers within primary or secondary pools.

### Example

```
ORACLE# show accounting 192.168.81.81:1813
```

## show arp

This command displays the current Internet-to-Ethernet address mappings in the ARP table as well as statistics related to arp resolutions and its traffic.

### Syntax

```
show arp [info | statistics]
```

### Arguments

Entered without an argument, the **show arp** command displays the current Internet-to-Ethernet address mappings in the ARP table.

The first section displays the Link Level ARP table including:

- destination address
- ARP gateway
- flags
- reference count
- use
- physical interface on the system.

The second section displays the following information that refers only to media interfaces:

- interface
- VLAN
- IP Address
- MAC address
- time stamp
- type

The third section shows general ARP table information.

**info**—Displays the layer 2 and network interface tables for arp database size and number of entries.

**statistics**—Displays ARP statistics counters for received traffic, transmitted traffic and internal errors.

The first section shows statistics on ARP traffic received.

- Add intf—Number of the added intfs and number of the add failures.
- Delete intf—Number of the deleted intfs and number of the deletion failures.
- Flush intf—Number of the flushed intfs and number of the flushing failures. (L2 resolver flushes the interfaces to get rid of the invalid ports.)
- Add dynamic—Number of the added dynamic I2 entries and number of the add failures.
- Add static—Number of the added static I2 entries and number of the add failures.
- Delete dynamic—Number of the deleted dynamic I2 entries and number of the deletion failures.
- Delete static—Number of the deleted static I2 entries and number of the deletion failures.
- Pend—Number of the received I2 messages pending on processing, number of the pending errors, and number of the dropped pending msgs
- Request—Number of the total received I2 requests, number of the request updates, and number of the dropped invalid requests.
- Reply—Number of the total received I2 replies, number of the reply updates, and number of the dropped invalid replies.

- Network—Number of the total received I2 messages from wire, and number of the errors in validating the received I2 messages, which includes invalid I2 packets, subnet errors, ip errors, invalid operations, and net interface errors.
- L2 Pkts—Number of the received invalid I2 packets.
- Subnet—Number of the ip errors.
- Intf—Number of the net intf errors.
- IP—Number of the net intf errors.
- Operation—Number of the net operations errors.

The second section shows statistics on ARP traffic transmitted.

- Request—Number of ARP requests sent for both success and error cases.
- Reply—Number of ARP replies sent for both success and error cases.
- Pend—Number of pending ARP requests for both success and error cases.
- Network—Number of ARP messages sent to network device for both success and error cases.
- Expire—Number of expired/aged ARP entries for both success and error cases.

## show backup-config

### Syntax

```
show backup-config <config-file>
```

### Arguments

<config-file> Enter the name of the saved configuration file

The show backup-config command displays a specified configuration file saved on the Oracle Communications Session Border Controller's standard backup file directory.

### Example

```
ORACLE# show backup-config config1_25jun.gz
```

## show bfd-stats

The bfd-stats command shows Bidirectional Forwarding Detection (BFD) statistics. Use this command to display summary statistics on all BFD sessions, including active session detail and errors. Use the session argument to display detailed statistics on individual sessions.

### Syntax

```
show bfd-stats <errors | session [session-id <detail | messages | errors> ]>
```

### Arguments

<errors> Limits the output to system error only.

<session> Presents status information on a per-session basis. Accepts further arguments.

<session-id> Limits the output to the specified session. Accepts one of three further arguments.

<details> Extends the session output.

<messages> Presents message statistics associated with this session.

<errors> Presents error statistics associated with this session.

#### Mode

Superuser

#### Example

```
ORACLE# show bfd-stats
```

## show buffers

#### Syntax

```
show buffers <histogram | usage>
```

This command shows memory buffer statistics. Use this command only for debugging purposes under the direction of Oracle support.

#### Example

```
ORACLE# show buffers
```

## show built-in-sip-manipulations

This command displays the name of all built-in SIP-manipulations and descriptions.

#### Syntax

```
show built-in-sip-manipulations
```

#### Example

```
ORACLE# show built-in-sip-manipulations
```

## show call-recording-server



#### Note:

This command is deprecated.

This command displays information regarding the IP call replication for call recording (IPRCR) feature configured on the Oracle Communications Session Border Controller.

Entering this command without the optional IPRCR ID displays all IPRCR endpoints configured on the Oracle Communications Session Border Controller along with their state.

### Syntax

```
show call-recording-server [crs-id]
```

### Arguments

[crs-id] You can specify a IPRCR whose information you want to view. When you specify an ID, the ACLI displays all session agents created for the IPRCR endpoint, its IP address, its state, and the last time a failover occurred.

### Example

```
ORACLE# show call-recording-server crs1
```

## show clock

This command displays the current date and time for your Oracle Communications Session Border Controller.

### Syntax

```
show clock
```

### Example

```
ORACLE# show clock
```

## show comm-monitor

### Syntax

```
show comm-monitor <by-client client-IP> | <errors> | <internal> | stats
```

Displays statistics related to connections between the Oracle Communications Session Border Controller's Communications Monitor probe and any configured Communications Monitor servers. The maximum statistic value is 999999, after which the system restarts the counters from zero.

Running the command without arguments displays the following information:

- Client connection states, presented in a connection sequence order, including:
  - Out-of-Service – Connection is not established.
  - Connecting – Trying to Connect to the Oracle Communications Session Border Controller.
  - Connected – Oracle Communications Session Border Controller connected but not able to collect stats.



- In-Service – Oracle Communications Session Border Controller connected and able to collect stats.
- Aggregate Socket Statistics, including:
  - Socket Message Sent—Number of Socket Message Sent.
  - Socket Message Dropped—Number of Socket Messages dropped
  - Socket Send Error—Number of Socket Send Errors
  - Socket Not Ready—Number of Sockets Not Ready
  - Socket Timeouts—Number of Socket timeouts
  - Socket Disconnects—Number of Socket disconnects
  - Socket Reconnects—Number of Socket Reconnects
- Client connection statistics, including:
  - Handshake Msg Sent—Count for number of handshakes sent from the Oracle Communications Session Border Controller to the Session Monitor server
  - Handshake Msg ACK—Count for number of handshakes acknowledged by the Communications Monitor server
  - Handshake Msg NAK—Count for number of handshakes not acknowledged by the Communications Monitor server
  - Keep Alive—Signal which keeps the connection between the Oracle Communications Session Border Controller and the Communications Monitor Server
  - SIP UDP Send Msg Sent—UDP Message sent from the SIP client to the Oracle Communications Session Border Controller or the SIP server to the Oracle Communications Session Border Controller
  - SIP UDP Recv Msg Sent—UDP Message received sent by the Oracle Communications Session Border Controller to SIP client or the Oracle Communications Session Border Controller to the SIP server
  - SIP TCP Send Msg Sent—TCP Message sent from SIP client to the Oracle Communications Session Border Controller or the SIP server to the Oracle Communications Session Border Controller
  - SIP TCP Recv Msg Sent—TCP Message received sent by the Oracle Communications Session Border Controller to the SIP client or the Oracle Communications Session Border Controller to the SIP server
  - SIP SCTP Send Msg Sent—SCTP Message sent from the SIP client to the Oracle Communications Session Border Controller or the SIP server to the Oracle Communications Session Border Controller
  - SIP SCTP Recv Msg Sent—SCTP Message received sent by the Oracle Communications Session Border Controller to the SIP client or the Oracle Communications Session Border Controller to the SIP server
  - ENUM Sent Msg Sent—ENUM Message sent from the SIP client to the Oracle Communications Session Border Controller or the SIP server to the Oracle Communications Session Border Controller
  - ENUM Recv Msg Sent—ENUM Message received sent by the Oracle Communications Session Border Controller to the SIP client or the Oracle Communications Session Border Controller to the SIP server

## Arguments

**by-client <client-IP>**—Shows the same statistics as the command presents without arguments, but limits the output to the specified client.

**errors**—Display information on errors that may occur between the Oracle Communications Session Border Controller and the client.

- **Buffer Error**—The number of errors occurring on the connection related to Oracle Communications Session Border Controller buffer space.
- **Socket Message Dropped**—The number of messages traversing the specified socket that the Oracle Communications Session Border Controller has dropped.
- **Socket Disconnects**—The number of times a connection between the Oracle Communications Session Border Controller and the client has been lost.

**internal**—Shows the same statistics as the command presents without arguments, but limits the output to statistics related to the Oracle Communications Session Border Controller's perspective. Information displayed includes:

- **SIP UDP Send Msg Sent**—UDP Message sent from the SIP client to the Oracle Communications Session Border Controller or the SIP server to the Oracle Communications Session Border Controller
- **SIP UDP Recv Msg Sent**—UDP Message received sent by the Oracle Communications Session Border Controller to SIP client or the Oracle Communications Session Border Controller to the SIP server
- **SIP TCP Send Msg Sent**—TCP Message sent from SIP client to the Oracle Communications Session Border Controller or the SIP server to the Oracle Communications Session Border Controller
- **SIP TCP Recv Msg Sent**—TCP Message received sent by the Oracle Communications Session Border Controller to the SIP client or the Oracle Communications Session Border Controller to the SIP server
- **SIP SCTP Send Msg Sent**—SCTP Message sent from the SIP client to the Oracle Communications Session Border Controller or the SIP server to the Oracle Communications Session Border Controller
- **SIP SCTP Recv Msg Sent**—SCTP Message received sent by the Oracle Communications Session Border Controller to the SIP client or the Oracle Communications Session Border Controller to the SIP server
- **ENUM Sent Msg Sent**—ENUM Message sent from the SIP client to the Oracle Communications Session Border Controller or the SIP server to the Oracle Communications Session Border Controller
- **ENUM Recv Msg Sent**—ENUM Message received sent by the Oracle Communications Session Border Controller to the SIP client or the Oracle Communications Session Border Controller to the SIP server

**stats**—Shows the same statistics as entering the command without an argument.

## Example

```
ORACLE# show comm-monitor by-client 123.1.11.5
```

## show configuration

### Syntax

```
show configuration [to-file] [configuration-element]
```

This command entered without any arguments displays the current configuration. If you use any configuration element as an argument, this show command will display each instance of only the specified configuration element.

### Arguments

<to-file> — Send all output from the show config command to a specified file located on the local flash file system instead of to the ACLI. This is an optional argument.

<configuration-element> — Specify the configuration element you want to view. This is an optional argument. If you do not specify a configuration element, the Oracle Communications Session Border Controller displays the entire configuration. The following is a list of valid configuration elements:

- Values
  - account-config— Show account-config configuration
  - access-control—Show access-control configuration
  - audit-logging—Show the audit logging configurations
  - auth-params—Show the auth-params configurations
  - authentication—Show the authentication configuration
  - cert-status-profile—Show certificate status profile
  - call-recording-server—Show call-recording-server configurations
  - certificate-record—Show the certificate record configuration
  - class policy—Show all ClassPolicy configuration
  - data-flow—Show the data-flow configurations
  - dns-config—Show all dns-config configurations
  - dpd-params—Show the dpd-params configurations
  - enum-config—Show the enum-config configuration
  - ext-policy-server—Show the external-policy-server configuration
  - h323-config—Show h323 configuration
  - h323-stack—Show all h323-stack configurations
  - ike-certificate-profile—Show the ike-certificate-profile configurations
  - ike-config—Show the ike-config configuration
  - ike-interface—Show the ike-interface configurations
  - ike-sainfo—Show the ike-sainfo configurations
  - ims-aka-profile—Show the ims-aka-profile configurations
  - ipsec-global-config—Show the ipsec-global-config configurations

- iwf-stack—Show iwf-stack configuration
- host-route—Show all host-route configurations
- local-address-pool—Show the local-address-pool configurations
- local-policy—Show all local-policy configurations
- local-response-map—Show sip-local-map configuration
- login-config—Show the login configurations
- media-profile—Show all media-profile configurations
- media-manager—Show media-manager configuration
- media-policy—Show all MediaPolicy configurations
- network-interface—Show all network-interface configurations
- network-parameters—Show all network-parameters configurations
- ntp-config—Show ntp-config configuration
- capture-receiver—Show capture-receiver configurations
- phy-interface—Show all phys-interface configurations
- public-key—Show the public-key configurations
- realm-config—Show all realm configurations
- q850-sip-map—Show q850-sip-map configurations
- qos-constraints—Show the qos-constraints configurations
- redundancy-config—Show redundancy-config configuration
- sip-response-map—Show all response map configurations
- rph-profile—Show rph-profile configurations
- rph-policy—Show rph-policy configurations
- session-agent—Show all session-agent configurations
- session-group—Show all session-group configurations
- session-translation—Show all session-translation configurations
- session-router—Show session-router configuration
- sip-config—Show all sip-config configurations
- sip-feature—Show all sip-feature configurations
- sip-interface—Show all sip-interface configurations
- sip-manipulation—Show all of the sip-manipulation configurations
- sip-nat—Show all sip-nat configurations
- sip-profile—Show the sip-profile configurations
- sip-isup-profile—Show the sip-isup-profile configurations
- enforcement-profile—Show enforcement-profile configurations
- sip-q850-map—Show sip-q850-map configuration
- snmp-community—Show all snmp-community configurations
- ssh-config—Show the SSH configurations

- static-flow—Show all static-flow configurations
- steering-pool—Show all steering-pool configurations
- realm-group—Show realm-group configurations
- surrogate-agent—Show all of the surrogate-agent configurations
- system-config—Show system-config configuration
- tls-profile—Show TLS profile configurations
- translation-rules—Show all translation-rules configurations
- trap-receiver—Show all TrapReceiver configurations
- codec-policy—Show all codec-policy configurations
- local-routing-config—Show all local-routing configurations
- net-management-control—Show all net-management-control configurations
- security-association—Show all security-association configurations
- security-policy—Show all security-policy configurations
- password-policy—Show password-policy configuration
- session-constraints—Show all session-constraint configurations
- system-access-list—Show all system-access-list configurations
- tls-global—Show all tls-global configurations
- inventory—Display an inventory of all configured elements on the Oracle Communications Session Border Controller

### Example

```
ORACLE# show configuration snmp-community
```

## show directory

This command displays a list of file directories on the storage expansion module. Disk space on the Storage Expansion Module appears as a local volume on the Oracle Communications Session Border Controller.

### Syntax

```
show directory <path>
```

### Arguments

<path> Enter the absolute path of the file directory with a forward slash preceding the path name.

### Mode

Superuser

**Example**

```
ORACLE# show directory /logs
```

## show dns

**Syntax**

```
show dns < stats | cache-entry | lookup <arguments> | query <arguments> >
```

**Arguments****stats**

Show the statistics for the dns configuration. Your entries must follow the following formats:

- NAPTR records—NAPTR:abc.com
- SRV records—SRV:\_sip.\_tcp.abc.com
- A records—A:abc.com

**cache-entry**

Look in the DNS cache for a specific entry. Your entries must follow the following formats:

- NAPTR records—NAPTR:abc.com
- SRV records—SRV:\_sip.\_tcp.abc.com
- A records—A:abc.com

**lookup**

Perform a domain name services (DNS) query, first by an internal DNS cache lookup and then, if no results are found, perform an external DNS query from the command line.

Subsequent arguments include:

- realm— Realm name to use for DNS cache lookup key
- type— Type of DNS query:
  - A for IPv4 lookup
  - AAAA for IPv6 lookup
  - SRV for service records, e.g. SRV\_sip\_tcp.abc.com
  - NAPTR for naming authority pointers, e.g. NAPTR.abc.com
- name— Fully qualified domain name (FQDN) of DNS name to lookup

**query**

Perform a manual external Domain Name Services (DNS) query from the command line. Subsequent arguments include:

- realm— Realm name to use for DNS cache lookup key
- type— Type of DNS query:

- A for IPv4 lookup
- AAAA for IPv6 lookup
- SRV for service records, e.g. SRV\_sip\_tcp.abc.com
- NAPTR for naming authority pointers, e.g. NAPTR.abc.com
- name— Fully qualified domain name (FQDN) of DNS name to lookup

**Example**

```
ORACLE# show dns stats
```

## show dnsalg rate

show dnsalg rate command

Displays the transaction rate of DNS ALG bound and sourced messages.

## show entitlements

Use the **show entitlements** command to display all currently provisioned features and controlled features on the system. You can also use the **setup entitlements** command and type **d** to display the current features. The first time you execute the **setup entitlements** command, the system displays all provisioned features (excluding controlled features). You can edit the existing features, so long as you do not change the product type.

**Syntax**

```
show entitlements
```

**Example 3-7 Show Entitlements Example**

```
Provisioned Entitlements:
```

```
-----
Session Border Controller Base      : enabled
Session Capacity                    : 32000
  Accounting                         : enabled
  IPv4 - IPv6 Interworking           : enabled
  IWF (SIP-H323)                    : enabled
  Load Balancing                    : enabled
  Policy Server                      : enabled
  Quality of Service                 : enabled
  Routing                            : enabled
  SIPREC Session Recording           : enabled
Admin Security                      :
ANSSI R226 Compliance                :
IMS-AKA Endpoints                   : 750000
IPSec Trunking Sessions              : 1024
MSRP B2BUA Sessions                 : 128000
SRTP Sessions                       : 128000
Transcode Codec AMR Capacity         : 100
```

```
Transcode Codec AMRWB Capacity    : 110
Transcode Codec EVRC Capacity     : 120
Transcode Codec EVRCB Capacity    : 130
Transcode Codec EVS Capacity      : 140
Transcode Codec OPUS Capacity     : 150
Transcode Codec SILK Capacity     : 160
TSCF Tunnels                      : 1024
```

#### Keyed (Licensed) Entitlements

```
-----
<CustomerName> License
```

```
MGCP
PAC
LI
TLS
Software TLS
H248
H248 SCF
H248 BGF
LI Debug
Session Replication for Recording
Transcode Codec AMR (uncapped AMR transcoding sessions)
Transcode Codec EVRC (uncapped EVRC transcoding sessions)
DoS
RTSP
Transcode Codec EVRCB (uncapped EVRCB transcoding sessions)
Software PCOM
Security Gateway
SIP Authorization/Authentication
Database Registrar (320000 contacts)
SLB (2000000 endpoints)
Software SRTP
Allow Unsigned SPL files
Diameter Director
Transcode Codec AMR-WB (uncapped AMRWB transcoding sessions)
CX
Transcode Codec Opus (uncapped OPUS transcoding sessions)
Transcode Codec SILK (uncapped SILK transcoding sessions)
Fraud Protection
GTP
```

## show enum

### Syntax

```
show enum <arguments>
```

Displays ENUM statistics for your Oracle Communications Session Border Controller.

### Arguments

Each valid enum argument is listed below:



- all—Shows stats summary of all ENUM Agents
- cache-entry—Look in the ENUM cache for a specific entry
- h323d —Shows stats summary of all h323d ENUM Agents
- lookup—Query an ENUM cache for a specific E.164 number
- sipd —Shows stats summary of all sipd ENUM Agents
- stats—Show the statistics for the ENUM configuration
- status—Show the state of configured ENUM agents
- rate—Displays the transaction rate of ENUM messages

The following information may be displayed for each output:

- Enum Agent—Name of enum agents
- Queries Total—Number of enum queries
- Successful Total—Number of successful enum queries
- Not Found Total—Number of enum queries returning not found
- Timeout Total—Number of enum query timeouts

#### Example

```
ORACLE# show enum lookup
```

## show ext-band-mgr

#### Syntax

```
show ext-band-mgr
```

This command shows the external bandwidth manager / PDP/RACF statistics for the active, period, and lifetime monitoring spans. COPS message counts are shown for Recent and lifetime monitoring spans.

#### Example

```
ORACLE# show ext-band-mgr
```

## show ext-clf-svr

#### Syntax

```
show ext-clf-svr
```

This command shows the CLF connection statistics for the active, period, and lifetime monitoring spans. CLF message counts are shown for Recent and lifetime monitoring spans.

**Example**

```
ORACLE# show ext-clf-svr
```

## show fax-group stats

**Syntax**

```
show fax-group stats [fax-group name]
```

Run this command to display statistics about traffic handled by one or more fax-groups.

**Example**

```
ORACLE# show fax-group stats mygroup
```

## show features

**Syntax**

```
show features
```

This command shows the currently enabled features based on added licenses.

**Example**

```
ORACLE# show features
```

## show h323d

**Syntax**

```
show h323d <arguments>
```

This command displays H.323 statistics for your Oracle Communications Session Border Controller.

**Arguments**

status—Display H.323 server status. The following statistics are displayed when this command is entered:

- Incoming Calls—Number of incoming H.323 calls; displayed for period, lifetime, and active counts
- Outgoing Calls—Number of outgoing H.323 calls; displayed for period, lifetime, and active counts
- Connected Calls—Number of currently connected H.323 calls; displayed for period, lifetime, and active counts

- Incoming Channels—Number of established incoming channels; displayed for period, lifetime, and active counts
- Outgoing Channels—Number of established outgoing channels; displayed for period, lifetime, and active counts
- Contexts—Number of established H.323 contexts; displayed for period, lifetime, and active counts
- Queued Messages—Number of messages queued; displayed for current and lifetime durations
- TPKT Channels—Number of TPKT channels open(ed); displayed for current and lifetime durations
- UDP Channels—Number of UDP channels open(ed); displayed for current and lifetime durations

config—Display the H.323 configuration

agentstats—Display H.323 session agent statistics. By typing show h323d agentstats <agent>, you can view activity for the H.323 session agent that you specify.

groupstats—Display session information for session agent groups

h323stats—Display H.323 stacks and statistics on the Oracle Communications Session Border Controller. The display identifies the H.323 stack by its name and then provides the data for each H.323 stack. Adding a stackname h323d h323stats <stack-name> displays detailed statistics for the H.323 stack that you specify. This information is displayed according to the following categories: H.225, H.245, and RAS.

registrations—Display H.323 registration endpoints information

sessions all—Display all H.323 sessions currently on the system

sessions by-agent <agent name>—Display H.323 sessions for the session agent specified; adding iwf to the end of the command shows sessions for the IWF; adding detail to the end of the command expands the displayed information

sessions by-callid <call ID>—Display H.323 sessions for the call ID specified; adding iwf to the end of the command shows sessions for the IWF; adding detail to the end of the command expands the displayed information

sessions by-ip <endpoint IP address>—Display H.323 sessions for the specified IP address for an endpoint; adding iw to the end of the command shows sessions for the IWF; adding detail to the end of the command expands the displayed information

sessions by-user <calling or called number.>—Display H.323 sessions for the specified user; adding iw to the end of the command shows sessions for the IWF; adding detail to the end of the command expands the displayed information

stack-alarms—Display a list of H.323 stacks that raised an alarm

stackCallstats—Show a summary of H.323 call statistics for all stacks

stackPvtstats—Show a summary of H.323 stack's internal data structures

stackDisconnectInstats—Show a summary of H.323 pvt statistics for all stacks

tackDisconnectOutstats— Show Summary of H.323 pvt statistics for all stacks

Executing the show h323 command without any arguments will return the same output as using the status argument.

**Example**

```
ORACLE# show h323d status
```

## show health

**Syntax**

```
show health
```

In HA architectures, the show health command displays the following information:

- Health score
- Current Oracle Communications Session Border Controller HA state as active, standby, or out of service
- If media flow information is synchronized for both supported protocols: SIP and H.323 (true/false). If media flow information is not available, Media Synchronized disabled will be displayed in the show health output.
- If SIP signaling information is synchronized (true/false). If SIP signaling is not available, SIP Synchronized disabled will be displayed in the show health output.
- If configuration information is synchronized (true/false). If configuration checkpointing is not available, Config Synchronized disabled will be displayed in the show health output.
- IP address of the current HA Oracle Communications Session Border Controller's active peer (no peer is denoted with an IP address of 0.0.0.0)
- Last message received from the HA Oracle Communications Session Border Controller peer
- A switchover log containing the last 20 switchover events

**Example**

```
ORACLE# show health
```

## show imports

This command displays the list of sip-manipulation rules exported as files to the /code/imports directory.

**Syntax**

```
show imports
```

**Mode**

Superuser

### Example

```
ORACLE# show imports
```

## show interface-mapping

### Syntax

```
show interface-mapping
```

This command is deprecated. Equal functionality is provided using the **interface-mapping** branch's **show** command and the **show interfaces mapping** command.

## show interfaces

### Syntax

```
show interfaces [brief] [ethernet] [mapping]
```

The show interfaces command shows all information concerning the Oracle Communications Session Border Controller's rear interfaces:

- Flags (such as loopback, broadcast, promiscuous, ARP, running, and debug)
- Type
- Internet address
- VLAN ID (if applicable)
- Broadcast address (if applicable)
- Netmask
- Subnet mask (if applicable)
- Gateway (if applicable)
- Ethernet (MAC) address (if applicable)
- Route metric
- Maximum transfer unit size
- Number of octets sent and received on this interface (if applicable)
- Number of packets sent and received on this interface
- Number of non-unicast packets sent and received on this interface (if applicable)
- Number of unicast packets sent and received on this interface (if applicable)
- Number of multicast packets sent and received on this interface (if applicable)
- Number of input discards (if applicable)
- Number of input unknown protocols (if applicable)
- Number of input and output errors

- Number of collisions
- Number of drops  
This command also displays information for loopback interfaces.

### Arguments

<brief> Allows you to view key running statistics about the operational interfaces within a single screen. This is an optional argument.

<ethernet> Allows you to view status information on all configurable interfaces within a single screen. This is an optional argument.

<mapping> Provides the same functionality as the **interface-mapping** branch's **show** command. This is an optional argument available only on VNF or COTS deployments.



#### Note:

When run on a virtual platform, the `show interfaces` and `show interfaces ethernet` commands display auto-negotiation as disabled whenever media port is down, regardless of the ACLI configurations.

### Example

```
ORACLE# show interfaces
```

## show ip

### Syntax

```
show ip <arguments>
```

Displays IP statistics for the Oracle Communications Session Border Controller.

### Arguments

The following is a list of valid `show ip` arguments:

- `statistics` —Display detailed IP statistics
- `connections` —Display all TCP and UDP connections
- `sctp`—Display all SCTP statistics, including a list of current connections per SCTP state and systemwide counts.
- `tcp` —Display all TCP statistics, including a list of current connections per TCP state and differentiated by inbound, outbound, listen and IMS-AKA connections as well as systemwide counts.
- `udp` —Display all UDP statistics

Executing the **show ip** command with no arguments returns the equivalent of the **show ip statistics** command.

## show logfile

### Syntax

```
show logfile [filename]
```

Display log files saved onto the Oracle Communications Session Border Controller. Entering this command without specifying a filename displays a complete list of log files.

### Arguments

[filename] Specify the file whose logs you want to view. This is an optional argument.

### Example

```
ORACLE# show logfile
```

## show loglevel

### Syntax

```
show loglevel <task> [<type> | <verbose>] [filename]
```

This command displays loglevel statistics for your Oracle Communications Session Border Controller.

### Arguments

<task> Enter the name of the Oracle Communications Session Border Controller task for which you are requesting information. By typing all, you are given an abbreviated display of all running processes.

<type> Select the log type whose level is to be displayed.

<verbose> Type verbose at the end of the show loglevel command to view a verbose display of either a specified task or all tasks. This is an optional argument.

[file-name] Enter the name of the specific logfile you want to view. This is an optional argument.

### Example

```
ORACLE# show loglevel sipd verbose
```

## show lrt

### Syntax

```
show lrt <route-entry | route-table> "stats">
```

This command displays Local Routing Table (LRT) statistics on the Oracle Communications Session Border Controller.

### Arguments

- <route-entry> - Display a specific entry in the LRT.
  - <lrt-config-name> <user> - Display route for a specific user.
  - <local-route-config> <table record key> - Display route along with the next-hop entries based on a record key in the LRT.
- <route-table> - Display several entries in the LRT.
  - <lrt-config-name> - Display routes along with their priority and weight for a specific route table.
  - <local-route-config> <display-count> - Display routes along with their next-hop entries, with a limit of 10 next-hop entries per route in the LRT.
 

The display-count field allows you to specify the number of routes to be displayed ranging from 1 to 10. This is an optional field with a default value of 5.
- <stats> - Display all LRT statistics.
  - <local-route-config> - Display LRT statistics for a specific table.

### Example

```
ORACLE# show route-entry Yt 9212
```

## show mbcd

### Syntax

```
show mbcd <arguments>
```

The show mbcd command displays MBCD statistics for your Oracle Communications Session Border Controller.

### Arguments

**statistics** —Display information related media flows established by the MBCD task. The following is a list of the MBCD statistics displayed when you enter this command:

The following counts are given for Period (high and total) and Lifetime (Total, period-max, High) windows. Currently Active counts are also displayed.

- Client Sessions—Number of media sessions established by application clients of the MBCD task. Clients of MBCD include all signaling protocol tasks (SIP and H.323).
- Client Trans—Number of MBCD transactions in the application clients to create, modify and remove flows
- Contexts—Number of Contexts in the MBCD task. A Context represents the MBCD Server side of a media session. It contains all flows for the media session.
- Flows—Number of unidirectional flows established in MBCD. This includes both static flows defined by the signaling configuration, and dynamic flows for media sessions.



- Flow-Port—Number of "anchor" ports established by MBCD. MBCD maintains a mapping of the RTP steering port allocated for a flow so it can recognize flows that hairpin or spiral through the Oracle Communications Session Border Controller. This statistic reflects the number of entries in that table.
- Flow-NAT—Number of entries in the MBCD table that maps CAM entry indexes to flows. An entry is added to this table when a NAT entry is added to the CAM for a flow.
- Flow-RTCP—Number of special NAT table entries for RTCP. For Hosted NAT Traversal (HNT), the RTP and RTCP flows must be treated separately because the source port of the RTCP cannot be predicted.
- Flow-Hairpin—Number of hairpinned/spiraled flows recognized by MBCD. This occurs when the signaling originates in an access realm, goes into a backbone realm, and then back into the same access realm, or another access realm on the same network interface.
- Flow-Released—Number of hairpinned/spiraled flows released back into the original realm (when mm-in-realm or mm-in-network is disabled)
- MSM-Release—Number of flows that have been released as part of the SIP distributed (multi-system) release feature
- Rel-Port—Number of "release anchor" ports established by MBCD. MBCD maintains a mapping of the RTP steering port allocated for a flow so it can recognize flows that hairpin or spiral through the SBC. These "release anchor" ports are retained as part of media flows that are not released immediately after calls. This enables the system to quickly re-establish media-flows that may be hairpinned back it by other network elements To retain IP/port information for all released calls, configure the SBC option "hairpin-released-flows" in "media-manager". The system deletes retained IP/port flows after the guard timer's expiration.
- Rel-Hairpin—Number of retained hairpinned/spiraled flows recognized by MBCD. Retained media flows are not released immediately after calls are released, which enables the system to quickly re-establish media-flows that may be hairpinned back to the SBC by other network elements.
- NAT Entries—Number of NAT table entries in the CAM established by MBCD for its flows. The NAT table can be viewed with the show nat commands.
- Free Ports—Number of ports available from configured steering pools
- Used Ports—Number of ports allocated to flows
- Port Sorts—Number of times the free ports list had to be sorted because consecutive ports (for RTP & RTCP) could not be found
- Queued Notify—Number of MBC transactions waiting in queue to be processed by MBCD
- MBC Trans—Number of MBC transactions currently in progress
- MBC Ignored—Number of requests ignored because it is in standby mode in an HA configuration
- ARP Trans—Number of ARP Transactions. In some cases, MBCD must obtain the MAC address of the destination of a flow before an entry can be added to the NAT table. This statistic shows the number of outstanding ARP requests for MBCD flows.
- Relatch NAT—Number of times relatching occurred for NAT RTP flows

- Relatch RTCP—Number of times relatching occurred for NAT RTCP flows
- Media Playback—Number of times media playback occurred
- MSM-SRTP-Passthrough—Number of Multi-system Selective SRTP sessions
- Flow-MSRP—Number of MSRSP flows
- SRTP Only Flows—Number of times only SRTP flows sessions occurred
- SRTCP Only Flows—Number of times only SRTCP flows occurred
- Collapsed Flows—Number of SRTP collapsed flows where RTP and RTCP flows use same port
- SRTP Sessions—Number of SRTP sessions
- DTLS-SRTP Sessions—Number of DTLS SRTP sessions
- ICE-STUN Sessions—Number of ICE-STUN sessions

nat— Display statistics about MBCD's usage of the NAT Table and flow guard timer events. The following is a list of all MBCD NAT statistics:

- Adds—Number of times an entry was added to the NAT table
- Deletes—Number of times an entry was removed from the NAT table
- Updates—Number of times a NAT table entry was updated, including updates due to the "latching" event when the first packet for a flow is received
- Non-Starts—Number of initial flow guard timeouts (i.e. number of times a packet was never received for a NAT table entry)
- Stops—Number of subsequent flow guard timeouts (i.e. number of times that packets stopped for a NAT table entry)
- Timeouts—Number of total session limit timeouts (i.e. number of times the session limit for a flow was exceeded)

acls—Display MBCD Access Control statistics, starting with a time stamp showing when the current period began. The following is a list of each entry count:

- The following ACL statistics are shown for the Period and Lifetime monitoring spans:
- Static Trusted
- Static Blocked
- Dynamic Trusted
- Dynamic Blocked

The following ACL statistics are shown for the Lifetime monitoring span:

- Add Requests
- Added
- Removed
- Dropped

errors —Display MBCD task error statistics, starting with a time stamp showing when the current period began; statistics for client and server are included. The following is a list of MBCD error statistics displayed when you enter this command:

- Client statistics count errors and events encountered by applications that use the MBCD to set up and tear down media sessions:

- Client Errors—Number of errors in the client application related to MBC transactions that are otherwise uncategorized
- Open Streams Failed—Number of MBC transactions creating or updating a media session that could not be sent to the MBCD because the media session state information could not be located
- Drop Streams Failed—Number of MBC transactions deleting a media session that could not be sent to MBCD because the media session state information could not be located
- Client IPC Errors—Number of errors in the client application related to the Inter-Process Communication
- No Session (Open)—Number of MBC transactions creating or updating a media session that could not be sent to MBCD because the media session state information could not be located
- No Session (Drop)—Number of MBC transactions deleting a media session that could not be sent to MBCD because the media session state information could not be located
- Monitor Streams Failed
- Exp Flow Events—Number of flow timer expiration notifications received from the MBCD by all applications
- Exp Flow Not Found—Number of flow timer expiration notifications received from the MBCD by all applications for which no media session or flow information was present in the application
- Transaction Timeouts—Number of MBC transaction timeouts  
Server statistics count errors and events encountered by MBCD:
- Server Errors—Number of uncategorized errors in the MBCD server
- Server IPC Errors—Number of errors on the server related to the IPC
- Flow Dup Replace Failed—Number of times failed to replace duplicate flow additions Doc Update
- Flow Duplicated—Number of times flow collisions observed when adding flows
- NatFlow install Errors—Number of flow errors occurred when installing NAT flows
- NatFlow apply Errors—Number of flow errors occurred when encountered when trying to apply ppm
- NatFlow destry Errors—Number of flow errors occurred when encountered when trying to delete ppm
- Flow Add Failed—Number of errors encountered when attempting to add an entry to the NAT table
- Flow Delete Failed—Number of errors encountered when attempting to remove an entry from the NAT table
- Flow Update Failed—Number of errors encountered when attempting to update an entry in the NAT table upon receipt of the first packet for a media flow
- Flow Latch Failed—Number of errors when attempting to locate an entry in the NAT table upon receipt of the first packet for a media flow
- Pending Flow Expired—Number of flow timer expirations for pending flows that have not been added to the NAT table

- ARP Wait Errors—Number of errors and timeouts related to obtaining the Layer 2 addressing information necessary for sending media
- Exp CAM Not Found—Number that the NAT table entry for an expired flow could not find in the NAT table. This usually occurs due to a race condition between the removal of the NAT entry and the flow timer expiration notification being sent to MBCD.
- Drop Unknown Exp Flow—Number of flows deleted by the MBCD because of a negative response from the application to a flow timer expiration notification
- Drop/Exp Flow Missing—Number of flows not found when trying to delete them
- Unk Exp Flow Missing—Number of negative responses from the application to a flow timer expiration notification for which the designated flow could not be found in MBCD's tables
- Exp Notify Failed—Number of errors encountered when the MBCD attempted to send a flow timer expiration notification to the application
- Unacknowledged Notify—Number of flow expiration notification messages sent from MBCD to the application for which MBCD did not receive a response in a timely manner
- No Flows In Chain—Number of flows which are not part of other flows
- Main Flow Notify Skips—Number of flows for which NOTIFY is sent to other flows but not to the original flow
- Notify Not Sent (Skip)—Number of flows for which NOTIFY was not sent
- Drop Chain Failures—Number of failures observed for flow chain drops
- ACL Deletes—Number of ACL flow deletes
- Saved Flows—Number of saved flows not teared down in case of timeouts
- NoTimeout on otherFlow—Number of flows for which timeout not occurred for other flow
- Ignore TimerOn Relatch—Number of flows for which relatching is ignored as timeout occurred
- Relatching Timeouts—Number of flows for which relatching timeout has occurred
- Invalid Realm—Number of flow setup failures due to an unknown realm in the request from the application
- No Ports Available—Number of times ports were not available for allocating to flows
- Insufficient Bandwidth—Number of flow setup failures due to insufficient bandwidth in the ingress or egress realm
- Stale Ports Reclaimed—For an HA node, this is the number of ports that were reclaimed when the standby had a stale flow that the active system replaced; when the flow is replaced, the steering ports are also reallocated properly (i.e., according to the active system)
- Stale Flows Replaced—For an HA node, this is the number of times that the standby system had entries in its flow tables that did not match those on the active system; the active system replaced the standby's stale flows with valid ones
- Telephone Events Gen—Number of times telephony events were generated
- Media Playback Fails—Number of times media playback failures occurred
- Playback Exh Resources—Number of times media playback failures occurred due to out of resources
- Playback Flow Inactive—Number of times playback was stopped as flow was inactive

- Playback Mismatch—Number of times media playback failures was observed due to playback codec mismatch
- Pipe Alloc Errors—Errors Number of times media pipe allocation failures were observed
- Pipe Write Errors—Number of times failed to write data to pipe
- Not Found In Flows—Number of times flow was not found in NAT table
- MPO Realm Mismatch—Number of times realm mismatch errors were observed in mediarealm list
- XCode Internal Errors—Number of uncategorized errors due to Transcoding session error
- XCode Alloc Errors—Number of times that buffer allocation failed for transcoding tasks
- XCode Update Errors—Number of errors encountered when attempting to update an entry in the transcoding table
- XCode Delete Errors—Number of errors encountered when attempting to delete an entry in the transcoding table
- XCode Over Cap Errors—Number of Transcoding sessions denied once session capacity is reached
- XCode Over License Cap—Number of Transcoding sessions denied once capacity is reached
- SRTP Flow Add Failed—Number of times failed to delete SRTP flows to NAT table
- SRTP Flow Delete Failed—Number of times failed to delete SRTP flows from NAT table
- SRTP Flow Update Failed—Number of times failed to update SRTP flows from NAT table
- SRTP Capacity Exceeded—Number of times SRTP maximum capacity reached
- Adds—Number of SRTP flows added to NAT table
- Deletes—Number of SRTP flows deleted from NAT table
- Updates—Number of SRTP flows updated in NAT table

msrp— Display statistics about MSRP traffic, with subsequent arguments, including:

- realm—Detail on traffic on a per-realm basis. Subsequent arguments include: <realm-id>—Limits the output to the realm name used as an argument. Subsequent arguments include:
  - SEND—Detail on SEND method traffic.
  - SEND responses—Limits the output to detail on responses to SEND method traffic.
  - REPORT—Detail on REPORT method traffic.
  - REPORT failure—Limits the output to detail on failure REPORT method traffic.
- send—Detail on SEND method traffic.
- send responses—Limits the output to detail on responses to SEND method traffic.
- report—Detail on REPORT method traffic.
- report failures—Limits the output to detail on failure REPORT method traffic.

add—List statistics of mbcD transactions that include an Add command. Statistics are given for Recent, Total, and PerMax periods. The following is a list of MBCD add statistics displayed when you enter this command:

- Add incoming statistics when an add message is received by the Oracle Communications Session Border Controller
- Incoming requests received—Number of mbcD add commands received
- Incoming replies sent—Number of responses sent in response to an mbcD add
- Incoming errors sent—Number of errors sent in response to an mbcD add
- Add outgoing statistics when an mbcD add message is sent by the Oracle Communications Session Border Controller:
- Outgoing requests sent—Number of MBCD add commands sent from the Oracle Communications Session Border Controller
- Outgoing replies received—Number of responses received in response to a sent Add message
- Outgoing errors received—Number of errors received in response to a sent Add message

modify —List statistics of mbcD transactions that include a modify command. The following is a list of MBCD modify statistics displayed when you enter this command:

- Add incoming statistics when a modify message is received by the Oracle Communications Session Border Controller:
- Incoming requests received—Number of mbcD modify commands received
- Incoming replies sent—Number of responses sent in response to an mbcD modify
- Incoming errors sent—Number of errors sent in response to an mbcD modify
- Add outgoing statistics when an mbcD modify message is sent by the Oracle Communications Session Border Controller.
- Outgoing requests sent—Number of MBCD modify commands sent from the Oracle Communications Session Border Controller
- Outgoing replies received—Number of responses received in response to a sent modify message
- Outgoing errors received—Number of errors received in response to a sent modify message

subtract—List statistics of mbcD transactions that include a subtract command. The following is a list of MBCD subtract statistics that are displayed when you enter this command:

- Add incoming statistics when a subtract message is received by the Oracle Communications Session Border Controller:
- Incoming requests received—Number of mbcD subtract commands received
- Incoming replies sent—Number of responses sent in response to an mbcD subtract
- Incoming errors sent—Number of errors sent in response to an mbcD subtract
- Add outgoing statistics when an MBCD subtract message is sent by the Oracle Communications Session Border Controller:
- Outgoing requests sent—Number of MBCD subtract commands sent from the Oracle Communications Session Border Controller
- Outgoing replies received—Number of responses received in response to a sent subtract message

- **Outgoing errors received**—Number of errors received in response to a sent subtract message

**notify**—List statistics of mbcD transactions that include a notify command. The following is a list of MBCD notify statistics that are displayed when you enter this command:

- **Add incoming statistics when a notify message is received by the Oracle Communications Session Border Controller:**
- **Incoming requests received**—Number of mbcD notify commands received
- **Incoming replies sent**—Number of responses sent in response to an mbcD notify
- **Incoming errors sent**—Number of errors sent in response to an mbcD notify
- **Add outgoing statistics when an mbcD notify message is sent by the Oracle Communications Session Border Controller:**
- **Outgoing requests sent**—Number of MBCD notify commands sent from the Oracle Communications Session Border Controller
- **Outgoing replies received**—Number of responses received in response to a sent notify message
- **Outgoing errors received**—Number of errors received in response to a sent notify message

**other**—List statistics of mbcD transactions related to non-compliant protocols used by specific customers. The following is a list of statistics displayed when you enter this command:

- **Add incoming statistics when a customer-specific message is received by the Oracle Communications Session Border Controller:**
- **Incoming requests received**—Number of customer-specific mbcD commands received
- **Incoming replies sent**—Number of responses sent in response to a customer-specific mbcD command
- **Incoming errors sent**—Number of errors sent in response to a customer-specific mbcD command
- **Add outgoing statistics when a customer-specific mbcD message is sent by the Oracle Communications Session Border Controller:**
- **Outgoing requests sent**—Number of MBCD notify commands sent from the Oracle Communications Session Border Controller
- **Outgoing replies received**—Number of responses received in response to a customer-specific message
- **Outgoing errors received**—Number of errors received in response to a sent customer-specific message

**realms**—Display steering ports and bandwidth usage for home, public, and private realms. The following is a list of statistics displayed when you enter this command:

- **Used**—Number of steering ports used
- **Free**—Number of free steering ports
- **No Ports**—Number of times that a steering port could not be allocated
- **Flows**—Number of established media flows
- **Ingress**—Amount of bandwidth being used for inbound flows

- Egress—Amount of bandwidth being used for outbound flows
- Total—Maximum bandwidth set for this realm
- Insuf BW—Number of times that a session was rejected due to insufficient bandwidth

realms <realm-name>—Display mbcd realm statistics for a given realm; given for period and lifetime durations. The following is a list of statistics displayed when you enter this command:

- Ports Used—Number of ports used
- Free Ports—Number of free ports
- No Ports Avail—Number of times no steering ports were available
- Ingress Band—Amount of bandwidth used for inbound flows
- Egress Band—Amount of bandwidth used for outbound flows
- BW Allocations—Number of times that bandwidth was allocated
- Band Not Avail—Number of times a session was rejected due to insufficient bandwidth

redundancy —Display the equivalent of the show redundancy mbcd command

all —Display information related to many of the show mbcd subcommands. Only those MBC messages for which there are statistics are shown. Rather than entering the individual subcommands, all information is displayed for the following:

- MBC status
- NAT entries
- MBC errors
- MBC messages including: add, modify, subtract, notify, and other

stun—Display STUN server statistics

- Servers—The number of STUN servers (the same as the number of realms configured with a STUN server).
- Server Ports—Number of ports per STUN server; there will be four ports per STUN server.
- Binding Requests—Number of STUN Binding Request messages received by all STUN servers.
- Binding Responses—Number of STUN Binding Response messages sent by all STUN servers.
- Binding Errors—Number of STUN Binding Error messages sent by all STUN servers.
- Messages Dropped—Number of messages dropped by all STUN servers.

### Example

```
ORACLE# show mbcd errors
```

## show media

### Syntax

```
show media <media-stats> <slot> <port> <vlan>
```



## Arguments

<media-stats> The following is a list of admin state arguments:

- `classify` —Display network processor statistics by protocol, including BFD; requires slot and port arguments
- `host-stats` —Display statistics for the host processor including number of packets received at a specific port and types of packets received; requires slot and port arguments
- `frame-stats` —Display frame counts and drops along the host path; does not require port and slot specification
- `network` — Display network interface details; does not require port and slot specification
- `physical` —Display all phy-interface information; does not require port and slot specification
- `phy-stats` —Display data/packets received on the front interface (media) ports; shows the physical level of front interface statistics according to slot and port numbers and is displayed according to received data/packets and transmitted data/packets; requires slot and port arguments
- `tm-stats`—Show all of the traffic manager statistics and shows the results of the traffic policing due to NetSAFE configuration. This command is used only for debugging purposes. Do not execute this command unless instructed by Oracle Engineering or Support.
- `utilization`—Show physical level utilization

<slot>— Select the media interface slot

- Values 0 (left slot) | 1 (right slot)

<port> —Select the media interface port

- Values 0 (leftmost) | 1 | 2 | 3 (rightmost)

<vlan> Enter the VLAN ID if required

## Example

```
ORACLE# show media network 1 2 0
```

# show memory

## Syntax

```
show memory [memory-stats]
```

This command displays statistics related to the memory of your Oracle Communications Session Border Controller.

## Arguments

[memory-stats] The following is a list of each memory statistic:

- usage—Display system-wide memory usage statistics. If the show memory command is issued without any arguments, the equivalent of this argument is displayed.
- application—Display application memory usage statistics
- l2—Display layer 2 cache status
- l3—Display layer 3 cache status
- subjects—Displays the number of subject classes currently consuming system memory. Use this command only for debugging purposes under the direction of Oracle support.

## show monthly-minutes

### Syntax

```
show monthly-minutes <realm-id>
```

Display the monthly minutes for a specified realm.

### Arguments

<realm-id> Enter the specific realm whose monthly minutes you want to view.

### Example

```
ORACLE# show monthly-minutes realm1
```

## show mps-stats

### Syntax

```
show mps-stats [all | rvalue]
```

The show mps-stats command displays information about inbound sessions and r-values from rph-profile configurations.

### Arguments

<all> Display information about inbound sessions and r-values for the Oracle Communications Session Border Controller's MPS support feature. This is an optional argument.

<rvalue> View statistics for a specific r-value. An r-value is a namespace and priority combination entered in the following format: namespace.priority. The display also shows the specified r-value for which it is displaying data. This is an optional argument. If there are no configured rph-profiles, the command does not display any r-value data.

### Mode

User, Superuser

## show msrp statistics

show msrp statistics command.

Displays cumulative MSRP session counts.

### Note:

If you reset the statistics while calls and sessions are in progress, the system does not keep the existing data or re-synchronize it with the reset. When the calls and sessions are completed, the statistics show negative values. Do not reset show-msrp-stats while calls and sessions are in progress.

## show nat

### Syntax

```
show nat <display-type>
```

Displays NAT statistics for a specified NAT time on the Oracle Communications Session Border Controller.

### Arguments

**<display-type>** The following is a list of each method to display the nat table:  
**by-index** —Display a specified range of entries in the NAT table, with a maximum of 5024 entries. The default range is 1 through 200. The range corresponds to line numbers in the table, and not to the number of the entry itself. The syntax for using the show nat by-index command is:

```
show nat by-index <starting entry> <ending entry>
```

**in-tabular** —Display a specified range of entries in the NAT table display in table form, maximum of 5024 entries. The syntax is modeled on the show nat by-index command:

```
show nat in-tabular <starting entry> <ending entry>
```

**by-addr**—Display NAT table information matching source and destination addresses. You must specify source address (SA) and/or destination address (DA) values. If no addresses are entered, the Oracle Communications Session Border Controller shows all of the table entries. NAT entries can be matched according to SA or DA or both.

```
show nat by-addr <source IPv4 address> <destination IPv4 address>
```

**info**—Display general NAT table information. The output is used for quick viewing of a Oracle Communications Session Border Controller's overall NAT functions, including the maximum number of NAT table entries, the number of used NAT table entries, the length of the NAT table search key, the first searchable NAT table entry address, the

length of the data entry, the first data entry address, and whether or not aging and policing are enabled in the NAT table.

**flow-info**—Display NAT table entry debug information. You must specify if you want to view NAT data for all entries or if you want to specify an address or a switch ID.

```
show nat flow-info [by-addr | srtp]
```

### Example

```
ACMEPACKET# show nat by-index
```

## show neighbor-table

### Syntax

```
show neighbor-table
```

The `show neighbor-table` command displays the IPv6 neighbor table and validates that there is an entry for the link local address, and the gateway uses that MAC address.

### Example

```
ORACLE# show neighbor-table
LINK LEVEL NEIGHBOR TABLE
Neighbor                               Linklayer Address  Netif  Expire   S
Flags
300::100                               0:8:25:a1:ab:43    sp0    permanent ? R
871962224
400::100                               0:8:25:a1:ab:45    sp1    permanent ? R
871962516
fe80::bc02:a98f:f61e:20%sp0           be:2:ac:1e:0:20    sp0    4s        ? R
871962808
fe80::bc01:a98f:f61e:20%sp1           be:1:ac:1e:0:20    sp1    4s        ? R
871963100
-----
-
ICMPv6 Neighbor Table:
-----
-----
entry: slot port vlan IP                type      flag
pendBlk Hit MAC
-----
5      : 1    0    0    fe80::bc01:a98f:f61e:20/64    08-DYNAMIC 1
0      1    be:01:ac:1e:00:20
4      : 1    0    0    0.0.0.0/64                    01-GATEWAY 0
0      1    be:01:ac:1e:00:20
3      : 1    0    0    400::/64                       02-NETWORK 0
0      1    00:00:00:00:00:00
2      : 0    0    0    fe80::bc02:a98f:f61e:20/64    08-DYNAMIC 1
0      1    be:02:ac:1e:00:20
```

```

1      : 0      0      0      0.0.0.0/64      01-GATEWAY 0
0      1      be:02:ac:1e:00:20
0      : 0      0      0      300::/64      02-NETWORK 0
0      1      00:00:00:00:00:00
-----
-----

```

## show net-management-control

### Syntax

```
show net-management-control [string | all]
```

This command displays network management control statistics on the Oracle Communications Session Border Controller.

### Arguments

<string> —Enter a name for the net-management-control configuration whose statistics you want to view. This is an optional argument.

<all> Enter all to view statistics for all net-management-control entries. This is an optional argument.

### Example

```
ORACLE# show net-management-control
```

## show nsep-stats

### Syntax

```
show nsep-stats [all | rvalue | realms [ realm-id [ rvalue | dialed-
number ]]]
```

The show nsep-stats command displays information about inbound and outbound sessions.

### Arguments

<all> Display information about inbound and outbound sessions and r-values for the Oracle Communications Session Border Controller's NSEP support feature. This is an optional argument.

<rvalue> View statistics for a specific r-value. An r-value is a namespace and priority combination entered in the following format: namespace.priority. The display also shows the specified r-value for which it is displaying data. This is an optional argument.

<realms> Groups statistics by enabled realms, or, when used with its own arguments, limits the output to a specific realms. You must enable specific realms to produce this output. This is an optional argument.

realms <realm-id> Requires the realms argument and narrows the output to the specified realm. You must enable specific realms to produce this output. This is an optional argument.

realms <realm-id> <rvalue> Requires the realm-id argument and narrows the output to the specified rvalue in that realm. You must enable specific rvalues to produce this output. This is an optional argument.

realms <realm-id> <dialed-number> Requires the realm-id argument and narrows the output to the specified dialed-number in that realm. You must enable specific dialed-numbers to produce this output. This is an optional argument.

**Mode**

User, Superuser

## show ntp

**Syntax**

```
show ntp <arguments>
```

The show ntp command displays information about NTP servers configured for use with the system

**Arguments**

servers—Display information about the quality of the time being used in terms of offset and delay measurement; maximum error bounds are also displayed.

status—Display information about configuration status, NTP daemon synchronization, NTP synchronizations in process, if NTP is down.

**Mode**

User, Superuser

**Example**

```
ORACLE# show ntp servers
```

## show packet-trace

**Syntax**

```
show packet-trace
```

The show packet-trace command displays active, REMOTE traces. The command also allows you to check whether the Oracle Communications Session Border Controller's tracing status is currently enabled or disabled.

**Mode**

Superuser

### Example

```
ORACLE# show packet-trace
```

## show platform

### Syntax

```
show platform [all | cpu | cpu-load | errors | heap-statistics |  
kernel-drivers | limits | memory | paths | pci components]
```

The `show platform` command is useful for distinguishing various hardware and software configurations for the current version of software from other hardware platform on which this software may run.

### Arguments

- `all`—Display full platform information
- `cpu`—Display summary CPU information
- `cpu-load`—Displays percent CPU consumed on each core during the last 10 second window using calculations similar to the `linux top` command.
- `errors`—Display Servicepipe write errors
- `heap-statistics`—Display total in-use memory for small and large allocations based upon TCMalloc's class and classless sizes.
- `kernel-drivers`—Display included kernel drivers
- `limits`—Display platform related limits
- `memory`—Display current memory usage
- `paths`—Display filesystem paths
- `pci`—Display relevant pci bus information
- `components`—Display the specific versions of the OS packages



#### Note:

No argument concatenates all arguments.

## show platform limits

This command displays the current limits for a variety of operating capacities. The output of **show platform limits** is based on the platform this command is executed from and the software version running. The command has no arguments.

## Syntax

Sample output is displayed below.

```
ORACLE# show platform limits
Maximum number of sessions:3000
Maximum number of ACLs: 60000
Maximum number of common PAC buffers: 8000
Maximum number of kernel-rules: 216256
Maximum CPS rate: 300
Maximum number of TCP Connections: 60000
Maximum number of TLS Connections: 10
Maximum number of packet buffers: 30000
Maximum Signaling rate: 4000
Maximum number of session agents: 125
Maximum number of System ACLs: 256
Maximum number of VLANs: 4096
Maximum number of ARPs: 4104
Maximum number of INTFC Flows: 4096
Maximum number of Static Trusted Entries: 8192
Maximum number of Untrusted Entries: 4096
Maximum number of Media Entries: 6000
Maximum number of Deny Entries: 8192
Maximum number of Internal Flows: 32
Maximum number of Sip Rec Sessions: 512
Maximum number of RFC 2833 Flows: 6000
Maximum number of SRTP Sessions: 500
Maximum number of QoS Sessions: 3000
Maximum number of Xcoded Sessions: 100
Maximum number of HMU Flows: 6000
Maximum number of Transport Sessions: 0
Maximum number of MSRP Sessions: 0
Maximum number of SLB Tunnels: 0
Maximum number of SLB Endpoints: 0
Maximum number of IPsec SAs: 0
Maximum Licensed Capacity: 256000
```

## show platform nftables

This command displays the nftables in table format.

Refer to the nftable documentation to understand the syntax of the command output.

### Syntax

```
show platform nftables
```

## show policy-server

The **show policy-server** command allows you to view specific information about a supplied policy server object.



## Syntax

```
show policy-server [[standby | <Name|AgentName> | <IP_Address:Port>]  
[<DiamMsg>]] | [connections]
```

## Arguments

**Name** — Accepts the FQDN of the policy server for which you want to show information. Also accepts policy-groups name, providing cumulative statistics. Specifying a policy-agent name after the policy-group name displays statistics specific to that agent.

**IP\_Address:Port** — identifies the IP address of the policy server and the specific port for which you want to show information. This is useful when an Rx server has multiple connections to multiple external servers.

**DiamMsg** — identifies a specific Diameter message for which you want to show information. The accepted diameter messages are:

- AAR — Authorization-Authentication Request
- ASR — Abort-Session-Request
- CER — Capabilities-Exchange-Request
- DWR — Device-Watchdog-Request. The display table for DWR has two sections: DWR Sent and DWR Received.
- RAR — Re-Authorization-Request
- STR — Session-Termination-Request

**connections** — displays a table listing the active TCP connections; that is, it identifies the local and remote IP addresses and ports, and the socket state for the policy server. The command also displays multihoming connections and socket stated for agents configured for SCTP.

## show power

The show power command allows you to view Oracle Communications Session Border Controller power supply information including the state of the power supply and the installation position.

### Example

```
ORACLE# show power
```

## show privilege

### Syntax

```
show privilege
```

Displays the current level of privilege on which the user is operating:

- Privilege level 0 refers to Level 0: User Mode

- Privilege level 1 refers to Level 1: Superuser Mode

### Example

```
ORACLE# show privilege
```

## show processes

### Syntax

```
show processes <process>
```

The `show processes` command, executed without arguments, displays statistics for all active processes. The following task information is displayed: names of tasks, entries, task identification codes, task priorities, status, program counter, error numbers, and protector domain (PD) identification.

### Arguments

<process> The following is a list of each process argument:

- `sysmand`—Display `sysmand` process statistics related to the system's startup tasks
- `ebmd`— Show `embd` process statistics
- `h323d`— Show `h323d` process statistics
- `lid`— Show `lid` process statistics
- `snmpd`— Show `snmpd` process statistics
- `berpd`—Display statistics for the border element redundancy protocol tasks; only accessible if your system is operating in an HA node
- `lemd`—Display `lemd` process statistics
- `brokerd`—Display `brokerd` process statistics
- `mbcd`—Display `mbcd` process statistics related to the middlebox control daemon
- `radd`—Display `radd` process statistics related to RADIUS; only accessible if your Oracle Communications Session Border Controller is using RADIUS
- `algd`—Display `algd` process statistics
- `sipd`—Display `sipd` process statistics

`current`—Show the date and time that the current monitoring period began and statistics for the current application process events. The following fields explain the output of the `show processes current` command:

- `Svcs`—Number of times the process performs actions for different services (e.g., sockets, timeout queues, etc.)
- `TOQ`—Number of active timers (in the Timed Objects) placed in the timeout queue
- `Ops`—Number of times the process was prompted (or polled) to perform an action
- `Rcvd`—Number of messages received by the process
- `Sent`—Number of messages sent by the process
- `Events`—Number of times a TOQ entry timed out

- Alrm—Number of alarms the process sent
- Slog—Number of times the process wrote to the system log
- Plog—Number of times the process wrote to the process log
- CPU—Average CPU usage over the last minute
- Now—CPU usage for the last second

total —Display the total statistics for all of the application processes applicable to your Oracle Communications Session Border Controller. The following fields explain the output of the show processes total command:

- Svcs—Number of times the process performed actions for different services (e.g., sockets, timeout queues, etc.)
- Rcvd—Number of messages received by the process
- Sent—Number of messages sent by the process
- Events—Number of times a TOQ entry timed out
- Alarm—Number of alarms the process sent
- Slog—Number of times the process wrote to the system log
- Plog—Number of times the process wrote to the process log
- CPU—Average CPU usage since last reboot
- Max—Maximum percentage of CPU usage in a 60 second period

collect—Show collector process statistics

CPU —Display information about the CPU usage for your Oracle Communications Session Border Controller, categorized on a per task/process basis. The following fields explain the output of the show processes cpu command:

- Task Name—Name of the Oracle Communications Session Border Controller task or process
- Task Id—Identification number for the task or process
- Pri—Priority for the CPU usage
- Status—Status of the CPU usage
- Total CPU—Total CPU usage since last reboot in hours, minutes, and seconds
- Avg—Displays percentage of CPU usage since the Oracle Communications Session Border Controller was last rebooted
- Now—CPU usage in the last second

all — concatenate the show process command for all running processes

memory—Show memory process statistics

top—The show processes top command displays realtime updates of per-process CPU utilization.

### Example

```
ORACLE# show processes sysmand
```

## show prom-info

### Syntax

```
show prom-info <devices>
```

The show prom-info command displays hard-coded information about Oracle Communications Session Border Controller PROM information. The valid arguments which you enter in the show prom-info command depend on the current platform.

The show prom-info command is most immediately used to obtain device part numbers and revisions.

### Arguments

<devices> The following is a list of available prom-info devices to query:  
Acme Packet 6100/6400

- CPU— CPU PROM information
- MGMT—management interface card PROM information
- PHY0— NIU card PROM information
- POWER—power supply PROM information
- SEC0—security module PROM information
- TCU1-DIMM— lists the populated DSP DIMMs on a TCU card and their PROM information
- all—Show all available PROM information
- mainboard—Display mainboard PROM information

Acme Packet 6300/6350

- CPU— CPU PROM information
- FLEX1—riser card between mainboard and NIU in slot 1 PROM information
- FLEX2—riser card between mainboard and NIU in slot 2 PROM information
- MGMT— management interface card PROM information
- PHY0—NIU card 0 (bottom) PROM information
- PHY1—NIU card 1 (middle) PROM information
- PHY2— NIU card 2 (top) PROM information
- POWER— power supply PROM information
- SEC1—security module 1 PROM information
- SEC2—security module 2 PROM information
- TCU1-DIMM— lists the populated DSP DIMMs on the TCU 1 card and the modules' PROM information
- TCU2-DIMM— lists the populated DSP DIMMs on the TCU 2 card and the modules' PROM information
- all—Show all available PROM information

- mainboard—Display mainboard PROM information

### Example

```
ORACLE# show prom-info mainboard
```

## show queues

### Syntax

```
show queues [SIPD [commands <by-id <#>] | atcpd | CCD | DNS | FPE |  
LBP | LDAP | LRT | MBCD ]
```

The show queues command displays thread level CPU usage information for the specified protocol threads. Use this command only for debugging purposes under the direction of Oracle support.

## show radius

### Syntax

```
show radius <radius-stats>
```

This command displays RADIUS statistics.

### Arguments

authentication—Show the authentication statistics

all—Show accounting, authentication, and CDR statistics on all RADIUS servers

cdr—Display all CDR statistics

accounting—Display the status of established RADIUS accounting connections. This argument has its own argument: <ALL | IPPORT>, where ALL returns accounting statistics for all RADIUS servers and IPPORT identifies the specific IP address and port of the accounting server for which you want to show information, in the form **IP\_Address:port**. If you attempt to execute this argument for a Diameter accounting server, the command will be blocked with the message

```
Accounting configured for DIAMETER. Please use "show accounting".
```

A successful RADIUS connection is displayed as READY, and an unsuccessful connection is displayed as DISABLED.

The command's output is divided into three sections:

1. Client Display—Display general accounting setup (as established in the account-config element); includes the following information:
  - state of the RADIUS client
  - accounting strategy
  - IP address and port on which the Oracle Communications Session Border Controller's server is listening

- maximum message delay in seconds
  - number of configured accounting servers
2. **Waiting Queue**—Display the number of accounting (RADIUS) messages waiting to be sent that are queued on the client side
  3. **<IP Address:Port>**—IP Address and port headings indicated will be per the referenced RADIUS server active on the IP Address and port shown; also includes information about the accounting server's state

### Example

```
ORACLE# show radius authentication
```

## show ramdrv

Displays RAMdrive usage, including the log cleaner threshold values and the size of the most recently saved configuration.

### Example

```
ORACLE# show ramdrv
```

## show realm

### Syntax

```
show realm <realm-id>
```

### Arguments

<realm-id> Specify the realm-id whose realm-specific data you want to view; includes QoS routing data for internal and external transactions

### Example

```
ORACLE# show realm realm1
```

## show rec

### Syntax

```
show rec [redundancy]
```

Shows statistics for Recording Agent for SIP REC. You may add the redundancy argument to show SIPREC redundancy statistics.

---

Object	Description
Rec Sessions	Number of recording sessions during an active period of time and over a lifetime period.

---

Object	Description
Comm Groups	Number of active communication session recording groups during an active period of time and over a lifetime period.
Comm Sessions	Number of active communication sessions during an active period of time and over a lifetime period.
Media Streams	Number of active media streams during an active period of time and over a lifetime period.
Participants	Total number of participants in session recordings during an active period of time and over a lifetime period.
RDs Terminated	Number of recording dialogs terminated over a lifetime period. This increments when the recording call establishment towards session recording server(SRS) gets failed.
CSs Terminated	Number of communication sessions terminated over a lifetime period. This increments when recording call establishment towards SRS gets failed.
CSs not established	Number of communication sessions not established over a lifetime period. This increments when recording call establishment towards SRS gets failed.

**Note:**

The counters RDs Terminated, CSs Terminated, and CSs Not Established are implemented as counter statistics and increments only when the recording call establishment fails. These statistics have values for only Period Total, Lifetime Total & Lifetime PerMax values.

**show rec srg <srg\_name>**

Run this command to view the statistics for an individual SRG.

**Syntax**

```
show rec srg srg1
```

**show rec srs <srs\_name>**

Run this command to view the statistics for a specific SRS..

**Syntax**

```
show rec srs srs1
```

This table provides a description of the statistics displayed in the output of the `show rec srs <srs_name>` command.

Table 3-1 Status description

Status	Description
Comm Groups	Number of active communication session recording groups during an active period of time and over a lifetime period
Comm Sessions	Number of active communication sessions during an active period of time and over a lifetime period. This will be incremented when recording call towards SRS gets established.
CSs not established	Communication Sessions not established over a lifetime period. This will be incremented when recording call establishment towards SRS gets failed. Note: - The last 3 counters "RDs Terminated", "CSs Terminated" and "CSs not established" will only get incremented when recording call establishment fails. And also they always remain under Active count, they will never be moved from Active period.
CSs Terminated	Communication Sessions terminated over a lifetime period. This will be incremented when recording call establishment towards SRS gets failed
Media Streams –	Number of active media streams during an active period of time and over a lifetime period. This will be incremented when recording call towards SRS gets established.
Participants	Total number of participants in session recordings during an active period of time and over a lifetime period. This will be incremented when recording call towards SRS gets established.
Participants	Total number of participants in session recordings during an active period of time and over a lifetime period. This will be incremented when recording call towards SRS gets established.
RDs Terminated	Recording dialogs terminated over a lifetime period. This will be incremented when recording call establishment towards SRS gets failed.
Recording Sessions	Number of recording sessions during an active period of time and over a lifetime period. This will be incremented when recording call towards SRS gets established.

**Note:**

The counters RDs Terminated, CSs Terminated, and CSs Not Established are implemented as counter statistics. These statistics have values for only Period Total, Lifetime Total and Lifetime PerMax values.

## Status Description

The table lists the status displayed in the `show rec srs <srs_name>` command.



Table 3-2 Status description

Status	Description
Recording Sessions	Number of recording sessions during an active period of time and over a lifetime period. This will be incremented when recording call towards SRS gets established.
Comm Groups	Number of active communication session recording groups during an active period of time and over a lifetime period
Media Streams –	Number of active media streams during an active period of time and over a lifetime period. This will be incremented when recording call towards SRS gets established.
Comm Sessions	Number of active communication sessions during an active period of time and over a lifetime period. This will be incremented when recording call towards SRS gets established.
Participants	Total number of participants in session recordings during an active period of time and over a lifetime period. This will be incremented when recording call towards SRS gets established.
Participants	Total number of participants in session recordings during an active period of time and over a lifetime period. This will be incremented when recording call towards SRS gets established.
RDs Terminated	Recording dialogs terminated over a lifetime period. This will be incremented when recording call establishment towards SRS gets failed.
CSs Terminated	Communication Sessions terminated over a lifetime period. This will be incremented when recording call establishment towards SRS gets failed
CSs not established	Communication Sessions not established over a lifetime period. This will be incremented when recording call establishment towards SRS gets failed. Note: - The last 3 counters “RDs Terminated”, “CSs Terminated” and “CSs not established” will only get incremented when recording call establishment fails. And also they always remain under Active count, they will never be moved from Active period.

 **Note:**

The last 3 counters RDs Terminated, CSs Terminated and CSs not established are implemented as counter statistics. These statistics have values for only Period Total, Lifetime Total & Lifetime PerMax values.

## show redundancy

### Syntax

```
show redundancy <taskname> [actions] | [objects] | [journals [size [by-id  
<id#>] | [perf [by-id <id#>]
```

The show redundancy command displays HA statistics for a redundant Oracle Communications Session Border Controller (SBC).

### Arguments

<taskname> The following is a list of redundancy taskname arguments. A taskname is required, and output varies based on taskname:

- mbcd— Display the synchronization of media flows for the members of an HA SBC pair.
- algd—Display the synchronization of signaling for the members of an HA SBC pair
- sipd—Display the synchronization of SIP signaling for the members of an HA SBC pair
- config—Display the synchronization of configuration information for the members of an HA SBC pair
- collect—Display the Collect redundancy statistics
- rec—Display the SIPREC redundancy statistics
- radius-cdr—Display the number of CDRs that have been synchronized from active to standby when the local CDR storage is enabled
- iked—Display IKE redundancy statistics
- manuald—Display manual redundancy statistics
- rotated-cdr—Display statistics for rotated CDRs on the SBC.

The following HA statistics definitions apply to the applicable command output for Period and Lifetime monitoring spans.

- Queued entries—Number of transactions not yet sent to standby SBC peer.
  - Red Records—Total number of HA transactions created
  - Records Dropped—Number of HA transaction records lost because the standby SBC fell behind in synchronization
  - Server Trans—Number of HA transactions in which the SBC acted was the server
  - Client Trans—Number of HA transactions where the SBC was the client
- The following HA transaction statistics are shown for the Lifetime monitoring span.
- Requests received—Number of HA requests received by the SBC, acting as server
  - Duplicate requests—Number of situations in which an HA request was received by the SBC, and (acting as the server side in the client-server relationship) the SBC responded to it, but the client system did not receive the response in time and retransmitted its original request
  - Success responses—Number of HA requests that were received followed by a successful response to the client

- Error responses—Number of HA requests that were received followed by a error response to the client
- Request sent—Number of HA requests that were sent by the standby SBC
- Retransmission sent—Number of times an HA request was retransmitted after no response
- Success received—Number of HA requests receiving a reply from the other SBC in an HA pair
- Errors received—Number of errors received in response to HA requests
- Transaction timeouts—Number of HA transactions that timed out
- Avg Latency—Calculation based on the Transaction Latency Request-Response RTTs
- Max Latency—The maximum lifetime latency experienced by the current standby
- Last redundant transaction processed—The numerical identifier of the last redundant transaction processed.
- Request-Response Loss—Number of recent and lifetime transactions lost
- Transaction Latency Request-Response RTTs—Request-Response round-trip-time (RTT) values, displayed as the number of times the RTT time result fell into the following ranges:
  - 0 ns – 2 ms
  - 2 – 4 ms
  - 4 – 8 ms
  - 8 – 16 ms
  - 16 – 33 ms
  - 33 - 67 ms
  - > 67 ms

Output to subsequent arguments vary based on the taskname specified. If the argument does not apply to the taskname, the system displays **command not found**. These arguments include:

- actions—Shows flow add, delete and modify counters.
- objects—Shows statistics on the sipd objects supported by redundancy. The system collects these statistics on both the active and standby SBC, and are never reset.
- journals—shows per-task journal size and performance tables. Subsequent arguments specify the desired table, and can limit the output to a specific journal:
  - size— Shows the journal number, journal state, journal size and journal drops for each journal.  
Journal states include:
    - \* Resyn—Resynchronizing
    - \* Sync—Synchronizing
    - \* Sced— Synchronized

To execute for a single journal, include the **by-id <number>** argument after the **size** argument, where <number> is the journal number. Journal numbering is 0-based.

- **perf**— Shows the journal number, journal latency (recent period average, number of samples used for average calculation and maximum latency), journal queue rates (enqueue rate and dequeue rate) and journal overflows (i.e. full) on 1 line for each journal.

To execute for a single journal, include the **by-id <number>** argument after the **size** argument, where <number> is the journal number. Journal numbering is 0-based.



#### Note:

Journal statistics only have meaning on the active SBC; initially, these values are 0 on a standby SBC. For debugging purpose, however, the system does not reset these statistics during a switchover. You can reset these counters using the **reset redundancy** command.

#### Example

```
ORACLE# show redundancy sipd
```

## show registration

#### Syntax

```
show registration <protocol> <by-ip | by-user> <ip-address | by-endpoint> |
<statistics> | surrogate-agent <realm-id> | <unregistered>
```

To expand the capabilities of the show registration command, enter either **by-user** or **by-ip** after the protocol argument.

#### Arguments

<protocol> Select the protocol whose registration you want to view

- sipd
- h323

**by-user <user>** — Show registration information for a specific IP address of an endpoint, or a wildcard IP address value with an asterisk (\*) at the end.

**by-realm <realm>** — Display information for calls that have registered through a specified ingress realm whose registration cache information you want to view. The realm value can be a wildcard.

**by-registrar <registrar>** — Display information for calls that use a specific registrar. Add the IP address of the registrar whose registration cache information you want to view. This value can be wildcarded.

**by-route <IP address>** — Display information for calls by their IP address which is able to be routed. This allows you to view the endpoints associated with public addresses. Enter the IP address whose registration cache information you want to view. This value can be wildcard.

by-endpoint <IP address> — Show registration information for a specific phone number or username. Provide the IP address of an endpoint, or a wildcard IP address value with an asterisk (\*) at the end. This command is only available if you configure the `reg-via-key` parameter in the SIP interface configuration prior to endpoint registration. The `reg-via-key` parameter keys all registered endpoints by IP address and username.

Surrogate Agent — Displays all surrogate agents and their state including the last time of registration for each agent. The `<unregistered>` option displays all unregistered surrogate agents.

Phone number or username— Full phone number or username, or a wildcard number/username with an asterisk (\*) . The display shows statistics for the Period and Lifetime monitoring spans.

- User Entries—The number of unique SIP Addresses of Record in the cache
- Local Contacts—The number of contact entries in the cache
- Free Map Ports—The number of ports available in the free signaling port pool
- Used Map Ports—The number of signaling ports allocated for registration cache entries
- Forwards—Number of registration requests forwarded to the real registrar
- Refreshes—Number of registrations the Oracle Communications Session Border Controller answered without having to forward registrations to the real registrar
- Rejects—Number of unsuccessful registrations sent to real registrar
- Timeouts—Number of times a refresh from the HNT endpoint was not received before the timeout
- Fwd Postponed—The number of times sipd responded out of the cache instead of forwarding to the registrar due to the `max-register-forward` threshold
- Fwd Rejected—The number of REGISTER 503s done after checking for a cached entry
- Refr Extension—The number of times the `max-register-refresh` threshold was exceeded. The "Active" and "High" show the number of seconds added to the expiration
- Refresh Extended—The number of times the expire time in a REGISTER response was extended due to the `max-register-refresh` threshold
- Surrogate Regs— The total number of surrogate registers
- Surrogate Sent— The total number of surrogate registers sent
- Surrogate Reject—The total number of surrogate register rejects
- Surrogate Timeout— The total number of surrogate register timeouts
- Transport—The transport protocol used in registration
- Secure—Whether or not the transport protocol is secure.

statistics— Display a table of counters showing the total and periodic number of registrations, by protocol.

**Example**

```
ORACLE# show registration sipd by-user *
```

## show route-stats

**Syntax**

```
show route-stats
```

The show route-stats command shows routing statistics including bad routing redirects, dynamically created routes, new gateway due to redirects, destinations found unreachable, and use of a wildcard route.

