Oracle® Communications Session Border Controller

Historical Data Recording Guide

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ORACLE

Oracle Communications Session Border Controller Historical Data Recording Guide, Release S-Cz9.3.0

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About this Guide

The Oracle Communications Session Border Controller HDR Resource Guide provides information about Historical Data Recording (HDR) . This document includes the following information:

- Description of HDR and how it works
- Enabling/disabling HDR
- Starting, stopping, restarting, purging, and requesting HDR status using the Acme Command Line Interface (ACLI)
- Using a Push Receiver to push the data to a server
- HDR Groups and Group Statistics
- "Show" commands associated with the HDR Groups and Group Statistics

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 ACLI, as an alphabetical listings and descriptions of all ACLI 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.

Document Name	Document Description
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.
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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- Loss of access for maintenance or recovery operations
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4. Click on your Product and then Release Number.
   A list of the entire documentation set for the selected product and release appears.
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Revision History

This section provides a revision history for this document.

Date	Description
March 2024	• Initial Release
October 2024	• Adds features for S-Cz9.3.0p3.

1 Overview

This chapter provides an overview of historical data recording (HDR), how it works, and how to enable and disable HDR on the SBC.

What is HDR

Historical data recording (HDR) refers to a group of management features that allow you to collect SBC statistics, save them to a CSV file, and SFTP this file ito one or more designated servers. The statistics are grouped so that you can refer to a set of statistics by simply invoking their group name. For example, the system statistics are in a group called **System**; interface statistics are in a group called **Interface**. Each group contains several metrics.

The following table describes the type of HDR statistics that the SBC can collect.

HDR Statistics	Description
Group Name	The name of the group that contains the HDR statistics. This name is similar to the current SBC ACLI parameters. For example, system, interface, session-agent, session-realm, etc. The SBC uses the group name when generating the CSV file (for example, system.csv, interface.csv, etc.).
Group Statistics	Various statistical parameters within a group. These statistical parameters appear in the first record of the header in each CSV file (for example, in the system.csv file, the header would include the statistic headings of CPU Utilization, Memory Utilization, Health Score, etc.).
Type	Type of statistical parameter. This document makes use of the following data types: • **counter** - A counter is an integer with a minimum possible value of 0 and a maximum value of 4294967295. A counter is always increasing in value or remaining unchanged. It decreases only in response to reaching its maximum possible value, at which point it's next value (when the next counted entity or event occurs) will be 0. • **gauge** - A gauge is an integer with the same bounds as a counter. However, it does not always have an increasing value. Its value may go up or down. • **period** - A period type represents a value determined as the sum of a number of events which occurred during a specified window of time, or stated alternatively, a time period. There are three windows defined, the "current window", the "previous window", and the "sliding window". For more information about these windows, see **Windows of Time**. • **config** - For the config type, the value for this field comes from a configuration record. • **timeticks** - For the timeticks type, each tick is 1/100th of a second. • **string** - A statistic type pertains to statistics that display as an alpha-numeric character string.
Timer Value (seconds)	For period statistics (statistics that use a period timer), this is the default value, in seconds, of the timer. This value is usually not configurable. However, this value may fall within a range of values if applicable.
Range	The range of values that a group statistic may use when the SBC collects statistics.

For descriptions of specific HDR Statistics and values, see **HDR Groups and Group Statistics**.

Collection Interval and Push

In your HDR configuration, you can set:

- the groups for record collection
- the frequency of collection
- the frequency of pushes

The number of records in a push equals the push interval divided by the sample interval time multiplied by the number of groups, plus one header per group.

((push interval ÷ sample interval time) x number of groups) +1 header record per group = number of records in a push

For example, if you set a push interval time of 60 minutes and a sample interval time of 5 minutes, with 10 groups, the SBC would send 120 group records plus 10 header records (for a total of 130 records) for each push:

[(60 ÷ 5) x 10] +10 = 130

You can configure an option parameter (disabled by default) that instructs the SBC to send a trap when data has been successfully pushed. This trap is defined in the ap-smgmt.mib. It contains the name of the node that successfully pushed the HDR file to an SFTP server, a unique file name for the HDR file that was pushed, and the IP address of the push receiver (configured in the global collection configuration). For more information about the HDR SNMP traps, see the product-specific SBC MIB Reference Guide.

> **Note:**
>
> The SBC clears all local records after a successful push, after 3 consecutive push failures, and after a system reboot.

Windows of Time

Many tables in this guide identify data types of counter, gauge, config, timeticks, and period.

A period type represents a value determined as the sum of a number of events which occurred during a specified window of time (or a time period). There are three possible windows in which events can occur:

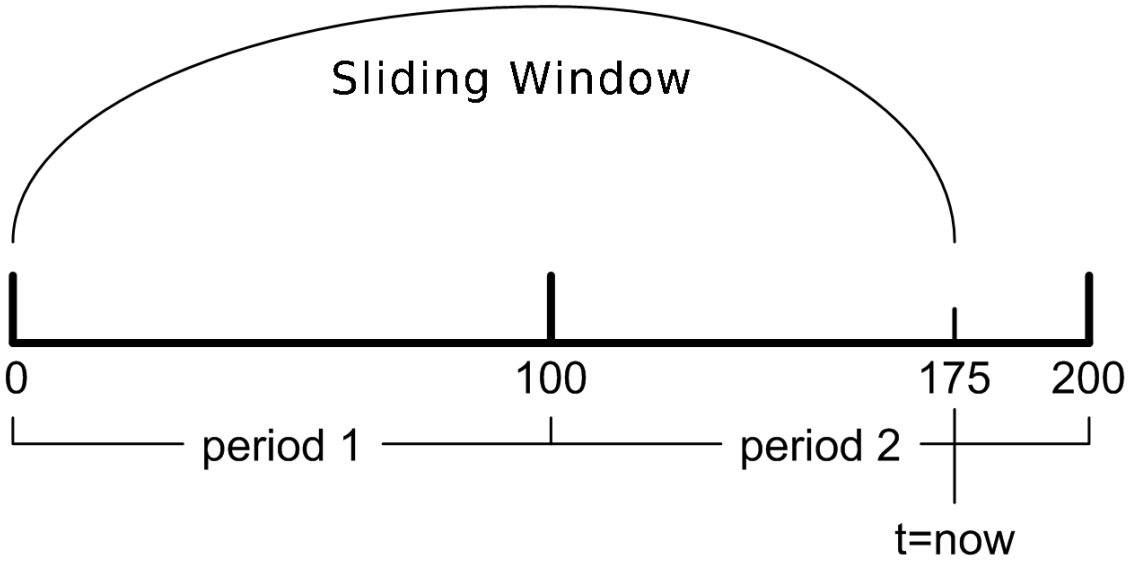
- current window
- previous window
- sliding window

The **current window** is the window during which events are currently being accumulated. The current window ends D seconds after the start of the current window, where D is the duration of the window. The current window is always less than D. Once the current window becomes of size D, it becomes the previous window, and a new current window is started.

The **previous window** is the time period of duration D which ended at the start of the current window.

The **sliding window** marks the period of time for the previous window, D, plus the time passed in the current window.

For example, if the default timer is set to 100 seconds, the sliding window represents the completed previous window (period 1 shown below) PLUS the time accrued in the current window (period 2 shown below). The sliding window here is 175 seconds. At the end of 199 seconds, the current window will become the previous window and the sliding window will begin counting up from the 100 second mark.



For the **session-agent** and **session-realm** HDR groups, the default timer value is 30 seconds. Thus the current window is between 0 and 30 seconds. When the current window reaches 30 seconds it becomes the previous window and a new current window is initialized. The initial sliding window is 30 seconds, and after that, the sliding window is between 30 and 60 seconds.

If the `sustain-rate-window` parameter is not configured, the default window size is 30 seconds. If the `sustain-rate-window` parameter is configured, the default period is set to the value of the `sustained-rate-window`.

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Configure HDR

To configure HDR:

1. Set the sample and push intervals.
2. Set the start and end times for collection.
3. Set HA parameters, if applicable.
4. Set group parameters.
5. Set push receivers.
6. Start the HDR process.

> **Note:**
>
> If you modify the HDR configuration parameters, the changed parameters DO NOT take effect until you reboot.

Set Global Collection Attributes

1. Access the **collect** configuration element.

```
ORACLE# configure terminal
ORACLE(configure)# system
ORACLE(system)# system-config
ORACLE(system-config)# collect
ORACLE(collect)#
```

2. **sample-interval**—Enter the time in minutes for how often you want the SBC to sample data records.
   - Default: 5
   - Values: Min: 1 / Max: 120
3. **push-interval**—Enter the time in minutes for how often you want the SBC to send collected records to push receiver(s).
   - Default: 15
   - Values: Min: 1 / Max: 120
4. **boot-state**—Set this parameter to **enabled** to start group collection or to **disabled** to prevent the SBC from collecting HDR statistics.

   This parameter does not go into effect until the system is rebooted. You can also use the ACLI request collect start command to start collection; using this command, you can start collection for all groups, or for one specified group.
   - Default: disabled
   - Values: enabled | disabled

5. **start-time**—Enter the exact date and time (for your local timezone) when you want the SBC to start HDR collection.

   You can enter **now** to set the start-time to the current time or you can specify a time in the future. If you specify a datetime, it must be in the format `yyyy-mm-dd-HH:MM:SS`, where: `yyyy` is the year, `mm` is the month, `dd` is the day, `HH` in the hour, `MM` is the minutes, and `SS` is the second (24-hour clock).

   - Default: now
   - Values: now | <datetime>

6. **end-time**—Enter the exact date and time (for your local timezone) when you want the SBC to finish HDR collection.

   You can enter **never** to set the time to never end or you can specify an end time in the future. If you specify a datetime, it must be in the format `yyyy-mm-dd-HH:MM:SS`, where: `yyyy` is the year, `mm` is the month, `dd` is the day, `HH` in the hour, `MM` is the minutes, and `SS` is the second (24-hour clock).

   - Default: never
   - Values: never | <datetime>

7. **push-success-trap-state**—Set this parameter to **enabled** if you want the SBC to send a trap confirming successful data pushes to HDR servers.

   - Default: disabled
   - Values: enabled | disabled

Set HDR for an HA Node

If you are using the HDR feature on a High Availability (HA) node (or redundant pair of SBCs), several parameters in the collection configuration must be set for HDR to perform properly.

Oracle recommends strongly that you do not change these parameters from their defaults for a normal HA node configuration. Therefore, if you need to change them to support HDR, you should do so with caution.

To set HDR support across an HA node:

1. Access the **collect** configuration element.

```
ORACLE# configure terminal
ORACLE(configure)# system
ORACLE(system)# system-config
ORACLE(system-config)# collect
ORACLE(collect)#
```

2. **red-collect-state**—Enable replication of the HDR data files from the Active to the Standby.

   Replicating ensures no data loss in case the HDR files are not pushed off of the Active before a failover. The data that is pushed to the Standby is generated on the Active SBC and reflects the Active's operating state.

   - Default: disabled
   - Values: enabled | disabled

> **Note:**
>
> Changing the red-collect-state setting does not take effect until SBC is rebooted. This parameter is not RTC supported.

3. **red-max-trans**—Enter the maximum number of HA synchronized transactions to maintain on the active system in the HA node.
   - Default: 1000
   - Values: Min: 0 / Max: 999999999
4. **red-sync-start-time**—Enter the amount of time, in milliseconds, that the active SBC checks to confirm that it is still the active system in the HA node.

   If the active system is still adequately healthy, this timer resets itself. If for any reason the active has become the standby, it starts to checkpoint with the newly active system when this timer expires.
   - Default: 5000
   - Values: Min: 0 / Max: 999999999
5. **red-sync-comp-time**—Enter amount of time, in milliseconds, that determines how frequently after synchronization the standby SBC checkpoints with the active SBC.

   The first interval occurs after initial synchronizations of the systems; this is the timeout for subsequent synchronization requests.
   - Default: 1000
   - Values: Min: 0 / Max: 999999999

After enabling HDR in HA mode, you will see a series of ssh-key elements added to your configuration. These ssh-keys elements allow the Active SBC to syncronize files securely with the Standby SBC.

Set Multiple Collection Groups

You can configure the SBC to collect multiple groups of statistics. Collection group settings are accessible through the collection configuration. For specific group names, group statistics, and values, see **HDR Groups and Group Statistics**.

The sample-interval, start-time, and end-time parameters that you set for multiple collection groups override the same parameters set for global collection.

> **Note:**
>
> For multiple collection groups, the sample-interval value must always be smaller than the global collection parameter value for push-interval.
> To set multiple collection groups:

1. Access the **group-settings** configuration element.

```
ORACLE# configure terminal
ORACLE(configure)# system
ORACLE(system)# system-config
```

```
ORACLE(system-config)# collect
ORACLE(collect)# group-settings
ORACLE(group-settings)#
```

2. **group-name**—Enter the group name corresponding to the records that you want to collect; there are 25 possible groups for which the SBC can collect data. The **system** group name is the default for this parameter. For additional group names, see **HDR Groups and Group Statistics**.
3. **sample-interval**—Enter the time in minutes for how often you want the SBC to sample data records for the specified group.
   - Default: 5
   - Values: Min: 1 / Max: 120
4. **boot-state**—Set this parameter to **enabled** to start group collection, or to **disabled** to prevent the SBC from collecting HDR statistics for this group.

   A reboot is required to take effect. You can also use the `request collect start` command to start collection for all groups or for one specified group.
   - Default: disabled
   - Values: enabled | disabled
5. **start-time**—Enter the exact date and time (for your local timezone) when you want the SBC to start collecting records for this group.

   You can enter **now** to set the start-time to the current time, or you can specify a time in the future. If you specify a time, it must be in the format `yyyy-mm-dd-HH:MM:SS`, where: `yyyy` is the year, `mm` is the month, `dd` is the day, `HH` is the hour, `MM` is the minutes, and `SS` is the second (24-hour clock).
   - Default: now
   - Values: now | <datetime>
6. **end-time**—Enter the exact date and time (for your local timezone) when you want the SBC to stop collecting records for this group.

   You can enter **never** to set the time to never end or you can specify a time in the future. If you specify a time, it must be in the format `yyyy-mm-dd-HH:MM:SS`, where: `yyyy` is the year, `mm` is the month, `dd` is the day, `HH` is the hour, `MM` is the minutes, and `SS` is the second (24-hour clock).
   - Default: never
   - Values: never | <datetime>
7. Type **done** to save your configuration.

Set Push Receivers

Each push receiver represents an SFTP server to which the SBC pushes records.

If you configure multiple push-receivers, the SBC sends data to all of the servers. If one server fails, the SBC generates an SNMP trap. The SBC makes 3 attempts to send data to the failed server. If the server cannot receive the data, the SBC clears the data for that server. For example, if there are four servers configured, and the SBC successfully pushes data to three of them, the SBC generates a trap indicating the fourth server is down and after 3 attempts to send the data, the data is cleared.

To set servers as push receivers:

1. Access the **push-receiver** configuration element.

```
ORACLE# configure terminal
ORACLE(configure)# system
ORACLE(system)# system-config
ORACLE(system-config)# select
ORACLE(system-config)# collect
ORACLE(collect)# select
ORACLE(collect)# push-receiver
ORACLE(push-receiver)#
```

2. **address**—Enter the IP address of the push receiver to which you want records sent.
   - Default: 0.0.0.0
3. **username**—Enter the username that the SBC uses when it sends records to this server.
4. **password**—Enter the password that the SBC uses when it sends records to this server.

```
ORACLE(push-receiver)# password
Enter password:
Retype password:
Password updated
ORACLE(push-receiver)#
```

5. **data-store**—Enter the absolute path on the remote server where you want the collected data placed.
6. **protocol**—Enter the protocol to use when sending HDR collection records.

> **Note:**
>
> For SFTP to work, you must import the public key of the SFTP server into the SBC. See the "Manage SSH Keys" in the *ACLI Configuration Guide*.

Manage the HDR Process

Use the `request` command to manage the HDR process.

Start the HDR Process

To start the HDR process for all records:

```
ORACLE# request collect start all
```

To start the HDR process for a specific collection group:

```
ORACLE# request collect start voltage
```

Stop the HDR Process

To stop the HDR process for all records:

```
ORACLE# request collect stop all
```

To stop the HDR process for a specific collection group:

```
ORACLE# request collect stop voltage
```

Restart the HDR Process

To restart the HDR process:

```
ORACLE# request collect restart
```

Check the Status of the HDR Process

To check the status of the HDR process:

```
ORACLE# request collect status
```

Purge HDR Data

To purge all records:

```
ORACLE# request collect purge
```

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HDR Groups and Group Statistics

This section provides information about the Historical Data Recording (HDR) Groups and Group Statistics that make up the HDR records. It also includes information about the source of the HDR data.

HDR Data

HDR data consists of a group and its associated statistics. HDR data comes from two sources:

- MIB-associated groups and group statistics
- ACLI-associated groups and group statistics

You can configure the SBC to collect statistics for all groups or a specific group. See the "Configure HDR" chapter.

When HDR is enabled, the SBC forwards statistical records in CSV format to SFTP servers. Before pushing a file, the collector creates a directory for each group (for example, `fan`, `sip-client`, `system`, etc.) if the directory does not exist from a previous push.

The collector can push multiple CSV files per directory. The syntax for file names is `<Unix timestamp>.csv` (for example, 1652086003.csv). The **filename timestamp** is the time that the CSV file was created.

Within the file, each record has an associated record timestamp. The **record timestamp** is the window of time that the HDR collector used to collect the data. For more information on windows of time, see Windows of Time.

The first record of each file is a header containing the attribute name. For example, in the `space` directory, a file named `1652086003.csv` will contain the header attribute names of TimeStamp, Volume Name, Space Used, and Space Available.

The following example shows the output from a Space HDR collection.

```
$ cd space/
$ cat 1652086003.csv
TimeStamp,Volume Name,Space Used,Space Available
1652086003,/opt/,9463717888,15614533632
1652086003,/code/,1397956608,1950601216
1652086003,/boot/,1725276160,1995030528
1652086303,/opt/,9463549952,15614533632
1652086303,/code/,1397956608,1950601216
1652086303,/boot/,1725276160,1995030528
1652086603,/opt/,9463476224,15614533632
1652086603,/code/,1397956608,1950601216
1652086603,/boot/,1725276160,1995030528
```

MIB-Associated Groups and Group Statistics

The groups and group statistics in this section are a subset of MIB variables on the SBC. Each table specifies the MIB that pertains to the group or group statistics. Groups in this section include:

- system
- interface
- session-agent
- session-realm
- voltage
- fan
- temperature
- space
- network-util

In addition to being a subset of a MIB variable, the session-agent group maps to the **show sipd agents** command, the registration-realm group maps to the **show sipd realms**, and some statistics in the session-realm group map to the **show sipd realms** command. For more information, see **show sipd agents** and **show sipd realms** in the HDR Show Commands chapter.

system

This group consists of general system statistics.

The following list displays the system SNMP MIB:

- ap-smgmt.mib
- apSysMgmtGeneralObjects
- 1.3.6.1.4.1.9148.3.2.1.1

The following table lists and describes HDR data for system statistics, listed in the order in which they appear in the CSV file. To form the OID, add 1.3.6.1.4.1.9148.3.2.1.1 to the value in the OID # column. The OID for CPU Utilization, for example, is 1.3.6.1.4.1.9148.3.2.1.1.1.

#	Statistic	Type	Timer Value	Range	OID #	Description
1	CPU Utilization	gauge	N/A	0% to 100%	1	Percentage of total usage of SBC's central processing unit (CPU).
2	Memory Utilization	gauge	N/A	0% to 100%	2	Percentage of total memory usage on SBC
3	Health Score	gauge	N/A	0% to 100%	3	Percentage of system health with a value of 100% being the healthiest.

#	Statistic	Type	Timer Value	Range	OID #	Description
4	Redundancy State	integer	N/A	active (1) System is in active mode. standby (2) System is in standby mode. unassigned (3) System has not been assigned as active or standby. recovery (4) System is in recovery mode. outOfService (5) System is currently out of service. Contact your Technical Support representative.	4	For high availability (HA), specifies whether this SBC is active or standby. A standalone system has an active state.
5	Signaling Sessions	gauge	N/A	0 to 4294967295	5	Total number of global, concurrent, active sessions in real time.
6	Signaling Rate (CPS)	gauge	N/A	0 to 4294967295	6	Total number of calls per second (CPS). This is a real-time value which is the total of SIP and H.323 calls.
7	CAM Utilization (NAT)	gauge	N/A	0% to 100%	7	Percentage of Content Addressable Memory (CAM) usage for Network Address Translation (NAT).
8	CAM Utilization (ARP)	gauge	N/A	0% to 100%	8	Percentage of Content Addressable Memory (CAM) usage for Address Resolution Protocol (ARP).
9	I2C Bus State	integer	N/A	online (0) SBC is online and processing calls. becomingoffline (1) SBC is in the process of going offline. offline (2) SBC is offline and not processing calls. However, other administrative functions are available.	9	Current SBC state.
10	License Capacity	gauge	N/A	0% to 100%	10	Percentage of licensed SBC sessions currently in progress.
11	Current Cached SIP Local Contact Registrations	gauge	N/A	0 to 4294967295	11	Total number of currently cached registered contacts in the SBC.

#	Statistic	Type	Timer Value	Range	OID #	Description
12	Current MGCP Public Endpoint Gateway Registrations	gauge	N/A	0 to 4294967295	12	Not Supported
13	Current H323 Number of Registrations	gauge	N/A	0 to 4294967295	13	Total number of H323 registrations in the SBC.
14	Application Load Rate	period	30 sec.	0% to 100%	16	Average Central Processing Unit (CPU) utilization of the SBC during the current window. The average is computed every 10 seconds unless load-limit is configured in the SipConfig record, in which case it is 5 seconds.
15	Current Deny Entries Allocated	integer	N/A	0 to 4294967295	26	The total number of endpoints currently denied.

interface

Consists of statistics pertaining to the physical interface(s) on the SBC.

The following table lists and describes HDR data for interface statistics, listed in the order in which they appear in the CSV file.

> **Note:**
>
> To form the OID, add 1.3.6.1.2.1.2.2.1 to the value in the OID # column. The OID for Index, for example, is 1.3.6.1.2.1.2.2.1.1.

#	Statistic	Type	Timer Value	Range	OID #	Description
1	Index	config	N/A	N/A	1	Unique value that identifies the interface.
2	Description	config	N/A	N/A	2	String that provides a description of the interface.
3	Type	config	N/A	N/A	3	Type of interface distinguished according to the Physical/Link Protocol(s).
4	MTU	config	N/A	N/A	4	Maximum Transmission Unit (MTU) - largest datagram size, in octets (eight-bit bytes), that can be sent/ received on the interface specified in octets.
5	Speed	config	N/A	N/A	5	Estimate of the current bandwidth, in bits per second, on the interface.
6	Physical Address	config	N/A	N/A	6	IP Address of the interface at the protocol layer immediately below the network layer in the protocol stack.

#	Statistic	Type	Timer Value	Range	OID #	Description
7	Admin Status	config	N/A	N/A	7	Current administrative state of the interface.
8	Operational State	integer	N/A	up(1) Interface is operational and in the UP state. down(2) Interface is not operational and in the DOWN state. testing(3) Interface is in TESTING state. unknown(4) Interface state is UNKNOWN. dormant(5) Interface is inactive and in DORMANT state. notPresent(6) No interface is present. lowerLayerDown(7) Lower layer protocol on the interface is down.	8	Current operational state of the interface.
9	If Last Change	timeticks	N/A	0 to 4294967295	9	Specifies the sysUpTime (system up time) value with the time the interface entered its current operational state
10	In Octets	counter	N/A	0 to 4294967295	10	Total number of octets received on the interface.
11	In Unicast Packets	counter	N/A	0 to 4294967295	11	Number of subnetwork-unicast packets delivered to a higher layer protocol. A unicast packet is a regular IP packet that has a destination IP address.
12	In Non-Unicast Packets	counter	N/A	0 to 4294967295	12	Number of non-unicast packets (i.e., subnetwork-broadcast or subnetwork-multicast packets) delivered to a higher layer protocol.
13	In Discards	counter	N/A	0 to 4294967295	13	Number of inbound packets that were discarded even though no errors had been detected. This prevented the packets from being delivered to a higher-layer protocol.
14	In Errors	counter	N/A	0 to 4294967295	14	Number of inbound packets that contained errors, preventing them from being delivered to a higher-layer protocol.
15	Out Octets	counter	N/A	0 to 4294967295	16	Total number of octets sent out the interface.

#	Statistic	Type	Timer Value	Range	OID #	Description
16	Out Unicast Packets	counter	N/A	0 to 4294967295	17	Total number of packets that higher-level protocols requested be transmitted to a subnetwork-unicast address, including packets that were discarded or not sent.
17	Out Non-Unicast Packets	counter	N/A	0 to 4294967295	18	Total number of packets that higher-level protocols requested be transmitted to a non-unicast address (i.e., subnetwork-broadcast or subnetwork-multicast addresses), including packets that were discarded or not sent.
18	Out Discards	counter	N/A	0 to 4294967295	19	Number of outbound packets discarded even though no errors were detected, to prevent the packets from being transmitted.
19	Out Errors	counter	N/A	0 to 4294967295	20	Number of outbound packets that were not transmitted because of errors.

session-agent

A signaling endpoint that applies traffic-shaping attributes and information regarding next hops or previous hops.

The following list displays the session-agent SNMP MIB.

- ap-sip.mib
- apSipSessionAgentStatsEntry
- 1.3.6.1.4.1.9148.3.2.1.2.2.1

The following table displays the HDR data for session-agent statistics, listed in the order in which they appear in the CSV file.

> **Note:**
>
> To form the OID, add 1.3.6.1.4.1.9148.3.2.1.2.2.1 to the value in the OID # column. The OID for Hostname, for example, is 1.3.6.1.4.1.9148.3.2.1.2.2.1.2.

#	Statistic	Type	Timer Value	Range	OID #	Description
1	Hostname	config	N/A	N/A	2	Hostname of the session agent, in Fully Qualified Domain Name (FQDN) or IP Address format, for which the group statistics are being calculated. The FQDN#IP-address (ex: sip.com#192.168.100.100) will be used for each row of HDR output when the FQDN-resolved Session Agent Statistics feature is enabled.

#	Statistic	Type	Timer Value	Range	OID #	Description
2	System Type	config	N/A	N/A	3	Type of the specified session agent – either SIP or H323.
3	Status	integer	N/A	disabled Session agent is disabled. outofService Session agent is out of service. standby Session agent in standby mode. inService Session agent is in service. constraintsViolation Session agent has a signaling & bandwidth constraints violation. inServiceTimedOut Session agent that is currently in Service has timed out because of inactivity.	22	Current state of the specified session agent.
4	Inbound Active Sessions	gauge	N/A	0 to 4294967295	4	Total number of current, active, inbound sessions.
5	Inbound Session Rate	period	30	0 to 4294967295	5	Current inbound session rate in calls per second (CPS) during the sliding window period.
6	Outbound Active Sessions	gauge	N/A	0 to 4294967295	6	Total number of current, active, outbound sessions.
7	Outbound Session Rate	period	30	0 to 4294967295	7	Current outbound session rate in calls per second (CPS) during the sliding window period.
8	Inbound Sessions Admitted	period	30	0 to 4294967295	8	Total number of inbound sessions admitted during the sliding window period.
9	Inbound Sessions Not Admitted	period	30	0 to 4294967295	9	Total number of inbound sessions rejected because of insufficient bandwidth during the sliding window period.
10	Inbound Concurrent Sessions High	period	30	0 to 4294967295	10	Highest number of concurrent inbound sessions during the sliding window period.
11	Inbound Average Session Rate	period	30	0 to 4294967295	11	Average rate of inbound sessions during the sliding window period in calls per second (CPS).
12	Outbound Sessions Admitted	period	30	0 to 4294967295	12	Total number of outbound sessions admitted during the sliding window period.