**Example**

```
ORACLE# show route-stats
```

## show routes

**Syntax**

```
show routes
```

The show routes command displays the current system routing table. This table displays the following information:

- destination
- netmask
- TOS
- gateway
- flags
- reference count
- use
- interface
- protocol information

**Example**

```
ORACLE# show routes
```

## show running-config

### Syntax

```
show running-config <to-file> | <configuration-element> <element key field>
```

The show running-config entered without any arguments displays the running configuration information in use on the Oracle Communications Session Border Controller. If you use any configuration element key field as an argument, this show command will display only that specified configuration element.

### Arguments

<to-file> — Send all output from the show config command to a specified file located on the local flash file system instead of to the ACLI. This is an optional argument.

<configuration-element> — Specify the configuration element you want to view. This is an optional argument. If you do not specify a configuration element, the Oracle Communications Session Border Controller displays the entire configuration.

### Example

```
ORACLE# show running-config host-route
```

## show sa

### Syntax

```
show sa
```

or

```
show sa stats
```

This command displays the security associations information for IMS-AKA. The srtp option is not available for the ETC NIU.

### Example

```
ORACLE# show sa stats
```

## show security

### Syntax

```
show security <argument>
```

This command displays configured security information on the Oracle Communications Session Border Controller

### Arguments

#### **authorized-key [ brief | detail ] <name>**

Displays information about the authorized key of an SSH client.

#### **ca-key [ brief | detail ] <key-name>**

Displays information about the CA key.

#### **ca-user-revoke [ brief | detail ] <key-name>**

Displays information about the keys that have been revoked.

#### **certificates <argument>**

Show certificate information.

- brief—Display a brief certificate description
- detail—Display a detailed certificate description
- pem—Display certificate information in Privacy Enhanced Mail (PEM) form
- wancom0—Display certificate information for the wancom0 interface.

#### **crl <certificate-record>**

Show CRL issued by this certificate-record

#### **dtls-srtp [ all | realm\_id ]**

Display DTLS-SRTP statistics.

#### **ike <arguments>**

Displays statistics for IKE transactions.

- data-flow—Display data-flow information for IKE2
- local-address-pool <pool ID | brief> —Display local address pool information for IKE2
  - pool ID—Display a specific local address pool in detail
  - brief—Display all local address pools briefly

#### **ipsec <arguments>**

Show IPSEC related information. You can specify the name of the network interface whose IPSEC information you want to view.

- sad—Display IPSEC SAD information
- spd—Display IPSEC SDP information
- statistics—Display IPSEC statistics
- status—Display the interface IPSEC status

#### **known-host [ brief | detail ] <name>**

Displays information about the known host key of an SSH server.

#### **ocsp stats**

Display OCSP statistics.

#### **public-host-key < dsa | rsa >**

Show the system's RSA or DSA public host key.



**srtp <arguments>**

Show SRTP related information.

- **sad**—security-association database entries (Only the brief option is valid for ETC NIU)
- **sessions**—number of active SRTP sessions (not valid for ETC NIU)
- **spd**—security-policy database entries
- **statistics**—interface and SA entry statistics (not valid for ETC NIU)
- **status**—display interface IPSEC status (not valid for ETC NIU)
- **check-mini-cert <sipuraProfileName>**—reads the XML file corresponding to the given sipura profile from /code/sipura/ directory of the SBC, then parses and checks the validity of the Sipura mini-certificate present in the file by verifying the signature and the expiration date of the certificate. It outputs if the mini-certificate is verified successfully or not
- **display-mini-cert <sipuraProfileName>**—reads the file corresponding to the given sipura profile from /code/sipura directory of the SBC, then parses the file and decodes the base-64 encoded information. It outputs the information present in the mini-certificate in text format. This includes the user name, user ID, expiration date, public key and the signature.
- **update-mini-cert <sipuraProfileName>**—If a user wishes to change the content of a certificate file (thus the minicertificate and keys) and would like the SBC to use this updated certificate and keys during call setup, then the user can accomplish this by first changing the content of the file and then executing this ACLI command specifying the Sipura profile that uses this file. This command when executed will attempt to read the file that is configured in the given Sipura profile and then will parse the file and update the minicertificate and keys that is used for this sipura profile. This command assumes that the file is present in /code/sipura directory and the user has not changed the file name configured in the Sipura profile.

**ssm-accelerator**

Display the SSM status.

**stun [ all | realm\_id ]**

Show STUN statistics

**tls**

Display TLS related information.

- **session-cache**—Display TLS session cache information
- **stats**—Display TLS/DTLS statistics for signaling traffic.

**Example**

```
ORACLE# show security ipsec spd m10
```

## show sessions

### Syntax

```
show sessions
```

Displays session capacity for license and session use.

Total session capacity of the system list listed from this command.

The following statistics are available in a table for Period and Lifetime monitoring spans:

- Total Sessions—The aggregation of all current active subscriber sessions (H.323 call/SIP session) and is the total session count against the capacity license.
- SIP Sessions—The total current active SIP sessions
- H.323 Calls—The total current active H.323 calls
- Established Tunnels—
- H.248 ALG Contexts— not used

The IWF Statistics are shown for the Period and Lifetime monitoring spans.

- H.323 to SIP Calls—The calls that come in H.323 and go out SIP. These calls are included in “H.323 Calls” in the Session Statistics.
- SIP to H.323 Calls—The calls that come in SIP and go out H.323. These calls are included in “SIP Sessions” in the Session Statistics.

SIP Statistics including Audio, and video call counts are shown for the Period and Lifetime monitoring spans.

Session-based Messaging Session counts are shown for the Period and Lifetime monitoring spans.

## show sfps

### Syntax

```
show sfps
```

The show sfps command displays the EEPROM contents of the SFP modules in the system (Small Form-Factor Pluggable (optical transceiver module)).

## show sipd

### Syntax

```
show sipd <arguments>
```

The show sipd command displays SIP statistics on your Oracle Communications Session Border Controller.

## Arguments

status—Display information about SIP transactions. These statistics are given for the Period and Lifetime monitoring spans. This display also provides statistics related to SIP media events. The following statistics are displayed when using the show sipd status command.

- Dialogs—Number of end-to-end SIP signaling connections
- CallID Map—Total number of successful session header Call ID mappings
- Sessions—Number of sessions established by an INVITE
- Subscriptions—Number of sessions established by SUBSCRIPTION
- Rejections—Number of rejected INVITEs
- ReINVITEs—Number of ReINVITEs
- Media Sessions—Number of successful media sessions
- Media Pending—Number of media sessions waiting to be established
- Client Trans—Number of client transactions
- Server Trans—Number of server transactions that have taken place on the Oracle Communications Session Border Controller
- Resp Contexts—Number of current response contexts
- Saved Contexts—Total number of saved contexts
- Sockets—Number of active SIP sockets
- Req Dropped—Number of requests dropped
- DNS Trans—Number of DNS transactions
- DNS Sockets—Number of DNS Sockets
- DNS Results—Number of dns results
- Session Rate—The rate, per second, of SIP invites allowed to or from the Oracle Communications Session Border Controller during the sliding window period. The rate is computed every 10 seconds
- Load Rate—Average Central Processing Unit (CPU) utilization of the Oracle Communications Session Border Controller during the current window. The average is computed every 10 seconds. When you configure the load-limit in the SIPConfig record, the system computes the average every 5 seconds

errors —Display statistics for SIP media event errors. These statistics are errors encountered by the SIP application in processing SIP media sessions, dialogs, and session descriptions (SDP). Errors are only displayed for the lifetime monitoring span.

- SDP Offer Errors—Number of errors encountered in setting up the media session for a session description in a SIP request or response which is an SDP Offer in the Offer/Answer model (RFC 3264)
- SDP Answer Errors—Number of errors encountered in setting up the media session for a session description in a SIP request or response which is an SDP Answer in the Offer/Answer model (RFC 3264)
- Drop Media Errors—Number of errors encountered in tearing down the media for a dialog or session that is being terminated due to: a) non-successful response to an INVITE transaction; or b) a BYE transaction received from one of the participants

in a dialog or session; or c) a BYE initiated by the system due to a timeout notification from MBCD

- Transaction Errors—Number of errors in continuing the processing of the SIP client transaction associated with setting up or tearing down of the media session
  - Missing Dialog—Number of requests received by the SIP application for which a matching dialog count not be found
  - Application Errors—Number of miscellaneous errors in the SIP application that are otherwise uncategorized
  - Media Exp Events—Flow timer expiration notifications received from MBCD
  - Early Media Exps—Flow timer expiration notifications received for media sessions that have not been completely set up due to an incomplete or pending INVITE transaction
  - Exp Media Drops—Number of flow timer expiration notifications from the MBCD that resulted in the termination of the dialog/session by the SIP application
  - Multiple OK Drops—Number of dialogs terminated upon reception of a 200 OK response from multiple UASs for a given INVITE transaction that was forked by a downstream proxy
  - Multiple OK Terms—Number of dialogs terminated upon reception of a 200 OK response that conflicts with an existing established dialog on the Oracle Communications Session Border Controller
  - Media Failure Drops—Number of dialogs terminated due to a failure in establishing the media session
  - Non-ACK 2xx Drops—Number of sessions terminated because an ACK was not received for a 2xx response
  - Invalid Requests—Number of invalid requests; an unsupported header for example
  - Invalid Responses—Number of invalid responses; no Via header for example
  - Invalid Messages—Number of messages dropped due to parse failure
  - CAC Session Drop—Number of call admission control session setup failures due to user session count exceeded
  - Expired Sessions—Number of sessions terminated due to the session timer expiring
  - CAC BW Drop—Number of call admission control session setup failures due to insufficient bandwidth
- Lifetime displays show information for recent, total, and period maximum error statistics:
- Recent—Number of errors occurring in the number of seconds listed after the time stamp
  - Total—Number of errors occurring since last reboot
  - PerMax—Identifies the highest individual Period Total over the lifetime of the monitoring
- policy—Display SIP local policy / routing statistics for lifetime duration
- Local Policy Lookups—Number of Local policy lookups
  - Local Policy Hits—Number of successful local policy lookups
  - Local Policy Misses—Number of local policy lookup failures
  - Local Policy Drops—Number of local policy lookups where the next hop session agent group is H323
  - Agent Group Hits—Number of successful local policy lookups for session agent groups

- Agent Group Misses—Number of successful local policy lookups where no session agent was available for session agent group
- No Routes Found—Number of successful local policy lookups but temporarily unable to route; session agent out of service for instance
- Missing Dialog—Number of local policy lookups where the dialog is not found for a request addressed to the Oracle Communications Session Border Controller with a To tag or for a NOTIFY-SUBSCRIBE sip request
- Inb SA Constraints—Number of successful local policy lookups where inbound session agent exceeded constraints
- Outb SA Constraints—Number of successful outbound local policy lookups where session agent exceeded constraints
- Inb Reg SA Constraints—Number of successful inbound local policy lookups where registrar exceeded constraints
- Out Reg SA Constraints—Number of successful outbound local policy lookups where registrar exceeded constraints
- Requests Challenged—Number of requests challenged
- Challenge Found— Number of challenges found
- Challenge Not Found—Number of challenges not found
- Challenge Dropped—Number of challenges dropped

server—Display statistics for SIP server events when the Oracle Communications Session Border Controller acts as a SIP server in its B2BUA role. Period and Lifetime monitoring spans for SIP server transactions are provided.

- All States—Number of all server transactions
- Initial—Number of times the “initial” state was entered after a request was received
- Queued—Number of times the “queued” state is entered because resources are temporarily unavailable
- Trying—Number of times the “trying” state was entered due to the receipt of a request
- Proceeding—Number of times a server transaction has been constructed for a request
- Cancelled—Number of INVITE transactions that received a CANCEL
- Established—Number of times the server sent a 2xx response to an INVITE
- Completed—Number of times the server received a 300 to 699 status code and entered the “completed” state
- Confirmed—Number of times that an ACK was received while the server was in “completed” state and transitioned to “confirmed” state
- Terminated—Number of times that the server received a 2xx response or never received an ACK in the “completed” state, and transitioned to the “terminated” state

client —Display statistics for SIP client events when the Oracle Communications Session Border Controller is acting as a SIP client in its B2BUA role. Period and Lifetime monitoring spans are displayed.

- All States—Number of all client transactions

- Initial—State when initial server transaction is created before a request is sent
- Trying—Number of times the “trying” state was entered due to the sending of a request
- Calling—Number of times that the “calling” state was entered due to the receipt of an INVITE request
- Proceeding—Number of times that the “proceeding” state was entered due to the receipt of a provisional response while in the “calling” state
- Early Media—Number of times that the “proceeding” state was entered due to the receipt of a provisional response that contained SDP while in the “calling” state
- Completed—Number of times that the “completed” state was entered due to the receipt of a status code in the range of 300-699 when either in the “calling” or “proceeding” state
- SetMedia—Number of transactions in which the Oracle Communications Session Border Controller is setting up NAT and steering ports
- Established—Number of situations when client receives a 2xx response to an INVITE, but cannot forward it because it NAT and steering port information is missing
- Terminated—Number of times the “terminated” state was entered after a 2xx message

acls—Display ACL information for Period and Lifetime monitoring spans

- Total entries—Total ACL Entries, including both trusted and blocked
- Trusted—Number of trusted ACL entries
- Blocked—Number of blocked ACL entries
- Blocked NATs—Number of blocked entries that are behind NATs  
Lifetime monitoring span is displayed for SIP ACL Operations.
- ACL Requests—Number of ACL requests
- Bad Messages —Number of bad messages
- Promotions—Number of ACL entry promotions
- Demotions—Number of ACL entry demotions
- Trust->Untrust—Number of ACL entries demoted from trusted to untrusted
- Untrust->Deny—Number of acl entries demoted from untrusted to deny

sessions—Display the number of sessions and dialogs in various states for the Period and Lifetime monitoring spans, in addition to the current Active count:

- Sessions—Identical to the identically named statistic on the show sipd status command
- Initial—Displays sessions for which an INVITE or SUBSCRIBE is being forwarded
- Early—Displays sessions for which the first provisional response (1xx other than 100) is received
- Established—Displays sessions for which a success (2xx) response is received
- Terminated—Displays sessions for which the session is ended by receiving or sending a BYE for an “Established” session or forwarding an error response for an “Initial” or “Early” session. The session will remain in the “Terminated” state until all the resources for the session are freed.
- Dialogs—Identical to the identically named statistic on the show sipd status command
- Early—Displays dialogs that were created by a provisional response

- Confirmed—Displays dialogs that were created by a success response. An "Early" dialog will transition to "Confirmed" when a success response is received
- Terminated—Displays dialogs that were ended by receiving/sending a BYE for an Established" session or receiving/sending error response "Early" dialog. The dialog will remain in the "Terminated" state until all the resources for the session are freed.

sessions all—Display all SIP sessions currently on the system

sessions by-agent <agent name>—Display SIP sessions for the session agent specified; adding iwf to the end of the command shows sessions for the IWF; adding detail to the end of the command expands the displayed information

sessions by-ip <endpoint IP address>—Display SIP sessions for the specified IP address for an endpoint; adding iwf to the end of the command shows sessions for the IWF; adding detail to the end of the command expands the displayed information

sessions by-user <calling or called number>—Display SIP sessions for the specified user; adding iwf to the end of the command shows sessions for the IWF; adding detail to the end of the command expands the displayed information

sessions by-callid <call ID>—Display SIP sessions for the specified call ID; adding iwf to the end of the command shows sessions for the IWF; adding detail to the end of the command expands the displayed information

redundancy—Display sipd redundancy statistics. Executing the show sipd redundancy command is the equivalent to the show redundancy sipd command.

agents [hostname][method][-t]—Display statistics related to defined SIP session agents. Entering this command without any arguments list all SIP session agents. By adding the IP address or hostname of a session agent as well as a specified method at the end of the command, you can display statistics for that specific session agent and method. For a specific session agent, identified by IP address, the show sipd agents command lists:

- session agent state
    - D—disabled
    - I—in-service
    - O—out-of-service
    - S—transitioning from out-of-service to in-service
  - inbound and outbound statistics
  - average and maximum latency for each session agent
  - maximum burst rate for each session agent as total number of session invitations sent to or received from the session agent within the amount of time configured in the burst-rate-window field
- Inbound Statistics:
- Active—Number of active sessions sent to each session agent listed
  - Rate—Average rate of session invitations (per second) sent to each session agent listed
- Outbound Statistics:
- ConEx—Number of times the constraints have been exceeded
- Outbound Statistics:
- Active—Number of active sessions sent from each session agent

- Rate—Average rate of session invitations (per second) sent from each session agent listed
- ConEx—Number of times the constraints have been exceeded  
Latency:
- Avg—Average latency for packets traveling to and from each session agent
- Max—Maximum latency for packets traveling to and from each session agent listed

-t—Append to the end of the command to specify the current time period for the max-burst value.

interface [interface-id][method] - Display SIP interface statistics. Entering this command without any arguments displays whether the SIP interface is in service or not. By adding the optional interface-id and method arguments you can narrow the display to view just the interface and method you want to view. The show sipd interface command lists:

- Name of the SIP interface
- State - A D indicates that the particular SIP interface is disabled and I indicates an in service SIP interface. This is the second column, without a label
- Inbound Statistics:
  - Active - number of active sessions sent to each SIP interface listed
  - Rate - average rate of session invitations (per second) sent to each SIP interface listed
  - ConEx - number of times the constraints have been exceeded
- Outbound Statistics:
  - Active - number of active sessions sent from each SIP interface listed
  - Rate - average rate of session invitations (per second) sent from each SIP interface listed
  - ConEx - number of times the constraints have been exceeded
- Latency Statistics:
  - Avg: average latency for packets traveling to and from each SIP interface listed
  - Max: maximum latency for packets traveling to and from each SIP interface listed
- Max Burst: total number of session invitations sent to or received from the SIP interface within the amount of time configured for the burst rate window. You can set the burst-rate-window in session-constraints and also set the corresponding constraint name in the sip-interface.

ip-cac <IP address>—Display CAC parameters for an IP address

publish—Display statistics related to incoming SIP PUBLISH messages

agent <agent>—Display activity for the session agent that you specify

- Inbound Sessions:
  - Rate Exceeded—Number of times session or burst rate was exceeded for inbound sessions
- Num Exceeded—Number of times time constraints were exceeded for inbound sessions  
Outbound Sessions:



- Rate Exceeded—Number of times session or burst rate was exceeded for outbound sessions
- Num Exceeded—Number of times time constraints were exceeded for inbound sessions
- Burst—Number of times burst rate was exceeded for this session agent
- Out of Service—Number of times this session agent went out of service
- Trans Timeout—Number of transactions timed out for this session agent
- Requests Sent—Number of requests sent by way of this session agent
- Requests Complete—Number of requests that have been completed for this session agent
- Messages Received—Number of messages received by this session agent

realm—Display realm statistics related to SIP processing

routers—Display status of Oracle Communications Session Border Controller connections for session router functionality

directors—Display the status of Oracle Communications Session Border Controller connections for session director functionality

<message>—Add one of the following arguments to the end of a show sipd command to display information about that type of SIP message:

- INVITE—Display the number of SIP transactions including an INVITE method
- REGISTER—Display the number of SIP transactions including a REGISTER method
- OPTIONS—Display the number of SIP transactions including an OPTIONS method
- CANCEL—Display the number of SIP transactions including a CANCEL method
- BYE—Display the number of SIP transactions including a BYE method
- ACK—Display the number of SIP transactions including an ACK method
- INFO—Display the number of SIP transactions including an INFO method
- PRACK—Display the number of SIP transactions including a PRACK method
- PRECONDITIONS-TRFO—Display Asymmetric preconditions TrFO statistics
- SUBSCRIBE—Display the number of SIP transactions including a SUBSCRIBE method
- NOTIFY—Display the number of SIP transactions including a NOTIFY method
- REFER—Display the number of SIP transactions including a REFER method
- UPDATE—Display the number of SIP transactions including an UPDATE method
- other—Display the number of SIP transactions including non-compliant methods and protocols used by specific customers  
The following lists information displayed for each individual SIP message statistic. Some or all of the following messages and events may appear in the output from a show sipd command.
- INVITE Requests—Number of times method has been received or sent

- Retransmissions—Information regarding sipd message command requests received by the Oracle Communications Session Border Controller
- 100 Trying—Number of times some unspecified action is being taken on behalf of a call (e.g., a database is being consulted), but user has not been located
- 180 Ringing—Number of times called UA identified a location where user has registered recently and is trying to alert the user
- 200 OK—Number of times request has succeeded
- 408 Request Timeout—Number of times server could not produce a response before timeout
- 481 Does Not Exist—Number of times UAS received a request not matching existing dialog or transaction
- 486 Busy Here—Number of times callee's end system was contacted successfully but callee not willing to take additional calls
- 487 Terminated—Number of times request was cancelled by a BYE or CANCEL request
- 4xx Client Error—Number of times the 4xx class of status code appeared for cases where the client seems to have erred
- 503 Service Unavail—Number of times server was unable to handle the request due to a temporary overloading or maintenance of the server
- 5xx Server Error—Number of times the 5xx class of status code appeared
- Response Retrsns—Number of response re-transmissions sent and received
- Transaction Timeouts— Number of times a transaction timed out. The timer related to this transaction is Timer B, as defined in RFC 3261
- Locally Throttled—Number of locally throttled invites. Does not apply to a server. show sipd <message> output is divided in two sections: Server and Client, with information for recent, total, and period maximum time frames. This command also displays information about the average and maximum latency. For each type of SIP message, only those transactions for which there are statistics are shown. If there is no data available for a certain SIP message, the system displays the fact that there is none and specifies the message about which you inquired.

groups—Display cumulative information for all session agent groups on the Oracle Communications Session Border Controller. This information is compiled by totaling the session agent statistics for all of the session agents that make up a particular session agent group. While the show sipd groups command accesses the sub-commands described in this section, the main show sipd groups command (when executed with no arguments) displays a list of all session agent groups.

groups -v—Display statistics for the session agents that make up the session agent groups that are being reported. The -v (meaning “verbose”) executed with this command must be included to provide verbose detail.

groups <specific group name>— Display statistics for the specified session agent group

endpoint-ip <phone number> —Displays registration information for a designation endpoint entered in the <phone number> argument; also show IMS-AKA data

all—Display all the show sipd statistics listed above

sip-endpoint-ip—See show sipd endpoint-ip

sa-nsep-burst—Display NSEP burst rate for all SIP session agents

subscriptions-by-user—Display data for SIP per user subscribe dialog limit

rate—Displays the transaction rate of SIP messages

codecs—Displays codec usage per realm, including counts for codecs that require a license such as SILK and Opus.

pooled-transcoding—Pooled transcoding information for the client and server User Agents on the A-SBC.

srvcc—SRVCC handover counts including ATCF and EATF sessions.

- Total Calls - Total calls subjected to SRVCC
- Total Success - Total successful SRVCC hand-off
- Total Failed - Total failed SRVCC hand-off
- Calls After Answer - Total calls subjected to SRVCC in established phase
- After Answer Success - Total successful SRVCC hand-off in established phase
- After Answer Failed - Total failed SRVCC hand-off in established phase
- Calls During Alerting - Total calls subjected to SRVCC in alerting phase
- During Alerting Success - Total successful SRVCC hand-off in alerting phase
- During Alerting Failed - Total failed SRVCC hand-off in alerting phase
- ATCF Cancellation - Total ATCF cancellations
- Total Emergency Calls - Total SRVCC hand-off for Emergency calls
- Emergency Success - Total successful SRVCC hand-off for Emergency calls
- Emergency Failed - Total failed SRVCC hand-off for Emergency calls
- EATF Cancellation - Total EATF Cancellations

tcp—Displays TCP connection state information for the following

- inbound
- outbound
- listen
- IMS-AKA
- total

tcp connections—Dump TCP connections for analysis. Options include:

- sip-interface—Optional parameter that limits output to sockets in the specified sip-interface
- start start—Integer indicating which connection to start display. This can be a negative number. If the number selected for the start variable is greater than the number of TCP connections, nothing will be displayed
- start-count start—Integer as per above plus the count integer, specifying how many TCP connections to display from the start.
- all—Dump all of the sipd tcp connections. Exercise caution due to the possibility of consuming all CPU time; preferably use during a maintenance window

## show sipd srg

Run this command to view the current status for all the session recording groups configured in the system.

### Syntax

```
show sipd srg
```

This command shows the status from the different servers configured in the system. The status can be summarized as:

**Table 3-3 Status Description**

Status	Description
I	In service
O	out of service
S	Transitioning from out-of-service to in-service

## show sipd srs

Run this command to view the current status for all session recording servers configured in the system.

### Syntax

```
show sipd srs
```

This command shows the status from the different servers configured in the system. The status can be summarized as:

**Table 3-4 Status Description**

Status	Description
I	In service After a normal configuration, or when ping is enabled and a response is obtained, then the SRS status is in-service.
O	Out of service If OPTIONS ping is enabled but not responded then SRS will be marked as out-of-service. When an SRS is out-of-service, and the OPTIONS ping is responded back, then for a small duration the SRS remains in the transitioning state.

**Table 3-4 (Cont.) Status Description**

Status	Description
S	Transitioning from an out of service status to an in service status. When the SRS is out-of-service and the OPTIONS ping is responded back, then for a small amount of time the SRS remains in the transitioning state - S.

## show sipd siprec <message>

Run this command to view information about a specific type of SIP message related to all SIPREC sessions towards SRS.

### Syntax

```
show sipd siprec <message>
```

The <message> parameter in the command can take any one of the following values:

**Table 3-5 Message Parameter**

Parameter	Description
ACK	Display the number of SIP transactions including an ACK method
BYE	Display the number of SIP transactions including a BYE method
CANCEL	Display the number of SIP transactions including a CANCEL method
INVITE	Display the number of SIP transactions including the INVITE method
OPTIONS	Display the number of SIP transactions including an OPTIONS method
other	Display the number of SIP transactions including non-compliant methods and protocols used by specific customers.

This table lists the information displayed for each SIP message statistic. Some or all of the messages and events may appear in the output using a `show sipd siprec` command.

**Table 3-6 Statistics Displayed**

Statistic or Message	Description
200 OK	Number of times the request has succeeded.
408 Request Timeout	Number of times the server could not produce a response before timeout.
487 Terminated	Number of times a request was cancelled by a BYE or CANCEL request

**Table 3-6 (Cont.) Statistics Displayed**

Statistic or Message	Description
4xx Client Error	Number of times the 4xx class of status code appeared for cases where the client seems to have erred
503 Service Unavail	Number of times the server was unable to handle the request due to a temporary overloading or maintenance of the server
5xx Server Error	Number of times the 5xx class of status code appeared
Message Requests	The number of requests for a SPECIFIC message type
Retransmissions	Information regarding sipd message command requests received by the SBC
Transaction Timeouts	Number of times a transaction timed out. The timer related to this transaction is Timer B, as defined in RFC 3261

## show sipd siprec errors

Run this command to view errors related to the SIP media event.

### Syntax

```
show sipd siprec errors
```

The table lists descriptions for all errors that are displayed in the output:

**Table 3-7 SIP Media Event Related Errors**

Error	Description
Drop Media Errors	Number of errors encountered in tearing down the media for a dialog or session that is being terminated due to: a) non-successful response to an INVITE transaction; or b) a BYE transaction received from one of the participants in a dialog or session; or c) a BYE initiated by the system due to a timeout notification from MBCD. For example, 500 error response to INVITE.
SDP Answer Errors	Number of errors encountered in setting up the media session for a session description in a SIP request or response which is an SDP Answer in the Offer/ Answer model (RFC 3264). For example, steering pool ports not available on receiving answer. This can be achieved by configuring only one steering pool on uas side realm, and in answer send two m-lines , it will fail as no steering ports are there.

**Table 3-7 (Cont.) SIP Media Event Related Errors**

Error	Description
SDP Offer Errors	Number of errors encountered in setting up the media session for a session description in a SIP request or response which is an SDP Offer in the Offer/Answer model (RFC 3264). For example, steering pool ports not available on receiving offer.

## show snmp-community-table

### Syntax

```
show snmp-community-table
```

The `show snmp-community-table` command displays all information for configured SNMP communities including request and responses for each community.

### Example

```
ORACLE# show snmp-community-table
```

## show snmp-info

You can view summary SNMP agent run-time configuration and statistical packet-count information by using this command with no additional parameters.



### Note:

All arguments of this command display run-time configuration information.

### Syntax

```
show snmp-info [addresses | all | groups | statistics | summary |
users | views]
```

### Arguments

- **addresses**—Display device IP addresses, their subnet mask entries and request, reply, and trap counters.
- **all**—Display detailed system-level SNMPv3 counters.
- **groups**—Display user group entries.
- **statistics**—Display SNMP agent statistics and device SNMP IP address entry statistics.
- **summary**—SNMPv3 agent information.

- **users**— Display SNMP user entries and statistics.
- **views**—Display SNMP view entries.

### Release

Initial release: S-CX8.1.0

## show spl

The `show spl` command displays the version of the SPL engine, The filenames and version of the SPL plugins currently loaded on the Oracle Communications Session Border Controller, The signature state of each plugin , The system tasks that each loaded plugin interacts with, enclosed in brackets.

`show spl <task>` — command displays SPL file information including the signature state.

## show support-info

### Syntax

```
show support-info [custom | standard | media | signaling] [config] [file-only]
```

This command allows you to gather a set of information commonly requested by Oracle Support.

### Arguments

**custom** — Display information in the `/code/supportinfo.cmds` file to determine what commands should be encompassed. If the file does not exist, then the system notifies you.

**standard** — Display information for all commands the `show support-info` command encompasses.

**media** — Display and write out only the `show media` commands to the log file.

**signaling** — Display and write out all commands and exclude the `show media` commands to the log file.

**config** — Optionally add the `show running-config` output to the output of the standard arguments.

**file-only**—Optionally disable the output of commands to stdout and append to the `support-info.log` file.

### Example

```
ORACLE# show support-info standard
```



---

## show system-state

### Syntax

```
show system-state
```

Displays the system state based on the latest setting of the set-system-state command.

### Example

```
ORACLE# show system-state
```

## show tacacs

### Syntax

```
show tacacs stats
```

Displays statistics related to communications between the Oracle Communications Session Border Controller and configured TACACS servers, including:

- number of CLI commands sent for TACACS+ accounting
- number of successful TACACS+ authentications
- number of failed TACACS+ authentications
- number of successful TACACS+ authorizations
- number of failed TACACS+ authentications
- the IP address of the TACACS+ daemon used for the last transaction

## show temperature

### Syntax

```
show temperature
```

Displays the temperature in Celsius for all given components with temperature sensors.

### Example

```
ORACLE# show temperature
```

## show timezone

### Syntax

```
show timezone
```

This command displays the information set with the **timezone-set** command including the name of the timezone, its minutes from UTC, and the start and stop date and hours for daylight saving time.

The **show timezone** command also displays the DST settings. If rules-based DST configuration is used, the Oracle Communications Session Border Controller converts the rule into the absolute DST start or end time for the current year.

### Example

```
ORACLE# show timezone  
America/New_York
```

## show trap-receiver

### Syntax

```
show trap-receiver
```

The **show trap-receiver** command displays trap receiver information for each configured SNMP community. An IPv6 address is valid as a parameter.

### Example

```
ORACLE# show trap-receiver <IP-address>
```

## show uptime

### Syntax

```
show uptime
```

The **show uptime** command displays information about the length of time the system has been running in days, hours, minutes, and seconds, as well as the current date and time information.

### Example

```
ORACLE# show uptime
```

## show users

### Syntax

```
show users [detail]
```

The `show users` command displays all users currently logged into the Oracle Communications Session Border Controller by index number. Other display information includes:

- Index Identifier
- remote IP address
- IdNumber
- Duration of connection
- Connection Type
- State
  - \* denotes the current connection
  - C denotes the user has the configuration lock
- User

### Example

```
ORACLE# show users
```

## show version

### Syntax

```
show version [image | boot]
```

The `show version` command shows the OS version information including: the OS version number, the date that the current copy of the OS was made, and other information.

### Arguments

`image` — Displays kernel information and boot parameters.

`boot` — Displays bootloader version, BIOS detail, and mainboard information, including serial number.

### Example

```
ORACLE# show version
```

---

## show virtual-interfaces

### Syntax

```
show virtual-interface
```

The show virtual-interface command shows the virtual interfaces for Oracle Communications Session Border Controller signaling services; for example, SIP-NAT external address and H.323 interface (stack) IP interface.

### Example

```
ORACLE# show virtual-interfaces
```

## show voltage

### Syntax

```
show voltage
```

Displays current operating voltages for components in the Oracle Communications Session Border Controller.

### Mode

User and Superuser

### Example

```
ORACLE# show voltage
```

## show wancom

### Syntax

```
show wancom
```

Displays negotiated duplex mode and speed for all Oracle Communications Session Border Controller system control interfaces.

### Mode

User and Superuser

### Example

```
ORACLE# show wancom
```

## show xcode

### Syntax

```
show xcode [api-stats | dbginfo | dsp-events | load | session-all |  
session-bitinfo | session-byattr | session-byid | session-byipp |  
session-config | xlist | codecs]
```

Displays transcoding hardware statistics and operating information. Commands of note:

show xcode load—Displays currently used transcoding resources.

show xcode codecs—Displays counts of codec pairs (and ptime transrating) in use.

### Mode

User and Superuser

## spl

### Syntax

```
spl save acli encr-surrogate-passwords
```

```
spl start acli [ show | wizard ] [ entitlements | product ]
```

### Arguments

- **encr-surrogate-passwords**—Encrypt the surrogate-agent password. This command is obsolete because this is the default behavior in the latest version of all supported releases.
- **show entitlements**—Display the entitlements. This is identical to the command **show entitlements**.
- **wizard product**—Start the wizard that selects the product. This is identical to the command **setup product**.
- **wizard entitlements**—Start the wizard that selects the entitlements. This is identical to the command **setup entitlements**.

### Mode

Superuser

### Example

```
ORACLE# spl start acli show entitlements
```

## ssh-key

The ssh-key command allows you to import, generate, display and delete public keys on the Oracle Communications Session Border Controller.

### Syntax

```
ssh-key <key type> <action> <other parameters>
```

### Arguments

Supported key types:

#### authorized-key

Manage the keys of SSH clients who connect using public key authentication.

Supported actions:

##### **export <name>**

Export an authorized key in RFC 4716 format.

##### **import <name> <class>**

Import an authorized key in RFC 4716 format. The <class> parameter may be either user or admin.

##### **delete <name>**

Delete an authorized key that was previously imported.

#### known-host

Manage the known hosts for when the SBC acts as an SSH client.

Supported actions:

##### **import <name>**

Import a key in RFC 4716 format into the known\_hosts file.

The <name> parameter is the IP address or hostname of the SFTP server.

##### **delete <name>**

Delete a key from the known\_hosts file.

The <name> parameter is the IP address or hostname of the SFTP server.

#### private-key

Manage the private key of the SBC

Supported actions:

##### **generate [ rsa | dsa ] [<size>]**

Regenerate the RSA or DSA public and private key of the SBC.

RSA key size may be 2048, 3072, or 4096. The default value of 2048 is used if no size is selected.

DSA key size is always set to 1024.

#### ca-key

Manage the certificate authority keys.

Supported actions:

**import <key-name> <class>**

Import a CA key in RFC 4716 format. The <class> parameter may be either `user` or `admin`.

**delete <key-name>**

Delete a key from the `known_hosts` file.

**ca-user-revoke**

Manage certificate authority user revocation. Users are added to the revocation list by importing their public key.

Supported actions:

**import <key-name>**

Import the public key of the user or users who are authorized with this `ca-key`. Or import the public key of a CA to revoke all keys signed by that CA.

**delete <key-name>**

Remove a `key-name` from the revocation list.

**x509**

Manage certificates for OCSP-based authentication of SSH clients.

**Note:**

Requires Admin Security entitlement and FIPS entitlement.

Supported actions:

**import <login-name> <ocsp-server> <class>**

Import the end-entity certificate and certificate chain for an SSH client. The `login-name` should match the username that the SSH client uses to authenticate; the `ocsp-server` should be the FQDN of the OCSP server; and the `class` parameter may be either `user` or `admin`.

**delete <login-name>**

Remove the end-entity certificate and certificate chain for an SSH client.

**Mode**

Superuser

**Example**

```
ORACLE# ssh-key authorized-key import jdoe
```

## stack

The `stack <task>` command is not supported in this release.

## start learned-allowed-elements

The start learned-allowed-elements command begins the Oracle Communications Session Border Controller to analyze traffic and create an allowed-elements-profile configuration element to match and pass that traffic.

### Syntax

```
start learned-allowed-elements [method] [msg-type] [params]
```

### Arguments

Entered without any arguments, the system captures and parses all messages sent through to create an allowed-elements-profile, based on headers only.

**method**—Adding this argument writes out rule set information that includes message method criteria.

**msg-type**—Adding this argument writes out rule set information that includes message type criteria, including any, request, or response.

**params**—Adding this argument writes out rule set information that includes header parameter criteria, that appears in the header-rules subelement.

### Mode

Superuser

## stop-task

The stop-task command shuts down a specified task.

### Syntax

```
stop-task <task>
```

### Arguments

<task> Enter a task name or task ID

 **Note:**

Use this command with caution as there is no direct way to restart a task without rebooting the Oracle Communications Session Border Controller.

### Mode

Superuser



**Example**

```
ORACLE# stop-task sipd
```

## stop learned-allowed-elements

The stop learned-allowed-elements command stops the Oracle Communications Session Border Controller from analyzing traffic and closes all created configuration elements. You must then perform a save and activate for created elements to be saved to the running config.

**Syntax**

```
stop learned-allowed-elements <configuration name>
```

**Arguments**

<configuration-name>—Enter a name that will become the allowed-elements-profile configuration name that reflects passing the traffic captured during the start learned-allowed-elements task.

**Mode**

Superuser

## switchover-redundancy-link

The switchover-redundancy-link command allows you to switchover the physical interface to standby in a redundant link configuration.

**arguments**

<slot> Select the slot number to switchover the link from active to standby.

- Values 1 | 2

**Mode**

Superuser

**Example**

```
ORACLE# switchover-redundancy-link 2
```

## synchronize

The synchronize command is used to synchronize files across HA nodes.

**arguments**

Irt <filename>—Synchronizes specific file from the /code/Irt directory.

lrt <path><filename>—Synchronize Local Routing Tables (LRT) files between active and standby (e.g. synchronize lrt /code/lrt/filename.xml).

**Mode**

Superuser

## systeme-set

The systeme-set command sets the system clock.

**Syntax**

```
systeme-set
```

 **Note:**

The systeme-set command prompts the user for the date and time and updates the system clock. The command will not set the system time if an invalid year, month, or day is entered. Attempting to change the date and time on the Oracle Communications Session Border Controller displays a warning message as use of this command could be service affecting.

**Mode**

Superuser

**Example**

```
ORACLE# systeme-set
```

## tail-logfile-close

The tail-logfile-close command ends the echoing of a process's logfile to the screen as initiated by the tail-logfile-open command.

**Syntax**

```
tail-logfile-close <process> [<logfile>]
```

**Arguments**

<process> — Enter the name of the process that is writing to the specified logfile.

<logfile> — Enter the logfile's name that you want to stop being echoed to the screen. This argument is optional.

**Note:**

Must be a valid logfile that is currently being written to.

**Mode**

Superuser

**Example**

```
ORACLE# tail-logfile-close sipd
```

## tail-logfile-open

The tail-logfile-open command displays all messages on the console that are normally written to a specified logfile. As a message is written to the logfile, it is also displayed on the screen. The specified logfile will continue to be updated on the Oracle Communications Session Border Controller's filesystem.

**Syntax**

```
tail-logfile-open <process> [<logfile>]
```

**Arguments**

<process> — Enter the name of the process that is writing to the specified logfile

<logfile> Enter an alternate logfile's name for which you want new entries echoed to the console screen. Not entering the logfile argument forces the default log for the named process to be displayed on the screen. This argument is optional.

**Mode**

Superuser

**Note:**

Must be a valid logfile that is currently being written to. The level of detail displayed on the screen is related to the loglevel of the process.

**Example**

```
ORACLE# tail-logfile-open sipd
```

## tcb

The tcb command displays task control block (TCB) information for a particular task.

## Syntax

```
tcb <task>
```



### Note:

This command returns a pointer to the TCB for a specified task. Although all task state information is contained in the TCB, you must not modify it directly. This command is used only for debugging purposes.

## Arguments

<task> — Enter a task name or task ID

## Mode

Superuser

## Example

```
ORACLE# tcb sipd
```

## test-audit-log

The test-audit-log command allows the user to test audit log functionality.

## Arguments

<log-msg> Enter the audit log string to be written into the audit file

## Syntax

```
test-audit-log <log-msg>
```

## Mode

Superuser

## Example

```
ORACLE# test-audit-log log1
```

## test-pattern-rule

The test-pattern-rule command allows you to test header manipulation pattern rules for expression validation.

## Arguments

<expression> Enter the regular expression that you want to test. The Oracle Communications Session Border Controller informs you whether or not there is a match.<string> Enter the string against which you want to compare the regular expression.<show> View the test pattern you entered, whether there was a match, and if so, the number of matches.<exit> End the test User

## Mode

User

## Example

```
ORACLE# test-pattern-rule expression \.*;tgid=(.+).*
```



### Note:

This command exists both as a command and as a configuration element.

## test-policy

The test-policy element tests and displays local policy routes from the ACLI.

### Parameters

#### source-realm

Enter the name set in the source-realm field of a configured local policy. Entering an "\*" in this field matches for any source realm. Leaving the field empty indicates that only the "global" realm will be tested.

#### from-address

Enter the "from" address of the local policy to look up/test. From addresses should be entered as SIP-URLs in the form of sip:19785551212@netnetsystems.com.

#### to-address

Enter the "to" address of the local policy to look up/test. To addresses should be entered as SIP-URLs in the form of sip:19785551212@netnetsystems.com.

#### time-of-day

Enable or disable use of the time of day value set in the start-time and end-time fields you set in configured local-policy elements

- Values: enabled | disabled

#### carriers

Enter the names of permitted carriers set in the carriers fields set in configured local-policy elements. This field is formatted as a list of comma separated text strings enclosed in quotation marks.

#### media-profile

Enter a list of media profiles

**show**

Show the next hop and the associated carrier information for all routes matching the “from” and “to” addresses entered

**Path**

test-policy is available under the session-router path.

**Notes**

Type the show command to perform the actual test lookup after parameters have been entered.

The test-policy element can also be configured in Superuser mode as a command.

## test-translation

The test-translation command is used to test translation rules configured for the address translation feature. This command is also found in the session-router path. Details on its use are found in the Configuration Elements N-Z chapter.

**Syntax**

```
test-translation <argument>
```

**Arguments**

<argument> The following is a list of test-translation arguments:

- Values :
  - called-address—Enter the address on which the called rules are be applied. This entry is required.
  - calling-address—Enter the address on which the calling rules will be applied. This entry is required.
  - show—Show results of translation
  - translation-id—Enter translation rules to test
  - exit—Exit the test translationUser

**Mode**

User

**Example**

```
ORACLE# test-translation show
```

## timezone-set

The timezone-set command sets the time zone and daylight savings time on the Oracle Communications Session Border Controller.

## Syntax

```
timezone-set
```

### Note:

The `timezone-set` command prompts the user for time zone, UTC offset, and daylight saving time information. If daylight savings time for your time zone changes start and stop dates yearly, this command must be set yearly.

## Mode

Superuser

## Example

```
ORACLE# timezone-set
```

If you need to exit the **timezone-set** command before completing it, use the key sequence **Ctrl-D**.

# Traceroute Command Specifications

The `traceroute` command traces the route of an IP packet to an Internet host by sending probe packets with small maximum time-to-live (TTL) values and listening to responses from gateways along the path. This diagnostic command provides the route (path) and the round trip times of packets received from each host in a route.

The `traceroute` command works by sending probe packets starting with a maximum time-to-live (TTL) value of one, listening for an ICMP error message in response to the TTL expiry, and recording the source that sent it. This process is repeated by incrementing the TTL value by 1 each time until the final destination is reached. This information allows the path to be traced for the packet to reach its destination.

## Syntax

```
traceroute <destination-address> <options>
```

## Arguments

**<destination-address>** — Specifies the destination IP address for the route to be traced.

**<intf-name:vla>** — Specifies the network interface and VLAN to use.

**<max\_ttl>** — Specifies the maximum number of hops before timeout.

- Default — 30
- Values — Min: 1 / Max: none

**<probes>** — Specifies the number of probes to send.

**<source-ip>** — Specifies the source IP address from which to trace the route to the destination IP address.

**<timeout>** — Specifies the maximum time (in seconds) to wait for a response.

- Default — 3
- Values — Min: 1 / Max: none

### Mode

Superuser

### Example

```
ORACLE# traceroute 172.30.0.167 probes 4
traceroute to 172.30.0.167
 1 172.44.0.1 (0.669003 ms) (2.140045 ms) (2.290964 ms) (2.40891 ms)
 2 172.30.0.167 (0.25602 ms) (0.219822 ms) (0.604868 ms) (0.398874)
```

## unmount

The mount command stops the file system from running. Unmounting the file system is required to resize user partitions or replace a storage device.

### Syntax

```
unmount <data-disk | system-disk | hard-disk>
```

### Arguments

**data-disk**— Mount the 1 or more data partitions containing the default (/mnt/sys and /mnt/app) or user-defined volumes

**system-disk**—Mount 2 system partitions: /opt and /opt/crash

**hard-disk**—Mounts both the system partition and data partition

### Mode

Superuser

## verify-config

The verify-config command verifies the Oracle Communications Session Border Controller's current configuration. The verify-config command checks the consistency of configuration elements that make up the current configuration and should be carried out prior to activating a configuration on the Oracle Communications Session Border Controller.

### Syntax

```
verify-config
```



**Mode**

Superuser

**Notes**

The verify-config command, entered either directly or via the save-config command, checks for address duplication for a given network-interface within a configuration. Addresses are checked for duplication based on the following criteria:

- Every address entered is checked against the Primary and Secondary Utility addresses
- All UDP, TCP, and TFTP addresses are checked against other UDP, TCP, and TFTP addresses respectively within the same port range

 **Note:**

For detailed information, refer to the Maintenance and Troubleshooting Guide.

**Example**

```
ORACLE# verify-config
```

## watchdog

The watchdog command sets or queries the state of the watchdog timer. If the system becomes unstable causing the watchdog timer to not reset, the system reboots.

**Syntax**

```
watchdog <arguments>
```

**Arguments**

<arguments> The following is a list of valid arguments:

- Values:
  - enable—Enable the watchdog timer
  - disable—Disable the watchdog timer
  - fetch—Display the watchdog timer configuration

 **Note:**

The fetch argument can be accessed from user mode.

**Mode**

User

### Example

```
ORACLE# watchdog enable
```

# 4

## ACLI Configuration Elements A-M

### access-control

The access-control configuration element is used to manually create ACLs for the host path in the Oracle Communications Session Border Controller.

**Note:**

This configuration element is not RTC supported.

**Parameters****realm-id**

Enter the ingress realm of traffic destined to host to apply this ACL

**description**

Provide a brief description of the access-control configuration element

**destination-address**

Enter the destination address, net mask, port number, and port mask to specify traffic matching for this ACL. Not specifying a port mask implies an exact source port. Not specifying an address mask implies an exact IP address. This parameter is entered in the following format: <ip-address>[/<num-bits>] [:<port>][/<port-bits>]

- Default: 0.0.0.0

An IPV6 address is valid for this parameter.

**source-address**

Enter the source address, net mask, port number, and port mask to specify traffic matching for this ACL. Not specifying a port mask implies an exact source port. Not specifying an address mask implies an exact IP address. This parameter is entered in the following format: <ip-address>[/<num-bits>] [:<port>][/<port-bits>]

- Default: 0.0.0.0

An IPV6 address is valid for this parameter.

**application-protocol**

Select the application-layer protocol configured for this ACL entry

- Values: SIP | H323 | MGCP | DIAMETER | NONE

 **Note:**

If application-protocol is set to none, the destination-address and port will be used. Ensure that your destination-address is set to a non-default value (0.0.0.0.)

**transport-protocol**

Select the transport-layer protocol configured for this ACL entry

- Default: ALL
- Values: UDP | TCP | SCTP | ALL

**access**

Select the access control type for this entry

- Default: permit
- Values:
  - permit—Puts the entry in trusted or untrusted list depending on the trust-level parameter. This gets promoted and demoted according to the trust level configured for the host.
  - deny—Puts this entry in the deny list.

**average-rate-limit**

On hardware platforms that are not the Acme Packet 1100 or the Acme Packet 3900, enter the allowed sustained rate in bytes per second for host path traffic from a trusted source within the realm. A value of 0 disables the policing.

- Default: 0
- Values: Min: 0 / Max: 4294967295

On virtual platforms, enter the allowed sustained rate as a percentage of the maximum signaling rate for host path traffic from a trusted source within the realm. A value of 0 disables the policing.

- Default: 0
- Values: Min: 0 / Max: 100

**trust-level**

Select the trust level for the host

- Default: None
- Values:
  - none—Hosts will always remain untrusted. Will never be promoted to trusted list or will never get demoted to deny list
  - low—Hosts can be promoted to trusted-list or can get demoted to deny-list
  - medium—Hosts can get promoted to trusted, but can only get demoted to untrusted. Hosts will never be put in deny-list.
  - high—Hosts always remain trusted

**minimum-reserved-bandwidth**

Enter the minimum reserved bandwidth in bytes per second that you want for the session agent, which will trigger the creation of a separate pipe for it. This parameter is only valid when the trust-level parameter is set to high. Only a non-zero value will allow the feature to work properly.

- Default: 0
- Values: Min: 0 / Max: 4294967295

**invalid-signal-threshold**

Enter the rate of signaling messages per second to be exceeded within the tolerance-window that causes a demotion event. This parameter is only valid when trusted-level is configured as low or medium. A value of 0 means no threshold.

- Default: 0
- Values: Min: 0 / Max: 4294967295

**maximum-signal-threshold**

Enter the maximum number of signaling messages per second that one host can send within the tolerance-window. The host will be demoted if the Oracle Communications Session Border Controller receives messages more than the configured number. This parameter is only valid when trusted-level is configured low or medium. A value of 0 means no threshold.

- Default: 0
- Values: Min: 0 / Max: 999999999

**untrusted-signal-threshold**

Enter the maximum number of signaling messages from untrusted sources allowed within the tolerance window.

- Default: 0
- Values: Min: 0 / Max: 999999999

**deny-period**

Enter the time period in seconds a deny-listed or deny entry is blocked by this ACL. The host is taken out of deny-list after this time period elapses.

- Default: 30
- Values: Min: 0 / Max: 999999999

**nat-trust-threshold**

Enter maximum number of denied endpoints that set the NAT device they are behind to denied. 0 means dynamic demotion of NAT devices is disabled.

- Default: 0
- Values: Min: 0 | Max: 65535

**max-endpoints-per-nat**

Maximum number of endpoints that can exist behind a NAT before demoting the NAT device.

- Default: 0 (disabled)
- Values: Min: 0 | Max: 65535

**nat-invalid-message-threshold**

Enter the acceptable number of invalid messages from behind a NAT.

- Default: 0
- Values: Min: 0 | Max: 65535

**cac-failure-threshold**

Enter the number of CAC failures for any single endpoint that will demote it from the trusted queue to the untrusted queue.

- Default: 0
- Values: Min: 0 / Max: 4294967295

**untrust-cac-failure-threshold**

Enter the number of CAC failures for any single endpoint that will demote it from the untrusted queue to the denied queue.

- Default: 0
- Values: Min: 0 / Max: 4294967295

**Path**

**access-control** is an element of the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **access-control**.

**Note:**

This is a multiple instance configuration element.

## account-config

The account-config configuration element allows you to set the location where accounting messages are sent.

**Parameters****hostname**

Enter the hostname of this SBC; must be set to “localhost” or the accounting configuration does not work properly.

- Default: Localhost name

**port**

Enter the UDP port number from which RADIUS messages are sent

- Default: 1813
- Values: Min: 1025 / Max: 65535

**strategy**

Select the strategy used to select the current accounting server

- Default: Hunt
- Values:

- hunt—Selects accounting servers in the order in which they are listed
- failover—Uses first and subsequent servers in accounting server list until a failure is received from that server
- roundrobin—Selects accounting server in order, distributing the selection of each accounting server evenly over time
- fastestrtt—Selects accounting server with the fastest RTT observed during transactions with the servers
- fewestpending—Selects accounting server with the fewest number of unacknowledged accounting messages

**protocol**

Set the type of message protocol type for accounting CDRs.

- Default: radius
- Values: radius | diameter

**state**

Enable or disable the accounting system

- Default: enabled
- Values: enabled | disabled

**dns-realm**

The realm where the DNS server from which the system can obtain resolutions to an FQDN hostname for a Diameter server.

**max-msg-delay**

Enter the time in seconds the SBC continues to send each accounting message

- Default: 60
- Values: Min: 0 / Max: 4294967295

**max-wait-failover**

Enter the number of accounting messages held in message waiting queue before a failover situation status is enacted

- Default: 100
- Values: Min: 1/ Max: 4096

**trans-at-close**

Enable the SBC to transmit accounting message information at the close of a session only. Setting this parameter to disabled tells the SBC to transmit accounting information at the start of a session (Start), during the session (Interim), and at the close of a session (Stop).

- Default: disabled
- Values: enabled | disabled

**generate-start**

Select the type of SIP event that triggers the SBC to transmit a RADIUS Start message

- Default: ok
- Values:

- none—RADIUS Start message is not generated
- ""—When two quotation marks are entered next to each other (empty), behavior is identical to none value
- start—RADIUS Start message should not be generated
- invite—RADIUS Start message is generated once a SIP session INVITE is received
- ok—RADIUS Start message is generated an OK message in response to an INVITE is received

**generate-interim**

SBC to transmit a RADIUS Interim message

- Default: reinvite-response
- Values:
  - OK—RADIUS Start message is generated when an OK message is received in response to an INVITE
  - Reinvite—RADIUS Interim message is generated when a SIP session reINVITE message is received
  - Reinvite-Response—RADIUS Interim message is generated when a SIP session reINVITE is received and the system responds to it
  - Reinvite-Cancel—RADIUS Interim message is generated when a SIP session reINVITE is received, and the Reinvite is cancelled before the SBC responds to it
  - Unsuccessful-Attempt—RADIUS Interim message is generated when a session set-up attempt from a preference-ordered list of next-hop destinations is unsuccessful. This can happen when a local policy lookup, LRT lookup, ENUM query response, or SIP redirect returns a preference-ordered list of next-hop destinations. The interim message contains: the destination IP address, the disconnect reason, a timestamp for the failure, and the number that was called
  - Egress-Invite—Sends additional Interim message is generated when applicable VoLTE and WiFi INVITEs egress the system

**generate-event**

Enter one or more valid events that prompt creation of an Event record. Current valid values are register and local-register. Multiple values are entered enclosed in parenthesis and separated by spaces.

- Default:
- Values: register | local-register | message

**file-output**

Enable or disable the output of comma-delimited CDRs

- Default: disabled
- Values: enabled | disabled



**file-path**

Enter the path in which to save the comma-delimited CDR file. The default path is /opt/cdr. Do not use the /opt/logs directory. You cannot set this parameter to the /code or /boot directories.

**max-file-size**

Set the maximum file size in bytes for each CDR file

- Default: 1000000
- Values: Min: 1000000 / Max: 100000000

**max-files**

Set the maximum number of files to store on the SBC. The parameter's value range is from 0 to unlimited. The user should consider the **max-file-size** setting and available space to specify this value.

- Default: 5

**file-sequence-number**

When enabled, the system assigns a 9 digit file sequence number to append to a CDR file.

- Default: disabled
- enabled

**file-compression**

Enable or disable compression of CDR files; when enabled, comma-delimited CDR files are zipped on the backup device to maximize storage space

- Default: disabled
- Values: enabled | disabled

**file-rotate-time**

Set the time in minutes that the SBC rotates the CDR files; the SBC will overwrite the oldest file first

- Default: 0
- Values: Min: 0 / Max: 2147483647

**file-delete-alarm**

Enable or disable the raising of an alarm when CDR files are deleted due to lack of space.

- Default: disabled
- Values: enabled | disabled

**ftp-push**

Enable or disable the FTP push feature

- Default: disabled
- Values: enabled | disabled

 **Note:**

This parameter is deprecated and is only used if no **account-config > push-receiver** configuration element has been defined. All new push receivers must be defined in the **account-config > push-receiver** configuration element.

**ftp-address**

Enter the IP address for the FTP server used with the FTP push feature.

 **Note:**

This parameter is deprecated and is only used if no **account-config > push-receiver** configuration element has been defined. All new push receivers must be defined in the **account-config > push-receiver** configuration element.

**ftp-port**

Set the TCP port on the FTP server to use with the FTP push feature

- Default: 21
- Values: Min: 1 / Max: 65535

 **Note:**

This parameter is deprecated and is only used if no **account-config > push-receiver** configuration element has been defined. All new push receivers must be defined in the **account-config > push-receiver** configuration element.

**ftp-user**

Enter the username the Oracle Communications Session Border Controller will use to log in to the FTP server.

 **Note:**

This parameter is deprecated and is only used if no **account-config > push-receiver** configuration element has been defined. All new push receivers must be defined in the **account-config > push-receiver** configuration element.

**ftp-password**

Enter the password the Oracle Communications Session Border Controller will use to log in to the FTP server.

 **Note:**

This parameter is deprecated and is only used if no **account-config > push-receiver** configuration element has been defined. All new push receivers must be defined in the **account-config > push-receiver** configuration element.

**ftp-remote-path**

Enter the file path the SBC will use to work in on the FTP server.

 **Note:**

This parameter is deprecated and is only used if no **account-config > push-receiver** configuration element has been defined. All new push receivers must be defined in the **account-config > push-receiver** configuration element.

**ftp-strategy**

Set the strategy for the SBC to use when selecting from multiple push receivers.

- Default: hunt
- Values:
  - hunt—The SBC selects the push receiver from the available list according to the priority level
  - failover—The SBC selects the push receiver based on priority level and continues to use that same push receiver until it fails over
  - roundrobin—The SBC selects push receivers systematically one after another, balancing the load among all responsive push receivers
  - fastestrtt—The SBC selects the push receiver based on best average throughput. For this situation, throughput is the number of bytes transferred divided by the response time. The system uses a running average of the five most recent throughput values to accommodate for network load fluctuations

 **Note:**

This parameter is deprecated and is only used if no **account-config > push-receiver** configuration element has been defined. All new push receivers must be defined in the **account-config > push-receiver** configuration element.

**intermediate-period**

Set the time interval used to generate periodic interim records during a session

- Default: 0
- Values: Min: 0 / Max: 2147483647

**interim-stats-id-types**

A space separated field comprising interim stats correlation ID.

- Default: none
- Values: none | calling | called | session

**account-servers**

Access the account-server subelement

**cdr-output-redundancy**

Enable or disable the redundant storage of comma-delimited CDR files. The standby-push value ensures consistent and accurate CDR collection in the event of a failover.

- Default: enabled
- Values: enabled | disabled | standby-push

**ftp-max-wait-failover**

Enable or disable the prevention of duplicate accounting attributes

- Default: 120
- Values: Min: 1 / Max: 4096

**Note:**

This parameter is deprecated and is only used if no **account-config > push-receiver** configuration element has been defined. All new push receivers must be defined in the **account-config > push-receiver** configuration element.

**prevent-duplicate-attrs**

Enable this parameter to prevent the SBC from duplicating attributes in the accounting records it generates. This duplication can be caused, for example, by multiple media sessions within the context of a call. Retaining the default (disabled) allows the SBC to include duplicate attributes in RADIUS, Diameter and Local accounting records. This can result in attribute placement and counts that are less consistent.

- Default: disabled
- Values: enabled | disabled

**vsa-id-range**

Enter the range of accounting attributes to include in CDRs. A blank field means this feature is turned off and all attributes are included.

**cdr-output-inclusive**

Enable or disable the guarantees placement of attributes in CSV files used for local CDR storage and FTP push

- Default: disabled
- Values: enabled | disabled

**push-receiver**

Access the push-receiver subelement.

**watchdog-ka-timer**

Sets the value in seconds that the SBC waits between sending DWRs.

- Default: 0
- Values: 0,6-65535

**msg-queue-size**

Sets the message queue size for both RADIUS and Diameter accounting interfaces.

- Default: 5000
- Values: 5000-150000

**diam-srv-ctx-ext**

Value to substitute in the extension portion of the Service-Context-ID AVP value. This value can be any string.

**diam-srv-ctx-mnc-mcc**

Value to substitute in the MNC.MCC portion of the Service-Context-ID AVP value. This value must follow the NUM1.NUM2 format.

**diam-srv-ctx-rel**

Value to substitute in the release portion of the Service-Context-ID AVP value. This value can be any number  $\geq 1$ .

**diam-acme-attr-id-range**

The range of Acme-specific AVP's to include in ACR messages.

**max-acr-retries**

The maximum number of times that the SBC can resend an ACR for a session.

- Default: 0
- Values: 0 - 4

**acr-retry-interval**

The time in seconds for the SBC to wait before resending an ACR for a session.

- Default: 10
- Values: 5 - 20

**acr-buffer-upper-threshold**

The upper threshold for the ACR buffer after which the SBC will select an alternate server.

- Default: 90
- Values: 0 - 100

**acr-buffer-lower-threshold**

The lower threshold for the ACR buffer which, when reached, the SBC will select the primary server again.

- Default: 70
- Values: 0 - 100

**maintain-ccf-affinity**

Enable an affinity between ACRs and CCFs so that all ACRs within a single session are sent to the same CCF (unless it goes down).

- Default: disabled

- Values: enabled | disabled

#### **send-disconnect-peer-msg**

Enable or disable sending the disconnect message to a peer.

- Default: disabled
- Values: enabled | disabled

#### **next-priority-selection-interval**

The time interval in minutes between routing the new call session to the next lower priority CCF after the first switch.

- Default: 0
- Values: 0 - 60

#### **Path**

**account-config** is an element of the session-router path. The full path from the topmost ACLI prompt is. **configure terminal**, and then **session-router**, and then **account-config**.



#### **Note:**

This is a single instance configuration element.

## account-config > account-servers

The account-server configuration subelement stores the accounting server information for the account-config.

#### **Parameters**

##### **hostname**

Enter the hostname of the accounting server. This entry can be an IP Address for Diameter or RADIUS servers, or an FQDN for Diameter servers.

##### **fqdn-pool-type**

Identify whether the resolution(s) to this server's hostname belong to the primary pool or the secondary pool of diameter server(s). This setting only applies to diameter servers with an FQDN hostname. The system uses the primary pool for diameter server access. The system uses the secondary pool if all servers in the primary pool are unavailable.

- Default: primary
- Values: primary | secondary

##### **port**

Enter the UDP port number associated with the accounting server is configured here

- Default: 1813
- Values: Min: 1025 / Max: 65535

**state**

Enable or disable this account-server

- Default: enabled
- Values: enabled | disabled

**min-round-trip**

Enter the time in milliseconds of the minimum RTT for an accounting message for use with the fastest RTT strategy method

- Default: 250
- Values: Min: 10 / Max: 5000

**max-inactivity**

Enter the maximum time in seconds the Oracle Communications Session Border Controller waits when accounting messages are pending without a response before this account server is set as inactive for its failover scheme

- Default: 60
- Values: Min: 1 / Max: 300

**restart-delay**

Enter the time in seconds the Oracle Communications Session Border Controller waits after declaring an accounting server inactive before resending an accounting message to that same accounting server

- Default: 30
- Values: Min: 1 / Max: 300

**bundle-vs-a**

Enable or disable the bundling of the VSAs within RADIUS accounting on the account-server

- Default: enabled
- Values: enabled | disabled

**secret**

Enter the secret passed from the account-server to the client server; entries in this field must follow the Text Format

**NAS-ID**

Enter the value the account-server uses to identify the Oracle Communications Session Border Controller so messages can be transmitted; entries in this field must follow the Text Format

**priority**

Enter the number corresponding to the priority for this account server to have in relation to the other account servers to which you send traffic. The default is 0, meaning there is no set priority.

- Default: 0
- Values: Min: 0

**diameter-out-manip**

Specifies the diameter manipulation to be applied to outbound traffic from this Oracle Communications Session Border Controller.

**diameter-in-manip**

Specifies the diameter manipulation to be applied to inbound traffic from this Oracle Communications Session Border Controller.

**watchdog-ka-timer**

Specifies the interval in seconds for watchdog/keep-alive messages. This is the time in which the Oracle Communications Session Border Controller must receive a COPS-KA message from the policy server to ensure collection is still valid.

- Default: 0
- Values: Min: 6 / Max: 65535

**domain-name-suffix**

Sets the suffix for Origin-Realm and Origin-Host AVPs that have a payload string constructed as a domain name. If your entry does not include the dot, the system prepends one.

**origin-realm**

Specifies the originating realm of DIAMETER accounting request.

**Path**

**account-server** is a subelement of the **account-config** element. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router** , and then **account-config** , and then **account-servers**.

**Note:**

This list can contain as many accounting servers as necessary. By default, this list remains empty. RADIUS will not work unless an account server is configured.

This is a multiple instance configuration element.

## account-config > push-receiver

You can configure multiple CDR push receivers for use with the FTP push feature.

**Parameters****server**

Set the IP address of the SFTP server to which you want the Oracle Communications Session Border Controller to push CDR files

- Default: 0.0.0.0

**port**

Enter the port number on the FTP/SFTP server to which the Oracle Communications Session Border Controller will send CDR files.

- Default: 21
- Values: Min: 1 / Max: 65535



**admin-state**

Set the state of an FTP/SFTP push receiver to enabled for the Oracle Communications Session Border Controller to send CDR files to it

- Default: enabled
- Values: enabled | disable

**remote-path**

Enter the absolute path on which the CDR files are sent to the push receiver. CDR files are placed in this location on the FTP/SFTP server.

- Default: empty
- Values: <string> remote pathname

**filename-prefix**

Enter the filename prefix to prepend to the CDR files the Oracle Communications Session Border Controller sends to the push receiver. The Oracle Communications Session Border Controller does not rename local files.

- Default: none
- Values: <string> prefix for filenames

**priority**

Enter a number 0 through 4 to set the priority of this push receiver in relation to the others you configure on the system. The highest priority—and the push receiver the system uses first—is 0. The lowest priority—and the push receiver the system uses last—is 4.

- Default: 4
- Values: Min: 0 (highest) / Max: 4 (lowest)

**protocol**

Select the transport protocol to be used for this push receiver.

- Default: ftp
- Values: ftp | sftp

**username**

Enter the username the Oracle Communications Session Border Controller uses to connect to push receiver.

**password**

Enter the password corresponding to the username of this push receiver.

**public-key**

Leave blank, regardless of authentication type.

**temp-remote-file**

When enabled, the system prepends the characters "tmp-" to a CDR file during transfer.

- Default: disabled
- enabled

**Path**

**push-receiver** is a subelement under the account-config element. The full path from the topmost ACLI prompt is: **configure terminal > session-router > account-config > push-receiver**.

## account-group

This element is unsupported.

### Path

**account-group** is an element under the **session-router** path. The full path from the topmost CLI prompt is **configure terminal, session-router, account-group**.

## allowed-elements-profile

This configuration element is used to configure SIP allowlists which controls the passage of unknown headers and parameters in request and response traffic.

### Parameters

#### name

A unique identifier of this allowed-elements-profile

#### description

A textual description for the allowed-elements-profile

#### allow-any

Enter list of headers that are allowed (with any parameter). When header-rules are added to a rule-set, they are automatically removed from this list. A header list is entered separated by commas, but without the “:” part of the header name. This parameter is initially populated with many allowed headers.

- Default: Accept,Accept-Resource-Priority,Acme-Codec-Policy,Acme-Rfc2833,Alert-Info,Allow,Allow-Events,Authentication-Info,Authorization,Call-ID,Contact,Content-Disposition,Content-Encoding,Content-Length,Content-Type,CSeq,Diversion,Event,Expires,From,History-Info,Join,Max-Forwards,Min-Expires,Min-SE,P-Access-Network-Info,P-Asserted-Identity,P-Associated-URI,P-Called-Party-ID,P-Charging-Function-Addresses,P-Charging-Vector,P-DCS-LAES,P-DCS-Redirect,P-Preferred-Identity,P-Subscription-MSISDN,P-Visited-Network-ID,Path,Privacy,Proxy-Authenticate,Proxy-Authorization,Proxy-Require,Rack,Reason,Record-Route,Refer-To,Replaces,request-uri,Require,Resource-Priority,Retry-After,Route,RSeq,Security-Client,Security-Server,Security-Verify,Service-Route,Session-Expires,Session-ID,Subscription-State,Supported,To,Via,WWW-Authenticate

#### rule-sets

See the rule-sets subelement that follows.

### Path

**allowed-elements-profile** is an element under the session router path. The full path from the topmost CLI prompt is: **configure terminal > session-router > allowed-elements-profile**

## allowed-elements-profile > rule-sets

This configuration subelement is used to configure SIP allowlists which controls the passage of unknown headers and parameters in request and response traffic.

### Parameters

#### name

A unique identifier of this rule set.

#### unmatched-action

Identifies the action that the Oracle Communications Session Border Controller performs when it encounters a non-allowlisted header.

- Default: Reject
- Values: reject | delete

#### msg-type

Specifies the message type to which the rule applies

- Default: any
- Values: any | request | response

#### methods

Specifies list of methods to which the rule applies. This applies to all methods when none are specified. Enter this as a comma separated list.

#### logging

Enables logging when an unmatched element is intercepted.

- Default: disabled

### Path

**rule-sets** is a subelement under the allowed-elements-profile element under the session router path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **session-router**, and then **allowed-elements-profile**, and then **rule-sets**.

## allowed-elements-profile > rule-sets > header-rules

This configuration subelement is used to configure SIP allowlists which controls the passage of unknown headers and parameters in request and response traffic.

### Parameters

#### header-name

The name of the header in the allowlist that the Oracle Communications Session Border Controller allows from incoming messages. It is case-insensitive and supports abbreviated forms of header names. For example, "Via", "via", or "v" all match against the same header. A header name of "request-uri" refers to the request URI of requests, while a header name of "\*" applies to any header-type not matched by any other header-rule. The default value is "\*". This default value provides the ability to have header-rules for commonly known headers that remove unknown parameters, but leave unknown headers alone.

**unmatched-action**

The action for the Oracle Communications Session Border Controller to perform when an incoming header's parameters do not match the relevant allowed parameters specified for this header-name. This parameter applies to non-matching header names only (not non-matching URI parameters).

- Default: reject
- Values:
  - reject—Rejects all incoming messages that have header parameters that do not match the parameters specified in this header-name.
  - delete — Deletes the non-matching elements from incoming messages with header parameters that do not match those specified in this header-name.

**allow-header-param**

The header parameter that the Oracle Communications Session Border Controller allows from the headers in incoming messages. You can enter up to 255 characters, including a comma (,), semi-colon (;), equal sign (=), question mark (?), at-symbol (@), backslash (\), or plus sign (+). The default value is "\*", which allows all header parameters to pass through. If you leave this field empty, no header parameters are allowed.

- Default: \*

**allow-uri-param**

The URI parameter that the Oracle Communications Session Border Controller allows from the headers in incoming messages. You can enter up to 255 characters, including a comma (,), semi-colon (;), equal sign (=), question mark (?), at-symbol (@), backslash (\), or plus sign (+). The default value is "\*", which allows all URI parameters to pass through. If you leave this field empty, no URI parameters are allowed.

- Default: \*

**allow-uri-user-param**

The URI user parameter that the Oracle Communications Session Border Controller allows from the headers in incoming messages. You can enter up to 255 characters, including a comma (,), semi-colon (;), equal sign (=), question mark (?), at-symbol (@), backslash (\), or plus sign (+). The default value is "\*", which allows all URI user parameters to pass through. If you leave this field empty, no URI user parameters are allowed.

- Default: \*

**allow-uri-header-name**

The URI header name that the Oracle Communications Session Border Controller allows from the headers in incoming messages. You can enter up to 255 characters, including a comma (,), semi-colon (;), equal sign (=), question mark (?), at-symbol (@), backslash (\), or plus sign (+). The default value is "\*", which allows all URI header name parameters to pass through. If you leave this field empty, no URI header name parameters are allowed.

- Default: \*

**Path**

**header-rules**header-rules is a subelement under rule-sets under the allowed-elements-profile element under the session router path. The full path from the topmost

ACL prompt is: **configure terminal >terminal > session-router > allowed-elements-profile rule-sets header-rules**

## audit-logging

The **audit-logging** element controls the settings for the audit log.

### Parameters

#### state

Whether audit logging is enabled.

- Default: disabled
- Values: enabled | disabled

#### detail-level

Specifies the level of detail in audit log entries.

- Default: brief
- Values: brief | verbose

#### audit-trail

Whether to record every successful ACLI command.

- Default: disabled
- Values: enabled | disabled

#### audit-http

Whether HTTP methods and headers are logged.

- Default: disabled
- Values: enabled | disabled

#### audit-record-output

Define where audit records are logged.

- Default: file
- Values: syslog | file | both

#### file-transfer-time

Specify the maximum interval in hours between audit-log transfers to a previously configured SFTP server. The value 0 disables SFTP pushes.

- Default: 720
- Min: 0 | Max: 65535

#### max-storage-space

Specifies the maximum disk space in megabytes available for audit log storage.

- Default: 32
- Min: 1 | Max: 32

#### percentage-full

Specifies a file size threshold (as a percentage of max-storage-space) that triggers audit file transfer to a previously configured SFTP server or servers.

- Default: 75
- Min: 0 | Max: 99

**max-file-size**

Specifies a file size threshold (as an absolute file size measured in megabytes) that triggers audit file transfer to a previously configured SFTP server or servers.

- Default: 5
- Min: 0 | Max: 10

**storage-path**

The local path where audit logs are stored.

- Default: /code/audit/

**push-receiver**

Enter the push-receiver configuration element.

See the Admin Security Guide for configuring the audit logging push receiver.

**Path**

The full path is **security**, and then **admin-security**, and then **audit-logging**.

## auth-params

The auth-params element provides a list of RADIUS servers used for authentication, along with protocol and operation details that define RADIUS access.

**Parameters****name**

Enter the name of this instance of the auth-params configuration element.

**protocol**

Enter the protocol to use for obtaining authentication data from a RADIUS server.

- Default: eap
- Values: eap

**Note:**

The current software version only supports EAP.

**strategy**

Enter the management strategy used to distribute authentication requests. This parameter is only relevant if multiple RADIUS servers have been identified by the servers parameter.

- Default: hunt
- Values: round-robin | hunt

**server**

Enter a RADIUS server by IP address.

### Path

**auth-params** is an element under the security path. The full path from the topmost CLI prompt is: **configure terminal** , and then **security**, and then **auth-params**.

## authentication

The authentication configuration element is used for configuring an authentication profile, which apply to your configured authentication type.

### Parameters

#### source-port

Enter the port number on the SBC to send messages to the RADIUS server.

- Default: 1812
- Values: 1645 | 1812 | 3799

#### type

Enter the type of user authentication

- Default: local
- Values: local | radius| tacacs

#### protocol

Select the protocol type to use with your RADIUS server(s)

- Default: pap
- Values: pap | chap | mschapv2 | ascii | IKEv2-IPsec

#### tacacs-authentication-only

When enabled, restricts remote login to TACACS+ when available.

- Default: disabled
- Values: enabled | disabled

#### tacacs-authorization

Enable or disable command-based authorization of admin users for TACACS.

- Default: enabled
- Values: enabled | disabled

#### tacacs-authorization-arg-mode

Enable or disable sending commands and arguments separately to the TACACS server.

- Default: disabled
- Values: enabled | disabled

#### tacacs-accounting

Enable or disable accounting of admin CLI operations.

- Default: enabled
- Values: enabled | disabled

**server-assigned-privilege**

Enables a proprietary TACACS+ variant that, after successful user authentication, adds an additional TACACS+ request/reply exchange.

- Default: enabled
- Values: enabled | disabled

**allow-local-authorization**

Enable this parameter if you want the Oracle Communications Session Border Controller to authorize users to enter Super (administrative) mode locally even when your RADIUS server does not return the ACME\_USER\_CLASS VSA or the Cisco-AVPair VSA.

- Default: disabled
- Values: enabled | disabled

 **Note:**

When enabled, the Oracle Communications Session Border Controller ignores RADIUS or TACACS restrictions and allows all users to locally enable Superuser (administrative) mode.