#	Statistic	Type	Timer Value	Range	OID #	Description
13	Outbound Sessions Not Admitted	period	30	0 to 4294967295	13	Total number of outbound sessions rejected due to insufficient bandwidth during the sliding window period.
14	Outbound Concurrent Sessions High	period	30	0 to 4294967295	14	Highest number of concurrent outbound sessions during the sliding window period.
15	Outbound Average Sessions Rate	period	30	0 to 4294967295	15	Average rate of outbound sessions during the sliding window period in calls per second (CPS).
16	Max Burst Rate	period	10	0 to 4294967295	16	Burst rate of traffic (both inbound and outbound) measured during the current window period. The time period is equal to the value of the configuration parameter burst-rate-window in the session constraint or session-agent configuration record. It is equal to 1 if not configured. Its value is the number of active calls plus 1 divided by the time period. This is different from the Max Burst Rate value in the ACLI command "show sipd agent. In the ACLI it is the high-water mark during the window period.
17	Total Seizures	period	30	0 to 4294967295	17	Total number of seizures during the sliding window period.
18	Total Answered Sessions	period	30	0 to 4294967295	18	Total number of answered sessions during the sliding window period.
19	Answer/ Seizure Ratio	period	30	0% to 100%	19	Answer-to-seizure ratio expressed as a percentage during the sliding window period. For example, a value of 90 would represent 90% or .90.
20	Average One-Way Signaling Latency	period	30	0 to 4294967295	20	Average observed one-way signaling latency during the current window period. This is the average amount of time the signaling travels in one direction. Each latency measurement used to calculate this average begins with a request and ends with its first response. Subsequent responses do not affect this measurement. For example, if a 100 Trying arrives as the first response to an INVITE, the system uses that latency for this purpose. Requests that trigger these measurements include every request that receives a response.

#	Statistic	Type	Timer Value	Range	OID #	Description
21	Maximum One-Way Signaling Latency	period	30	0 to 4294967295	21	Maximum observed one-way signaling latency during the sliding window period. This is the maximum amount of time the signaling travels in one direction. Each latency measurement used to calculate this average begins with a request and ends with its first response. Subsequent responses do not affect this measurement. For example, if a 100 Trying arrives as the first response to an INVITE, the system uses that latency for this purpose. Requests that trigger these measurements include every request that receives a response.
22	Total Normal Call Drops	integer	N/A	0 to 4294967295	25	Total global count for externally-generated call terminations (BYE) through this session agent.
23	Total Local Call Drops	integer	N/A	0 to 4294967295	26	Total global count for locally-generated call terminations (BYE) through this session agent.
24	Total Inbound Call duration	integer	N/A	0 to 4294967295	23	Total call duration when this session agent is ingress.
25	Total Outbound Call Duration	integer	N/A	0 to 4294967295	24	Total call duration when this session agent is egress.

session-realm

A collection of Web security servers in a single Domain Name System (DNS) that are configured to share sessions. The statistic tables in this section identify the statistics that display in the “show sipd realms” output. Not all statistics are applicable to this show command.

The following list displays the session-realm SNMP MIB.

- ap-sip.mib
- apSigRealmStatsEntry
- 1.3.6.1.4.1.9148.3.2.1.2.4.1

HDR data for session-realm statistics, listed in the order in which they appear in the CSV file.

> **Note:**
>
> To form the OID, add 1.3.6.1.4.1.9148.3.2.1.2.4.1 to the value in the OID # column. The OID for Realm Name, for example, is 1.3.6.1.4.1.9148.3.2.1.2.4.1.2.

#	Statistic	Type	Timer Value	Range	OID #	Description
1	Realm Name	config	N/A	N/A	2	Name of the realm for which the group statistics are being calculated.
2	Inbound Active Sessions	gauge	N/A	0 to 4294967295	3	Total number of current, active, inbound sessions.
3	Inbound Session Rate	period	30	0 to 4294967295	4	Current inbound session rate in calls per second (CPS) during the sliding window period.
4	Outbound Active Sessions	gauge	N/A	0 to 4294967295	5	Total number of current, active, outbound sessions.
5	Outbound Session Rate	period	30	0 to 4294967295	6	Current outbound session rate in calls per second (CPS) during the sliding window period.
6	Inbound Sessions Admitted	period	30	0 to 4294967295	7	Total number of inbound sessions during the sliding window period.
7	Inbound Sessions Not Admitted	period	30	0 to 4294967295	8	Total number of inbound sessions rejected because of insufficient bandwidth during the sliding window period.
8	Inbound Concurrent Sessions High	period	30	0 to 4294967295	9	Highest number of concurrent inbound sessions during the sliding window period.
9	Inbound Average Session Rate	period	30	0 to 4294967295	10	Average rate of inbound sessions during the sliding window period in calls per second (CPS).
10	Outbound Sessions Admitted	period	30	0 to 4294967295	11	Total number of outbound sessions admitted during the sliding window period.
11	Outbound Sessions Not Admitted	period	30	0 to 4294967295	12	Total number of outbound sessions rejected due to insufficient bandwidth during the sliding window period.
12	Outbound Concurrent Sessions High	period	30	0 to 4294967295	13	Highest number of concurrent outbound sessions during the sliding window period.

#	Statistic	Type	Timer Value	Range	OID #	Description
13	Outbound Average Sessions Rate	period	30	0 to 4294967295	14	Average rate of outbound sessions during the sliding window period in calls per second (CPS).
14	Max Burst Rate	period	Equal to the burst-rate - window parameter in the Session Agent configuration record. If this value is less than 10, the timer value is set to 10.	0 to 4294967295	15	Burst rate of traffic (both inbound and outbound) measured during the current window period. The time period is equal to the value of the configuration parameter burst-rate-window in the session constraint or session-agent configuration record. It is equal to 1 if not configured. Its value is the number of active calls plus 1 divided by the time period. This is different from the Max Burst Rate value in the ACLI command "show sipd agent. In the ACLI it is the high-water mark during the window period.
15	Total Seizures	period	30	0 to 4294967295	16	Total number of seizures during the sliding window period.
16	Total Answered Sessions	period	30	0 to 4294967295	17	Total number of answered sessions during the sliding window period.
17	Answer/Seizure Ratio	period	30	0% to 100%	18	Answer-to-seizure ratio expressed as a percentage during the sliding window period. For example, a value of 90 would represent 90% or .90.
18	Average One-Way Signaling Latency	period	30	0 to 4294967295	19	Average observed one-way signaling latency during the current window period. This is the average amount of time the signaling travels in one direction.

#	Statistic	Type	Timer Value	Range	OID #	Description
19	Maximum One-Way Signaling Latency	period	30	0 to 4294967295	20	Maximum observed one-way signaling latency during the sliding window period. This is the maximum amount of time the signaling travels in one direction.
20	Average QoS RFactor	period	30	0 to 4294967295	24	Average Quality of Service (QoS) factor observed during the current window period. Quality of service shapes traffic to provide different priority and level of performance to different data flows. R-factors are metrics in VoIP, that use a formula to take into account both user perceptions and the cumulative effect of equipment impairments to arrive at a numeric expression of voice quality. This statistic defines the call or transmission quality expressed as an R factor.
21	Maximum QoS RFactor	period	30	0 to 4294967295	25	Maximum Quality of Service (QoS) factor observed during the sliding window period. Quality of service shapes traffic to provide different priority and level of performance to different data flows. R-factors are metrics in VoIP that use a formula to determine a numeric expression of voice quality. This statistic defines the call or transmission quality expressed as an R factor.

#	Statistic	Type	Timer Value	Range	OID #	Description
22	Current QoS Major Exceeded	period	30	0 to 4294967295	26	Peg counts of the number of times the major Rfactor threshold was exceeded during the sliding window period. The peg count provides counts of calls with different service classes that occur during intervals of frequency which reliability indicate the traffic load. R-factors are metrics in VoIP that use a formula to determine a numeric expression of voice quality.
23	Total QoS Major Exceeded	counter	N/A	0 to 4294967295	27	Count of the number of times the major Rfactor threshold was exceeded. Provides counts of calls with different service classes that occur during intervals of frequency which reliability indicate the traffic load. R-factors are metrics in VoIP that use a formula to determine a numeric expression of voice quality.
24	Current QoS Critical Exceeded	period	30	0 to 4294967295	28	Count of the number of times the critical Rfactor threshold was exceeded during the sliding window period. Provides counts of calls with different service classes that occur during intervals of frequency which reliability indicate the traffic load. R-factors are metrics in VoIP that use a formula to determine a numeric expression of voice quality.

#	Statistic	Type	Timer Value	Range	OID #	Description
25	Total QoS Critical Exceeded	counter	N/A	0 to 4294967295	29	Count of the number of times the critical Rfactor threshold was exceeded. Provides counts of calls with different service classes that occur during intervals of frequency which reliability indicate the traffic load. R-factors are metrics in VoIP that use a formula to determine a numeric expression of voice quality.
26	Early Sessions	counter	N/A	0 to 4294967295	N/A	Indicates the number of early sessions for each realm. Each time the SBC receives an INVITE on the ingress realm or the egress realm sends an INVITE request, a counter increments if the session is established with a 200 OK response. This counter also increments in sessions when there are no 18x responses (Ringing (180), Call is Being Forwarded (181), Queued (182), Session in Progress (183)), but a 200 OK is established. This counter represents the number of sessions that have reached the early dialog state or later.

#	Statistic	Type	Timer Value	Range	OID #	Description
27	Successful Sessions	counter	N/A	0 to 4294967295	N/A	Indicates the number of successful sessions for each realm. Successful sessions are when the SBC receives a successful 200 OK response from an initial INVITE request. **Note:** This counter is NOT incremented for re-INVI

#	Statistic	Type	Timer Value	Range	OID #	Description
28	Active Subscriptions	counter	N/A	0 to 4294967295	N/A	Current domain count of active SIP subscriptions.
29	Subscriptions Per Max	counter	N/A	0 to 4294967295	N/A	Maximum domain count of SIP subscriptions initiated during any 100 second period since the last SBC re-boot.
30	Subscriptions High	counter	N/A	0 to 4294967295	N/A	Maximum domain count of active SIP subscriptions since the last SBC re-boot.
31	Total Subscriptions	counter	N/A	N/A	35	Count of lifetime total subscriptions for the SBC.
32	Active Local Contacts	counter	N/A	N/A	31	Current Domain count of active SIP registrations.
33	Total Normal Call Drops	counter	N/A	0 to 4294967295	38	Total global count for externally-generated call terminations (BYE) through this realm.
34	Total Local Call Drops	counter	N/A	0 to 4294967295	39	Total global count for locally-generated call terminations (BYE) through this realm.
35	Total Inbound Call Duration	counter	N/A	0 to 4294967295	36	Total call duration when this realm is ingress.
36	Total Outbound Call Duration	counter	N/A	0 to 4294967295	37	Total call duration when this realm is egress.

voltage

Current operating voltages for components in the OCSBC.

The following list displays the voltage SNMP MIB:

- ap-env-monitor.mib
- apEnvMonVoltageStatusEntry
- 1.2.6.1.4.1.9148.3.3.1.2.1.1

The following table lists and describes HDR data for voltage, listed in the order in which they appear in the CSV file.

> **Note:**
>
> To form the OID, add 1.2.6.1.4.1.9148.3.3.1.2.1.1 to the value in the OID # column. The OID for Voltage, for example, is 1.2.6.1.4.1.9148.3.3.1.2.1.1.4

#	Statistic	Type	Timer Value	Range	OID #	Description
1	Type	string	N/A	v2p5 Uses a 2.5V power supply v3p3 Uses a 3.3V power supply v5 Uses a 5V power supply vdd Uses a positive supply of voltage cpu Uses the computer processing unit (CPU) power supply	N/A	Type of power supply currently used on the SBC hardware.
2	Description	string	N/A	2.5V voltage 2.5V power supply 3.3V voltage 3.3V power supply 5V voltage 5V power supply VDD voltage Positive voltage power supply CPU voltage Computer processing unit (CPU) power supply	N/A	Textual description of the voltage currently used on the power supply in the SBC.
3	Voltage (millivolts)	gauge	N/A	0 to 4294967295	4	Current measurement of voltage, in millivolts (if available).

fan

Environmental fan statistics.

The following list displays the environmental fan SNMP MIB.

- ap-env-monitor.mib
- apEnvMonFanStatusEntry
- 1.3.6.1.4.1.9148.3.3.1.4.1.1

The following table lists and describes HDR data for fan statistics, listed in the order in which they appear in the CSV file.

> **Note:**
>
> To form the OID, add 1.3.6.1.4.1.9148.3.3.1.4.1.1 to the value in the OID # column. The OID for Speed, for example, is 1.3.6.1.4.1.9148.3.3.1.4.1.1.4.

#	Statistic	Type	Timer Value	Range	OID #	Description
1	Location	string	N/A	left: Located on the left of the circuit board. middle: Located in the middle of the circuit board. right: Located on the right of the circuit board.	N/A	Physical location of the cooling fan on the circuit board in the SBC.
2	Description	string	N/A	Fan 1 speed Slow speed fan Fan 2 speed Medium speed fan Fan 3 speed Fast speed fan	N/A	Textual description that specifies the speed of the cooling fan currently installed in the SBC.
3	Speed	gauge	N/A	0% to 100%	4	Current measurement of the fan speed expressed as a percentage.

temperature

Environmental temperature statistics.

The following list displays the environmental temperature **SNMP MIB**.

- ap-env-,monitor.mib
- apEnvMonTemperatureStatusEntry
- 1.3.6.1.4.1.9148.3.3.1.3.1.1

The following table lists and describes HDR data for temperature statistics, listed in the order in which they appear in the CSV file.