**login-as-admin**

Enable this parameter if you want users to be logged automatically in Superuser (administrative) mode.

- Default: disabled
- Values: enabled | disabled

**management-strategy**

Enter the management strategy used to distribute authentication requests.

- Default: hunt
- Values: round-robin | hunt

**ike-radius-params-name**

Enter the auth-params instance to be assigned to this element.

- Default: None
- Values: Name of an existing auth-params configuration element

**management-servers**

Enter a list of servers used for management requests.

**radius-servers**

Enter the radius-servers subelement.

**tacacs-servers**

Enter the tacacs-servers subelement.

**two-factor-authentication**

Enter the two-factor-authentication subelement.



**Note:**

This element is only visible if you have the Admin Security license installed.

**Path**

The **authentication** element is under the security path.

```
ADMINSEC# conf term
ADMINSEC(configure)# security
ADMINSEC(security)# authentication
ADMINSEC(authentication)#
```

## authentication-profile

This element is reserved for future use. Use authentication-profile for creating an authentication scheme profile. Other configurations, such as HTTP Client and HTTP Server, require the authentication profile.

**Parameters****name**

Set the name of this authentication profile.

**authentication-scheme**

Set the authentication strategy. Default: Bearer.

**preshared-key**

Set the authentication password.

**Path**

**authentication-profile** is an element under the System path. The full path from the topmost CLI prompt is: **configure terminal > security > authentication-profile**.

**Note:**

This is a multi-instance element.

## authentication > online-certificate-status-protocol

The online-certificate-status-protocol configuration element is used to configure OCSP validation of clients.

**Parameters****ocsp-access-method-list**

Select which authentication interfaces will use OCSP validation.

- Values: "" | SSH | GUI | SSH,GUI

**dns-resolver-ip**

Enter the IP address of the DNS resolver to use for OCSP validation.

**dns-resolver-port**

Enter the port of the DNS resolver to use for OCSP validation.

**ocsp-responder-fqdn**

(Optional) Enter the FQDN of the OCSP resolver to use for OCSP validation.

When this value is set, the SBC uses the value to overwrite the URL found in the Authority Information Access (AIA) field of the client certificate.

**Constraints**

Enable the Admin Security and FIPs entitlements to configure this element.

This element can only be set after the two-factor-authentication element has been set.



**WARNING:**

To prevent lockout, import your client X.509 certificates before configuring this element.

**Path**

The **online-certificate-status-protocol** element is under the security path.

```
ORACLE# conf term
ORACLE(configure)# security
ORACLE(security)# authentication
ORACLE(authentication)# online-certificate-status-protocol
ORACLE(online-certificate-status-protocol)#
```

## authentication > radius-servers

The radius-servers subelement defines and configures the RADIUS servers that the Oracle Communications Session Border Controller communicates with.

**Parameters**

**address**

Enter the IP address for the RADIUS server. An IPv4 or IPv6 address is valid for this parameter.

**port**

Enter the port number on the remote IP address for the RADIUS server

- Default: 1812
- Values: 1645 | 1812

**state**

Enable or disable this configured RADIUS server

- Default: enabled
- Values: enabled | disabled

**secret**

Enter the password the RADIUS server and the Oracle Communications Session Border Controller share. This password is not transmitted between the two when the request for authentication is initiated.

**nas-id**

Enter the NAS ID for the RADIUS server

**realm-id**

Enter the RADIUS server realm ID.

**retry-limit**

Set the number of times the Oracle Communications Session Border Controller retries to authenticate with this RADIUS server

- Default: 3
- Values: Min: 1 / Max: 5

**retry-time**

Enter the time in seconds the Oracle Communications Session Border Controller waits before retrying to authenticate with this RADIUS server

- Default: 5
- Values: Min: 5 / Max: 10

**maximum-sessions**

Enter the maximum number of sessions to maintain with this RADIUS server

- Default: 255
- Values: Min: 1 / Max: 255

**class**

Select the class of this RADIUS server as either primary or secondary. A connection to the primary server is tried before a connection to the secondary server is tried.

- Default: primary
- Values: primary | secondary

**dead-time**

Set the time in seconds before the Oracle Communications Session Border Controller retries a RADIUS server that it has designated as dead

- Default: 10
- Values: Min: 10 / Max: 10000

**authentication-methods**

Select the authentication method the Oracle Communications Session Border Controller uses when communicating with the RADIUS server

- Default: pap
- Values: all | pap | chap | mschapv2

### Path

**radius-servers** is a subelement under the **authentication** configuration element under the security path. The full path from the topmost prompt is: **configure terminal** , and then **security** , and then **authentication** , and then **radius-servers**.

## authentication > tacacs-servers

The tacacs-servers subelement defines and configures the TACACS+ servers that the Oracle Communications Session Border Controller communicates with.

### Parameters

#### address

Enter the IP address for the TACACS server. This address must be reachable over the system's media interfaces.

#### port

Enter the port number on the remote IP address for the TACACS server.

- Default: 49
- Values: 0 - 65535

#### state

Enable or disable this configured TACACS server

- Default: enabled
- Values: enabled | disabled

#### secret

Enter the password the TACACS server and the Oracle Communications Session Border Controller share. This password is not transmitted between the two when the request for authentication is initiated.

#### realm-id

Enter the TACACS server realm ID. This realm must be reachable from the system's media interfaces.

#### dead-time

Set the time in seconds before the Oracle Communications Session Border Controller retries a TACACS server that it has designated as dead

- Default: 10
- Values: Min: 10 / Max: 10000

#### authentication-methods

Select the authentication method the Oracle Communications Session Border Controller uses when communicating with the TACACS server

- Default: all
- Values: all | pap | chap | ascii

#### tacas-authorization-arg-mode

This parameter is unsupported.

## Path

**tacacs-servers** is a subelement under the **authentication** configuration element under the security path. The full path from the topmost prompt is: **configure terminal** , and then **security** , and then **authentication** , and then **tacacs-servers**.

## bootparam

The bootparam command establishes the parameters that a Oracle Communications Session Border Controller uses when it boots.

### Note:

In the physical interface and the network interface configuration elements, you can set values that may override the values set within the boot configuration parameters. If you are configuring these elements and enter information that matches information in the boot configuration parameters, the system will warn you that your actions may change the boot configuration parameters. The bootparam command presents you with the parameters to enter on a line-by-line basis. You can press <Enter> to accept a given default parameter and move to the next parameter.

## Parameter

### Boot File

Enter the path of the software image you are booting. Include the absolute path for a local boot from the local /boot volume and for a net boot when a path on the FTP server is needed.

### IP Address

Enter the IP address of wancom0.

### VLAN

Enter the LAN of management network.

### Note:

The acquire-config command is not supported on management interfaces that use both VLANs and IPv6.

### Netmask

Enter the Netmask portion of the wancom0 IP Address.

### Gateway

Enter the Network gateway that this wancom0 interface uses.

### IPv6 Address

Enter the Version 6 IP address/mask of wancom0. Configure the mask as a forslash (/) after the address followed by the mask in number of bits.

**IPv6 Gateway**

Enter the Version 6 network gateway that this wancom0 interface uses.

**Host IP**

Enter the IP Address of FTP server from where to download and execute a software image.

**FTP username**

Enter the FTP server username.

**FTP password**

Enter the FTP server password

**flags**

Set the Oracle Communications Session Border Controller to know from where to boot. Also sets how to use the files in the booting process. This sequence always starts with 0x (these flags are hexadecimal).

- 0x00000008 Bootloader ~7 seconds countdown
- 0x00000040 Autoconfigure wancom0 via DHCP enable - VM platforms only
- 0x00000080 Use TFTP protocol (instead of FTP) enable - VM platforms only
- 0x00000080 Use TFTP protocol (instead of FTP) enable - VM platforms only

**Target Name**

Enter the name of this Oracle Communications Session Border Controller. This field also sets the name of the Oracle Communications Session Border Controller as it appears in the system prompt (e.g., ORACLE> or ORACLE#). You need to know the target name if you are setting up an HA node.

This name must be unique among Oracle Communications Session Border Controllers in your network. This name can be 63 characters or less.

**Console Device**

Enter the Serial output device type that is dependent on platform. COM1 applies to virtual serial consoles, VGA to virtual video console. VGA is the default on VMware and KVM. COM1 is the default on OVM and EC2.

**Console Baudrate**

Enter the speed in bits per second which the console port operates at. The options can be 115200 BPS, 8 data bits, no stop bit, parity NONE.

**Other**

This allows to set miscellaneous and deployment-specific boot settings for internal use only.

**Path**

**bootparam** is in the configuration path. The full path from the topmost prompt is: **configure terminal** , and then **bootparam**.

## bfd-config

The bfd-config configuration element is used for configuring BFD parameters that apply to all BFD sessions on the interface.

## Parameters

### state

Specifies whether or not the interface can support BFD sessions.

- Default: disabled
- Values: enabled/disabled

### health-score

Specifies the change in the system's health-score value when any BFD session fails or recovers.

- Default: 0
- Values: 0 - 100

### options

Augments the command with customer-specific features and/of parameters. This optional field allows for a comma separated list of "feature=<value>" or "feature" parameters for the BFD element.

### bfd-session

Enters the **bfd-session** multi-instance subelement. Configure individual BFD session parameters in this subelement.

## Path

**bfd-config** is an element under the network-interface path. The full path from the topmost prompt is: **configure terminal** , and then **system** , and then **network-interface**, and then **bfd-config**

## bfd-config > bfd-session

The bfd-session configuration element is used for configuring individual BFD sessions.

## Parameters

### bfd-sess-type

Specifies the type for this specific session.

- Default: primary
- Values: vip/primary/secondary

### admin-state

Specifies whether this specific session is enabled.

- Default: disabled
- Values: enabled/disabled

### admin-session-state

Allows you to put this specific session in admin-down state.

- Default: adminDown
- Values: up/adminDown

**min-tx-interval**

Specifies the min-tx-interval in milliseconds. Refer to RFC 5880 for more details.

- Default: 1000
- Values: 1 - 65535

**min-rx-interval**

Specifies the min-rx-interval in milliseconds. Refer to RFC 5880 for more details.

- Default: 1000
- Values: 1 - 65535

**detect-multiplier**

Specifies the detect-multiplier as an integer. Refer to RFC 5880 for more details.

- Default: 3
- Values: 1-255

**hold-down-time**

Specifies the duration, in milliseconds, after which an up transition is reported to the application to prevent rapid state flapping.

- Default: 0 (disabled)
- Values: 0-10000

**local-discriminator**

Specifies the integer used by the system to identify this session. Values range from 1 - 4294967295.

- Default: 3
- Values: 1-4294967295

**Path**

**bfd-session** is an element under the network-interface path. The full path from the topmost prompt is: **configure terminal** , and then **system** , and then **network-interface**, and then **bfd-config**, and then **bfd-session**

## capture-receiver

The capture-receiver configuration element allows you to specify a target for packet mirroring from the Oracle Communications Session Border Controller to that target. This command is only applicable to **packet-trace remote**.

**Parameters****state**

Enable or disable the Oracle Communications Session Border Controller's TRACE capability.

- Default: disabled
- Values: enabled | disabled

Disable capture receivers you are not actively using for traces to prevent potential service outages caused by the capture's system resource utilization.



**address**

Enter the TRACE server IP address.

**network-interface**

Enter the TRACE server outbound interface. The argument accepts the full interface name, including the sub-port-id. The command assumes sub-port-id 0 if it is not specified.

**Path**

**capture-receiver** is an element of the system path. The full path from the topmost CLI prompt is: **configure terminal > system > capture-receiver**.

## certificate-record

This configuration element configures certificate records for TLS support.

**Parameter****name**

The name of this certificate record object.

**country**

Enter the name of the locality for the state

- Default: US

**state**

Enter the name of the locality for the state

- Default: MA

**locality**

Enter the name of the organization holding the certificate

- Default: Burlington

**organization**

Enter the name of the organization holding the certificate

- Default: Engineering

**unit**

Enter the name of the unit for holding the certificate within the organization.

**common-name**

Enter the common name for the certificate record.

**key-size**

Set the size of the key for the certificate.

- Default: 2048
- Values: 1024 | 2048 | 4096 (on systems with appropriate hardware)

**alternate-name**

The alternate name of the certificate holder which can be expressed as an IP address, DNS host, or email address. Configure this parameter using the following syntax to express each of these 3 forms.

- **IP:**<IP address>
- **DNS:**<DNS IP address/domain>
- **email:**<email address>

**Note:**

This field adheres to the standard CLI character limit of 1024.

```
ORACLE (certificate-record) # alternate-name  
IP:10.2.2.2,IP:10.3.3.3,DNS:bar.example.com,DNS:foo.example.com
```

**trusted**

Enable or disable trust of this certificate

- Default: enabled
- Values: enabled | disabled

**key-usage-list**

Enter the usage extensions to use with this certificate record; can be configured with multiple values.

- Default: digitalSignature and keyEncipherment
- Values: digitalSignature | nonRepudiation | keyEncipherment | dataEncipherment | keyAgreement | encipherOnly | decipherOnly

**extended-key-usage-list**

Enter the extended key usage extensions you want to use with this certificate record.

- Default: serverAuth
- Values: serverAuth | clientAuth

**key-algor**

Set a key algorithm.

- Values: RSA | ECDSA

**digest-algor**

Set a digest algorithm.

- Values: SHA1 | SHA256 | SHA384

**ecdsa-key-size**

When **key-algor** is set to **ECDSA**, set the ECDSA key size.

- Values: p256 | p384

**cert-status-profile-list**

Enter a list of configured cert-status-profile names.

**Path**

**certificate-record** is an element under the security path. The full path from the topmost prompt is: **configure terminal** , and then **security** , and then **certificate-record**.

## cert-status-profile

The cert-status-profile configuration element identifies an OCSP responder, the transport protocol used to access the responder, and the certificates used to sign the OCSP request and to validate the OCSP response.

### Parameters

#### name

Enter the name of this cert-status-profile instance, thus allowing the configuration of multiple configuration elements of this type. This parameter is required.

- Default: None
- Values: Any valid object name — the name must be unique within the cert-status-profile namespace

#### ip-address

Enter the IPv4 address of the destination OCSP responder. This parameter is required.

- Default: None
- Values: Any valid IPv4 address

#### hostname

hostname of the OCSR. If this parameter and the ip-address parameter are both configured, the Oracle Communications Session Border Controller uses the IP address.

#### port

Enter the destination port number. This parameter is optional.

- Default: 80
- Values: Any valid port number

#### type

Enter the protocol type used for certificate checking. This parameter is optional.

- Default: ocsp
- Values: ocsp | crl

#### trans-proto

Enter the protocol used to transmit the OSCP request; the single currently supported value is http. This parameter is optional.

- Default: http
- Values: http

#### requester-cert

Enter the name of the certificate configuration element used to sign the outgoing OCSP request; this parameter is required only if the OCSP responder mandates a signed request.

- Default: None
- Values: An existing certificate configuration element name

#### trusted-cas

Enter a list of trusted Certificate Authority certificate records.

**responder-cert**

Enter the name of the certificate configuration element used to validate the incoming OCSP response.

- Default: None
- Values: An existing certificate configuration element name

**realm-id**

Enter the name of the realm used for transmitting OCSP requests. This parameter is optional.

- Default: wancom
- Values Any valid realm name

**retry-count**

Enter the maximum number of times to retry an OCSP responder in the event of connection failure.

- Default: 1
- Values: Min: 0/Max: 10

**dead-time**

Enter the interval (in seconds) between the trigger of the retry-count(er) and the next attempt to access the unavailable OCSP responder. This parameter is optional.

- Default: 0 (seconds)
- Values: Min: 0/Max: 3600

**crl-update-interval**

Specify the interim, in seconds, between CRL updates.

- Default: 86400
- Values: 600-2600000

**crl-list**

Enter a list of trusted Certificate Authority certificate records.

**Path**

**cert-status-profile** is a subelement under the security configuration element. The full path from the topmost ACLI prompt is: **configure-terminal**, and then **security**, and then **cert-status-profile**.

**Note:**

This is a multiple instance configuration.

## class-profile

The class-profile configuration element lets you access the class-policy configuration element for creating classification policies for ToS marking for SIP or H.323.

### Parameters

#### policy

Enter the class-policy subelement

#### Path

**class-profile** is an element under the session-router path. The full path from the topmost prompt is: **configure terminal** , and then **session-router** , and then **class-profile**.

## class-profile > policy

The class-policy configuration subelement lets you create classification policies that are used to create a ToS marking on incoming traffic based upon a matching media-policy and destination address.

### Parameters

#### profile-name

Enter the classification profile name

#### to-address

Enter a list of addresses to match for when determining when to apply this class-policy. Addresses can take the forms:

- Values:
  - +<number>—E164 address
  - <number>—Default address type
  - [<host>].domain—Host and/or domain address

#### media-policy

Enter the media-policy used for this class-policy

#### Path

**class-policy** is a subelement under the session-router path. The full path from the topmost prompt is: **configure terminal** , and then **session-router** , and then **class-profile** , and then **policy**.

## cluster-config

Use **cluster-config** to manage basic SLB interaction with clustered SBCs.

### Constraints

Only systems with SLB configured support **cluster-config**.

### Parameters

The **cluster-config** configuration element contains the following parameters:

#### state

Enable or disable the cluster configuration.

- Default: enabled
- Values: enabled | disabled

**log-level**

Enter the log level.

- Default: CRITICAL
- Values: ZERO | NONE | EMERGENCY | CRITICAL | MAJOR | MINOR | WARNING | NOTICE | INFO | TRACE | DEBUG | DETAIL

**auto-rebalance**

Enable or disable the automatic rebalancing of the cluster when a new SBC becomes available.

- Default: enabled
- Values: enabled | disabled

**source-rebalance-threshold**

Enter the percentage of advertised registration capacity an SBC must be above to be considered a source of rebalanced endpoints.

- Default: 50
- Min: 0 | Max: 100

**dest-rebalance-threshold**

Enter the percentage of advertised registration capacity an SBC must be below to be considered a destination of rebalanced endpoints.

- Default: 0
- Min: 0 | Max: 4294967295

**dest-rebalance-max**

Enter the maximum occupancy rate that the SLB transfers to the new cluster member during a rebalance operation.

- Default: 80
- Min: 0 | Max: 100

**tunnel-check-interval**

Enter the interval in milliseconds between SLB tunnel audits.

- Default: 15000
- Min: 0 | Max: 4294967295

During a tunnel audit, the SLB checks the status of each tunnel and removes all tunnels flagged as dead.

**tunnel-fail-interval**

Enter the interval in milliseconds between periodic keepalive messages sent from a clustered SBC to the SLB.

- Default: 10000
- Min: 0 | Max: 4294967295

**rebalance-request-delay**

Enter the interval in milliseconds between endpoint request messages sent from the SLB to a clustered SBC.

- Default: 500
- Valid value: 0
- Min: 50 | Max: 4294967295

**session-multiplier**

Enter a factor that when multiplied by an SBC's licensed session limit, determines the maximum number of endpoints that the SBC can support (that is, its maximum occupancy).

- Default: 10
- Min: 1 | Max: 100

**atom-limit-divisor**

Enter a factor of contacts to endpoints that can be used in occupancy and occupancy rate calculations.

- Default: 1
- Min: 0 | Max: 4294967295

**rebalance-skip-ahead**

Restrict the target set of SBCs eligible for rebalancing to those whose re-registration is not scheduled within the number of milliseconds specified by this parameter.

- Default: 0
- Min: 0 | Max: 4294967295

**rebalance-max-refresh**

Restrict the target set of SBCs eligible for rebalancing to those whose re-registration is not scheduled until after the number of milliseconds specified by the parameter.

- Default: 0
- Min: 0 | Max: 4294967295

**ignore-tgt-svcs-on-rebalance**

Not currently supported.

- Default: disabled
- Values: enabled | disabled

**rebalance-del-app-entries**

Set to enabled to remove cached registration entries after the rebalance operation completes.

- Default: enabled
- Values: enabled | disabled

**inactive-sd-limit**

Enter the maximum silent interval in seconds before the SLB flags the SBC as dead and removes it from the cluster.

- Default: 1800

- Min: 0 | Max: 31536000

**red-port**

Enter the port to listen on for redundancy flow sync messages.

- Default: 2001
- Valid value: 0
- Min: 1025 | Max: 65535

**red-max-trans**

Enter the maximum number of redundancy sync transactions to keep alive.

- Default: 10000
- Min: 0 | Max: 50000

**red-sync-start-time**

The maximum period of time (in milliseconds) that the standby SBC waits for a heartbeat signal from the active SBC before assuming the active role.

- Default: 5000
- Min: 0 | Max: 4294967295

**red-sync-comp-time**

The interval between synchronization attempts after the completion of a redundancy check.

- Default: 1000
- Min: 0 | Max: 4294967295

**service-ports**

Access the **service-ports** subelement.

**Path**

The **cluster-config** configuration element is in the **session-router** element.

```
ORACLE# configure terminal
ORACLE(configure)# session-router
ORACLE(session-router)# cluster-config
ORACLE(cluster-config)#
```

## codec-policy

The codec-policy configuration element allows you to configure codec policies, sets of rules that specify the manipulations to be performed on SDP offers.

**Parameters****name**

Enter the unique name for the codec policy. This is the value you will use to refer to this codec policy when you apply it to realms or session agents. This is a required parameter.



**allow-codecs**

Enter the list of media format types (codecs) to allow for this codec policy. In your entries, you can use the asterisk (\*) as a wildcard, the force attribute, or the no attribute so that the allow list you enter directly reflect your configuration needs. The **text:no** value strips "m=text" occurrence in the outbound INVITE and enables T.140 to Baudot transcoding. The codecs that you enter here must have corresponding media profile configurations. This field accepts conditional codec policy syntax.

**add-codecs-on-egress**

Enter the codecs to be appended to an offer. Excluding keywords add and delete when a list is already configured replaces the entire list. This field accepts conditional codec policy syntax.

- [add | delete] <name> [name>...]

 **Note:**

Only codecs that can be transcoded may be specified. See your version's Release Notes for the list of applicable codecs.

**order-codecs**

Enter the order in which you want codecs to appear in the outgoing SDP offer. You can use the asterisk (\*) as a wildcard in different positions of the order to directly reflect your configuration needs. The codecs that you enter here must have corresponding media profile configurations. This field accepts conditional codec policy syntax.

**force-ptime**

Enable or disable a forced ptime being used.

- Default: disabled
- enabled | disabled

**packetization-time**

Enter a preferred ptime when the **force-ptime** parameter is enabled.

- Default: 20
- Values: 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100

**dtmf-in-audio**

Select how the Oracle Communications Session Border Controller should support the conversion of signaling messages or RFC 2833 to DTMF Audio tones in the realm where this transcoding policy is active.

- Default: disabled
- Values:
  - disabled—Does not support DTMF audio tones as transcoded in this realm.
  - preferred—Supports DTMF audio tones as transcoded in this realm.
  - dual—Supports both transcoded DTMF audio tones and signaling-based DTMF indications if possible.

**tone-detection**

Enables FAX tone detection.

- **fax-cng**—Causes the system to start its FAX transcoding based on the receipt of CNG messages.
- **fax-v21**—Causes the system to start its FAX transcoding based on the receipt of V21 messages.

**tone-detect-renegotiate-timer**

Specifies the time after which the system sends a re-Invite if it does not receive a re-Invite from the endpoint. The system resets this timer whenever it receives a re-Invite from the endpoint.

- Default: 500
- Values: 50 - 32000

**reverse-fax-tone-detection-reinvite**

Allows you to force the Oracle Communications Session Border Controller to send a ReInvite that includes T.38 in the SDP out a realm that does not have tone detection enabled.

- **disabled**—Does not force the system to send ReInvites out a different realm. (Default)
- **enabled**—Allows the system to send ReInvites out a different realm during applicable scenarios.

**fax-single-m-line**

Set this parameter to the preferred FAX media type for Re-INVITES to endstations that do not support multiple m-lines. The OCSBC issues Re-INVITES using the configured media type only. Should the negotiation fail, the OCSBC issues another Re-INVITE that offers the other media type.

- **disabled**—The single m-line function is disabled. (Default)
- **image-first**—Sends Re-INVITE with m=image as the only m-line in the SDP.
- **audio-first**—Sends Re-INVITE with m=audio as the only m-line in the SDP.

**evrc-tty-baudot-transcode**

Enables transcoding of EVRC TTY TDD to BAUDOT in EVRC-G.711

- Default: disabled
- Values: enabled | disabled

**secure-dtmf-cancellation**

Removes all Dual-Tone Multi-Frequency (DTMF) information that Oracle Communications Session Border Controller (OCSBC) processes within the codec-policy from ingress. It also removes the residual signal energy (i.e. the leftover signaling from the media stream) at the beginning and ending of each DTMF digit so that an important piece of data is not detectable within the egress stream. But this option does not remove DTMF bleed unless transcoding is enabled for the call.

- Default: disabled
- Values: enabled | disabled

**Path**

**codec-policy** is an element of the media-manager path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **media-manager**, and then **codec-policy**.

## system-config > comm-monitor

The **comm-monitor** subelement configures the communication monitor/Palladion Mediation engine.

### Parameters

#### state

The state of the Communication Monitor feature.

- Default: disabled
- Values: enabled | disabled

#### sbc-grp-id

Group ID in the Palladion Mediation engine.

- Default: 0
- Values: Min: 0 / Max: 999999999

#### tls-profile

tls-profile to use for connection to mediation engines for TLS Connections.

#### qos-enable

Enable/disable sending of QoS information to the mediation engine.

- Default: enabled
- Values: enabled | disabled

#### interim-qos-update

Enable/disable sending of periodic QoS update information for the duration of a call.

- Default: disabled
- Values: enabled | disabled

#### monitor-collector

Enters the **monitor-collector** subelement to configure IP parameters of the Palladion Mediation engines.

### Path

**comm-monitor** is a subelement under the system-config element. The full path from the topmost ACLI prompt is: **configure terminal**, and then **system**, and then **system-config**, and then **comm-monitor** .

## system-config > comm-monitor > monitor-collector

The **monitor-collector** subelement configures the communication monitor/Palladion Mediation endpoints.

### Parameters

#### address

IP address to push collected data to.

**port**

Port at which operations monitor server listens.

- Default: 4739
- Min value: 1025
- Max value: 65535

**network-interface**

Local network-interface to use for the connection.

- Default: wancom0:0

**Note:**

If configuring with a media interface, that interface must belong to a configured realm.

**Path**

**monitor-collector** is a subelement under the system-config element. The full path from the topmost ACLI prompt is: **configure terminal**, and then **system**, and then **system-config**, and then **comm-monitor**, and then **monitor-collector**.

## data-flow

The data-flow configuration element specifies pass-through data-traffic processing when using IKE.

**Parameters****name**

Specify the name of this instance of the data-flow configuration element.

**realm-id**

Specify the realm that supports the upstream (core side) data-flow.

**group-size**

Specify the maximum number of user elements grouped together by this data-flow instance. For maximum efficiency, this value should be set to a power of 2.

- Default: 128
- Values: 1 | 2 | 4 | 8 | 16 | 32 | 64 | 128 | 256

**Note:**

The optional group-size parameter specifies the divisor used by this data-flow instance to segment the total address pool into smaller, individually-policed segments.

**upstream-rate**

Specify the allocated upstream bandwidth.

- Default: 0 (allocates all available bandwidth)
- Values: Min: 0 / Max: 122070

**downstream-rate**

Specify the allocated downstream (access side) bandwidth.

- Default: 0 (unlimited, no bandwidth restrictions)
- Values: Min: 0 / Max: 122070

**Path**

Data-flow is a subelement under the ike element. The full path from the topmost ACLI prompt is **configure terminal**, and then **security**, and then **ike**, and then **data-flow**.

**Note:**

This is a multiple instance configuration element.

## diameter-manipulation

The diameter-manipulation configuration element defines the message manipulation elements.

**Constraints**

This configuration element is not available for the Enterprise Session Border Controller or for the Subscriber-Aware Load Balancer.

**Parameters****name**

Configured name of this diameter manipulation. This is the key field.

- Default: empty
- Values: 24 character string, no special characters with the exception of the underscore and hyphen characters. Do not start name with numeric character.

**description**

Textual description of this diameter manipulation.

- Default: empty
- Values: 256 character string

**diameter-manip-rule**

Access the **diameter-manip-rule** subelement.

**Path**

**diameter-manipulation** is an element in the **session-router** path. The full path from the topmost ACLI prompt is: **session-router**, and then **diameter-manipulation**

## diameter-manipulation > diameter-manip-rule

The diameter-manip-rule defines an individual step in creating REGEX type message manipulation object.

### Constraints

This configuration element is not available for the Enterprise Session Border Controller or for the Subscriber-Aware Load Balancer.

### Parameters

#### name

Configured name of this manipulation rule. This is the key field.

- Default: empty
- Values: Character string, no special characters with the exception of the underscore characters. Do not start name with numeric character.

#### avp-code

AVP in the Diameter message to be of manipulated by this rule. This parameter must be configured.

- Default: 0
- Values: Valid AVP code

#### descr-avp-code

Description of AVP code to be manipulated.

- Default: empty
- Values: 256 character string

#### avp-type

The data type of the content of the field the system PD is parsing to perform a manipulation on. This parameter must be configured with an enumerated value. Refer to the Diameter standards document for the encodings of individual AVPs.

- Default: none
- Values: none | octet-string | octet-hex | integer32 | unsignedint32 | address | diameteruri | enumerated

#### action

Type of manipulation action to perform on this AVP.

- Default: none
- Values: none | add | delete | store | diameter-manip | group-manip | find-replace-all | replace

#### comparison-type

Select the comparison type that the match-value uses.

- Default: case-sensitive
- Values: case-sensitive | case-insensitive | pattern-rule | boolean

**msg-type**

The message type to which this Diameter manipulation rule applies.

- Default: any
- Values:
  - any—Both Requests and Reply messages
  - request—Request messages only
  - reply— Reply messages only

**msg-cmd-code**

The Diameter message code that this rule applies to. This parameter must be configured or the manipulation can not be applied to any message.

- Default: 0
- Values: Valid Diameter message code

**match-value**

Enter the exact value to be matched. The action you specify is only performed if the header value matches. The entered value must match the comparison type.

- Default: empty

**new-value**

The explicit value for a new element or replacement value for an existing element. You can enter an expression that includes a combination of absolute values, pre-defined parameters, and operators.

- Default: empty

**avp-header-rule**

Access the **avp-header-rule** subelement.

**Path**

**diameter-manip-rule** is a subelement under the **diameter-manipulation** element in the session-router path. The full path from the topmost ACLI prompt is: **session-router**, and then **diameter-manipulation**, and then **diameter-manip-rule**

## diameter-manipulation > diameter-manip-rule > avp-header-rule

The avp-header-rule subelement defines how to manipulate an AVP's header.

**Constraints**

This configuration element is not available for the Enterprise Session Border Controller or for the Subscriber-Aware Load Balancer.

**Parameters****name**

Configured name of this AVP header rule. This is the key field.

- Default: empty

- Values: Character string, no special characters with the exception of the underscore characters. Do not start name with numeric character.

**header-type**

Type of AVP header to manipulate, as either the AVP flags or the Vendor ID.

- Default: avp-flags
- Values: avp-flags | avp-vendor-id

**action**

Type of manipulation action to perform on data range in the AVP header.

- Default: none
- Values: none | add | delete | replace

**match-value**

Value to be matched in the AVP flags or in the vendor ID bits. When manipulating AVP flags, the enumerated values are used to indicate which flag. When manipulating the vendor ID, an integer is entered.

- Default: empty
- Values: vendor | must | proxy

**new-value**

value to replace the match value with. You can enter an expression that includes a combination of absolute values, pre-defined parameters, and operators.

- Default: empty

**Path**

**avp-header-rule** is a subelement under the **session-router** path. The full path from the topmost ACLI prompt is: **session-router**, and then **diameter-manipulation**, and then **diameter-manip-rule**, and then **avp-header-rule**

## dnstalg-constraints

The dnstalg-constraints configuration element is used to provision various traffic constraints upon existing dns-config configurations.

**Parameters****name**

The name of the dnstalg constraint configuration element this value is applied in a dns-config configuration element.

**state**

State of this dnstalg-constraint.

- Default: enabled
- Values: enabled | disabled

**max-burst-rate**

Maximum number of messages, per second, that can pass through the system in the burst rate window before setting the element to Constraints Exceeded.



- Default: 0
- Values:
  - Min: 0
  - Max: 4294967295

**max-sustain-rate**

The maximum number of messages that can pass through the system in the sustained rate window before setting the element to Constraints Exceeded.

- Default: 0
- Values:
  - Min: 0
  - Max: 999999

**max-inbound-burst-rate**

Maximum number of inbound messages received by the referencing element within the burst rate window before setting the element to Constraint Exceeded.

- Default: 0
- Values:
  - Min: 0
  - Max: 999999

**max-inbound-sustain-rate**

The maximum number of inbound messages received by the referencing element within the sustained rate before setting the element to Constraints Exceeded.

- Default: 0
- Values:
  - Min: 0
  - Max: 999999

**max-outbound-burst-rate**

Maximum number of outbound messages forwarded from the referencing element within the burst rate window before setting the element to Constraints Exceeded.

- Default: 0
- Values:
  - Min: 0
  - Max: 999999

**max-outbound-sustain-rate**

The maximum number of outbound messages forwarded from the referencing element within the sustained rate window before setting the element to Constraints Exceeded.

- Default: 0
- Values:

- Min: 0
- Max: 999999

**time-to-resume**

The number of seconds that the referencing element stays in Constraints Exceeded state and rejects messages before it returns to service.

- Default: 0
- Values:
  - Min: 0
  - Max: 999999

**burst-rate-window**

Number of seconds during which to count messages toward a maximum burst rate.

- Default: 0
- Values:
  - Min: 0
  - Max: 999999

**sustain-rate-window**

The number of seconds during which to count messages toward a maximum sustained rate. a maximum sustained rate.

- Default: 0
- Values:
  - Min: 0
  - Max: 999999

**max-latency**

The maximum time in seconds a reply to a DNS request can take before considering that DNS server as out of service.

- Default: 0
- Values:
  - Min: 0
  - Max: 999999

**Path**

Path: **dnssalg-constraints** is a configuration element under the **media-manager** path. The full path from the topmost ACLI prompt is: full path from the topmost ACLI prompt is: **configure terminal > media-manager > dnssalg-constraints**.

## dns-config

The dns-config configuration element configures the DNS-ALG on a per-client realm basis.

### Parameters

#### client-realm

Enter the realm from which DNS queries are received. This value is the name of a configured realm.

#### description

Describe the dns-alg configuration element

#### extra-dnsalg-stats

Enables tracking of extra DNS ALG statistics.

- Default: disabled
- enabled | disabled

#### dns-max-ttl

Specifies the maximum DNS time to live value to support the DNS ALG feature.

- Default: 86400 seconds (24 hours)
- minimum: 30
- maximum: 2073600

#### server-dns-attributes

Enter the server-dns-attributes subelement .

#### constraint-name

Name of the **dnsalg-constraints** configuration element to apply to this **dns-config**.

#### client-address-list

Enter the IP client realm address(es) from which the Oracle Communications Session Border Controller can receive DNS queries. This field is required.

#### trap-on-status-change

Enables the system to issue SNMP traps when specific objects managed within any dns-config experience a change in their operating status.

- Default: disabled
- Values: enabled | disabled

### Path

**dns-config** is a subelement under the media-manager path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **media-manager** , and then **dns-config**.

 **Note:**

This is a multiple instance configuration element.

## dns-config > server-dns-attributes

The server-dns-attributes subelement configures DNS servers.

### Parameters

#### server-realm

Enter the realm from which DNS responses are sent. This value must be the name of a configured realm. This value is required.

#### domain-suffix

Enter the domain suffixes for which this DNS server attribute list is used. This field is required, and can start with an asterisk or a period.

#### server-address-list

Enter a list of DNS server IP addresses used for the specified domains. This field is required, and can include multiple entries.

#### source-address

Enter the source IP address from which the ALG sends queries to the DNS server (i.e., a layer 3/layer 4 source address). This field is required.

#### source-port

Enter the UDP port number from which the ALG sends queries to the DNS server (i.e., layer 3/layer 4 source address). This value is required.

- Default: 53
- Values: 1025-65535

#### transaction-timeout

Enter the number of seconds that the ALG maintains information to map a DNS server response to the appropriate client request. This value is required.

- Default: 10 seconds
- Values: Min: 0 / Max: 999999999

#### address-translation

Access the address-translation subelement

### Path

**server-dns-attributes** is a subelement under the **dns-config** element. The full path from the topmost ACLI prompt is: **configure terminal** , and then **media-manager** , and then **dns-config** , and then **server-dns-attributes**.

#### Note:

This is a multiple instance configuration element.

## dns-config > server-dns-attributes > address-translation

The address-translation subelement sets the list of IP address translations and determines how the NAT function for this feature occurs. Multiple entries in this field allow one DNS-ALG network entity to service multiple Oracle Communications Session Border Controllers or multiple sets of addresses.

### Parameters

#### server-prefix

Enter the address/prefix returned by the DNS server. The server-prefix is an IP address and number of bits in slash notation.

#### client-prefix

Enter the address/prefix to which a response is returned. The client-prefix is an IP address and number of bits in slash notation.

### Path

**address-translation** is a sub-subelement of the media-manager element. The full path from the topmost ACLI prompt is: **configure terminal** , and then **media-manager** , and then **dns-config** , and then **server-dns-attributes** , and then **address-translation**.



#### Note:

Values specified for the number of bits dictates how much of the IP address will be matched. If the number of bits remains unspecified, then the Oracle Communications Session Border Controller will use all 32 bits for matching. Setting the bits portion after the slash to 0 is the same as omitting it. This is a multiple instance configuration element.

## dpd-params

The dpd-params configuration element enables creation of one or more sets of DPD Protocol parameters.

### Parameters

#### name

Enter a unique identifier for this instance of the dpd-params configuration element.

- Default: None
- Values: Valid configuration element name that is unique within the dpd-params namespace

#### max-loop

Set the maximum number of endpoints examined every dpd-time-interval.

- Default: 100
- Values:

 **Note:**

If CPU workload surpasses the threshold set by max-cpu-limit, the max-loop value is over-ridden by load-max-loop.

**max-endpoints**

Set the maximum number of simultaneous DPD Protocol negotiations supported when the CPU is not under load (as specified by the max-cpu-limit property).

- Default: 25
- Values: An integer value, should be greater than load-max-endpoints

 **Note:**

If CPU workload surpasses the threshold set by max-cpu-limit, the max-endpoints value is over-ridden by load-max-endpoints.

**max-cpu-limit**

Set a threshold value (expressed as a percentage of CPU capacity) at which DPD protocol operations are minimized to conserve CPU resources.

- Default: 60 percent
- Values: An integer value, 0 (effectively disabling DPD) through 100

**load-max-loop**

Set the maximum number of endpoints examined every dpdtime-interval when the CPU is under load, as specified by the max-cpu-limit parameter.

- Default: 40
- Values: an integer value, should be less than max-loop

**load-max-endpoints**

Set the maximum number of simultaneous DPD Protocol negotiations supported when the CPU is under load, as specified by the max-cpulimit property.

- Default: 5
- Values: An integer value, should be less than max-endpoints

**max-attempts**

The maximum number of DPD attempts before an unresponsive peer is considered dead.

- Default: 1
- Range: 1 - 4

**max-retrans**

The maximum number of times to retransmit each DPD attempt.

- Default: 3
- Range: 1 - 4

### Path

dpd-params is a subelement under the ike element. The full-path from the topmost ACLI prompt is: **configure-terminal**, and then **security**, and then **ike**, and then **dpd-params**.

 **Note:**

This is a multiple instance configuration element.

## emergency-dscp-profile

You use the emergency-dscp-profile configuration element to define DSCP values to match within a SIP INVITE. The SBC drops matching INVITEs if they do not also include separate SIP designation as emergency traffic. If configured, the SBC sends the error code and message you set in this profile. If you do not configure an error code and text, the SBC sends the default SIP error code and message “403 Unauthorized attempt to use reserved resources”.

### Parameters

#### name

Establishes a label for individual emergency-dscp-profiles. You use this label to apply these profiles to session-agents, sip-interfaces or the sip-config. This field supports a maximum of 128 characters.

#### tos-values

A space-separated string of decimal or hex numbers, that the SBC searches for within a packet. If it finds a value configured here, and the packet does not have any SIP information identifying the call as an emergency call, the system rejects the call.

- Values: string of decimal or hex numbers space separated (0x00 to 0xFF)

#### error-code

This optional field can include an integer that specifies the error code you send back to any endpoint that sends a non-emergency INVITE that includes a DSCP value you configured in this profile.

- Default: “403”
- Range: SIP error response codes 400 to 499

#### error-message

This optional field can include a string that specifies the error text that you send back to any endpoint that sends a non-emergency INVITE that includes a DSCP value you configured in this profile.

- Default: Unauthorized attempt to use reserved resources
- Values: String

### Path

**emergency-dscp-profile** is an element of the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router**, and then **emergency-dscp-profile**.

**Note:**

This is a multiple instance configuration element.

## enforcement-profile

The enforcement-profile sets groups of SIP methods to apply in the global SIP configuration, a SIP interface, a SIP session agent, or a realm.

### Parameters

**name**

Enter the name of the enforcement profile.

**allowed-methods**

Select a list of SIP methods that you want to allow in this set.

- Default: None
- Values: INVITE, REGISTER, PRACK, OPTIONS, INFO, SUBSCRIBE, NOTIFY, REFER, UPDATE, MESSAGE, PUBLISH

**sdp-address-check**

Enable or disable SDP address checking on the Oracle Communications Session Border Controller.

- Default: disabled
- Values: enabled | disabled

**allowed-elements-profile**

Enter the name of the allowed elements profile.

**add-certificate-info**

List of one or more certificate attribute names to enable TLS certificate information caching and insertion of cached certificate information into customized SIP INVITES. This list is entered enclosed in quotes with attributes separated by spaces.

**certificate-ruri-check**

Set the Oracle Communications Session Border Controller to cache TLS certificate information and validate Request-URIs.

- Default: disabled
- Values: enabled | disabled

**verify-certificate-info-register**

Adds certificate information for REGISTER messages and verifies Request-URIs against certificate attributes.

- Default: disabled
- Values: enabled | disabled



### Path

**enforcement-profile** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal > session-router > enforcement-profile**.

## enforcement-profile > subscribe-event

The subscribe-event subelement defines subscription event limits for SIP per-user dialogs.

### Parameters

#### event-type

Enter the SIP subscription event type for which to set up limits. You can wildcard this value (meaning that this limit is applied to all event types except the others specifically configured in this enforcement profile). To use the wildcard, enter an asterisk (\*) for the parameter value.

#### max-subscriptions

Enter the maximum number of subscriptions allowed

- Default: 0
- Values: Min: 0 / Max: 65535

### Path

**subscribe-event** is a subelement under the session-router path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router** , and then **enforcement-profile**, and then **subscribe-event**.

## enum-config

The enum-config is used to configure ENUM functionality on your Oracle Communications Session Border Controller.

### Parameters

#### name

Enter the name of the ENUM configuration

#### top-level-domain

Enter the domain extension used to query the ENUM servers for this configuration. The query name is a concatenation of the number and the domain.

#### realm-id

Enter the realm-id is used to determine on which network interface to issue an ENUM query.

#### enum-servers

Enter the name of an ENUM server and its corresponding redundant servers to be queried. In a query, separate each server address with a space and enclose list within parentheses.

#### service-type

Enter the ENUM service types you want supported in this ENUM configuration. Possible entries are E2U+sip and sip+E2U (the default), and the types outlines in RFCs 2916 and 3721. If you add to the pre-existing E2U+sip and sip+E2U list and want those values to remain, you must enter them with your new values.

- Default: E2U+sip,sip+E2U

**query-method**

Enter the ENUM query distribution strategy

- Default: hunt
- Values: hunt | round-robin

**timeout**

Enter the total time, in seconds, that should elapse before a query sent to a server (and its retransmissions) will timeout. If the first query times out, the next server is queried and the same timeout is applied. This process continues until all the servers in the list have timed out or one of the servers responds. The retransmission of ENUM queries is controlled by three timers:

- Init-timer—The initial retransmission interval. The minimum value allowed for this timer is 250 milliseconds.
- Max-timer—The maximum retransmission interval. The interval is doubled after every retransmission. If the resulting retransmission interval is greater than the value of max-timer, it is set to the max-timer value.
- Expire-timer—The query expiration timer. If a response is not received for a query and its retransmissions within this interval, the server will be considered non-responsive and the next server in the list will be tried.
- Default: 11
- Values: Min: 0 / Max: 4294967295

**cacheInactivityTimer**

Enter the time interval, in seconds, after which you want cache entries created by ENUM requests deleted, if inactive for this interval. If the cache entry gets a hit, the timer restarts and the algorithm is continued until the cache entry reaches its actual time to live.

- Default: 3600
- Values: Min: 0 / Max: 4294967295

**lookup-length**

Specify the length of the ENUM query, starting from the most significant bit

- Default: 0
- Range: 0 - 255

**max-response-size**

Set the maximum size in bytes for UDP datagram responses.

- Default: 512
- Range: 512 - 65535

**remote-recursion**

Set the RD bit for the remote ENUM server to query recursively.

- Default: enabled
- Values: enabled / disabled

**health-query-number**

Enter the phone number for the ENUM server health query; when this parameter is blank the feature is disabled.

**health-query-interval**

Enter the interval in seconds at which you want to query ENUM server health.

- Default: 0
- Values: Min: 0 / Max: 65535

**failover-to**

Enter the name of the enum-config to which you want to failover.

**cache-addl-records**

Set this parameter to enabled to add additional records received in an ENUM query to the local DNS cache.

- Default: enabled
- Values: enabled | disabled

**include-source-info**

Set this parameter to enabled to send source URI information to the ENUM server with any ENUM queries.

- Default: disabled
- Values: enabled | disabled

**recursive-query**

Enables the Oracle Communications Session Border Controller to query a DNS server for a hostname returned in an ENUM result.

- Default: disabled
- Values: enabled | disabled

**retarget-requests**

When set to enabled, the Oracle Communications Session Border Controller replaces the Request-URI in the outgoing request. When set to disabled, the Oracle Communications Session Border Controller routes the request by looking to the Route header to determine where to send the message.

- Default: enabled
- Values: enabled | disabled

**Path**

**enum-config** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router** , and then **enum-config**.

## ext-policy-server

The ext-policy-server is used for configuring PDP/RACF or CLF functionality on the Oracle Communications Session Border Controller.

## Parameters

### name

Enter the name of this external policy server configuration

### state

Enable or disable the operational state of this external policy server configuration

- Default: enabled
- Values: enabled | disabled

### operation-type

Select the function this external policy server performs

- Default: disabled
- Values:
  - disabled
  - admission-control—Oracle Communications Session Border Controller communicates with a CLF to obtain location string
  - bandwidth-mgmt— Oracle Communications Session Border Controller acts as a PEP in a PDP/RACF deployment

### protocol

Select the external policy server communication protocol

- Default: C-SOAP
- Values:
  - COPS—Standard COPS implementation. COPS client type is 0x7929 for CLF, and 0x7926 for PDP/RACF usage as defined in the operation-type parameter.
  - A-COPS—Vendor specific protocol. COPS client type is 0x4AC0 for admission-control operation-type.
  - SOAP—Not used
  - C-SOAP—Not used
  - DIAMETER—Connects the Oracle Communications Session Border Controller to the policy-server

### address

Enter the IP address or FQDN of an external policy server, or enter the name of a policy-group preceded by the **PSG:** prefix. IP addresses can be IPv4 or IPv6.

### port

Enter the port on the external policy server to which you must connect. For example, the standard port for COPS is 3288. The system ignores this parameter if the address parameter is set to a policy-group or an FQDN.

- Default: 80
- Values: Valid Range: 0-65535

**realm**

Enter the realm where the external policy server exists. The system ignores this parameter if the address parameter is set to a policy-group, with the exception that it is used to populate all Origin-Realm and Origin-Host AVPs in diameter messages generated by traffic from the **policy-group's policy-agents**.

**transport-protocol**

Enter the transport protocol used to connect to this external policy server.

- Default: TCP
- Values: TCP / SCTP

**local-multi-home-addr**

Applies to SCTP. Enter an IP address that is local to the SBC and can be used by this external policy server as an alternate connection point. This address must be the same type as the address parameter, either IPv4 or IPv6.

**remote-multi-home-addr**

Applies to SCTP. Enter an IP addresses that can be used by this SBC as an alternate connection point. This address must be the same type as the address parameter, either IPv4 or IPv6.

**sctp-send-mode**

Applies to SCTP. Specifies the SCTP delivery mode. The default value is **ordered**. Valid values are:

- ordered (Default)
- unordered

**num-connections**

Enter the number of TCP connections to external policy server

- Default: 1
- Values: Min: 0 / Max: 65535

**reserve-incomplete**

Enable or disable admission requests being made before all of the details of the call are known

- Default: enabled
- Values:
  - Enabled—Supports the usual behavior when the AAR is sent upon SDP offer as well as SDP answer. This mode ensures backwards compatibility with releases prior to Release S-C6.1.0.
  - Orig-realm-only—Allows calls originating from a realm with a policy server associated with it to send the AAR upon SDP offer; calls terminating at a realm with a policy server associated with it send the AAR post SDP exchange.
  - Disabled—Allows no bandwidth reservation for incomplete flows.

**permit-conn-down**

Enable or disable the Oracle Communications Session Border Controller's ability to permit calls if there is no connection to the external policy server.

- Default: disabled
- Values: enabled | disabled

**permit-on-reject**

Change this parameter to enabled if you want the Oracle Communications Session Border Controller to forward the session on at a “best-effort”. Leave this parameter set to disabled (Default), if you want the Oracle Communications Session Border Controller to deny the session on attempts to revert to the previously-requested bandwidth

- Default: disabled
- Values: enabled | disabled

**permit-on-reject**

Change this parameter to enabled if you want the Oracle Communications Session Border Controller to forward the session on at a “best-effort”. Leave this parameter set to disabled (default), if you want the Oracle Communications Session Border Controller to deny the session on attempts to revert to the previously-requested bandwidth.

- Default: disabled
- Values: enabled | disabled

**disconnect-on-timeout**

Disable this parameter to prevent timeouts triggered by Gate-Set or Gate-Delete message sequences between the Oracle Communications Session Border Controller and a policy server from tearing down their connection. Retaining the default (enabled) allows all timeouts to tear down and re-establish the TCP connection.

- Default: enabled
- Values: enabled | disabled

**product-name**

Enter the vendor product name.

**application-mode**

Select the mode in which the policy server interface is operating.

- Default: none
- Values: Rq | Rx | Gq | e2 | pktmm3

**application-id**

Enter the application mode of this interface.

- Default: 0
- Values: Min: 0 / Max: 999999999

**framed-ip-addr-encoding**

Set the format of the Frame-IP-Address (AVP 8) value in Diameter messages.

- Default: octet-string
- Values: octet-string (i.e., 0xC0A80A01) | ascii-string (i.e., 192.168.10.1)

**dest-realm-format**

Set the format for the Destination-Realm AVP.

- Default: user\_with\_realm
- Values: user\_with\_realm | user\_only | realm\_only

**ingress-realm-location**

Set this parameter to configure the child realm or its parent for the Address-Realm in the Globally-Unique-Address AVL in DIAMETER UDR messages that the Oracle Communications Session Border Controller sends to the policy server.

- Default: realm-in
- Values:
  - realm-in—This setting means that the Oracle Communications Session Border Controller will use the same realm on which the REGISTRATION request arrived.
  - sip-interface—This setting means that the Oracle Communications Session Border Controller will use the realm associated with the SIP interface on which the REGISTRATION request arrived.
  - diam-address-realm - For the e2 interface, this value enables configurable Address-Realm AVPs. This setting points the Oracle Communications Session Border Controller to the associated realm from which it will learn Address-Realm AVP information.

**user-name-mode**

Determines how the User-Name AVP is constructed. Used primarily with e2 based CLF functionality.

- Default: none
- Values:
  - none—Oracle Communications Session Border Controller does not include the User-Name AVP in any UDRs
  - endpoint-ip—IP address of the registering endpoint is sent as the payload for the User-Name AVP
  - public-id—SIP-URI portion of the TO header from the register message is sent as the payload for the User-Name AVP
  - auth-user—Username attribute of the Authorization header from the register is sent as the payload for the User-Name AVP; if there is no authorization header, the Oracle Communications Session Border Controller will not consult the CLF and will forward the registration message.

**domain-name-suffix**

Sets the suffix for Origin-Realm and Origin-Host AVPs that have a payload string constructed as a domain name. If your entry does not include the dot, the system prepends one.

- Default: .com

**gate-spec-mask**

With this parameter, you can configure the Oracle Communications Session Border Controller to use a mask comprised entirely of zeros (0). The default value is 255. This parameter sets the value to use for the COPS pkt-mm-3 interface. This interface maintains a persistent TCP connection to the external policy server, even without responses to requests for bandwidth. This permits calls to traverse the Oracle Communications Session Border Controller even though the external policy server either fails to respond, or rejects the session.

- Default: 255
- Values: Min: 0 / Max: 255

**allow-srv-proxy**

Enable this parameter if you want to include the proxy bit in the header. The presense of the proxy bit allows the Oracle Communications Session Border Controller to tell the external policy server whether it wants the main server to handle the Diameter message, or if it is okay to proxy it to another server on the network (disabled)

- Default: enabled
- Values: enabled | disabled

**wildcard-trans-protocol**

Set this parameter from enabled if you want to use transport protocol wildcarding for Rx/Rq Flow-Description AVP (507) generation. Enabled sends a flow description of "ip". Set this parameter to disabled if you want to use the specific media stream transport protocol.

- Default: disabled
- Values: enabled | disabled

**watchdog-ka-timer**

Enter the number of seconds to define the interval for watchdog/keep-alive messages; this is the time in which the Oracle Communications Session Border Controller must receive a COPS-KA message from the policy server to ensure collection is still valid.

- Default: 0
- Values: Min: 0 / Max: 65535

**include-rtcp-in-request**

Change this parameter from disabled (default), to enabled so the Oracle Communications Session Border Controller will include RTCP information in AARs.

- Default: disabled
- Values: enabled | disabled

**provision-signaling-flow**

Enables the Oracle Communications Session Border Controller to send AARs to PCRFs after registration that includes the grouped Media-Component-Description AVP as described in 3GPP TS 29.213 section B1b [1], and the procedures specified in TS 29.214 section 4.4.5a.

- Default: disabled
- Values: enabled | disabled

**max-timeouts**

max number of request timeouts before the Oracle Communications Session Border Controller sets this external policy server to inactive.

- Default: 0
- Values: Min: 0 / Max: 200

**max-connections**

Number of external policy servers to be monitored as a server cluster



- Default: 1

**srv-selection-strategy**

Strategy used to select an external policy server from the cluster.

- Default: Failover

**optimize-aar**

Reduces the number of AARs sent to the PCRF.

- Default: disabled
- Values: enabled | disabled

**emergency-epc-level-identities**

Enable or disable the ability of the Oracle Communications Session Border Controller to request EPC level identities within the context of an emergency call.

- Default: disabled
- Values: enabled | disabled

**use-epc-level-msisdn**

Enable or disable the Oracle Communications Session Border Controller's ability to insert an EPC-level MSISDN into the PAI of the egress INVITE. This parameter is relevant only when you have also enabled emergency-epc-level-identities.

- Default: disabled
- Values: enabled | disabled

**operator-config-local-mcc-mnc**

Specifies the MNC value and, by means of the entry, the number of digits the Oracle Communications Session Border Controller uses to build the host part of the outgoing PAI derived during EPC level identity retrieved when emergency-epc-level-identities is enabled.

- Default: 999999
- Range: 10000 - 999999

**cache-dest-host**

Used to enable the Diameter Multi-tiered Policy Server Support feature.

- Default: disabled
- Values: enabled | disabled

**specific-action-subscription**

Populates the Specific-Action AVP in an AAR message to indicate the subscription types it supports. When unconfigured, no Specific-Action AVP is sent.

- Default: blank
- Values:
  - loss-of-bearer
  - recovery-of-bearer
  - release-of-bearer

 **Note:**

Use this setting to support an Abort-Session-Request (ASR) via the PCRF to close a user session when they return to their home-network from a roaming network.

- ip-can-change
- out-of-credit
- successful-resources-allocation
- failed-resources-allocation
- access-network-info-report

**specific-action-sig-flow-subscription**

subscribes for signaling flow status change notifications

**diameter-in-manip**

Configure this parameter with the **name** of a **diameter-manipulation** to be applied on traffic inbound to the Oracle Communications Session Border Controller.

**diameter-out-manip**

Configure this parameter with the **name** of a **diameter-manipulation** to be applied to outbound traffic from this Oracle Communications Session Border Controller.

**asynchronous-mode**

Identifies whether to use the asynchronous mode of signaling on the external policy server interface rather than the default synchronous mode.

- Default: disabled
- Values: enabled | disabled

**media-release**

For scenarios wherein the SBC releases media, enabling this parameter allows the policy server request to include flow descriptions that accurately represent the IP addresses of the two endpoints instead of that of the Oracle Communications Session Border Controller.

- Default: disabled
- Values: enabled | disabled

**options**

Enter any customer-specific features and/or parameters for this external policy server. This parameter is optional.

**Path**

**ext-policy-server** is an element under the media-manager path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **media-manager** , and then **ext-policy-server**.

## filter-config

The **filter-config** element is used for configuring a filter object for SIP Monitor and Trace functionality.

### Parameters

#### name

Enter the name of this filter-config configuration element.

#### address

IP Address to apply to this filter. The netmask is optional.

- Default: 0.0.0.0
- <addr-prefix><ipv4|ipv6> [/<num-bits>]

#### user

Phone number or user-part to apply to this filter.

### Path

**filter-config** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal**, and then **session-router**, and then **filter-config**.

## factory-accounts

Use the factory-accounts command to enable or disable the default admin and user accounts.

### Arguments

#### enable

Re-enable the default admin and user accounts.

#### disable

Disable the default admin and user accounts.

### Mode

Superuser

### Example

```
factory-accounts disable
```

## fraud-protection

Use **fraud-protection** to enable fraud protection and specify the fraud protection source file.

### Constraints

Enable the Fraud Protection entitlement to access this configuration element.

## Path

The **fraud-protection** configuration element is in the **system** element.

```
ORACLE# configure terminal
ORACLE(configure)# system
ORACLE(system)# fraud-protection
ORACLE(fraud-protection)#
```

## Parameters

The **fraud-protection** configuration element contains the following parameters:

### mode

Set the fraud protection mode.

- Default: disabled
- Values: disabled | local | comm-monitor
- local—Use the SBC as the source of the fraud protection file.
- comm-monitor—Not supported.

### file-name

Enter the name of the fraud protection file.

Syntax: /code/fpe/<filename>.

### options

Add fraud protection options.

### allow-remote-call-terminate

Not currently supported.

- Default: disabled
- Values: enabled | disabled

## fxo-profile

Use **fxo-profile** to add up to four Foreign Exchange Office (FXO) profiles to support different attributes at different endpoints. For example, you might create profiles based on username, department, or location.

## Constraints

Only platforms with Digium analog cards support **fxo-profile**.

## Path

The **fxo-profile** configuration element is in the **tdm-config** element.

```
ORACLE# configure terminal
ORACLE(configure)# system
ORACLE(system)# tdm-config
ORACLE(tdm-config)# fxo-profile
ORACLE(fxo-profile)#
```

## Parameters

The **fxo-profile** configuration element contains the following parameters:

### **name**

Enter a name for this profile.

### **channels**

Enter the channels that apply to this profile. You can enter any combination of the four (5, 6, 7, 8) that apply to the FXO card.

- Default: 5,6,7,8

### **rx-gain**

Set the TDM receive volume in decibels.

- Default: 0.0
- Values: 0.0 - 9.9

### **tx-gain**

Set the TDM transmit volume in decibels.

- Default: 0.0
- Values: 0.0 - 9.9

### **echo-cancellation**

Enable or disable echo cancellation.

- Default: enabled
- Values: enabled | disabled

### **fax-detect**

Set the fax-detect.

- Default: both
- Values: incoming | outgoing | both | no

### **route-group**

Enter the number of the route-group for this profile.

- Default: 0
- Min: 0 | Max: 63

### **signalling**

Set the signaling type.

- Default: fxs\_ks
- Values: fxs\_ls | fxs\_gs | fxs\_ks

### **phone-number**

Enter the caller's number. Required.

### **fullname**

Enter the caller's name.

**cid-signalling**

Set the caller ID signaling type.

- Default: bell
- Values: bell | v23

**options**

Configure FXO options.

**voice-codec**

Set the voice codec.

This attribute is only available on platforms that have the Wanpipe driver installed.

- Default: MULAW
- Values: MULAW | ALAW

## fxs-profile

Use **fxs-profile** when your deployment requires a Foreign Exchange Service (FXS) profile for Time Division Multiplexing (TDM). You can add up to four FXS profiles to support different attributes at different endpoints. For example, you might create profiles based on user name, department, and location. Note that you must also configure **tdm-config**.

**Constraints**

Only platforms with Digium analog cards support **fxs-profile**.

**Path**

The **fxs-profile** configuration element is in the **tdm-config** element.

```
ORACLE# configure terminal
ORACLE(configure)# system
ORACLE(system)# tdm-config
ORACLE(tdm-config)# fxs-profile
ORACLE(fxs-profile)#
```

**Parameters**

The **fxs-profile** configuration element contains the following parameters:

**name**

Enter the fxs profile name.

**channels**

Enter the channels that apply to this profile. You can enter any combination of the four (1, 2, 3, 4) that apply to the FXS card.

- Default: 1,2,3,4

**rx-gain**

Set the TDM receive volume in decibels.

- Default: 0.0

- Values: 0.0 - 9.9

**tx-gain**

Set the TDM transmit volume in decibels.

- Default: 0.0
- Values: 0.0 - 9.9

**echo-cancellation**

Enable or disable echo cancellation.

- Default: enabled
- Values: enabled | disabled

**fax-detect**

Set the fax-detect.

- Default: both
- Values: incoming | outgoing | both | no

**route-group**

Enter the number of the route-group for this profile.

- Default: 0
- Min: 0 | Max: 63

**signalling**

Set the signaling type.

- Default: fxo\_ks
- Values: fxo\_ls | fxo\_gs | fxo\_ks

**phone-number**

The caller's number.

**fullname**

The caller's name.

**cid-signalling**

Set the caller ID signaling type.

- Default: bell
- Values: bell | v23

**options**

Configure additional FXS options.

**voice-codec**

Set the voice codec.

This attribute is only available on platforms that have the Wanpipe driver installed.

- Default: MULAW
- Values: MULAW | ALAW

## h323

The h323 configuration element is the top level of the H.323 configuration, and it contains h323 parameters that apply globally.

### Parameters

#### state

Enable or disable H.323 functionality.

- Default: enabled
- Values: enabled | disabled

#### log-level

Select the log level for monitoring H.323 functionality. This parameter overrides the process-log level field value set in the system-config element only for H.323 functionality. If the state parameter in this element is set to disabled, this parameter still overrides the process-log-level field from the system-config element for H.323.

- Default: INFO
- Values: EMERGENCY | CRITICAL | MAJOR | MINOR | WARNING | NOTICE | INFO | TRACE | DEBUG | DETAIL

#### response-tmo

Set the number of seconds Oracle Communications Session Border Controller waits between sending a SETUP message and receiving no response before the call is torn down

- Default: 4
- Values: Min: 0 / Max: 999999999

#### connect-tmo

Set the number of seconds Oracle Communications Session Border Controller waits between sending out a SETUP message and failing to receive a CONNECT message before the call is torn down. If the Oracle Communications Session Border Controller receives a PROCEEDING or ALERT message from the endpoint, it will tear down the session after this timer elapses if a CONNECT message is not received.

- Default: 32
- Values: Min: 0 / Max: 999999999

#### options

Enter customer-specific features and/or parameters that affect H.323 behavior globally. This parameter sets a comma-separated list of "feature=value" or "feature" parameters.

#### h323-stacks

Enter the h323-stacks subelement.

#### rfc2833-payload

Enter the payload type used by the H.323 stack in preferred rfc2833-mode

- Default: 101



- Values: Valid Range: 96-127

**alternate-routing**

Choose between pre-4.1 or 4.1 behavior:

- Pre-4.0 behavior—Alternate routing is disabled, and the Oracle Communications Session Border Controller sends a release complete message back to the caller, proxy
- 4.1 behavior—The Oracle Communications Session Border Controller performs alternate routing, recur
  - Default: proxy
  - Values: proxy | recur

**codec-fallback**

Enable or disable slow start to fast start codec negotiation.

- Default: disabled
- Values: enabled | disabled

**enum-sag-match**

Enable or disable matching against the hostnames in ENUM/LRT lookup responses and session agent groups

- Default: disabled
- Values: enabled | disabled

**remove-t38**

Enable or disable the removal of t38 fax capabilities received in a SIP call's SDP, from the TCS of the outgoing IWF call.

- Default: disabled
- Values: enabled | disabled

**Path**

**h323** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router** , and then **h323**.

 **Note:**

Unlike other single-instance configuration elements, the h323 element does not have to be selected before it can be viewed. The options field does not appear in the output for the show command within the h323 element or for running-config subcommand unless it contains configured values.  
This is a single instance configuration element.

## h323 > h323-stacks

The h323-stack subelement supports the SFIWF, FSIWF, H.323<—>SIP traffic, and general H.323 functionality.

## Parameters

### name

Enter the name of H.323 stack. This value is required and must be unique. The value you enter in this parameter for your H.323 interface (stack) configuration cannot start with a number; it must start with a letter. The Oracle Communications Session Border Controller considers names that start with numbers to be invalid.

### description

Provide a brief description of the h323-config configuration element

### state

Enable or disable this h323-stack

- Default: enabled
- Values: enabled | disabled

 **Note:**

This parameter is not RTC supported.

### isgateway

Enable or disable H.323 stack functionality as a Gateway. When this field is set to enabled, the H.323 stack runs as a Gateway. When this field is set to disabled, the H.323 stack runs as a Gatekeeper proxy.

- Default: enabled
- Values: enabled | disabled

 **Note:**

This parameter is not RTC supported.

### realm-id

Enter the realm served by this H.323 stack. This value must be a valid identifier for a realm configuration.

 **Note:**

This parameter is not RTC supported

### assoc-stack

Enter the name of associated outbound H.323 stack for this h323-stack instance. If not configured, the Oracle Communications Session Border Controller will use policy-based stack selection based on a local policy (configured in a local-policy element). If you wish to use static stack selection, then each configured h323-stack subelement must have an associated outbound stack. This parameter must correspond to a valid name field value in another instance of the h323-stack subelement.

 **Note:**

This parameter is not RTC supported.

**local-ip**

Enter the IP address H.323 stack uses when opening sockets. This field value is the default H.323 stack address.

- Default: 0.0.0.0

 **Note:**

This command is not RTC supported

**max-calls**

Enter the maximum number of calls allowed for the network associated with this H.323 stack

- Default: 200
- Values: Min: 1 / Max: 2147483647

 **Note:**

This command is not RTC supported.

**max-channels**

Enter the maximum number of concurrent channels (or pathways used between nodes) allowed for each call associated with this H.323 stack

- Default: 6
- Values: Min: 1 / Max: 2147483647

 **Note:**

This command is not RTC supported.

**registration-ttl**

Enter the TTL in seconds before a registration becomes invalid. During the initial registration process, after a registration is confirmed, the TTL value set by the Gatekeeper in the RCF message will override this field value. This field is only applicable when the h323-stack: isgateway field is set to enabled.

- Default: 120
- Values: Min: 1 / Max: 2147483647

 **Note:**

This command is not RTC supported.

**terminal-alias**

Enter a list of alias addresses that identify the H.323 stack terminal. This field value must be entered as a space-separated type=value string (e.g., h323-ID=acme01). This field is only applicable when the isgateway field is set to enabled.

- Values: h323-ID | e164 | url | email | ipAddress

 **Note:**

This command is not RTC supported.

**ras-port**

Select a listening port number for RAS requests. When this field value is 0, H.323 stack uses port assigned by the operating system and not the well-known port 1719.

- Default: 1719
- Values: Min: 1, Max: 65535

 **Note:**

This command is not RTC supported.

**auto-gk-discovery**

Enable or disable Automatic Gatekeeper discovery feature upon start-up. This field is applicable only when h323-stack:isgateway field is enabled.

- Default: disabled
- Values: enabled | disabled

 **Note:**

This parameter is not RTC supported.

**multicast**

Enter the multicast address and port of the RAS Multicast IP Group used for automatic gatekeeper discovery. In order to clear this field, you must enter an empty string by typing a space. 224.0.1.41:1718 is the well known value used to discover the Gatekeeper.

- Default: 0.0.0.0:0

**Note:**

This parameter is not RTC supported.

**gatekeeper**

Enter the IP address and RAS port of the Gatekeeper. In order to clear this field, you must enter an empty string.

- Default: 0.0.0.0:0

**Note:**

This parameter is not RTC supported.

**gk-identifier**

Enter the gatekeeper identifier with which the H.323 stack registers

- Values: 1 to 128 characters

**Note:**

This parameter is not RTC supported.

**q931-port**

Enter the Q.931 call signaling port. This is the port for the h323-stack: local-ip address set above.

- Default: 1720
- Values: Min: 1 / Max: 65535

**Note:**

This parameter is not RTC supported.

**alternate-transport**

Enter the alternate transport addresses and ports (i.e., the Annex E address(es) and port(s)). If this field is left empty, the H.323 stack will not listen for incoming Annex E requests.

**Note:**

This parameter is not RTC supported.

**q931-max-calls**

Set the maximum number of concurrent, active calls allowed on the Oracle Communications Session Border Controller. If this field value is exceeded, the H.323 stack returns a state of "busy."

- Default: 200
- Values: Min: 1 / Max: 2147483647



**Note:**

This parameter is not RTC supported.

**h245-tunneling**

Enable or disable H.245 tunneling supported by this H.323 stack

- Default: disabled
- Values: enabled | disabled



**Note:**

This parameter is not RTC supported.

**fs-in-first-msg**

Enable or disable Fast Start fields sent in the first message in response to a SETUP message that contains Fast Start fields

- Default: disabled
- Values: enabled | disabled

**call-start-fast**

Enable or disable conversion of an incoming Slow Start call into a Fast Start call. This H.323 stack must be the outgoing stack for conversion to work. If this field is set to disabled, the outgoing call will be set up with the same starting mode as the incoming call. This parameter must take the opposite value as the call-start-slow parameter.

- Default: enabled
- Values: enabled | disabled

**call-start-slow**

Enable or disable conversion of an incoming Fast Start call into a Slow Start call. This H.323 stack must be the outgoing stack for this conversion to work. If this field is set to disabled, the outgoing call will be set up to have the same starting mode as the incoming call. This parameter must take the opposite value as the call-start-slow parameter.

- Default: disabled
- Values: enabled | disabled

**media-profiles**

Enter a list of media profile names used for the logical channels of the outgoing call. These names are configured in the media-profile element. The media-profiles field value must correspond to a valid name field entry in a media-profile element that has already been configured.

**prefixes**

Enter a list of supported prefixes for this particular H.323 stack

- Values: e164 | url | h323-ID | ipAddress

 **Note:**

This parameter is not RTC supported.

**process-registration**

Enable or disable registration request processing for this H.323 stack . Oracle Communications Session Border Controller will process any RRQs that arrive on this H.323 stack if enabled. Oracle Communications Session Border Controller will not acknowledge any requests and drop all RRQ if disabled.

- Default: disabled
- Values: enabled | disabled

**allow-anonymous**

Enter the admission control of anonymous connections accepted and processed by this H.323 stack

- Default: all
- Values:
  - all—allow all anonymous connections
  - agents-only—only requests from session agents allowed
  - realm-prefix—session agents and address matching realm prefix

**options**

Enter customer-specific features and/or parameters on a per-stack basis. This parameter sets a comma-separated list of “feature=value” or “feature” parameters. This options field affects H.323 behavior for this particular h323 stack whereas the options field in the main h323 element affects H.323 behavior globally.

 **Note:**

This command is not RTC supported.

**proxy-mode**

Select the proxy functionality for signaling only operation

- Values: H225 | H245

 **Note:**

This command is not RTC supported.

**h245-stage**

Select the H.245 stage at which the Oracle Communications Session Border Controller allows either of the following:

- Transfer of the H.245 address to remote side of the call
- Acting on the H.245 address sent by the remote side
- Default: connect
- Values: setup | proceeding | alerting | connect | early | facility | noh245 | dynamic

#### **q931-start-port**

Set the starting port number for Q.931 port range used for Q.931 call signalling

- Default: 0
- Values: 0 - 32768 (multiples of 1024)  
For example: 1024 | 2048 | 4096 | 8192 | 16384 | 32768



#### **Note:**

This parameter is not RTC supported.

#### **q931-number-ports**

Set the number of ports in Q.931 port range used for the H.323 registration proxy feature

- Default: 0
- Values: 0 - 32768 (multiples of 1024)  
For example: 1024 | 2048 | 4096 | 8192 | 16384 | 32768



#### **Note:**

This parameter is not RTC supported.

#### **dynamic-start-port**

Set the starting port number for Q.931 port range used for the H.323 registration proxy feature

- Default: 0
- Values: 0 - 32768 (multiples of 1024)  
For example: 1024 | 2048 | 4096 | 8192 | 16384 | 32768



#### **Note:**

This parameter is not RTC supported.

#### **dynamic-number-ports**

Enter the number of ports in port range used for dynamic TCP connections the H.323 registration proxy feature

- Default: 0



- Values: 0 - 32768 (multiples of 1024)  
For example: 1024 | 2048 | 4096 | 8192 | 16384 | 32768

 **Note:**

This parameter is not RTC supported.

**filename**

Enter the name of the configuration file used to override the default configuration. H.323 stack configuration is read from the file specified by this field value. The configuration file does not override manually configured values; the configuration uses the values you have configured plus the information that resides in the file. This file resides in <default-dir>/H323CfgFile, where <defaultdir> is usually /ramdrv.

 **Note:**

This parameter is not RTC supported.

**tcp-keepalive**

Enable or disable TCP keepalive processing on call-signaling port

- Default: disabled
- Values: enabled | disabled

**rfc2833-mode**

Select whether 2833/UII negotiation will be transparent to the Oracle Communications Session Border Controller (pre-4.1 behavior), or use 2833 for DTMF and signal it in its TCS

- Default: transparent
- Values: transparent | preferred

**alarm-threshold**

Access the alarm-threshold subelement.

**Path**

**h323-stacks** is a subelement under the h323 element. The full path from the topmost ACLI prompt is: **configure terminal** , **session-router** , **h323** , **h323-stacks**.

 **Note:**

This is a multiple instance configuration subelement.

## h323 > h323-stacks > alarm-threshold

The alarm-threshold subelement allows you to set a threshold for sending an alarm when the Oracle Communications Session Border Controller approaches the max-calls limit.

### Parameters

#### severity

Enter the level of alarm to be configured per port.

- Default: minor
- Values: minor | major | critical

#### value

Set the percentage of the value defined in the max-calls parameter to determine when the Oracle Communications Session Border Controller issues an alarm

- Default: 0
- Values: Min: 1 | Max: 100

### Path

**alarm-threshold** is a subelement under the h323-stacks subelement. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **h323** , and then **h323-stacks**, and then **alarm-threshold**.

## http-client

This element is reserved for future use. The http-client configuration element provides a way for the Oracle Communications Session Border Controller (SBC) to communicate with a remote server.

### Parameters

#### name

Set the name of the HTTP client.

#### state

Enable or disable the connection to the HTTP client.

- Default: enabled

#### realm

Set the name of the realm on which to send requests. The SBC uses management when you do not specify a realm.

#### ip-address

Set the local Host Identity Protocol (HIP) IP address to use as the source address.

#### tls-profile

Set the name of the TLS profile you want the SBC to use.

**auth-profile**

Set the name of the authentication profile you want to use for this client interface.

**Path**

**http-client** is an element under the System path. The full path from the topmost ACLI prompt is: **configure terminal > system > http-client**.

 **Note:**

This is a multi-instance element.

## http-server

Use the **http-server** configuration element to provision the HTTP server of the SBC.

**Parameters****name**

Set the name of this HTTP server.

 **Note:**

The http-server name should match the common-name or alternative-name of the certificate-record when using TLS.

**state**

Enable or disable this HTTP server.

- Default: enabled
- Values: enabled | disabled

**realm**

Set the name of the realm on which to listen.

Do not specify a realm when listening on the management interface.

**ip-address**

Set the local Host IP address on which to listen.

Use this parameter when listening on a media interface. Do not specify an IP address when listening on the management interface.

This IP address must be listed in the **hip-ip-list** attribute under **network-interface**.

**http-state**

Enable or disable the HTTP connection.

- Default: enabled
- Values: enabled | disabled

**http-port**

Set the port number to use for the HTTP connection.

- Default: 80
- Min value: 1
- Max value: 65535

**http-strict-transport-security-policy**

Enable to make the browser access only HTTPS rather than HTTP.

- Default: disabled
- Values: disabled | enabled

**https-state**

Enable or disable the HTTPS connection.

- Default: disabled
- Values: enabled | disabled

**https-port**

Set the port number to use for the HTTP connection.

- Default: 443
- Min value: 1
- Max value: 65535

**http-interface-list**

List the applications that will listen for HTTP/HTTPS requests.

- Default: REST,GUI
- Values: REST | GUI | REST,GUI

**http-file-upload-size**

The maximum size in MB of a file that is uploaded over HTTP/HTTPS.

- Default: 0
- Min value: 0
- Max value: 999

**tls-profile**

The name of the **tls-profile** to use for HTTPS connections.

**auth-profile**

Set the **authentication-profile** you want this server to use if your SPL packages require a bearer token. You may leave this parameter blank if this **http-server** instance is going to be used only for the REST API or the web interface.

**Path**

**http-server** is an element under the System path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **system**, and then **http-server**.

**Note:**

This is a multi-instance element.

## home-subscriber-server

The **home-subscriber-server** element allows you to configure an HSS configuration element with which to exchange information over the Diameter Cx interface.

### Parameters

**name**

Name of this home-subscriber-server configuration element.

**state**

Running state of this home-subscriber-server configuration element.

**address**

IP address of this HSS.

**port**

Port to connect to on this HSS.

- Default: 3868
- Range: 0 - 65535

**realm**

Realm name in which this HSS exists.

**watchdog-ka-timer**

Period of time in seconds that DWRs are sent to this HSS.

- Default: 0 (disabled)
- Values: Min: 0 / Max: 65535

**add-lookup-parameter**

Inserts a P-Acme-Serving header into a message sent into the network. The sender of this message must have been verified by this HSS.

- Default: disabled
- Values: enabled | disabled

**value**

Set the percentage of the value defined in the max-calls parameter to determine when the SBC issues an alarm.

**Path**

**home-subscriber-server** is an element of the session-router path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **session-router**, and then **home-subscriber-server**.

## host-route

The host-route configuration element establishes routing exceptions on the Oracle Communications Session Border Controller for management traffic.

## Parameters

### dest-network

Enter the IP address of the destination network for this host route. No two host-route elements can have the same dest-network field value.

An IPV6 address is valid for this parameter.

Values: <IPV4> | <IPV6>

### netmask

Enter the destination network subnet mask. The network-interface element will not function properly unless this field value is valid.

An IPV6 address is valid for this parameter.

Values: <IPV4> | <IPV6>

### gateway

Enter the gateway used to leave the local network. The gateway field identifies the next hop to use when forwarding a packet out of the originator's LAN.



#### Note:

The gateway entered must already be defined as a gateway for an existing network interface.

An IPV6 address is valid for this parameter.

Values: <IPV4> | <IPV6>

### description

Provide a brief description of this host-route configuration.

### Path

**host-route** is an element under the system path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **host-route**.



#### Note:

For IPV4, you need to configure netmask.



#### Note:

This is a multiple instance configuration element.

## ice-profile

Interactive Connectivity Establishment - Session Traversal Utility for NAT (ICE-STUN lite mode) enables a WebRTC client to perform connectivity checks, and can provide several STUN servers to the browser.

### Parameters

#### Name

Set a unique name for this ice profile. Default: Empty.

#### stun-conn-timeout

Set the maximum time interval, in seconds, between the first STUN binding request received in a media session and the time when a valid STUN binding request containing the USE-CANDIDATE attribute is received. 0 indicates no timeout.

- Default: 10
- Range: 0 - 9999

#### stun-keepalive-interval

Set the interval, in seconds, since the last media packet or STUN binding request response after which a STUN keep alive message is sent. Zero means do not send keep-alive messages. The value must be less than the value set for subseq-guard-timer.

- Default: 15
- Range: 0 - 300

#### stun-rate-limit

Set the number of STUN binding requests that you want the SBC to process per minute. Zero means impose no limit.

- Default: 100
- Range: 0 - 99999

#### mode

Specify the SBC functionality as Downstream or Proxy for media path optimization in Teams. The default, None, avoids this specification.

- Default: None
- Values: DOWNSTREAM | None | PROXY

#### rtcp-stun

Enable or disable the use of a STUN candidate for RTCP in the SDP of an INVITE that includes ICE in addition to RTP.

- Default: disabled
- Values: enabled | disabled

### Path

The **ice-profile** element is located under the **media-manager** group.

```
ORACLE# configure terminal
ORACLE(configure)# media-manager
```

```
SBC920(media-manager)# ice-profile
ORACLE(ice-profile)#
```

## ike-access-control

The ike-access-control configuration element defines the allowlist, blocklist, and DDoS parameters to be used by the ike-interface to which it is applied.

### Syntax

#### **name**

Establishes the name of this ike-access-control object.

#### **state**

Enables or disables this ike-access-control object.

#### **identifiers**

Specifies a list of allowlist identifier prefixes (^ used as a wildcard for a single hexadecimal digit, + or - used for adding or removing prefix).

#### **blocklisted-identifiers**

Specifies a list of blocklist identifier prefixes (^ used as a wildcard for a single hexadecimal digit, + or - used for adding or removing prefix).

#### **deny-period**

Specifies the quarantine period imposed on an endpoint that transitions to the deny state. During the quarantine period, the endpoint is denied all access to the IKEv2 interface.

**deny-period** and **tolerance-window** must both be set to non-zero values to enable IKEv2 DDoS protection.

- Default: 30
- Values: Min: 0 / Max: 999999999 (seconds)

#### **tolerance-window**

Specifies the interval (in seconds) between checks of endpoint-specific traffic counters.

- Default: 0 (IKEv2 DDoS disabled)
- Values: Min: 0 / Max: 999999999 (seconds)

#### **pre-ipsec-invalid-threshold**

Enables protection against a DDoS attack that consists of malformed, or otherwise invalid, packets during the IKEv2 SA negotiation process by specifying the maximum number of malformed IKEv2 SA packets tolerated from a specific endpoint within the interval set by the **tolerance-window** parameter. These attacks can attempt to consume system resources in a futile effort to complete negotiation of IKEv2 SAs. If this threshold value is reached, the endpoint is quarantined for an interval defined by the **deny-period** parameter.

- Default: 0 (disabled)
- Values: Min: 0 / Max: 999999999 (packets)



**pre-ipsec-maximum-threshold**

Specifies the maximum number of valid IKEv2 SA packets tolerated from a specific endpoint within the interval set by the **tolerance-window** parameter. These attacks can attempt to prolong the IKEv2 negotiation by persistently renegotiating the IKEv2 SA.

If this threshold value is reached, the endpoint is quarantined for an interval defined by the **deny-period** parameter.

- Default: 0 (disabled)
- Values: Min: 0 / Max: 999999999 (packets)

**after-ipsec-invalid-threshold**

Enables protection against a DDoS attack that consists of malformed, or otherwise invalid, packets after SA setup by specifying the maximum number of malformed packets tolerated from a specific endpoint within the interval set by the **tolerance-window** parameter. These attacks can attempt to consume system resources in a futile effort to complete negotiation of IKEv2 SAs.

If this threshold value is reached, the endpoint is quarantined for an interval defined by the **deny-period** parameter.

- Default: 0 (disabled)
- Values: Min: 0 / Max: 999999999 (packets)

**after-ipsec-maximum-threshold**

Specifies the maximum number of valid IKEv2 packets tolerated after SA setup from a specific endpoint within the interval set by the **tolerance-window** parameter. These attacks can attempt to prolong the IKEv2 negotiation by persistently renegotiating the IKEv2 SA.

If this threshold value is reached, the endpoint is quarantined for an interval defined by the **deny-period** parameter.

- Default: 0 (disabled)
- Values: Min: 0 / Max: 999999999 (packets)

**auth-failure-threshold**

Specifies the maximum number of unsuccessful authentication messages tolerated from a specific endpoint within the interval set by the **tolerance-window** parameter. These attacks attempt to consume system resources by persistently presenting invalid credentials during the endpoint authentication process.

If this threshold value is reached, the endpoint is quarantined for an interval defined by the **deny-period** parameter.

- Default: 0 (disabled)
- Values: Min: 0 / Max: 999999999 (authentication attempts)

**auth-critical-failure-threshold**

Specifies the maximum number of authentication critical failures tolerated from a specific endpoint within the interval set by the **tolerance-window** parameter. These attacks attempt to consume system resources by persistently presenting invalid credentials during the endpoint authentication process.

If this threshold value is reached, the endpoint is quarantined for an interval defined by the **deny-period** parameter.

- Disable: 0
- Default: 1

- Values: Min: 0 / Max: 999999999 (authentication attempts)

**auth-failure-report**

Specifies how failed authentications are reported. Used in conjunction with the **auth-failure-threshold**

- no-reporting—(the default), authentication failures are not reported
- snmp-trap-only—authentication failures are reported by generating an SNMP trap (refer to "SNMP Trap" for information of trap structure)
- syslog-only—authentication failures are reported by sending a syslog message
- snmp-trap-and-syslog—authentication failures are reported with both an SNMP trap and a syslog message

**Path**

**ike-access-control** is a subelement under the **ike** element. The full path from the topmost ACLI prompt is: **configure terminal, security, ike, ike-access-control**.

**Note:**

This is a multiple instance configuration element.

## ike-certificate-profile

The ike-certificate-profile subelement references a public certificate that authenticates a specific IKEv2 identity, as well as one or more CA certificates used to validate a certificate offered by a remote peer.

**Parameters****identity**

Enter the local IKEv2 entity that using the authentication and validation credentials provided by this ike-certificate-profile instance.

- Default: None
- Values: An IP address or fully-qualified domain name (FQDN) that uniquely identifies the user of resources provided by this ike-certificate-profile instance

**end-entity-certificate**

Enter the unique name of a certificate-record configuration element referencing the identification credential (specifically, an X509.v3 certificate) offered by a local IKEv2 entity in support of its asserted identity.

- Default: None
- Values: Name of an existing certificate-record configuration element

**trusted-ca-certificates**

Enter the unique names of one or more certificate-record configuration elements referencing Certification Authority (CA) certificates used to authenticate a remote IKEv2 peer.

- Default: None
- Values: A comma separated list of existing CA certificate-record configuration elements.

**verify-depth**

Enter the maximum number of chained certificates that will be processed while authenticating the IKEv2 peer.

- Default: 3
- Values: Min: 1 | Max: 10

**Path**

**ike-certificate-profile** is a subelement under the **ike** element. The full path from the topmost ACLI prompt is: **configure-terminal**, and then **security**, and then **ike**, and then **ike-certificate-profile**.

**Note:**

This is a multiple instance configuration element.

## ike-config

The ike-config subelement defines a single, global Internet Key Exchange (IKE) configuration object.

**Parameters****state**

Enter the state (enabled or disabled) of the ike-config configuration element.

- Default: enabled
- Values: disabled | disabled

**ike-version**

Enter an integer value that specifies IKE version.

Select 1 for IKEV1 protocol implementation.

Select 2 for IKEV2 protocol implementation.

- Default: 2
- Values: 1 | 2

**log-level**

Enter the IKE log level; events of this level and other events deemed more critical are written to the system log.

- Default: info
- Values: emergency | critical | major | minor | warning | notice | info | trace | debug | detail

**udp-port**

Enter the UDP port used for IKEv1 protocol traffic.

- Default: 500
- Values: Min: 1025 / Max: 65535

**negotiation-timeout**

Enter the maximum interval between Diffie-Hellman message exchanges.

- Default: 15 (seconds)
- Values: Min: 0 / Max:4294967295 (seconds)

 **Note:**

In the event of timer expiration, the IKE initiator must restart the Diffie-Hellman exchange.

**event-timeout**

Enter the maximum time allowed for the duration of an IKEv1 event, defined as the successful establishment of an IKE or IPsec Security Association (SA).

- Default: 60 (seconds)
- Values: Min: 0 / Max:4294967295 (seconds)

 **Note:**

In the event of timer expiration, the IKE initiator must restart the Phase 1 (IKE SA) or Phase 2 (IPsec SA) process.

**phase1-mode**

Enter the IKE phase 1 exchange mode: aggressive or main.

- Default: main
- Values:
  - aggressive—is less verbose (requiring only three messages), but less secure in providing no identity protection, and less flexible in IKE SA negotiation
  - main—is more verbose, but provides greater security in that it does not reveal the identity of the IKE peers. Main mode requires six messages (3 requests and corresponding responses) to (1) negotiate the IKE SA, (2) perform a Diffie-Hellman exchange of cryptographic material, and (3) authenticate the remote peer

**phase1-dh-mode**

Enter the Diffie-Hellman group used during IKE phase 1 negotiation.

- Default: first-supported
- Values:
  - first-supported — as responder, use the first supported Diffie-Hellman group proposed by initiator

 **Note:**

Diffie-Hellman groups determine the lengths of the prime numbers exchanged during the symmetric key generation process.

- dh-group5 — as initiator, propose Diffie-Hellman group 5 (1536-bit)
- dh-group14 — as initiator, propose Diffie-Hellman group 14 (2048-bit)
- dh-group15 — as initiator, propose Diffie-Hellman group 15 (3072-bit)
- dh-group16 — as initiator, propose Diffie-Hellman group 16 (4096-bit)
- dh-group17 — as initiator, propose Diffie-Hellman group 17 (6144-bit)
- dh-group18 — as initiator, propose Diffie-Hellman group 18 (8192-bit)

**phase2-exchange-mode**

Enter the Diffie-Hellman group used during IKE Phase 2 negotiation.

- Default: phase1-group
- Values:
  - phase1-group — use the same group as in phase1
  - no-forward-secrecy — use the same key as used during Phase 1 negotiation

 **Note:**

During IKE Phase 2, the IKE initiator and responder establish the IPsec SA.

Diffie-Hellman groups determine the lengths of the prime numbers exchanged during the symmetric key generation process.

- dh-group5 — as initiator, propose Diffie-Hellman group 5 (1536-bit)
- dh-group14 — as initiator, propose Diffie-Hellman group 14 (2048-bit)
- dh-group15 — as initiator, propose Diffie-Hellman group 15 (3072-bit)
- dh-group16 — as initiator, propose Diffie-Hellman group 16 (4096-bit)
- dh-group17 — as initiator, propose Diffie-Hellman group 17 (6144-bit)
- dh-group18 — as initiator, propose Diffie-Hellman group 18 (8192-bit)

**v2-ike-life-secs**

Enter the default IKEv2 SA lifetime in seconds.

- Default: 86400 (24 hours)
- Values: Min: 1800 / Max: 999999999 (seconds)

 **Note:**

This global default can be over-ridden at the IKEv2 interface level.

**v2-ipsec-life-secs**

Enter the default IPsec SA lifetime in seconds.

- Default: 28800 (8 hours)
- Values: Min: 1 / Max:4294967295 (seconds)

 **Note:**

This global default can be over-ridden at the IKEv2 interface level.

**v2-rekey**

Enable to initiate new negotiations to restore expired IKEv2 or IPsec SAs. The SBC makes a maximum of three retransmission attempts before abandoning the re-keying effort.

**anti-replay**

Enable anti-replay protection on IPsec SAs.

**phase1-life-seconds**

Set the time (in seconds) proposed for IKE SA expiration during IKE Phase 1 negotiations.

- Default: 3600 (1 hour)
- Values: Min: 0 / Max: 4294967295 (seconds)

 **Note:**

Relevant only when the SBC is acting in the IKE initiator role.

**phase1-life-secs-max**

Set the maximum time (in seconds) accepted for IPsec SA expiration during IKE Phase 1 negotiations.

- Default: 86400 (24 hours)
- Values: Min: 0 / Max: 4294967295 (seconds)

 **Note:**

Relevant only when the SBC is acting in the IKE responder role.

**phase2-life-seconds**

relevant only when the SBC is acting in the IKE initiator role, contains the time proposed (in seconds) for IPsec SA expiration during IKE Phase 2 negotiations.

- Default: 28800 (8 hours)
- Values: Min: 0 / Max:4294967295 (seconds)

**Note:**

During IKE Phase 2, the IKE initiator and responder establish the IPsec SA.

**phase2-life-secs-max**

Set the maximum time (in seconds) accepted for IPsec SA expiration during IKE Phase 2 negotiations.

- Default: 86400 (24 hours)
- Values: Min: 0 / Max: 4294967295 (seconds)

**Note:**

Relevant only when the SBC is acting in the IKE responder role.

**shared-password**

Enter the default PSK used during IKE SA authentication.

This global default can be over-ridden at the IKE interface level.

- Default: None
- Values: A string of ACSII-printable characters no longer than 255 characters (not displayed by the ACLI)

**eap-protocol**

Enter the EAP protocol used with IKEv2.

- Default: eap-radius-passthru
- Values: eap-radius-passthru

**Note:**

The current software performs EAP operations by a designated RADIUS server or server group; retain the default value.

**eap-bypass-identity**

Contains a value specifying whether or not to bypass the EAP (Extensible Authentication Protocol) identity phase

EAP, defined in RFC 3748, provides an authentication framework widely used in wireless networks.

An Identity exchange is optional within the EAP protocol exchange. Therefore, it is possible to omit the Identity exchange entirely, or to use a method-specific identity exchange once a protected channel has been established.

- Default: disabled (requires an identity exchange)
- Values: disabled | enabled

**red-port**

Enter the port number monitored for IKEv2 synchronization messages; used in high-availability environments.

The default value (0) disables redundant high-availability configurations. Select port 1995 to enable high-availability operations.

- Default: 0
- Values: 0 | 1995

**red-max-trans**

For HA nodes, set the maximum number of retained IKEv2 synchronization message.

- Default: 10000 (messages)
- Values: Min: 0 / Max: 50000 (messages)

**red-sync-start-time**

For HA nodes, set the timer value for transitioning from standby to active role — the amount of time (in milliseconds) that a standby device waits for a heartbeat signal from the active device before transitioning to the active role.

- Default: 5000 (milliseconds)
- Values: Min: 0 / Max:4294967295 (milliseconds)

**red-sync-comp-time**

For HA nodes, set the interval between synchronization attempts after the completion of an IKEv2 redundancy check.

- Default: 1000 (milliseconds)
- Values: Min: 0 / Max:4294967295 (milliseconds)

**dpd-time-interval**

Set the maximum period of inactivity (in seconds) before the Dead Peer Detection (DPD) protocol is initiated on a specific endpoint.

The default value, 0, disables the DPD protocol; setting this parameter to a non-zero value globally enables the protocol and sets the inactivity timer.

- Default: 0 (DPD disabled)
- Values: Min: 0 / Max:4294967295 (seconds)

**overload-threshold**

Set the percentage of CPU usage that triggers an overload state.

- Default: 100 (disabling overload processing)
- Values: Min: 10 / Max: 100



**Note:**

The value of **overload-threshold** must be less than the value of **overload-critical-threshold**.

**overload-interval**

Set the interval (in seconds) between CPU load measurements while in the overload state.

- Default: 1
- Values: Min: 1 / Max: 60

**overload-action**

Select the action to take when the SBC (as a SG) CPU enters an overload state. The overload state is reached when CPU usage exceeds the percentage threshold specified by the `overload-threshold`

- Default: none
- Values:
  - `drop-new-connection`—use to implement call rejection
  - `none`—use to retain default behavior (no action)

**overload-critical-threshold**

Set the percentage of CPU usage that triggers a critical overload state. This value must be greater than the value of `overload-threshold`.

- Default: 100 (disabling overload processing)
- Values: Min: 10 / Max: 100

**overload-critical-interval**

Set the interval (in seconds) between CPU load measurements while in the critical overload state.

- Default: `shared-password`
- Values: Min: 1 / Max: 60

**sd-authentication-method**

Select the method used to authenticate the IKEv2 SA. Two authentication methods are supported.

This global default can be over-ridden at the IKEv2 interface level.

- Default: `shared-password`
- Values:
  - `certificate`—uses an X.509 certificate to digitally sign a block of data
  - `shared-password`—uses a PSK that is used to calculate a hash over a block of data

**certificate-profile-id**

When `sd-authentication-method` is `certificate`, identifies the default `ike-certificate-profile` configuration element that contains identification and validation credentials required for certificate-based IKEv2 authentication.

- This parameter can be over-ridden at the IKEv2 interface level.
- Default: None
- Values: Name of an existing ike-certificate-profile configuration element.

**id-auth-type**

(Optional) Specify that the PSK used while authenticating the remote IKEv2 peer is associated with the asserted identity contained within an IKEv2 Identification payload.

- `idi`—use IDi KEY\_ID for authentication
- `idr`—use IDr KEY\_ID for authentication

**Path**

**ike-config** is a subelement under the **ike** element. The full path from the topmost ACLI prompt is: **configure-terminal**, and then **security**, and then **ike**, and then **ike-config**.

**Note:**

This is a single instance configuration element.

## ike-interface

The ike-interface configuration element enables creation of multiple IKE-enabled interfaces.

**Syntax****state**

Enable or disable this IKE interface.

**ike-version**

Set the IKEv1 version for this IKE interface.

- Default: 0—Use the IKE version set in the ike-config,
- Values: 1
- Values: 2

**address**

Enter the IPv4 address of a specified IKEv1 interface.

- Default: none
- Values: Any valid IPv4 address

**realm-id**

Enter the name of the realm that contains the IP address assigned to this IKEv1 interface.

- Default: none
- Values: Name of an existing realm configuration element.

**ike-mode**

Select the IKE operational mode.

- Default: responder
- Values: initiator | responder

**local-address-pool-id-list**

Select a list local address pool from a list of configured local-address-pools.

**dpd-params-name**

Enter the specific set of DPD operational parameters assigned to this IKEv1 interface (relevant only if the Dead Peer Detection (DPD) Protocol is enabled).

- Default: None
- Values: Name of an existing dpd-params configuration element.

**v2-ike-life-secs**

Enter the default IKEv2 SA lifetime in seconds

- Default: 86400 (24hours)
- Values: Min: 1 / Max: 999999999 (seconds)

**Note:**

The global default can be over-ridden at the IKEv2 interface level.

**v2-ipsec-life-secs**

Enter the default IPsec SA lifetime in seconds.

- Default: 28800 (8 hours)
- Values: Min:1 / Max: 999999999 (seconds)

**Note:**

This global default can be over-ridden at the IKEv2 interface level.

**v2-rekey**

Enable to initiate new negotiations to restore expired IKEv2 or IPsec SAs. The SBC makes a maximum of three retransmission attempts before abandoning the re-keying effort.

**esnSupport**

Enable to support Extended Sequence Number (ESN) per RFC 4304.

**shared-password**

Enter the interface-specific PSK used during IKE SA authentication. This IKEv1-specific value over-rides the global default value set at the IKE configuration level.

- Default: none
- Values: a string of ACSII printable characters no longer than 255 characters (not displayed by the ACLI).

**eap-protocol**

Enter the EAP protocol used with IKEv2.

- Default: eap-radius-pssthru
- Values:
  - eap-md5
  - eap-tls
  - eap-leap
  - eap-sim
  - eap-srp
  - eap-ttls
  - eap-aka
  - eap-peap
  - eap-mschapv2
  - eap-fast
  - eap-psk
  - eap-radius-passthru

**Note:**

The current software performs EAP operations by a designated RADIUS server or server group; retain the default value.

**addr-assignment**

(Optional) Specify the method used to assign addresses in response to an IKEv2 Configuration Payload request.

- Default: no-assign—No assignment of local address
- radius-only—Use the radius server for the local address
- radius-local—Use the radius server first and then try the local address pool
- local—Use the local address pool to assign the local address

**sd-authentication-method**

Enter the allowed Oracle Communications Session Border Controller authentication methods

- Default: none
- Values: none-Use the authentication method defined in ike-config for this interface | shared-password - Endpoints authenticate the Oracle Communications Session Border Controller using a shared password | certificate-Endpoints authenticate the Oracle Communications Session Border Controller using a certificate

**certificate-profile-id-list**

Select an IKE certificate profile from a list of configured **ike-certificate-profiles**.

**cert-status-check**

(Optional) Enable certificate status checking using either Online Certificate Status Profile (OCSP) or a local copy of a Certificate Revocation List.

**cert-status-profile-list**

(Optional) Assign one or more **cert-status-profile** configuration elements to this IKEv2 interface.

**access-control-name**

Specifies the ike-access-control list to use on this IKE interface. The list assignment applies the IKEv2 DDOS, allowlist and blocklist protection configured within the ike-access-control object to the interface.

**tunnel-orig-name-list**

Specifies the name the tunnel-origin-params element to be applied to this IKE interface.

**Path**

ike-interface is a subelement under the ike element. The full path from the topmost ACLI prompt is: configure terminal, security, ike, ike-interface.

**Note:**

This is a multiple instance configuration element.

## ike-sainfo

The ike-sainfo configuration element enables negotiation and establishment of IPsec tunnels. To configure this element, install your platform-specific IPsec license.

**Parameters****name**

Enter the unique name of this instance of the ike-sainfo configuration element.

- Default: None
- Values: A valid configuration element name, that is unique within the ike-sainfo namespace

**security-protocol**

Enter the IPsec security (authentication and encryption) protocols supported by this SA.

- Default: esp-auth
- Values:
  - ah—RFC 4302 authentication services
  - esp—RFC 4303 encryption services
  - esp-auth—RFC 4303 encryption and authentication services

 **Note:**

On virtual platforms, only the default setting is supported.

**auth-algo**

Set the authentication algorithms supported by this SA.

- Default: sha2-512
- Values: any | xcbc | sha2-256 | sha2-384 | sha2-512

 **Note:**

On virtual platforms, only the default setting is supported.

**encryption-algo**

Set the allowed encryption algorithms.

- Default: aes
- Values: any | aes | aes-ctr

 **Note:**

On virtual platforms, only the default setting is supported.

**ipsec-mode**

Select the IPsec operational mode. Transport mode provides a secure end-to-end connection between two IP hosts. Tunnel mode provides VPN service where entire IP packets are encapsulated within an outer IP envelope and delivered from source (an IP host) to destination (generally a secure gateway) across an untrusted internet.

- Default: transport
- Values: transport | tunnel

**tunnel-local-addr**

Enter the IP address of the local IP interface that terminates the IPsec tunnel (relevant only if the ipsec-mode is tunnel, and otherwise is ignored).

- Default: None
- Values: Any valid local IP address

**tunnel-remote-addr**

Enter the IP address of the remote peer or host (relevant only if the ipsec-mode is tunnel, and is otherwise ignored).

- Default: \* (matches all IP addresses)
- Values: Any valid IP address

## Path

**ike-sainfo** is a subelement under the **ike** element. The full path from the topmost ACLI prompt is: **security > ike > ike-sainfo**.



### Note:

This is a multiple instance configuration element. Configures an **ike-sainfo** instance named star.

The default value for tunnel-remote-address (\*) matches all IPv4 addresses.

Non-default values specify IPsec tunnel mode running ESP, and identify the local tunnel endpoint.

## ikev2-ipsec-wancom0-params

### Parameters

The **ikev2-ipsec-wancom0-params** configuration element contains the following parameters:

#### name

A user-supplied name.

#### state

The state of this connection.

- Default: enabled
- Values: enabled | disabled

#### remoteip

The IPv4 or IPv6 address of the remote peer.

#### remotesubnet

The private subnet behind the remote participant. For example, 10.0.0.1/24 or 2001:DB8:0:56::/64. Defaults to a /32 for IPv4 or /128 for IPv6.

#### remoteproto

The transport protocol or protocols of the remote peer that will be protected within the tunnel.

- Default: ALL
- Values: TCP | UDP | ICMP | SCTP | IPV6-ICMP | ALL

#### remoteport

The port that the remote peer will use to communicate within the tunnel. For example, 1812 or 49. Use 0 to match any port.

- Default: 0
- Min: 0 | Max: 65535

**localip**

The IPv4 or IPv6 address of the local participant's public-network interface. The only accepted value is the IP address of wancom0.

**localsubnet**

The private subnet behind the local participant. The only accepted value is the wancom0 IP address with a /32 for IPv4 or /128 for IPv6.

**localproto**

The transport protocol or protocols of the local peer that will be protected within the tunnel.

- Default: ALL
- Values: TCP | UDP | ICMP | SCTP | IPV6-ICMP | ALL

**localport**

The port that the local peer will use to communicate within the tunnel. Use 0 to match any port.

- Default: 0
- Min: 0 | Max: 65535

**auto**

The action taken on IPsec startup. The 'start' action adds and establishes an IPsec connection. The 'ondemand' action establishes an IPsec connection only when an ingressing or egressing packet matches the connection's traffic parameters. The 'ignore' action causes no automatic IPsec startup operation.

- Default: ondemand
- Values: start | ondemand | ignore

**ike-algorithms**

The IKE algorithm used for IKE security association connections (phase 1). The format is <cipher>-<hash>;<dhgroup>. For example: aes256-sha256;dh14. Using the correct separator is required.

- Default: aes256-sha256;dh14
- Allowed ciphers: aes128, aes192, aes256, aes\_ctr128, aes\_ctr192, aes\_ctr256, aes\_gcm128, aes\_gcm192, aes\_gcm256
- Allowed hash: sha256, sha512
- Allowed DH: dh14, dh15, dh16, dh17, dh18

**ipsec-protocol**

The type of IPsec security association.

- Default: esp
- Values: ah | esp

**ipsec-algorithms**

The IPsec algorithms offered and accepted during phase 2 negotiation. The format is <cipher>-<hash>[;<DH-group>]. For example: aes256-sha256;modp2048. Using the correct separator is required.

- Default: aes256-sha256;modp2048



- Allowed ciphers: aes128, aes192, aes256, aes\_ctr128, aes\_ctr192, aes\_ctr256
- Allowed hash: sha256, sha512, aes\_xcbc
- Allowed DH: modp2048

**pfs**

Whether perfect forward secrecy is used.

- Default: yes
- Values: yes | no

**authby**

How the two endpoints authenticate each other. Use 'secret' for a pre-shared key; use 'never' if negotiation is never to be attempted or accepted; and use 'rsasig' for RSA authentication with SHA-1.

- Default: rsasig
- Values: secret | never | rsasig

**ipsec-mode**

The mode of the IPsec connection.

- Default: tunnel
- Values:
  - tunnel—A host-to-host, host-to-subnet, or subnet-to-subnet tunnel
  - transport—A host-to-host tunnel.
  - passthrough—no IPsec processing
  - drop—Discard the packets.
  - reject—The packets are discarded and a diagnostic ICMP returned.

**esn**

Whether to enable extended sequence numbers for the IPsec SA. If 'either' is specified, the responder decides. If the SBC is the responder and 'either' is selected, the SBC picks 'no'.

- Default: no
- Values: yes | no | either

**rekey**

Whether a connection should be renegotiated when it is about to expire.

- Default: yes
- Values: no | yes

**ipsec-sa-life-secs**

The number of seconds an IPsec SA connection lasts.

- Default: 28800
- Min: 1 | Max: 86400

**ike-sa-life-secs**

The number of seconds an IKEv2 SA connection lasts.

- Default: 3600
- Min: 1 | Max: 86400

**rekeymargin**

The number of seconds before an SA expires during which to negotiate a new connection.

- Default: 10
- Min: 1 | Max: 86400

**rekeyfuzz**

The maximum percentage by which the rekeymargin should be randomly increased to randomize rekeying intervals.

- Default: 0
- Min: 0 | Max: 8640000

**shared-password**

The password for IKE PSK authentication.

**local-certificate-profile-identity**

Specify the identity of the **ike-certificate-profile** to use for the local peer. This string should match the Subject Alternative Name of the local **end-entity-certificate** attribute in the **ike-certificate-profile** element.

**remote-certificate-identity**

Specify the identity of the **ike-certificate-profile** to use for the remote peer. This string should match the Subject Alternative Name of the peer's certificate.

**dpddelay**

The number of seconds between DPD keepalive messages.

- Default: 0 (disabled)
- Min: 0 | Max: 999999999

**dpdtimeout**

The number of seconds to idle without hearing back from the peer.

- Default: 0
- Min: 0 | Max: 999999999

**dpdaction**

The action to be taken once a peer is declared dead.

- Default: hold
- Values: hold | clear | restart

**Path**

The **ikev2-ipsec-wancom0-params** configuration element is in the **security** element.

```
ORACLE# configure terminal
ORACLE(configure)# security
ORACLE(security)# ikev2-ipsec-wancom0-params
ORACLE(ikev2-ipsec-wancom0-params)#
```

## ims-aka-profile

The `ims-aka-profile` configuration element establishes supports IP Media Subsystem-Authentication and Key Agreement, defined in 3GPP7 (specifications in TS 33.203 and call flows in TS 24.228).

### Parameters

#### **name**

Enter the name for this IMS-AKA profile

#### **start-protected-client-port**

Start value for the pool of port numbers available following a successful re-authentication. Like the protected server port, the protected client port pool should not overlap with the port range defined in the steering ports configuration using the same IP address and the SIP interface. If there is overlap, the NAT table entry for the steering port used in a call will prevent SIP messages from reaching the system's host processor.

- Default: 0
- Values: Min: 1025 | Max: 65535

#### **end-protected-client-port**

End value for the pool of port numbers available following a successful re-authentication. Ensure that this value is greater than the value assigned to `start-protected-client-port`. Note that the maximum supported pool contains 5 entries. Like the protected server port, the protected client port pool should not overlap with the port range defined in the steering ports configuration using the same IP address and the SIP interface. If there is overlap, the NAT table entry for the steering port used in a call will prevent SIP messages from reaching the system's host processor.

- Default: 0
- Values: Min: 1025 | Max: 65535

#### **protected-server-port**

Enter the port number on which the Oracle Communications Session Border Controller receives protected messages; 0 disables the function. The protected server port should not overlap with the port range defined in the steering ports configuration using the same IP address and the SIP interface. If there is overlap, the NAT table entry for the steering port used in a call will prevent SIP messages from reaching the system's host processor.

- Default: 0
- Values: Min: 1025 | Max: 65535

#### **encr-alg-list**

Enter the list of encryption algorithms

- Values: aes-cbc | des-ede3-cbc | null

#### **auth-alg-list**

Enter the list of authentication algorithms

- Default: hmac-sha-1-96

### Path

**ims-aka-profile** is an element under the security path. The full path from the topmost CLI prompt is: **configure terminal** , and then **security** , and then **ims-aka-profile**.



#### Note:

This is a multiple instance configuration element.

## ipsec

The ipsec configuration element allows you to configure security policies and security associations on your Oracle Communications Session Border Controller.

### Parameters

#### **security-policy**

Enter the security-policy configuration element.

#### **security-association**

Enter the security-association configuration element.

#### **ipsec-global-config**

Access the ipsec-global-config subelement.

### Path

ipsec is an element of the security path. The full path from the topmost CLI prompt is: **configure terminal > security> ipsec**.

## ipsec > ipsec-global-config

The ipsec-global-config subelement allows you to configure establish the parameters governing system-wide IPSec functions and behavior, including IPSec redundancy.

### Parameters

#### **red-ipsec-port**

Enter the port on which the SBC should listen for redundancy IPSec synchronization messages

- Default: 1994
- Values: Min: 0 / Max: 1994

#### **red-max-trans**

Enter the maximum number of redundancy transactions to retain on the active

- Default: 10000
- Values: Min: 0 / Max: 50000

**red-sync-start-time**

Enter the time in milliseconds before the system starts to send redundancy synchronization requests

- Default: 5000
- Min: 0 | Max: 999999999

**red-sync-comp-time**

Enter the time in milliseconds to define the timeout for subsequent synchronization requests once redundancy synchronization has completed

- Default: 1000
- Min: 0 | Max: 999999999

**options**

Enter the appropriate option name for the behavior you want to configure

**Path**

**security-association** is a subelement of the ipsec path. The full path from the topmost ACLI prompt is: `configure terminal > security> ipsec>security-association`.

**Note:**

This is a single instance configuration element.

## ipsec > security-association

The security-association subelement allows you to configure a security association (SA), the set of rules that define the association between two endpoints or entities that create the secured communication.

**Parameters****manual**

Enter the manual subelement where you can manually configure a security association

**Path**

security-association is a subelement of the ipsec path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **security**, and then **ipsec**, and then **security-association**.

## ipsec > security-association > manual

The manual subelement is where you manually configure a security association on the Oracle Communications Session Border Controller.

**Parameters****name**

Enter the name for this security policy

**spi**

Set the security parameter index

- Default: 256
- Values: Min: 256 / Max: 4294967295

**network-interface**

Enter the network interface and VLAN where this security association applies in the form of: interface\_name:VLAN

**local-ip-address**

Enter the local IP address to match for traffic selectors for this SA

**remote-ip-addr**

Enter the remote IP address to match for traffic selectors for this SA

**local-port**

Enter the local port to match for traffic selectors for this SA

**remote-port**

Enter the remote port to match for traffic selectors for this SA

- Default: 0
- Values: Min: 0 (disabled) | Max: 65535

**trans-protocol**

Select the transport protocol to match for traffic selectors for this SA

- Default: ALL
- Values: UDP | TCP | ALL | ICMP

**ipsec-protocol**

Select the IPsec protocol used for this SA

- Default: esp
- Values: esp | ah

**direction**

Set the direction of traffic this security association can apply to

- Default: both
- Values: in | out | both

**ipsec-mode**

Select the IPsec mode of this SA

- Default: transport
- Values: tunnel | transport

**auth-algo**

Select the IPsec authentication algorithm for this SA

- Default: hmac-sha-512
- Values: hmac-sha-256 | hmac-sha-384 | hmac-sha-512 | aes-xcbc-mac | null

**enrc-algo**

Enter the IPsec encryption algorithm for this SA

- Default: null
- Values: null | aes-128-cbc | aes-256-cbc | aes-128-ctr | aes-256-ctr

**auth-key**

Enter the authentication key for the previously chosen authentication algorithm for this SA

**enrc-key**

Enter the encryption key for the previously chosen encryption algorithm for this SA

**aes-ctr-nonce**

Enter the AES nonce. This only applies if aes-128-ctr or aes-256-ctr are chosen as your encryption algorithm.

- Default: 0

**tunnel-mode**

Enter the tunnel-mode subelement

**Path**

**security-association** is a subelement under the ipsec element. The full path from the topmost ACLI prompt is: **configure-terminal > security > ipsec > security-association**

## ipsec > security-association > tunnel-mode

This configuration element allows you to configure the addresses in the security-association. These addresses represent the external, public addresses of the termination points for the IPSEC tunnel.

**Parameters****local-ip-addr**

Enter the local IP address of this tunnel mode profile

**remote-ip-addr**

Enter the remote IP address of this tunnel mode profile

**Path**

**tunnel-mode** is a subelement under the **ipsec>security-association**. The full path from the topmost ACLI prompt is: **configure-terminal > security > ipsec > security-association>tunnel-mode**. **configure-terminal > security > ipsec > security-association>tunnel-mode**.

## ipsec > security-policy

This configuration element defines multiple policy instances with each policy defining match criteria and an operational action performed on matching traffic flows.

## Parameters

### name

Enter a unique identifier for this security-policy instance.

- Default: none
- Value: A valid configuration element name that is unique within the security-policy namespace.

### network-interface

Enter the unique name of the network-interface supported by this security-policy instance.

Identify the network interface by providing the interface name and VLAN ID separated by a colon; for example access:10.

- Default: None
- Values: Name and VLAN ID of an existing network-interface configuration element.

### priority

Set the priority of this security-policy instance, where 0 is the highest priority.

- Highest priority: 0
- Lowest priority: 3071

### local-ip-addr-match

Enter an IPv4 address; in conjunction with local-ip-mask and local-port-match, this parameter specifies address-based matching criteria for inbound traffic.

 **Note:**

Specifically, local-ip-addr-match works with local-ip-mask to define a range of inbound IP address subject to this security-policy instance. Using default values for both properties, the security-policy instance matches all IPv4 addresses.

- Default: 0.0.0.0
- Values: A valid IPv4 address; the special address value, 0.0.0.0 matches all IPv4 addresses.

### remote-ip-addr-match

Enter an IPv4 address; in conjunction with remote-ip-mask and remote-port-match specifies address-based matching criteria for outbound traffic.



 **Note:**

Specifically, `remote-ip-addr-match` works with `remote-ip-mask` to define a range of outbound IP addresses subject to this security-policy instance. Using default values for both properties, the security-policy instance matches all IPv4 addresses.

- Default: 0.0.0.0
- Values: A valid IPV4 address; the special address value, 0.0.0.0 matches all IPv4 addresses.

**local-port-match**

Enter a port number, or the special value 0; in conjunction with `local-ip-addr-match` and `local-ip-mask`, the parameter specifies address-based matching criteria for inbound traffic. The default value disables port-based matching, meaning port numbers are ignored in the default state.

- Default: 0 (disables port-based matching)
- Values: Min: 0 / Max: 65535

**local-port-match-max**

Enter a port number that specifies the maximum value for the local port to which the IPsec Security applies.

- Default: 65535
- Values: Min: 0 / Max: 65535

**remote-port-match**

Enter a port number, or the special value 0; in conjunction with `remote-ip-addr-match` and `remote-ip-mask`, this parameter specifies address-based matching criteria for outbound traffic.

The default value disables port-based matching, meaning port numbers are ignored in the default state.

- Default: 0 (disables port-based matching)
- Values: Min: 0 / Max: 65535

**remote-port-match-max**

Enter a port number that specifies the maximum value for the remote port to which the IPsec Security applies.

- Default: 65535
- Values: Min: 0 / Max: 65535

**trans-protocol-match**

Select a specified protocol or the special value `all` that specifies transport-protocol-based matching criteria for inbound and outbound traffic.

The default value `all` matches all supported transport layer protocols

- Default: `all`
- Values: `all` | ICMP | SCTP | TCP | UDP

**direction**

Select an indicator of the directionality of this security-policy instance.

- Default: both
- Values: both - the policy applies to all traffic. | in - the policy applies only to inbound traffic. | out - the policy applies only to outbound traffic.

**local-ip-mask**

Enter an IPv4 address; in conjunction with `local-ipaddr-match` and `local-port-match`, this parameter specifies address-based matching criteria for inbound traffic. Specifically, `local-ip-addr-match` works with `local-ip-mask` to define a range of inbound IP addresses subject to this security-policy instance matches all IPv4 addresses.

- Default: 255.255.255.255
- Values: A dotted decimal IP address mask.

**remote-ip-mask**

Enter an IPv4 address; in conjunction with `remote-ip-addr-match` and `remote-port-match`, this parameter specifies address-based matching criteria for outbound traffic. Specifically, `remote-ipaddr-match` works with `remote-ip-mask` to define a range of out IP addresses subject to this security-policy instance matches all IPv4 addresses.

- Default: 255.255.255.255
- Values: A valid IPv4 address mask

**action**

Select the process of trafficking that conforms to the match criteria specified by this security-policy instance.

- Default: ipsec
- Values: allow-forwards matching traffic but performs no security processing. | discard-discards matching traffic | ipsec-processes matching traffic per configured IPsec properties.

 **Note:**

srtp is not a supported value

**outbound-sa-fine-grained-mask**

not used for IKE operation.

**ike-sainfo-name**

Enter the name of the **ike-sainfo** configuration element assigned to this security-policy instance.

- Default: None
- Values: A valid configuration element name that is unique within the `ike-sainfo` namespace.

 **Note:**

The **ike-sainfo** configuration element identifies the algorithms and protocols available for the establishment of IPsec Security Associations (SA).

**pre-fragmentation**

Select, when the value of **action** is **ipsec**, whether to enable IPSec packet fragmentation before encryption. When enabled, the MSG fragments outbound jumbo packets before they can be transmitted and then encrypts the fragments so that each transmitted encrypted fragment packet has a valid Encapsulating Security Payload (ESP) header.

- Default: disabled
- Values: disabled | enabled

**Path**

**security-policy** is a subelement of the ipsec path. The full path from the topmost ACLI prompt is: configure terminal > security> ipsec>security-policy.

## ipsec > security-policy > outbound-sa-fine-grained-mask

This configuration element allows you to configure a fine grained security policy.

**Parameters****local-ip-mask**

Enter the local IP address mask

- Default: 255.255.255.255

**remote-ip-mask**

Enter the remote IP address mask.

- Default: 255.255.255.255

**local-port-mask**

Enter the local port mask for this security policy.

- Default: 0
- Values: Min: 0 / Max: 65535

**remote-port-mask**

Enter the remote port mask for this security policy.

- Default: 0
- Values: Min: 0 / Max: 65535

**trans-protocol-mask**

Enter the transport protocol mask for this security policy

- Default: 0
- Values: Min: 0 | Max: 65535

**vlan-mask**

Enter the VLAN ID mask

- Default: 0x000
- Values: 0x000 (disabled)-0xFFFF

### Path

**outbound-sa-fine-grained-mask** is a subelement under the `ipsec>security-policy` element. The full path from the topmost CLI prompt is: **configure-terminal > security > ipsec > security-policy > outbound-sa-fine-grained-mask**.

## iwf-config

The `iwf-config` element enables the H.323—SIP interworking (IWF) and provides a list of media profiles to use when IWF translations occur.

### Parameters

#### state

Enable or disable the Oracle Communications Session Border Controller's IWF

- Default: disabled
- Values: enabled | disabled

#### media-profiles

Set the default media SDP profiles that Oracle Communications Session Border Controller uses for Slow Start IWF calls. This field does not have a relationship with the `media-profiles` field found in the `h323-stack` subelement, as the values configured there affect calls that take place entirely in H.323. This list must be populated with the SDP codec names.

- Values: • PCMU | PCMA | G722 | G723 | G726-32 | G728 | G729 | H261 | H263

#### logging

Enable or disable IWF-related SIP messages logging

- Default: disabled
- Values: enabled | disabled

#### add-reason-hdr

Enable or disable adding the Reason header to IWF calls

- Default: disabled
- Values: enabled | disabled

### Path

**iwf-config** is an element under the `session-router` path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router** , and then **iwf-config**.

#### Note:

This is a single instance configuration element.

## ldap-cfg-attributes

Use the **ldap-cfg-attributes** configuration element to set up the Active Directory attribute name, next hop for routing SIP requests, the realm for the next hop, a regular expression pattern, and a format for the attribute value.

### Path

The **ldap-cfg-attributes** configuration element is in the **ldap-transactions** element.

```
ORACLE# configure terminal
ORACLE(configure)# session-router
ORACLE(session-router)# ldap-config
ORACLE(ldap-config)# ldap-transactions
ORACLE(ldap-transactions)# ldap-cfg-attributes
ORACLE(ldap-cfg-attributes)#
```

### Parameters

The **ldap-cfg-attributes** configuration element contains the following parameters:

#### name

Enter the Active Directory attribute name.

#### next-hop

Enter the Active Directory's next hop when routing SIP requests

#### realm

Enter the name of the realm associated with the next hop.

#### extraction-regex

Enter the regular expression pattern used to break down the string of digits in the phone number extracted from the request URI of the SIP request.

- Default: `^\+?1?(\d{3})(\d{3})(\d{4})$`

#### value-format

Enter the format for the attribute value.

- Default: `tel:+1$1$2$3`

These format values are extracted from the phone number using the **extraction-regex** parameter. The default parameter is "tel:+1\$1\$2\$3". This value assumes that the phone number is a North American phone number specified in the E.164 format, and it recreates the phone number in E.164 format.

# ldap-transactions

Use the **ldap-transactions** configuration element to set up the application transaction type for LDAP, determine route priority in the route list, and specify the LDAP search queries in call routing.

## Path

The **ldap-transactions** configuration element is in the **ldap-config** element.

```
ORACLE# configure terminal
ORACLE(configure)# session-router
ORACLE(session-router)# ldap-config
ORACLE(ldap-config)# ldap-transactions
ORACLE(ldap-transactions)#
```

## Parameters

The **ldap-transactions** configuration element contains the following parameters:

### app-trans-type

Enter the application transaction type.

- Default: ad-call-routing
- Values: ad-call-routing

### route-mode

Specify the route priority that the SBC uses in the route list.

- Default: exact-match-only
- Values: exact-match-only | attribute-order-only | exact-match-first
- exact-match-only—Create routes only for attributes with exact match.
- attribute-order-only—Create routes with route priority based on attribute order.
- exact-match-first—Create routes with route priority based on exact match first and then attribute order.

### operation-type

Enter the LDAP attribute operation type.

- Default: or
- Values: and | or

### ldap-cfg-attributes

Access the **ldap-cfg-attributes** configuration element.

## license

The license configuration element is used for configuring Oracle Communications Session Border Controller licenses.

### Parameters

#### add

Add a license by entering a key obtained from your service representative.

#### no

Delete licenses by feature. You are prompted to choose a license for deletion based on license features.

### Path

**licenses** is an element under the system-config path. The full path from the topmost CLI prompt is: **configure terminal** , and then **system** , and then **license**.

## local-address-pool

The local-address-pool configuration element enables creation of local address pools, which can be used to provide a local (internal) address in response to remote requests for IP addresses.

### Parameters

#### name

Enter a unique identifier for this local-address-pool instance.

- Default None
- Values A valid configuration element name that is unique within the local-address-pool namespace.

#### address-range

Access the address-range subelement.

#### dns-realm-id

Enter a DNS realm that supports this local-address-pool instance.

- Default: None
- Values: Name of an existing dns-realm configuration element.

#### data-flow-list

Enter a data-flow configuration element assigned to this local-address-pool instance. This parameter specifies bandwidth available to the pool of addresses specified by this local-address-pool instance.

- Default: None
- Values: Name of an existing data-flow configuration element local-address-pool is a subelement under the ike element. The full path from the topmost CLI prompt is: **configure>terminal>security>ike>local-address-pool**.

### Path

**local-address-pool** is a subelement under the ike element. The full path from the topmost ACLI prompt is: **configure terminal > security > ike > local-address-pool**

 **Note:**

This is a multiple instance configuration element.

## local-address-pool > address-range

The address-range configuration element specifies a single range of contiguous IPv4 addresses that are available to fulfill remote requests for a local address.

### Parameters

#### network-address

In conjunction with this parameter defines a range of IPv4 addresses available for dynamic assignment.

- Default: None
- Values: A valid IPv4 network address.

#### subnet-mask

In conjunction with network-address, the parameter defines a range of IPv4 addresses available for dynamic assignment.

- Default: None
- Values: A valid IPv4 subnet mask

 **Note:**

The range of IPv4 addresses support only Class-B and Class-C subnet masks.

### Path

**local-address-pool**, and then **address-range** is a subelement under the ike element. The full path from the topmost ACLI prompt: **configure-terminal**, and then **security**, and then **ike**, and then **local-address-pool**, and then **address-range**.

 **Note:**

This is a multiple instance configuration.



## local-policy

The local-policy configuration element determines where session signaling messages are routed and/or forwarded.

### Parameters

#### from-address

Enter the source IP address, POTS number, E.164 number, or hostname for the local-policy element. At least one address must be set within this list, but it can include as many addresses as necessary. This parameter may be wildcarded, or entered with a DS: prefix (dialed string).

An IPv6 address is valid for this parameter.



#### Note:

This field adheres to the standard ACLI character limit of 1024, as documented herein.

#### to-address

Enter the destination IP address, POTS number, E.164 number, or hostname for the local-policy element. At least one address must be set within this list, but it can include as many addresses as necessary. This parameter may be wildcarded.

An IPv6 address is valid for this parameter.



#### Note:

This field adheres to the standard ACLI character limit of 1024, as documented herein.

#### source-realm

Enter the realms used to determine how to route traffic. This list identifies incoming traffic on a realm and is used for routing by ingress realm via the local policy element. Source-realm entries must be a valid realm.

- Default: \*

#### description

Provide a brief description of the local-policy configuration element

#### activate-time

Set the time when selected local-policy becomes valid

activate-time yyyy-mm-dd hh:mm:ss or

activate-time yyyy-mm-dd-hh:mm:ss

y=year; m=month; d=day h=hour (24-hour clock) m=minute; s=second

**deactivate-time**

Set the time when selected local-policy becomes invalid

deactivate-time yyyy-mm-dd hh:mm:ss or

activate-time yyyy-mm-dd-hh:mm:ss

y=year; m=month; d=day h=hour (24-hour clock) m=minute; s=second

**state**

Enable or disable the local-policy element

- Default: enabled
- Values: enabled | disabled

**parallel-forking**

Enable or disable parallel forking on this local-policy.

- Default: disabled
- Values: enabled | disabled

**policy-priority**

Set the policy priority parameter for this local policy. It is used to facilitate emergency sessions from unregistered endpoints. This value is compared against a policy priority parameter in a SIP interface configuration element.

- Default: none
- Values: none | normal | non-urgent | urgent | emergency

**next-hop****Note:**

This attribute is only present when the Routing entitlement is disabled.

Enter the next signaling host IP address, SAG, hostname, or ENUM config; ENUM is also an accepted value. You can use the following as next-hops:

- IPv4 address or IPv6 address of a specific endpoint
- Hostname or IPv4 address or IPv6 address of a configured session agent
- Group name of a configured session agent group

The group name of a configured session agent group must be prefixed with SAG: For example:

- policy-attribute: next-hop SAG:appserver
- policy-attribute: next-hop lrt:routetable
- policy-attribute: next-hop enum:lrg

## realm



### Note:

This attribute is only present when the Routing entitlement is disabled.

Enter the egress realm, or the realm of the next hop. If traffic is routed using the local policy, and the selected route entry identifies an egress realm, then this realm field value will take precedence. This value must be a valid entry in a realm configuration.

## action



### Note:

This attribute is only present when the Routing entitlement is disabled.

Set this parameter to redirect if you want to send a redirect next-hop message back to the calling party with the information in the Contact. The calling party then needs to send an INVITE using that information.

- Default: none
- Values:
  - none—No specific action requested
  - replace-uri—To replace the Request-URI with the next hop
  - redirect—To send a redirect response with this next hop as contact

## terminate-recursion



### Note:

This attribute is only present when the Routing entitlement is disabled.

Terminate route recursion with this next hop

- Default: disabled
- Values: enabled | disabled

## app-protocol



### Note:

This attribute is only present when the Routing entitlement is disabled.

Select the signaling protocol used when sending messages to the configured next-hop. When the SBC receives an ingress signaling message and uses local policy to determine the message's destination, it will interwork the signaling between protocols (H.323<—>SIP or

SIP<—>H.323) if the signaling type does not match the value configured in the app-protocol field.

- Default: ""
- Values: "" | SIP | H323 | MGCP | H248 | BGF | BFD | SCF | RTSP | DD | DIAMETER | IKE | NONE

### methods



#### Note:

This attribute is only present when the Routing entitlement is disabled.

Enter the SIP methods you want to use for matching this set of policy attributes. Use a double-quoted string with space-separated items.

- Values: INVITE | REGISTER | PRACK | OPTIONS | INFO | SUBSCRIBE | NOTIFY | REFER | UPDATE | MESSAGE | PUBLISH

### lookup



#### Note:

This attribute is only present when the Routing entitlement is disabled.

Enable multistage local policy routing, or leave the parameter at the default single for single stage local policy routing.

- Default: single
- Values: single | multi

### next-key



#### Note:

This attribute is only present when the Routing entitlement is disabled.

Select the key to use for the next stage of local policy look-up.

- Values: \$TO | \$FROM | \$PAI

### Path

**local-policy** is an element under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **local-policy**.

**Note:**

This is a multiple instance configuration element.

## local-policy > policy-attributes

The policy-attributes subelement in conjunction with local-policy make routing decisions for the session based on the next-hop field value.

### Constraints

This element is only available when the Routing entitlement is enabled.

### Parameters

#### next-hop

Enter the next signaling host IP address, SAG, hostname, or ENUM config; ENUM is also an accepted value. You can use the following as next-hops:

- IPv4 address or IPv6 address of a specific endpoint
- Hostname or IPv4 address or IPv6 address of a configured session agent
- Group name of a configured session agent group

The group name of a configured session agent group must be prefixed with SAG: For example:

- policy-attribute: next-hop SAG:appserver
- policy-attribute: next-hop lrt:routetable
- policy-attribute: next-hop enum:lrg

**Note:**

The **next-hop** parameter does not accept values starting with \*.

#### realm

Enter the egress realm, or the realm of the next hop. If traffic is routed using the local policy, and the selected route entry identifies an egress realm, then this realm field value will take precedence. This value must be a valid entry in a realm configuration.

#### action

Set this parameter to redirect if you want to send a redirect next-hop message back to the calling party with the information in the Contact. The calling party then needs to send an INVITE using that information.

- Default: none
- Values:

- none—No specific action requested
- replace-uri—To replace the Request-URI with the next hop
- redirect—To send a redirect response with this next hop as contact

**carrier**

Enter the carrier for this local-policy. Carrier names are arbitrary names used to affect the routing of SIP signaling messages based on their being specified in the local-policy, session-agent, and the sip-config. These carrier names are global in scope, especially if they are exchanged in TRIP.

**start-time**

Set the time of day these policy attributes considered for preference determination

- Default: 0000
- Values: Min: 0000 | Max: 2400

**end-time**

Set the time of day these policy attributes cease to be considered for preference determination

- Default: 2400
- Values: Min: 0000 | Max: 2400

**days-of-week**

Enter the combination of days of the week plus holidays that policy attributes can be considered for preference determination. A holiday entry coincides with a configured holiday. At least one day or holiday must be specified in this field.

- Default: U-S
- Values:
  - U—Sunday
  - M—Monday
  - T—Tuesday
  - W—Wednesday
  - R—Thursday
  - F—Friday
  - S—Saturday
  - H—Holiday

**cost**

Enter the cost configured for local policy to rank policy attributes. This field represents the cost of a route relative to other routes reaching the same destination address.

- Default: 0
- Values: Min: 0 | Max: 999999999

**state**

Enable or disable these policy attributes as part of the local-policy element

- Default: enabled

- Values: enabled | disabled

**app-protocol**

Select the signaling protocol used when sending messages to the configured next-hop. When the Oracle Communications Session Border Controller receives an ingress signaling message and uses local policy to determine the message's destination, it will interwork the signaling between protocols (H.323<—>SIP or SIP<—>H.323) if the signaling type does not match the value configured in the app-protocol field.

- Values: H323 | SIP

**media-profiles**

Enter the names of media-profile elements related to the policy attribute. Media profiles define a set of media formats that the Oracle Communications Session Border Controller can recognize in SDP. This list does not have to be configured. However, if this list is configured, there can be as many entries within it as necessary.

**terminate-recursion**

Terminate route recursion with this next hop

- Default: disabled
- Values: enabled | disabled

**methods**

Enter the SIP methods you want to use for matching this set of policy attributes

**lookup**

Enable multistage local policy routing, or leave the parameter at the default single for single stage local policy routing.

- Default: single
- Values: single | multi

**next-key**

Select the key to use for the next stage of local policy look-up.

- Values: \$TO | \$FROM | \$PAI

**auth-user-lookup**

Enter the name of the auth-attributes in your target realm.

**eloc-str-lookup**

Set this parameter to enabled for the Oracle Communications Session Border Controller to parse the emergency location string, as received in a CLF Line Identifier AVP, for emergency LRT lookup.

- Default: enabled
- Values: enabled | disabled

**eloc-str-match**

Set this parameter to the attribute name found in the location-string whose value will be used as a lookup key in the LRT named in the next-hop parameter.

- Values: <string> string used as key for emergency LRT lookup

**move**

Change the order in which policy-attributes are processed.

The command syntax:

```
move <from-position> <to-position>
```

### Path

**policy-attributes** is a subelement under the local-policy element. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **local-policy** , and then **policy-attributes**.

#### Note:

You must select a local-policy element to which you want to add policy attributes before you enter those elements. If you do not select a local-policy element prior to entering configurations for the policy attributes, your information will be lost. This is a multiple instance configuration element.

## local-response-map

The local-response-map configuration element is used for RFC3326 support.

### Parameters

#### entries

Enter the entries configuration subelement.

#### delete

Remove the specified response map entry type.

#### edit

This parameter is unsupported.

### Path

**local-response-map** is an element under the session router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **local-response-map**.

## local-response-map > entries

The entries subelement is used to add a local response map entry for RFC3326 support. Each entry into the map allows for the configuration of a unique SIP response code and description in the **sip-status** and **sip-reason** fields, which will appear in the “Status-line” of the SIP response. The **q850-cause** and **q850-reason** fields are part of the optional “Reason Header” which is added to the SIP response if enabled through the **sip-config** configuration element.



## Parameters

### local-error

Enter the local error condition. When not specified, the sip-reason field in the SIP response defaults to “Service Unavailable”.

- **dsp-resource-limit-reached** — changes the sip-reason field in the SIP response, when there are no more available DSP resources, from “Service Unavailable” to the description configured in **sip-reason**.
- **transcoding-licensed-session-capacity-reached** — changes the sip-reason field in the SIP response, when there are no more available transcoding licenses, from “Service Unavailable” to the description configured in **sip-reason**.

### sip-status

Enter the SIP response code to use for this error.

- Default: 0
- Values: Min: 100 / Max: 699

### q850-cause

Enter the Q.850 cause code.

- Default: 0
- Values: Min: 0 / Max: 2147483647

### sip-reason

Enter the SIP response code description.

### q850-reason

Enter the Q850 cause code description.

### method

Enter the name of the locally generated SIP failure response message you want to map to a 200 OK. When this parameter is left blank, the SIP registration response mapping feature is turned off.

### register-response-expires

Enter the time, in seconds, you want to use for the expires time when mapping the SIP method you identified in the method parameter.

- Values: Min: 0 | Max: 999999999

## Path

**local-response-map-entries** is a subelement under the local-response-map configuration element. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **local-response-map** , and then **local-response-map-entries**.

## local-routing-config

The local-routing-config element allows you to configure local route tables, giving the Oracle Communications Session Border Controller the ability to determine next hops and map E.164 to SIP URIs locally, providing extensive flexibility for routing.

Note: Entering XML comments on the same line as LRT XML data is not currently supported.

## Parameters

### name

Enter a unique identifier for the local route table. This is the name you use to refer to this local route table when you configure policy attributes. This is a required parameter.

### file-name

Enter the name for the file from which the database corresponding to this local route table is created. You should use the **.gz** format, and the file should be placed in the **/code/lrt/** directory. This is a required parameter.

### prefix-length

Enter the number of significant digits/bits to be used for lookup and cache storage.

- Default: 0
- Value: Min:0 | Max 999999999

### string-lookup

Sets the Oracle Communications Session Border Controller to perform LRT lookups on table keys of a string data type. Leave this parameter to its default as disabled to continue using E.164 type lookups.

- Default: disabled
- Values: enabled | disabled

### retarget-requests

When set to enabled, the Oracle Communications Session Border Controller replaces the Request-URI in the outgoing request. When set to disabled, the Oracle Communications Session Border Controller routes the request by looking to the Route header to determine where to send the message.

- Default: enabled
- Values: enabled | disabled

### match-mode

Determines how the Oracle Communications Session Border Controller makes amongst LRT entries.

- Default: exact
- Values:
  - exact-When searching the applicable LRT, the search and table keys must be an exact match.
  - best-The longest matching table key in the LRT is the chosen match.
  - all-The all mode makes partial matches where the table's key value is a prefix of the lookup key. For example, a lookup in the following table with a key of 123456 returns entries 1, 2, and 4. The 'all' mode incurs a performance penalty because it performs multiple searches of the tables with continually shortened lookup keys to find all matching entries. This mode also returns any exact matches too.

## Path

**local-routing-config** is an element of the session-router path. The full path from the topmost CLI prompt is: **configure terminal > session-router > local-routing-config**.

# media-manager-config

This media-manager-config element defines parameters used in the media steering functions performed by the SBC including the flow timers.

## Parameters

### state

Enable or disable media management functionality

- Default: enabled
- Values: enabled | disabled

 **Note:**

This parameter is not RTC supported.

### latching

Enable or disable the SBC obtaining the source of the first packet received for a dynamic flow. This parameter is only applicable to dynamic flows. If packet source is unresolved, but SBC expects a packet, it will use newly arrived packet's source address if latching is enabled. All subsequent packets for the dynamic flow must come from the "latched" source address; otherwise, the packets are dropped.

- Default: enabled
- Values: enabled | disabled

### flow-time-limit

Enter the total time limit in seconds for the flow. The SBC notifies the signaling application when this time limit is exceeded. This field is only applicable to dynamic flows. A value of 0 seconds disables this function and allows the flow to continue indefinitely.

- Default: 86400
- Values: Min: 0 / Max: 999999999

### initial-guard-timer

Enter the time in seconds allowed to elapse before first packet of a flow arrives. If first packet does not arrive within this time limit, SBC notifies the signaling application. This field is only applicable to dynamic flows. A value of 0 seconds indicates that no flow guard processing is required for the flow and disables this function.

- Default: 300
- Values: Min: 0 / Max: 999999999

### subsq-guard-timer

Enter the maximum time in seconds allowed to elapse between packets in a flow. The SBC notifies the signaling application if this timer is exceeded. This field is only applicable to

dynamic flows. A field value of zero seconds means that no flow guard processing is required for the flow and disables this function.

- Default: 300
- Values: Min: 0 / Max: 999999999

**tcp-flow-time-limit**

Enter the maximum time in seconds that a media-over-TCP flow can last

- Default: 86400
- Values: Min: 0 / Max: 999999999

**tcp-initial-guard-timer**

Enter the maximum time in seconds allowed to elapse between the initial SYN packet and the next packet in a media-over-TCP flow

- Default: 300
- Values: Min: 0 / Max: 999999999

**tcp-subsq-guard-timer**

Enter the maximum time in seconds allowed to elapse between all subsequent sequential media-over-TCP packets

- Default: 300
- Values: Min: 0 / Max: 999999999

**tcp-number-of-ports-per-flow**

Enter the number of ports, inclusive of the server port, to use for media over TCP. The total number of supported flows is this value minus one.

- Default: 2
- Values: Min: 2 / Max: 5

**hnt-rtcp**

Enable or disable support of RTCP when the SBC performs HNT. If disabled, the SBC will only do RTP for endpoints behind a NAT. If enabled, the SBC will add a separate CAM entry for the RTCP flow so that it can send the RTCP back to the endpoint behind the NAT.

- Default: disabled
- Values: enabled | disabled

**algd-log-level**

Select the log level for the appropriate process

- Default: notice
- Values:
  - emergency
  - critical
  - major
  - minor

- warning
- notice
- info
- trace
- debug
- detail

**mbcd-log-level**

Select the log level for the MBCD process

- Default: notice
- Values:
  - notice
  - emergency
  - critical
  - major
  - minor
  - warning
  - notice
  - info
  - trace
  - debug
  - detail

**red-flow-port**

Enter the number of the port for checkpointing media flows associated with the HA interface. Setting the red-flow-port value to 0 disables media flow HA.

- Default: 1985
- Values: Min: 1025 / Max: 65535

 **Note:**

This parameter is not RTC supported.

**red-mgcp-port**

Enter the number of the port on which the system listens for redundancy mgcp sync messages. Setting the red-mgcp-port value to 0 disables MGCP flow HA.

- Default: 1986
- Values: 0 is disabled - Min: 1025 / Max: 65535

**red-max-trans**

Enter the maximum number of redundancy sync transactions to keep on active.  
Default: 10000

- Default: 10000
- Min: 0 / Max: 50000

**red-sync-start-time**

Timeout in milliseconds that the system uses to check the transition from standby to active. After this interval starts sending redundancy sync requests.

- Default: 5000
- Min: 0 / Max: 4294967295

**red-sync-comp-time**

Timeout in milliseconds that the system waits after a redundancy sync has finished before it issues subsequent sync requests.

- Default: 1000
- Min: 0 / Max: 4294967295

**media-policing**

Enable or disable the media policing feature

- Default: enabled
- Values: enabled | disabled

**max-arp-rate**

Specifies the maximum percentage of bandwidth the system may use for ARP traffic.

- Default: 10
- Min: 0 / Max: 100

**max-untrusted-signaling**

Specifies the maximum percentage of signaling bandwidth the system can use for untrusted hosts.

- Default: 100
- Min: 0 / Max: 100

**min-untrusted-signaling**

Specifies the minimum percentage of signaling bandwidth the system can use for untrusted hosts.

- Default: 30
- Min: 0 / Max: 100

**max-signaling-bandwidth**

Enter the maximum signaling bandwidth allowed to the host-path in bytes per second

- On the AP3820, AP4500, and AP4600:
  - Default: 1000000
  - Values: Min: 71000 / Max: 10000000
- On the AP6300:
  - Default: 4000000

- Values: Min: 71000 / Max: 40000000

**app-signaling-bandwidth**

Select the percentage of the untrusted bandwidth reserved for specific application messages. Currently the only supported application message is NCS.

- Default: 0
- Values: Min: 1 / Max: 100

**tolerance-window**

Enter the tolerance window size in seconds used to measure host access limits.

- Default: 30
- Values: Min: 0 / Max: 999999999

**untrusted-drop-threshold**

Percent drop count threshold for untrusted hosts at which the system generates an alarm.

- Default: 0 (Disabled)
- Values: Min: 0 / Max: 100

**trusted-drop-threshold**

Percent drop count threshold for trusted and dynamic trusted hosts at which the system generates an alarm and, assuming associated configuration, an SNMP trap.

- Default: 0 (Disabled)
- Values: Min: 0 / Max: 100

**acl-monitor-window**

The time window, after which the system resets its ACL drop counters, and generates a trap if trusted or untrusted ACLs have exceeded their configured drop threshold.

- Default: 30
- Values: Min: 5 / Max: 3600 seconds

**Note:**

This parameter is not real-time configurable. Reboot after setting this parameter.

**trap-on-demote-to-deny**

Enable or disable the SBC to send a trap in the event of an endpoint demotion from untrusted to deny.

- Default disabled
- Values enabled | disabled

**trap-on-demote-to-untrusted**

Enable for the SBC to send a trap in the event of an endpoint demotion from trusted to untrusted.

- Default: disabled
- Values: enabled | disabled

**syslog-on-demote-to-deny**

Enable or disable the SBC to send a message to the syslog when an endpoint is demoted from untrusted to deny.

- Default: disabled
- Values: enabled | disabled

**syslog-on-demote-to-untrusted**

Enable or disable the SBC to send a message to the syslog when an endpoint is demoted from trusted to untrusted.

- Default: disabled
- Values: enabled | disabled

**rtcp-rate-limit**

Enter the maximum speed in bytes per second for RTCP traffic

- Default: 0
- Values: Min: 0 | Max: 125000000

**syslog-on-call-reject**

Enables generation of a syslog message in response to the rejection of a SIP call.

- Default: disabled
- Values: enabled | disabled

**anonymous-sdp**

Enable or disable username and session name fields anonymous in SDP

- Default: disabled
- Values: enabled | disabled

**arp-msg-bandwidth**

Enter the maximum bandwidth that can be used by an ARP message

- Default: 32000
- Values: Min: 8192 | Max: 200000

**fragment-msg-bandwidth**

(Only available on the Acme Packet 3820 and Acme Packet 4500)

Enter the maximum bandwidth that can be used by IP fragment messages

- Default: 0
- Values: Min: 0 (fragment packets are treated as untrusted bandwidth); 2000 | Max: 10000000

**rfc2833-timestamp**

Enable or disable use of a timestamp value calculated using the actual time elapsed since the last RTP packet for H.245 to 2833 DTMF interworking

- Default: disabled
- Values: enabled | disabled



 **Note:**

Timestamp and duration changes will not take effect when the 2833 timestamp (rfc-2833-timestamp) and default-2833-duration parameter is altered in the media manager configuration during a SIP INFO to DTMF Interworking scenario.

**default-2833-duration**

Enter the time in milliseconds for the SBC to use when receiving an alphanumeric UII or SIP INFO with no specified duration.

- Default: 100
- Values: Min: 50 | Max: 5000

 **Note:**

Timestamp and duration changes will not take effect when the 2833 timestamp (rfc-2833-timestamp) and default-2833-duration parameter is altered in the media manager configuration during a SIP INFO to DTMF Interworking scenario.

**rfc2833-end-pkts-only-for-non-sig**

Enable this parameter if you want only the last three end 2833 packets used for non-signaled digit events. Disable this parameter if you want the entire start-interim-end RFC 2833 packet sequence for non-signaled digit events.

- Default: enabled
- Values: enabled | disabled

**translate-non-rfc2833-event**

Enable or disable the SBC's ability to translate non-rfc2833 events.

- Default: disabled
- Values: enabled | disabled

**media-supervision-traps**

The SBC will send the following trap when the media supervision timer has expired:

```
apSysMgmtMediaSupervisionTimerExpTrap NOTIFICATION-TYPE
OBJECTS { apSysMgmtCallId }
STATUS current
```

- Default: disabled
- Values: enabled | disabled

**dnsalg-server-failover**

Enable or disable allowing DNS queries to be sent to the next configured server, even when contacting the SBC's DNS ALG on a single IP address; uses the transaction timeout value set in the dns-server-attributes configuration (part of the dns-config).

- Default: disabled
- Values: enabled | disabled

#### **reactive-transcoding**

Enable or disable SBC's ability to pre-book a transcoding resource during the SDP offer.

- Default: disabled
- Values: enabled | disabled

#### **dos-guard-window**

Set the number of seconds that define the window of time for measuring traffic volume within which the DoS alert thresholds may be triggered. When the window expires, the threshold counters revert to zero.

- Default: 5 seconds
- Values: Min: 1 / Max: 30

#### **untrusted-minor-threshold**

Set the percentage of the untrusted bandwidth that triggers a minor alert for this threshold. When triggered, the system sends an alarm and a trap. Set the value to zero to disarm this threshold for alert events.

- Default: 0
- Values: Min: 0 / Max: 100

#### **untrusted-major-threshold**

Set the percentage of the untrusted bandwidth that triggers a major alert for this threshold. When triggered, the system sends an alarm and a trap. Set the value to zero to disarm this threshold for alert events.

- Default: 0
- Values: Min: 0 / Max: 100

#### **untrusted-critical-threshold**

Set the percentage of the untrusted bandwidth that triggers a critical alert for this threshold. When triggered, the system sends an alarm and a trap. Set the value to zero to disarm this threshold for alert events.

- Default: 0
- Values: Min: 0 / Max: 100

#### **trusted-minor-threshold**

Set the percentage of the trusted bandwidth that triggers a minor alert for this threshold. When triggered, the system sends an alarm and a trap. Set the value to zero to disarm this threshold for alert events.

- Default: 0
- Values: Min: 0 / Max: 100

#### **trusted-major-threshold**

Set the percentage of the trusted bandwidth that triggers a major alert for this threshold. When triggered, the system sends an alarm and a trap. Set the value to zero to disarm this threshold for alert events.

- Default: 0
- Values: Min: 0 / Max: 100

**trusted-critical-threshold**

Set the percentage of the trusted bandwidth that triggers a critical alert for this threshold. When triggered, the system sends an alarm and a trap. Set the value to zero to disarm this threshold for alert events.

- Default: 0
- Values: Min: 0 / Max: 100

**arp-minor-threshold**

Set the percentage of the arp bandwidth that triggers a minor alert for this threshold. When triggered, the system sends an alarm and a trap. Set the value to zero to disarm this threshold for alert events.

- Default: 0
- Values: Min: 0 / Max: 100

**arp-major-threshold**

Set the percentage of the arp bandwidth that triggers a major alert for this threshold. When triggered, the system sends an alarm and a trap. Set the value to zero to disarm this threshold for alert events.

- Default: 0
- Values: Min: 0 / Max: 100

**arp-critical-threshold**

Set the percentage of the arp bandwidth that triggers a critical alert for this threshold. When triggered, the system sends an alarm and a trap. Set the value to zero to disarm this threshold for alert events.

- Default: 0
- Values: Min: 0 / Max: 100

**xcode-fax-max-rate**

Specifies the maximum supported fax rate in bits per second.

- Default: 14400
- unlimited
- 2400
- 4800
- 7200
- 9600
- 12000
- 14400

**home-realm-id**

Enter the name of the home realm.

**percent-sub**

Specifies the maximum latency allowed.

- Default: 0
- Values: Min: 0 / Max: 100

**pss-wd-key**

Enter the password key.

**Path**

Path: **media-manager-config** is an element under the media-manager path. The full path from the topmost ACLI prompt is: **configure terminal** , **media-manager** , **media-manager**.