> **Note:**
>
> To form the OID, add 1.3.6.1.4.1.9148.3.3.1.3.1.1 to the value in the OID # column. The OID for CPU Utilization, for example, is 1.3.6.1.4.1.9148.3.3.1.3.1.1.4.

#	Statistic	Type	Timer Value	Range	OID #	Description
1	Type	string	N/A	ds 1624s Main Main board on the SBC ds 1624s CPU Central processing unit (CPU) ds 1624s Phy0 Physical Interface 0 ds 1624s Phy1 Physical Interface 1 NE1775s SDRAM Synchronous dynamic random access memory (SDRAM) NE1775s PMC Polymer matrix composites (PMC)	N/A	Indicates the entity being monitored for temperature.
2	Description	string	N/A	Main board PROM Temperature Monitoring temperature on the programmable read-only memory (PROM) on the main board. Host processor PROM Temperature Monitoring temperature on the host processor PROM. PHY0 PROM Temperature Monitoring temperature on the Physical Interface 0 PROM. PHY1 PROM Temperature Monitoring temperature on the Physical Interface 1 PROM. SDRAM Temperature Monitoring temperature on the synchronous dynamic random access memory (SDRAM) PMC Temperature Monitoring temperature on the polymer matrix composites (PMC)	N/A	Textual description of the entity being monitored for temperature.
3	Temperature (Celsius)	gauge	N/A	0° to 100°	4	Current temperature on the main board's programmable read-only memory (PROM), in Celsius.

space

Statistics that display storage space information on the SBC

The following table lists and describes HDR data for space statistics, listed in the order in which they appear in the CSV file.

#	Statistic	Type	Timer Value	Range	Description
1	Volume Name	string	N/A	hard-disk0 Hard disk volume 0 hard-disk1 Hard disk volume 1 hard-disk2 Hard disk volume 2 hard-disk3 Hard disk volume 4 /ramdrv Random Access Memory (RAM) drive /boot/code Boot code volume /boot Boot volume	Name of the volume used for storage space.
2	Space Used	gauge	N/A	0 to 4294967295	Total space used on the volume in Megabytes (Mb)
3	Space Available	gauge	N/A	0 to 4294967295	Total space available on the volume in Megabytes (Mb)

network-util

Statistics that display network utilization information.

The following list displays the network-util SNMP MIB:

- ap-env-monitor.mib
- apSysMgmtPhyUtilTableEntry
- 1.3.6.1.4.1.9148.3.2.1.8.1.1

The following table lists and describes HDR data for network-util statistics, listed in the order in which they appear in the CSV file.

> **Note:**
>
> To form the OID, add 1.3.6.1.4.1.9148.3.2.1.8.1.1 to the value in the OID # column. The OID for Rx Utilization, for example, is 1.3.6.1.4.1.9148.3.2.1.8.1.1.1.

#	Statistic	Type	Timer Value	Range	OID #	Description
1	Index	counter	N/A	0 to 4294967295	N/A	An integer that contains the ifIndex of a media port
2	Rx Utilization	gauge	N/A	0% to 100%	1	Receive (Rx) network utilization of the physical port measured over a one second period
3	Tx Utilization	gauge	N/A	0% to 100%	2	Transmit (Tx) network utilization of the physical port measured over a one second period

stir-server-stats

An HDR collection of statistics pertaining to STIR authentication and verification signaling.

Position	Statistic	Type	Timer Value	Range	Description
1	TimeStamp	N/A	N/A	N/A	N/A
2	STI-Server	text	N/A	N/A	Server name as configured on the SBC
3	AS Queries	counter	N/A	N/A	Recent queries made to the named AS server
4	AS Success Responses	counter	N/A	N/A	Recent successful responses received from the named AS server
5	AS Fail Responses	counter	N/A	N/A	Recent failed responses received from the named AS server
6	AS Fail Service Exception	counter	N/A	N/A	Recent failed responses received from the named AS server caused by a service exception
7	AS Fail Policy Exception	counter	N/A	N/A	Recent failed responses received from the named AS server caused by a policy exception
8	VS Queries	counter	N/A	N/A	Recent queries made to the named VS server
9	VS Success Responses	counter	N/A	N/A	Recent successful responses received from the named VS server
10	VS Fail Responses	counter	N/A	N/A	Recent failed responses received from the named VS server
11	VS Fail Verification	counter	N/A	N/A	Recent failed responses received from the named VS server indicating verification failure
12	VS Fail Service Exception	counter	N/A	N/A	Recent failed responses received from the named VS server caused by a service exception
13	VS Fail Policy Exception	counter	N/A	N/A	Recent failed responses received from the named VS server caused by a policy exception
14	STI Server Unreachable	counter	N/A	N/A	The number of times the server has tripped the STI server's 'circuit breaker'

dos-threshold-counters

A collection of counters that you use to monitor the number of times your traffic triggers your DoS traffic threshold configurations.

CSV Position	HDR Column Name	Data Type	Range	Description
1	Trusted Minor Counter	Counter	64-bit int	Counter incremented, when trusted bandwidth crossed the minor threshold percentage
2	Trusted Major Counter	Counter	64-bit int	Counter incremented, when trusted bandwidth crossed the major threshold percentage

CSV Position	HDR Column Name	Data Type	Range	Description
3	Trusted Critical Counter	Counter	64-bit int	Counter incremented, when trusted bandwidth crossed the critical threshold percentage
4	Untrusted Minor Counter	Counter	64-bit int	Counter incremented, when untrusted bandwidth crossed the minor threshold percentage
5	Untrusted Major Counter	Counter	64-bit int	Counter incremented, when untrusted bandwidth crossed the major threshold percentage
6	Untrusted Critical Counter	Counter	64-bit int	Counter incremented, when untrusted bandwidth crossed the critical threshold percentage
7	ARP Minor Counter	Counter	64-bit int	Counter incremented, when ARP bandwidth crossed the minor threshold percentage
8	ARP Major Counter	Counter	64-bit int	Counter incremented, when ARP bandwidth crossed the major threshold percentage
9	ARP Critical Counter	Counter	64-bit int	Counter incremented, when ARP bandwidth crossed the critical threshold percentage

latest-peak-license-usage

The **latest-peak-license-usage** group provides you with current and ongoing data collected by the Latest Peak License Usage feature on the SBC. This data includes total, SRTP, and transcoding peak session utilization in the latest 15 minute window.

Once the collector is running and the feature flag is enabled, the system creates a CSV file in the /opt/collect/latest-peak-license-usage path.

```
/opt/collect/latest-peak-license-usage # cat 1676516400.csv
```

The contents of this file includes a timestamp for when the system created the record, and the peak session usage of each applicable session category and a timestamp for when the system created each session type's record. The table below lists HDR data for peak license usage statistics, listed in the order in which they appear in the CSV file.

> **Note:**
>
> You cannot retrieve the output of the **show peak-concurrent-license-usage** command via HDR.

CSV Position	HDR Column Name	Data Type	Range	Description
1	Timestamp	timestamp	NA	The time when the HDR function created this file.
2	TotalSessionsPeakValue	integer	0 to 4294967295	The highest number of total sessions recorded in the latest 15 minute window by the system.
3	TotalSessionTimestamp	timestamp	NA	The time when the system recorded the highest total number of sessions in the latest 15 minute window.

CSV Position	HDR Column Name	Data Type	Range	Description
4	SrtpSessionPeakValue	integer	0 to 4294967295	The highest number of SRTP sessions recorded in the latest 15 minute window by the system.
5	SrtpSessionsTimestamp,	timestamp	NA	The time when the system recorded the highest number of SRTP sessions in the latest 15 minute window.
6	AMRSessionsPeakValue	integer	0 to 4294967295	The highest number of AMR sessions recorded in the latest 15 minute window by the system.
7	AMRSessionsTimestamp	timestamp	NA	The time when the system recorded the highest number of AMR sessions in the latest 15 minute window.
8	AMRWBSessionsPeakValue	integer	0 to 4294967295	The highest number of AMR-WB sessions recorded in the latest 15 minute window by the system.
9	AMRWBSessionsTimestamp	timestamp	NA	The time when the system recorded the highest number of AMR-WB sessions in the latest 15 minute window.
10	EVSSessionsPeakValue	integer	0 to 4294967295	The highest number of EVS sessions recorded in the latest 15 minute window by the system.
11	EVSSessionsTimestamp	timestamp	NA	The time when the system recorded the highest number of EVS sessions in the latest 15 minute window.
12	OPUSSessionsPeakValue,	integer	0 to 4294967295	The highest number of OPUS sessions recorded in the latest 15 minute window by the system.
13	OPUSSessionsTimestamp,	timestamp	NA	The time when the system recorded the highest number of OPUS sessions in the latest 15 minute window.
14	SILKSessionsPeakValue	integer	0 to 4294967295	The highest number of SILK sessions recorded in the latest 15 minute window by the system.
15	SILKSessionsTimestamp	timestamp	NA	The time when the system recorded the highest number of SILK sessions in the latest 15 minute window.
16	EVRCSessionsPeakValue	integer	0 to 4294967295	The highest number of EVRC sessions recorded in the latest 15 minute window by the system.

CSV Position	HDR Column Name	Data Type	Range	Description
17	EVRCSessionsTimestamp	timestamp	NA	The time when the system recorded the highest number of EVRC sessions in the latest 15 minute window.
18	EVRCBSessionsPeakValue	integer	0 to 4294967295	The highest number of EVRCB sessions recorded in the latest 15 minute window by the system.
19	EVRCBSessionsSessionsTimestamp	timestamp	NA	The time when the system recorded the highest number of EVRCB sessions in the latest 15 minute window.

thread-event

Reports pending and dropped events per protocol as well as calculates latency.

Position	Statistic	Type	Timer Value	Range	Description
1	TimeStamp	N/A	N/A	N/A	Time Stamp
2	Thread Name	string	N/A	alphanumeric	Protocol (sipd, atcpd or mbcd) and optional numeric
3	Event Pending Current	counter	N/A	32767	Pending Event: Current count; number of occurrences in the current window
4	Event Pending CurHigh	counter	N/A	32767	Pending Event: Highest count between position 3 and the previous high
5	Event Pending Window	counter	N/A	32767	Pending Event: Total count in the current window plus the previous window
6	Event Pending Total	counter	N/A	32767	Pending Event: Total count after reset
7	Event Pending Maximum	counter	N/A	32767	Pending Event: Maximum count in the current window
8	Event Pending High	counter	N/A	32767	Pending Event: Highest count in a window after reset
9	Event Dropped Current	counter	N/A	32767	Dropped Event: Current count; number of occurrences in the current window
10	Event Dropped CurHigh	counter	N/A	32767	Dropped Event: Highest count between position 9 and the previous high

Position	Statistic	Type	Timer Value	Range	Description
11	Event Dropped Window	counter	N/A	32767	Dropped Event: Total count in the current window plus the previous window
12	Event Dropped Total	counter	N/A	32767	Dropped Event: Total count after reset
13	Event Dropped Maximum	counter	N/A	32767	Dropped Event: Maximum count in the current window
14	Event Dropped High	counter	N/A	32767	Dropped Event: Highest count in a window after reset
15	Latency Pending Average	integer	millisecond	32767	Average pending latency in a window
16	Latency Pending Max	integer	millisecond	32767	Maximum pending latency in a window
17	Latency Processing Average	integer	millisecond	32767	Average pending latency in a window; PegStat
18	Latency Processing Max	integer	millisecond	32767	Maximum pending latency in a window; PegStat

thread-usage

Reports CPU thread usage per protocol and an overload condition.

Position	Statistic	Type	Timer Value	Range	Description
1	TimeStamp	N/A	N/A	N/A	Time Stamp
2	Thread Name	string	N/A	alphanumeric	Protocol (sipd, atcpd or mbcd) and optional numeric
3	Current Usage	gauge	N/A	0-100	Percentage usage of CPU thread
4	Overloaded	integer	N/A	1; 2; 3	1 Not applicable; 2 True; 3 False

ACLI-Associated Groups and Group Statistics

The Groups and Group Statistics in this section correspond to the data that displays as output from some of the current ACLI commands. For example, the output for the **show sipd sessions** command, when run from the ACLI, is shown in the figure below:

Example of Show Command Output

```
ORACLE> show sipd sessions
12:50:45-131
SIP Session Status         -- Period -- -------- Lifetime --------
                  Active     High   Total       Total  PerMax     High
Sessions               0        0       0           0       0        0
  Initial              0        0       0           0       0        0
  Early                0        0       0           0       0        0
  Established          0        0       0           0       0        0
  Terminated           0        0       0           0       0        0
Dialogs                0        0       0           0       0        0
  Early                0        0       0           0       0        0
  Confirmed            0        0       0           0       0        0
  Terminated           0        0       0           0       0        0
```

For the **sip-session group**, the HDR Collector stores the same data that would display in the Lifetime/Total column if you ran the ACLI command at the same time the Collector sampled the statistics. In the ACLI output, the data is grouped by Sessions and Dialogs. When mapped into the HDR data for the sip-session group header, the ACLI names are further clarified, as shown in the table below:

ACLI Name	Group Header Name
Sessions	Sessions
Initial	Sessions Initial
Early	Sessions Early
Established	Sessions Established
Terminated	Sessions Terminated
Dialogs	Dialogs
Early	Dialogs Early
Confirmed	Dialogs Confirmed
Terminated	Dialogs Terminated

The following is an example of a CSV file containing the HDR statistics for the sip-session Group generated by the HDR Collector. The output format reflects that the file was opened using an application compatible with a CSV file.

Example of a CSV File for the sip-session Group

```
Timestamp     Sessions    Sessions Initial   Sessions Early ...
1301702288    45          45                 28             ...
1301702456    35          35                 35             ...
```

> **Note:**
>
> The records in a CSV file may display differently, depending on the record data included in the file, and the method used to open the file. For more information about the display of record data in a CSV file, see Appendix A, CSV File Data Formats.

This section provides a description of each Group and Group Statistic associated with the ACLI. Each Group table identifies the ACLI Show command for which it is associated, and provides a link to the applicable command in the "HDR Show Commands" chapter.

sip-sessions

Consists of statistics pertaining to the Session Initiation Protocol (SIP) sessions. Use "show sipd sessions" to view statistics.