**Note:**

This is a single instance configuration element.

**Options**

Refer to Option Configuration in Chapter 1, *How to use the ACLI* for instructions on how to configure options.

**unique-sdp-id**

Enables or disables codec negotiation by updating the SDP session ID and version number. When enabled, the SBC will hash the session ID and IP address of the incoming SDP with the current date/time of the SBC in order to generate a unique session ID.

**active-arp**

When enabled, this option causes all ARP entries to get refreshed every 20 minutes.

**Note:**

As a security measure, in order to mitigate the effect of the ARP table reaching its capacity, configuring active-arp is advised.

## media-policy

The media-policy element sets the TOS/DiffServ values that define an individual type or class of service.

**Parameters****name**

Name of this media policy.

**tos-settings**

Enter into the tos-values subelement.

**rtp-ttl**

Specifies the number of hops the packet can traverse before being dropped.

- Default: zero (disabled)

- Values: 0 - 255

### Path

**media-policy** is an element under the media-manager path. The full path from the topmost CLI prompt is: **configure terminal** , and then **media-manager** , and then **media-policy**.

#### Note:

This configuration element sets the Packet Marking for Media features and defines an individual type or class of service for the Oracle Communications Session Border Controller. Media policies can be chosen on a per-realm basis. This is a multiple instance configuration element.

## media-policy > tos-settings

The tos-settings configuration subelement bases media classification on type and subtype to create any media type combination allowed by IANA standards.

### Parameters

#### **media-type**

Enter the type of media to use for this set of TOS settings

- Default: None
- Values: Any IANA-defined media type, such as: audio, image, model

#### **media-sub-type**

Enter the media sub-type to use for the specified media type

- Default: None
- Values: Any of the media sub-types IANA defines for the selected media type

#### **media-attribute**

Enter a list of one or more media attributes that will match in the SDP

- Default: None

#### **tos-values**

Enter the TOS value to apply to matching traffic

- Default: 0x00 (must be a decimal or hexadecimal value)
- Values: Range from 0 - 255 or 0x00 to 0xFF

### Path

**tos-settings** is a subelement under the media-policy element. The full path from the topmost CLI prompt is: **configure terminal** , and then **media-manager** , and then **media-policy>tos-settings**.

 **Note:**

This configuration element sets the Packet Marking for Media features and defines an individual type or class of service for the Oracle Communications Session Border Controller. Media policies can be chosen on a per-realm basis.

This is a multiple instance configuration element.

## media-profile

### Parameters

#### **name**

Enter the encoding name used in the SDP rtpmap attribute. This is a required field. No two media-profile elements can have the same name field value. SILK and opus are supported values as of S-CZ7.3.0.

#### **media-type**

Select the type of media used in SDP m lines

- Values:
  - audio
  - video
  - application
  - data
  - image
  - text

#### **payload-type**

Enter the format in SDP m lines. No payload type number is assigned for newer, dynamic codecs. For RTP/AVP media-profile elements, this field should only be configured when there is a standard payload type number that corresponds to the encoding name. Otherwise, this field should be left blank. This field is used by the system to determine the encoding type when the SDP is included with a session identifies the standard payload type on the m line, but does not include an a-rtpmap entry.

#### **transport**

Select the type of transport protocol used in the SDP rtpmap attribute

- Default: RTP/AVP
- Values: " UDP | RTP/AVP

#### **clock-rate**

The clock rate in Hz for the SDP/RTP map. Use 8000 for narrowband codecs and 16000 for wideband codecs. If set to 0, the default clock rate for the codec will be used.

- Default: 0

- Values: Min: 0 | Max: 4294967295

**req-bandwidth**

Enter the total bandwidth in kilobits that the media requires

- Default: 0
- Values: Min: 0 | Max: 999999999

**frames-per-packet**

Enter the number of frames per RTP packet. This field is used to specify a media profile to facilitate Slow Start translations to Fast Start. A value of 0 means that this field is not being used.

- Default: 0
- Values: Min: 0 / Max: 256

**parameters**

Enter any additional information for codecs

**average-rate-limit**

Enter the maximum speed in bytes per second for a flow that this media profile applies to

- Default: 0
- Values: Min: 0 / Max: 125000000
- Values: Min: 8192 / Max: 125000000 - Applicable only for SD5 platforms - 4600/6300/6350

**peak-rate-limit**

Enter the flowspec parameter r (bucket rate) / p (peak rate) value to insert into COPS message for RACF/PDP configuration

- Default: 0
- Values: Min: 0 / Max: 125000000
- Values: Min: 8192 / Max: 125000000 - Applicable only for SD5 platforms - 4600/6300/6350

**max-burst-size**

Enter the flowspec parameter b ( bucket depth) / m (minimum policed unit) / M (maximum datagram size ) value to insert into COPS message for RACF/PDP configuration

- Default: 0
- Values: Min: 0 / Max: 125000000
- Values: Min: 8192 / Max: 125000000 - Applicable only for SD5 platforms - 4600/6300/6350

**sdp-rate-limit-headroom**

Specify the percentage of headroom to be added while using the AS bandwidth parameter while calculating the average-rate-limit (rate limit for the RTP flow)

- Default: 0
- Values: Min: 0 / Max: 100

**sdp-bandwidth**

Enable or disable the use of the AS modifier in the SDP if the req-bandwidth and sdp-rate-limit-headroom parameters are not set to valid values in the corresponding media profile.

- Default: disabled
- Values: enabled | disabled

**as-bandwidth**

Specifies the value of the AS modifier in the SDP, in kbps, to support bandwidth requirement variation in transcoding scenarios.

- Default: 0
- Values: Min: 0 / Max: 4294967295

**police-rate**

Enter the rate at which the Oracle Communications Session Border Controller polices media for external bandwidth

- Default: 0
- Values: Min: 0 | Max: 999999999

**subname**

Enter a subname to create multiple media profiles with the same codec name; using a bandwidth value is convenient. For example, you might set a subname of 64k for a media-profile with a name value of PCMU.

**standard-pkt-rate**

Whenptime isn't available in received SDP for this codec, the SBC uses this default packetization rate baseline to make bandwidth allocations when communicating with an external policy server.

- Default: 0
- Values: Min: 0 | Max: 125000000

**Path**

**media-profile** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router** , and then **media-profile**.

 **Note:**

This element supports new SDP formats when they are defined. This element is used to associate bandwidth requirements with SDP requirements from information passed during the establishment of sessions. The names established in the media-profile elements are used to populate the corresponding fields in other elements. This is a multiple instance configuration element.



## media-security

The **media-security** element lets you access configuration elements concerning media security configuration.

### Parameters

#### **dtls-srtp-profile**

Access the **dtls-srtp-profile** configuration element.

#### **media-sec-policy**

Access the **media-sec-policy** configuration element.

#### **sdes-profile**

Access the **sdes-profile** configuration element.

#### **sipura-profile**

Access the **sipura-profile** configuration element.

### Path

The **media-security** element is under the **security** path.

```
ORACLE(sipura-profile)# quit
ORACLE# conf terminal
ORACLE(configure)# security
ORACLE(security)# media-security
ORACLE(media-security)#
```

## media-security > dtls-srtp-profile

The **dtls-srtp-profile** element allows you to use DTLS-SRTP to secure media and the signaling used to establish DTLS-SRTP flows. You apply a configured **dtls-srtp-profile** profile to a realm.

### Parameters

#### **name**

Enter a unique identifier for this DTLS SRTP profile. Use this name when you apply the profile to realms.

#### **tls-profile**

Enter the name of the **tls-profile** you want to apply to traffic under this **dtls-srtp-profile**.

#### **dtls-completion-timeout**

Specify the number of seconds the system waits for a DLTS handshake to finish before terminating the session.

- Range: 0 (default) to 999999

#### **preferred-setup-role**

Specify the role the system takes within the client-server context of the DTLS handshake.

- Default: passive—The system acts as the server.

### crypto-suite

Specifies the cryptography suite the system proposes during the DTLS handshake for encrypting media and authentication.

- Default: SRTP\_AES128\_CM\_HMAC\_SHA1\_80
- Values:
  - SRTP\_AES128\_CM\_HMAC\_SHA1\_80—Enables support for the AES/128 bit key for encryption and HMAC/SHA-1 80-bit digest for authentication.
  - SRTP\_AES128\_CM\_HMAC\_SHA1\_32—Enables support for the AES/128 bit key for encryption and HMAC/SHA-1 32-bit digest for authentication.

### Path

**dtls-srtp-profile** is an element under the security path. The full path from the topmost ACLI prompt is: configure terminal > security > media-security > dtls-srtp-profile.



#### Note:

This is a multiple instance configuration element.

## media-sec-policy

The media-sec-policy configuration element lets you access configuration elements concerning media security configuration. The media-sec-policy element does not apply to hairpin call flows.

### Parameters

#### name

Name of this media-sec-policy object.

#### pass-through

Enable or disable pass-through mode. When enabled, the User Agent (UA) endpoints negotiate security parameters between each other; consequently, the Oracle Communications Session Border Controller simply passes SRTP traffic between the two endpoints.

With pass-thru mode disabled (the default state), the Oracle Communications Session Border Controller disallows end-to-end negotiation — rather the Oracle Communications Session Border Controller initiates and terminates SRTP tunnels with both endpoints.

- Default: disabled
- Values: enabled | disabled

#### options

Options configured on this media security policy

#### outbound

Enter this subelement to configure the policy parameters when this policy applies to outbound traffic.

**inbound**

Enter this subelement to configure the policy parameters when this policy applies to inbound traffic.

**Path**

**media-sec-policy** is a configuration element under the security > media-security path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **security**, and then **media-security**, and then **media-sec-policy**.

## media-sec-policy > inbound

The media-sec-policy > inbound configuration element lets you configure the inbound media security policy.

**Parameters****profile**

Indicates the name of the corresponding security profile that's active on the call leg that this policy direction specifies.

**mode**

Selects the real time transport protocol.

- Default: rtp
- Values: rtp | srtp

**protocol**

This sets the key exchange protocol

- Default: none
- Values: none | sdes

**hide-egress-media-update**

Enables or disables the hide media update function for this inbound policy

- Default: disabled
- Values: enabled | disabled

 **Note:**

You must reboot the system when you change this parameter. This parameter is not RTC supported.

**Path**

**inbound** is a subelement in the media-sec-policy configuration element under the security > media-security path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **security**, and then **media-security**, and then **media-sec-policy**, and then **inbound**.

## media-sec-policy > outbound

The `media-sec-policy > inbound` configuration element lets you configure the outbound media security policy.

### Parameters

#### profile

Indicates the name of the corresponding security profile that's active on the call leg that this policy direction specifies.

#### mode

Selects the real time transport protocol.

- Default: rtp
- Values: rtp | srtp

#### protocol

This sets the key exchange protocol

- Default: none
- Values: none | sdes

### Path

**outbound** is a subelement in the `media-sec-policy` configuration element under the `security > media-security` path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **security**, and then **media-security**, and then **media-sec-policy**, and then **outbound**.

## msrp-config

The `msrp-config` element is used to configure global MSRP functionality.

### Parameters

#### state

Enables MSRP operations.

- Default: enabled
- enabled | disabled

#### uri-translation

Enables or disables NAT of URIs found in the From-Path and To- Path headers of MSRP requests and responses, and in `a=path` attributes found in SDP offers.

- Default: enabled
- enabled | disabled

#### session-inactivity-timer

This parameter is configured in connection with the `sipconfig > msrp-delayed-bye-timer` parameter to implement the delayed transmission of SIP BYE requests. The `session-inactivity-timer` parameter specifies the maximum inactivity interval (defined

as the absence of transmitted data) tolerated before the MSRP connection is terminated.

- Default: 5
- Min: 0 / Range: 5 - 10

#### **conn-setup-delay-timer**

This parameter specifies the maximum time before the system sets up a session with the UA even though it has not received any input or response from that UA in milliseconds.

- Default: 0
- Min: 0 / Max: 1500

#### **msrp-kpi**

Enable or disable MSRP KPI statistics.

- Default: disabled
- Values: enabled | disabled

#### **double-port-allocation**

Enable allocating 2 steering pool ports for MSRP calls.

- Default: disabled
- Values: enabled | disabled

#### **Path**

**msrp-config** is an element of the media-manager path. The full path from the topmost CLI prompt is: **configure terminal**, and then **media-manager**, and then **msrp-config**.

# 5

## ACLI Configuration Elements N-Z

### net-management-control

The net-management-control configuration element allows you to control multimedia traffic, specifically for static call gapping and 911 exception handling. These controls limit the volume or rate of traffic for a specific set of dialed numbers or dialed-number prefixes.

#### Parameters

**name**

Enter the name of this network management control rule.

**state**

Select the state of this network management control rule.

- Default: enabled
- Values: enabled | disabled

**type**

Enter the control type you want to use.

- Values: GAP-RATE | GAP-PERCENT | PRIORITY

**value**

Enter the control value of the net management control. This parameter applies only when you set the control type to either GAP-RATE or GAP-PERCENT.

- Default: 0
- Values: GAP-RATE: 0-2147483647 | GAP-PERCENTAGE: 0-100

**treatment**

Enter the treatment method you want to use or leave this parameter empty

- Values: reject | divert | apply-local-policy

**next-hop**

Enter the next hop for the Oracle Communications Session Border Controller to use when the treatment method is DIVERT. This value should contain one of the following:

- hostname(:port) or IPv4 address or IPv6 address of a configured session agent.
- IPv4 address (:port) or IPv6 address (:port) of a specific endpoint

Group name of a configured session agent group. The group name of a configured session agent group must be prefixed with SAG: For example:

- policy-attribute: next-hop SAG:appserver
- policy-attribute: next-hop lrt:routetable

- policy-attribute: next-hop enum:lrg

**realm-next-hop**

Enter the realm identifier to designate the realm of the next hop when the treatment type is DIVERT

**protocol-next-hop**

Enter the signaling protocol for the next hop when the treatment type is DIVERT

**status-code**

Enter the SIP response code that you want the Oracle Communications Session Border Controller to use when the treatment method is REJECT

- Default: 503
- Values: Min: 1 / Max: 699

**cause-code**

Enter the Q.850 cause code that you want the Oracle Communications Session Border Controller to use when the treatment method is REJECT

- Default: 63
- Values: Min: 1 / Max: 999999999

**gap-rate-max-count**

Enter the maximum token counter value for gapping rate

- Default: 0
- Values: Min: 0 / Max: 999999999

**gap-rate-window-size**

Enter the window size (in seconds) for gapping rate calculation

- Default: 0
- Values: Min: 0 / Max: 999999999

**destination-identifier**

Enter the classification key. This parameter specifies information about the destination, which can be an IP address, an FQDN, and destination (called) number, or destination prefix. You can wildcard characters in the classification key using the carat symbol (^).

This parameter can accommodate a list of entries so that, if necessary, you can specify multiple classification keys.

**add-destination-identifier**

Add a destination identifier

**remove-destination-identifier**

Remove a destination identifier

**rph-feature**

Set the state of NSEP support for this NMC rule

- Default: disabled
- Values: enabled | disabled

**rph-profile**

Enter the name of the RPH profile to apply to this NMC rule

- Default: None
- Values: Name of an rph-profile

**rph-policy**

Enter the name of the RPH policy to apply to this NMC rule

- Default: None
- Values: Name of an rph-policy

**sip-380-reason**

Adds configurable reason for IR.92 Multiple Emergency Numbers feature

- Default: None
- Values: Enter a reason phrase enclosed in quotes

:

**Path**

**net-management-control** is an element of the session-router path. The full path from the topmost CLI prompt is: **configure terminal**, and then **session-router**, and then **net-management-control**

## phy-interface > network-alarm-threshold

Use the **network-alarm-threshold** configuration element to set utilization thresholds for media interfaces.

**Path**

The **network-alarm-threshold** configuration element is in the **phy-interface** element.

```
ORACLE# configure terminal
ORACLE(configure)# system
ORACLE(system)# phy-interface
ORACLE(phy-interface)# network-alarm-threshold
ORACLE(network-alarm-threshold)#
```

**Parameters**

The **network-alarm-threshold** configuration element contains the following parameters:

**severity**

Enter the severity for the alarm you want to create for this interface.

- Default: minor
- Values: minor | major | critical

**value**

Enter the utilization percentage (transmitting and receiving) that triggers an alarm for this interface.



- Default: 0
- Min: 1 | Max: 100

For example, you might define a minor alarm with a utilization percentage of 50.

## network-interface

The network-interface element creates and configures a logical network interface.

### Parameters

#### **name**

Enter the name of the physical interface with which this network-interface element is linked. Network-interface elements that correspond to phy-interface elements with an operation type of Control or Maintenance must start with “wancom.”

#### **sub-port-id**

Enter the identification of a specific virtual interface in a physical interface (e.g., a VLAN tag). A value of 0 indicates that this element is not using a virtual interface. The sub-port-id field value is only required if the operation type is Media.

- Default: 0
- Values: Min: 0 | Max: 4095

#### **description**

Enter a brief description of this network interface

#### **hostname**

Enter the hostname of this network interface. This is an optional entry that must follow FQDN Format or IP Address Format.

An IPV6 address is valid for this parameter.

#### **ip-address**

Enter the IP address of this network interface. This is a required entry that must follow the IP Address Format.

An IPV6 address is valid for this parameter.

#### **pri-utility-addr**

Enter the utility IP address for the primary HA peer in an HA architecture

An IPV6 address is valid for this parameter.

#### **sec-utility-addr**

Enter the utility IP address for the secondary Oracle Communications Session Border Controller peer in an HA architecture

An IPV6 address is valid for this parameter.

#### **netmask**

Enter the netmask portion of the IP address for this network interface entered in IP address format. The network-interface element will not function properly unless this field value is valid.

An IPV6 address is valid for this parameter.

**gateway**

Enter the gateway this network interface uses to forward packets. Entries in this field must follow the IP Address Format. No packets are forwarded if this value is 0.0.0.0.

An IPV6 address is valid for this parameter.

**sec-gateway**

Enter the gateway to use on the secondary Oracle Communications Session Border Controller in an HA pair. Entries in this field must follow the IP address format.

An IPV6 address is valid for this parameter.

**gw-heartbeat**

Access the gateway-heartbeat subelement

**dns-ip-primary**

Enter the IP address of the primary DNS to be used for this interface

An IPV6 address is valid for this parameter.

**dns-ip-backup1**

Enter the IP address of the first backup DNS to be used for this interface

An IPV6 address is valid for this parameter.

**dns-ip-backup2**

Enter the IP address of the second backup DNS to be used for this interface

An IPV6 address is valid for this parameter.

**dns-domain**

Set the default domain name used to populate incomplete hostnames that do not include a domain. Entries must follow the Name Format.

**dns-timeout**

Enter the total time in seconds you want to elapse before a query (and its retransmissions) sent to a DNS server timeout

- Default: 11
- Values: Min: 1/ Max: 999999999

**dns-max-ttl**

Specifies the maximum DNS time to live value for this network interface.

- Default: 86400 seconds (24 hours)
- minimum: 30
- maximum: 2073600

**add-hip-ip**

Enter a list of IP addresses allowed to access signaling and maintenance protocol stacks via this front interface using the HIP feature

An IPV6 address is valid for this parameter.

**remove-hip-ip**

Remove an IP address added using the add-hip-ip parameter

**add-ftp-ip**

This parameter has been deprecated

**remove-ftp-ip**

This parameter has been deprecated

**add-icmp-ip**

Enter a list of IP addresses from which ICMP traffic can be received and acted upon by a front media interface

An IPV6 address is valid for this parameter.

**remove-icmp-ip**

Remove an IP address added using the add-icmp-ip parameter

An IPV6 address is valid for this parameter.

**add-snmp-ip**

Enter a list of IP addresses from which SNMP traffic can be received and acted upon by a front media interface

**remove-snmp-ip**

Remove an IP address added using the add-snmp-ip parameter

**add-telnet-ip**

This parameter has been deprecated

**remove-telnet-ip**

This parameter has been deprecated

**add-ssh-ip**

Enter a list of IP addresses from which SSH traffic can be received and acted upon by a front media interface.

- Default: None
- Values: A valid IPv4 network address

**signaling-mtu**

MTU size for packets leaving this interface.

- Default: 0 - When the default value is zero, the network-interface inherits this value from the system configuration (ipv6-signaling-mtu and ipv4-signaling-mtu).
- Values:
  - IPv4: <0, 576-4096>
  - IPv6: <0, 1280-4096

**Path**

The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **network-interface**

**Note:**

This is a multiple instance configuration subelement.

**Note:**

The network-interface element is not RTC supported. You must reboot the system after configuration changes to this element.

## network-interface > gw-heartbeat

The gw-heartbeat subelement supports the front interface link failure detection and polling feature.

### Parameters

**state**

Enable or disable front interface link detection and polling functionality on the Oracle Communications Session Border Controller for this network-interface element

- Default: enabled
- Values: enabled | disabled

**heartbeat**

Enter the time interval in seconds between heartbeats for the front interface gateway

- Default: 0
- Values: Min: 0 | Max: 65535

**retry-count**

Enter the number of front interface gateway heartbeat retries before a gateway is considered unreachable

- Default: 0
- Values: Min: 0 | Max: 65535

**retry-timeout**

Enter the heartbeat retry timeout value in seconds

- Default: 1
- Values: Min: 1 | Max: 65535

**health-score**

Enter the amount to subtract from the health score if the front interface gateway heartbeat fails (i.e., expires). The health score will be decremented by the amount set in this field if the timeout value set in the gw-heartbeat: retry-timeout field is exceeded without the front interface gateway sending a response.

- Default: 0
- Values: Min: 0 | Max: 100

## Path

**gw-heartbeat** is a subelement of the network-interface element. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **network-interface** , and then **gw-heartbeat**

### Note:

The values configured in the fields of a gw-heartbeat subelement apply to the Oracle Communications Session Border Controller on a per-network-interface basis, and can override the values configured in the redundancy element's corresponding front interface link detection and polling fields. This is a single instance configuration subelement.

## network-parameters

The network-parameters element enables and configures the TCP keepalive feature used for keeping H.323 connections open. This is also used for global SCTP configuration.

### Parameters

#### **tcp-keepalive-count**

Enter the number of outstanding keepalives before connection is torn down

- Default: 4
- Values: Min: 1 | Max: 4294967295

#### **tcp-keepalive-idle-timer**

Enter the idle time in seconds before triggering keepalive processing. If you have upgraded the release you are running and a value outside of the acceptable range was configured in an earlier release, the default value is used and a log message is generated.

- Default: 400
- Values: Min: 30 | Max: 7200

#### **tcp-keepalive-mode**

Enter the TCP keepalive mode

- Default: 0
- Values:
  - 0—The sequence number is sent un-incremented
  - 1—The sequence number is sent incremented
  - 2—No packets are sent
  - 3—Send RST (normal TCP operation)

**tcp-keepinit-timer**

Enter the TCP connection timeout period if a TCP connection cannot be established. If you have upgraded the release you are running and a value outside of the acceptable range was configured in an earlier release, the default value is used and a log message is generated.

- Default: 75
- Values: 0 - 999999999

**tcp-keepalive-interval-timer**

Enter the TCP retransmission time if a TCP connection probe has been idle for some amount of time

- Default: 75
- Values: Min: 15 / Max: 75

**sctp-send-mode**

Leave this parameter set to its default (unordered) so data delivery can occur without regard to stream sequence numbering. If data delivery must follow stream sequence number, change this parameter to ordered.

- Default: unordered
- Values: ordered | unordered

**sctp-rto-initial**

Sets the initial value of the SCTP retransmit timeout (RTO).

- Default: 3000 msec (value recommended by RFC 4960)
- Values: 0 - 4294967295

**sctp-rto-max**

Sets the maximum value of the SCTP retransmit timeout (RTO).

- Default: 60000 msec (value recommended by RFC 4960)
- Values: 0 - 4294967295

**sctp-rto-min**

Sets the maximum value of the SCTP retransmit timeout (RTO).

- Default: 1000 msec (value recommended by RFC 4960)
- Values: 0 - 4294967295

**sctp-hb-interval**

Sets the initial value of the SCTP Heartbeat Interval timer.

- Default: 30000 msec (value recommended by RFC 4960)
- Values: 0 - 4294967295

**sctp-max-burst**

Sets the maximum number of DATA chunks contained in a single SCTP packet.

- Default: 4 DATA chunks (value recommended by RFC 4960)
- Values: 0 - 4294967295

**sctp-sack-timeout**

Sets the initial value of the SACK (Selective Acknowledgement) Delay timer.

- Default: 200 msec (value recommended by RFC 4960)
- Values: 0 - 500

**sctp-assoc-max-retrans**

Specifies the maximum number of consecutive unacknowledged retransmissions to a specific SCTP endpoint. Should this value be exceeded, the endpoint is considered to be unreachable, and the SCTP association is placed in the CLOSED state.

- Default: 10 retries (value recommended by RFC 4960)
- Values: 0 - 4294967295

**sctp-path-max-retrans**

Specifies the maximum number of RTO expirations/unacknowledged HEARTBEATS to a specific SCTP transport address. Should this value be exceeded, the endpoint is considered to be inactive, and an alternate transport address, if available, will be used for subsequent transmissions.

- Default: 5
- Values: 0 - 4294967295

**options**

Enter any optional features or parameters

**Path**

**network-parameters** is an element under the system path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **network-parameters**

**Note:**

This is a single instance configuration subelement.

## npli-profile

The npli-profile configuration element defines the system's behavior with respect to NPLI on the object to which it is applied.

**Parameters****name**

Configured name of this NPLI profile. This is the key field.

- Default: empty
- Values: 24 character string, no special characters with the exception of the underscore and hyphen characters. Do not start name with numeric character.

**add-ue-location-in-pani**

Enable this parameter to add UE Location string in the PANI header when the location is available.

- Default: disabled

- Values: enabled | disabled

**hold-emergency-calls-for-loc-info**

Timer to hold emergency calls until the system receives location information from the PCRF.

- Default: 0
- Values: 0-4294969295

**hold-invite-calls-for-loc-info**

The time the systems waits for the location information from the PCRF in a RAR over the Rx interface, assuming it is greater than 0, and reserve-incomplete is enabled.

- Default: 0
- Values: 0-4294969295

**cache-loc-info-expire**

Maximum number of seconds after which the system drops network location information for the NPLI for the Short Message feature, unless the **keep-cached-loc-info-after-timeout** parameter is enabled.

- Default: 32
- Values: 0 - 4294967295

**msg-hold-for-loc-info**

Maximum number of seconds that the system holds MESSAGES for location information for the NPLI for the Short Message feature.

- Default: 0—disabled
- Values: 0 - 30

**npli-upon-register**

This adds the ability to capture Network Provided Location Information during the Registration process.

- Default: disabled
- Values: enabled | disabled

**allow-pani-for-trusted-only**

Allow PANI header only for trusted domains.

- Default: disabled
- Values enabled | disabled

**default-location-string-VoWifi**

Default location information string to be populated when no other NPLI is provided and the AAA includes a RAT type of WLAN.

- Default: empty
- Values: 24 character string, no special characters with the exception of the underscore and hyphen characters. Do not start name with numeric character.

**Path**

**npli-profile** is an element in the **session-config** path. The full path from the topmost ACLI prompt is: **session-config**, and then **npli-profile**.



## nsep-stats-profile

The nsep-stats-profile defines the NSEP statistics the system collects for the realms on which you have enabled the nsep-stats parameter.

### Parameters

#### state

Enables or disables this profile.

- Default: disabled
- enabled

#### rvalues

Lists the rvalues to be considered for per realm statistics.

- Default: empty
- Single or list of rvalues

#### feature-code

The country code STD to be used to with the dialed numbers on which you want to collect realm-based statistics. This is to be pre-pended to all configured dialed numbers. This value must be configured if any dialed number is configured. You can configure only one feature code. A list of values is not permitted.

- Default: empty
- The country code STD to prepend to your dialed number entry or entries.

#### dialed-numbers

Specifies the dialed numbers to be considered for per realm statistics. Use of this parameter also requires that the feature-code parameter be configured.

- Default: empty
- Single or list of dialed numbers on which you want to collect realm statistics

### Path

**nsep-stats-profile** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router**, and then **nsep-stats-profile**.

## ntp-sync

The ntp-sync element defines the ntp server for time synchronization.

### Parameters

#### add-server

Adds IP address or FQDN of the NTP server. IP entries must follow the IP Address Format. An IPv4 or IPv6 address is valid for this parameter.

This parameter accepts a single FQDN or one or more IP addresses. There cannot be more than one FQDN. The parameter does not allow an FQDN and any IP address(es).

**del-server**

Removes a previously entered NTP server. Entries must follow the IP Address Format or FQDN used to add the server. An IPv4 address, IPv6 address or FQDN is valid for this parameter.

**dns-realm**

When using an FQDN in the add-server parameter, this parameter becomes required and specifies the realm on which your target NTP server resides.

**auth-servers**

This parameter provides access to the auth-servers sub-element.

**Path**

**ntp-sync** is a top-level element. The full path from the topmost ACLI prompt is: **configure terminal** , and then **ntp-sync**.

**Note:**

In order for any changes to the NTP synchronization functionality to take effect, perform a save-config followed by a system reboot.

## ntp-sync > auth-servers

The auth-servers subelement is used to configure authenticated NTP

**Parameters****ip-address**

IP address of the NTP server that supports authentication. An IPv4 or IPv6 address is valid for this parameter.

**key-id**

Key ID of the key parameter.

- Values: 0 - 999999999
- Default: 0

**key**

Key used to secure the NTP requests. The key is a string 1 - 28 characters in length.

**Path**

**auth-servers** is a configuration element. The full path from the topmost ACLI prompt is: **configure terminal**, and then **ntp-sync**, and then **auth-servers**

## password-policy

The **password-policy** element configures password rules for password secure mode.

### Parameters

#### **min-secure-pwd-len**

Enter the minimum password length to use when system is in secure password mode. The maximum allowable length for any password is 64 characters.

- Default: 8
- Values: 8-64

 **Note:**

The password using this minimum length value must contain at least one punctuation mark and two out of these three requirements: upper case letter, lower case letter, number. No special characters are allowed, for example: #, &, @.

 **Note:**

This parameter is ignored when the **password-policy-strength** parameter is used (the Admin Security and/or Admin Security ACP license is active).

#### **expiry-interval**

Specifies the maximum password lifetime in days.

- Default: 90
- Min: 1 / Max: 65535

#### **password-change-interval**

Specifies the minimum password lifetime.

- Default: 24 hours
- Min: 1 hour / Max: 24 hours

#### **expiry-notify-period**

Specifies the number of days prior to expiration that users begin to receive password expiration notifications.

- Default: 30 days
- Min: 1 day / Max: 90 days

#### **grace-period**

Time after password expiration user has until forced to change password.

- Default: 30 days

- Min: 1 day / Max: 90 days

**grace-logins**

Number of logins after password expiration the user has until forced to change password.

- Default: 3
- Min: 1 / Max: 10

**password-history-count**

Specifies the number of previously used passwords retained in encrypted format in the password history cache.

- Default: 3
- Supported values are integers within the range 3 through 24 (retained passwords). Each system's actual support, however, is dependent on enabled license:
  - Admin Security alone—Password history count ranges between 3 and 10
  - JITC—Password history count ranges between 8 and 24

 **Note:**

If your configuration violates either of the licenses above, the system displays an error message that states the applicable range.

**password-policy-strength**

Enables the enhanced password strength requirements provided by the Admin Security and/or Admin Security ACP license.

- Default: disabled
- enabled | disabled

**Path**

**password-policy** is an element under the security path. The full path from the topmost CLI prompt is: **configure terminal**, and then **security**, and then **password-policy**.

## paste-config

This command is unsupported.

**Path**

**paste-config** is a command within the top-level configure terminal path. The full path from the topmost CLI prompt is **configure terminal > paste-config**.

## phy-interface

The phy-interface element is used to configure physical interfaces.

## Parameters

### name

Enter the name for this physical interface. Physical interfaces with an operation-type of Control or Maintenance must begin with “wancom.” This is a required field. Entries in this field must follow the Name Format. Name values for the phy-interface must be unique.

### operation-type

Select the type of physical interface connection

- Default: Control
- Values:
  - Media—Front-panel interfaces only. Port: 0-3 Slot: 0 or 1
  - Control—Rear-panel interfaces only. Port 0, 1, or 2 Slot: 0
  - Maintenance —Rear-panel interfaces only. Port 0, 1, or 2 Slot: 0

### port

Select the physical port number on an interface of the phy-interface being configured

- Default: 0
- Values:
  - 0-2 for rear-panel interfaces
  - 0-1 for two possible GigE ports on front of Oracle Communications Session Border Controller chassis
  - 0-3 for four possible FastE ports on front of Oracle Communications Session Border Controller chassis

### slot

Select the physical slot number on the Oracle Communications Session Border Controller chassis

- Default: 0
- Values:
  - 0 is the motherboard (rear-panel interface) if the name begins with “wancom”
  - 0 is the left Phy media slot on front of Oracle Communications Session Border Controller chassis
  - 1 is the right Phy media slot on front of Oracle Communications Session Border Controller chassis

### virtual-mac

Enter the MAC address identifying a front-panel interface when the Oracle Communications Session Border Controller is in the Active state. This field value should be generated from the unused MAC addresses assigned to a Oracle Communications Session Border Controller. The virtual-mac field is only applicable for front interfaces.

### admin-state

Enable or disable the Oracle Communications Session Border Controller to allow incoming and outgoing traffic to be processed using the front physical interface cards

- Default: enabled
- Values: enabled | disabled

**auto-negotiation**

Enable or disable auto negotiation on front Phy card interfaces taking place before either end begins sending packets over the Ethernet link. The auto-negotiation field is only applicable for front interfaces. The value configured in this field does not change the Oracle Communications Session Border Controller status at runtime.

- Default: enabled
- Values: enabled | disabled

**duplex-mode**

Set whether the 10/100 Phy card interfaces located on the front panel of Oracle Communications Session Border Controller operate in full-duplex mode or half-duplex mode

- Default: full
- Values: full | half

**speed**

Set the speed in Mbps of the front-panel 10/100 Phy interfaces; this field is only used if the auto-negotiation field is set to disabled for 10/100 Phy cards

- Default: 100
- Values: "" | 10 | 100 | 1000

**wancom-health-score**

Enter the amount to subtract from the Oracle Communications Session Border Controller's health score if a rear interface link goes down

- Default: 50
- Values: Min: 0 | Max: 100

This parameter has no effect on a phy-interface set to Media as its operation-type.

**network-alarm-threshold**

Access the network-alarm-threshold subelement.

**overload-protection**

Enable this parameter to turn graceful call control on. Disable (default) if you do not want to use this feature.

- Default: disabled
- Values: enabled | disabled

This parameter is not RTC supported

.

**options**

Enter any optional features or parameters.

**Path**

**phy-interface** is an element under the system path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **phy-interface**.

**Note:**

Certain fields are visible based on the setting of the operation-type parameter. This is a multiple instance configuration subelement.

## phy-interface > network-alarm-threshold

The network-alarm-threshold subelement enables the Oracle Communications Session Border Controller to monitor network utilization of its media interfaces and send alarms when configured thresholds are exceeded.

### Parameters

**severity**

Enter the level of alarm to be configured per port.

- Default: minor
- Values: minor | major | critical

**value**

Set the threshold percentage of network utilization that triggers an SNMP trap and alarm for each severity value.

### Path

**network-alarm-threshold** is a subelement under the **system** path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **phy-interface**.

## policy-group > policy-agent

The policy-agent is used for configuring the members of the associated policy-group, which provides load balancing for Rx interface traffic within the RACF context on the Oracle Communications Session Border Controller.

### Parameters

**name**

Specifies the name of this policy agent configuration.

**state**

Enables or disables the operational state of this policy agent configuration.

- Default: enabled
- Values: enabled | disabled

**address**

Specifies the IP address or FQDN of the policy agent.

**port**

Specifies the port on which the policy agent connects.

- Default: 3868
- Range: 0 - 65535

**realm**

Specifies the realm where the policy-agent exists.

**watch-dog-ka-timer**

Specifies the watchdog timer interval for this agent in seconds.

- Default: 0
- Values: Valid Range: 0-65535

**transport-protocol**

Specifies the transport protocol used to connect to this policy-agent.

- Default: TCP
- Values: TCP / SCTP

**local-multi-home-addrs**

Applies to SCTP. Enter an IP address that is local to the SBC and can be used by this external policy server as an alternate connection point. This address must be the same type as the address parameter, either IPv4 or IPv6.

**remote-multi-home-addrs**

Applies to SCTP. Enter an IP addresses that can be used by this SBC as an alternate connection point. This address must be the same type as the address parameter, either IPv4 or IPv6.

**sctp-send-mode**

Applies to SCTP. Specifies the SCTP delivery mode. The default value is **ordered**. Valid values are:

- ordered (Default)
- unordered

**Path**

**policy-agent** is a sub-element under the **policy-group** . The full path from the topmost CLI prompt is: **configure terminal** , and then **media-manager** , and then **policy-group**, and then **policy-agent**.

## policy-group

The **policy-group** is used for configuring load balancing for Rx interface traffic on the Oracle Communications Session Border Controller.

**Parameters****group-name**

Enter the name of this policy-group configuration.

**description**

Enter a description of this group name. Multi-word descriptions must be enclosed in quotes.



**state**

Enable or disable the operational state of this policy-group configuration.

- Default: enabled
- Values: enabled | disabled

**policy-agent**

Enter the policy-agent sub-element to configure one or more policy-agents for this group. There is no limit to the number of agents you can configure.

**strategy**

Enter the policy allocation strategy you want to use. The strategy you choose defines the order the SBC uses to try **policy-agents**. The default and only value is **RoundRobin**.

**max-recursions**

Enter an integer to specify the number of times the SBC can recurse through the agent list.

**stop-recurse**

Enter the list of SIP response codes that terminate recursion within the group. Upon receiving one of the specified response codes, such as 401 unauthorized, or upon generating one of the specified response codes internally, such as 408 timeout, the SBC returns a final diameter response code to the **policy-agents** in the group and stops trying to route the message.

Enter the response codes as a comma-separated list or as response code ranges.

**recursion-timeout**

Time in seconds that the SBC waits for max-recursions to finish before timing out. The default is 15 seconds.

**Path**

**policy-group** is an element under the media-manager path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **media-manager** , and then **policy-group**.

## public-key

This element is unsupported.

**Parameters****name**

Enter the name of the public key

**type**

Select the type of key you want to create.

- Default: rsa
- Values: rsa | dsa

**size**

Enter the size of the key you are creating.

- Default: 1024
- Values: 512 | 1024 | 2048

#### Path

**public-key** is an element under the security path. The full path from the topmost CLI prompt is: **configure terminal > security > public-key**



#### Note:

This is a multiple instance configuration element.

## q850-sip-map

The q850-sip-map configuration element is used to map q850 cause codes to SIP response codes.

#### Parameters

##### entries

Enter the entries configuration subelement

##### delete

Delete a q850 to SIP mapping. Enter the q850 code.

##### edit

Edit a response map by number

#### Path

**q850-sip-map** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router** , and then **q850-sip-map**.

## q850-sip-map > entries

The entries subelement is used to create the mapping of q850 cause to SIP reason code.

#### Parameters

##### q850-cause

Enter the q850 cause code to map to a SIP reason code

##### sip-status

Enter the SIP response code that maps to this q850 cause code

- Values: Min: 100 | Max: 699
- Default: 0

##### sip-reason

Describe the mapped SIP response code

## Path

**entries** is a subelement under the **q850-sip-map** configuration element, which is located under the **session-router** path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router** , and then **q850-sip-map** , and then **entries**.

## qos-constraints

The **qos-constraints** configuration element allows you to enable QoS based routing, which uses the R-Factor on a per-realm basis to cut back on the traffic allowed by a specific realm. Oracle Communications Session Border Controller QoS reporting is a measurement tool that collects statistics on Voice over IP (VoIP) call flows for SIP and H.323. To provide information, the Oracle Communications Session Border Controller writes additional parameters to the Remote Authentication Dial-in User Service (RADIUS) call record and Historical Data Recording (HDR) records.

### Parameters

#### **name**

Enter the name of a QoS constraints configuration

#### **state**

Enable or disable a set of QoS constraints

- Default: enabled
- Values: enabled | disabled

#### **major-factor**

Enter a numeric value set the threshold that determines when the Oracle Communications Session Border Controller applies the call reduction rate; must be less than the critical-rfactor

- Default: 0
- Values: Min: 0 | Max: 9321 0

#### **critical-rfactor**

Enter a numeric value to set the threshold that determines when the Oracle Communications Session Border Controller rejects all inbound calls for the realm, and rejects outbound calls when there is no alternate route

- Default: 0
- Values: Min: 0 | Max: 9321

#### **call-load-reduction**

Enter the percentage by which the Oracle Communications Session Border Controller will reduce calls to the realm if the major-rfactor is exceeded; a value of 0 means the call load will not be reduced

- Default: 0
- Values: Min: 0 | Max: 100

### Path

**qos-constraints** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router**, and then **qos-constraints**.

## radius-servers

Use the **radius-servers** configuration element to define and configure the RADIUS servers that the SBC communicates with.

### Path

The **radius-servers** configuration element is in the **authentication** element.

```
ORACLE# configure terminal
ORACLE(configure)# security
ORACLE(security)# authentication
ORACLE(authentication)# radius-servers
ORACLE(radius-servers)#
```

### Parameters

The **radius-servers** configuration element contains the following parameters:

#### address

Enter the IPv4 or IPv6 address of the RADIUS server.

#### port

Enter the port number on the remote IP address for the RADIUS server.

- Default: 1812
- Valid value: 1645
- Valid value: 1812

#### state

Enable or disable this configured RADIUS server

- Default: enabled
- Values: enabled | disabled

#### secret

Enter the password the RADIUS server and the SBC share.

This password is not transmitted between the two when the request for authentication is initiated.

#### nas-id

Enter the NAS ID for the RADIUS server.

#### realm-id

Enter the RADIUS server realm ID.

#### retry-limit

Set the number of times the SBC retries to authenticate with this RADIUS server.

- Default: 3
- Min: 1 | Max: 5

**retry-time**

Enter the time in seconds the SBC waits before retrying to authenticate with this RADIUS server.

- Default: 5
- Min: 5 | Max: 10

**maximum-sessions**

Enter the maximum number of sessions to maintain with this RADIUS server.

- Default: 255
- Min: 1 | Max: 255

**class**

Select the class of this RADIUS server as either primary or secondary.

- Default: primary
- Values: primary | secondary

A connection to the primary server is tried before a connection to the secondary server is tried.

**dead-time**

Set the time in seconds before the SBC retries a RADIUS server that it has designated as dead.

- Default: 10
- Min: 10 | Max: 10000

**authentication-methods**

Select the authentication method the SBC uses when communicating with the RADIUS server.

- Default: all
- Values: all | chap | eap | mschapv2 | pap

## realm-config

The realm-config element is used to configure realms.

**Parameters****identifier**

Enter the name of the realm associated with this SBC. This is a required field. The identifier field value must be unique.

**description**

Provide a brief description of the realm-config configuration element

**addr-prefix**

Enter the IP address prefix used to determine if an IP address is associated with the realm. This field is entered as an IP address and number of bits in the network portion of the address in standard slash notation.

- Default: 0.0.0.0

An IPV6 address is valid for this parameter.

**network-interface**

Enter the network interface through which this realm can be reached. Entries in this parameter take the form: **<network-interface-ID>:<subport>.<ip\_version>**.

 **Note:**

Only one network interface can be assigned to a single realm-config object.

**media-realm-list**

List media realm names the SBC searches to match a user-site and select a media realm for allocating Teams media IP. The first realm in the media-realm-list is the default realm for fall back functionality.

**mm-in-realm**

Enable or disable media being steered through the Oracle Communications Session Border Controller when the communicating endpoints are located in the same realm

- Default: disabled
- Values: enabled | disabled

**mm-in-network**

Enable or disable media being steered through the Oracle Communications Session Border Controller when the communicating endpoints are located in different realms within the same network (on the same network-interface). If this field is set to enabled, the Oracle Communications Session Border Controller will steer all media traveling between two endpoints located in different realms, but within the same network. If this field is set to disabled, then each endpoint will send its media directly to the other endpoint located in a different realm, but within the same network.

- Default: enabled
- Values: enabled | disabled

**mm-same-ip**

Enable the media to go through this Oracle Communications Session Border Controller if the mm-in-realm . When not enabled, the media will not go through the Oracle Communications Session Border Controller for endpoints that are behind the same IP.

- Default: enabled
- Values: enabled | disabled

**mm-in-system**

Set this parameter to enabled to manage/latch/steer media in the Oracle Communications Session Border Controller. Set this parameter to disabled to release media in the Oracle Communications Session Border Controller. Setting this parameter to disabled will cause the

Oracle Communications Session Border Controller to NOT steer media through the system (no media flowing through this Oracle Communications Session Border Controller).

- Default: enabled
- Values: enabled | disabled

**bw-cac-non-mm**

Set this parameter to enabled to turn on bandwidth CAC for media release

- Default: disabled
- Values: enabled | disabled

**msm-release**

Enable or disable the inclusion of multi-system (multiple Oracle Communications Session Border Controllers) media release information in the SIP signaling request sent into the realm identified by this realm-config element. If this field is set to enabled, another Oracle Communications Session Border Controller is allowed to decode the encoded SIP signaling request message data sent from a SIP endpoint to another SIP endpoint in the same network to restore the original SDP and subsequently allow the media to flow directly between those two SIP endpoints in the same network serviced by multiple Oracle Communications Session Border Controllers. If this field is set to disabled, the media and signaling will pass through both Oracle Communications Session Border Controllers. If this field is set to enabled, the media is directed directly between the endpoints of a call.

- Default: disabled
- Values: enabled | disabled

**qos-enable**

Enable or disable the use of QoS in this realm

- Default: disabled
- Values: enabled | disabled

**generate-udp-checksum**

Enable or disable the realm to generate a UDP checksum for RTP/RTCP packets.

- Default: disabled
- Values: enabled | disabled

This parameter is visible only on Acme Packet 3800s and Acme Packet 4500s that do not have an ETC card installed. The function is enabled and not configurable on all other platforms.

**max-bandwidth**

Enter the total bandwidth budget in kilobits per second for all flows to/from the realm defined in this element. A max-bandwidth field value of 0 indicates unlimited bandwidth.

- Default: 0
- Values: Min: 0 / Max: 999999999

**fallback-bandwidth**

Enter the amount of bandwidth available once the Oracle Communications Session Border Controller has determined that the target (of ICMP pings) is unreachable.

- Default: 0
- Values: Min: 0

**max-priority-bandwidth**

Enter the amount of bandwidth amount of bandwidth you want to want to use for priority (emergency) calls; the system first checks the max-bandwidth parameter, and allows the call if the value you set for priority calls is sufficient.

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-latency**

This parameter is unsupported.

**max-jitter**

This parameter is unsupported.

**max-packet-loss**

This parameter is unsupported.

**observ-window-size**

This parameter is unsupported.

**parent-realm**

Enter the parent realm for this particular realm. This must reference an existing realm identifier.

**dns-realm**

Enter the realm whose network interface's DNS server should be used to resolve FQDNs for requests sent into the realm. If this field value is left empty, the Oracle Communications Session Border Controller will use the DNS of the realm's network interface.

**media-policy**

Select a media-policy on a per-realm basis (via an association between the name field value configured in this field). When the Oracle Communications Session Border Controller first sets up a SIP or H.323 media session, it identifies the egress realm of each flow and then determines the media-policy element to apply to the flow. This parameter must correspond to a valid name entry in a media policy element.

**nsep-media-policy**

Enter the name of the media-policy you want to apply to this realm for traffic identified and handled as NSEP traffic. Use this parameter to establish different DSCP marking between NSEP and other media on this realm. This parameter must correspond to a valid name entry in a media policy element.

**media-sec-policy**

Name of default media security policy.

**rtcp-mux**

Select to enable RTCP multiplexing, which allows Real-Time Protocol (RTP) and Real-Time Control Protocol (RTCP) packets to use the same media port numbers.

- Default: disabled
- Values: enabled | disabled



**ice-profile**

Specify the name of an existing ICE profile, which enables a WebRTC client to perform connectivity checks and can provide several STUN servers to the browser.

**dtls-srtp-profile**

Enter the name of the dtls-srtp-profile you want to apply to DTLS traffic on this realm.

**srtp-msm-passthrough**

Enables multi system selective SRTP pass through in this realm.

- Default: disabled
- Values: enabled | disabled

**class-profile**

Enter the name of class-profile to use for this realm for ToS marking

**in-session-translations**

Enter the subelement that defines session translations to apply to incoming traffic on this realm.

**out-session-translations**

Enter the subelement that defines session translations to apply to outgoing traffic on this realm.

**in-manipulationid**

Enter the inbound SIP manipulation rule name

**out-manipulationid**

Enter the outbound SIP manipulation rule name

**average-rate-limit**

Enter the average data rate in bits per second for host path traffic from a trusted source

- Default: 0 (disabled)
- Values: Min: 0 | Max: 4294967295

**access-control-trust-level**

Select a trust level for the host within the realm

- Default: none
- Values:
  - high—Hosts always remains trusted
  - medium—Hosts belonging to this realm can get promoted to trusted, but can only get demoted to untrusted. Hosts will never be put in block-list.
  - low—Hosts can be promoted to trusted list or can get demoted to untrusted list
  - none—Hosts will always remain untrusted. Will never be promoted to trusted list or will never get demoted to untrusted list

**max-inbound-per-session-burst-rate**

Set the maximum inbound burst rate per session.

- Default: 30
- Values: Min: 1 | Max: 999999999

**burst-rate-window-per-session**

Set the burst rate window per session.

- Default: 1
- Values: Min: 1 | Max: 999999999

**dos-action-at-session**

Specify the system's behavior for reacting to session-based DoS attacks.

- Default: none
- permit—If the endpoint initiates the DDoS attack at the session level, the system can demote or deny the endpoint. At first detection of a DDoS attack, the system demotes the endpoint from trusted to untrusted. If there is a second DDoS attack before the UNTRUST\_TMO timer expires, the system further demotes the endpoint to deny
- no-deny—If the endpoint initiates the DDoS attack at the session level, the system can demote the endpoint to untrusted. When the UNTRUST\_TMO timer expires, the system promotes the endpoint back to the trusted state.
- session-drop—If the endpoint initiates the DDoS attack at the session level, the system takes action on that session only. Specifically, the system terminates the existing session but does not demote or deny the endpoint.

**invalid-signal-threshold**

Enter the acceptable invalid signaling message rate falling within a tolerance window

- Default: 0
- Values: Min: 0 | Max: 4294967295

**maximum-signal-threshold**

Enter the maximum number of signaling messages allowed within the tolerance window

- Default: 0 (disabled)
- Values: Min: 0 | Max: 4294967295

**untrusted-signal-threshold**

Enter the allowed maximum signaling messages within a tolerance window.

- Default: 0
- Values: Min: 0 | Max: 4294967295

**nat-trust-threshold**

Enter maximum number of denied endpoints that set the NAT device they are behind to denied. 0 means dynamic demotion of NAT devices is disabled.

- Default: 0
- Values: Min: 0 | Max: 65535

**max-endpoints-per-nat**

Maximum number of endpoints that can exist behind a NAT before demoting the NAT device.

- Default: 0 (disabled)

- Values: Min: 0 | Max: 65535

**nat-invalid-message-threshold**

Maximum number of invalid messages that may originate behind a NAT before demoting the NAT device.

- Default: 0 (disabled)
- Values: Min: 0 | Max: 65535

**wait-time-for-invalid-register**

Period (in seconds) that the counts before considering the absence of the REGISTER message as an invalid message.

- Default: 0 (disabled)
- Values: Min: 0, 4-300

**deny-period**

Enter the length of time an entry is posted in the deny list

- Default: 30
- Values: Min: 0 / Max: 4294967295

**cac-failure-threshold**

Enter the number of CAC failures for any single endpoint that will demote it from the trusted queue to the untrusted queue for this realm.

- Default: 0
- Values: Min: 0 / Max:141842

**untrust-cac-failure-threshold**

Enter the number of CAC failures for any single endpoint that will demote it from the untrusted queue to the denied queue for this realm.

- Default: 0
- Values: Min: 0 / Max: 4294967295

**ext-pol-server**

Name of external policy server.

**diam-e2-address-realm**

The value inserted into a Diameter e2 Address-Realm AVP when a message is received on this realm.

**symmetric-latching**

Enable, disable and manage symmetric latching between endpoints for RTP traffic.

- Default: disabled
- enabled
- disabled
- pre-emptive - symmetric latching is enabled, but the SBC sends RTP packets to the received SDP connection address without waiting on the latch.

**pai-strip**

Enable or disable P-Asserted-Identity headers being stripped from SIP messages as they exit the Oracle Communications Session Border Controller. The PAI header stripping function is dependent on this parameter and the trust-me parameter.

- Default: disabled
- Values: enabled | disabled

**trunk-context**

Enter the default trunk context for this realm

**early-media-allow**

Select the early media suppression for the realm

- Values:
  - none: No early media is allowed in either direction
  - both: Early media is allowed in both directions
  - reverse: Early media received by Oracle Communications Session Border Controller in the reverse direction is allowed

**enforcement-profile**

Enter the name of the enforcement profile (SIP allowed methods).

**additional-prefixes**

Enter one or more additional address prefixes. Not specifying the number of bits to use implies all 32 bits of the address are used to match.

**add-additional-prefixes**

Add one or more additional address prefixes. Not specifying the number of bits to use implies all 32 bits of the address are used to match.

**remove-additional-prefixes**

Remove one or more additional address prefixes. Not specifying the number of bits to use implies all 32 bits of the address are used to match.

**restricted-latching**

Set the restricted latching mode.

- Default: None
- Values:
  - none: No restricted latching
  - sdp: Use the IP address specified in the SDP for latching purpose
  - peer-ip: Use the peer-ip (Layer 3 address) for the latching purpose
  - sdp-ip-port: Latch to media based on the IP Address received in the SDP c= connect address line, and the port in the mline in the offer and answer.

**restriction-mask**

Set the restricted latching mask value.

- Default: 32
- Values: Min: 1 | Max: 128

**user-cac-mode**

Set this parameter to the per user CAC mode that you want to use

- Default: none
- Values:
  - none—No user CAC for users in this realm
  - AOR—User CAC per AOR
  - IP—User CAC per IP

**user-cac-bandwidth**

Enter the maximum bandwidth per user for dynamic flows to and from the user. By leaving this parameter set to 0 (default), there is unlimited bandwidth and the per user CAC feature is disabled for constraint of bandwidth.

**user-cac-sessions**

Enter the maximum number of sessions per user for dynamic flows to and from the user. Leaving this parameter set to 0 (default), there is unlimited sessions and the CAC feature is disabled for constraint on sessions

- Default: 0
- Values: Min: 0 / Max: 999999999

**icmp-detect-multiplier**

Enter the multiplier to use when determining how long to send ICMP pings before considering a target unreachable. This number multiplied by the time set for the icmp-advertisement-interval determines the length of time

- Default: 0
- Values: Min: 0

**icmp-advertisement-interval**

Enter the time in seconds between ICMP pings the Oracle Communications Session Border Controller sends to the target.

- Default: 0
- Values: Min: 0

**icmp-target-ip**

Enter the IP address to which the Oracle Communications Session Border Controller should send the ICMP pings so that it can detect when they fail and it needs to switch to the fallback bandwidth for the realm.

- Default: (empty)

**monthly-minutes**

Enter the monthly minutes allowed

- Default: 0
- Values: Min: 0 / Max: 71582788

**options**

Enter any optional features or parameters

**accounting-enable**

Select whether you want accounting enabled within the realm

- Default: enabled
- Values: enabled | disabled

**net-management-control**

Enable or disable network management controls for this realm

- Default: disabled
- Values: enabled | disabled

**delay-media-update**

Enable or disable media update delay

- Default: disabled
- Values: enabled | disabled

**refer-call-transfer**

REFER call transfer

- Default: disabled
- Values: enabled | disabled | dynamic

**refer-notify-provisional**

Provisional mode for sending NOTIFY message

- Default: none
- Values:
  - none: no intermediate NOTIFY's are to be sent
  - initial: immediate 100 Trying NOTIFY has to be sent
  - all: immediate 100 Trying NOTIFY plus a NOTIFY for each non-100 provisional received by the SD are to be sent

**dyn-refer-term**

Enable or disable the Oracle Communications Session Border Controller to terminate a SIP REFER and issue a new INVITE. If the dyn-refer-term value is disabled (the default), proxy the REFER to the next hop to complete REFER processing. If the dyn-refer-termvalue is enabled, terminate the REFER and issue an new INVITE to the referred party to complete REFER processing.

- Default: disabled
- Values: enabled | disabled

**codec-policy**

Select the codec policy you want to use for this realm

**codec-manip-in-realm**

Enable or disable codec policy in this realm

- Default: disabled
- Values: enabled | disabled

**codec-manip-in-network**

Enable or disable codec policy in this network.

- Default: enabled
- enabled | disabled

**constraint-name**

Enter the name of the constraint you want to use for this realm

**call-recording-server-id**

This parameter is unsupported.

**session-recording-server**

A maximum of four names of session-recording-servers, or session-recording-groups, or a combination of both existing in the realm associated with the session reporting client. Valid values are alpha-numeric characters. session recording groups are indicated by prepending the groupname with SRG:

**session-recording-required**

Determines whether calls are accepted by the SBC if recording is not available.

- Default: disabled
- enabled—Restricts call sessions from being initiated when a recording server is not available.
- disabled—Allows call sessions to initiate even if the recording server is not available.

**xnq-state**

This parameter is unsupported.

**hairpin-id**

This parameter is unsupported.

**manipulation-string**

Enter a string to be used in header manipulation rules for this realm. 1

**manipulation-pattern**

Enter the regular expression to be used in header manipulation rules for this realm.

**stun-enable**

Enable or disable the STUN server support for this realm

- Default: disabled
- Values: enabled | disabled

**stun-server-ip**

Enter the IP address for the primary STUN server port

- Default: 0.0.0.0

**stun-server-ip**

Enter the IP address for the primary STUN server port

- Default: 0.0.0.0

**stun-server-port**

Enter the port to use with the stun-server-ip for primary STUN server port

- Default: 3478
- Values: Min. 1025 | Max. 65535

**stun-changed-ip**

Enter the IP address for the CHANGED-ADDRESS attribute in Binding Requests received on the primary STUN server port; must be different from than the one defined for the stun-server-ip

- Default: 0.0.0.0

**stun-changed-port**

Enter the port combination to define the CHANGED-ADDRESS attribute in Binding Requests received on the primary STUN server port

- Default: 3479
- Values: Min. 1025 | Max. 65535

**flow-time-limit**

Enter the total time limit in seconds for the flow. The Oracle Communications Session Border Controller notifies the signaling application when this time limit is exceeded. This field is only applicable to dynamic flows. A value of 0 seconds disables this function and allows the flow to continue indefinitely.

- Default: -1, which allows the system to use the global timer settings for this realm.
- Values: Min: 0 / Max: 2147483647

**initial-guard-timer**

Enter the time in seconds allowed to elapse before first packet of a flow arrives. If first packet does not arrive within this time limit, Oracle Communications Session Border Controller notifies the signaling application. This field is only applicable to dynamic flows. A value of 0 seconds indicates that no flow guard processing is required for the flow and disables this function.

- Default: -1, which allows the system to use the global timer settings for this realm.
- Values: Min: 0 / Max: 2147483647

**subsq-guard-timer**

Enter the maximum time in seconds allowed to elapse between packets in a flow. The Oracle Communications Session Border Controller notifies the signaling application if this timer is exceeded. This field is only applicable to dynamic flows. A field value of zero seconds means that no flow guard processing is required for the flow and disables this function.

- Default: -1, which allows the system to use the global timer settings for this realm.
- Values: Min: 0 / Max: 2147483647

**tcp-flow-time-limit**

Enter the maximum time in seconds that a media-over-TCP flow can last

- Default: -1, which allows the system to use the global timer settings for this realm.
- Values: Min: 0 / Max: 2147483647

**tcp-initial-guard-timer**

Enter the maximum time in seconds allowed to elapse between the initial SYN packet and the next packet in a media-over-TCP flow



- Default: -1, which allows the system to use the global timer settings for this realm.
- Values: Min: 0 / Max: 2147483647

**tcp-subsq-guard-timer**

Enter the maximum time in seconds allowed to elapse between all subsequent sequential media-over-TCP packets

- Default: -1, which allows the system to use the global timer settings for this realm.
- Values: Min: 0 / Max: 2147483647

**sip-profile**

Enter the name of the sip-profile to apply to this realm.

**sip-isup-profile**

Enter the name of the sip-isup-profile to apply to this realm.

**match-media-profiles**

Enter the media profiles you would like applied to this realm in the form <name>::<subname>. See the Oracle Communications Session Border Controller Configuration Guide for information about wildcard values.

**qos-constraints**

Enter the name value from the QoS constraints configuration you want to apply to this realm

**block-rtcp**

Block RTCP from entering or leaving this realm.

- Default: disabled
- Values: enabled | disabled

**hide-egress-media-update**

Hide changes to ingress RTP egressing into this realm

- Default: disabled
- Values: enabled | disabled

**subscription-id-type**

Sets the supported Subscription ID Types and the subsequent values inserted into the Subscription-Id-Data AVP's in an AAR message for Rx transactions.

- Default: END\_USER\_NONE
- Values: END\_USER\_NONE | END\_USER\_E164 | END\_USER\_SIP\_URI | END\_USER\_IMSI

**tcp-media-profile**

A configured tcp-media-profile name to use within this realm. Used for MSRP.

**stun-server-port**

Enter the port to use with the stun-server-ip for primary STUN server port

- Default: 3478
- Values: Min. 1025 | Max. 65535

**tcp-media-profile**

A configured tcp-media-profile name to use within this realm. Used for MSRP.

**monitoring-filters**

Comma-separated list of monitoring filters used for SIP monitor and trace.

**node-functionality**

Sets the value inserted into the node-functionality AVP in Rf messages going into this realm.

- P-CSCF
- BGCF
- IBCF
- E-CSCF
- "" - This indicates that this realm should revert to the global node-functionality value.

**default-location-string**

Used for NPLI functionality.

**alt-realm-family**

The realm name of the alternate realm, from which to use an IP address in the other address family. If this parameter is within an IPv4 realm configuration, you will enter an IPv6 realm name.

**pref-addr-type**

Order in which the `a=altc:` lines suggest preference.

- Default: none
- Values: none | ipv4 | ipv6

**dns-max-response-size**

Enter the maximum size of the DNS response to queries.

- Default: 0; disabled
- Value: 65535

**session-max-life-limit**

Enter the maximum interval in seconds before the system must terminate long duration calls. This value supercedes the value of **session-max-life-limit** in the **sip-interface** and **sip-config** configuration elements and is itself superceded by the value of **session-max-life-limit** in the **session-agent** configuration element.

- Default: 0; disabled
- Values:
  - 0
  - unlimited
  - 1 - 2073600

 **Note:**

See the Configuration Guide for the difference between 0 and unlimited.

**sm-icsi-match-for-invite**

The ICSI URN to match on to increment the session-based messaging counters.

- Default: urn:rrn-7:3gpp-service.ims.icsi.oma.cpm.msg

**sm-icsi-match-for-message**

The ICSI URN to match on to increment the event-based messaging counters.

- Default: urn:rrn-7:3gpp-service.ims.icsi.oma.cpm.largemsg

**ringback-file**

Specifies the name of the media file, stored previously in /code/media, that the system plays when triggered for this realm.

**ringback-trigger**

Specifies when the system triggers the local media playback function.

- none—The system does not perform local media playback procedures. Based on precedence, however, the system may issue playback based on other element configurations. Local media playback follows the precedence session-agent, realm, then sip-interface.
- disabled—The system does not perform media playback procedures on this flow, regardless of ensuing configurations.
- 180-no-sdp—Defines the trigger by which the system starts local media playback to caller. This parameter causes playback trigger whenever the called leg responds with a 180 message that does not include SDP.
- 180-force—Defines the trigger by which the system starts local media playback to caller. This parameter causes playback trigger whenever the called leg responds with a 180 message.
- 183—Starts playback to caller when 183 is sent to call originator. The system stops the playback on the final response (either 2xx success or 4xx error). Configure this 183 value on the original INVITE ingress realm/sip-interface/session-agent.
- refer—Starts playback to the referee when it receives a REFER. This trigger operates only if the OCSBC actually terminates and performs the refer operation. If the REFER is via proxy, playback is not a triggered. Playback stops when the refer operation is complete with a final response (200-299 or 400-699). Configure this refer value on the ingress realm/sip-interface/session-agent of the transferred call.
- 183-and-refer—Starts playback when both 183 and refer triggers are activated.
- playback-on-header—Starts or stops playback based on the presence of the P-Acme-Playback header and its definitions.

**teams-fqdn-in-uri**

Enables IP to FQDN replacement in FROM and Contact headers for SIP requests for Teams deployments. Also enables the SBC to send the proprietary X-MS-SBC header in SIP messages on egress realm.

- Default: disabled
- Values: enabled | disabled

**Note:**

This parameter uses the hostname configured under **network-interface**.

**sdp-inactive-only**

Enables the SBC to change the sendonly and rcvonly attribute in SDP to inactive in outgoing SDP for Teams deployments. Also enables the SBC to perform the reverse action in incoming SDP.

- Default: disabled
- Values: enabled | disabled

**teams-fqdn**

Reserved for use with Microsoft Teams integrations only.

**merge-early-dialogs**

Allows or prevents the merging of early dialogs within forking scenarios.

- Default: disabled
- Values: enabled | disabled

**user-site**

Sets the user-site names corresponding to the user-site configuration set at the DR. The SBC uses this name to select the realm for allocating media IP. The match for user-site is case insensitive.

**srvcv-trfo**

Supports SRVCC handover events that need to occur without transcoding by forcing a re-negotiation during the handover if a non-transcodable codec is currently being used.

- Default: empty
- Values: EVS

**sti-as**

Specifies the name of an sti-server-group name or a space-separated list of sti-server (up to four allowed) to which the SBC shall send AS requests. When configuring a group name, use the prefix `stg:` followed by your group name. For example, `stg:myStiGroupName`.

**sti-vs**

Specifies the name of an sti-server-group name or a space-separated list of sti-server (up to four allowed) to which the SBC shall send VS requests. When configuring a group name, use the prefix `stg:` followed by your group name. For example, `stg:myStiGroupName`.

**sti-orig-id**

Specifies the UUID v4 to be added to STI-AS requests, if not already present, during STIR/SHAKEN functions.

**sti-attest**

Specifies the attestation value that is sent in AS request, during STIR/SHAKEN functions. The default is empty

- full-attestation
- partial-attestation
- gateway-attestation

**sti-signaling-attest**

Enable this parameter to instruct the SBC to use attestation level and origination ID headers from the ingress SIP INVITE in the REST query to the STI-AS, if preferred. When enabled, the Attestation-Info and Origination-ID headers override the configured values, if present. If one of the two requested headers is present, the other value is obtained from configured parameters.

- Default: Disable—The system does not use the attestation value and origId from SIP headers.
- Enable—The system uses the attestation value and origId from SIP headers, when present.

**feature-trfo**

Configure this parameter with the feature or features with which you want to use transcoding free operation (TrFO). Configure multiple parameters by separating them with a comma.

- Default: disable
- rbt
- asymmetric-preconditions

Although you can configure the feature-trfo parameter with multiple parameters, the system only acts on one of those parameters at any give time. Under the condition where more than one parameter applies, the system refers to your configuration's parameter order to determine which function to perform.

**auth-attribute**

Sub-element providing access to cross-realm surrogate agent management parameters.

**fqdn-hostname**

Enter the hostname you want to in include in the selected headers for this realm's egress traffic.

**fqdn-hostname-in-header**

List the headers for which the system includes the hostname that you configured in the fqdn-host-name parameter. Separate multiple values with a comma.

- FROM
- TO
- CONTACT
- R-URI

**P-Asserted-Identity**

Enter the string you want to use to set the identity within PAI headers for this realm's egress traffic.

**P-Asserted-Identity-For**

List the methods for which the system includes a PAI header using the PAI identity you set in this realm's p-asserted-identity parameter. Separate multiple values with a comma.

- INVITE
- BYE
- ACK
- REGISTER

**nsep-stats**

Enables the collection and reporting of NSEP statistics for this realm.

- Default: disabled
- Values: enabled | disabled

**steering-pool-threshold**

Specifies, in percent utilization, the value above which the system triggers an alarm indicating the realm is running low on steering pool ports.

- Default: 0 (Disables alarm)
- Range: 0 - 100%

**steering-pool-lower-threshold**

Specifies, in percent utilization, the value below which the system considers steering pool utilization on this realm acceptable. Operates in conjunction with the steering-pool-alarm-monitoring-time to prevent the system from issuing multiple alarms for what you consider the same issue.

- Default: 70
- Range: 1 - 95%

**steering-pool-alarm-monitoring-time**

Operates in conjunction with the steering-pool-lower-threshold, and specifies in minutes the duration for which the system considers an alarm condition triggered by the steering-pool-threshold as still in effect. After the system triggers this alarm, it uses this window as the amount of time steering pool port usage must be below the steering-pool-lower-threshold before the system can issue a new steering-pool-threshold alarm. This logic prevents the system from issuing multiple alarms for what you consider the same issue.

- Default: 15
- Range: 5 - 600 minutes

**suppress-hold-resume-reinvite**

Enables the system to suppress INVITEs on one leg of a call from being sent out the other leg. This suppression supports the SIP signaling while reducing traffic on the realm that does not need to act on the INVITE. These flows include call hold, call resume, re-INVITEs with codec changes and re-INVITEs with replaces headers.

- Default: disabled
- enabled

**snmp-sipmethod-stats**

Enables the system to collect SIP method statistics for this realm. When disabled, the system collects SIP method statistics on a system-wide basis.

- Default: disabled
- Values: enabled | disabled

### Path

**realm-config** is an element under the **media-manager** path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **media-manager** , and then **realm-config**.



#### Note:

This is a multiple instance configuration subelement.

## realm-config > in-session-translations

Use the **in-session-translations** element to configure the session translations that apply to incoming traffic on this realm.

### Parameters

#### in-session-translation-id

Enter the id of the session translation to apply to this realm.

#### state

Declare whether this session translation is enabled or disabled.

- Default: enabled
- Values: enabled | disabled

#### move

Change the order of execution.

The syntax of the command:

```
move <from-position> <to-position>
```

For example, to move the second session translation into the first position:

```
move 2 1
```

### Path

The **in-session-translations** element is under the **media-manager** path.

```
ORACLE# conf term
ORACLE(configure)# media-manager
ORACLE(media-manager)# realm-config
ORACLE(realm-config)# in-session-translations
ORACLE(in-session-translation-list)#
```

**Note:**

This is a multiple instance configuration subelement.

## realm-config > out-session-translations

Use the **out-session-translations** element to configure the session translations that apply to outgoing traffic on this realm.

### Parameters

**out-session-translation-id**

Enter the id of the session translation to apply to this realm.

**state**

Declare whether this session translation is enabled or disabled.

- Default: enabled
- Values: enabled | disabled

**move**

Change the order of execution.

The syntax of the command:

```
move <from-position> <to-position>
```

For example, to move the second session translation into the first position:

```
move 2 1
```

### Path

The **out-session-translations** element is under the **media-manager** path.

```
ORACLE# conf term
ORACLE(configure)# media-manager
ORACLE(media-manager)# realm-config
ORACLE(realm-config)# out-session-translations
ORACLE(out-session-translation-list)#
```

**Note:**

This is a multiple instance configuration subelement.



## realm-config > auth-attributes

The auth-attributes element is used to configure authentication parameters available for surrogate registration on this realm.

### Parameters

#### auth-realm

Enter the name (realm ID) of the host realm initiating the authentication challenge. This value defines the protected space in which the digest authentication is performed. Valid value is an alpha-numeric character string.

- Default: blank

#### username

Enter the username of the client. Valid value is an alpha-numeric character string.

- Default: blank

#### auth-user-lookup

Lookup used for selecting the AuthUser

- Default: blank

#### password

Enter the password associated with the username of the client. This is required for all LOGIN attempts. Password displays while typing but is saved in clear-text (i.e., \*\*\*\*\*). Valid value is an alpha-numeric character string.

- Default: blank
- Values: round-robin | hunt

#### in-dialog-methods

Optionally enter the in-dialog request method(s) that digest authentication uses from the cached credentials. Specify request methods in a list form separated by a space enclosed in parentheses. Valid values are.

- Default: blank
- Values: INVITE | BYE | ACK | OPTIONS | SUBSCRIBE | PRACK | NOTIFY | UPDATE | REFER

### Path

**auth-attributes** is an element under the **media-manager** path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **media-manager** , and then **realm-config**, and then **auth-attributes**



#### Note:

This is a multiple instance configuration subelement.

## realm-group

The realm-group configuration element allows you to configure realm groups. Realm groups are sets of source and destination realms that allow early media to flow in the direction you configure.

### Parameters

#### name

Enter the name of this realm group

#### source-realm

Enter the list of one or more global/SIP realms that you want to designate as source realms for the purpose of blocking early media; this is the realm identifier value for the realms you want on the list. To enter more than one realm in this list, list all items separated by a comma and enclose the entire entry in quotation marks.

#### destination-realm

Enter the list of one or more global/SIP realms that you want to designate as destination realms for the purpose of blocking early media; this is the realm identifier value for the realms you want on the list. To enter more than one realm in the list, list all items separated by a comma and enclose the entire entry in quotation marks

#### early-media-allow-direction

Set the direction for which early media is allowed for this realm group.

- Default: both
- Values:
- none—Turns off the feature for this realm group by blocking early media
- reverse - Allows early media to flow from called to caller.
- both - Allows early media to flow to/from called and caller

#### state

Enable or disable this realm group

- Default: disabled
- Values: enabled | disabled

### Path

**realm-group** is an element of the media-manager path. The full path from the topmost ACLI prompt is: **configure terminal > media-manager > realm-group**.

## redundancy

The redundancy element establishes HA parameters for a Oracle Communications Session Border Controller that participates in an HA architecture.

### Parameters

#### state

Enable or disable HA for the Oracle Communications Session Border Controller

- Default enabled
- Values enabled | disabled

 **Note:**

This parameter is not RTC supported.

**log-level**

Select the starting log level for the HA process. This value supersedes the value configured in the process-log-level field in the system-config element for the HA process

- Default: info
- Values:
  - emergency
  - critical
  - major
  - minor
  - warning
  - notice
  - info
  - trace
  - debug
  - detail

**health-threshold**

Enter the health score at which standby Oracle Communications Session Border Controller switches over to the Active state and takes control of all system functionality as the active Oracle Communications Session Border Controller

- Default: 75
- Values: Min: 0 | Max: 100

**emergency-threshold**

Enter the low health score value that triggers the initializing standby Oracle Communications Session Border Controller to become the active Oracle Communications Session Border Controller immediately. In addition, the active but unhealthy Oracle Communications Session Border Controller, regardless of its health, will not relinquish its Active state if the HA Oracle Communications Session Border Controller peer poised to become active upon switchover also has a health score below this emergency-threshold value.

- Default: 50
- Values: Min: 0 | Max: 100

**port**

Enter the port number on which the border element redundancy protocol is listening

- Default: 9090
- Values: Min: 1025 | Max: 65535

 **Note:**

This parameter is not RTC supported.

**advertisement-time**

Enter the time in milliseconds the Oracle Communications Session Border Controller continually sends its health score to its HA Oracle Communications Session Border Controller peer(s)

- Default: 500
- Values: Min: 50 | Max: 999999999

**percent-drift**

Set the percentage of an HA Oracle Communications Session Border Controller peer's advertisement time for this HA Oracle Communications Session Border Controller to wait before considering its peer to be out of service

- Default: 210
- Values: Min: 100 | Max: 65535

**initial-time**

Enter the number of milliseconds to set the longest amount of time the Oracle Communications Session Border Controller will wait at boot time to change its state from initial to either becoming active or becoming standby. This field is independent of the advertisement-time and percent-drift parameters; it is a timer used to decide the state transition.

- Default: 1250
- Values: Min: 5 / Max: 999999999

**becoming-standby-time**

Enter the time in milliseconds to wait before transitioning to the Standby state. This field allows the HA Oracle Communications Session Border Controller enough time to synchronize with its HA Oracle Communications Session Border Controller peer. If the HA Oracle Communications Session Border Controller has not become fully synchronized within the time frame established in this field, it will be declared out of service. We recommend setting this parameter to no less than 180000 if configuration checkpointing is used.

- Default: 180000
- Values: Min: 5 / Max: 2147483647

**becoming-active-time**

Enter the time in milliseconds a previously standby Oracle Communications Session Border Controller takes to become active. This field applies to the following scenarios:

- When the health of an active Oracle Communications Session Border Controller has failed

- When the standby Oracle Communications Session Border Controller is healthier than the active Oracle Communications Session Border Controller  
This is a transitional state.
  - Default: 100
  - Values: Min: 5 / Max: 999999999

**cfg-port**

Enter the port number from which HA checkpoint messages are sent and received. This field supports Configuration Checkpointing. Setting the `cfg-port` field value to 0 disables configuration checkpointing.

- Default: 1987
- Values: Min: 1025 / Max: 65535; 0

 **Note:**

This parameter is not RTC supported.

**cfg-max-trans**

Enter the size of the HA checkpoint transaction list to store in memory at a time

- Default: 10000
- Values: Min: 0 / Max: 4294967295

 **Note:**

This parameter is not RTC supported.

**cfg-sync-start-time**

Enter the time in milliseconds before HA Oracle Communications Session Border Controller begins sending HA configuration checkpointing requests. This timer begins immediately upon entering the Active state. As long as the active peer is healthy and active, it remains in a constant cycle of (re)setting this parameter's timer and checking to see if it has become standby.

- Default: 5000
- Values: Min: 0 / Max: 4294967295

 **Note:**

This parameter is not RTC supported.

**cfg-sync-comp-time**

Enter the time in milliseconds the standby Oracle Communications Session Border Controller waits before checkpointing with the active Oracle Communications Session Border Controller to obtain the latest configuration transaction information once the initial checkpointing process is complete.

- Default: 1000
- Values: Min: 0 / Max: 4294967295

 **Note:**

This parameter is not RTC supported.

**gateway-heartbeat-interval**

Enter the time in seconds between heartbeats on the front interface gateway. This parameter is applicable until a front interface gateway failure occurs. This parameter applies globally to Oracle Communications Session Border Controllers operating in an HA node, but can be overridden on a network interface-by-network interface basis by the value configured in the gw-heartbeat: heartbeat field of the gw-heartbeat subelement in the network-interface element.

- Default: 0
- Values: Min: 0 / Max: 65535

 **Note:**

This parameter is not RTC supported.

**gateway-heartbeat-retry**

Enter the number of front interface gateway heartbeat retries after a front interface gateway failure occurs. The value configured in this field applies globally to Oracle Communications Session Border Controllers operating in HA pair architectures, but can be overridden on a per network interface basis by the value configured in the gw-heartbeat: retry-count field.

- Default: 0
- Values: Min: 0 / Max: 65535

 **Note:**

This parameter is not RTC supported.

**gateway-heartbeat-timeout**

Enter the heartbeat retry timeout value in seconds between subsequent ARP requests to establish front interface gateway communication after a front interface gateway failure occurs. The value configured in this field applies globally to Oracle Communications Session Border Controllers operating in HA pair architectures, but can be overridden on a network interface basis by the value configured in the gw-heartbeat: retry-timeout field.

- Default: 1
- Values: Min: 1 / Max: 65535

 **Note:**

This parameter is not RTC supported.

**gateway-heartbeat-health**

Enter the health score amount to subtract if the timeout value set in the gateway-heartbeat-timeout field has been exceeded without receiving a response from the front interface gateway. The value configured in this field applies globally to Oracle Communications Session Border Controllers operating in HA nodes, but can be overridden on a network interface basis by the value configured in the gw-heartbeat > health-score field of the gw-heartbeat. A field value of 0 means that the health score is not affected.

- Default: 0
- Values: Min: 0 / Max: 100

 **Note:**

This parameter is not RTC supported.

**media-if-peercheck-time**

Enter the amount of time in milliseconds for the standby system in an HA node to receive responses to its ARP requests via the front interface before it takes over the active role from its counterpart. A value of 0 turns the HA front interface keepalive off

- Default: 0
- Values: Min: 0 / Max: 500

**peers**

Access the peers subelement

**Path**

**redundancy** is an element under the system path. The full path from the topmost CLI prompt is: **configure terminal system redundancy.**

 **Note:**

This is a single instance configuration element.

## redundancy > peers

The peers subelement establishes the name and state of an HA node.

**Parameters****state**

Enable or disable HA

- Default: enabled
- Values: enabled | disabled

**type**

Select the HA peer type and which utility address to use

- Default: unknown
- Values:
  - primary—HA peer set as the primary Oracle Communications Session Border Controller. It is associated with the utility address configured in the pri-utility-addr field of each network-interface element.
  - secondary—HA peer set as the secondary Oracle Communications Session Border Controller. It is associated with the utility address configured in the sec-utility-addr field of each network-interface element.
  - unknown—Not assigned HA peer type with associated utility address unknown. This type field option is not valid for configuration checkpointing. Although unknown is the default value, Primary or Secondary field option must be set in order for configuration checkpointing to function properly.

**destinations**

Access the destinations subelement

**Path**

**peers** is a subelement under the redundancy element. The full path from the topmost CLI prompt is: **configure terminal** , and then **system** , and then **redundancy** , and then **peers**.

**Note:**

This is a multiple instance configuration subelement.

## redundancy > peers > destinations

The destinations subelement establishes locations where health and state information is sent and received.

**Parameters****address**

Enter the IP address and port on the interface of the HA Oracle Communications Session Border Controller peer where this HA Oracle Communications Session Border Controller peer sends HA messages. The parameter format is an IP address and port combination (IP address:port). This IP address must match the interface identified in its HA Oracle Communications Session Border Controller peer's corresponding rdncy-peer-dest > network-interface field. The port portion of this parameter must match the port identified in its HA Oracle Communications Session Border Controller peer's corresponding port field.



**network-interface**

Enter the name and subport ID of the interface where the HA Oracle Communications Session Border Controller receives HA messages (e.g., wancom1:0). Valid interface names are wancom1 and wancom2 only.

**Path**

**destinations** is a subelement under the peers subelement. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **redundancy** , and then **peers** , and then **destinations**

 **Note:**

The destinations prompt is displayed as: rdncy-peer-dest.  
This is a multiple instance configuration element.

## remove-isup-param

The remove-isup-param command instructs the Oracle Communications Session Border Controller remove a single ISUP parameter added to the sip-isup-profile configuration element, using the extract-isup-param parameter.

**Syntax**

```
remove-isup-param <argument>
```

**Arguments**

- generic-number—Remove the generic-number value from the list of extracted ISUP parameter for this profile.
- location-number—Remove the location-number value from the list of extracted ISUP parameter for this profile.
- user-to-user—Remove the user-to-user value from the list of extracted ISUP parameter for this profile.
- calling-party-number—Remove the calling-party-number value from the list of extracted ISUP parameter for this profile.
- inband-announcement—Remove the inband-announcement value from the list of extracted ISUP parameter for this profile.

**Mode**

Superuser

**Example**

```
ORACLE# remove-isup-param generic-number
```

# resource-monitor-profile

## Parameters

The **resource-monitor-profile** configuration element contains the following parameters:

### resource-type

The resource to be monitored.

- Values: HEAP

### state

Enable or disable monitoring.

- Default: disabled
- Values: enabled | disabled

### minor-threshold

The threshold value to send a minor-severity report.

- Default: 70
- Min: 50 | Max: 90

### minor-precaution-action

The precautionary action to take when a minor severity report is raised for this resource.

- Default: RESOURCE\_MONITOR\_ALARM
- Values: RESOURCE\_MONITOR\_ALARM | DECREMENT\_HEALTH\_SCORE

### major-threshold

The threshold value to send a major-severity report.

- Default: 80
- Min: 60 | Max: 90

### major-precaution-action

The precautionary action to take when a major severity report is raised for this resource.

- Default: RESOURCE\_MONITOR\_ALARM
- Values: RESOURCE\_MONITOR\_ALARM | DECREMENT\_HEALTH\_SCORE

### critical-threshold

The threshold value to send a critical-severity report.

- Default: 90
- Min: 70 | Max: 95

### critical-precaution-action

The precautionary action to taken when a critical severity report is raised for this resource.

- Default: DECREMENT\_HEALTH\_SCORE
- Values: RESOURCE\_MONITOR\_ALARM | DECREMENT\_HEALTH\_SCORE

**abatement-threshold**

The abatement threshold value to revert the performed actions.

- Default: 5
- Min: 5 | Max: 50

**healthscore-decrement-value**

The health score decrement value.

- Default: 100
- Min: 10 | Max: 100

**Path**

The **resource-monitor-profile** configuration element is in the **system** element.

```
ORACLE# configure terminal
ORACLE(configure)# system
ORACLE(system)# resource-monitor-profile
ORACLE(resource-monitor-profile)#
```

## rph-policy

The rph-policy element defines an override resource value and an insert resource value for ETS/WPS namespaces. These are applied to NMC rules.

**Parameters****name**

Enter the name of this RPH policy; this is the value used when applying this RPH policy to an NMC rule.

- Default: None

**override-r-value**

Set the value the Oracle Communications Session Border Controller uses to override the r-values in the original RPH.

- Default: None

**insert-r-value**

Set the value the Oracle Communications Session Border Controller inserts into the RPH.

**Path**

**rph-policy** is an element under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router**, and then **rph-policy**.

## rph-profile

The rph-profile contains information about how the Oracle Communications Session Border Controller should act on the namespace(s) present in Resource-Priority headers.

### Parameters

#### name

Enter the name of this RPH profile; this is the value used when applying this RPH profile to an NMC rule.

- Default: none

#### r-value

Enter a list of one or more r-values used for matching; WPS values must be entered before ETS values.

- Default: none

#### media-policy

Enter the name of this RPH profile; this is the value used when applying this RPH profile to an NMC rule.

- Default: none

#### call-treatment

Select the call treatment method for a non-ETS call that contains RPH matching this profile.

- Default: accept
- Values: accept | reject | priority

### Path

**rph-profile** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router**, and then **rph-profile**.

## rtcp-policy

The rtcp-policy is used to specify an individual rule controlling how the Oracle Communications Session Border Controller generates RTCP reports for the realm to which the rtcp-policy is assigned.

### Parameters

#### name

Enter the name of this RTCP policy configuration. Use this name to assign the **rtcp-policy** to one or more realms.

#### rtcp-generate

Select the function this RTCP policy performs.

- Default: disabled
- Values:

- none—Disables this policy.
- all-calls—Oracle Communications Session Border Controller generates RTCP report information for all calls that pass through the realm.
- xcoded-calls-only— Oracle Communications Session Border Controller generates RTCP report information only for the transcoded calls that pass through the realm.

### Path

**rtcp-policy** is an element under the media-manager path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **media-manager** , and then **rtcp-policy**.

## s8hr-profile

The authentication configuration element is used for configuring an authentication profile.

### Parameters

#### **name**

Specifies the name for this S8HR-profile instance.

#### **register-hold-for-plmn-info**

Specifies the number of seconds desired to hold REGISTERS while waiting for PLMN information. The valid value is 0-30.

- Disable: 0
- Default: 16
- Values: 0 - 30

#### **plmn-id-prefix**

Specifies the prefix string used for P-Visited-Network-ID headers for sessions using this profile.

#### **emergency-reject-on-ident-error**

When enabled, causes the system to reject an emergency session if user identity validation fails.

- Default: disabled
- Values: enabled/disabled

#### **emergency-403-reason**

Specifies the reason attached to a 403 when the system rejects an emergency session.

#### **local-mnc**

Specifies the local MNC where the SBC resides. This value should be a 2 or 3-digit integer.

#### **local-mcc**

Specifies the local MCC where the SBC resides. This value should be a 3-digit integer.

**encrypt-disabled-mnc-mcc**

Specifies the list of networks for which the system must disable encryption for roaming UEs handled by this profile. Enter an asterisk to disable encryption for all roaming networks.

```
ORACLE(s8hr-profile)# encrypt-disabled-mnc-mcc 033444 456789
```

**Path**

**s8hr-profile** is an element under the session-router path. The full path from the topmost prompt is: **configure terminal** , and then **session-router** , and then **s8hr-profile**.

## sdes-profile

The sdes-profile configuration element lets you configure the parameter values offered or accepted during SDES negotiation.

**Parameters****name**

Sets the name of this object.

**crypto-list**

Sets the the encryption and authentication algorithms accepted or offered by this sdes-profile

- Default: AES\_CM\_128\_HMAC\_SHA1\_80
- Values:
  - AES\_CM\_128\_HMAC\_SHA1\_80
  - AES\_CM\_128\_HMAC\_SHA1\_32
  - AES\_256\_CM\_HMAC\_SHA1\_80
  - AEAD\_AES\_256\_GCM

**srtplib-auth**

UNUSED

- Default: enabled
- Values: enabled | disabled

**srtplib-encrypt**

This parameter enables or disables the encryption of RTP packets. With encryption enabled, the default condition, the SBC offers RTP encryption, and rejects an answer that contains an UNENCRYPTED\_SRTP session parameter in the crypto attribute.

With encryption disabled, the SBC does not offer RTP encryption and includes an UNENCRYPTED\_SRTP session parameter in the SDP crypto attribute; it accepts an answer that contains an UNENCRYPTED\_SRTP session parameter.

- Default: enabled
- Values: enabled | disabled

**srtplib-encrypt**

This parameter enables or disables the encryption of RTCP packets. With encryption enabled, the default condition, the SBC offers RTCP encryption, and rejects an answer that contains an UNENCRYPTED\_SRTCP session parameter in the crypto attribute.

With encryption disabled, the SBC does not offer RTCP encryption and includes an UNENCRYPTED\_SRTCP session parameter in the SDP crypto attribute; it accepts an answer that contains an UNENCRYPTED\_SRTCP session parameter.

- Default: enabled
- Values: enabled | disabled

#### **mki**

This parameter enables or disables the inclusion of the MKI:length field in the SDP crypto attribute.

- Default: enabled
- Values:
  - enabled – an MKI field is sent within the crypto attribute (16 bytes maximum)
  - disabled – no MKI field is sent

#### **egress-offer-format**

Sets any manipulation on SDP offer.

- Default: same-as-ingress
- Values:
  - same-as-ingress - the SBC leaves the profile of the media lines unchanged.
  - simultaneous-best-effort - the SBC Adds an RTP/SAVP media line for any media profile that has only the RTP/AVP media profile, and Adds an RTP/AVP media line for any media profile that has only the RTP/SAVP media profile
  - rfc5939-compliant - the SBC attempts to initiate and RFC 5939 compliant SDP exchange, but falls back to RFC 3562 if the presented signaling does not establish end-to-end support.

#### **srtp-rekey-on-reinvite**

This parameter enables or disables the re-keying upon the receipt of a SIP reINVITE that contains SDP for the STRP Re-keying feature.

- Default: enabled
- Values: enabled | disabled

#### **use-ingress-session-params**

Enter the list of values for which the SBC will accept and (where applicable) mirror the UA's proposed cryptographic session parameters. If you want to enter multiple values, you can put them in the same command line entry separated by commas. For example `srtp-encrypt,srtp-auth,srtp-encrypt`. You can also enter the values within double quotes. For example `"srtp-encrypt,srtp-auth,srtp-encrypt"` or within parenthesis (`srtp-encrypt,srtp-auth,srtp-encrypt`). You cannot use spaces as separators.

- `srtp-auth`—Decides whether or not authentication is performed in SRTP
- `srtp-encrypt`—Decides whether or not encryption is performed in SRTP

- **srtcp-encrypt**—Decides whether or not encryption is performed in SRTCP

```
ORACLE(sdes-profile)# use-ingress-session-params (srtcp-encrypt, srtp-  
auth, srtp-encrypt)
```

### Path

**sdes-profile** is a configuration element under the `security > media-security` path. The full path from the topmost CLI prompt is: **configure terminal**, and then **security**, and then **media-security**, and then **sdes-profile**.

## security-config

The `security-config` configuration element allows you to configure global TLS parameters.

### Parameters

#### **ocsr-monitoring-traps**

Enable ocsr monitoring traps

- Default: enabled
- Values: enabled | disabled

#### **srtp-msm-password**

The shared secret used to derive the key for encrypting SDES keying material that is placed in the media attribute of an SDP media description.

#### **srtp-msm-attr-name**

Specifies the name of the media attribute used to convey SDES keying information within a SDP media description.

- Default: X-acme-srtp-msm

#### **image-integrity-value**

Sets the known SHA-256 HMAC value that is computed for the boot image.

#### **local-cert-exp-trap-int**

The interval at which the local certificate expiration trap interval is sent when certificates are expired or are in the pre-expiration warning period.

- Default: 0 (disabled)

#### **local-cert-exp-warn-period**

The local certificate expiration warning period.

- Default: 0 (disabled)

Path: **security-config** is an element of the `security` path. The full path from the topmost CLI prompt is: **configure terminal**, and then **security**, and then **security-config**.



## session-agent

The session-agent element defines a signaling endpoint that can be configured to apply traffic shaping attributes and information regarding next hops or previous hops.

### Parameters

#### hostname

Enter the hostname of this session agent. This is a required entry that must follow the Hostname (or FQDN) Format or the IP Address Format. Hostname values must be unique.

An IPV6 address is valid for this parameter.



#### Note:

The hostname parameter does not accept values ending in \*.

#### ip-address

Enter the IP address of session agent if hostname value is an FQDN

An IPV6 address is valid for this parameter.

#### port

Enter the port number for this session agent.

- Default: 5060
- Values: Min: 0; 1025 | Max: 65535

#### state

Enable or disable the session agent

- Default: enabled
- Values: enabled | disabled

#### app-protocol

Select the signaling protocol used to signal with the session agent

- Default: SIP
- Values: H323 | SIP

#### app-type

Set the H.323 session agent type as a gateway or a gatekeeper. This field is mandatory if the app-protocol parameter is set to H323. If the app-protocol parameter is set to SIP, then this field must be left blank.

- Values: H323-GW | H323-GK

#### transport-method

Select the IP protocol used for communicating with this session agent

- Default: UDP

- Values:
  - UDP—UDP used as the transport method
  - UDP+TCP—Initial transport method of UDP, followed by a subsequent transport method of TCP if and when a failure or timeout occurs in response to a UDP INVITE. If this transport method is selected, then INVITEs are always sent via UDP as long as a response is received.
  - DynamicTCP—Dynamic TCP connections are the transport method for this session agent. A new connection must be established for each session originating outbound from the SBC to the session agent. This connection is torn down at the end of a session.
  - StaticTCP— Static TCP connections are the transport method for this session agent. Once a connection is established, it will remain and not be torn down.
  - StaticSCTP—SCTP is used as the transport method.
  - DynamicTLS—Dynamic TLS connections are the transport method for this session agent. A new connection must be established for each session originating outbound from the SBC to the session agent. This connection is torn down at the end of a session.
  - StaticTLS— Static TLS connections are the transport method for this session agent. Once a connection is established, it will remain and not be torn down.
  - ANY—support all transport methods

**realm-id**

Enter the realm for sessions coming from or going to this session agent. Entries in this field must follow the Name Format. This field must correspond to a valid identifier field entry in a realm-config.

**egress-realm-id**

Enter the name of the realm you want defined as the default egress realm used for ping messages. The Oracle Communications Session Border Controller will also use this realm when it cannot determine the egress realm for normal routing.

**description**

Describe the session-agent element. Entries in this field must follow the Text Format.

**carriers**

Enter the carrier names associated with this session agent. If this list is empty, any carrier is allowed. If it is not empty, only local policies that reference one or more of the carriers in this list will be applied to requests coming from this session agent. This list can contain as many entries within it as necessary. Entries in this field must follow the Carrier Format.

**allow-next-hop-ip**

Unsupported

**match-identifier**

Match-identifier is a sub-element of session-agent. Configure the match-identifier parameters to identify the session-agent.

**associated-agents**

Enter the list of session-agents configured on the Oracle Communications Session Border Controller

**constraints**

Enable or disable the constraints established in this element in the fields that follow (maximum numbers of sessions allowed, maximum session rates, and timeout values) that are applied to the sessions sent to the session agent

- Default: disabled
- Values: enabled | disabled

**max-sessions**

Enter the maximum number of sessions allowed by the session agent; 0 means there is no constraint

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-inbound-sessions**

Enter the maximum number of inbound sessions allowed from this session agent

- Default: 0
- Values: Min: 0 / Max: 999999999

**max-outbound-sessions**

Enter the maximum number of simultaneous outbound sessions that are allowed to the session agent; 0 means there is no constraint

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-burst-rate**

Enter the number of session invitations per second allowed to be sent to or received from the session agent. A session is rejected if the calculated per-second rate exceeds this value.

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-inbound-burst-rate**

Enter the maximum inbound burst rate in INVITEs per second from this session agent

- Default: 0
- Values: Min: 0 / Max: 999999999

**max-outbound-burst-rate**

Enter the maximum outbound burst rate in INVITEs per second

- Default: 0
- Values: Min: 0 / Max: 999999999

**max-sustain-rate**

Enter the maximum rate of session invitations per second allowed to or from the session agent within the current window. The period of time over which the rate is calculated is always between one and two window sizes. A session is rejected only if the calculated per-second rate exceeds the max-sustain-rate value. The value set for the max-sustain-rate field must be larger than the value set for the max-burst-rate field.

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-inbound-sustain-rate**

Enter the maximum inbound sustain rate in INVITEs per second

- Default: 0
- Values: Min: 0 / Max: 999999999

**max-outbound-sustain-rate**

Enter the maximum outbound sustain rate in INVITEs per second

- Default: 0
- Values: Min: 0 / Max: 999999999

**min-seizures**

Enter the minimum number of seizures that, when exceeded, cause the session agent to be marked as having exceeded its constraints. Calls will not be routed to the session agent until the time-to-resume has elapsed.

- Default: 5
- Values: Min: 1 | Max: 999999999

**min-asr**

Enter the minimum percentage, that if the session agent's ASR for the current window falls below this percentage, the session agent is marked as having exceeded its constraints and calls will not be routed to it until the time-to-resume has elapsed

- Default: 0%
- Values: Min: 0% / Max: 100%

**cac-trap-threshold**

The CAC (session or burst-rate) utilization threshold expressed as a percent that when exceeded generates a trap

- Default: 0
- Values: Min: 0 / Max: 99

**time-to-resume**

Enter the number of seconds after which the SA (Session Agent) is put back in service (after the SA is taken out-of-service because it exceeded some constraint).

- Default: 0
- Values: Min: 0 | Max: 999999999

**ttr-no-response**

Enter the time delay in seconds to wait before the SA (Session Agent) is put back in service (after the SA is taken out-of-service because it did not respond to the Oracle Communications Session Border Controller).

- Default: 0
- Values: Min: 0 | Max: 999999999

**in-service-period**

Enter the time in seconds the session-agent must be operational (once communication is re-established) before the session agent is declared to be in-service. This value gives the session agent adequate time to initialize.

- Default: 0
- Values: Min: 0 | Max: 999999999

**burst-rate-window**

Enter the burst window period in seconds used to measure the burst rate. The term “window” refers to the period of time over which the burst rate is computed.

- Default: 0
- Values: Min: 0 | Max: 999999999

**sustain-rate-window**

Enter the sustained window period in seconds used to measure the sustained rate. The term “window” refers to the period of time over which the sustained rate is computed.

- Default: 0
- Values: Min: 10 | Max: 999999999  
The value you set here must be higher than or equal to the value you set for the burst rate window.

**Note:**

If you are going to use this parameter, you must set it to a minimum value of 10.

**max-inbound-per-session-burst-rate**

Set the maximum inbound burst rate per session.

- Default: 30
- Values: Min: 1 | Max: 999999999

**burst-rate-window-per-session**

Set the burst rate window per session.

- Default: 1
- Values: Min: 1 | Max: 999999999

**dos-action-at-session**

Specify the system's behavior for reacting to session-based DoS attacks.

- Default: none
- permit—If the endpoint initiates the DDoS attack at the session level, the system can demote or deny the endpoint. At first detection of a DDoS attack, the system demotes the endpoint from trusted to untrusted. If there is a second DDoS attack before the UNTRUST\_TMO timer expires, the system further demotes the endpoint to deny

- no-deny—If the endpoint initiates the DDoS attack at the session level, the system can demote the endpoint to untrusted. When the UNTRUST\_TMO timer expires, the system promotes the endpoint back to the trusted state.
- session-drop—If the endpoint initiates the DDoS attack at the session level, the system takes action on that session only. Specifically, the system terminates the existing session but does not demote or deny the endpoint.

**req-uri-carrier-mode**

Select how a carrier determined by the local policy element should be added to the outgoing message

- Default: None
- Values:
  - None—Carrier information will not be added to the outgoing message
  - uri-param—Adds a parameter to the Request-URI (e.g., cic-XXX)
  - prefix—Adds the carrier code as a prefix to the telephone number in the Request-URI (in the same manner as is done in the PSTN)

**proxy-mode**

Select how SIP proxy forwards requests coming from the session agent. If this parameter is empty, its value is set to the value of the proxy-mode parameter in the sip-interface element by default. If the proxy-mode field in the element is also empty, the default is proxy.

- Values
  - proxy—If the Oracle Communications Session Border Controller is an SR, the system will proxy the request coming from the session agent and maintain the session and dialog state. If the Oracle Communications Session Border Controller is a Oracle Communications Session Border Controller, system will behave as a B2BUA when forwarding the request.
  - redirect—System will send a SIP 3xx reDIRECT response with contacts (found in the local-policy) to the previous hop
  - record-route—The Oracle Communications Session Border Controller forwards requests with a record-route

**redirect-action**

Select the action the SIP proxy takes when it receives a Redirect (3xx) response from the session agent. If the response comes from a session agent and this field is empty, the system uses the redirect action value defined in the sip-interface.

- Values:
  - proxy—SIP proxy passes the response back to the previous hop. The response will be sent based on the proxy-mode of the original request.
  - recurse—SIP proxy sends the original request to the list of contacts in the Contact header of the response, serially (in the order in which the contacts are listed in the response)
  - Recurse-305-only—recurse on the contacts in the 305 response

**loose-routing**

Enable or disable loose routing

- Default: enabled
- Values: enabled | disabled

**send-media-session**

Enable or disable the inclusion of a media session description in the INVITE sent by the Oracle Communications Session Border Controller. The only instance in which this field should be set to disabled is for a session agent that always redirects requests, meaning that it returns an error or 3xx response instead of forwarding an INVITE message. Setting this field to disabled prevents the Oracle Communications Session Border Controller from establishing flows for that INVITE message until it recurses the 3xx response.

- Default: enabled
- Values: enabled | disabled

**response-map**

Enter the name of the sip-response-map element set in the session router element to use for translating inbound final response values

**ping-method**

Enter the SIP message/method to use to “ping” a session agent

**ping-interval**

Set how often to ping a session agent in seconds

- Default: 0
- Values: Min: 0 | Max: 999999999

**ping-send-mode**

Set the mode with which you want to send ping messages to session agents

- Default: keep-alive
- Values: keep-alive | continuous

**ping-all-addresses**

Enable pinging each IP address dynamically resolved via DNS. If disabled (default), the Oracle Communications Session Border Controller only pings the first available resolved IP address.

- Default: disabled
- Values: enabled | disabled

**options**

Establish customer-specific features and/or parameters. This value can be a comma separated list of “feature=<value>” or “feature” parameters.

**spl-options**

Establish customer-specific features and/or parameters. This value can be a comma separated list of “feature=<value>” or “feature” parameters.

**media-profiles**

Start up an outgoing call as a Fast Start call with the information in the media profile used for the logical channels when the incoming call is slow start for an H.323 operation. This list is used to determine if a source and/or destination of a call is a session agent on that list. If a media profiles list is configured in the matching session-

agent element, then the frame and codec information in the corresponding media profile will be used for the outgoing call. If the media-profiles list in the session-agent element is empty, the h323-stack > media-profiles list will be consulted. This field should reference the codec that you expect the gatekeeper/gateway to use. This media-profiles entry must correspond to at least one valid name field entry in a media profile element that has already been configured.

**in-session-translations**

Enter the **in-session-translations** subelement to apply session translations to incoming traffic.

**out-session-translations**

Enter the **out-session-translations** subelement to apply session translations to outgoing traffic.

**trust-me**

Enable or disable the trust of this session agent; used for privacy features

- Default: disabled
- Values: enabled | disabled

**request-uri-headers**

Enter a list of embedded headers extracted from the Contact header that will be inserted in the re INVITE message

**stop-recurse**

Enter a list of returned response codes that this session agent will watch for in order to stop recursion on the target's or contact's messages

**local-response-map**

Enter the name of local response map to use for this session agent. This value should be the name of a sip-response-map configuration element.

**ping-to-user-part**

The user portions of the Request-URI and To: headers that define the destination of a session agent ping message.

**ping-from-user-part**

The user portion of the From: header that defines the source of a session agent ping message.

**ping-response**

Enable the SBC to consider OPTIONS received as pings and respond locally for Teams deployments.

- Default: disabled
- Values: enabled | disabled

**li-trust-me**

Set this parameter to enabled to designate this session agent as trusted for P-DCS-LAES use

- Default: disabled
- Values: enabled | disabled



**in-manipulationid**

Enter the name of the SIP header manipulations configuration to apply to the traffic entering the Oracle Communications Session Border Controller via this session agent

**out-manipulationid**

Enter the name of the SIP header manipulations configuration to apply to the traffic exiting the Oracle Communications Session Border Controller via this session agent

**p-asserted-id**

Set the configurable P-Asserted-Identity header for this session agent. This value should be a valid SIP URI.

**trunk-group**

Enter trunk group names and trunk group contexts to match in either IPTEL or custom format; one session agent can accommodate 500 trunk groups. If left blank, the Oracle Communications Session Border Controller uses the trunk group in the realm for this session agent. Multiple entries are surrounded in parentheses and separated from each other with spaces. You can add and delete single entries from the list using plus (+) and minus (-) signs without having to overwrite the whole list.

Entries for this list must one of the following formats: tgrp:context or tgrp.context.

**max-register-sustain-rate**

Specify the registrations per second for this session agent. The constraints parameter must be enabled for this parameter to function.

- Default: 0 (disabled)
- Values: Min: 0 | Max: 999999999

**early-media-allow**

Select the early media suppression for the session agent

- Values:
  - none—No early media allowed
  - reverse—Allow early media in the direction of calling endpoint
  - both—Allow early media in both directions

**invalidate-registrations**

Enable or disable the invalidation of all the registrations going to this SA when its state transitions to “out of service”

- Default: disabled
- Values enabled | disabled

**rfc2833-mode**

Select whether 2833/UII negotiation will be transparent to the Oracle Communications Session Border Controller (pre-4.1 behavior), or use 2833 for DTMF

- Default: none
- Values:
  - none—The 2833-UII interworking will be decided based on the h323-stack configuration.

- transparent—The session-agent will behave exactly the same way as before and the 2833 or UII negotiation will be transparent to the Oracle Communications Session Border Controller. This overrides any configuration in the h323-stack even if the stack is configured for “preferred” mode.
- preferred—The session-agent prefers to use 2833 for DTMF transfer and would signal that in its TCS. However, the final decision depends on the remote H323EP.

**rfc2833-payload**

Enter the payload type used by the SA in preferred rfc2833-mode

- Default: 0
- Values: Valid Range: 0, 96-127

 **Note:**

When this value is zero, the global “rfc2833-payload” configured in the H323 configuration element will be used instead. For SIP SA, the payload defined in the SIP Interface will be used, if the SIP-I is configured with rfc2833-mode as “preferred”.

**codec-policy**

Enter the codec policy you want to apply to this session agent

**enforcement-profile**

Enter the enforcement policy set of allowed SIP methods you want to use for this session agent

- Default: None
- Values: Name of a valid enforcement-profile element

**emergency-dscp-profile**

Specifies the name of the emergency DSCP profile you want to apply to this session-agent.

**refer-call-transfer**

Enable or disable the refer call transfer feature for this session agent

- Default: disabled
- Values: enabled | disabled

**refer-notify-provisional**

Sends NOTIFY message after provisional messages are received in a REFER scenario.

- Default: none
- Values:
  - none—The system does not send any NOTIFY messages after receiving provisional messages.
  - initial—The system sends a NOTIFY, including 100 Trying, immediately after accepting the REFER.

- all— The system sends an immediate 100 Trying NOTIFY and a NOTIFY for each non-100 provisional received.

**reuse-connections**

Enter the SIP TCP connection reuse mode. The presence of “reuse-connections” in the options field of the sip-interface will cause the Oracle Communications Session Border Controller to reuse all inbound TCP connections for sending requests to the connected UA.

- Default: tcp
- Values: tcp | sctp | tls | none

**tcp-keepalive**

Enable or disable standard keepalive probes to determine whether or not connectivity with a remote peer is lost.

- Default: none
- Values: none | enabled | disabled

**tcp-reconn-interval**

Set the amount of time in seconds before retrying a TCP connection.

- Default: 0
- Values: 0, 2-300

**max-register-burst-rate**

Enter the maximum number of new registrations you want this session agent to accept within the registration burst rate window. When this threshold is exceeded, the Oracle Communications Session Border Controller responds to new registration requests with 503 Service Unavailable messages.

- Default: 0
- Values: Min: 0 / Max: 999999999

**register-burst-window**

Enter the window size in seconds for the maximum number of allowable SIP registrations.

- Default: 0
- Values: Min: 0 / Max: 999999999

**rate-constraints**

Access the rate-constraints subelement

**ping-in-service-response-codes**

Enter the response codes that keep a session agent in service when they appear in its response to the Oracle Communications Session Border Controller’s ping

- Default: None
- Values: SIP Response codes

**out-service-response-codes**

Enter the response codes that take a session agent out of service when they appear in its response to the Oracle Communications Session Border Controller’s ping request or any dialog-creating request.

- Default: None
- Values: SIP Response codes

**manipulation-string**

Enter a string you want used in the header manipulation rules for this session-agent. Enter a value to references the \$HMR\_STRING variable used to populate SIP headers and elements using HMR

**manipulation-pattern**

Enter the regular expression to be used in header manipulation rules for this session-agent.

**sip-profile**

Enter the name of the sip-profile you want to add to the session-agent

**sip-isup-profile**

Enter the name of the sip-isup-profile you want to add to the session-agent.

**load-balance-dns-query**

Sets the method the Oracle Communications Session Border Controller uses to send messages to when it queries a DNS server and receives multiple A-Records. The strategy configured here is used to select which of the multiple addresses the Oracle Communications Session Border Controller forwards the message to first.

- Default: hunt
- Values: hunt | round-robin

**kpml-interworking**

Enable or disable KPML interworking.

- Default: inherit
- Values: inherit | enabled | disabled

**kpml2833-iwf-on-hairpin**

When enabled, specifies that the system supports KPML to RFC2833 interworking for hairpinned calls. This requires that kpml-interworking to also be enabled.

- Default: inherit
- Values: inherit | enabled | disabled —When enabled, allows the Oracle Communications Session Border Controller to present the correct digit encapsulation (KPML or RFC2833) when hairpinned back to the original interface.

**precedence**

Specifies the selection precedence of Session Agents with same IP address.

- Default: 0 (disabled)
- Values: Min: 0 / Max: 4294967295

**monitoring-filters**

Comma-separated list of monitoring filters used for SIP monitor and trace.

**auth-attribute**

Enter the auth-attribute configuration element.

**session-recording-server**

A maximum of four names of session-recording-servers, or session-recording-groups, or a combination of both existing in the realm associated with the session reporting client. Valid values are alpha-numeric characters. Session recording groups are indicated by prepending the groupname with **SRG**:

**session-recording-required**

Determines whether calls are accepted by the SBC if recording is not available.

- Default: disabled
- enabled—Restricts call sessions from being initiated when a recording server is not available.
- disabled—Allows call sessions to initiate even if the recording server is not available.

**sm-icsi-match-for-invite**

The ICSI URN to match on to increment the session-based messaging counters.

- Default: urn:rrn-7:3gpp-service.ims.icsi.oma.cpm.msg

**sm-icsi-match-for-message**

The ICSI URN to match on to increment the event-based messaging counters.

- Default: urn:rrn-7:3gpp-service.ims.icsi.oma.cpm.largemsg

**ringback-file**

Specifies the name of the media file, stored previously in /code/media, that the system plays when triggered for this realm.

**ringback-trigger**

Specifies when the system triggers the local media playback function.

- Default: none
- none—The system does not perform local media playback procedures. Based on precedence, however, the system may issue playback based on other element configurations. Local media playback follows the precedence session-agent, realm, then sip-interface.
- disabled—The system does not perform media playback procedures on this flow, regardless of ensuing configurations.
- 180-no-sdp—Defines the trigger by which the system starts local media playback to caller. This parameter causes playback trigger whenever the called leg responds with a 180 message that does not include SDP.
- 180-force—Defines the trigger by which the system starts local media playback to caller. This parameter causes playback trigger whenever the called leg responds with a 180 message.
- 183—Starts playback to caller when 183 is sent to call originator. The system stops the playback on the final response (either 2xx success or 4xx error). Configure this 183 value on the original INVITE ingress realm/sip-interface/session-agent.
- refer—Starts playback to the referee when it receives a REFER. This trigger operates only if the OCSBC actually terminates and performs the refer operation.

If the REFER is via proxy, playback is not triggered. Playback stops when the refer operation is complete with a final response (200-299 or 400-699). Configure this refer value on the ingress realm/sip-interface/session-agent of the transferred call.

- 183-and-refer—Starts playback when both 183 and refer triggers are activated.
- 183-no-sdp—Defines the trigger by which the system starts local media playback to caller. This parameter causes playback trigger whenever the called leg responds with a 183 message that does not include SDP.
- playback-on-header—Starts or stops playback based on the presence of the P-Acme-Playback header and its definitions.

#### **sti-as**

Specifies the name of an sti-server-group name or a space-separated list of sti-server (up to four allowed) to which the SBC shall send AS requests. When configuring a group name, use the prefix `stg:` followed by your group name. For example, `stg:myStiGroupName`.

#### **sti-vs**

Specifies the name of an sti-server-group name or a space-separated list of sti-server (up to four allowed) to which the SBC shall send VS requests. When configuring a group name, use the prefix `stg:` followed by your group name. For example, `stg:myStiGroupName`.

#### **sti-orig-id**

Specifies the UUID v4 to be added to STI-AS requests, if not already present, during STIR/SHAKEN functions.

#### **sti-attest**

Specifies the attestation value that is sent in AS request, during STIR/SHAKEN functions. The default is empty

- full-attestation
- partial-attestation
- gateway-attestation

#### **sti-signaling-attest**

Enable this parameter to instruct the SBC to use attestation level and origination ID headers from the ingress SIP INVITE in the REST query to the STI-AS, if preferred. When enabled, the Attestation-Info and Origination-ID headers override the configured values, if present. If one of the two requested headers is present, the other value is obtained from configured parameters.

- Default: Disable—The system does not use the attestation value and origId from SIP headers.
- Enable—The system uses the attestation value and origId from SIP headers, when present.

#### **fax-servers**

Enter the name of the **session-group** you have configured to be the group of fax machines to which this **session-agent** directs fax traffic when it receives a fax tone.

#### **trigger-oos-alarm**

Enables the system to trigger an alarm if and when this session agent goes out of service.

- Default: Disabled

- Values: Enabled/Disabled

#### **static-tcp-source-port**

Set the static TCP source port to use when connecting to this session agent.

- Default: 0
- Values: 0, 1025 - 65535

#### **Path**

**session-agent** is an element under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **session-agent**.

This is a multiple instance configuration element.

## session-agent > auth-attribute

The auth-attribute element provides the parameters used by the Oracle Communications Session Border Controller to perform digest authentication with the parent session agent.

#### **Parameters**

##### **auth-realm**

Enter the name (realm ID) of the host realm initiating the authentication challenge. This value defines the protected space in which the digest authentication is performed. Valid value is an alpha-numeric character string.

- Default: blank

##### **username**

Enter the username of the client. Valid value is an alpha-numeric character string.

- Default: blank

##### **password**

Enter the password associated with the username of the client. This is required for all LOGIN attempts. Password displays while typing but is saved in clear-text (i.e., \*\*\*\*\*). Valid value is an alpha-numeric character string.

- Default: blank
- Values: round-robin | hunt

##### **in-dialog-methods**

Optionally enter the in-dialog request method(s) that digest authentication uses from the cached credentials. Specify request methods in a list form separated by a space enclosed in parentheses. Valid values are.

- Default: blank
- Values: INVITE | BYE | ACK | OPTIONS | SUBSCRIBE | PRACK | NOTIFY | UPDATE | REFER

## Path

**auth-attribute** is an element under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router**, and then **session-agent**, and then **auth-attribute**.



### Note:

This is a multiple instance configuration element.

## session-agent > in-session-translations

Use the **in-session-translations** element to configure the session translations that apply to incoming traffic on this session-agent.

### Parameters

#### **in-session-translation-id**

Enter the id of the session translation to apply to this session-agent.

#### **state**

Declare whether this session translation is enabled or disabled.

- Default: enabled
- Values: enabled | disabled

#### **move**

Change the order of execution.

The syntax of the command:

```
move <from-position> <to-position>
```

For example, to move the second session translation into the first position:

```
move 2 1
```

## Path

The **in-session-translations** element is under the **session-router** path.

```
ORACLE# conf term
ORACLE(configure)# session-router
ORACLE(session-router)# session-agent
ORACLE(session-agent)# in-session-translations
ORACLE(in-session-translation-list)#
```



### Note:

This is a multiple instance configuration subelement.



## session-agent > out-session-translations

Use the **out-session-translations** element to configure the session translations that apply to outgoing traffic on this session-agent.

### Parameters

#### **out-session-translation-id**

Enter the id of the session translation to apply to this session-agent.

#### **state**

Declare whether this session translation is enabled or disabled.

- Default: enabled
- Values: enabled | disabled

#### **move**

Change the order of execution.

The syntax of the command:

```
move <from-position> <to-position>
```

For example, to move the second session translation into the first position:

```
move 2 1
```

### Path

The **out-session-translations** element is under the **session-router** path.

```
ORACLE# conf term
ORACLE(configure)# session-router
ORACLE(session-router)# session-agent
ORACLE(session-agent)# out-session-translations
ORACLE(out-session-translation-list)#
```



#### **Note:**

This is a multiple instance configuration subelement.

## session-agent > match-identifier

The match-identifier sub-element provides the parameters for the session-agents representing nodes behind Oracle Communications Session Border Controller to assist in the identification of the session-agents.

### Parameters

#### identifier-rule

Configure with the name of a **session-agent-id-rule**

#### match-value

Enter a string value to be matched with the value in the SIP header for identifying a session agent.

 **Note:**

The comparison between the **match-value** and the value of the SIP header parameter and is an exact and case-sensitive match.

### Path

**session-agent** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router** , and then **session-agent> match-identifier**

 **Note:**

This is a multiple instance configuration element.

## session-agent > rate-constraints

The rate-constraints subelement for the session-agent configuration element allows you to configure rate constraints for individual session agents, which can then be applied to the SIP interface where you want them used.

### Parameters

#### method

Enter the SIP method name for the method you want to throttle

- Values:
  - NOTIFY
  - OPTIONS
  - MESSAGE

- PUBLISH
- REGISTER

**max-inbound-burst-rate**

For the SIP method you set in the method parameter, enter the number to restrict the inbound burst rate on the SIP interface where you apply these constraints.

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-outbound-burst-rate**

For the SIP method you set in the method parameter, enter the number to restrict the outbound burst rate on the SIP interface where you apply these constraints.

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-inbound-sustain-rate**

For the SIP method you set in the method parameter, enter the number to restrict the inbound sustain rate on the SIP interface where you apply these constraints

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-outbound-sustain-rate**

For the SIP method you set in the method parameter, enter the number to restrict the outbound sustain rate on the SIP interface where you apply these constraints

- Default: 0
- Values: Min: 0 | Max: 999999999

**Path**

**rate-constraints** is an element of the **session-router** path. The full path from the topmost ALCI prompt is: **configure terminal**, and then **session-router**, and then **session-agent rate-constraints**.

## session-agent-group

The session-agent-group element creates a group of Session Agents and/or groups of other SAGs. The creation of a SAG indicates that its members are logically equivalent and can be used interchangeably. This allows for the creation of constructs like hunt groups for application servers or gateways.

**Parameters****group-name**

Enter the name of the session-agent-group element. This required entry must follow the Name Format, and it must be unique.

**description**

Describe the session agent group element

**state**

Enable or disable the session-agent-group element

- Default: enabled
- Values: enabled | disabled

**app-protocol**

Distinguish H.323 session agent groups from SIP session agent groups

- Default: SIP
- Values: H323 | SIP

**strategy**

Select the session agent allocation options for the session-agent-group. Strategies determine how session agents will be chosen by this session-agent-group element.

- Default: Hunt
- Values:
  - Hunt—Selects session agents in the order in which they are listed
  - RoundRobin—Selects each session agent in the order in which they are listed in the dest list, selecting each agent in turn, one per session. After all session agents have been used, the first session agent is used again and the cycle continues.
  - LeastBusy—Selects the session agent that has the fewest number of sessions relative to the max-outbound-sessions constraint or the max-sessions constraint (i.e., lowest percent busy) of the session-agent element
  - PropDist—Based on programmed, constrained session limits, the Proportional Distribution strategy proportionally distributes the traffic among all of the available session-agent elements
  - LowSusRate—Routes to the session agent with the lowest sustained rate of session initiations/invitations

**dest**

Enter one or more destinations (i.e., next hops) available for use by this session-agent group. The destination value(s) must correspond to a valid IP address or hostname.

**trunk-group**

Enter trunk group names and trunk group contexts to match in either IPTEL or custom format. If left blank, the Oracle Communications Session Border Controller uses the trunk group in the realm for this session agent group. Multiple entries are surrounded in parentheses and separated from each other with spaces.

Entries for this list must one of the following formats: tgrp:context or tgrp.context.

**sag-recursion**

Enable or disable SIP SAG recursion for this SAG

- Default: disabled
- Values: enabled | disabled

**stop-sag-recurse**

Enter the list of SIP response codes that terminate all further recursions, including those external to the SAG. On encountering the specified response code(s), the Oracle

Communications Session Border Controller returns a final response to the UAC and stops trying to route the message. This includes not attempting to contact higher-cost SAs.

You can enter the response codes as a comma-separated list or as response code ranges.

- Default: 401, 407

#### **sip-recursion-policy**

Enter the SIP recursion policy for the session-agent-group, if configured in the session-router.

#### **Path**

**session-agent-group** is an element under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **session-group**.



#### **Note:**

This is a multiple instance configuration element.

## session-agent-id-rule

The session-agent-id-rule specifies the SIP header of the ingress SIP message that can be used in identifying the session-agents. The rule consists of four parameters: name, match-header, match-parameter and uri-type. All the parameters must follow the Name Format.

#### **Parameters**

##### **name**

Enter a name for the session-agent-id-rule(s). This required entry

##### **match-header**

Enter a name for the match-header. This required entry.

##### **match-parameter**

Enter a name for the match-parameter. This parameter is optional.

##### **uri-type**

Enter a name for the uri-type. This is an optional parameter.

- Values : uri\_param, uri\_header, uri\_user, uri\_host, uri\_port, uri\_user\_param, uri\_display, uri-user-only, uri-phone-number-only.

#### **Path**

**session-agent-id-rule** is an element under the session-router-config path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **session-agent-id-rule**.

**Note:**

This is a multiple instance configuration element.

## session-constraints

The session-constraints configuration element allows you to create session layer constraints in order to manage and police session-related traffic including maximum concurrent sessions, maximum outbound concurrent sessions, maximum session burst rate, and maximum session sustained rate.

The SIP interface configuration's constraint-name parameter invokes the session constraint configuration you want to apply. Using the constraints you have set up, the Oracle Communications Session Border Controller checks and limits traffic according to those settings for the SIP interface. Of course, if you do not set up the session constraints or you do not apply them in the SIP interface, then that SIP interface will be unconstrained. If you apply a single session-constraint element to multiple SIP interfaces, each SIP interface will maintain its own copy of the session-constraint.

**Note:**

The Oracle Communications Session Border Controller supports five concurrent SSH and/or SFTP sessions.

### Parameters

**name**

Enter the name for this session constraint. This must be a unique identifier that you use when configuring a SIP interface on which you are applying it. This is a required parameter.

**state**

Enable or disable this session constraint

- Default: enabled
- Values: enabled | disabled

**max-sessions**

Enter the maximum sessions allowed for this constraint

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-inbound-sessions**

Enter the maximum inbound sessions allowed for this constraint

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-outbound-sessions**

Enter the maximum outbound sessions allowed for this constraint

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-burst-rate**

Enter the maximum burst rate (invites per second) allowed for this constraint

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-inbound-burst-rate**

Enter the maximum inbound burst rate (number of session invitations per second) for this constraint

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-outbound-burst-rate**

Enter the maximum outbound burst rate (number of session invitations per second) for this constraint

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-sustain-rate**

Enter the maximum rate of session invitations allowed within the current window for this constraint

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-inbound-sustain-rate**

Enter the maximum inbound sustain rate (of session invitations allowed within the current window) for this constraint

- Default: 0
- Values: Min: 0 | Max: 999999999

**max-outbound-sustain-rate**

Enter the maximum outbound sustain rate (of session invitations allowed within the current window) for this constraint

- Default: 0
- Values: Min: 0 | Max: 999999999

**min-seizures**

Enter the minimum number of seizures for a no-answer scenario

- Default: 5
- Values: Min: 1 | Max: 999999999

**min-asr**

Enter the minimum ASR in percentage

- Default: 0

- Values: Min: 0 | Max: 100

**cac-trap-threshold**

The CAC (session or burst-rate) utilization threshold expressed as a percent that when exceeded generates a trap.

- Default: 0
- Values: Min: 0 / Max: 99

**time-to-resume**

Enter the number of seconds that is used to place an element (like a session agent) in the standby state when it has been taken out of service because of excessive transaction timeouts

- Default: 0
- Values: Min: 0 | Max: 999999999

**ttr-no-response**

Enter the time delay in seconds to wait before changing the status of an element (like a session agent) after it has been taken out of service because of excessive transaction timeouts

- Default: 0
- Values: Min: 0 | Max: 999999999

**in-service-period**

Enter the time in seconds that elapses before an element (like a session agent) can return to active service after being placed in the standby state

- Default: 0
- Values: Min: 0 | Max: 999999999

**burst-rate-window**

Enter the time in seconds that you want to use to measure the burst rate

- Default: 0
- Values: Min: 0 | Max: 999999999

**Note:**

A default value of 0 means that the burst-rate-window is of 1 second.

**sustain-rate-window**

Enter the time in seconds used to measure the sustained rate.

- Default: 0
- Values: Min: 0 | Max: 999999999

The value you set here must be higher than or equal to the value you set for the burst rate window.

**rate-constraints**

Access the rate-constraints subelement



## Path

**session-constraints** is an element of the session-router path. The full path from the topmost CLI prompt is: **configure terminal > session-router > session-constraints**.

## session-constraints > rate-constraints

The rate-constraints subelement for the session-constraints configuration element allows you to configure rate constraints for individual session constraints, which can then be applied to the SIP interface where you want them used.

### Parameters

#### method

Enter the SIP method name for the method you want to throttle

- Values:
  - NOTIFY
  - OPTIONS
  - MESSAGE
  - PUBLISH
  - REGISTER

#### max-inbound-burst-rate

For the SIP method you set in the method parameter, enter the number to restrict the inbound burst rate on the SIP interface where you apply these constraints.

- Default: 0
- Values: Min: 0 | Max: 999999999

#### max-outbound-burst-rate

For the SIP method you set in the method parameter, enter the number to restrict the outbound burst rate on the SIP interface where you apply these constraints.

- Default: 0
- Values: Min: 0 | Max: 999999999

#### max-inbound-sustain-rate

For the SIP method you set in the method parameter, enter the number to restrict the inbound sustain rate on the SIP interface where you apply these constraints

- Default: 0
- Values: Min: 0 | Max: 999999999

#### max-outbound-sustain-rate

For the SIP method you set in the method parameter, enter the number to restrict the outbound sustain rate on the SIP interface where you apply these constraints

- Default: 0
- Values: Min: 0 | Max: 999999999

**method**

Enter the SIP method name for the method you want to throttle

**Path**

**session-constraints**> > **rate-constraints** is an element of the session-router path. The full path from the topmost ALCI prompt is: **configure terminal**, and then **session-router**, and then **session-constraints**, and then **rate-constraints**.

## session-recording-group

The **session-recording-group** element allows you to configure SIPREC server groups.

**Parameters****name**

Unique name for the session recording group that is a collection of one or more session recording servers. This name can be referenced when configuring realm-config, session-agent, and sip-interface by prepending this object with SRG:

**description**

Brief description of this session recording group. This parameter is optional.

**strategy**

Strategy for selecting an individual session recording server.

- Default: hunt
- Values:
  - hunt
  - roundrobin
  - leastbusy
  - proplist
  - lowsusrate

**simultaneous-recording-servers**

The number of simultaneous SIP dialogs that the session reporting client (Oracle Communications Session Border Controller) establishes to the session reporting servers in the session reporting group per communication session.

- Default: 0
- Min: 1 / Max: 10

**session-recording-servers**

Names of the session recording servers configuration objects that belong to this session recording group. Valid values are alpha-numeric characters.

**Path**

**session-recording-group** is an element under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **system**, and then **session-router**, and then **session-recording-group**.

## session-recording-server

The **session-recording-server** element allows you to configure SIPREC functionality.

### Parameters

#### **name**

Name of this session recording server element.

#### **description**

Brief description of this session recording server. This parameter is optional.

#### **realm**

Realm in which this session recording server is located.

#### **mode**

Operating mode of this session recording server.

- selective—Unique recording server created per communication session
- persistent

#### **destination**

Address of the session recording server that defines the SIP address (request URI) of the session recording server. Enter values in the format IP address or FQDN. Default is no value specified.

#### **port**

The port portion of the destination address.

- Default: 5060
- Min: 1024 / Max: 65535

#### **transport-method**

Protocol used to communicate with the recording server.

- Default: DynamicTCP
- UDP
- UDP+TCP
- DynamicTCP
- StaticTCP
- DynamicTLS
- StaticTLS
- DTLS
- TLS+DTLS
- StaticSCTP

#### **force-parity**

Enables the system to enforce port number parity for flows between the system and the session recording server.

- Default: Disabled
- Values: Enabled | Disabled

**ping-method**

SIP method type to ping with session recording server.

**ping-interval**

Rate at which to ping the Session Agent configured as a session recording server.

- Default: 0
- Min: 0 / Max: 4294967295

**refresh-interval**

Enables the SIP OPTIONS request/response mechanism, and assign a value to the refresh-timer toward the SIPREC server. This measures the maximum allowed interval (in seconds) between the OPTIONS request sent by the call-recording client and the OPTIONS response returned by the call-recording server.

By default, refresh-interval is set to 0, which disables detection of a failed recording session dialog. Assignment of any non-zero value enables detection and sets the allowable interval between OPTIONS requests and responses.

- Default: 0
- Min: 0 / Max: 60

**Path**

**session-recording-server** is an element under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **session-recording-server**.

## session-router-config

The session-router-config element allows you to configure whether or not session-related functionality is enabled within your network, whether it contains a Oracle Communications Session Border Controller SR or SD.

**Parameters****state**

Enable or disable this session-related functionality on the system

- Default: enabled
- Values: enabled | disabled

**system-number-type**

Define the telephone number format used in local policy and local policy lookups

- Default: Pots
- Values:
  - Pots—Telephone numbers are in Decimal routing number format (0-9). This is the default and recommended setting.

- E164—Telephone numbers are in E.164 format as defined by the global-number format of the tel URI defined in RFC 3966
- Routing—Telephone numbers are in Penta Decimal routing numbers (0-9, A-F). This value is not currently used but reserved for future enhancements.

**sr-primary-name**

Enter the name of the primary session router; must match the target name in the boot parameters of the primary SR

**sr-primary-address**

Enter the IP Address of the maintenance interface of the primary session router; must match the "inet on ethernet" address in the boot parameters of the primary SR

**sr-secondary-name**

Enter the name of the secondary session router; must match the target name in the boot parameters of the secondary SR

**sr-secondary-address**

Enter the IP Address of the maintenance interface of the secondary session router. This must match the "inet on ethernet" address in the boot parameters of the secondary SR.

**divide-resources**

Indicate whether or not resources are divided by the number of configured session directors. This includes:

- realm-config bandwidth
- session-agent max-sessions
- session-agent max-outbound-sessions
- session-agent max-burst-rate
- session-agent max-sustain-rate
- – Default: disabled
- – Values: enabled | disabled

**match-ip-src-parent-realms**

Enable or disable local policy parent realm matching based on a parent realm

- Default: disabled
- Values: enabled | disabled

**nested-realm-stats**

Enable or disable using session constraints for nested realms across the entire system

- Default: disabled
- Values: enabled | disabled

**reject-message-threshold**

Enter the minimum number of message rejections allowed in the reject-message-window time on the Oracle Communications Session Border Controller (when using the SIP manipulation action reject) before generating an SNMP trap

- Default: 0 (no trap is sent)
- Values: Min: 0 / Max: 999999999

**reject-message-window**

Enter the time in seconds that defines the window for maximum message rejections allowed before generating an SNMPS trap

- Default: 10
- Values: Min: 1 / Max: 999999999

**force-report-trunk-info**

Enable or disable generation of VSAs for trunk group information even when you are not using trunk-group routing; VSAs 65-68 to report originating and terminating trunk group information

- Default: disabled
- Values: enabled | disabled

**session-directors**

Access the session-directors subelement.

**holidays**

Access the session-router-holidays subelement.

**additional-lp-lookups**

Enter the number of additional local policy per message lookups

- Default: 0 (disables multistaged local policy lookup)
- Values: Min: 0 | Max: 5

**max-routes-per-lookup**

Enter the maximum number of routes per local policy lookup

- Default: 0 (no limit on the number of returned routes)
- Values: Min: 0 | Max: 999999999

**total-lp-routes**

Enter the total number of routes for all local policy lookups per message request

- Default: 0 (no limit on the number of returned routes)
- Values: Min: 0 | Max: 999999999

**multi-stage-src-realm-override**

Sets the system to use the original received realm as the source realm for multistage local policy lookups through every stage when set to enabled. A setting of disabled sets the system to use the previous stage's next-hop as the source realm in the current stage.

- Default: disabled
- Values: enabled | disabled

**retry-after-upon-offline**

Supports load balancing restart for when the Oracle Communications Session Border Controller is configured as a cluster member in conjunction with the Oracle Communications Session-aware Load Balancer.

- Default: disabled
- Values: enabled | disabled

#### Path

**session-router-config** is an element under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **session-router**.



#### Note:

This is a single instance configuration element.

## session-router > holidays

The session-router-holidays configuration subelement establishes the holiday schedule to which the Oracle Communications Session Border Controller conforms.

#### Parameters

##### date

Enter the date of a holiday in YYYY-MM-DD format. A session router holidays entry will not function properly unless it is a valid

##### description

Describe the holiday

#### Path

**session-router-holidays** is a subelement under the session-router-config element. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **session-router** , and then **holidays**.



#### Note:

This is a multiple instance configuration element.

## session-timer-profile

The session-timer-profile element is used to configure support for RFC 4028 Session Timers.

#### Parameters

##### name

The name of this session-timer-profile element. This value is configured in a sip-interface's session-timer-profile parameter.

##### session-expires

The value of the session expires header in seconds

- Default: 1800
- Values: 64-999999999

**min-se**

The value of the Min-SE header in seconds (this is a minimum session expires value).

- Default: 90
- Values: 64-999999999

**force-reinvite**

Sets if the Oracle Communications Session Border Controller will send a reINVITE to refresh the session timer when applicable

- Default: disabled
- Values: enabled | disabled

**request-refresher**

Set on the outbound side of a call what the Oracle Communications Session Border Controller sets the refresher parameter to. Valid values are uac, uas, or none.

- Default: uac
- Values: none | uac | uas

**response-refresher**

Set on the inbound side the value of the refresher parameter in the 200OK message.

- Default: uas
- Values: uac | uas

**Path**

**session-timer-profile** is an element under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **session-router**, and then **session-timer-profile**.

## session-translation

In the **session-translation** element, you give your session translation an identifier and then enter the **session-trans-rule** subelement to define translation rules. Once the **session-translation** element is configured, you can apply it to a realm or a session agent.

**Parameters****id**

Enter the identifier or name for this set of session translation rules. Use this id when applying a session translation to a realm or a session agent.

**session-trans-rule**

Enter the **session-trans-rule** subelement.



## Path

The **session-translation** element is under the session-router path.

```
ORACLE# conf t
ORACLE(configure)# session-router
ORACLE(session-router)# session-translation
ORACLE(session-translation)#
```

## session-translation > session-trans-rule

In the **session-trans-rule** element, you can enable or disable specific rules, declare whether a rule is required, and define the order in which your rules execute.

### Parameters

#### rule-id

Enter the `id` value of the translation rule you want to group within this session translation.

#### mandatory

Declare whether this rule is required.

If a mandatory rule fails, all the translation rules in the parent **session-translation** object are rolled back. If a non-mandatory rule fails, the other rules within the **session-translation** element continue to execute.

- Default: disabled
- Values: disabled | enabled

#### state

Declare whether this rule is enabled or disabled.

- Default: enabled
- Values: disabled | enabled

#### move

Change the order of execution.

```
move <from-position> <to-position>
```

For example, to move the group's second rule to the first position so that it gets executed first, run this command:

```
move 2 1
```

## Path

The **session-trans-rule** element is under the session-router path.

```
ORACLE# conf t
ORACLE(configure)# session-router
ORACLE(session-router)# session-translation
```

```
ORACLE(session-translation)# session-trans-rule
ORACLE(session-trans-rule)#
```

## schedule-backup

The schedule-backup configuration element allows you to configure general collection commands for backing up your configuration on the Oracle Communications Session Border Controller.

### Parameters

#### admin-state

Enables or disables scheduled backup for this system.

- Default: disable
- Values: enable | disable

#### config-backup

Provides access to the **config-backup** sub-element.

### Path

**schedule-backup** is an element of the system-config path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system-config**, and then **schedule-backup**.



#### Note:

This is a single instance configuration element.

## schedule-backup > config-backup

The config-backup configuration sub-element allows you to configure specific detail about when you back up your configuration on the Oracle Communications Session Border Controller.

### Parameters

#### admin-state

Enable or disable this configuration backup feature. This parameter is disabled by default.

- disabled (default)
- enabled

#### interval

Specifies the interval the system uses before it pushes a new backup.

- weekly—7 days from last backup (default)
- daily—24 hours from last backup
- monthly—30 days from last backup

**retry-interval**

Specifies the interval the system waits before it tries to resend a configuration backup after an attempt fails.

- Default: 5 minutes
- Values: Min: 5 | Max: 30

**retry-count**

Specifies the maximum number of times the system tries to resend a configuration backup after prior attempts fail.

- Default: 5 retries
- Values: Min: 2 | Max: 10

**push-failure-alarm**

Enables or disables the generation of alarms and traps in case of any push-receiver failures. This alarm is of severity type Warning.

- Default: enabled
- Values: enabled | disabled

**push-receiver**

Access the push-receiver sub-element.

**Path**

**config-backup** is a subelement element of the system-config path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system-config**, and then **schedule-backup**, and then **config-backup**.

**Note:**

This is a single instance configuration element.

## schedule-backup > config-backup > push-receiver

The push-receiver configuration sub-element allows you to configure the Oracle Communications Session Border Controller to push your backup configuration files to a specified node.

**Parameters****address**

Specifies the hostname or IP address to which the Oracle Communications Session Border Controller pushes the current configuration file.

**user-name**

Specifies the login user name for the specified server used when pushing the current configuration file.

**password**

Specifies the login password for the specified server used when pushing the current configuration file.

**data-store**

Enter the absolute path on the specified server in which to put the current configuration file.

**protocol**

Specifies the protocol with which to send the scheduled backup the current configuration file.

- Default SFTP
- Values SFTP

**Path**

**push-receiver** is a subelement element of the system-config path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system-config**, and then **schedule-backup**, and then **config-backup**, and then **push-receiver**.

**Note:**

This is a multiple instance configuration element.

## sip-advanced-logging

The sip-advanced-logging configuration element allows you to configure advanced logging objects on the Oracle Communications Session Border Controller.

**Parameters****name**

Name to display on the log message for this set of criteria.

**state**

Specifies whether this named instance is enabled or disabled.

- Default: enabled
- Values: enabled | disabled

**level**

Log level for this advanced logging set of criteria. This corresponds to the system's available log levels.

- Default: DEBUG
- Values: ZERO | NONE | EMERGENCY | CRITICAL | MAJOR | MINOR | WARNING | NOTICE | INFO | TRACE | DEBUG | DETAIL

**scope**

The range of SIP messages and, if configured, media for which this advanced logging criteria creates log messages.

- Default: session-and-media
- Values: request-only | transaction | session | session-and-media

**matches-per-window**

The number of matches, within the window size, for which the system generates log messages.

- Default: 1
- Values: An integer between 1 and 999999999

**window-size**

The amount of time, in seconds, to sample for matches within the traffic.

- Default: 1
- Values: An integer between 1 and 999999999

**condition**

Type this parameter to enter the adv-logging-conditions subelement. Specify the match criteria for which the system creates log messages. Each logging criteria set supports multiple match conditions.

Path: **sip-advanced-logging** is an element of the session-router path. The full path from the topmost ACLI prompt is: configure terminal > session-router > sip-advanced-logging.

**Note:**

This is a multiple instance configuration element.

## sip-advanced-logging > condition

The sip-advanced-logging's condition subelement allows you to configure multiple sets of matching criteria for the associated sip-advanced-logging element on the Oracle Communications Session Border Controller.

**Parameters****match-type**

A string identifying the type of information within the SIP message on which the system attempts to find a matching value.

- Default: recv-agent
- Values: request-type | recv-agent | recv-realm | request-uri-user | request-uri-host | to-header-user | to-header-host | from-header-user | from-header-host | call-id

**match-procedure**

Indicates whether the match-value attribute will contain regex or an exact string.

- Default: exact-match
- Values: exact-match | regex-match

**match-value**

A string the system uses as the matching string within the SIP message.

- If the match-type is "request-type", valid values include:
  - REGISTER | INVITE | ACK | BYE | CANCEL | PRACK | OPTION | INFO | SUBSCRIBE | NOTIFY | REFER | UPDATE | MESSAGE | PUBLISH

- For all other match-types, enter the string the system must find in the message.

Path: **adv-log-condition** is a subelement of the sip-advanced-logging element. The full path from the topmost ACLI prompt is: configure terminal > session-router > sip-advanced-logging > condition.

**Note:**

This is a multiple instance configuration subelement.

## sip-config

The sip-config element is used to define the parameters for this protocol specific to the SBC communicating with SIP.

### Parameters

#### state

Enable or disable the SIP operations

- Default: enabled
- Values: enabled | disabled

#### operation-mode

Select the SIP operation mode

- Default: dialog
- Values:
  - disabled—Setting this parameter to disabled sets it to its default, dialog.
  - stateless—Stateless proxy forwarding. SIP requests are forwarded based on the Request-URI and local policy. No transaction, session or dialog state is maintained. No media state is maintained, and session descriptions in the SIP messages are not modified.
  - transaction—Transaction stateful proxy mode. SIP requests are forwarded based on the Request-URI and local policy. The SBC maintains transaction state in accordance with RFC 3261. No session or dialog state is maintained. No media state is maintained, and session descriptions in the SIP messages are not modified.
  - session—Session stateful proxy mode. SIP requests are forwarded based on the Request-URI and local policy. The SBC maintains transaction state in accordance with RFC 3261. The SD also maintains session state information. A Record-Route header is inserted in requests so that the SBC will remain in the path. No media state is maintained, and session descriptions in the SIP messages are not modified.
  - dialog—Dialog stateful B2BUA mode. The SBC maintains full transaction, session, and dialog state. If media management is enabled, full media state is also maintained and the SBC modifies session descriptions in SIP messages to cause the media to flow through the SBC.

**dialog-transparency**

Enable or disable SIP dialog transparency service to prevent the SBC from generating a unique Call-ID and modifying dialog tags

- Default: enabled
- Values: enabled | disabled

**home-realm-id**

Enter the identifier of the home realm. This is the network to which the SBC's SIP proxy (B2BUA) is logically connected. If configured, this field must correspond to a valid identifier field entry in a realm-config.

**egress-realm-id**

Enter the default egress realm identifier

**auto-realm-id**

Enter the auto config realm identifier

**nat-mode**

Select the home realm NAT mode. This is used to indicate whether the home realm is "public" or "private" address space for application of the SIP-NAT function.

- Default: none
- Values:
  - none—No SIP-NAT is necessary
  - private—Indicates that the home realm is private address space, and all other external realms are public address space. Addresses in the home realm will be encoded in SIP URIs sent into the external realm. The addresses are decoded when the URIs enter the home realm.
  - public—Indicates that the home realm is public address space. Addresses from external realms are encoded in SIP URIs as they enter the home realm. Addresses are decoded as they enter the external realm that the address originated in.

**registrar-domain**

Enter the domain name for identifying which requests for which Hosted NAT Traversal (HNT) or registration caching applies. The right-most portion of the "host" part of the Request-URI is matched against this value. An asterisk "\*" is used to indicate any domain.

**registrar-host**

Enter the hostname or IP address of the SIP registrar for the HNT and registration caching function. An asterisk "\*" is used when there are multiple SIP registrars and normal routing using the Request-URI or local policy is to be applied.

An IPV6 address is valid for this parameter.

**registrar-port**

Enter the port number of the SIP registrar server

- Default: 0
- Range: 0, 1025 - 65535

**register-service-route**

Select the service-route usage for REGISTER requests.

- Default: always
- Values:
  - never—Never use service-route for REGISTER
  - always—Always user service-route for REGISTER
  - removal—Use service-route for de-registration
  - session—Use service-route when the UA has a session
  - session+removal—Use service-route for de-registration and for when the UA has a session

**init-timer**

Enter the initial timeout value in milliseconds for a response to an INVITE request, and it applies to any SIP request in UDP. In RFC 3261, this value is also referred to as TIMER\_T1.

- Default: 500
- Values: Min: 0 / Max: 4294967295

**max-timer**

Enter the maximum retransmission timeout in milliseconds for SIP. In RFC 3261, this value is also referred to as TIMER\_T2.

- Default: 4000
- Values: Min: 0 / Max: 4294967295

**trans-expire**

Enter the number of seconds used by the system to determine when to time-out SIP transactions. This timer is equivalent to TIMER\_B in RFC 3261, and the same value is used for TIMER\_D, TIMER\_F, TIMER\_H, and TIMER\_J as set out in the same RFC.

- Default: 32
- Values: Min: 0 / Max: 2147473

**initial-inv-trans-expire**

Establishes a global, default transaction timeout value (expressed in seconds) used exclusively for initial INVITE transactions. The default value, 0, indicates that a dedicated INVITE Timer B is not enabled. Non-default integer values enable a dedicated Timer B and set the timer value.

- Default: 0
- Values: Min: 0 / Max: 2147473

**invite-expire**

Enter the TTL in seconds for a SIP client transaction after receiving a provisional response. This timer is equivalent to TIMER\_C in RFC 3261.

- Default: 180
- Values: Min: 0 / Max: 2147473

**inactive-dynamic-conn**

Enter the time limit in seconds for inactive dynamic connections



- Default: 32
- Values Min: 0 / Max: 4294967295

**enforcement-profile**

Enter the name of the enforcement profile (SIP allowed methods).

**emergency-dscp-profile**

Specifies the name of the emergency DSCP profile you want to apply to this sip-config.

**pac-method**

Enter the PAC ping method.

- Values: string

**pac-interval**

Enter the PAC ping interval.

- Default: 10
- Values Min: 0 / Max: 2147483647

**pac-strategy**

Enter the PAC distribution strategy.

- Default: PropDist
- Values: RoundRobin, LeastBusy, PropDist, LowSusRate

**pac-load-weight**

Enter the PAC CPU load weighting factor.

- Default: 1
- Values Min: 0 / Max: 100

**pac-session-weight**

Enter the PAC active sessions weighting factor.

- Default: 1
- Values Min: 0 / Max: 100

**pac-route-weight**

Enter the PAC SD-Route weighting factor.

- Default: 1
- Values Min: 0 / Max: 100

**pac-callid-lifetime**

Enter the PAC CallId route table entry lifetime.

- Default: 600
- Values Min: -2147483648 / Max: 2147483647

**pac-user-lifetime**

Enter the PAC User route table entry lifetime.

- Default: 3600

- Values Min: -2147483648 / Max: 2147483647

**red-sip-port**

Enter the port for sending or receiving SIP checkpoint messages. Setting this to 0 disables SIP HA on the SBC.

- Default: 1988
- Range: 0, 1025 - 65535

 **Note:**

This parameter is not RTC supported.

**red-max-trans**

Enter the size of the SIP signaling transaction list in entries stored in memory

- Default: 10000
- Values: Min: 0 / Max: 50000

 **Note:**

This parameter is not RTC supported.

**red-sync-start-time**

Enter the time in milliseconds before the HA SBC begins SIP signaling state checkpointing. As long as this HA SBC is healthy and active, it remains in a constant cycle of (re)setting this field's timer and checking to see if it has become standby.

- Default: 5000
- Values: Min: 0 / Max: 999999999

 **Note:**

This parameter is not RTC supported.

**red-sync-comp-time**

Enter the time in milliseconds the standby SBC waits before checkpointing with the active SBC to obtain the latest SIP signaling transaction information once the initial checkpointing process is complete

- Default: 1000
- Values: Min: 0 / Max: 999999999

 **Note:**

This parameter is not RTC supported.

**add-reason-header**

Enables the system to add the reason header into response messages and CDRs for RFC 3326 support. Enabling this parameter also enables reason header interworking during native SIP-ISUP interworking.

- Default: disabled
- Values: enabled | disabled

**sip-message-len**

Set the size constraint in bytes on a SIP message

- Default: 4096
- Values: Min: 0 / Max: 65535

**enum-sag-match**

Enable or disable matching this SAG's group name to hostname portions of ENUM NAPTR or LRT replacement URIs.

- Default: disabled
- Values: enabled | disabled

**extra-method-stats**

Enable or disable the expansion SIP Method tracking feature. Enabling this parameter provides multiple enhancements to method counters, including:

- Enables the system to track transaction messages for specific SIP session agents, SIP realms, and SIP interfaces.
- Enables the system to provide message rate statistics for SIP traffic via ACLI and HDR output.
- Enables the configuration of specific method constraints.
- Enables the system to output counts of method success, timeout and failure events for SUBSCRIBE, NOTIFY and MESSAGE methods.

Values include:

- Default: disabled
- Values: enabled | disabled

**extra-enum-stats**

Enable or disable the ENUM extra statistics tracking feature.

- Default: disabled
- enabled | disabled

**mpps-volte**

Enable or disable the Multimedia Priority Services for VoLTE.

- Default: disabled
- Values: enabled | disabled

**rph-feature**

Set the state of NSEP support for the global SIP configuration

- Default: disabled

- Values: enabled | disabled

**nsep-user-sessions-rate**

Set the CPS for call rates on a per user basis for NSEP. A value of 0 disables the call admission control on a per user basis.

- Default: 0
- Values: 0-999999999

**nsep-sa-sessions-rate**

Enter maximum acceptable number of SIP INVITES (NSEP sessions) per second to allow for SIP session agents. 0 means there is no limit.

- Default: 0
- Values Min: 0 / Max: 999999999

**registration-cache-limit**

Set the maximum number of SIP registrations that you want to keep in the registration cache. A value of 0 means there is no limit on the registration cache, therefore disabling this feature.

- Default: 0
- Values: Min: 0 / Max: 999999999

**register-use-to-for-ip**

Enable or disable the use of an ENUM query to return the SIP URI of the Registrar for a SIP REGISTER message for routing purposes

- Default: disabled
- Values: enabled | disabled

**options**

Enter customer-specific features and/or parameters. This optional field allows for a comma separated list of "feature=<value>" or "feature" parameters for the sip-config element.

**refer-src-routing**

Enable or disable the use of the referring party's source realm lookup policy to route subsequent INVITES after static or dynamic REFER handling has been terminated. When disabled, the system derives the lookup from the source realm of the calling party.

- Default: disabled
- Values: enabled | disabled

**add-ucid-header**

Enable or disable the using the UCID to correlate replicated SIP message information when you use SRR.