Position	Statistic	Type	Timer Value	Range	Description
1	Sessions	counter	N/A	0 to 4294967295	Total number of sessions established by INVITE and SUBSCRIBE messages
2	Sessions Initial	counter	N/A	0 to 4294967295	Total number of sessions for which an INVITE or SUBSCRIBE is being forwarded
3	Sessions Early	counter	N/A	0 to 4294967295	Total number of sessions for which the first provisional response (1xx other than 100) is received.
4	Sessions Established	counter	N/A	0 to 4294967295	Total number of sessions for which a success (2xx) response is received.
5	Sessions Terminated	counter	N/A	0 to 4294967295	Total number of sessions that have ended by receiving or sending a BYE for an Established session or forwarding an error response for an Initial or Early session. The session remains in the terminated state until all the resources for the session are freed up.
6	Dialogs	counter	N/A	0 to 4294967295	Total number of end-to-end SIP signaling connections.
7	Dialogs Early	counter	N/A	0 to 4294967295	Total number of dialogs that were created by a provisional response.
8	Dialogs Confirmed	counter	N/A	0 to 4294967295	Total number of dialogs that were created by a success response. An Early dialog transitions to Confirmed when a success response is received.
9	Dialogs Terminated	counter	N/A	0 to 4294967295	Total number of dialogs that were ended by a receiving/sending of a BYE for an Established session, or a receiving/sending error response Early dialog. The dialog remains in the Terminated state until all the resources for the session are freed up.

sip-acl-oper

Consists of statistics pertaining to the Session Initiation Protocol (SIP) access control list (ACL) operations. Use "show sipd acls" to view statistics.

Position	Statistic	Type	Timer Value	Range	Description
1	ACL Requests	counter	N/A	0 to 4294967295	Total number of ACL requests

Position	Statistic	Type	Timer Value	Range	Description
2	Bad Messages	counter	N/A	0 to 4294967295	Total number of bad messages
3	Promotions	counter	N/A	0 to 4294967295	Total number of ACL entry promotions. These are the ACL entries that have been promoted from untrusted to trusted status.
4	Demotions	counter	N/A	0 to 4294967295	Total number of ACL entry demotions.
5	Demote Trust-Untrust	counter	N/A	0 to 4294967295	Total number of ACL entries demoted from trusted to untrusted.
6	Demote Untrust-Deny	counter	N/A	0 to 4294967295	Total number of ACL entries demoted from untrusted to deny.

sip-acl-status

Consists of statistics pertaining to the Session Initiation Protocol (SIP) access control list (ACL) state. Use "show sipd acls" to view statistics.

Position	Statistic	Type	Timer Value	Range	Description
1	Total Entries	counter	N/A	0 to 4294967295	Total number of ACL entries, both trusted and blocked.
2	Trusted	counter	N/A	0 to 4294967295	Total number of trusted ACL entries
3	Blocked	counter	N/A	0 to 4294967295	Total number of blocked ACL entries

sip-client

Consists of statistics pertaining to the Session Initiation Protocol (SIP) client state. Use "show sipd client" to view statistics.

Position	Statistic	Type	Timer Value	Range	Description
1	AllStates	counter	N/A	0 to 4294967295	Total number of all client session transactions
2	Initial	counter	N/A	0 to 4294967295	Total number of times the Initial state was entered due to the receipt of a request.
3	Trying	counter	N/A	0 to 4294967295	Total number of times the Trying state was entered due to the receipt of a request
4	Calling	counter	N/A	0 to 4294967295	Total number of times the Calling state was entered due to the receipt of an INVITE request
5	Proceeding	counter	N/A	0 to 4294967295	Total number of times the Proceeding state was entered due to the receipt of a provisional response while in the Calling state
6	Cancelled	counter	N/A	0 to 4294967295	Total number of INVITE transactions that received a CANCEL

Position	Statistic	Type	Timer Value	Range	Description
7	EarlyMedia	counter	N/A	0 to 4294967295	Total number of times the Proceeding state was entered due to the receipt of a provisional response that contained a Session Description Protocol (SDP) while in the Calling state
8	Completed	counter	N/A	0 to 4294967295	Total 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
9	Setmedia	counter	N/A	0 to 4294967295	Total number of transactions in which the SBC was setting up NAT and steering ports
10	Established	counter	N/A	0 to 4294967295	Total number of times the client received a 2xx response to an INVITE, but could not forward it because the NAT and steering port information was missing
11	Terminated	counter	N/A	0 to 4294967295	Total number of times the Terminated state was entered after a 2xx message

sip-server

Consists of statistics pertaining to the Session Initiation Protocol (SIP) server state. Use "show sipd server" to view statistics.

Position	Statistic	Type	Timer Value	Range	Description
1	AllStates	counter	N/A	0 to 4294967295	Total number of all server session transactions
2	Initial	counter	N/A	0 to 4294967295	Total number of times the Initial state was entered due to the receipt of a request
3	Trying	counter	N/A	0 to 4294967295	Total number of times the Trying state was entered due to the receipt of a request
4	Proceeding	counter	N/A	0 to 4294967295	Total number of times the Proceeding state was entered due to the receipt of a provisional response while in the Calling state
5	Cancelled	counter	N/A	0 to 4294967295	Total number of INVITE transactions that received a CANCEL
6	Established	counter	N/A	0 to 4294967295	Total number of times the server received a 2xx response to an INVITE, but could not forward it because the NAT and steering port information was missing

Position	Statistic	Type	Timer Value	Range	Description
7	Completed	counter	N/A	0 to 4294967295	Total 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
8	Confirmed	counter	N/A	0 to 4294967295	Total number of times that an ACK was received while the server was in the Completed state and then transitioned to Confirmed state
9	Terminated	counter	N/A	0 to 4294967295	Total number of times the Terminated state was entered after a 2xx message, or never received an ACK in the Completed state, and then transitioned to the Terminated state.

sip-policy

Consists of statistics pertaining to the Session Initiation Protocol (SIP) local policy / routing statistics. Use "show sipd policy" to view statistics.

Position	Statistic	Type	Timer Value	Range	Description
1	Local Lookup	counter	N/A	0 to 4294967295	Total number of local policy lookups
2	Local Hits	counter	N/A	0 to 4294967295	Total number of successful local policy lookups
3	Local Misses	counter	N/A	0 to 4294967295	Total number of local policy lookup failures
4	Local Drops	counter	N/A	0 to 4294967295	Total number of local policy lookups where the next hop session agent group is H323
5	Agent Group Hits	counter	N/A	0 to 4294967295	Total number of successful local policy lookups for session agent groups
6	Agent Group Misses	counter	N/A	0 to 4294967295	Total number of successful local policy lookups where no session agent was available for the session agent group
7	No Routes Found	counter	N/A	0 to 4294967295	Total number of successful local policy lookups, but temporarily unable to route (for example, session agent out of service)
8	Missing Dialog	counter	N/A	0 to 4294967295	Total number of local policy lookups where the dialog was not found for a request addressed to the SBC with a To tag or for a NOTIFY-SUBSCRIBE SIP request
9	Inb SA Constraints	counter	N/A	0 to 4294967295	Total number of successful local policy lookups where the inbound session agent (SA) exceeded constraints

Position	Statistic	Type	Timer Value	Range	Description
10	Outb SA Constraints	counter	N/A	0 to 4294967295	Total number of successful local policy lookups where the outbound SA exceeded constraints
11	Inb REG SA Constraints	counter	N/A	0 to 4294967295	Total number of successful inbound local policy lookups where the registrar (REG) SA exceeded constraints
12	Outb REG SA Constraints	counter	N/A	0 to 4294967295	Total number of successful outbound local policy lookups where the registrar (REG) SA exceeded constraints
13	Requests Challenged	counter	N/A	0 to 4294967295	Total number of requests that were challenged.
14	Challenges Found	counter	N/A	0 to 4294967295	Total number of challenges found.
15	Challenges Not Found	counter	N/A	0 to 4294967295	Total number of challenges not found.
16	Challenge Drops	counter	N/A	0 to 4294967295	Total number of challenges dropped.

sip-errors

Consists of statistics pertaining to errors that occur in SIP media events. Use "show sipd errors" to view statistics.

Position	Statistic	Type	Timer Value	Range	Description
1	SDP Offer Errors	counter	N/A	0 to 4294967295	Total number of errors encountered in setting up the media session for a session description in a SIP request or response which is a Session Description Protocol (SDP) Offer in the Offer/Answer model (RFC 3264)
2	SDP Answer Errors	counter	N/A	0 to 4294967295	Total number of errors encountered in setting up the media session for a session description in a SIP request or response which is a Session Description Protocol (SDP) Answer in the Offer/Answer model (RFC 3264)
3	Drop Media Errors	counter	N/A	0 to 4294967295	Total 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/ session, or c) a BYE initiated by the SBC due to a timeout notification from the Middlebox Control Daemon (MBCD).

Position	Statistic	Type	Timer Value	Range	Description
4	Transaction Errors	counter	N/A	0 to 4294967295	Total number of errors in continuing the processing of the SIP client transaction associated with setting up or tearing down of the media session.
5	Application Errors	counter	N/A	0 to 4294967295	Total number of miscellaneous errors in the SIP application that are otherwise uncategorized
6	Media Exp Events	counter	N/A	0 to 4294967295	Total number of flow timer expiration notifications received from the Middlebox Control Daemon (MBCD).
7	Early Media Exps	counter	N/A	0 to 4294967295	Total number of flow timer expiration notifications received for media sessions that were not completely set up due to an incomplete or pending INVITE transaction
8	Exp Media Drops	counter	N/A	0 to 4294967295	Total number of flow timer expiration notifications from the Middlebox Control Daemon (MBCD) that resulted in the termination of the dialog/ session by the SIP application.
9	Expired Sessions	counter	N/A	0 to 4294967295	Total number of sessions terminated due to the session timer expiring
10	Multiple OK Drops	counter	N/A	0 to 4294967295	Total number of dialogs terminated upon reception of a 200 OK response from multiple User Agent Servers (UASs) for a given INVITE transaction that was forked by a downstream proxy
11	Multiple OK Terms	counter	N/A	0 to 4294967295	Total number of dialogs terminated upon reception of a 200 OK response that conflicts with an existing established dialog on the SBC
12	Media Failure Drops	counter	N/A	0 to 4294967295	Total number of dialogs terminated due to a failure in establishing the media session.
13	Non-ACK 2xx Drops	counter	N/A	0 to 4294967295	Total number of sessions terminated because an ACK was not received for a 2xx response
14	Invalid Requests	counter	N/A	0 to 4294967295	Total number of invalid requests (for example, an unsupported header was received).
15	Invalid Responses	counter	N/A	0 to 4294967295	Total number of invalid responses (for example, no Via header in response)
16	Invalid Messages	counter	N/A	0 to 4294967295	Total number of messages dropped due to parse failure
17	CAC Session Drop	counter	N/A	0 to 4294967295	Total number of call admission control (CAC) session setup failures
18	CAC BW Drop	counter	N/A	0 to 4294967295	Total number of call admission control (CAC) session setup failures due to insufficient bandwidth (BW)
19	Call Rejects	counter	N/A	0 to 4294967295	Total number of calls rejected during the window.

Position	Statistic	Type	Timer Value	Range	Description
20	SDP Stripped Responses	counter	N/A	0 to 4294967295	Total number of messages that have SDP stripped due to non-compliance with mandatory parameters.
21	Drop Unauth NSEP DSCP	counter	N/A	0 to 4294967295	Total number of messages dropped because of improper use of DSCP.

sip-status

Consists of statistics pertaining to Session Initiation Protocol (SIP) transactions. Use "show sipd status" to view statistics.

Position	Statistic	Type	Timer Value	Range	Description
1	Sessions	counter	N/A	0 to 4294967295	Total number of sessions established by INVITE messages
2	Subscriptions	counter	N/A	0 to 4294967295	Total number of sessions established by SUBSCRIBE messages
3	Dialogs	counter	N/A	0 to 4294967295	Total number of end-to-end SIP signaling connections
4	CallID Maps	counter	N/A	0 to 4294967295	Total number of successful session header Call ID mappings
5	Rejections	counter	N/A	0 to 4294967295	Total number of rejected INVITEs
6	ReINVITEs	counter	N/A	0 to 4294967295	Total number of ReINVITEs
7	Media Sessions	counter	N/A	0 to 4294967295	Total number of successful media sessions
8	Media Pending	counter	N/A	0 to 4294967295	Total number of media sessions waiting to be established
9	Client Trans	counter	N/A	0 to 4294967295	Total number of client transactions
10	Server Trans	counter	N/A	0 to 4294967295	Total number of server transactions that have taken place on the SBC
11	Resp Contexts	counter	N/A	0 to 4294967295	Total number of response contexts
12	Saved Contexts	counter	N/A	0 to 4294967295	Total number of saved contexts
13	Sockets	counter	N/A	0 to 4294967295	Total number of SIP sockets
14	Req Drops	counter	N/A	0 to 4294967295	Total number of dropped requests
15	DNS Trans	counter	N/A	0 to 4294967295	Total number of Domain Name System (DNS) transactions
16	DNS Sockets	counter	N/A	0 to 4294967295	Total number of Domain Name System (DNS) sockets
17	DNS Results	counter	N/A	0 to 4294967295	Total number of Domain Name System (DNS) results
18	Session Rate	fixed decimal	30	0 to 4294967295	The rate, per second, of SIP invites allowed to or from the SBC during the sliding window period. The rate is computed every 10 seconds .