- Default: disabled
- Values enabled | disabled

**proxy-sub-events**

Configured list of SIP event package names that you want the SBC to proxy (rather than maintain state) to the destination. You can enter more than one value by enclosing multiple values in quotations marks

**allow-pani-for-trusted-only**

Allow PANI header only for trusted domains

- Default: inherit
- Values: inherit | enabled | disabled

**atcf-stn-sr**

Enter the value of the Session Transfer Interface, Single Radio (STN-SR).

**atcf-psi-dn**

Enter the value to use for the Public Service Identity Domain Name (PSI-DN).

**atcf-route-to-sccas**

When set to disabled (default), the handover update, an INVITE, is routed to the IMS Core. When enabled, the INVITE is routed directly to the SCCAS.

- disabled
- enabled | disabled

**eatf-stn-sr**

E-STN-SR allocated by EATF in INVITE handover message.

**pass-gruu-contact**

Enable or disable the sip-config to parse for GR URI parameter in the contact header in non-registered endpoints' messages.

- Default: disabled
- Values enabled | disabled

**sag-lookup-on-redirect**

Enable/disable lookup of SAG name on a redirect

- Default: disabled
- Values enabled | disabled

**set-disconnect-time-on-bye**

Sets the disconnect time reflected in a RADIUS CDR to when the SBC receives a BYE message.

- Default: disabled
- Values: enabled | disabled

**refer-reinvite-no-sdp**

Globally enables the SBC to exclude SDP in re-INVITE responses sent to transfer-targets.

- Default: disabled
- Values: enabled | disabled

**msrp-delayed-bye-timer**

Enables the delayed transmission of SIP BYE requests, for active MSRP sessions. This parameter specifies the maximum delay period allowed before transmitting the delayed BYE request.

- Default 15

- Min: 0 / Max: 60

**Note:**

A value of 0 disables this parameter.

**transcoding-realm**

Name of a configured realm designated as the separate realm for the public SIP interface, to be used only for communication with the T-SBC in pooled transcoding deployments.

**transcoding-agents**

IP address, session agent hostname, or SAG name in this list if you want them to be used as transcoding agents. You can make multiple entries in any combination of these values. For example, you might list an IPv6 address, a session agent, and a SAG. To make multiple entries in the list using in one command line, enclose the entire list in parentheses, separating each with a space.

- To add a transcoding agent to an existing list, put a plus sign before the value you want to add, e.g. +154.124.2.8.
- To remove a transcoding agent from an existing list, put a minus sign before the value you want to remove, e.g. -154.124.2.8.

**create-dynamic-sa**

To support the creation of dynamic session agents for remote S-CSCFs on in-coming service routes, change this parameter from disabled (default) to enabled.

- Default: disabled
- Values: enabled | disabled

**node-functionality**

a global value to insert into the Node-Functionality AVP when the Oracle Communications Session Border Controller sends ACRs over the Rf interface to an appropriate destination.

- Default: P-CSCF
- Values: P-CSCF | BGCF | IBCF | E-CSCF

**match-sip-instance**

Enables the use of the `+sip-instance-id` when matching incoming calls with the registration cache.

- Default: disabled
- Values: enabled | disabled

**sa-routes-stats**

This enables collecting session agent statistics for DNS-resolved session agents.

- Default: disabled
- Values: enabled | disabled

**sa-routes-traps**

This enables traps on DNS resolved session-agents when a route changes state.

- Default: disabled

- Values: enabled | disabled

**rx-sip-reason-mapping**

This enables the Rx Interface Reason Header Usage mapping feature.

- Default: disabled
- Values: enabled | disabled

**add-ue-location-in-pani**

Set this to add UE Location string in PANI header when available.

- Default: disabled
- Values: enabled | disabled

**hold-emergency-calls-for-loc-info**

Timer to hold emergency calls until the system receives location information from the PCRF.

- Default: 0
- Values: 0 - 4294967295

**npli-upon-register**

This adds the ability to capture Network Provided Location Information during the Registration process.

- Default: inherit
- Values: inherit | enabled | disabled

**msg-hold-for-loc-info**

Maximum number of seconds that the system will hold MESSAGES for location information for the NPLI for Short Message feature.

- Default: 0—disabled
- Values: 0 - 30 seconds

**cache-loc-info-expire**

Maximum number of seconds after which the system will drop network location information for the NPLI for Short Message feature, unless the **keep-cached-loc-info-after-timeout** parameter is enabled.

- Default: 32
- Values: Min: 0 / Max: 4294967295

**keep-cached-loc-info-after-timeout**

If this option is enabled, the location information will be left in the cache and used in subsequent MESSAGES after the **cache-loc-info-expire** time expires.

- Default: disabled
- Values: enabled | disabled

**atcf-icsi-match**

ATCF ISCI matching rule for the ATCF ISCI Invite Matching feature.

- Value: enter the ICS string you want to match.

**start-hold-timer-event**

Starts the hold timer according to the trigger configured.

- Default: AAR
- Values: AAR | AAA

**hist-to-div-for-cause-380**

Determines whether to interwork cause 380 messages within history-Info and Diversion header interworking.

- Default: disabled
- Values:
  - enabled—enables the message interworking.
  - disabled—disables the message interworking.

**anonymize-history-for-untrusted**

Enables anonymization of history and diversion headers for untrusted peers.

- Default: disabled
- Values: enabled | disabled

**asymm-preconditions-evs-swb-support**

Enable this parameter to perform an internal bandwidth mapping of EVS codecs when presented with the super-wideband codec option within the context of transcoding free operation (TrFO) for asymmetric preconditions.

- Default: disable
- enabled

**sms-report-timeout**

Specifies the amount of time, in seconds, before the system discards accounting for a message because it did not receive a delivery report /submit SMS report.

- Default: 32
- Values: 1-100000 seconds

**retry-after-upon-offline**

When the system is becoming an offline state, refresh registrations for endpoints that do not have any active calls are rejected with a configurable response code defined in this parameter. The default for this parameter is the 503 Service Unavailable message and includes a Retry-After header with a configurable timer set in **retry-after-upon-offline**. Note that if this value is set to 0, the SBC returns Retry-After:0, which means immediately.

- Default: 0
- Values: Min: 0 / Max: 999999999

**reg-reject-response-upon-offline**

Refresh registrations for endpoints that do not have any active calls are rejected with a configurable response code defined in this parameter. The default for this parameter is the 503 Service Unavailable message and includes a Retry-After header with a configurable timer set in **retry-after-upon-offline**.

**user-agent**

Reserved for use with Microsoft Teams integrations only.



**precondition-enhancement**

Enable or disable asymmetric precondition enhancement.

- Default: disabled
- Values: enabled | disabled

**precondition-med-enhancement**

Enables support for multiple early dialogs with preconditions and TrFO.

- Default: Disable
- Values: enable/disable

**internal-503-threshold**

Specifies, in percent utilization, the value above which the system triggers an alarm indicating the system is sending an excessive number of “503 Service unavailable” messages in response to INVITEs.

- Default: 0 (Disables alarm)
- Range: 0 - 100%

**internal-503-lower-threshold**

Specifies, in percent utilization, the value below which the system considers the number of “503 Service unavailable” messages it sends in response to INVITEs as acceptable. Operates in conjunction with the 503-alarm-monitoring-time to prevent the system from issuing multiple alarms for what you consider the same issue.

- Default: 40
- Range: 1 - 95%

**503-alarm-monitoring-time**

Operates in conjunction with the internal-503-lower-threshold, and specifies in minutes the duration for which the system considers an alarm condition triggered by the internal-503-threshold as still in effect. After the system triggers this alarm, it uses this window as the amount of time the number of “503 Service unavailable” messages sent must be below the internal-503-lower-threshold before the system can issue a new internal-503-threshold alarm. This logic prevents the system from issuing multiple alarms for what you consider the same issue.

- Default: 15
- Range: 5 - 600 minutes

**Path**

**sip-config** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router** , and then **sip-config**.

**Note:**

This is a single instance configuration element.

## sip-feature

The sip-feature element defines how the Oracle Communications Session Border Controller's B2BUA should treat specific option tags in SIP headers.

### Parameters

#### name

Enter the option tag name that will appear in the Require, Supported, or Proxy-Require headers of SIP messages

#### realm

Enter the realm with which the feature is associated; to make the feature global, leave this parameter blank

#### support-mode-inbound

Select the treatment of feature (option tag) in a Supported header for an inbound packet

- Default: pass
- Values:
  - pass—B2BUA should include the tag in the corresponding outgoing message
  - strip—Tag should be excluded in the outgoing message. Use strip mode to not use the extension.

#### required-mode-inbound

Select the treatment of feature (option tag) in a Require header for an inbound packet

- Default: reject
- Values:
  - pass—B2BUA should include the tag in the corresponding outgoing message
  - reject—B2BUA should reject the request with a 420 (Bad Extension) response. The option tag will be included in an Unsupported header in the reject response.

#### proxy-require-mode-inbound

Select the treatment of feature (option tag) in a Proxy-Require header for an inbound packet

- Default: pass
- Values:
  - pass—B2BUA should include the tag in the corresponding outgoing message
  - reject—B2BUA should reject the request with a 420 (Bad Extension) response. The option tag will be included in an Unsupported header in the reject response.

#### support-mode-outbound

Select the treatment of feature (option tag) in a Supported header for an outbound packet

- Default: pass
- Values:

- pass—B2BUA should include the tag in the corresponding outgoing message
- strip—Tag should be excluded in the outgoing message

**require-mode-outbound**

Select the treatment of feature (option tag) in a Require header for an outbound packet

- Default: reject
- Values:
  - pass—B2BUA should include the tag in the corresponding outgoing message
  - reject—B2BUA should reject the request with a 420 (Bad Extension) response. The option tag will be included in an Unsupported header in the reject response.

**proxy-require-mode-outbound**

Select the treatment of feature (option tag) in a Proxy-Require header for an outbound packet

- Default: pass
- Values:
  - pass—B2BUA should include the tag in the corresponding outgoing message
  - reject—B2BUA should reject the request with a 420 (Bad Extension) response. The option tag will be included in an Unsupported header in the reject response.

**Path**

**sip-feature** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router** , and then **sip-feature**.

 **Note:**

If an option tag is encountered that is not configured as a SIP feature, the default treatments described in each of the field descriptions (name, support-mode, require-mode, and proxy-require-mode) included in this section will apply. Therefore, a sip-feature element only needs to be configured when non-default treatment is required.  
This is a multiple instance element.

## sip-feature-caps

Configure to support SRVCC handover and other ATCF functionality.

**Parameters****state**

When enabled, the feature adds the Feature-Caps header to messages.

- Default: disabled
- Values: enabled | disabled

**atcf-management-uri**

Identifies the feature capability indicator that will be used to transport the ATCF management URI. When the value is **management** and the value of **state** is **enabled**, the Feature-Caps header "g.3gpp atcf-mgmt-uri" is added and the value of **atcf-psi-dn** in the **sip-config** configuration element. When the value is **psi** and the value of **state** is **enabled**, the Feature-Caps header "g.3gpp atcf-psi" is added and the value is the value of **atcf-psi-dn** in the **sip-config** configuration element.

- Default: disabled
- Values: disabled | management | psi

**atcf-alerting**

When enabled, the system adds the Feature-Caps header to messages and turns on the alerting feature.

- Default: disabled
- Values: enabled | disabled

**atcf-pre-alerting**

When enabled, the system adds the Feature-Caps header to messages and turns on the pre-alerting feature.

- Default: disabled
- Values: enabled | disabled

**Path**

**sip-feature-caps** is an element within the **session-router** path.

## sip-interface

The sip-interface element allows you to configure a SIP interface for your Oracle Communications Session Border Controller.

**Parameters****state**

Enable or disable the SIP interface

- Default: enabled
- Values: enabled | disabled

 **Note:**

Oracle does not recommend disabling and re-enabling a sip-interface operating with TCP ports. Depending on conditions and circumstances, you may not be able to re-enable this sip-interface without rebooting the system. If you need to disable, then re-enable a sip-interface, ensure that:

- There are no ESTABLISHED in-bound sockets
- The access-control-trust-level of the realm must not be configured to low or medium

**realm-id**

Enter the name of the realm to which the SIP interface applies

**description**

Provide a brief description of the **sip-interface** configuration element

**sip-ports**

Access the sip-ports subelement

**carriers**

Enter a list of carriers related to the sip-config. Entries in this field must follow the Carrier Format.

**trans-expire**

Set the transaction expiration timer in seconds

- Default: 0
- Values: Min: 0 | Max: 2147473

**initial-inv-trans-expire**

Transaction expiration time <TIMER\_B> for initial INVITE.

- Default: 0
- Values: 0 - 2147473

**invite-expire**

Set the INVITE transaction expiration timer in seconds

- Default: 0
- Values: Min: 0 | Max: 2147473

**max-redirect-contacts**

Enter the maximum number of contact and route attempts in case of a redirect

- Default: 0
- Values: Min: 0 | Max: 10

**proxy-mode**

Set the default SIP request proxy mode

- Values:

- proxy—Forward all SIP requests to other session agents
- redirect—Send a SIP 3xx redirect response with contacts (found in the local policy) to the previous hop
- record-route—Forward requests with Record-Route (for stateless and transaction and operation modes only)

**redirect-action**

Set handling of Redirect (3xx) response messages from a session agent.

- Default: Empty
- Values:
  - Proxy—Send the response back to the previous hop
  - Recurse—Recurse on the contacts in the response
  - Recurse-305-only—Recurse on the contacts in the 305 response

**contact-mode**

Select the contact header routing mode

- Default: none
- Values:
  - none
  - maddr
  - strict
  - loose

**nat-traversal**

Select the type of HNT functionality for SIP

- Default: none
- Values:
  - none—NAT Traversal is disabled
  - always—Performs HNT when SIP-Via and transport addresses do not match

 **Note:**

The **nat-traversal** parameter can establish an important media handling behavior. If you set **nat-traversal** on a **sip-interface** to **always**, this setting supersedes any multi-media configuration that would otherwise release the media. Instead, the SBC recognizes when a flow's leg is behind a NAT during the signaling, and ignores any configuration that would release the media. The SBC then sets up the end to end media flow in MBCD and performs its HNT function for that flow.

- rport—Performs HNT when Via rport parameter is present and SIP-Via and transport addresses do not match

**nat-interval**

Enter the expiration time in seconds for the system's cached registration entry for an endpoint doing HNT

- Default: 30
- Values: Min: 1 | Max: 4294967295

**tcp-nat-interval**

Enter the TCP NAT traversal registration interval in seconds

- Default: 90
- Values: Min: 0 / Max: 999999999

**registration-caching**

Enable or disable registration cache used for all UAs rather than those behind NATs

- Default: disabled
- Values: enabled | disabled

**min-reg-expire**

Enter the minimum registration expiration time in seconds for HNT registration caching

- Default: 300
- Values: Min: 0 | Max: 999999999

**registration-interval**

Enter the expiration time in seconds for the Oracle Communications Session Border Controller's cached registration entry for an endpoint (non-HNT)

- Default: 3600
- Values: Min: 1 | Max: 999999999

**route-to-registrar**

Indicate whether or not the SD should forward a request addressed to the registrar to the SIP registrar as opposed to sending the request to the registered contact in the registration cache

- Default: disabled
- Values: enabled | disabled

**secured-network**

Enable or disable sending messages on unsecured transport

- Default: disabled
- Values: enabled | disabled

**teluri-scheme**

Enable or disable the conversion of SIP URIs to Tel URIs

- Default: disabled
- Values: enabled | disabled

**uri-fqdn-domain**

Change the host part of the URIs to the FQDN value set here. This applies to the Request-URI, From header, and To header in non-dialog requests sent from the SIP interface.

**trust-mode**

Select the trust mode for this SIP interface

- Default: all
- Values:
  - all—Trust all previous and next hops except untrusted session agents
  - agents-only—Trust only trusted session agents
  - realm-prefix—Trust only trusted session agents or address matching realm prefix
  - registered—Trust only trusted session agents or registered endpoints
  - None—Trust nothing

**max-nat-interval**

Enter the amount of time in seconds that testing should not exceed for adaptive HNT. The system will keep the expires interval at this value.

- Default: 3600
- Values: Min: 0 | Max: 999999999

**nat-int-increment**

Enter the amount of time in seconds to use as the increment in value in the SIP expires header for adaptive HNT

- Default: 10
- Values: Min: 0 | Max: 999999999

**nat-test-increment**

Enter the amount of time in seconds that will be added to the test timer for adaptive HNT

- Default: 30
- Values: Min: 0 | Max: 999999999

**sip-dynamic-hnt**

Enable or disable adaptive HNT

- Default: disabled
- Values: enabled | disabled

**tcp-max-nat-interval**

Specifies the amount of time in seconds that testing over TCP connections should not exceed for adaptive HNT. The system keeps the expires interval at this value.

- Default: 3600 seconds
- Values: Min: 0 | Max: 999999999

**tcp-nat-int-increment**

Specifies the amount of time in seconds to use as the increment in value in the SIP expires header for adaptive HNT testing for TCP connections.



Values include:

- Default: 10 seconds
- Values: Min: 0 | Max: 999999999

**tcp-nat-test-increment**

Specifies the amount of time in seconds that will be added to the test timer for adaptive HNT testing for TCP connections.

Values include:

- Default: 30 seconds
- Values: Min: 0 | Max: 999999999

**tcp-sip-dynamic-hnt**

Enables the system to perform its dynamic hosted NAT traversal feature for connections using TCP as the transport protocol.

Values include:

- Default: disabled
- Values: enabled | disabled

**stop-recurse**

Enter a list of returned response codes that this SIP interface will watch for in order to stop recursion on the target's or contact's messages

**port-map-start**

Set the starting port for the range of SIP ports available for SIP port mapping. A value of 0 disables SIP port mapping.

- Default: 0
- Values: Min: 1025 | Max: 65535

**port-map-end**

Set the ending port for the range of SIP ports available for SIP port mapping. A value of 0 disables SIP port mapping. This value must be larger than the port-map-start parameter's value.

- Default: 0
- Values: Min: 1025 | Max: 65535

**in-manipulationid**

Enter the name of the SIP header manipulations configuration to apply to the traffic entering the Oracle Communications Session Border Controller via this SIP interface

**out-manipulationid**

Enter the name of the SIP header manipulations configuration to apply to the traffic exiting the Oracle Communications Session Border Controller via this SIP interface

**manipulation-pattern**

Number of seconds after de-registration to kill TCP connection

**manipulation-string**

Enter the string used in header manipulation rules for this sip-interface.

**sip-ims-feature**

Enable or disable IMS functionality on this SIP interface

- Default: disabled
- Values: enabled | disabled

**subscribe-reg-event**

Enables the Oracle Communications Session Border Controller to generate SIP registration events.

- Default: disabled
- Values: enabled | disabled

**operator-identifier**

Set the operator identifier value to be inserted into a P-Charging-Vector header. The direction of the call determines whether this value is inserted into the orig-ioi or the term-ioi parameter in the P-Charging-Vector header. This string value **MUST** begin with an alpha character.

**anonymous-priority**

Set the policy priority parameter for this SIP interface. It is used to facilitate emergency sessions from unregistered endpoints. This value is compared against a policy priority parameter in a local policy configuration element.

- Default: none
- Values:
  - none
  - normal
  - non-urgent
  - urgent
  - emergency

**max-incoming-conns**

Enter the maximum number of TCP/TLS connections for this sip interface

- Default: 0 (disabled)
- Values: Min: 0 / Max: 20000

**per-scr-ip-max-incoming-conns**

Enter the maximum number of TCP/TLS connections per peer IP address

- Default: 0
- Values: Min: 0 / Max: 20000; setting a value of 0 disables this parameter.

**inactive-conn-timeout**

Enter the timeout, measured in seconds for idle TCP/TLS connections

- Default: 0
- Values: Min: 0 / Max: 999999999; setting a value of 0 disables the timer.

**untrusted-conn-timeout**

Enter the timeout time, in seconds, for untrusted endpoints on TCP/TLS connections

- Default: 0
- Values: Min: 0 (disabled) | Max: 999999999

**network-id**

Set the value that will be inserted into the P-Visited-Network-ID header

**ext-policy-server**

Enter the name of external policy server used as the CLF for this SIP interface

**default-location-string**

Set a default location string to insert into P-Access-Network-Info header when the CLF does not return this value

**charging-vector-mode**

Set the state of P-Charging-Vector header handling

- Default pass
- Values:
  - none—Pass the P-Charging-Vector header received in an incoming SIP message untouched as the message is forwarded out of the Oracle Communications Session Border Controller, not extracting RADIUS information
  - pass—Pass the P-Charging-Vector header received in an incoming SIP message untouched as the message is forwarded out of the Oracle Communications Session Border Controller, extracting RADIUS information.
  - delete—Delete the P-Charging-Vector header received in an incoming SIP message before it is forwarded out of the Oracle Communications Session Border Controller
  - insert—Inserts the P-Charging-Vector header in an incoming SIP message that does not contain the P-Charging-Vector header. If the incoming message contains the P-Charging-Vector header, the Oracle Communications Session Border Controller will overwrite the P-Charging-Vector header with its values.
  - delete-and-respond—Removes the P-Charging-Vector from incoming requests for a session and store it. Then the Oracle Communications Session Border Controller inserts it into outbound responses related to that session in a P-Charging-Vector header.
  - conditional-insert—Inserts the P-Charging-Vector header in an incoming SIP message that does not contain the P-Charging-Vector header. If the incoming message contains the P-Charging-Vector header, the Oracle Communications Session Border Controller passes the P-Charging-Vector header untouched as the message is forwarded, extracting RADIUS information.

 **Note:**

Note that the default setting for the **charging-vector-mode** is pass for new SIP interface configurations. If you are upgrading and there are pre-existing SIP interfaces in your (upgraded) configuration, the default becomes none.

**charging-function-address-mode**

Set the state of P-Charging-Function-Address header handling

- Default: pass
- Values:
  - none—Pass the P-Charging-Function-Address header received in an incoming SIP message untouched as the message is forwarded out of the Oracle Communications Session Border Controller, not extracting RADIUS information
  - pass—Pass the P-Charging-Function-Address header received in an incoming SIP message untouched as the message is forwarded out of the Oracle Communications Session Border Controller, extracting RADIUS information.
  - delete—Delete the P-Charging-Function-Address header received in an incoming SIP message before it is forwarded out of the Oracle Communications Session Border Controller
  - insert—Inserts the P-Charging-Function-Address header in an incoming SIP message that does not contain the P-Charging-Function-Address header. If the incoming message contains the P-Charging-Function-Address header, the Oracle Communications Session Border Controller will prepend its configured values to the header.
  - insert-reg-cache—To be configured on the SIP interface facing the UE, configures the Oracle Communications Session Border Controller to replace the PCFA with the most recently cached values rather than the ccf-address you set to be static in your configuration. The cached values come from one of the following that the Oracle Communications Session Border Controller has received most recently: request, response, registration, or local configuration.
  - delete-and-respond—To be configured on the SIP interface facing the S-CPCF, configures the Oracle Communications Session Border Controller to strip out the latest cached PCFA.
  - conditional-insert—Inserts the P-Charging-Function-Address header in an incoming SIP message that does not contain the P-Charging-Vector header. If the incoming message contains the P-Charging-Function-Address header, the Oracle Communications Session Border Controller passes the P-Charging-Function-Address header untouched as the message is forwarded, extracting RADIUS information.

 **Note:**

Note that the default setting for the **charging-function-address-mode** is pass for new SIP interface configurations. If you are upgrading and there are pre-existing SIP interfaces in your (upgraded) configuration, the default becomes none.

**ccf-address**

Set the CCF address value that will be inserted into the P-Charging-Function-Address header

**ecf-address**

Set the ECF address value that will be inserted into the P-Charging-Function-Address header

**term-tgrp-mode**

Select the mode for routing for terminating trunk group URIs

- Default: none
- Values:
  - none—Disable routing based on trunk groups
  - iptel—Use trunk group URI routing based on the IPTEL formats
  - egress-uri—Use trunk group URI routing based on the egress URI format

**implicit-service-route**

Enable or disable the implicit service route behavior

- Default: disabled
- Values:
  - enabled
  - disabled
  - strict

**rfc2833-payload**

Enter the payload type used by the SIP interface in preferred rfc2833-mode

- Default: 101
- Values: Min: 96 | Max: 127

**rfc2833-mode**

Choose whether the SIP interface will behave exactly the same way as before and the 2833or UUI negotiation will be transparent to the Oracle Communications Session Border Controller, transparent, or whether the sip-interface prefers to use 2833 for DTMF transfer and would signal that in its SDP, preferred. However the final decision depends on the remote endpoint.

- Default: transparent
- Values: transparent | preferred | dual

**constraint-name**

Enter the name of the constraint being applied to this interface

**response-map**

Enter the name of the response map being applied to this interface

**local-response-map**

Enter the name of the local response map being applied to this interface

**sec-agree-feature**

Determines if sec-agree feature is enabled.

- Default disabled
- Values enabled | disabled

**sec-agree-pref**

Determines the security protocol preferences used with Sec-agree support

- Default: ipsec3gpp
- Values:
  - ipsec3gpp — support only IMS-AKA protocol
  - tls — support only TLS protocol
  - ipsec3gpp-tls — support both IMS-AKA and TLS, preferred protocol is IMS-AKA
  - tls-ipsec3gpp — support both TLS and IMS-AKA, preferred protocol is TLS

**ims-aka-feature**

This parameter is unsupported.

**enforcement-profile**

Enter the name of the enforcement profile associated with this SIP interface

**emergency-dscp-profile**

Specifies the name of the emergency DSCP profile you want to apply to this sip-interface.

**route-unauthorized-calls**

Enter the name of the SA or SAG you want to route unauthorized calls

**tcp-keepalive**

Enable or disable standard keepalive probes to determine whether or not connectivity with a remote peer is lost.

- Default: none
- Values: none | enabled | disabled

**add-sdp-invite**

Enable or disable this SIP interface inserting an SDP into either an INVITE or a REINVITE

- Default: disabled
- Values:
  - disabled—Do not insert an SDP
  - invite—Insert an SDP in the invite
  - reinvite—Insert an SDP in the reinvite

**add-sdp-profile**

Enter a list of one or more media profile configurations you want to use when the Oracle Communications Session Border Controller inserts SDP into incoming INVITEs that have no SDP. The media profile contains media information the Oracle Communications Session Border Controller inserts in outgoing INVITE.

**add-sdp-in-msg**

Identifies the messages in which to insert SDP offers or answers. The only allowable value is **18xresp**. The default is null (no value).

- Default: null
- Values:

- 18xresp—For an offerless INVITE that needs preconditions, causes the Oracle Communications Session Border Controller to insert the SDP, as configured in the media profile names listed in **add-sdp-profiles-in-msg**, in the 18x (183) response towards the UE.

**add-sdp-profile-in-msg**

Identifies a list of media profiles that contain, based on the codec, the SDP to insert in the 18x response when **add-sdp-in-msg** is configured.

**sip-profile**

Enter the name of the sip-profile to apply to this interface.

**sip-isup-profile**

Enter the name of the sip-isup-profile to apply to this interface.

**tcp-conn-dereg**

Number of seconds after de-registration to kill TCP connection.

- Default 0 (disabled)

**tunnel-name**

Tunnel traffic for load balancer. Traffic sent to/from this interface will be encapsulated in an RFC 2003 compliant tunnel to/from the load balancer using the associated network-interface's tunnel name.

**register-keep-alive**

Sets the use of RFC 5626 CRLF Keepalives on this sip interface.

- Default: none
- Values:
  - none—disables this feature
  - always— Keepalive always added to SIP-Via
  - bnat— Keepalive added to SIP-Via when SIP-via and transport addresses do not match (indicates endpoint is behind a NAT)

**kpml-interworking**

Enables or disables the KPML to RFC2833 interworking feature.

- Default: disabled
- Values: enabled | disabled

**kpmlRFC2833-iwf-on-hairpin**

When enabled, specifies that the system supports KPML to RFC2833 interworking for hairpinned calls. This requires that kpml-interworking to also be enabled.

- Default: disabled
- Values: enabled | disabled —When enabled, allows the Oracle Communications Session Border Controller to present the correct digit encapsulation (KPML or RFC2833) when hairpinned back to the original interface.

**msrp-delay-egress-bye**

Delay egress BYE message.

- Default: disabled

- Values: enabled | disabled

**send-380-response**

The phrase entered in this parameter is inserted into the <reason> element in the <alternative-service> element in the XML body in the 380 response returned to an endpoint when the call cannot be completed. This is in compliance with GSMA's Voice over LTE specification (IR. 92).

**pcscf-restoration**

Configure a reason phrase, enclosed in quotes, that will be included in the P-CSCF restoration response, the reason field of a 504 response sent back to the UE.

**session-timer-profile**

A session-timer-profile name is configured here to apply that session timer profile to this SIP interface.

**session-recording-server**

A maximum of four names of session-recording-servers, or session-recording-groups, or a combination of both existing in the realm associated with the session reporting client. Valid values are alpha-numeric characters. session recording groups are indicated by prepending the groupname with **SRG**:

**session-recording-required**

Determines whether calls are accepted by the SBC if recording is not available.

- Default: disabled
- Values:
  - enabled—Restricts call sessions from being initiated when a recording server is not available.
  - disabled—Allows call sessions to initiate even if the recording server is not available.

**service-tag**

Service tag

**p-early-media-header**

Used to enable P-Early-Media SIP header support.

- Default: Disabled
- Values:
  - disabled—(the default value) disables support
  - add—enables support and allows the SBC/P-CSCF to add the P-Early-Media header to SIP messages.
  - modify—enables support and allows the SBC/P-CSCF to modify or strip the P-Early-Media header in SIP messages.
  - support—adds additional PEM support, including enforcing PEM from trusted sources, preventing system modification of PEM direction, not adding PEM if absent from SIP replies and adding PEM if it is not advertised in the initial INVITE.

**p-early-media-direction**

Used to specify the supported directionalities. for P-Early-Media header support.



- sendrecv—send and accept early media
- sendonly—send early media
- rcvonly—receive early media
- inactive—reject/cancel early media

**options**

Enter optional features and/or parameters

**spl-options**

Enter any optional features or parameters

.

**diversion-info-mapping-mode**

Configure this parameter to specify how the Diversion and History-Info headers map to and interwork on the interface.

- Default none
- Values:
  - none—no conversion applied
  - div2hist—any Diversion headers in the initial INVITES going out of this SIP interface will be converted to History-Info headers before sending
  - force—behavior is the same as **div2hist** when a Diversion header is present in the incoming INVITE if there are no Diversion headers, a History-Info header for the current URI is added in the outgoing INVITE
  - hist2div—any History-Info headers in the initial INVITES going out of this sip interface will be converted to Diversion headers before sending

**atcf-icsi-match**

Matches the icsi value for atcf call.

**asymmetric-preconditions**

Identifies whether to enable preconditions interworking on the interface. Allowable values are **enabled** and **disabled**. The default is **disabled**. You cannot enable asymmetric preconditions unless you have first set the value of **sip-interface > options** to **100rel-interworking**.

- Default: disabled
- Values:
  - enabled—Enables preconditions interworking on the interface.
  - disabled—Disables preconditions interworking on the interface.

**asymmetric-preconditions-mode**

Identifies, when the value of **asymmetric-preconditions** is **enabled**, whether to send egress INVITES immediately or to delay them until preconditions have been met. Allowable values are **send-with-delay** and **send-with-nodelay**.

- Default: send-with-nodelay
- Values:

- `send-with-delay`—Delays INVITEs on the egress interface until preconditions are met on the ingress interface.
- `send-with-nodelay`—Forwards INVITEs to the egress interface immediately, but holds the responses until preconditions are met on the ingress interface.

**sm-icsi-match-for-invite**

The ICSI URN to match on to increment the session-based messaging counters. For example - `urn:urn-7:3gpp-service.ims.icsi.oma.cpm.largemsg`

- Default: empty

**sm-icsi-match-for-message**

The ICSI URN to match on to increment the event-based messaging counters.

- Default: `urn:rrn-7:3gpp-service.ims.icsi.oma.cpm.largemsg`

**s8hr-profile**

Enter the name of the S8HR profile to apply to this SIP interface

**playback-file**

Specifies the name of the media file, stored previously in `/code/media`, that the system plays when triggered for this sip-interface.

**playback-trigger**

Specifies when the system triggers the local media playback function.

- Default: disabled
- `180-force`—Defines the trigger by which the system starts local media playback to caller. This parameter causes playback trigger whenever the called leg responds with a 180 message.
- `180-no-sdp`—Defines the trigger by which the system starts local media playback to caller. This parameter causes playback trigger whenever the called leg responds with a 180 message that does not include SDP.

**npli-profile**

Enter the name of the NPLI profile to apply to this SIP interface

**hist-to-div-for-cause-380**

Determines whether to interwork cause 380 messages within history-Info and Diversion header interworking.

- Default: inherit
- Values:
  - `inherit`—uses the setting specified in the sip-config.
  - `enabled`—enables the message interworking.
  - `disabled`—disables the message interworking.

**user-agent**

Reserved for use with Microsoft Teams integrations only.

**ringback-file**

Specifies the name of the media file, stored previously in `/code/media`, that the system plays when triggered for this realm.

**ringback-trigger**

Specifies when the system triggers the local media playback function.

- Default: none
- Values:
  - none—The system does not perform local media playback procedures. Based on precedence, however, the system may issue playback based on other element configurations. Local media playback follows the precedence session-agent, realm, then sip-interface.
  - disabled—The system does not perform media playback procedures on this flow, regardless of ensuing configurations.
  - 180-no-sdp—Defines the trigger by which the system starts local media playback to caller. This parameter causes playback trigger whenever the called leg responds with a 180 message that does not include SDP.
  - 180-force—Defines the trigger by which the system starts local media playback to caller. This parameter causes playback trigger whenever the called leg responds with a 180 message.
  - 183—Starts playback to caller when 183 is sent to call originator. The system stops the playback on the final response (either 2xx success or 4xx error). Configure this 183 value on the original INVITE ingress realm/sip-interface/session-agent.
  - refer—Starts playback to the referee when it receives a REFER. This trigger operates only if the OCSBC actually terminates and performs the refer operation. If the REFER is via proxy, playback is not a triggered. Playback stops when the refer operation is complete with a final response (200-299 or 400-699). Configure this refer value on the ingress realm/sip-interface/session-agent of the transferred call.
  - 183-and-refer—Starts playback when both 183 and refer triggers are activated.
  - 183-no-sdp—Defines the trigger by which the system starts local media playback to caller. This parameter causes playback trigger whenever the called leg responds with a 183 message that does not include SDP.
  - 183-no-sdp—Defines the trigger by which the system starts local media playback to caller. This parameter causes playback trigger whenever the called leg responds with a 183 message that does not include SDP.
  - playback-on-header—Starts or stops playback based on the presence of the P-Acme-Playback header and its definitions.

**sti-as**

Specifies the name of an sti-server-group name or a space-separated list of sti-server (up to four allowed) to which the SBC shall send AS requests. When configuring a group name, use the prefix `stg:` followed by your group name. For example, `stg:myStiGroupName`.

**sti-vs**

Specifies the name of an sti-server-group name or a space-separated list of sti-server (up to four allowed) to which the SBC shall send VS requests. When configuring a group name, use the prefix `stg:` followed by your group name. For example, `stg:myStiGroupName`.

**sti-orig-id**

Specifies the UUID v4 to be added to STI-AS requests, if not already present, during STIR/SHAKEN functions.

**sti-attest**

Specifies the attestation value that is sent in AS request, during STIR/SHAKEN functions. The default is empty

- full-attestation
- partial-attestation
- gateway-attestation

**sti-signaling-attest**

Enable this parameter to instruct the SBC to use attestation level and origination ID headers from the ingress SIP INVITE in the REST query to the STI-AS, if preferred. When enabled, the Attestation-Info and Origination-ID headers override the configured values, if present. If one of the two requested headers is present, the other value is obtained from configured parameters.

- Default: Disable—The system does not use the attestation value and origId from SIP headers.
- Enable—The system uses the attestation value and origId from SIP headers, when present.

**allow-diff2833-clock-rate-mode**

Specifies whether and how the SBC can present an SDP answer towards ingress that contains a telephone-event clock rate that is not the same as the audio codec clock rate. When this parameter is disabled, the SBC does not send telephone-event with a different clock rate than audio codec as an answer towards the ingress.

- Default: Disabled
- Values:
  - use-2833-clock-rate—Allow the use of different clock rates and generate RFC2833 packets using the telephone-event clock rate.
  - use-codec-clock-rate—Allow the use of different clock rates and generate RFC2833 packets using the codec clock rate.

**fax-continue-session**

Retains an ongoing fax call when a refresh or non-refresh REINVITE is received.

- Default : None
- Values:
  - None - If both ingress and egress realms have none value then the fax session/call can get interrupted and terminated on receiving a REINVITE. If one realm is configured with none then the REINVITE can get rejected or the call can switch from fax to voice depending upon the conditions.
  - faxToVoice - If the Oracle Communications Session Border Controller receives a non-refresh REINVITE with non-faxable codec from the UE that initiated the fax call, then the call switches from fax to voice and REINVITE forwards to the other end.

- faxToVoiceNotAllowed - If the Oracle Communications Session Border Controller receives a non-refresh REINVITE with non-faxable codec from the UE that initiated the fax call, then Oracle Communications Session Border Controller rejects the REINVITE and the fax call/session continues.

### Path

**sip-interface** is an element under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **sip-interface**.



#### Note:

This is a multiple instance configuration element.

## sip-interface > sip-ports

The sip-ports subelement indicates the ports on which the SIP proxy or B2BUA will listen for connections.

### Parameters

#### address

Enter the IP address of the host associated with the sip-port entry

An IPV6 address is valid for this parameter.

#### port

Enter the port number for this sip-port

- Default: 5060
- Values: Min: 1 / Max: 65535

#### transport-protocol

Select the transport protocol associated for this sip-port

- Default: UDP
- Values:
  - TCP
  - UDP
  - TLS
  - SCTP

#### multi-homed-addr

Enter one or more IP addresses that are multihomed on this SIP Interface, for use with SCTP. Multiple IP addresses are entered in parentheses, separated by spaces.

#### tls-profile

Select the type of anonymous connection from session agents allowed.

**Note:**

This parameter is only visible with appropriate licensing.

**allow-anonymous**

Select the type of anonymous connection from session agents allowed.

- Default: all
- Values:
  - all—Allow all anonymous connections
  - agents-only—Only requests from session agents allowed
  - realm-prefix—Session agents and address matching realm prefix
  - registered—Session agents and registered endpoints (REGISTER allowed from any endpoint)
  - register-prefix—All connects from SAs that match agents-only, realm-prefix, and registered agents

**ims-aka-profile**

Enter the name value for the IMS-AKA profile configuration to use for a SIP port

**Path**

**sip-ports** is a subelement is under the sip-config element. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **sip-interface** , and then **sip-ports**.

**Note:**

There must be at least one sip-port entry configured within the sip-config and there can be as many entries as necessary for the sip-port. This is a multiple instance configuration element.

## sip-isup-profile

The sip-isup-profile element allows you to set up a SIP ISUP format interworking. You can apply a configured SIP ISUP profile to a realm, session agent or SIP interface.

**Parameters****name**

Enter a unique identifier for this SIP ISUP profile. This name is used when you apply the profile to realms, session agents, and SIP interfaces.

**isup-version**

Specify the ISUP version to which you want to convert.

- Default: ansi-2000

- Values: ansi-2000 | itu-t926 | gr-317 | etsi-356 | spirou

**convert-isup-format**

Enable or disable this parameter to perform SIP ISUP format version interworking. If this feature is set to disabled, the feature is turned off.

- Default: disabled
- Values: enabled | disabled

**iwf-for-183**

Enable this parameter to always interwork 183 messages. Set the value to pem-controlled to interwork the 183 if it contains the value sendonly or sendrecv.

- Default: enabled
- Values: enabled | disabled | pem-controlled
- "enabling this will always interwork 183 message. pem-controlled means 183 will be interworked only if 183 contains PEM with value sendonly or sendrecv"

**extract-isup-param**

Specifies the ISUP parameters within IAM messages to be interworked for SIP-I inbound calls, both SIP-I to SIP and SIP-I to SIP-I. For SIP-I outbound calls, both SIP to SIP-I and SIP-I to SIP-I, interworks the in-band announcements parameter in ACM/CPG messages with the P-Early-Media SIP header.

- Default: empty
- Values: generic-number | location-number | user-to-user | calling-party-number | inband announcement

**remove-isup-param**

Specifies an ISUP parameter to remove from the extract-isup-param list. Execute this function using one value at a time to refine your extract-isup-param list.

- Default: empty
- Values: generic-number | location-number | user-to-user | calling-party-number | inband announcement

**country-code**

Enter the text string to insert as (?) during native SIP-ISUP interworking and when performing portability interworking.

**portability-method**

Enable this parameter to exclude interworking of 183 messages to ACMs during SIP to ISUP interworking.

- Default: none
- Values: none | concatenate

**Path**

**sip-isup-profile** is an element under the session-router path. The full path from the topmost ACLI prompt is: configure terminal > session-router > sip-isup-profile.

**Note:**

This is a multiple instance configuration element.

## sip-manipulation

The sip-manipulation feature lets the SBC add, modify, and delete SIP headers and SIP header elements.

### Parameters

**name**

Enter the name of this list of header rules.

**header-rules**

Access the header-rules subelement.

**mime-rules**

Access the mime-rules subelement.

**mime-isup-rules**

Access the mime-isup-rules-rules subelement.

**mime-sdp-rules**

Access the mime-sdp-rules-rules subelement which is used to configure HMR for SDP bodies.

**import**

Enter the complete file name, including .gz, of a previously exported sip-manipulation rule.

**export**

Enter the file name of a SIP manipulation to export configuration information a designated file.

**description**

Describe what the set of header rules is doing.

**Path**

The **sip-manipulation** element is under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **sip-manipulation**.

## sip-manipulation > header-rules

The header-rules subelement is used to define one action to perform on a given SIP header.

### Parameters

**name**

Enter the name of the header to which this rule applies. This name must match a header name.



**action**

Select the action you want applied to the header specified in the name parameter.

- Default: none
- Values:
  - none—No action taken
  - add —Add a new element, if it does not already exist
  - store — Store the element
  - sip-manip — Specify the sip-manipulation for element
  - replace — Replace the elements
  - find-replace-all - Find and replace all elements with a a new value
  - delete-element — Delete the specified element, if it exists
  - delete-header — Delete the specified header, if it exists
  - log — Log the action if element criteria are met
  - reject — Reject the element if element criteria matches with match-val-type parameter.

**match-value**

Enter the exact value to be matched. The action you specify is only performed if the header value matches.

**msg-type**

Select the message type to which this header rule applies

- Default: any
- Values:
  - any—Both Requests and Reply messages
  - request—Request messages only
  - reply— Reply messages only
  - out-of-dialog - Initial request only (dialog creating request)

**methods**

Enter a list of SIP methods that this header rule applies to. An empty value applies this header rule to all SIP method messages.

- Default: none

**element-rules**

Access the element rules sub-subelement

**header-name**

Enter the header name for which the rules need to be applied

**comparison-type**

Select the comparison type that the match-value uses

- Default: case-sensitive

- Values:
  - case-sensitive
  - case-insensitive
  - pattern-rule
  - refer-case-sensitive
  - refer-case-insensitive
  - boolean

**new-value**

The new value to be used in add or manipulate actions. To clear the new-value enter an empty string.

**Path**

**header-rules** is a subelement under the **sip-manipulation** configuration element, under the **session-router** path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router** , and then **sip-manipulation** , and then **header-rules**.

## sip-manipulation > header-rules > sip-element-rules

The sip-element-rules sub-element is used to define a list of actions to perform on a given SIP header.

**Parameters****name**

Enter the name of the element to which this rule applies. The name parameter does not apply for the following element types: header-value, uri-user, uri-host, uri-port, uri-header. You still need to enter a dummy value here for tracking purposes.

**type**

Select the type of element on which to perform the action

- Default: none
- Values:
  - header-value—Full value of the header
  - header-param-name—Header parameter name
  - header-param—Parameter portion of the header
  - uri-display—Display of the SIP URI
  - uri-user—User portion of the SIP URI
  - uri-host—Host portion of the SIP URI
  - uri-port—Port number portion of the SIP URI
  - uri-param-name—Name of the SIP URI param
  - uri-param—Parameter included in the SIP URI

- uri-header-name—SIP URI header name
- uri-header—Header included in a request constructed from the URI
- uri-user-param—User parameter of the SIP URI
- status-code—Status code of the SIP URI
- reason-phrase—Reason phrase of the SIP URI
- uri-user-only—URI username without the URI user parameters
- uri-phone-number-only—User part of the SIP/TEL URI without the user parameters when the user qualifies for specific BNF

**action**

Select the action to take to the element specified in the name parameter, if there is a match value

- Default: none
- Values:
  - none—No action taken
  - add —Add a new element, if it does not already exist
  - store — Store the element
  - sip-manip — Specify the sip-manipulation for element
  - replace — Replace the elements
  - find-replace-all - Find and replace all elements with a a new value
  - delete-element — Delete the specified element, if it exists
  - delete-header — Delete the specified header, if it exists
  - log — Log the action if element criteria are met
  - reject — Reject the element if element criteria matches with match-val-type parameter.

**match-val-type**

Select the type of value that needs to be matched for the action to be performed

- Default: ANY
- Values:
  - ANY— Both IP or FQDN values
  - IP—IP value
  - FQDN—FQDN value

**match-value**

Enter the value to match against the element value for a manipulation action to be performed

**new-value**

Enter the explicit value for a new element or replacement value for an existing element. You can enter an expression that includes a combination of absolute values, pre-defined parameters, and operators.

- Use double quotes around string values
- Pre-defined parameters always start with a \$. Valid pre-defined parameters are:
  - \$ORIGINAL—Original value of the element is used.
  - \$LOCAL\_IP—Local IP address is used when you receive an inbound address.
  - \$REMOTE\_IP—Remote IP address is used.
  - \$REMOTE\_VIA\_HOST—Remote VIA host part is used.
  - \$TRUNK\_GROUP—Trunk group is used.
  - \$TRUNK\_GROUP\_CONTEXT—Trunk group context is used.
- Operators are:

Operator	Description
+	Append the value to the end. For example: "acme"+"packet" generates "acmepacket"
+^	Prepends the value. For example: "acme"+"^"packet" generates "packetacme"
-	Subtract at the end. For example: "112311"-"11" generates "1123"
-^	Subtract at the beginning. For example: "112311"-"^"11" generates "2311"

**parameter-name**

Enter the element parameter name for which the rules need to be applied

**comparison-type**

Select the type of comparison to be used for the match-value

- Default: case-sensitive
- Values: case-insensitive | case-sensitive | pattern-rule | refer-case-sensitive | refer-case-insensitive | boolean

The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **sip-manipulation** , and then **header-rules** , and then **element-rules**.

**Path**

**element-rules** is a sub-subelement under the **header-rules** subelement under the **sip-manipulation** configuration element, under the **session-router** path.

## sip-manipulation > mime-isup-rules

The mime-isup-rules configuration allows you to perform HMR operations on SIP ISUP binary bodies.

## Parameters

### name

Enter a unique identifier for this MIME ISUP rule.

### content-type

Enter the content type for this MIME rule. This value refers to the specific body part in the SIP message body that is to be manipulated.

### isup-spec

Enter the ISUP encoding specification for the ISUP body; this specifies how the Oracle Communications Session Border Controller is to parse the binary body.

- Default: ansi-2000
- Values: ansi-2000 | itu-99 | gr-317 | etsi-356 | spirou

### isup-msg-types

Enter the specific ISUP message types (such as IAM and ACM). that the Oracle Communications Session Border Controller uses with the msg-type parameter (which identifies the SIP message) in the matching process. The values of this parameter are a list of numbers rather than enumerated values because of the large number of ISUP message types.

- Values: Min: 0 / Max: 255

### msg-type

Enter the SIP message type on which you want the MIME rules to be performed.

- Default: any
- Values: any | request | reply | out-of-dialog

### methods

Enter the list of SIP methods to which the MIME rules apply, such as INVITE, ACK, or CANCEL. There is no default for this parameter.

### action

Select the type of action you want to be performed.

- Default: none
- Values: none | add | delete | manipulate | store | sip-manip | find-replace-all | reject | log | monitor

### comparison-type

Select a method to determine how the body part of the SIP message is compared. This choice dictates how the Oracle Communications Session Border Controller processes the match rules against the SIP header.

- Default: case-sensitive
- Values: case-sensitive | case-insensitive | pattern-rule | refer-case-sensitive | refer-case-insensitive | boolean

### match-value

Enter the value to match against the body part in the SIP message. This is where you can enter values to match using regular expression values. Your entries can contain Boolean operators.

**new-value**

When the action parameter is set to add or to manipulate, enter the new value that you want to substitute.

**mime-header-rules**

Access the mime-headers subelement.

**isup-param-rules**

Access the isup-param-rules subelement.

**Path**

**sip-mime-isup-rules** is a subelement under the sip-manipulation element. The full path from the topmost ACLI prompt is: configure terminal > session-router > sip-manipulation > mime-isup-rules.

**Note:**

This is a multiple instance configuration element.

## sip-manipulation > mime-isup-rules > mime-header-rules

The mime-header-rules subelement of mime-isup-rules allows you to configure a SIP header manipulation to add an ISUP body to a SIP message.

**Parameters****name**

Enter a unique identifier for this MIME header rule.

**mime-header-name**

Enter the value used for comparison with the specific header in the body part of the SIP message. There is no default for this parameter.

**action**

Choose the type of action you want to be performed.

- Default: none
- Values: none | add | store | sip-manip | replace | find-replace-all | delete | log | monitor | reject

**comparison-type**

Select a method to determine how the header in the body part of the SIP message is compared. This choice dictates how the Oracle Communications Session Border Controller processes the match rules against the SIP header.

- Default: case-sensitive
- Values: case-sensitive | case-insensitive | pattern-rule | refer-case-sensitive | refer-case-insensitive | boolean

**match-value**

Enter the value to match against the header in the body part of the SIP message. This is where you can enter values to match using regular expression values. Your entries can contain Boolean operators.

**new-value**

Enter the value to match against the header in the body part of the SIP message. This is where you can enter values to match using regular expression values. Your entries can contain Boolean operators.

**Path**

**mime-header-rules** is a subelement under the sip-manipulation>mime-isup-rules element. The full path from the topmost CLI prompt is: **configure terminal > session-router > sip-manipulation > mime-isup-rules > mime-header-rules.**

**Note:**

This is a multiple instance configuration element.

## sip-manipulation > mime-isup-rules > isup-param-rules

The isup-parameter-rules element is used to create, manipulate, and store different parameters in the body of ISUP message.

If the action is `add`, the default value of the Number Qualifier Indicator byte is always 0x06 (the Additional Calling Party number). When a different value is needed, you can replace 0x06 using the table ability of the object type 192[x]. See the "IAM Interworking Support" section in the *ACLI Configuration Guide*.

**Parameters****name**

Enter a unique identifier for this ISUP parameter rule. This parameter is required and has no default.

**type**

Using ISUP parameter mapping, enter the ISUP parameters on which you want to perform manipulation. This parameter takes values between 0 and 255, and you must know the correct ISUP mapping value for your entry. The Oracle Communications Session Border Controller calculates the offset and location of this parameter in the body.

**Note:**

The value returned from the body does not identify the type or length, only the parameter value. For example, a parameter-type value of 4 acts on the Called Party Number parameter value.

- Default: 0

- Values: Min: 0 / Max: 255

**format**

Enter the method for the Oracle Communications Session Border Controller to convert a specific parameter to a string representation of that value.

- Default: hex-ascii
- Values: raw-binary | hex-ascii | bcd | binary-ascii | ascii-string | number-param

**action**

Choose the type of action you want to be performed.

- Default: none
- Values: none | add | store | sip-manip | replace | find-replace-all | delete | log | monitor | reject

**comparison-type**

Select a method to determine how the header in the body part of the SIP message is compared. This choice dictates how the Oracle Communications Session Border Controller processes the match rules against the SIP header.

- Default: case-sensitive
- Values: case-sensitive | case-insensitive | pattern-rule | refer-case-sensitive | refer-case-insensitive | boolean

**match-value**

Enter the value to match against the header in the body part of the SIP message. This is where you can enter values to match using regular expression values. Your entries can contain Boolean operators.

**new-value**

When the action parameter is set to add or to manipulate, enter the new value that you want to substitute.

**Path**

**isup-param-rules** is a subelement under the sip-manipulation>mime-isup-rules element. The full path from the topmost CLI prompt is: **configure terminal > session-router > sip-manipulation > mime-isup-rules > isup-param-rules**.

**Note:**

This is a multiple instance configuration element.



## sip-manipulation > mime-rules

The mime-rules configuration element allows you to set parameters in the MIME rules that the Oracle Communications Session Border Controller uses to match against specific SIP methods and message types.

### Parameters

#### name

Enter a unique identifier for this MIME rule.

#### content-type

Enter the SIP content type for which you want the MIME rules to be applied.

#### msg-type

Enter the SIP message type on which you want the MIME rules to be performed.

- Default: any
- Values: any | request | reply | out-of-dialog

#### methods

Enter the list of SIP methods to which the MIME rules apply. There is no default for this parameter.

#### format

Specifies the encode/decode format for the mime content.

- Default: ascii-string
- Values: ascii-string, hex-ascii, binary-ascii

#### action

Choose the type of action you want to be performed.

- Default: none
- Values: none | add | delete | manipulate | store | sip-manip | find-replace-all | reject | log | monitor

#### comparison-type

Select a method to determine how the body part of the SIP message is compared. This choice dictates how the Oracle Communications Session Border Controller processes the match rules against the SIP header.

- Default: case-sensitive
- Values: case-sensitive | case-insensitive | pattern-rule | refer-case-sensitive | refer-case-insensitive | boolean

#### match-value

Enter the value to match against the body part in the SIP message. This is where you can enter values to match using regular expression values. Your entries can contain Boolean operators.

#### new-value

When the action parameter is set to add or to manipulate, enter the new value that you want to substitute

**methods**

Enter the list of SIP methods to which the MIME rules apply. There is no default for this parameter.

**mime-header-rules**

access the mime-headers subelement.

**Path**

**mime-rules** is a subelement under the sip-manipulation element. The full path from the topmost ACLI prompt is: **configure terminal > session-router > sip-manipulation > mime-rules**.

**Note:**

This is a multiple instance configuration element.

## sip-manipulation > mime-rules > mime-headers

The mime-headers configuration allows you to configure MIME headers, which operate on the specific headers in the match body part of the SIP message.

**Parameters****name**

Enter a name for this MIME header rule. This parameter is required and has no default.

**mime-header-name**

Enter the value to be used for comparison with the specific header in the body part of the SIP message. There is no default for this parameter.

**action**

Choose the type of action you want to be performed.

- Default: none
- Values: add | replace | store | sip-manip | find-replace-all | none

**comparison-type**

Select a method to determine how the header in the body part of the SIP message is compared. This choice dictates how the Oracle Communications Session Border Controller processes the match rules against the SIP header.

- Default: case-sensitive
- Values: case-sensitive | case-insensitive | pattern-rule | refer-case-sensitive | refer-case-insensitive | boolean

**match-value**

Enter the value to match against the header in the body part of the SIP message. This is where you can enter values to match using regular expression values. Your entries can contain Boolean operators.

**new-value**

Enter the value to match against the header in the body part of the SIP message. This is where you can enter values to match using regular expression values. Your entries can contain Boolean operators.

**Path**

**mime-headers** is a subelement under the sip-manipulation>mime-rules element. The full path from the topmost ACLI prompt is: **configure terminal > session-router > sip-manipulation > mime-rules>mime-headers.**

**Note:**

This is a multiple instance configuration element.

## sip-manipulation > mime-sdp-rules

The mime-sdp-rules configuration allows you to configure HMR for SDP.

**Parameters****name**

Enter a name for this SDP header rule. This parameter is required and has no default.

**msg-type**

Select the message type to which this header rule applies

- Default: any
- Values:
  - any—Both Requests and Reply messages
  - request—Request messages only
  - reply— Reply messages only
  - out-of-dialog— Initial request only (dialog creating request)

**methods**

Enter the list of SIP methods to which the MIME rules apply, such as INVITE, ACK, or CANCEL. There is no default for this parameter.

**action**

Choose the type of action you want to be performed.

- Default: none
- Values: none | add | delete | manipulate | store | sip-manip | find-replace-all | reject | log | monitor

**comparison-type**

Select a method to determine how the header in the body part of the SIP message is compared. This choice dictates how the Oracle Communications Session Border Controller processes the match rules against the SIP header.

- Default: case-sensitive
- Values: case-sensitive | case-insensitive | pattern-rule | refer-case-sensitive | refer-case-insensitive | boolean

**match-value**

Enter the value to match against the SDP body part of the SIP message. This is where you can enter values to match using regular expression values. Your entries can contain Boolean operators.

**new-value**

When the action parameter is set to **add** or to **manipulate** enter the new value that you want to substitute.

**mime-header-rules**

See "sip-manipulation mime-isup-rules > mime-header-rules"

**sdp-session-rules**

list of sdp-session-rules. See "sip-manipulation > mime-sdp-rules > sdp-session-rules"

**sdp-media-rules**

list of sdp-media-rules. See "sip-manipulation > mime-sdp-rules > sdp-media-rules"

**Path**

**mime-headers** is a subelement under the sip-manipulation>mime-rules element. The full path from the topmost ACLI prompt is: **configure terminal > session-router > sip-manipulation > mime-sdp-rules**.

**Note:**

This is a multiple instance configuration element.

## sip-manipulation > mime-sdp-rules > sdp-session-rules > sdp-line-rules

The sdp-line-rules configuration allows you to configure HMR for SDP.

**Parameters****name**

Enter a name for this SDP header rule. This parameter is required and has no default.

**type**

descriptor type specifying which line of the SDP will be manipulated

- Values: a-z

**action**

Choose the type of action you want to be performed.

- Default: none

- Values: none | add | store | sip-manip | replace | find-replace-all | delete | log | monitor | reject

#### **comparison-type**

Select a method to determine how the header in the body part of the SDP is compared. This choice dictates how the Oracle Communications Session Border Controller processes the match rules against the SIP header.

- Default: case-sensitive
- Values: case-sensitive | case-insensitive | pattern-rule | refer-case-sensitive | refer-case-insensitive | boolean

#### **match-value**

Enter the value to match against the SDP body part of the SIP message. This is where you can enter values to match using regular expression values. Your entries can contain Boolean operators.

#### **new-value**

When the action parameter is set to add or to manipulate, enter the new value that you want to substitute

#### **sdp-line-rules**

Specifies the list of sdp-line-rules.

#### **move**

Position of configuration object to move (optional).

#### **Path**

**sdp-line-rules** is a subelement under the sip-manipulation>mime-sdp-rules > sdp-session-rules (and sdp-media-rules) subelement. The full path from the topmost ACLI prompt is: configure terminal > session-router > sip-manipulation > **mime-sdp-rules** , and then **sdp-session-rules** (or sdp-media-rules) > sdp-line-rules.



#### **Note:**

This is a multiple instance configuration element.

## sip-manipulation > mime-sdp-rules > sdp-media-rules

The sdp-media-rules configuration allows you to configure HMR for SDP.

#### **Parameters**

##### **name**

Enter a name for this SDP header rule. This parameter is required and has no default.

##### **media-type**

Enter the media type to manipulate. For example - audio, video etc.

##### **action**

Choose the type of action you want to be performed.

- Default: none
- Values: none | add | delete | manipulate | replace | store | sip-manip | find-replace-all | reject | log

**comparison-type**

Select a method to determine how the header in the body part of the SIP message is compared. This choice dictates how the Oracle Communications Session Border Controller processes the match rules against the SIP header.

- Default: case-sensitive
- Values: case-sensitive | case-insensitive | pattern-rule | refer-case-sensitive | refer-case-insensitive | boolean

**match-value**

Enter the value to match against the SDP body part of the SIP message. This is where you can enter values to match using regular expression values. Your entries can contain Boolean operators.

**new-value**

When the action parameter is set to add or to manipulate, enter the new value that you want to substitute.

**sdp-line-rules**

Where you configure the list of SDP line rules. See [sip-manipulation mime-sdp-rules sdp-session-rules sdp-line-rules](#)

**Path**

**sdp-media-rules** is a subelement under the sip-manipulation>mime-sdp-rules element. The full path from the topmost ACLI prompt is: configure terminal > session-router > sip-manipulation > **mime-sdp-rules** , and then **sdp-media-rules**.

**Note:**

This is a multiple instance configuration element.

## sip-monitoring

The **sip-monitoring** element is used to configure the SIP Monitor and Trace feature.

**Parameters****match-any-filter**

When enabled, causes the system to perform cumulative filter matching.

- Default: disabled
- enabled | disabled

**state**

Administrative state of the SIP Monitor and Trace feature.

- Default: disabled

- enabled | disabled

**short-session-duration**

Specifies the maximum session duration (in seconds) to be considered a short session.

- Default: 0
- Min: 0 / Max: 999999999

**monitoring-filters**

List of configured filter names to be applied on a global basis. Multiple filters can be entered in a comma-separated list with no spaces. You may add or remove configured filters on a one-time basis with the + or - key. You may enter a \* as a wildcard to filter all session data.

**ladder-diagram-rows**

Specifies the maximum number of rows to display in a SIP-session ladder diagram. The system also uses this setting to determine SMT memory utilization.

**interesting-events**

Enter the **interesting-events** configuration element.

**trigger-window**

Time in seconds to reach the trigger threshold.

- Default: 30
- Min: 0 / Max: 999999999

**Path**

**sip-monitoring** is an element under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **session-router**, and then **sip-monitoring**.

## sip-monitoring interesting-events

The **interesting-events** element is used to configure the SIP Monitor and Trace feature.

**Parameters****type**

The interesting event to monitor.

- short-session
- local-rejection

**trigger-threshold**

Number of interesting events that occur within the trigger-window parameter value for monitoring to commence.

- Default: 0
- Min: 0 / Max: 999999999

**trigger-timeout**

Time in seconds to reach the trigger threshold.

- Default: 0
- Min: 0 / Max: 999999999

**Path**

**interesting-events** is a subelement under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **session-router**, and then **sip-monitoring**, and then **interesting-event**.

## sip-nat

The sip-nat element is used for configuring SIP-NAT across realms.

**Parameters****realm-id**

Enter the name of the external realm. This required realm-id must be unique.

**domain-suffix**

Enter the domain name suffix of the external realm. This suffix is appended to encoded hostnames that the SIP-NAT function creates. This is a required field.

**ext-proxy-address**

Enter the IP address of the default next-hop SIP element (a SIP proxy) in the external network. This is a required field. Entries in this field must follow the IP Address Format.

**ext-proxy-port**

Enter the port number of the default next-hop SIP element (a SIP proxy) in the external network

- Default: 5060
- Values: Min: 1025 / Max: 65535

**ext-address**

Enter the IP address on the network interface in the external realm. This required entry must follow the IP address format.

**home-address**

Enter the IP address on the network interface in the home realm. This required entry must follow the IP address format.

**home-proxy-address**

Enter the IP address for the home proxy (from the perspective of the external realm). An empty home-proxy-address field value signifies that there is no home proxy, and the external address will translate to the address of the Oracle Communications Session Border Controller's SIP proxy. Entries in this field must follow the IP Address Format.

**home-proxy-port**

Enter the home realm proxy port number

- Default: 0



- Values: Min: 0; 1025 / Max: 65535

**route-home-proxy**

Enable or disable requests being routed from a given SIP-NAT to the home proxy

- Default: disabled
- Values: enabled | disabled | forced

**address-prefix**

Enter the address prefix subject to SIP-NAT encoding. This field is used to override the address prefix from the realm config for the purpose of SIP-NAT encoding.

- Default: \*
- Values:
  - <IP address>:[/num-bits]
  - \*—indicates that the addr-prefix in the realm-config is to be used
  - 0.0.0.0—indicates that addresses NOT matching the address prefix of the home realm should be encoded

**tunnel-redirect**

Enable or disable certain headers in a 3xx Response message being received and NATed when sent to the initiator of the SIP INVITE message

- Default: disabled
- Values: enabled | disabled

**use-url-parameter**

Select how SIP headers use the URL parameter (parameter-name) for encoded addresses that the SIP-NAT function creates. A value of none indicates that Oracle Communications Session Border Controller functionality remains unchanged and results in the existing behavior of the Oracle Communications Session Border Controller. From-to and phone are used for billing issues related to extracting digits from the encoded portion of SIP messages along with the parameter-name field.

- Default: none
- Values:
  - none
  - from-to
  - phone
  - all

**parameter-name**

Enter the URL parameter name used when constructing messages. This field is used in SIP-NAT encoding addresses that have a use-url-parameter field value of either from-to or all. This field can hold any value, but it should not be a recognized name that another proxy might use.

**user-nat-tag**

Enter the username prefix used for SIP URLs

- Default: -acme-

**host-nat-tag**

Enter the hostname prefix used for SIP URLs

- Default: ACME-

**headers**

Enter the type of SIP headers to be affected by the Oracle Communications Session Border Controller's sip-nat function. The URIs in these headers will be translated and encrypted, and encryption will occur according to the rules of this sip-nat element. Entries in this field must follow this format: <header-name>=<tag>.

- Default: Type headers -d <enter>

The default behavior receives normal SIP-NAT treatment. SIP-NAT header tags for SIP IP address replacement are listed below:

- fqdn-ip-tgt—Replaces the FQDN with the target address
- fqdn-ip-ext—Replaces the FQDN with the SIP-NAT external address
- ip-ip-tgt—Replaces FROM header with target IP address
- ip-ip-ext—Replaces FROM header with SIP-NAT external address

**delete-headers**

Remove headers from the list of SIP headers configured in the headers field

**Path**

**sip-nat** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal** , and then **session-router** , and then **sip-nat**.

**Note:**

This is a multiple instance configuration element.

## sip-profile

The sip-profile configuration element allows you to configure SIP profiles on the Oracle Communications Session Border Controller.

**Parameters****name**

Enter a unique identifier for this SIP profile. You will need this SIP profile's name when you want to apply this profile to a realm, SIP interface, or SIP session agent

**redirection**

Set this value to specify the redirection action, including which call forwarding information to include, within the context of SIP Diversion interworking.

- Default: inherit
- Values: inherit | none | isup | diversion | history-info

**ingress-conditional-cac-admit**

Set this parameter to enabled to use conditional bandwidth CAC for media release on the ingress side of a call. Set this parameter to inherit for the value to be inherited from the realm-config, sip-interface, or sip-interface

- Default: inherit
- Values: enabled | disabled | inherit

**egress-conditional-cac-admit**

Set this parameter to enabled to use conditional bandwidth CAC for media release on the egress side of a call.

- Default: inherit
- Values: enabled | disabled | inherit

**forked-cac-bw**

Select the method for the CAC bandwidth to be configured between the forked sessions.

- Default: inherit
- Values:
  - per-session—The CAC bandwidth is configured per forked session
  - shared—The CAC bandwidth is shared across the forked sessions
  - inherit—Inherit value from realm-config or sip-interface

**cnam-lookup-server**

Enter the name of an **enum-config** to query ENUM servers for CNAM data.

**cnam-lookup-dir**

Set this parameter to ingress or egress to identify where the system performs a CNAM lookup with respect to where the call traverses the system.

- Default: egress
- Values: ingress | egress

**cnam-unavailable-ptype**

Set this parameter to a string, no more than 15 characters, to indicate that the unavailable=p parameter was returned in a CNAM response.

**cnam-unavailable-utype**

Set this parameter to a string, no more than 15 characters, to indicate that the unavailable=u parameter was returned in a CNAM response.

**replace-dialogs**

Enables the Oracle Communications Session Border Controller to process messages with the Replaces: header. It also adds the replaces parameter to the to the Supported header in the realms where it is applied. The inherit value falls back to the higher level of configuration precedence.

- Default: inherit
- inherit | enabled | disabled

Path: **sip-profile** is an element of the session-router path. The full path from the toptmost ACLI prompt is: configure terminal > session-router > sip-profile.

**Note:**

This is a multiple instance configuration element.

## sip-q850-map

The sip-q850-map configuration element is used to map SIP response codes to q850 cause codes.

### Parameters

**entries**

Enter the entries configuration subelement

**delete**

Delete a SIP to q850 mapping. Enter the SIP code.

**edit**

Edit a response map by number

### Path

**sip-q850-map** is an element under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **sip-q850-map**

## sip-q850-map > entries

The entries subelement is used to create the mapping of q850 cause to SIP reason code.

### Parameters

**q850-cause**

Enter the q850 cause code to map to a SIP reason code

**sip-status**

Enter the SIP response code that maps to this q850 cause code

- Values: Min: 100 / Max: 699
- Default: 0

**q850-reason**

Describe text to accompany the mapped SIP response code

### Path

Entries is a subelement under the **sip-q850-map** configuration element, which is located under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **sip-q850-map** , and then **entries**.

## sip-recursion-policy

This element defines a sip-recursion policy that is applied to a session agent or session agent group.

### Parameters

#### name

Name for this SIP Recursion Policy. This value will be referenced by individual session agents' or session agent groups' **sip-recursion-policy** parameter.

#### description

A textual description of this SIP Recursion Policy instance. If the description includes spaces, enclose all words within double quotes.

#### global-count

The maximum number of recursions to take before terminating recursion and sending the response back to the requester. Entering 0 here disables a maximum recursion counter.

- Default: 0
- Values: Min: 0 / Max: 4294967295

#### mode

The method of considering subsequent responses from one SIP peer containing identical response codes.

- Default: consecutive
- Values:
  - consecutive - Stops recursion after the response code is received the **attempts** number of times, consecutively.
  - absolute - Stops recursion after the response code is received the **attempts** number of times in total, counting from the first reply.

#### sip-resp-code-attempts

Typing this parameter accesses the **sip-response-code** subelement.

### Path

**sip-recursion-policy** is an element of the session-router path. The full path from the topmost ACLI prompt is **configure terminal**, and then **session-router**, and then **sip-recursion-policy**

## sip-recursion-policy > sip-response-code

This subelement is used to configure the number of retries the system should perform for a specific SIP peer's response, as a response code value.

### Parameters

#### response-code

SIP response code number to associate with an attempt number through this configuration element.

- Default: 503
- Range: 300 - 599

#### attempts

When a message with the above configured response-code is received, this parameter shall be the number of times to direct a request toward a routing target before trying the next target on the routing list. Application of this value is determined by the sip-recursion-policy mode parameter.

- Default: 1
- Range: 1 - 1000

### Path

**sip-response-code** is a subelement of the **sip-recursion-policy** path. The full path from the topmost CLI prompt is **configure terminal**, and then **session-router**, and then **sip-recursion-policy**, and then **sip-response-code**

## sip-response-map

The sip-response-map element establishes SIP response maps associated with the upstream session agent.

### Parameters

#### name

Name of SIP response map

#### entries

Access the entries subelement

#### delete

Remove the selected response-map entry

### Path

**sip-response-map** is an element under the session-router path. The full path from the topmost CLI prompt is: **configure terminal**, and then **session-router**, and then **sip-response-map**.

**Note:**

This is a multiple instance configuration element.

## sip-response-map > entries

The entries subelement establishes the status code(s) for both received and transmitted messages and the reason phrase(s) of a SIP response map.

### Parameters

#### recv-code

Enter the original SIP response code received

- Values: Min: 100 / Max: 699
- Default: 0

#### xmit-code

Enter the setting of translated SIP response code transmitted

- Values: Min: 100 / Max: 699
- Default: 0

#### reason

Enter the setting of translated response comment or reason phrase to send denoted by an entry in quotation marks

#### method

Enter the SIP method name you want to use for this SIP response map entry

#### register-response-expires

Enter the time you want to use for the expires time when mapping the SIP method you identified in the method parameter. By default, the expires time is the Retry-After time (if there is one in the response) of the expires value in the Register request (if there is no Retry-After expires time). Any value you configure in this parameter (when not using the defaults) should never exceed the Register request's expires time.

- Values: Min: 0 / Max: 999999999

### Path

**entries** is a subelement of the sip-response-map element. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **sip-response-map** , and then **entries**

**Note:**

This is a multiple instance configuration element.

## sipura-profile

The **sipura-profile** element is analogous to existing sdes-profiles or IKE security associations in that all these objects specify materials (certificates, protocol suites, etc.) available in support of cryptographic operations.

### Syntax

```
sipura-profile <name | crypto-list | certificate-file-name>
```

### Parameters

#### name

A unique name for this sipura profile.

#### crypto-list

Cryptographic algorithm for this profile.

- Default: AES\_CM\_128\_HMAC\_MD5
- AES\_CM\_128\_HMAC\_MD5

#### certificate-file-name

Required parameter to specify the file name of the minicertificate presented by the SBC in support of Linksys/sipura operations. This file must have been previously installed in the /code/sipura directory. When identifying the file, use the complete file name, to include the file extension, but omit the directory path.

### Path

**sipura-profile** is an element of the media-security path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **system**, and then **security**, and then **media-security**, and then **sipura-profile**.

## snmp-community

The snmp-community element defines the NMSs from which the Oracle Communications Session Border Controller will accept SNMP requests.

### Note:

The snmp-community element is not used if the session delivery SNMP agent operates in SNMPv3 mode.

### Parameters

#### community-name

Enter the name of the SNMP community to which a particular NMS belongs. This required entry must follow the Name Format. The community-name field values must be unique.



**access-mode**

Select the access level for each snmp-community element

- Default: READ-ONLY
- Values:
  - READ-ONLY—Allows GET requests
  - READ-WRITE—Unsupported

**ip-addresses**

Enter the IP address(es) for SNMP communities for authentication purposes. Entries must follow the IP Address Format. This parameter can accept IPv4, IPv6, or a combination of the two.

**Path**

The full path from the topmost CLI prompt is: **configure terminal** , and then **system** , and then **snmp-community**.

**Note:**

This is a multiple instance configuration element.

## snmp-address-entry

The **snmp-address-entry** element is used by an SNMPv3 agent to store SNMPv3 target IP addresses to be used in the generation of SNMP trap messages.

**Parameters****address-name**

Use this required parameter to specify the SNMPv3 manager hostname.

Values:

- Default: none
- <string> that is 1 to 24 characters.

**address**

Use this required parameter to enter the IP address and optional port number.

- Value: <ip-address:port> of the SNMPv3 target IP address and the optional port number, which is used for sending SNMP trap notifications and is not used in access control. Port 161 is the default port number.

**mask**

Use this optional parameter to enter a subnetwork (subnet) mask.

Values:

- Default: 255.255.255.255
- <subnet-mask>

## Path

**snmp-address-entry** is an element under the system path. The full path from the topmost CLI prompt is: **configure terminal** , and then **system** , and then **snmp-address-entry**.

# snmp-group-entry

The **snmp-group-entry** element is used by an SNMPv3 agent to create a group of users that belong to a particular security model who can read, write, and add SNMP objects and receive trap notifications.



### Note:

This element must be configured in order for an SNMPv3 agent to work.

## Parameters

### name

Use this required parameter to enter the SNMPv3 group name.

- Default: none
- Values: <group-name-string> that is 1 to 24 characters.

### mp-model

Use this required parameter to enter the message processing model

- Default: v3
- Values: v2 | v3

### security-level

Use this required parameter to enter the security level of the SNMP group.

- Default: authPriv
- Values:
  - **noAuthNoPriv**—This value specifies that the user group is authenticated by a string match of the user name and requires no authorization and no privacy similar to SNMPv1 and SNMPv2. This value is specified with the **sec-model** parameter and its **v1v2** value and can only be used with the **community-string** parameter not specified.
  - **authNoPriv**—This value specifies that the user group is authenticated by using either the HMAC-SHA2-256 or HMAC-SHA2-512 authentication protocols without privacy.

 **Note:**

If the **sec-model** parameter is specified to the **v1v2** value, the **community-string** parameter (not configured) defines a coexistence configuration where SNMP version 1 and 2 messages with the community string from the hosts indicated by the **user-list** parameter and the corresponding **snmp-user-entry** and **snmp-address-entry** elements are accepted.

- **authPriv**—This default value specifies that the user group is authenticated by using either the HMAC-SHA2-256 or HMAC-SHA2-512 authentication protocols and provided privacy by using AES128 authentication. This value is specified with the SNMP **sec-model** parameter and its **v3** value.

**community-string**

Use this optional parameter to allow the co-existence of multiple SNMP message version types for this security group.

- Value: <community-string> that is 1 to 24 characters.

 **Note:**

If a community-string is configured, the **sec-model** parameter value can be only **v1v2**.

**user-list**

Use this required parameter to configure host names.