Position	Statistic	Type	Timer Value	Range	Description
19	Load Rate	guage	30	0% to 100%	Average Central Processing Unit (CPU) utilization of the SBC during the current window. The average is computed every 10 seconds unless the load-limit is configured in the SIPConfig record, in which case it is 5 seconds.
20	Active Subscriptions	counter	N/A	0 to 4294967295	specifies the current global count of active SIP subscriptions.
21	SubscriptionsPerMax	counter	N/A	0 to 4294967295	specifies the maximum global count of SIP subscriptions initiated during any 100 second period since the last SBC re-boot.
22	Subscriptions High	counter	N/A	0 to 4294967295	specifies the maximum global count of active SIP subscriptions since the last SBC re-boot.
23	Active Reg Evt Subscriptions	counter	N/A	0 to 4294967295	Current domain count of active REG event SIP Subscriptions.
24	Reg Evt Subscriptions PerMax	counter	N/A	0 to 4294967295	Maximum domain count of REG event SIP Subscriptions initiated during any 100 second period since the last SBC reboot.
25	Reg Evt Subscriptions High	counter	N/A	0 to 4294967295	Maximum domain count of active SIP REG event SIP Subscriptions since the last SBC re-boot
26	Total Reg Evt Subscriptions	N/A	N/A	N/A	Count of lifetime total REG event SIP Subscriptions for the OCSBC.

sip-invites

Consists of statistics pertaining to Session Initiation Protocol (SIP) INVITEs. Use "show sipd invite" to view statistics.

Position	Statistic	Type	Timer Value	Range	Description
1	INVITE Requests	counter	N/A	0 to 4294967295	Total number of INVITE requests
2	Retrans	counter	N/A	0 to 4294967295	Total number of retransmissions of INVITEs
3	Response Retrans	counter	N/A	0 to 4294967295	Total number of response retransmissions
4	Transaction Timeouts	counter	N/A	0 to 4294967295 for client. Server values are always “—”; transaction timeout statistics are not valid for server operations.	Total number of INVITE request transaction timeouts

Position	Statistic	Type	Timer Value	Range	Description
5	Locally Throttled	counter	N/A	0 to 4294967295 for client. Server values are always "—"; locally throttled statistics are not valid for server operations.	Total number of INVITE requests locally throttled

registration-realm

Statistics that display registration information (counters) for the total registrations received, number of successful registrations, and number of unsuccessful registrations for each of the following categories: initial registrations, refresh registrations, and de-registrations. Use "show sipd realms" to view statistics.

Position	Statistic	Type	Timer Value	Range	Description
1	Realm Name	config	N/A	N/A	Name of the realm for which the group statistics are being calculated.
2	Total Initial Registrations	counter	N/A	0 to 4294967295	Total number of initial registrations. This counter is incremented once for each initial REGISTER message even when the REGISTER is challenged. This counter is based on ingress (received) messages only. Note: This counter is not incremented when registrations are challenged by the following response messages: 401 (Unauthorized - user authentication required) 407 (Proxy authentication required) 423 (Interval too brief - expiration time of the resource is too short)
3	Successful Initial Registrations	counter	N/A	0 to 4294967295	Number of successful initial registrations. This counter is incremented once for each successful initial registration with a 200 OK response. This counter is based on ingress (received) messages only.

Position	Statistic	Type	Timer Value	Range	Description
4	Unsuccessful Initial Registrations	counter	N/A	0 to 4294967295	Number of unsuccessful initial registrations. This counter is incremented once for each unsuccessful initial registration when the response to the initial REGISTER has a non-success status code. This counter is based on ingress (received) messages only. Note: This counter is not incremented when registrations are challenged by the following response messages: 401 (Unauthorized - user authentication required) 407 (Proxy authentication required) 423 (Interval too brief - expiration time of the resource is too short)
5	Total Refresh Registrations	counter	N/A	0 to 4294967295	Total number of registrations that were refreshed. This counter is incremented once for every refresh registration. This counter is based on ingress (received) messages only.
6	Successful Refresh Registrations	counter	N/A	0 to 4294967295	Total number of registrations that were successfully refreshed. This counter is incremented once for each successful refresh registration. This counter is based on ingress (received) messages only.
7	Unsuccessful Refresh Registrations	counter	N/A	0 to 4294967295	Total number of registrations that were unsuccessfully refreshed. This counter is incremented once for each unsuccessful refresh registration. This counter is based on ingress (received) messages only.
8	Total De-Registrations	counter	N/A	0 to 4294967295	Total number of registrations that de-registered. This counter is incremented once for every de-registration. This counter is based on ingress (received) messages only. In the event a de-registration message is received on a realm that is different than that of the initial registration message, the de-registration counter for the ingress realm of that de-registration message is incremented.

Position	Statistic	Type	Timer Value	Range	Description
9	Successful De-Registrations	counter	N/A	0 to 4294967295	Total number of registrations that successfully de-registered. This counter is incremented once for each successful de-registration. This counter is based on ingress (received) messages only. In the event a successful de-registration message is received on a realm that is different than that of the initial registration message, the de-registration counter for the ingress realm of that successful de-registration message is incremented.
10	Unsuccessful De-Registrations	counter	N/A	0 to 4294967295	Total number of registrations that unsuccessfully de-registered. This counter is incremented once for each unsuccessful de-registration. This counter is based on ingress (received) messages only. In the event an unsuccessful de-registration message is received on a realm that is different than that of the initial registration message, the de-registration counter for the ingress realm of that unsuccessful de-registration message is incremented.

enum-stats

Consists of statistics pertaining to the Telephone Number Mapping (ENUM) Agent on the SBC. Use **show enum** to view statistics.

Position	Statistic	Type	Timer Value	Range	Description
1	Enum Agent	config	N/A	N/A	Name of the ENUM Agent
2	Queries Total	counter	N/A	0 to 4294967295	Total number of ENUM queries
3	Successful Total	counter	N/A	0 to 4294967295	Total number of successful ENUM queries
4	Not found Total	counter	N/A	0 to 4294967295	Total number of ENUM queries returning a not found
5	Timeout Total	counter	N/A	0 to 4294967295	Total number of ENUM query timeouts

mgcp-state

Not Supported.

mgcp-trans

Not Supported.

mgcp-media-events

Not Supported.

mgcp-oper

Not Supported.

mgcp-acl

Not Supported.

h323-stats

Consists of statistics pertaining to H323 events on the SBC. Use **show h323** to view statistics.

Position	Statistic	Type	Timer Value	Range	Description
1	Incoming Calls	counter	N/A	0 to 4294967295	Total number of incoming H.323 calls
2	Outgoing Calls	counter	N/A	0 to 4294967295	Total number of outgoing H.323 calls
3	Connected Calls	counter	N/A	0 to 4294967295	Total number of connected H.323 calls
4	Incoming Channels	counter	N/A	0 to 4294967295	Total number of established incoming calls
5	Outgoing Channels	counter	N/A	0 to 4294967295	Total number of established outgoing calls
6	Contexts	counter	N/A	0 to 4294967295	Total number of established H.323 contexts (or call terminations)
7	Queued Messages	counter	N/A	0 to 4294967295	Total number of messages queued
8	TPKT Channels	counter	N/A	0 to 4294967295	Total number of ThroughPacket (TPKT) channels open(ed)
9	UDP Channels	counter	N/A	0 to 4294967295	Total number of User Datagram Protocol (UDP) channels open(ed)

tscf-stats

Consists of statistics pertaining to TSCF. Use "show tscf stats" to view statistics.

Statistic	Data Type	Description
Time Stamp	counter	Time Stamp
Active Tunnels	gauge (0 to 4294967295)	Number of active tunnels
Established Tunnels	counter	Number of established tunnels
Finished Tunnels	counter	Number of finished tunnels
Released Tunnels	counter	Number of released tunnels
Max Active Tunnels	counter	Maximum number of active tunnels
Total number of tunnels timed out	counter	Total number of timed out tunnels

Statistic	Data Type	Description
Config requests received	counter	Number of config requests received
Nagle option requests	counter	Number of config requests with nagle received
Config responses sent	counter	Number of config responses sent
Config release requests received	counter	Number of config release requests received
Config release responses sent	counter	Number of config release responses sent
Client service requests received	counter	Total number of client service requests received
Client service responses sent	counter	Number of client service responses sent
Enable DDT requests	counter	Number of Dynamic Datagram Tunnel enable client service responses received
Disable DDT requests	counter	Number of Dynamic Datagram Tunnel Disable client service responses received
Enable redundancy requests	counter	Number of Dynamic Datagram Tunnel Enable client service responses received
Disable redundancy requests	counter	Number of Dynamic Datagram Tunnel disable client service responses received
Failed Tunnels-Malformed Requests	counter	Number of failed tunnels due to malformed requests
Unknown Control messages	counter	Number of failed tunnels due to unknown control messages
Client assigned internal IP	counter	Number of failed tunnels due to client assigned internal IP addresses
Cannot provision internal IP	counter	Number of failed tunnels due to internal IP that cannot be provisioned
Internal IP already provisioned	counter	Number of failed tunnels due to internal IP addresses that are already provisioned
Internal IP error	counter	Number of failed tunnels due to general IP error
Client assigned internal IP mask	counter	Number of failed tunnels due to internal IP masks assigned by client
Cannot provision internal IP mask	counter	Number of failed tunnels due to IP masks that cannot be provisioned
Internal IP mask already provisioned	counter	Number of failed tunnels due to internal IP masks already provisioned
Internal IP mask error	counter	Number of failed tunnels due to General IP mask error

Statistic	Data Type	Description
Client assigned SIP server address	counter	Number of failed tunnels due to client assigned SIP server addresses
Cannot provision SIP server address	counter	Number of failed tunnels due to not being able to provision SIP server addresses
SIP server address already provisioned	counter	Number of failed tunnels due to SIP server address already provisioned
SIP server address error	counter	Number of failed tunnels due to SIP server general address errors
Client assigned Keep Alive value	counter	Number of failed tunnels due to client assigned keep alive values
Cannot provision Keep Alive value	counter	Number of failed tunnels not being able to provision keep alive values
Keep Alive value already provisioned	counter	Number of failed tunnels due to keep alive value already provisioned
Keep alive value error	counter	Number of failed tunnels due to keep alive value errors
Failed Tunnels - Non Existing Tunnel Id	counter	Number of failed tunnels due to non-existing tunnel IDs
Failed Tunnels - Out of Resources	counter	Number of failed tunnels due to a lack of resources
Failed Tunnels - Internal IP address exhausted	counter	Number of failed tunnels due to tunnel ID exhaustion
Failed Tunnels - Non null IP address	counter	Number of failed tunnels due to non null IP address
Failed Tunnels - Non null IP mask	counter	Number of failed tunnels due to non null IP mask
Failed Tunnels - Non Null SIP server	counter	Number of failed tunnels due to non null SIP server
Failed Tunnels - Non zero keep alive	counter	Number of failed tunnels due to non zero keep alive
Failed Tunnels - No listening socket	counter	Number of failed tunnels due to a missing (listening socket?) file description
Failed Tunnels - Server Failure	counter	Number of failed tunnels due to server failure
Failed Tunnels - Redundancy not enabled	counter	Number of failed tunnels due to disabled redundancy feature
Failed Tunnels - Redundancy factor limit exceeded	counter	Number of failed tunnels due to redundancy factor limit being exceeded on server
Failed Tunnels - Tunnel Id exhausted	counter	Number of failed tunnels due to tunnel ID exhausted on server
Failed Tunnels - Timer failures	counter	Number of failed tunnels due to timer failure on server

Statistic	Data Type	Description
Failed Tunnels - DDT service not enabled	counter	Number of failed tunnels due to Dynamic Datagram Tunnel not being enabled on serve
Failed Tunnels - DDT request on wrong transport	counter	Number of failed tunnels due to Dynamic Datagram Tunnel request wrong transport on the server
Failed Tunnels - DDT service only fordatagram transport	counter	Number of failed tunnels due to Dynamic Datagram Tunnel service being available only on datagram transports
Failed Tunnels - Inconsistent transport for DDT	counter	Number of failed tunnels due to inconsistent transport for Dynamic Datagram Tunnel on server
Failed Tunnels - Unknown service type requested	counter	Number of failed tunnels due to unknown service type requested on server
Failed Tunnels - Incorrect CM for established tunnel	counter	Number of failed tunnels due to incorrect control messages for established tunnels on server
Failed Tunnels - Address pool unavailable	counter	Number of failed tunnels due to unavailable address pools on server
Failed Tunnels - No listening socket	counter	Number of failed tunnels due to a unavailable (listening socket?) file descriptor on server
Failed Tunnels - Versions Not Supported	counter	Number of failed tunnels due to version not being supported
Failed Tunnels - License Exceeded	counter	Number of failed tunnels due to exceeding the TSCF license/ entitlement limit
Packets sent to unused TSCF IP address	counter	Number of packets dropped due to being sent to an unused TSCF IP address
Control messages with wrong sequence number	counter	Number of control messages with a wrong sequence number
Config requests dropped due to license limit	counter	Number of config requests dropped due to the TSCF license limit
Config requests dropped due to per interface limit	counter	Number of config requests dropped due to per interface limit
Stats memory allocations	counter	Number of stats memory allocations
Packets dropped due to inter-client c0mmunication	counter	Number of packets dropped due to inter-client c0mmunication
Stats memory frees	counter	Number of stats memory frees
Stats memory allocations failures	counter	Number of stats memory allocation failures
Switches to Active system	counter	Number of times existing tunnels were switched to Active system

Statistic	Data Type	Description
Switched to Stand by system	counter	Number of times existing tunnels were switched to Stand-by system
Get DTLS Context Requests	counter	Number of times a successful Get Datagram Transport Layer Security context request was sent
Get DTLS Context Request Success	counter	Number of successful Datagram Transport Layer Security context request were sent
Get DTLS Context Request Failure	counter	Number of Get Datagram Transport Layer Security Context Request failed
Set DTLS Context Requests	counter	Number of Set Datagram Transport Layer Security Context Requests were sent
Set DTLS Context Requests Success	counter	Number of successful Set Datagram Transport Layer Security Context Requests were sent
Set DTLS Context Request Failure	counter	Number of Set Datagram Transport Layer Security Context Request failed
FD Table size	Gauge (0 to 4294967295)	The current number of entries in the File Descriptor Table
Address Table Size	Gauge (0 to 4294967295)	The current number of entries in the Address Table
Tunnel Table Size	Gauge (0 to 4294967295)	The current number of entries in the Tunnel Table
Active Tunnel Table Size	Gauge (0 to 4294967295)	The current number of entries in the Active Tunnel Table
Peer Tunnel Table Size	Gauge (0 to 4294967295)	The current number of entries in the Peer Tunnel Table
Peer Table Size	Gauge (0 to 4294967295)	The current number of entries in the Peer Table
Flow ID Table Size	Gauge (0 to 4294967295)	The current number of entries in the Flow ID Table
License Tunnel Count	Gauge (0 to 4294967295)	The current number of Licensed Tunnels ??????
Specific address count	Gauge (0 to 4294967295)	Total number of specific address allocation requests
Total number tunneled packet drops	counter	Total number of specific address allocation requests
Total number untunneled packet drops	counter	Total number of un-tunneled packet drops

sip-rate

Records SIP processing level in terms of messages per method (i.e. both request and response) per second on system-wide basis.