- Value: <string> that is 1 to 24 characters and must match the name of the **user-name** parameter of the **snmp-user-entry** element.

 **Note:**

This parameter is configured with the **sec-model** and **sec-level** parameters.

If the **user-list** value does not match an existing user name, the **snmp-group-entry** element configuration is invalid when verifying your configuration.

**read-view**

Use this required parameter to specify a name for the SNMP group's read view for a collection of MIB subtrees.

- Value: <group-read-view-string> that is 1 to 24 characters.

**write-view**

Use this required parameter to specify a name for the SNMP group's write view for a collection of MIB subtrees.

- Value: <name-token> write view that is 1 to 24 characters.

**notify-view**

Use this required parameter to specify a name for the SNMP group's notification view for a collection of MIB subtrees.

- Value: <group-notify-view-string> that is 1 to 24 characters.

**Path**

**snmp-view-entry** is an element under the **system** path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **snmp-group-entry**.

## snmp-user-entry

The required **snmp-user-entry** element is used to create an identity for one or more SNMPv3 users, their security level, passwords for secure authentication and privacy. This element provides a way to identify a user, protect the user from a different SNMP agent that uses message capture and replay, and protect the user from a network traffic source that uses an incorrect password or security level.

**Parameters****user-name**

Enter the name of the user authorized for retrieving SNMPv3 information.

- Default: **none**
- Values: <user name string> that is 1 to 24 characters.

**auth-protocol**

Use this required parameter to enter the HMAC-SHA2-256 or HMAC-SHA2-512 authentication protocol.

- Default: **sha512**
- Values: **none** | **sha256** | **sha512**

**auth-password**

Enter the authorization password for this user. This value is obscured when displayed at the ACLI.

- Default: none
- Values: <password-string> that is 6 to 64 characters.

**priv-protocol**

Use this required parameter to enter the AES or CBC-DES privacy protocol.

- Default: **aes128**
- Values: **none** | **aes128**

**priv-password**

Enter the privacy password for this user. This value is obscured when displayed at the ACLI.

- Default: none
- Values: <password-string> that is 6 to 64 characters.

**address-list**

Enter the required address list name(s) for this user, which must match an **address-name** parameter that you specified when you configured the **snmp-address-entry** element.

- Default: none
- Values: <address-string> that is 1 to 24 characters. You can specify multiple address list names by separating them with a comma.

**Path**

**snmp-community** is an element under the system path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **snmp-user-entry**.

**Note:**

This is a multiple instance configuration element.

## snmp-view-entry

The **snmp-view-entry** element is used by an SNMPv3 agent to include or exclude access to single or multiple MIB OID nodes for an SNMP view name. An SNMP view is a mapping between SNMP scalar and tabular objects and the access rights available for this SNMP view. Scalar objects define a single object instance and tabular objects define multiple related object instances grouped in MIB tables.

**Note:**

This element must be configured in order for an SNMPv3 agent to work.

**Parameters****name**

Use this required parameter to enter the SNMP view name.

- Default: none
- Values: <string> that is 1 to 24 characters.

For example:

- view-name AcmeSbcMibView

**included-list**

Use this required parameter to include access rights for object Identifier (OID) nodes.

- Values: <OID> number separated by a dot (.) in which each subsequent OID (from 0 to 32) is a sub-identifier.

For example:

- 1.3.6.1.6
- (1.3.6.1.2 1.3.6.1.4.1.9148) - You can enter multiple values enclosed in parenthesis and separated by space or comma.

**excluded-list**

Use this optional parameter to exclude access rights for OID nodes.

- Values: <OID> number separated by a dot (.) in which each subsequent OID (from 0 to 32) is a sub-identifier.

For example:

- 1.3.6.1.4.1.9148.3.3
- (1.3.6.1.4.1.9148.3.3 1.3.6.1.4.1.9148.3.5) - You can enter multiple values enclosed in parenthesis and separated by space or comma.

**Path**

**snmp-view-entry** is an element under the system path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **snmp-view-entry**.

## spl-config

**Parameters****plugins**

Use this parameter to enter the plugins path as described next. In the plugins path you will configure local plugin files for use.

**spl-options**

Enter any optional features or parameters

**Path**

**spl-config** is an element under the system path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **spl-config**.

## spl-config > plugins

**Parameters****name**

Enter the SPL package to load. The default location is /code/spl. You may enter a single SPL plugin within a package as follows: SPL\_PACKAGE:MODIFY-HEADER

**move**

Move plugin

**Path**

**spl-config** is an element under the system path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **spl-config** , and then **plugins**.

## ssh-config

The **ssh-config** element is used to set the attributes of the SSH/SFTP server.

### Parameters

#### rekey-interval

Enter the number of minutes before rekeying an SSH session.

- Default: 60
- Values: Min: 60 / Max: 600

#### rekey-byte-count

Enter the number of bytes, as a power of 2, to be transmitted before rekeying an SSH session. For example: 31 means  $2^{31}$  or 2147483648 bytes.

- Default: 31
- Values: Min: 20 / Max: 31

#### encr-algorithms

Enter the list of encryption algorithms which the SSH server should offer during session negotiation. Entries may be single values or a comma-separated list in double quotes. The SSH session will use the first algorithm which both the client and server support. The list of supported ciphers are updated per release as weaker ciphers are deprecated and then removed. See the Release Notes for the list of algorithms supported in this release.

- Default: Type ? to see the default algorithms for this release.
- Values: Type ? to see the supported values for this release.

#### hmac-algorithms

Enter the list of HMAC algorithms which the SSH server should offer during session negotiation. Entries may be single values or a comma-separated list in double quotes. The SSH session will use the first algorithm which both the client and server support. See the Release Notes for the list of algorithms supported in this release.

- Default: Type ? to see the default algorithms for this release.
- Values: Type ? to see the supported values for this release.

#### hostkey-algorithms

Enter the list of host key algorithms which the SSH server should offer during session negotiation. Entries may be single values or a comma-separated list in double quotes. The SSH session will use the first algorithm which both the client and server support. See the Release Notes for the list of algorithms supported in this release.

- Default: Type ? to see the default algorithms for this release.
- Values: Type ? to see the supported values for this release.

#### keyex-algorithms

Enter the list of key exchange algorithms which the SSH server should offer during session negotiation. Entries may be single values or a comma-separated list in double quotes. The SSH session will use the first algorithm which both the client and

server support. See the Release Notes for the list of algorithms supported in this release.

- Default: Type ? to see the default algorithms for this release.
- Values: Type ? to see the supported values for this release.

#### **proto-neg-time**

Enter the number of seconds allocated for SSH session negotiation.

- Default: 60
- Values: Min: 30 / Max: 60

#### **tcp-keep-alive**

Enable or disable the TCP keep-alive timer.

- Default: enabled
- Values: enabled | disabled

#### **client-idle-timeout**

Enter the number of minutes after which an inactive client will be disconnected. A value of 0 disables the idle client timeout.

- Default: 0
- Values: Min: 0 / Max: 59

#### **Path**

**ssh-config** is an element under the security path. The full path from the topmost ACLI prompt is: **configure terminal , security , ssh-config**.

## static-flow

The static-flow element sets preconfigured flows that allow a specific class of traffic to pass through the Oracle Communications Session Border Controller unrestricted.

#### **Parameters**

##### **in-realm-id**

Enter the ingress realm or interface source of packets to match for static flow translation. This in-realm-id field value must correspond to a valid identifier field entry in a realm-config. This is a required field. Entries in this field must follow the Name Format.

##### **description**

Provide a brief description of this static-flow configuration object.

##### **in-source**

Enter the incoming source IP address and port of packets to match for static flow translation. IP address of 0.0.0.0 matches any source address. Port 0 matches packets received on any port. The port value has no impact on system operation if either ICMP or ALL is the selected protocol. The in-source parameter takes the format: `in-source <ip-address>[:<port>]`

- Default: 0.0.0.0
- Values: Port: Min: 0 / Max: 65535

This parameter accepts an IPv6 value.



**in-destination**

Enter the incoming destination IP address and port of packets to match for static-flow translation. An IP address of 0.0.0.0 matches any source address. Port 0 matches packets received on any port. The port value has no impact on system operation if either ICMP or ALL is the selected protocol. The in-destination parameter takes the format: `in-destination <ip-address>[:<port>]`

- Default: 0.0.0.0
- Values: Port: Min: 0 / Max: 65535

This parameter accepts an IPv6 value.

**out-realm-id**

Enter the egress realm or interface source of packets to match for static flow translation. This out-realm-id field value must be a valid identifier for a configured realm. This required entry must follow the Name Format.

**out-source**

Enter the outgoing source IP address and port of packets to translate to for static flow translation. IP address of 0.0.0.0 translates to any source address. Port 0 translates to packets sent on any port. The port value has no impact on system operation if either ICMP or ALL is the selected protocol. The out-source parameter takes the format: `out-source <ip-address>[:<port>]`

- Default: 0.0.0.0
- Values: Port: Min: 0 / Max: 65535

This parameter accepts an IPv6 value.

**out-destination**

Enter the outgoing destination IP address and port of packets to translate to for static-flow translation. An IP address of 0.0.0.0 matches any source address. Port 0 translates to packets sent on any port. The port value has no impact on system operation if either ICMP or ALL is the selected protocol. The out-destination parameter takes the format: `out-destination <ip-address>[:<port>]`

- Default: 0.0.0.0
- Values: Port: Min: 0 / Max: 65535

This parameter accepts an IPv6 value.

**protocol**

Select the protocol for this static-flow. The protocol selected must match the protocol in the IP header. The protocol remains the same for the inbound and outbound sides of the packet flow.

- Default: UDP
- Values:
  - UDP—UDP used for this static-flow element
  - TCP—TCP used for this static-flow element
  - ICMP—ICMP used for this static-flow element
  - ALL—Static-flow element can accept flows via any of the available protocols.

**alg-type**

Select the type of NAT ALG to use

- Default: none
- Values:
  - none—No dynamic ALG functionality
  - NAPT—Configure as NAPT ALG

 **Note:**

out-source/port range overlapping with other ALG definitions is not allowed and can cause a port overlapping error during configuration verification.

- TFTP—Configure as TFTP ALG

 **Note:**

Neither in-destination/port range overlapping or out-source/port range overlapping with other ALG definitions are allowed and can cause a port overlapping error during configuration verification.

**average-rate-limit**

This parameter is unsupported.

**start-port**

Enter the internal starting ALG ephemeral port

- Default: 0
- Values: Min: 1025 / Max: 65535

**end-port**

Enter the internal ending ALG ephemeral port

- Default: 0
- Values: Min: 1025 / Max: 65535

**flow-time-limit**

Enter the time limit for a flow, measured in seconds

- Values: Min: 0 / Max: 999999999

**initial-guard-timer**

Enter the initial flow guard timer, measured in seconds

- Values: Min: 0 / Max: 999999999

**subsq-guard-timer**

Enter the subsequent flow guard timer, measured in seconds

- Values: Min: 0 / Max: 999999999

**average-rate-limit**

Set the average rate limit of RTP flows.

- Default: 0
- Values: 0 - 125000000

### Path

**static-flow** is an element under the media-manager path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **media-manager** , and then **static-flow**.



#### Note:

This is a multiple instance configuration element.

## sti-config

The sti-config object configures server connection control parameters the Oracle Communications Session Border Controller uses to manage STIR/SHAKEN server availability.

### Parameters

#### **circuit-breaker-window-duration**

Specifies the time in seconds the system uses to establish the window it uses to establish the circuit breakers timing. The default is 10 seconds. The range is from 10 to 30.

#### **circuit-breaker-error-threshold**

Specifies the number of errors the system counts before it marks the server as out of service. The default is 5 errors. The range is from 3 to 10.

#### **circuit-breaker-retry-time**

Specifies the time in seconds the system uses to retry connecting to the server. The default is 15 seconds. The range is from 5 to 900.

#### **circuit-breaker-half-open-frequency**

Specifies the number of times the system skips this server while it is marked half open. The default is 6, which causes the system to re-use the server once every 6th retry. The range is from 5 to 100.

#### **sti-signaling-attest-info-mandatory**

When enabled, causes the system to check whether the mandatory headers P-Attestation-Info (or Attestation-Info) header and P-Origination-ID or (Origination-ID) header are present in received INVITE. If either of these headers are missing, the system does not sent an attestation request to the STI server.

- Default: disabled
- Values: enabled | disabled

#### **anonymous-uri-add-verstat-to-hostpart**

This parameter determines the system's placement of the verstat parameter when the received INVITE does not contain a P-Asserted-IDentity header, but does contain a Privacy header and an anonymous URI in the FROM. When enabled, the system

adds the verstat parameter after the hostpart of the anonymous From URI. When disabled, the system adds the verstat parameter after the user-part of the anonymous From URI.

- Default: disabled
- Values: enabled | disabled

#### **use-identity-header**

When enabled in conjunction with STI verification, this parameter causes the SBC to add a Reason header to 18x, 19x responses and 3xx, 4xx, 5xx, 6xx final responses that it sends to a callee with a cause value of “428” and the text “Use Identity Header” for all received INVITEs that did not contain an identity header.

- Default: disabled
- Values: enabled | disabled

#### **check-duplicate-passports**

Enables the system to check for duplicate SHAKEN or DIV passports in a received INVITE. If it finds duplicates, the system deletes one of the duplicates from the INVITE.

- Default: disabled
- Values: enabled | disabled

#### **tn-retargeting**

Enables the system to perform DIV authentication request, based on the received INVITE.

- Default: disabled
- Values: enabled | disabled

#### **verstat-comparison**

To support authentication processes, determines whether and how the system compares the verstat value present in FROM and PAI headers with the values present in this parameter. If a value matches, then the system accepts the validation and performs only DIV authentication processes. If the value is empty, the system does not perform the comparison.

- Default: Empty
- TN-Validation-Passed
- TN-Validation-Passed
- No-TN-Validation
- TN-Validation-Failed

#### **dest-comparison**

Specifies whether and on which header the system compares its stored TN with either the Request-URI or the To header in received INVITEs with the {dest} value in the SHAKEN passport. If the value is empty, the system does not perform the comparison.

- Default: Empty
- Request-URI
- To

#### **sti-as-correlation-id**

When enabled, the system adds the SipCallId parameter to REST authentication requests to the STI-AS. This parameter contains the information from the corrID parameter in the P-NokiaSiemens.Session-Info SIP header.

Values include:

- Default: disabled
- Values: enabled | disabled

#### **reason-json-sip-translation**

When enabled, the system creates a Reason header from the parameters reasoncode and reasontext, if received from the STI-VS. The system also adds this Reason header to the egress INVITE.

#### **sti-header-mapping-ruleset-name**

Name of this STI Header Mapping Ruleset you want to use as default across all sti-servers. A ruleset name configured against a sti-server takes precedence for that server over this ruleset.

#### **flip-tn-lookup-order**

When enabled, the system prioritizes the FROM header over the PAI header as the source from which it retrieves a TN for use during authentication and verification procedures.

- Default: disabled
- Values: enabled | disabled

#### **sti-response-treatment-config-name**

Specifies the name of the sti-response-treatment-config to apply to this sti-config with which the system can attempt to match the contents of each received sti-vs response for the purpose of rejecting the associated call.

#### **max-retry-attempts**

The number of attempts the system tries sending a request to a new sti-server within the sti-server-group unless a server responds or sip transaction times out.

Values include:

- Default: 0 (disabled)
- Values: 0 to 30

#### **Path**

**sti-config** is an element under the session-router branch. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **sti-config**.

## sti-header-mapping-ruleset

The sti-header-mapping-ruleset element allows you to set up the header mapping feature. You can apply a configured sti-header-mapping-ruleset to sti-server.

#### **Parameters**

##### **name**

Enter a unique identifier for this sti-header-mapping-ruleset. You use this name when you apply the ruleset to either a sti-server or the sti-config.

**mapping-rules**

Multi-instance element from which you create rules for manipulating headers within Stir/Shaken traffic.

**Path**

**sti-header-mapping-ruleset** is an element under the session-router path. The full path from the topmost ACLI prompt is: configure terminal > session-router > sti-header-mapping-ruleset.

**Note:**

This is a multiple instance configuration element.

## sti-header-mapping-ruleset > mapping-rules

The mapping-rules is a multi-instance sub-element that resides within the sti-header-mapping-ruleset. This element allows you to set up the header mapping feature. You can apply a configured sti-header-mapping-ruleset to sti-server.

**Parameters****id**

Specifies a unique identifier for this mapping-rule.

**source-header**

Specifies the header within a SIP INVITE that uses Stir/Shaken architecture for validating the call.

**target-header**

Specifies the header you modify, based on this rule's source-header parameter, within an HTTP request that the system sends to the Stir/Shaken architecture.

**source-param**

When configured, the system uses this referenced source-param to fetch the mapping details between the SIP header parameter and the HTTP header parameters in the HTTP request/response to or from an STI server.

**Note:**

If the source-header is null and the direction is inbound, the system identifies this value as a key from the key-value pair from the HTTP Body JSON claim.

**target-param**

When configured, the system uses this referenced target-param to insert the mapping details between the SIP header parameter and the HTTP header parameters present in HTTP request/response to or from an STI server.

**direction**

Specifies the direction that this rule affects. Outbound causes the system to modify headers traffic to the applicable sti-server. Inbound affects headers from the sti-server.

- Default: outbound
- Values: outbound | inbound

**role**

Specifies the role, Stir/Shaken authentication or verification, within which this rule applies.

- Default: STI-AS
- Values: STI-AS | STI-VS

**Path**

**mapping-rules** is an element under the `sti-header-mapping-ruleset` path. The full path from the topmost ACLI prompt is: `configure terminal > session-router > sti-header-mapping-ruleset > mapping-rules`.

**Note:**

This is a multiple instance configuration element.

## sti-heartbeat-config

You use the `sti-heartbeat-config` configuration element to define the operational parameters for the heartbeat that monitors STIR/SHAKEN servers' availability.

**Parameters****sti-heartbeat-state**

Enables/disables the heartbeat functionality for all STIR/SHAKEN servers at the system level. Values include:

- Disabled (default)
- Enabled

**sti-heartbeat-msg-interval-time**

Specifies, in seconds, the time-interval to send the heartbeat message to STIR/SHAKEN servers. Values include:

- 5 seconds (default)
- Range 1 - 3600 seconds

**Note:**

The value of this parameter should be more than the timeout value of each `sti-server`.

**sti-orig-tn-number**

Specifies the calling party TN number when sending heartbeat messages to STIR/SHAKEN servers, using a string value.

- Default: 9999999999
- Range is any 10 digits

**sti-dest-tn-number**

Specifies the called party TN number when sending heartbeat messages to STIR/SHAKEN servers, using a string value.

- Default: 7777777777
- Range is any 10 digits

**sti-div-tn-number**

Specifies the called party diverted TN number when sending heartbeat messages to STIR/SHAKEN servers, using a string value.

- Default: 3333333333
- Range is any 10 digits

**Path**

**sti-heartbeat-config** is an element of the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **sti-heartbeat-config**.

**Note:**

This is a multiple instance configuration element.

## sti-response-treatment-config

You use the sti-response-treatment-config configuration element to create containers for response-treatment-entry sub-elements. These elements also contain the name used to apply the rules to a sti-server or the sti-config.

**Parameters****name**

Specifies the name of this sti-response-treatment-config, which you apply to sti-response-treatment-name parameters in either a sti-server or the sti-config.

**sti-response-treatment-entry**

Provides access to this sub-element, within which you configure the rules the system uses to match sti-vs response contents for the purpose of rejecting the associated call. If you have configured the system to perform STI verification and the sti-vs response contains an Identity header with reasoncode and reasontext that matches this entry, the system rejects the call.

**Path**

**sti-response-treatment-config** is an element of the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **sti-response-treatment-config**.



**Note:**

This is a multiple instance configuration element.

## sti-response-treatment-config > sti-response-treatment-entry

You use sti-response-treatment-entry sub-elements to define global or specific sti-server rules. The system uses these rules to match the contents of sti-vs responses for the purpose of rejecting the associated call.

### Parameters

#### verstat

Specifies the actionable verstat value returned in the STI-VS response. This field is mandatory. Allowed values include:

- TN-Validation-Passed
- TN-Validation-Failed
- No-TN-Validation
- custom (A value that you define)

#### reason-code

Specifies the reason code as returned in the STI-VS response. Allowed values include:

- Default: 0
- 403
- 428
- 436
- 437
- 438
- custom (A value that you define within the range of 1xx to 5xx)

#### role

Specifies the function to which this rule applies. Allowed values include:

- Default: STI-VS

#### sip-reason-code

Specifies the reason text to match in the JSON response.

- Default: 403
- 403 / 428 / 436 / 437 / 438
- custom (A 3-digit value that you define within the range 4xx to 6xx)

#### sip-reason-text

Specifies the SIP reason text the system uses to generate the SIP response. Allowed values include:

- Default: Forbidden
- custom (A string that you define)

### Path

**sti-response-treatment-entry** is an element of the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **sti-response-treatment-config**, and then **sti-response-treatment-entry**.



#### Note:

This is a multiple instance configuration element.

## sti-server

The sti-server object configures target servers the Oracle Communications Session Border Controller communicates with during STIR/SHAKEN processes.

### Parameters

#### name

Specifies the name of this sti-server configuration. This name can be up to 128 characters and must not begin with a period (.) or a dash (-) character.

#### description

Specifies a brief description for this sti-server element.

#### state

Enables or disables the operational state of this sti-server configuration.

- Default: enabled
- Values: enabled | disabled

#### role

Identify the role of the STIR/SHAKEN server.

- Default: BOTH
- Values: STI-AS | STI-VS | BOTH

#### http-rest-type

The type of the STIR/SHAKEN implementation.

- Default: ATIS
- Values: 3GPP | ATIS

#### as-server-root

Specifies the IP Address or FQDN of the STIR verification server, with optional port and base path. Entry format is as a standard URL.

#### vs-server-root

Specifies the IP Address or FQDN of the STIR authentication server, with optional port and base path. Entry format is as a standard URL.

**div-as-server-root**

The STI-AS Server root URL for div authentication requests. This attribute accepts a hostname (starting with http:// or https://), an IPv4 address, or an IPv6 address. The port is optional.

**div-vs-server-root**

The STI-VS Server root URL for div verification requests. This attribute accepts a hostname (starting with http:// or https://), an IPv4 address, or an IPv6 address. The port is optional.

**orig-id**

This field specifies a UUID v4 to be added to STI-AS requests. Entry format is the standard UUID4 format, as in RFC 4122. You can enter a specific UUID or configure the system to generate a random UUID. The system generates a random UUID if you either:

- Configure the parameter with consecutive quotes ("")
- Configure the parameter with the All-Zero UUID in all interfaces (ACLI, REST, GUI): "00000000-0000-0000-0000-000000000000"

**sti-attest**

Specifies an attestation value that is sent in AS request. Values can be empty or:

- **A**—Sets the parameter to full-attestation
- **B**—Sets the parameter to partial-attestation
- **C**—Sets the parameter to gateway-attestation

**timeout**

Specifies amount of time (in milliseconds) to wait for a REST response from a STIR server.

- Default: 2000
- Values: Valid Range: 100-30000

**http-client**

Specifies the name of a http-client configuration that has information for making connection to the sti-server. This name can be up to 128 characters and must not begin with a period (.) or a dash (-) character

**max-burst-rate**

Specifies the maximum sending burst rate for STIR requests (per second). Valid values are:

- Default: 0
- Values: Valid Range: 0-999999999

**max-sustain-rate**

Specifies the maximum sending sustained rate for STIR requests (per second). Valid values are:

- Default: 0
- Values: Valid Range: 0-999999999

**burst-rate-window**

Specifies the time period (in seconds) used to calculate burst rate. Valid values are:

- Default: 0
- Values: Valid Range: 0-999999999

**sustain-rate-window**

Specifies the time period (in seconds) used to calculate sustained rate. Valid values are:

- Default: 0
- Values: Valid Range: 0-999999999

**options**

Allows the configuration of applicable options to this sti-server.

**sti-header-mapping-ruleset-name**

Name of the STI ruleset you want to use for this sti-server. This ruleset takes precedence over any ruleset configured in the sti-config.

**sti-response-treatment-config-name**

Specifies the name of the sti-response-treatment-config to apply to this sti-server with which the system can attempt to match the contents of each received sti-vs response for the purpose of rejecting the associated call.

**Path**

**sti-server** is an element under the session-router branch. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **sti-server**.

## sti-server-group

The sti-server-group is used for configuring load balancing between servers accessed during STIR/SHAKEN processes on the Oracle Communications Session Border Controller.

**Parameters****name**

Specifies a name for the sti-server-group. This name can be up to 128 characters and must not begin with a period (.) or a dash (-) character

**description**

Specifies a brief description for the sti-server-group.

**strategy**

Specifies a strategy for sti-server selection. The default value is **hunt**. The values `LeastBusy` and `PropDist` are deprecated and not applicable for sti-servers.

The valid values are:

- Hunt
- RoundRobin
- LowSusRate

**sti-servers**

Specifies the sti-server names that are members of the group. The server names can be specified as a space-separated list enclosed in double quotes. Alternatively, individual sti-server name can be added or removed by prefix the name with a plus (+) or minus (-) character, respectively.

## Path

**sti-server-group** is an element under the session-router branch. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **sti-server-group**.

# steering-pool

The steering-pool element defines sets of ports that are used for steering media flows through the Oracle Communications Session Border Controller. The Oracle Communications Session Border Controller can provide packet steering in order to ensure a determined level of quality or routing path.

## Parameters

### ip-address

Enter the target IP address of the steering pool. This required entry must follow the IP Address Format. The combination of entries in the ip-address, start-port, and realm-id fields must be unique. No two steering-pool elements can have the same entries in the ip-address, start-port, and realm-id fields.

An IPV6 address is valid for this parameter.

### start-port

Enter the port number that begins the range of ports available to this steering pool element. This is a required entry. The steering pool will not function properly unless this entry is a valid port.

- Default: 0
- Values: Min: 0 / Max: 65535

### end-port

Enter the port number that ends the range of ports available to this steering-pool element. This is a required field. The steering-pool element will not function properly unless this field is a valid port value.

- Default: 0
- Values: Min: 0 / Max: 65535

### realm-id

Enter the steering-pool element's realm identifier used to restrict this steering pool to only the flows that originate from this realm. This required entry must be a valid identifier of a realm.

### network-interface

Enter the name of network interface this steering pool directs its media toward. A valid value for this parameter must match a configured name parameter in the network-interface configuration element. This parameter applies only to realms with multiple interfaces.

### port-allocation-strategy

Select the appropriate strategy for this steering pool based on media type support in this realm. You can create multiple steering pools using different strategies to support multiple media types, per your deployment. Settings include:

- Default: mixed—The system can allocate these ports for any calls
- single— The system only allocates these ports for calls that require a single port
- pair— The system only allocates these ports for calls that require multiple ports

### Path

**steering-pool** is an element under the media-manager path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **media-manager** , and then **steering-pool**.



#### Note:

This is a multiple instance configuration element.

## surrogate-agent

The surrogate-agent configuration element allows you to configure the SBC for surrogate registration. This feature lets the SBC explicitly register on behalf of Internet Protocol Branch Exchange (IP-PBX).

### Parameters

#### register-host

Enter the registrar's hostname to be used in the Request-URI of the REGISTER request

#### register-user

Enter the user portion of the Address of Record

#### state

Enable or disable this surrogate agent

- Default: enabled
- Values: enabled | disabled

#### realm-id

Enter the name of the realm where the surrogate agent resides

#### description

Describe the surrogate agent. This parameter is optional.

#### customer-host

Enter the domain or IP address of the IP-PBX, which is used to determine whether it is different than the one used by the registrar. This parameter is optional.

#### customer-next-hop

Enter the next hop to this surrogate agent

 **Note:**

Even though the customer-next-hop field allows specification of a SAG or FQDN, the functionality will only support these values if they resolve to a single IP address. Multiple IP addresses, via SAG, NAPTR, SRV, or DNS record lookup, are not allowed.

**register-contact-host**

Enter the hostname to be used in the Contact-URI sent in the REGISTER request. This should always point to the SBC. If specifying a IP address, use the egress interface's address. If there is a SIP NAT on the registrar's side, use the home address in the SIP NAT.

**register-contact-user**

Enter the user part of the Contact-URI that the SBC generates

**password**

Enter the password to be used for this agent

**register-expires**

Enter the expire time in seconds to be used in the REGISTER

- Default: 600,000 (1 week)
- Values: Min: 0 / Max: 999999999

**replace-contact**

Specify whether the SBC needs to replace the Contact in the requests coming from the surrogate agent

- Default: disabled
- Values: enabled | disabled

**route-to-registrar**

Enable or disable requests coming from the surrogate agent being routed to the registrar if they are not explicitly addressed to the SBC

- Default: enabled
- Values: enabled | disabled

**aor-count**

Enter the number of registrations to do on behalf of this IP-PBX

- Default: 1
- Values: Min: 0 / Max: 999999999

**auth-user**

Enter the authentication user name you want to use for the surrogate agent

**max-register-attempt**

Enter the number of times to attempt registration; a 0 value means registration attempts are unlimited

- Default: 3

- Values: Min: 0 / Max: 10

**register-retry-time**

Enter the amount of time in seconds to wait before reattempting registration

- Default: 300
- Values: Min: 30 / Max: 3600

**count-start**

Enter the number of registrations to do on behalf of this IP-PBX

- Default: 1
- Values: Min: 0 / Max: 999999999

**register-mode**

Enter the registration mode.

- Default: automatic
- Values:
  - automatic - Send automatically
  - triggered - Send upon trigger from Private Branch Exchange.

**triggered-inactivity-interval**

Enter the maximum time in seconds without any traffic from corresponding Private Branch Exchange. This is valid only if registered-mode is triggered.

- Default: 30
- Values: Min: 5 / Max: 300

**triggered-oos-response**

Specifies the response by the SBC to the Private Branch Exchange on detecting a failure.

- Default: 503
- Values:
  - 503 - Response for core network failure.
  - dropresponse - No response sent to Private Branch Exchange for core network failure.

**source-ip-prefix**

Can contain a list of IP address/prefixes that specify the source addressing of endpoints for which the system can authenticate calls using this surrogate-agent. Valid entries include any number of IP addresses and IP address prefixes in the format <ip>/<subnet>. If you set multiple values, separate them with a space and enclose them with parenthesis (). Addressing can be IPv4, IPv6 or a combination of both.

- Default: Empty
- Values: List of entries

**options**

Enter non-standard options or features



**un-register**

Enable or disable whether the system generates register requests from this surrogate agent that specify Expires:0 and removes each of this surrogate agent's entries from the registration cache.

- Default: Disabled
- Enabled

**auth-user-lookup**

Enter the name of an auth-user-lookup in a realm's auth-attributes list so that the SBC uses those credentials to authenticate challenged register requests.

- Default: Empty
- string

**proxy-name**

Enter the name of the session agent you have configured as the Registrar that validates this surrogate agent's register requests for the purpose of routing to that session agent.

- Default: Empty
- string

**un-register**

Set the de-registration state

- Default: disabled
- Values: enabled | disabled

**source-ip-prefix**

Enter the list of IP address (with optional prefix) to validate the source IP. Multiple entries should be surrounded with parentheses. For example:

```
ORACLE(surrogate-agent)# source-ip-prefix (172.16.0.9 192.168.4.5/16)
```

**Path**

**surrogate-agent** is an element under the session-router path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **session-router** , and then **surrogate-agent**.

## system-access-list

The system-access-list configuration element allows you to configure system access control of the management interface on your Oracle Communications Session Border Controller. Once configured, any access from hosts that are not part of the system access IP address or subnet are denied. When this element is not configured, any host can access management ports.

**Parameters****source-address**

Enter the network source address. An IPv4 or IPv6 address is valid for this parameter.

**netmask**

Enter the source subnet mask. An IPv4 or IPv6 address is valid for this parameter.

**description**

Provide a brief description of this system-access-list configuration.

**protocol**

Enter a specified protocol or the special value all that specifies by protocol the type of management traffic allowed to access the system. The default value (all) matches all supported transport layer protocols.

- Default: all
- Values: all | icmp | ssh | snmp

An alternate means of configuring values supported by this parameter is the format IP protocol/well-known port. For example, the value 6/22 specifies protocol 6 (TCP) targeting port 22 (ssh). In addition, you can specify multiple entries using this format. The example (6/22 1/0 17/162) configures multiple entries.

**Path**

**system-access-list** is an element of the system path. The full path from the topmost ACLI prompt is: **configure terminal > system> system-access-list**

## system-config

Use the **system-config** element to configure general system information and system parameters.

**Parameters****hostname**

Enter the main hostname that identifies the SBC. Entries must follow either the Hostname (or FQDN) Format or the IP Address Format.

**description**

Describe the SBC. Entries must follow the Text Format

**location**

Enter the physical location of the SBC used for informational purposes. Entries must follow the Text Format.

**mib-system-contact**

Enter the contact information for this SBC for SNMP purposes. This field value is the value reported for MIB-II when an SNMP GET is issued by the NMS. Entries must follow the Text Format.

**mib-system-name**

Enter the identification of the SBC for SNMP purposes. This value has no relation to the **system-config > hostname** field. By convention, this is the node's FQDN. If this field remains empty, the SBC name that appears in SNMP communications will be the target name configured in the boot parameters and nothing else.

**mib-system-location**

Enter the physical location of the SBC for SNMP purposes. This parameter has no direct relation to the location field identified above. Entries must follow the Text Format.

**acp-tls-profile**

Enter the TLS profile name the system uses to encrypt ACP traffic, to and from the SEM management system.

**Note:**

This parameter is not RTC supported.

**disable-garp-out-of-subnet**

When enabled, prevents the system from sending out any GARP or ND query for sip-interfaces that are not in the same subnet of each network-interface.

- Default: disabled
- Values: enabled | disabled

This parameter is Real Time Configurable.

This parameter does not apply to the Subscriber Aware Load Balancer (SLB).

**snmp-enabled**

Enable or disable SNMP is enabled. If SNMP is enabled, then the system will initiate the SNMP agent. If SNMP is disabled, then the SNMP agent will not be initiated, and the trap-receiver and snmp-community elements will not be functional.

- Default: enabled
- Values: enabled | disabled

**enable-snmp-auth-traps**

Enable or disable the SNMP authentication traps

- Default: disabled
- Values: enabled | disabled

**enable-snmp-syslog-notify**

Enable or disable sending syslog notifications to an NMS via SNMP; determines whether SNMP traps are sent when a SBC generates a syslog message

- Default: disabled
- Values: enabled | disabled

**enable-snmp-monitor-traps**

Determine whether traps are sent out in ap-smgmt.mib trap. (See MIB Reference Guide for more information)

- Default: disabled
- Values: enabled | disabled

**enable-snmp-tls-srtp-traps**

This parameter is reserved for future use. Ensure it remains disabled.

- Default: disabled
- Values: enabled | disabled

**enable-env-monitor-traps**

Determine whether the environmental monitoring MIB is sent from the SBC. This trap will be sent any time there is a change in state in fan speed, temperature, voltage (SD 2 only), power supply (SD 1 for rev 1.32 or higher, SD 2 w/QoS for rev 1.32 or higher, SD II no QoS for rev 1.3 or higher), phy-card insertion, or I2C bus status. If this parameter is set to enabled, fan speed, temperature, and power supply notifications are not sent out in other traps.

- Default: disabled
- Values: enabled | disabled

**enable-mblk\_tracking**

Enabled Mblk tracking.

- Default: disabled
- Values: enabled | disabled

**enable-l2-miss-report**

When this attribute is disabled, the L2 Miss Report is written to log.octData if the ETC debug level is set to NORMAL. By default, this attribute does not generate a log.

- Default: enabled
- Values: enabled | disabled

**snmp-syslog-his-table-length**

Enter the maximum entries that the SNMP Syslog message table contains. The system will delete the oldest table entry and add the newest entry in the vacated space when the table reaches maximum capacity.

- Default: 1
- Values: Min: 0 / Max: 500

**snmp-syslog-level**

Set the log severity levels that send syslog notifications to an NMS via SNMP if snmp-syslog-notify is set to enabled. If the severity of the log being written is of equal or greater severity than the snmp-syslog-level value, the log will be written to the SNMP syslog history table. If the severity of the log being written is of equal or greater severity than the snmp-syslog-level field value and if enabled-snmp-syslog-notify field is set to enabled, the system will send the syslog message to an NMS via SNMP. If the severity of the log being written is of lesser severity than the snmp-syslog-level value, then the log will not be written to the SNMP syslog history table and it will be disregarded.

- Default: warning
- Values:
  - emergency
  - critical
  - major
  - minor
  - warning

- notice
- info
- trace
- debug
- detail

### **syslog-servers**

Access the syslog-servers subelement

### **system-log-level**

Set the system-wide log severity levels to write to the system log. When you set log levels through system-config, the settings take effect only after you Save and Activate and the settings will persist through a reboot.

- Default: warning
- Values:
  - emergency
  - critical
  - major
  - minor
  - warning
  - notice
  - info
  - trace
  - debug
  - detail

### **process-log-level**

Set the default log level that processes running on the SBC start. When you set log levels through system-config, the settings take effect only after you Save and Activate and the settings will persist through a reboot.

- Default: notice
- Values:
  - emergency
  - critical
  - major
  - minor
  - warning
  - notice
  - info

- trace
- debug
- detail

**process-log-ip-address**

Enter the IP address of server where process log files are stored. Entries must follow the IP Address Format. The default value of 0.0.0.0 causes log messages to be written to the local log file.

- Default: 0.0.0.0

**process-log-port**

Enter the port number associated with server IP address where process log files are stored. The default value of 0 writes log messages to the local log file.

- Default: 0
- Values: Min: 0; 1025 / Max: 65535

**collect**

Accesses the collect subelement.

**schedule-backup**

Accesses the schedule-backup subelement.

**comm-monitor**

Access the comm-monitor subelement.

**call-trace**

Enable or disable protocol message tracing for sipmsg.log for SIP

- Default: disabled
- Values: enabled | disabled

**internal-trace**

Enable or disable internal ACP message tracing for all processes

- Default: disabled
- Values: enabled | disabled

**log-filter**

Set to logs or all to send the logs to the log server

- Default: all
- Values:
  - none
  - traces
  - traces-fork
  - logs
  - log-fork

- all
- all-fork

**default-gateway**

Enter the IP address of the gateway to use when IP traffic sent by the SBC is destined for a network other than one of the LANs on which the 10/100 Ethernet interfaces could be. Entries must follow the IP Address Format. A value of 0.0.0.0 indicates there is no default gateway.

- Default: 0.0.0.0

**restart**

Enable or disable the SBC rebooting when a task is suspended. When set to enabled, this field causes the SBC to reboot automatically when it detects a suspended task. When this field is set to disabled and a task is suspended, the SBC does not reboot.

- Default: enabled
- Values: enabled | disabled

**exceptions**

Select system tasks that have no impact on system health or cause the system to restart. This field contains the name(s) of the task(s) surrounded by quotation marks. If there are multiple entries, they should be listed within quotation marks, with each entry separated by a <Space>.

**telnet-timeout**

Enter the time in seconds the SBC waits when there is no Telnet activity before an administrative telnet session, or SSH connection, is terminated. A value of 0 disables this functionality, meaning no time-out is being enforced.

- Default: 0
- Values: Min: 0 / Max: 65535

**console-timeout**

Enter the time in seconds the SBC waits when there is no activity on an ACLI administrative session before it terminates the session. The ACLI returns to the User Access Verification login sequence after it terminates a console session. A value of 0 disables this functionality.

- Default: 0
- Values: Min: 0 / Max: 65535

**http-timeout**

Inactivity timeout in minutes for HTTP connections.

- Default: 5
- Values: 0 - 20

**reserved-nsep-session-capacity**

Sets the percentage value for the amount of NSEP sessions the system reserves from the pool of total session capacity for use by NSEP calls. The system monitors the remaining, general pool of sessions (total minus reserved NSEP) and serves NSEP calls from this reserved session pool if the number of sessions in the general pool becomes exhausted.

- Default: 0
- Values: 0 - 100

**remote-control**

Enable or disable listening for remote ACP config and control messages before disconnecting

- Default: enabled
- Values: enabled | disabled

**alarm-threshold**

Access the alarm-threshold subelement.

**cli-audit-trail**

Enable or disable the ACLI command audit trail. The cli-audit-trail outputs to cli.audit.log.

- Default: enabled
- Values: enabled | disabled

**source-routing**

This parameter / feature has been deprecated.

**cli-more**

Enable this parameter to have the ACLI “more” paging feature working consistently across console or SSH sessions with the SBC. When this parameter is disabled, you must continue to set this feature on a per session basis.

- Default: disabled
- Values: enabled | disabled

**terminal-height**

Set the SBC terminal height when the more prompt option is enable

- Default: 24
- Values: Minimum: 5 / Maximum: 1000

**debug-timeout**

Enter the time, in seconds, you want to the SBC to timeout log levels for system processes set to debug using the ACLI notify and debug commands. A value of 0 disables this parameter.

- Default: 0
- Values: Min: 0 / Max: 65535

**trap-event-lifetime**

Set this parameter to the number of days you want to keep the information in the alarm synchronization table; 0 turns alarm synchronization off

- Default: 0
- Values: Min: 0 / Max: 7

**ids-syslog-facility**

Enter a syslog facility, as entered in the syslog-config configuration element, facility parameter to send IDS-type syslog messages to that syslog server. The default value of -1 disables selective message transfer.



- Default: -1

**ecc-chk-pkt**

Enable ECC packet checks.

- Default: disabled
- Values: enabled | disabled

**options**

Enter any customer-specific features and/or parameters for this global system configuration. This parameter is optional.

**default-v6-gateway**

Set the IPv6 default gateway for this SBC. This is the IPv6 egress gateway for traffic without an explicit destination. The application of your SBC determines the configuration of this parameter.

An IPV6 address is valid for this parameter.

**ipv6-signaling-mtu**

This sets the system-wide, default IPv6 MTU size.

- Default: 1500
- Values: 1280-4096

**ipv4-signaling-mtu**

This sets the system-wide, default IPv4 MTU size.

- Default: 1500
- Values: 576-4096

**cleanup-time-of-day**

Enter the local time the SBC begins inspecting directories to perform the clean up process.

directory-cleanup—Enters the directory-cleanup subelement.

- Default: 00:00

**directory-cleanup**

Access the directory-cleanup subelement.

**snmp-engine-id-suffix**

Sets a unique suffix for the SNMPEngineID. This value is entered as a string.

**snmp-agent-mode**

Determines which version of SNMP is supported on this system.

- Default: v3
- Values: v1v2 | v3

**snmp-rate-limit**

Specifies the maximum number of SNMP packets per second the system accepts.

- Default: 0 (no rate limiting)
- Values: 0 - 9999

**forwarding-cores**

Specifies the number of CPUs to use for traffic forwarding. The available cores depend on your system.

- Default: 1
- Values: 1 - 128

**dos-cores**

Specifies the number of CPUs to use for DoS processing. The available cores depend on your system.

- Default: 0
- Values: 0 - 1

**transcoding-cores**

Specifies the number of CPUs to use to perform transcoding processes. The available cores depend on your system.

- Default: 0
- Values: 0 - 128

**use-sibling-core-datapath**

Enables or disables the use of hyperthreading on your hypervisor.

- Default: Disabled
- Values: Enabled | Disabled

**httpclient-max-total-conn**

The total number of TCP connections allowed by HTTP clients. Set to 0 to disable a limit.

- Default: 500
- Values: 0 - 2147483647

**httpclient-max-cpu-load**

The maximum CPU percentage for HTTP clients.

- Default: 70
- Values: 30 - 90

**httpclient-cache-size-multiplier**

Specifies the multiplier used to calculate the size of the HTTP client connection cache. The system calculates this cache size using the formula:

client connection cache = (number of pending transactions \* httpclient-cache-size-multiplier)

- Default: 16
- Values: 4 - 50

**http-clearDead-conn-timer**

Specifies the number of seconds the system waits before it closes connections to HTTP servers that are in the half closed state.

- Default: 0 (disabled)
- Values: 300 - 84600

## Path

**system-config** is an element under the system path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **system-config**.



### Note:

Under the system-config element, options are not RTC supported. This is a single instance configuration element.

## system-config > alarm-threshold

The alarm-threshold configuration element allows you to configure custom alarms for certain system conditions based on those conditions reaching defined operating levels.

### Parameters

#### type

The type of custom alarm-threshold this object creates.

- Values:
    - cpu — Alarm based on CPU usage
    - space — Alarm based on used space on an identified disk volume
    - memory — Alarm based on memory usage
    - sessions — Alarm based on percentage of licensed sessions in use
    - rfactor — unused
    - deny-allocation — Alarm based on remaining number of reserved deny entries
- volume — Identifies the disk volume that this alarm threshold monitors. This parameter is only configured when the type parameter is set to space.
- Values for the volume parameter include active volume names on your system, such as "opt" and "boot".
- cpu-sipd - Alarm based on CPU used for sip process.
  - cpu-atcpd - Alarm based on CPU used for atcpd process.
  - cpu-mbcd - Alarm based on CPU used for mbcd.
  - reserved-nsep-sessions - Alarm based on percentage of sessions set aside for NSEP sessions.

#### severity

The system severity of this alarm.

- Default: minor
- Values: major | minor | critical

**value**

The percentage usage of the resource identified in the type parameter that triggers this alarm.

- Default: 0
- Values: 1 - 100

**Path**

**alarm-threshold** is a subelement of the **system-config** element. The full path from the topmost ACLI prompt is: **configure terminal > system > system-config > alarm-threshold**

## system-config > collect

The collect configuration element allows you to configure general collection commands for data collection on the Oracle Communications Session Border Controller.

**Parameters****sample-interval**

Enter the data collection sampling interval, in minutes

- Default: 5
- Values: Min: 1 / Max: 120

**push-interval**

Enter the data collecting push interval, in minutes

- Default: 15
- Values: Min: 0 / Max: 120

**start-time**

Enter the date and time to start data collection. Enter in the form of: yyyy-mm-dd-hh:mm:ss (y=year; m=month; d=day; h=hours; m=minutes; s=seconds)

- Default: now

**end-time**

Enter the date and time to stop data collection. Enter in the form of: yyyy-mm-dd-hh:mm:ss (y=year; m=month; d=day; h=hours; m=minutes; s=seconds)

- Default: never

**boot-state**

Enable or disable group collection on reboot

- Default: disabled
- Values: enabled | disabled

 **Note:**

This parameter is not RTC supported

**red-collect-state**

Enable or disable HA support for the collection function

- Default: disabled
- Values: enabled | disabled

**Note:**

This parameter is not RTC supported.

**red-max-trans**

Enter the maximum number of redundancy sync transactions to keep on active

- Default: 1000
- Values: Min: 0 / Max: 50000

**red-sync-start-time**

Enter the time to start redundancy sync timeout, in milliseconds.

- Default: 5000
- Values: Min: 0 / Max: 999999999

**red-sync-comp-time**

Enter the time to complete a redundancy sync, in milliseconds

- Default: 1000
- Values: Min: 0 / Max: 999999999

**push-receiver**

Access the push-receiver subelement

**group-settings**

Access the group-settings subelement

**push-success-trap-state**

Enable this parameter if you want the Oracle Communications Session Border Controller to send a trap confirming successful data pushes to HDR servers.

- Default: disabled
- Values: enabled | disabled

**Constraints**

This element is not visible if the product is set to Subscriber-Aware Load Balancer.

**Path**

The **collect** is a subelement of the **system-config** element.

```
ORACLE# conf term
ORACLE(configure)# system
ORACLE(system)# system-config
ORACLE(system-config)# collect
ORACLE(collect)#
```

## system-config > collect > push-receiver

The push-receiver configuration subelement allows you to configure the Oracle Communications Session Border Controller to push collected data to a specified node.

### Parameters

#### address

Enter the hostname or IP address to which the Oracle Communications Session Border Controller pushes collected data

#### user-name

Enter the hostname or IP address to which the Oracle Communications Session Border Controller pushes collected data

#### password

Enter the login password for the specified server used when pushing collected data

#### data-store

Enter the absolute path on the specified server in which to put collected data

#### protocol

Set the protocol with which to send HDR collection record files.

- Default FTP
- Values FTP | SFTP

### Path

**push-receiver** is a subelement of the **system-config>collect** subelement. The full path from the topmost ACLI prompt is: **configure terminal > system > system-config > collect > push-receiver**.

## system-config > collect > group-settings

The group-settings subelement allows you to configure and modify collection parameters for specific groups.

### Parameters

#### group-name

Enter the name of the object the configuration parameters are for. There can only be one object per group.

- Values:
  - dnsalg-rate - DNS-ALG rate
  - dnsalg-rate-per-addr - DNS-ALG rate per addr
  - dnsalg-rate-per-realm - DNS-ALG rate per realm
  - enum-rate - ENUM rate

- enum-rate-per-addr - ENUM rate per addr
- enum-rate-per-name - Request action in the ENUM rate per name
- enum-stats - ENUM stats
- ext-rx-policy-server - external Rx Policy Server group
- fan - fan group
- h323-stats - H323 Statistics group
- interface - interface group
- msrp-stats - MSRP statistics
- network-util - network utilization group
- registration-realm - registration realm group
- sa-imsaka - Request action on Security Associations for IMS-AKA group. Only Supported for Enterprise Products.
- sa-srtp - Request action on Security Associations for SRTP group
- session-agent - session agent group
- session-realm - session realm group
- sip-ACL-oper - SIP ACL Operations group
- sip-ACL-status - SIP ACL Status group
- sip-agent-method - SIP methods on the session agent
- sip-client - SIP Client Transaction group
- sip-codec-per-realm - SIP codecs per realm group
- sip-errors - SIP Errors/Events group
- sip-interface-method - SIP methods on the interface
- sip-invites - SIP Invites
- sip-method - SIP methods
- sip-policy - SIP Policy/Routing group
- sip-rate - SIP rate
- sip-rate-per-agent - SIP rate per agent
- sip-rate-per-inf - SIP rate per interface
- sip-realm-method - SIP methods on the realm
- sip-server - SIP Server Transaction group
- sip-sessions - SIP Session Status group
- sip-srvcc - SIP SRVCC group. Only Supported for Enterprise Products.
- sip-status - SIP Status group
- subjects - subjects group
- space - space group

- survivability-sip-errors - Survivability SIP Errors/Events group. Only Supported for Enterprise Products.
- survivability-sip-invites - Survivability SIP Invites. Only Supported for Enterprise Products.
- survivability-sip-registration - Survivability SIP Registrations. Only Supported for Enterprise Products.
- survivability-sip-status - Survivability SIP Status group. Only Supported for Enterprise Products.
- system - system group
- temperature - temperature group
- thread-event - thread event group
- thread-usage - thread usage group
- tscf-stats - tscf-stats group
- voltage - voltage group
- xcode-codec-util - Transcoding Codec Utilization group
- xcode-session-gen-info - general info about transcoding sessions
- xcode-tcm-util - Transcoding TCM Utilization group
- stir-stats - STIR/SHAKEN authentication and verification statistics on a per-server basis
- stir-stats-session-agent - STIR/SHAKEN authentication and verification statistics on a per-session-agent basis
- stir-stats-sip-interface - STIR/SHAKEN authentication and verification statistics on a per-sip-interface basis
- stir-stats-realm - STIR/SHAKEN authentication and verification statistics on a per-realm basis
- stir-stats-system - System-wide STIR/SHAKEN authentication and verification statistics

**sample-interval**

Enter the group data collection sampling interval, in minutes

- Default: 5
- Values: Min: 1 / Max: 120

**start-time**

Enter the date and time to start group data collection. Enter in the form of: yyyy-mm-dd-hh:mm:ss (y=year; m=month; d=day; h=hour; m=minute; s=second)

- Default: now
- Values:
  - now - Start data collection now.
  - <date&time> - Date and time to start data collection.



**end-time**

Enter the date and time to stop group data collection. Enter in the form of: yyyy-mm-dd-hh:mm:ss (y=year; m=month; d=day; h=hour; m=minute; s=second)

- Default: never
- Values:
  - never - Never end data collection .
  - <date&time> - Date and time to end data collection.

**boot-state**

Enable or disable data collection for this group.

- Default: disabled
- Values: enabled | disabled

**Path**

**group-settings** is a subelement of the **configure terminal > system > system-config > collect >** subelement. The full path from the topmost ACLI prompt is: **configure terminal > system > system-config > collect > group-settings**

## system-config > syslog-servers

The syslog-servers subelement configures multiple syslog servers.

**Parameters****address**

Enter the syslog server's IP address. This is configurable with an IPv4 or IPv6 address.

**port**

Enter the port number on the syslog server that the Oracle Communications Session Border Controller sends log

- Default 514

**facility**

Enter the user-defined facility value sent in every syslog message from the Oracle Communications Session Border Controller to the syslog server. This value must conform to IETF RFC 3164.

- Default 4

**Path**

**syslog-servers** is a subelement under the system-config element. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **system-config** , and then **syslog-servers**.

 **Note:**

We recommend configuring no more than 8 syslog-config subelements. This is a multiple instance configuration subelement.

## system-config > directory-cleanup

This element is unsupported.

### Path

**directory-cleanup** is a subelement under the **system-config** element. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **system-config** , and then **directory-cleanup**.

## tcp-media-profile

The **tcp-media-profile** configuration element allows you to enter individual tcp media profile entry elements. These are used for MSRP functionality.

### Parameters

#### name

Set the name of this tcp media profile.

#### profile-list

Enter individual tcp media profiles.

### Path

**tcp-media-profile** is an element of the media-manager path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **media-manager**, and then **tcp-media-profile**.

## tcp-media-profile > profile-list

The **profile-list** or **profile-entry** configuration element allows you to enter individual tcp media profile entry elements. These are used for MSRP functionality.

### Parameters

#### media-type

A string used to match with the media type <media> in the SDP message's media description (m=). For example: "message" for MSRP.

- Default: message

#### transport-protocol

The string used to match with the transport protocol <proto> in the media description (m=). For example: "TCP/TLS" for MSRP over TCP/TLS.

#### listen-port

The listening port on which the system listens for incoming connections to establish a TCP connection for a media session. If the value of this field is 0, the listening port will be chosen automatically by the system from the steering pool of the realm (which the tcp-media-profile belongs to).

- Default: 0

- Values: 0-65535

**preferred-setup-role**

The value used by the system for the a=setup attribute when negotiating the setup role, regardless of whether the Oracle Communications Session Border Controller is an offer or answer in the SDP offer/answer exchange.

- Default: passive
- Values: active | passive | actpass

**require-fingerprint**

If transport-protocol is TCP/TLS/MASP, use the require-fingerprint parameter to enable or disable endpoint authentication using the certificate fingerprint methodology defined in RFC 4572. This parameter can be ignored if transport-protocol is TCP/MSRP.

- Default: disabled
- Values: enabled | disabled

**msrp-cema-support**

Enable or disable the system to negotiate Connection Establishment for Media Anchoring (CEMA) support with parties in a given realm.

- Default: disabled
- Values: enabled | disabled

**msrp-sessmatch**

Enable or disable whether or not the URI comparison of the To-Path header in the MSRP messages received from the respective realm includes the authority part.

- Default: disabled
- Values: enabled | disabled

**msrp-message-size-enforce**

Set to enable or disable the system to reject of messages that exceed the negotiated maximum size or to stop file transfers that exceed the maximum negotiated size.

- Default: disabled
- Values: enabled | disabled

**msrp-message-size**

Set the maximum size negotiated for the MSRP messages.

- Default: 0 (no size limit enforced)
- Values: 0 - 4194304

**msrp-message-size-file**

Set the maximum size negotiated for the MSRP file transfer.

- Default: 0 (no size limit enforced)
- Values: 0 - 4294967295.

**msrp-types-allowlist**

Use to set a list of media types and sub-types that you want the system to accept. You can leave the parameter empty or you can set one or more entries. Each entry

represents one media type and sub-type. When the parameter contains a valid value, the system checks that incoming MSRP SEND requests contain only the media types specified in the SDP a=accept-types attribute resulting from applying R5725\_0220 to intersect the request and the allowlist. Leave the **msrp-types-allowlist** parameter empty to tell the system not to perform any media types filtering.

- Default: empty
- Values: empty | MsrpMediaTypeList | \* (star indicates that all MSRP media types or subtypes are allowed)

#### Path

**tcp-media-profile-entry** is a subelement of **tcp-media-profile**. The full path from the topmost ACLI prompt is: **configure terminal**, and then **media-manager**, and then **tcp-media-profile**, and then **tcp-media-profile-entry**.

## tdm-config

Use the **tdm-config** configuration element to enable and configure Time Division Multiplexing.

#### Constraints

Only platforms with Digium cards running the E-SBC support **tdm-config**.

#### Path

The **tdm-config** configuration element is in the **system** element.

```
ORACLE# configure terminal
ORACLE(configure)# system
ORACLE(system)# tdm-config
ORACLE(tdm-config)#
```

#### Parameters

The **tdm-config** configuration element contains the following parameters:

##### state

Enable or disable TDM.

- Default: enabled
- Values: enabled | disabled

##### logging

Enable or disable TDM logging.

- Default: disabled
- Values: enabled | disabled

##### line-mode

(platforms with Digium PRI cards)  
Set either T1 or E1.

- Default: t1
- Values: t1 | e1

**line-mode**

(platforms with Digium BRI cards)  
Set either T1 or E1.

- Default: bri
- Values: bri

**line-mode**

(platforms with Digium analog cards)  
Set either T1 or E1.

- Default: analog
- Values: analog

**tone-zone**

(platforms with Digium PRI cards)  
Set the tone zone value according to the line mode that you specified for this configuration.

- Default: us
- Values: us | us-old | au | fr | nl | uk | fi | es | jp | no | at | nz | it | gr | tw | se | be | sq | il | br | hu | lt | pl | za | pt | ee | mx | in | de | ch | dk | cz | cn | ar | my | th | bg | ve | ph | ru | pa | mo | cr | ae

For T1, use US; for E1, use ES.

**tone-zone**

(platforms with Digium BRI cards)  
Set the tone zone value according to the line mode that you specified for this configuration.

- Default: es
- Values: us | us-old | au | fr | nl | uk | fi | es | jp | no | at | nz | it | gr | tw | se | be | sq | il | br | hu | lt | pl | za | pt | ee | mx | in | de | ch | dk | cz | cn | ar | my | th | bg | ve | ph | ru | pa | mo | cr | ae

For T1, use US; for E1, use ES.

**tone-zone**

(platforms with Digium analog cards)  
Set the tone zone value according to the line mode that you specified for this configuration.

- Default: us
- Values: us | us-old | au | fr | nl | uk | fi | es | jp | no | at | nz | it | gr | tw | se | be | sq | il | br | hu | lt | pl | za | pt | ee | mx | in | de | ch | dk | cz | cn | ar | my | th | bg | ve | ph | ru | pa | mo | cr | ae

For T1, use US; for E1, use ES.

**calling-Pres**

(platforms with Digium PRI cards or Digium BRI cards)  
Enable or disable call IP presentation for a SIP device.

- Default: allowed\_not\_screened
- Values: allowed | allowed\_not\_screened | allowed\_passed\_screen | allowed\_failed\_screen | prohib | prohib\_not\_screened | prohib\_passed\_screen | prohib\_failed\_screen | unavailable

When you set a value for **calling-pres**, you must also set a value for **caller-ID**.

#### **caller-ID**

Enable or disable caller ID for CLIP and COLP.

- Default: no
- Values: no | rpid | pai

When you set a value for **caller-ID**, you must also set a value for **calling-pres**.

#### **tdm-profile**

(platforms with Digium PRI cards or Digium BRI cards)

Access the **tdm-profile** configuration element.

#### **fxo-profile**

(platforms with Digium analog cards)

Access the **fxo-profile** configuration element.

#### **fxs-profile**

(platforms with Digium analog cards)

Access the **fxs-profile** configuration element.

## tdm-profile

Use **tdm-profile** to specify one or more profiles for Time Division Multiplexing (TDM) behavior on the SBC. The single-port TDM card supports only one profile, while the quad-port TDM card supports up to four TDM profiles.

#### **Constraints**

Only platforms with Digium PRI cards or Digium BRI cards support **tdm-profile**.

#### **Path**

The **tdm-profile** configuration element is in the **tdm-config** element.

```
ORACLE# configure terminal
ORACLE(configure)# system
ORACLE(system)# tdm-config
ORACLE(tdm-config)# tdm-profile
ORACLE(tdm-profile)#
```

#### **Parameters**

The **tdm-profile** configuration element contains the following parameters:

##### **name**

Set the name for this TDM profile.

**signalling**

(platforms with Digium PRI cards)

Set the timing source for the TDM card.

- Default: pri\_cpe
- Values: pri\_cpe | pri\_net
- bri\_net—the TDM card uses the internal clock as the timing source.
- bri\_cpe—the TDM card uses an external clock as the timing source.

**signalling**

(platforms with Digium BRI cards)

Set the timing source for the TDM card.

- Default: bri\_cpe
- Values: bri\_cpe | bri\_net
- bri\_net—the TDM card uses the internal clock as the timing source.
- bri\_cpe—the TDM card uses an external clock as the timing source.

**switch-type**

(platforms with Digium PRI cards)

Set a switch type for this configuration.

- Default: national
- Values: national | dms100 | 4ess | 5ess | euroisdn | ni1 | qsig

**switch-type**

(platforms with Digium BRI cards)

Set a switch type for this configuration.

- Default: euroisdn
- Values: euroisdn

**b-channel**

(platforms with Digium PRI cards)

Set the B channel value according to the line mode specified for this configuration.

- Default: 1-23
- Values: 1-23 | 1-15,17-31
- For T1, select 1-23.
- For E1, select 1-15,17-31.

**b-channel**

(platforms with Digium BRI cards)

Set the B channel value according to the line mode specified for this configuration.

- Default: 1-2
- Values: 1-2
- For T1, select 1-23.
- For E1, select 1-15,17-31.

**d-channel**

(platforms with Digium PRI cards)

Set the D channel value according to the line mode specified for this configuration.

- Default: 24
- Values: 24 | 16
- For T1, select 24.
- For E1, select 16.

**d-channel**

(platforms with Digium BRI cards)

Set the D channel value according to the line mode specified for this configuration.

- Default: 3
- Values: 3
- For T1, select 24.
- For E1, select 16.

**span-number**

Set the TDM span number.

- Default: 1

For example

- 1
- 1,2
- 1,2,3,4

**route-group**

Configure the route group the profile belongs to.()

- Default: 0
- Min: 0 | Max: 63

**line-build-out**

Configure the TDM Line Build Out (LBO) value (Line Build Out is a decibel value used on a per length basis).

- Default: 0
- Values:
  - 0: 0db / 0-133 feet
  - 1: 266-399 feet
  - 2: 266 -399 feet
  - 3: 399 -533 feet
  - 4: 533 -655 feet
  - 5: -7.5 db



- 6: -15 db
- 7: -22.5 db

**line-build-out**

(Available only on platforms that have the Wanpipe driver installed.)

Configure the TDM Line Build Out (LBO) value (Line Build Out is a decibel value used on a per length basis).

- Default: 0DB
- Values:
  1. 0DB
  2. 7.5DB
  3. 15DB
  4. 22.5DB
  5. 0-110FT
  6. 110-220FT
  7. 220-330FT
  8. 330-440FT
  9. 440-550FT
  10. 550-660FT
  11. 75OH
  12. 120OH

**framing-value**

(platforms with Digium PRI cards)

Configure TDM framing value(TDM Framing value)

- Default: esf
- Values: esf | d4 | ccs | cas

**framing-value**

(platforms with Digium BRI cards)

Configure TDM framing value(TDM Framing value)

- Default: ccs
- Values: ccs

**coding-value**

(platforms with Digium PRI cards)

TDM coding value()

- Default: b8zs
- Values: b8zs | ami | hdb3

**coding-value**

(platforms with Digium BRI cards)

TDM coding value()

- Default: ami
- Values: ami

**crc4-checking**

(platforms with Digium PRI cards)  
Enable CRC-4 checking over E1 interface()

- Default: disabled
- Values: enabled | disabled

**term-resistance**

(platforms with Digium BRI cards)  
BRI termination resistance()

- Default: disabled
- Values: enabled | disabled

**timing-source**

Configure TDM timing source value()

- Default: 1
- Min: 0 | Max: 4

**rx-gain**

(Decibel value that increases or decreases the TDM receive channel volume Valid value range is 0.0 - 9.9)

- Default: 0.0

**tx-gain**

(Decibel value that increases or decreases the TDM transmit channel volume Valid value range is 0.0 - 9.9)

- Default: 0.0

**echo-cancellation**

enable tdm echo cancellation()

- Default: enabled
- Values: enabled | disabled

**overlap-dial**

Configure overlap dial()

- Default: no
- Values: no | incoming

**incoming-pattern**

A list of extension numbers or match patterns.(List of extension numbers or match patterns. Single extension numbers are separated with the vertical bar (|) symbol. A pattern starts with the underscore symbol (\_). In an extension pattern, the following characters have special meanings: X matches any digit from 0-9 Z matches any digit from 1-9 N matches any digit from 2-9 [1237-9] matches any digit in the brackets (in this example, 1,2,3,7,8,9) . wildcard, matches one or more characters ! wildcard, matches zero or more characters immediately)

- Default: \_X.

**options**

Configure TDM options()

## test-policy

The test-policy element tests and displays local policy routes from the ACLI.

**Parameters****source-realm**

Enter the name set in the source-realm field of a configured local policy. Entering an "\*" in this field matches for any source realm. Leaving the field empty indicates that only the "global" realm will be tested.

**from-address**

Enter the "from" address of the local policy to look up/test. From addresses should be entered as SIP-URLs in the form of `sip:19785551212@netnetsystems.com`.

**to-address**

Enter the "to" address of the local policy to look up/test. To addresses should be entered as SIP-URLs in the form of `sip:19785551212@netnetsystems.com`.

**time-of-day**

Enable or disable use of the time of day value set in the start-time and end-time fields you set in configured local-policy elements

- Values: enabled | disabled

**carriers**

Enter the names of permitted carriers set in the carriers fields set in configured local-policy elements. This field is formatted as a list of comma separated text strings enclosed in quotation marks.

**media-profile**

Enter a list of media profiles

**show**

Show the next hop and the associated carrier information for all routes matching the "from" and "to" addresses entered

**Path**

test-policy is available under the session-router path.

**Notes**

Type the show command to perform the actual test lookup after parameters have been entered.

The test-policy element can also be configured in Superuser mode as a command.

## test-sip-manipulation

The test-sip-manipulation element allows you to test and validate a sip-manipulation. Navigate to the test-sip-manipulation element.

```
ORACLE# test-sip-manipulation
ORACLE(test-sip-manipulation)#
```

### Parameters

#### debugging

Enable or disable debugging mode.

- Default: disabled.
- Values: enabled | disabled

#### direction

Set the direction of the SIP message.

- Default: out.
- Values: in | out

#### display-sip-message

Display on screen the SIP message that will be manipulated.

#### execute

Execute the referenced sip-manipulation against the SIP message.

#### load-sip-message

Paste a new SIP message into the ACLI to use as a test. Press Ctrl + D to end the message.

#### local-ip

Set the IP and port for the \$LOCAL\_IP variable.

#### manipulation-pattern

Set the manipulation pattern, used in \$MANIP\_PATTERN.

#### manipulation-string

Set the manipulation string, used in \$MANIP\_STRING.

#### refresh-manipulations

Reload any newly configured sip-manipulations.

#### remote-ip

Set the IP and port for the \$REMOTE\_IP variable.

#### sip-manipulation

Identify the name of the sip-manipulation you want to test.

#### tgrp-context

Set the trunk group context, used in the \$TRUNK\_GROUP\_CONTEXT variable.

#### loop

This hidden command executes the sip-manipulation N number of times.

 **WARNING:**

Never run the loop command on a production system. Running the loop command degrades system performance.

**Example**

```
ORACLE(test-sip-manipulation)# sip-manipulation rmHeaders
ORACLE(test-sip-manipulation)# execute
```

 **Note:**

This command exists both as a command and as a configuration element.

## test-translation

The test-translation element tests translation rules configured for the Address Translation feature.

**Parameters****called-address**

Enter the address on which the called rules will be applied. This entry is required.

**calling-address**

Enter the address on which the calling rules will be applied. This entry is required.

**translation-id**

Enter the translation rules to test. This entry is required.

**show**

Show results of translation

**Path**

**test-translation** is available under the session-router path.

 **Note:**

The test-translation element can also be configured in Superuser mode as a command.

## tls-global

The `tls-global` configuration element allows you to configure global TLS parameters.

### Parameters

#### **session-caching**

Enable or disable the SBC's session caching capability

- Default: disabled
- Values: enabled | disabled

#### **session-cache-timeout**

Enter the session cache timeout in hours

- Default: 12
- Values: Min: 0 (disabled) / Max: 24

#### **diffie-hellman-key-size**

Enter the size of the Diffie-Hellman key offered by the SBC when negotiating TLS on a SIP interface.

- Default: DH\_KeySize\_1024
- Values: DH\_KeySize\_1024 | DH\_KeySize\_2048

Setting the key size to 2048 bits significantly decreases performance.

### Path

`tls-global` is an element of the security path. The full path from the topmost ACLI prompt is: **configure terminal**, and then **security**, and then **tls-global**.

## tls-profile

The `tls-profile` configuration element holds the information required to run SIP over TLS.

### Constraints

This configuration element is not RTC supported for MSRP Online Certificate Status Protocol. To support MSRP OCSP, you must reboot after configuring **cert-status-check** and **cert-status-profile-list**.

### Parameters

#### **name**

Enter the name of the TLS profile

#### **end-entity-certificate**

Enter the name of the entity certification record

#### **trusted-ca-certificates**

Enter the names of the trust CA Certificate records

**cipher-list**

Enter a list of supported ciphers or retain the default value, **DEFAULT**. For a comprehensive list of ciphers supported by the OCSBC, see the *Oracle Communications Session Border Controller Release Notes*.

- Default: DEFAULT

**verify-depth**

Enter the maximum depth of the certificate chain that will be verified

- Default: 10
- Values: Min: 0 / Max: 10

**mutual-authenticate**

Enable or disable the mutual authentication of clients that connect to the SBC.

- Default: disabled
- Values: enabled | disabled

**tls-version**

Enter the TLS version you want to use with this TLS profile

- Default: tlsv13
- Values:
  - tlsv12
  - tlsv13
  - compatibility — When the OCSBC negotiates on TLS, it starts with the highest TLS version and works its way down until it finds a compatible version and cipher that works for the other side.

 **Note:**

The **security-config > sslmin** option works in conjunction with the tls-profile's **tls-version** parameter when it is set to **compatibility**. For profiles that negotiate to compatible versions, the **sslmin** option specifies the lowest TLS version allowed.

**cert-status-check**

Enable or disable OCSP in conjunction with an existing TLS profile.

- Default: disabled
- Values: enabled | disabled

**cert-status-profile-list**

Select an object from the cert-status-profile parameter. In order to enable this parameter, this list must not be empty. If multiple cert-status-profile objects are assigned to cert-status-profile-list, the Oracle Communications Session Border Controller will use a hunt method beginning with the first object on the list.

- Values: Any valid certificate status profile from cert-status-profile parameter

**ignore-dead-responder**

Allows local certificate based authentication by the Oracle Communications Session Border Controller in the event of unreachable OCSRs

- Default: disabled
- Values: enabled | disabled

**allow-self-signed-cert**

Allows self-signed certificate for Message Session Relay Protocol.

- Default: disabled
- Values: enabled | disabled

**Path**

**tls-profile** is an element under the security path. The full path from the topmost prompt is: **configure terminal** , and then **security** , and then **tls-profile**

## translation-rules

The translation-rules element creates unique sets of translation rules to apply to input headers. See the Session Translation chapter in the Configuration Guide.

**Parameters****id**

Enter the identifier or name for this translation rule. This field is required.

**description**

A brief description of what this translation rule accomplishes.

**input-header-type**

Select the input header which this translation rule will modify.

The translation rule will check for the existence of this header, user part, or parameter. If a particular SIP message doesn't contain it, the rule won't modify that message.

**input-header-value**

Enter the regular expression that defines the modification of the input header.

If the regex pattern does not match, no modification happens. If the regex pattern does match, the whole output header will be set to the value of output-header-value. When entering regex patterns on the ACLI, wrap the pattern in double quotes if it includes spaces.

**output-header-type**

Select the header type which this translation rule will output to.

When the input-header-type and output-header-type are the same, the translation rule modifies a single header. When the input-header-type and output-header-type are different, the translation rule can capture values from the input header and insert them into the output header.

**output-header-value**

Enter the regular expression that defines the new value of the output header.

If your input-header-value includes regex capture groups, use the **\$<group number>** syntax to identify the captured content.

When using capture groups that are followed by numbers, use the **\$0<group number>** syntax for single-digit capture groups. For example, the SBC will read \$1781 as capture



group 17 followed by the literal digits 81. The SBC will read \$01781 as capture group 1 followed by the literal digits 781. Capture groups that are followed by a letter, such as \$3a, are not affected by this rule.

### Path

The **translation-rules** element is under the session-router path.

```
ORACLE# conf term
ORACLE(configure)# session-router
ORACLE(session-router)# translation-rules
ORACLE(translation-rules)#
```

This is a multiple instance configuration element.

## trap-receiver

The trap-receiver element defines the NMSs to which the Oracle Communications Session Border Controller sends SNMP traps for event reporting.



### Note:

The trap-receiver element is not used if the session delivery SNMP agent operates in SNMPv3 mode.

### Parameters

#### ip-address

Enter the IP address and port for an NMS. If no port value is specified, the Oracle Communications Session Border Controller uses a default port of 162. This required field must follow the IPv4 or IPv6 address format.

#### filter-level

Set the filter level for the NMS identified within this trap-receiver element

- Default: critical
- Values:
  - **All**—All alarms, syslogs, and other traps will be trapped out. That is, the corresponding NMS will receive informational, warning, and error events.
  - **Minor**—All syslogs generated with a severity level greater than or equal to MINOR and all alarms generated with a severity level greater than or equal to MINOR will be trapped out
  - **Major**—All syslogs generated with a severity level greater than or equal to MAJOR and all alarms generated with a severity level greater than or equal to MAJOR will be trapped out

- **Critical**—Syslogs generated with a severity level greater than or equal to CRITICAL and all alarms generated with a severity level greater than or equal to CRITICAL will be trapped out

**community-name**

Enter the name of the community to which a particular NMS belongs. This required entry must follow the Name format. The community-name field values must be unique. The community-name must be 1-32 characters long and must not contain ""

**user-list**

This parameter is configured with the name of one or more snmp-user-entry configuration element user-names for authorizing access to SNMPv3 functionality.

**Path**

**trap-receiver** is an element under the system path. The full path from the topmost ACLI prompt is: **configure terminal** , and then **system** , and then **trap-receiver**.

**Note:**

This is a multiple instance configuration element.

## tunnel-orig-params

The tunnel-orig-params configuration element defines a single remote IKEv2 peer.

**Parameters****name**

Enter the name of this instance of the **tunnel-orig-params** configuration element

- Default: None
- Values: A valid configuration element name, that is unique within the **tunnel-orig-params** namespace

**remote-addr**

Enter the IPv4 address of a remote IKEv2 peer

- Default: None
- Values: Any valid IPv4 address

**retry-limit**

Set the number of times IKEv2 tries to initiate the tunnel. If this value is exceeded, IKEv2 abandons the initiation attempt and issues an SNMP trap.

- Default: 3
- Values: Min: 1 | Max: 5

**retry-time**

Set the interval (in seconds) between initiation attempts.

- Default: 30 seconds

- Values: Min: 5 | Max: 60

#### Path

**tunnel-orig-params** is a subelement under the ike element. The full path from the topmost ACLI prompt is: **configure-terminal**, and then **security**, and then **ike**, and then **tunnel-orig-params**



#### Note:

This is a multiple instance configuration element.

## two-factor-authentication

The **two-factor-authentication** configuration element is used for configuring two-factor authentication. This element is only visible if you have the Admin Security entitlement installed.

#### Parameters

##### **two-factor-auth-access-method-list**

Enumerated list of the authentication access methods that require two-factor authentication.

- Default: None
- Values: SSH | GUI | SSH,GUI

##### **common-name-list**

List of the authorized Common Names (CN)

#### Path

**two-factor-authentication** is an element under the security path. The full path from the topmost prompt is: **configure terminal**, then **security**, then **authentication.**, then **two-factor-authentication**.

## web-server-config

The **web-server-config** configuration element has been deprecated. See the **http-server** configuration element instead.