Position	Statistic	Type	Timer Value	Range	Description
1	Method Name	string	N/A	N/A	SIP method name for which the group statistics are being calculated
2	Messages Received Rate	counter	N/A	0.0 to 429496729.5	Messages per second for messages received for a SIP method on all SIP interfaces
3	Messages Sent Rate	counter	N/A	0.0 to 429496729.5	Messages per second for messages sent for a SIP method on all SIP interfaces
4	Requests Received Rate	counter	N/A	0.0 to 429496729.5	Messages per second for requests received for a SIP method on all SIP interfaces
5	Requests Sent Rate	counter	N/A	0.0 to 429496729.5	Messages per second for requests sent for a SIP method on all SIP interfaces
6	Responses Received Rate	counter	N/A	0.0 to 429496729.5	Messages per second for responses received for a SIP method on all SIP interfaces
7	Responses sent Rate	counter	N/A	0.0 to 429496729.5	Messages per second for responses sent for a SIP method on all SIP interfaces

sip-rate-per-interface

Records SIP message rates l in terms of messages per method (i.e. both request and response) per second per SIP interface.

Position	Statistic	Type	Timer Value	Range	Description
1	Interface Name	string	N/A	N/A	SIP interface where these statistics are being calculated
2	Method Name	string	N/A	N/A	SIP method name for which the group statistics are being calculated
3	Messages Received Rate	counter	N/A	0.0 to 429496729.5	Messages per second for messages received for a SIP method on all SIP interfaces
4	Messages Sent Rate	counter	N/A	0.0 to 429496729.5	Messages per second for messages sent for a SIP method on all SIP interfaces
5	Requests Received Rate	counter	N/A	0.0 to 429496729.5	Messages per second for requests received for a SIP method on all SIP interfaces
6	Requests Sent Rate	counter	N/A	0.0 to 429496729.5	Messages per second for requests sent for a SIP method on all SIP interfaces
7	Responses Received Rate	counter	N/A	0.0 to 429496729.5	Messages per second for responses received for a SIP method on all SIP interfaces
8	Responses sent Rate	counter	N/A	0.0 to 429496729.5	Messages per second for responses sent for a SIP method on all SIP interfaces

sip-rate-per-agent

Records SIP message rates in terms of messages per method (i.e. both request and response) per second per SIP session agent.

Position	Statistic	Type	Timer Value	Range	Description
1	Agent Name	string	N/A	N/A	SIP Agent where these statistics are being calculated
2	Method Name	string	N/A	N/A	SIP method name for which the group statistics are being calculated
3	Messages Received Rate	counter	N/A	0.0 to 429496729.5	Messages per second for messages received for a SIP method on all SIP interfaces
4	Messages Sent Rate	counter	N/A	0.0 to 429496729.5	Messages per second for messages sent for a SIP method on all SIP interfaces
5	Requests Received Rate	counter	N/A	0.0 to 429496729.5	Messages per second for requests received for a SIP method on all SIP interfaces
6	Requests Sent Rate	counter	N/A	0.0 to 429496729.5	Messages per second for requests sent for a SIP method on all SIP interfaces
7	Responses Received Rate	counter	N/A	0.0 to 429496729.5	Messages per second for responses received for a SIP method on all SIP interfaces
8	Responses sent Rate	counter	N/A	0.0 to 429496729.5	Messages per second for responses sent for a SIP method on all SIP interfaces

dnsalg-rate

Records DNS Message rate (i.e. both request and response) per second on system-wide basis.

Position	Statistic	Type	Timer Value	Range	Description
1	Messages Received Rate	counter	N/A	0 to 4294967295	Messages per second for all DNS messages received by the system
2	Messages Sent Rate	counter	N/A	0 to 4294967295	Messages per second for all DNS messages sent on the system
3	Requests Received Rate	counter	N/A	0 to 4294967295	Messages per second for DNS requests received on the system.
4	Requests Sent Rate	counter	N/A	0 to 4294967295	Messages per second for DNS requests sent by the system.
5	Responses Received Rate	counter	N/A	0 to 4294967295	Messages per second for DNS responses received on the system.
6	Responses sent Rate	counter	N/A	0 to 4294967295	Messages per second for DNS responses sent by the system.

dnsalg-rate-per-realm

Records DNS message rate (i.e. both request and response) per second per realm.

Position	Statistic	Type	Timer Value	Range	Description
1	DNS ALG Realm Name	string	N/A	N/A	Name of the DNS ALG realm.
2	Messages Received	counter	N/A	0 to 4294967295	Messages per second for all DNS messages received.
3	Messages Sent	counter	N/A	0 to 4294967295	Messages per second for all DNS messages sent.
4	Requests Received	counter	N/A	0 to 4294967295	Messages per second for DNS requests received.
5	Requests Sent	counter	N/A	0 to 4294967295	Messages per second for DNS requests sent by the system.
6	Responses Received	counter	N/A	0 to 4294967295	Messages per second for DNS responses received on the system.
7	Responses sent	counter	N/A	0 to 4294967295	Messages per second for DNS responses sent by the system.

dnsalg-rate-per-addr

Records DNS Message rate (i.e. both request and response) per second on system-wide basis.

Position	Statistic	Type	Timer Value	Range	Description
1	Server IP Address	string	N/A	N/A	DNS Server Address for which the group statistics are being calculated
2	Messages Received Rate	counter	N/A	0 to 4294967295	Messages per second for all DNS messages received by the system
3	Messages Sent Rate	counter	N/A	0 to 4294967295	Messages per second for all DNS messages sent on the system
4	Requests Received Rate	counter	N/A	0 to 4294967295	Messages per second for DNS requests received on the system.
5	Requests Sent Rate	counter	N/A	0 to 4294967295	Messages per second for DNS requests sent by the system.
6	Responses Received Rate	counter	N/A	0 to 4294967295	Messages per second for DNS responses received on the system.
7	Responses sent Rate	counter	N/A	0 to 4294967295	Messages per second for DNS responses sent by the system.

enum-rate

Records ENUM Message rate (i.e. both request and response) per second on system-wide basis.

Position	Statistic	Type	Timer Value	Range	Description
1	Messages Received Rate	counter	N/A	0 to 4294967295	Messages per second for all ENUM messages received by the system
2	Messages Sent Rate	counter	N/A	0 to 4294967295	Messages per second for all ENUM messages sent on the system
3	Requests Received Rate	counter	N/A	0 to 4294967295	Messages per second for ENUM requests received on the system.
4	Requests Sent Rate	counter	N/A	0 to 4294967295	Messages per second for ENUM requests sent by the system.
5	Responses Received Rate	counter	N/A	0 to 4294967295	Messages per second for ENUM responses received on the system.
6	Responses sent Rate	counter	N/A	0 to 4294967295	Messages per second for ENUM responses sent by the system.

enum-rate-per-name

Records ENUM Message rate (i.e. both request and response) per second on per-interface (i.e. the network interface on which the ENUM config's realm exists) basis.

Position	Statistic	Type	Timer Value	Range	Description
1	ENUM Config Name	string	N/A	N/A	Enum config name for which the group statistics are being calculated
2	Messages Received Rate	counter	N/A	0 to 4294967295	Messages per second for all ENUM messages received by this configuration object.
3	Messages Sent Rate	counter	N/A	0 to 4294967295	Messages per second for all ENUM messages by this configuration object.
4	Requests Received Rate	counter	N/A	0 to 4294967295	Messages per second for ENUM requests received by this configuration object.
5	Requests Sent Rate	counter	N/A	0 to 4294967295	Messages per second for ENUM requests sent by this configuration object.
6	Responses Received Rate	counter	N/A	0 to 4294967295	Messages per second for ENUM responses received by this configuration object.
7	Responses sent Rate	counter	N/A	0 to 4294967295	Messages per second for ENUM responses sent by this configuration object.

enum-rate-per-addr

Records ENUM Message rate (i.e. both request and response) per second on system-wide basis. Records ENUM Message rate (i.e. both request and response) per second on a per-address basis (i.e. ENUM server provisioned in the ENUM Config).

Position	Statistic	Type	Timer Value	Range	Description
1	Server IP Address	string	N/A	N/A	ENUM Server Address for which the group statistics are being calculated

Position	Statistic	Type	Timer Value	Range	Description
2	Messages Received Rate	counter	N/A	0 to 4294967295	Messages per second for all ENUM messages received by this server.
3	Messages Sent Rate	counter	N/A	0 to 4294967295	Messages per second for all ENUM messages sent by this server.
4	Requests Received Rate	counter	N/A	0 to 4294967295	Messages per second for ENUM requests received by this server.
5	Requests Sent Rate	counter	N/A	0 to 4294967295	Messages per second for ENUM requests sent by this server.
6	Responses Received Rate	counter	N/A	0 to 4294967295	Messages per second for ENUM responses received by this server.
7	Responses sent Rate	counter	N/A	0 to 4294967295	Messages per second for ENUM responses sent by this server.

show-memory-sobjects

Records memory use reported by the ACLI's **show memory sobjects** command's data. Records appear in the format **<time stamp>,<class name>,<count>** where class-name is the name of each sobject, and count is the number of objects currently being used by the application. These records always includes all applicable objects, which number in the hundreds, even when their current count is zero.

sip-method

This HDR group identifies global counts for listed responses to SIP Methods across the system. **sip-method** is this HDR group's configured name. These counters are otherwise retrieved at the ACLI with the **show sipd <method>** command. Although this HDR group delivers the same information in the apSipMethodStatsTable (1.3.6.1.4.1.9148.3.15.1.2.10) in ap-sip.mib, the HDR is a contiguous output whereas the MIB table is delivered tabularly.

CSV position	HDR Column Name	Description
1	TimeStamp	Timestamp of this HDR record
2	Message/Event	Name of the SIP Method
3	Request Server Total	Total number of server requests.
4	Request Client Total	Total number of client requests.
5	Retransmissions Server Total	Total number of server retransmission requests.
6	Retransmissions Client Total	Total number of client retransmission requests.
7	100 Trying Server Total	Total number of 100 Trying server response
8	100 Trying Client Total	Total number of 100 Trying client response
9	180 Ringing Server Total	Total number of 180 Ringing server response.
10	180 Ringing Client Total	Total number of 180 Ringing client response.
11	181 Forward Server Total	Total number of 181 Forward server response.

CSV position	HDR Column Name	Description
12	181 Forward Client Total	Total number of 181 Forward client response.
13	182 Queued Server Total	Total number of Invite 182 Queued Server response
14	182 Queued Client Total	Total number of 182 Queued client response.
15	183 Progress Server Total	Total Invite 182 Queued Server response
16	183 Progress Client Total	Total number of 183 Progress client response.
17	1xx Server Total	Total number of 1xx server response
18	1xx Client Total	Total number of 1xx client response
19	200OK Server Total	Total number of 200OK server response
20	200OK Client Total	Total number of 200OK client response
21	202 Accepted Server Total	Total number of 202Accepted server response
22	202 Accepted Client Total	Total number of 202 Accepted client response
23	2xx Success Server Total	Total number of 2xx Success server response
24	2xx Client Total	Total number of 2xx Success client response
25	30x Moved Server Total	Total number of 30x Moved server response
26	30x Moved Client Total	Total number of 30x Moved client response
27	305 Use ProxyServer Total	Total number of 305 Use Proxy server response
28	305 Use ProxyClient Total	Total number of 305 Use Proxy client response
29	380 Alternative Server Total	Total number of 380 Alternative server response
30	380 Alternative Client Total	Total number of 380 Alternative client response
31	3xx Redirect Server Total	Total number of 3xx Redirect server response.
32	3xx Redirect Client Total	Total number of 3xx Redirect client response.
33	400 Bad Request Server Total	Total number of 400 Bad Request server response.
34	400 Bad Request Client Total	Total number of 400 Bad Request client response.
35	401 Unauthorized Server Total	Total number of 401 Unauthorized server response.
36	401 Unauthorized Client Total	Total number of 401 Unauthorized client response.
37	403 Forbidden Server Total	Total number of 403 Forbidden server response.

CSV position	HDR Column Name	Description
38	403 Forbidden Client Total	Total number of 403 Forbidden client response.
39	404 Not Found Server Total	Total number of 404 Not Found server response.
40	404 Not Found Client Total	Total number of 404 Not Found client response.
41	405 Not Allowed Server Total	Total number of 405 Not Allowed server response.
42	405 Not Allowed Client Total	Total number of 405 Not Allowed client response.
43	406 Not Acceptable Server Total	Total number of 406 Not Acceptable server response.
44	406 Not Acceptable Client Total	Total number of 406 Not Acceptable client response.
45	407 Proxy Auth Req Server Total	Total number of 407 Proxy Auth Req server response.
46	407 Proxy Auth Req Client Total	Total number of 407 Proxy Auth Req client response.
47	408 Request Timeout Server Total	Total number of 408 Request Timeout server response.
48	408 Request Timeout Client Total	Total number of 408 Request Timeout client response.
49	415 Bad Media Type Server Total	Total number of 415 Bad Media Type server response.
50	415 Bad Media Type Client Total	Total number of 415 Bad Media Type client response.
51	420 Bad Extension Server Total	Total number of 420 Bad Extension server response.
52	420 Bad Extension Client Total	Total number of 420 Bad Extension client response.
53	421 Extension Reqd Server Total	Total number of 421 Extension Reqd server response.
54	421 Extension Reqd Client Total	Total number of 421 Extension Reqd client response.
55	422 Too Short Server Total	Total number of 422 Too Short server response.
56	422 Too Short Client Total	Total number of 422 Too Short client response.
57	423 Too Brief Server Total	Total number of 423 Too Brief server response.
58	423 Too Brief Client Total	Total number of 423 Too Brief client response.
59	480 Unavailable Server Total	Total number of 480 Unavailable server response.
60	480 Unavailable Client Total	Total number of 480 Unavailable client response.
61	481 Does Not Exist Server Total	Total number of 481 Does Not Exist server response.
62	481 Does Not Exist Client Total	Total number of 481 Does Not Exist client response.
63	482 Loop Detected Server Total	Total number of 482 Loop Detected server response.

CSV position	HDR Column Name	Description
64	482 Loop Detected Client Total	Total number of 482 Loop Detected client response.
65	483 Too Many Hops Server Total	Total number of 483 Too Many Hops server response.
66	483 Too Many Hops Client Total	Total number of 483 Too Many Hops client response.
67	484 Address Incompl Server Total	Total number of 484 Address Incompl server response.
68	484 Address Incompl Client Total	Total number of 484 Address Incompl client response.
69	485 Ambiguous Server Total	Total number of 485 Ambiguous server response.
70	485 Ambiguous Client Total	Total number of 485 Ambiguous client response.
71	486 Busy Here Server Total	Total number of 486 Busy Here server response.
72	486 Busy Here Client Total	Total number of 486 Busy Here client response.
73	486 Busy Here Server Total	Total number of 486 Busy Here server response.
74	486 Busy Here Client Total	Total number of 486 Busy Here client response.
75	487 Terminated Server Total	Total number of 487 Terminated server response.
76	487 Terminated Client Total	Total number of 487 Terminated client response.
77	488 Not Acceptable Server Total	Total number of 488 Not Acceptable server response.
78	488 Not Acceptable Client Total	Total number of 488 Not Acceptable client response.
79	489 Bad Event Server Total	Total number of 489 Bad Event server response.
80	489 Bad Event Client Total	Total number of 489 Bad Event client response.
81	491 Req Pending Server Total	Total number of 491 Req Pending server response.
82	491 Req Pending Client Total	Total number of 491 Req Pending client response.
83	4xx Server Total	Total number of 4xx error server response.
84	4xx Client Total	Total number of 4xx error client response.
85	500 Internal Error Server Total	Total number of 500 Internal Error server response.
86	500 Internal Error Client Total	Total number of 500 Internal Error client response.
87	501 Not Implemented Server Total	Total number of 501 Not Implemented error server response.
88	501 Not Implemented Client Total	Total number of 501 Not Implemented error client response.

CSV position	HDR Column Name	Description
89	502 Bad Gateway Server Total	Total number of 502 Bad Gateway error server response.
90	502 Bad Gateway Client Total	Total number of 502 Bad Gateway error client response.
91	503 Service Unavail Server Total	Total number of 503 Service Unavail error server response.
92	503 Service Unavail Client Total	Total number of 503 Service Unavail error client response.
93	504 Gateway Timeout Server Total	Total number of 504 Gateway Timeout error server response.
94	504 Gateway Timeout Client Total	Total number of 504 Gateway Timeout error client response.
95	513 Msg Too Large Server Total	Total number of 513 Msg Too Large error server response.
96	513 Msg Too Large Client Total	Total number of 513 Msg Too Large error client response.
97	580 Precon Failure Server Total	Total number of 580 Precon Failure error server response.
98	580 Precon Failure Client Total	Total number of 580 Precon Failure error client response.
99	5xx Server Total	Total number of 5xx error server response.
100	5xx Client Total	Total number of 5xx error client response.
101	600 Busy Everywhere Server Total	Total number of 600 Busy Everywhere error server response.
102	600 Busy Everywhere Client Total	Total number of 600 Busy Everywhere error client response.
103	603 Decline Server Total	Total number of 603 Decline error server response.
104	603 Decline Client Total	Total number of 603 Decline error client response.
105	604 Not Found Server Total	Total number of 604 Not Found error server response.
106	604 Not Found Client Total	Total number of 604 Not Found error client response.
107	606 Not Acceptable Server Total	Total number of 606 Not Acceptable error server response.
108	606 Not Acceptable Client Total	Total number of 606 Not Acceptable error client response.
109	6xx Server Total	Total number of 6xx error server response.
110	6xx Client Total	Total number of 6xx error client response.
111	Response Retrans Server Total	Total number of server Response retransmission requests
112	Response Retrans Client Total	Total number of client Response retransmission requests
113	Transaction Timeouts Server Total	Total number of server transaction timeouts.

CSV position	HDR Column Name	Description
114	Transaction Timeouts Client Total	Total number of client transaction timeouts.

sip-realm-method

This HDR group identifies global counts for listed responses to SIP Methods across a chosen realm. **sip-realm-method** is this HDR group's configured name.

CSV position	HDR Column Name	Description
1	TimeStamp	Timestamp of this HDR record.
2	Realm	Name of this realm.
3	Message/Event	Name of the SIP Method.
4	Request Server Total	Total number of server requests.
5	Request Client Total	Total number of client requests.
6	Retransmissions Server Total	Total number of server retransmission requests.
7	Retransmissions Client Total	Total number of client retransmission requests.
8	100 Trying Server Total	Total number of 100 Trying server response
9	100 Trying Client Total	Total number of 100 Trying client response
10	180 Ringing Server Total	Total number of 180 Ringing server response.
11	180 Ringing Client Total	Total number of 180 Ringing client response.
12	181 Forward Server Total	Total number of 181 Forward server response.
13	181 Forward Client Total	Total number of 181 Forward client response.
14	182 Queued Server Total	Total number of Invite 182 Queued Server response
15	182 Queued Client Total	Total number of 182 Queued client response.
16	183 Progress Server Total	Total Invite 182 Queued Server response
17	183 Progress Client Total	Total number of 183 Progress client response.
18	1xx Server Total	Total number of 1xx server response
19	1xx Client Total	Total number of 1xx client response
20	200OK Server Total	Total number of 200OK server response
21	200OK Client Total	Total number of 200OK client response
22	202 Accepted Server Total	Total number of 202Accepted server response
23	202 Accepted Client Total	Total number of 202 Accepted client response

CSV position	HDR Column Name	Description
24	2xx Success Server Total	Total number of 2xx Success server response
25	2xx Client Total	Total number of 2xx Success client response
26	30x Moved Server Total	Total number of 30x Moved server response
27	30x Moved Client Total	Total number of 30x Moved client response
28	305 Use ProxyServer Total	Total number of 305 Use Proxy server response
29	305 Use ProxyClient Total	Total number of 305 Use Proxy client response
30	380 Alternative Server Total	Total number of 380 Alternative server response
31	380 Alternative Client Total	Total number of 380 Alternative client response
32	3xx Redirect Server Total	Total number of 3xx Redirect server response.
33	3xx Redirect Client Total	Total number of 3xx Redirect client response.
34	400 Bad Request Server Total	Total number of 400 Bad Request server response.
35	400 Bad Request Client Total	Total number of 400 Bad Request client response.
36	401 Unauthorized Server Total	Total number of 401 Unauthorized server response.
37	401 Unauthorized Client Total	Total number of 401 Unauthorized client response.
38	403 Forbidden Server Total	Total number of 403 Forbidden server response.
39	403 Forbidden Client Total	Total number of 403 Forbidden client response.
40	404 Not Found Server Total	Total number of 404 Not Found server response.
41	404 Not Found Client Total	Total number of 404 Not Found client response.
42	405 Not Allowed Server Total	Total number of 405 Not Allowed server response.
43	405 Not Allowed Client Total	Total number of 405 Not Allowed client response.
44	406 Not Acceptable Server Total	Total number of 406 Not Acceptable server response.
45	406 Not Acceptable Client Total	Total number of 406 Not Acceptable client response.
46	407 Proxy Auth Req Server Total	Total number of 407 Proxy Auth Req server response.
47	407 Proxy Auth Req Client Total	Total number of 407 Proxy Auth Req client response.
48	408 Request Timeout Server Total	Total number of 408 Request Timeout server response.
49	408 Request Timeout Client Total	Total number of 408 Request Timeout client response.

CSV position	HDR Column Name	Description
50	415 Bad Media Type Server Total	Total number of 415 Bad Media Type server response.
51	415 Bad Media Type Client Total	Total number of 415 Bad Media Type client response.
52	420 Bad Extension Server Total	Total number of 420 Bad Extension server response.
53	420 Bad Extension Client Total	Total number of 420 Bad Extension client response.
54	421 Extension Reqd Server Total	Total number of 421 Extension Reqd server response.
55	421 Extension Reqd Client Total	Total number of 421 Extension Reqd client response.
56	422 Too Short Server Total	Total number of 422 Too Short server response.
57	422 Too Short Client Total	Total number of 422 Too Short client response.
58	423 Too Brief Server Total	Total number of 423 Too Brief server response.
59	423 Too Brief Client Total	Total number of 423 Too Brief client response.
60	480 Unavailable Server Total	Total number of 480 Unavailable server response.
61	480 Unavailable Client Total	Total number of 480 Unavailable client response.
62	481 Does Not Exist Server Total	Total number of 481 Does Not Exist server response.
63	481 Does Not Exist Client Total	Total number of 481 Does Not Exist client response.
64	482 Loop Detected Server Total	Total number of 482 Loop Detected server response.
65	482 Loop Detected Client Total	Total number of 482 Loop Detected client response.
66	483 Too Many Hops Server Total	Total number of 483 Too Many Hops server response.
67	483 Too Many Hops Client Total	Total number of 483 Too Many Hops client response.
68	484 Address Incompl Server Total	Total number of 484 Address Incompl server response.
69	484 Address Incompl Client Total	Total number of 484 Address Incompl client response.
70	485 Ambiguous Server Total	Total number of 485 Ambiguous server response.
71	485 Ambiguous Client Total	Total number of 485 Ambiguous client response.
72	486 Busy Here Server Total	Total number of 486 Busy Here server response.
73	486 Busy Here Client Total	Total number of 486 Busy Here client response.
74	486 Busy Here Server Total	Total number of 486 Busy Here server response.
75	486 Busy Here Client Total	Total number of 486 Busy Here client response.

CSV position	HDR Column Name	Description
76	487 Terminated Server Total	Total number of 487 Terminated server response.
77	487 Terminated Client Total	Total number of 487 Terminated client response.
78	488 Not Acceptable Server Total	Total number of 488 Not Acceptable server response.
79	488 Not Acceptable Client Total	Total number of 488 Not Acceptable client response.
80	489 Bad Event Server Total	Total number of 489 Bad Event server response.
81	489 Bad Event Client Total	Total number of 489 Bad Event client response.
82	491 Req Pending Server Total	Total number of 491 Req Pending server response.
83	491 Req Pending Client Total	Total number of 491 Req Pending client response.
84	4xx Server Total	Total number of 4xx error server response.
85	4xx Client Total	Total number of 4xx error client response.
86	500 Internal Error Server Total	Total number of 500 Internal Error server response.
87	500 Internal Error Client Total	Total number of 500 Internal Error client response.
88	501 Not Implemented Server Total	Total number of 501 Not Implemented error server response.
89	501 Not Implemented Client Total	Total number of 501 Not Implemented error client response.
90	502 Bad Gateway Server Total	Total number of 502 Bad Gateway error server response.
91	502 Bad Gateway Client Total	Total number of 502 Bad Gateway error client response.
92	503 Service Unavail Server Total	Total number of 503 Service Unavail error server response.
93	503 Service Unavail Client Total	Total number of 503 Service Unavail error client response.
94	504 Gateway Timeout Server Total	Total number of 504 Gateway Timeout error server response.
95	504 Gateway Timeout Client Total	Total number of 504 Gateway Timeout error client response.
97	513 Msg Too Large Client Total	Total number of 513 Msg Too Large error client response.
98	580 Precon Failure Server Total	Total number of 580 Precon Failure error server response.
99	580 Precon Failure Client Total	Total number of 580 Precon Failure error client response.
100	5xx Server Total	Total number of 5xx error server response.
101	5xx Client Total	Total number of 5xx error client response.

CSV position	HDR Column Name	Description
102	600 Busy Everywhere Server Total	Total number of 600 Busy Everywhere error server response.
103	600 Busy Everywhere Client Total	Total number of 600 Busy Everywhere error client response.
104	603 Decline Server Total	Total number of 603 Decline error server response.
105	603 Decline Client Total	Total number of 603 Decline error client response.
106	604 Not Found Server Total	Total number of 604 Not Found error server response.
107	604 Not Found Client Total	Total number of 604 Not Found error client response.
108	606 Not Acceptable Server Total	Total number of 606 Not Acceptable error server response.
109	606 Not Acceptable Client Total	Total number of 606 Not Acceptable error client response.
110	6xx Server Total	Total number of 6xx error server response.
111	6xx Client Total	Total number of 6xx error client response.
112	Response Retrans Server Total	Total number of server Response retransmission requests
113	Response Retrans Client Total	Total number of client Response retransmission requests
114	Transaction Timeouts Server Total	Total number of server transaction timeouts.
115	Transaction Timeouts Client Total	Total number of client transaction timeouts.

sip-interface-method

This HDR group identifies global counts for listed responses to SIP Methods across a unique SIP Interface. **sip-interface-method** is this HDR group's configured name.

CSV position	HDR Column Name	Description
1	TimeStamp	Timestamp of this HDR record.
2	Interface	Name of this SIP Interface.
3	Message/Event	Name of the SIP Method.
4	Request Server Total	Total number of server requests.
5	Request Client Total	Total number of client requests.
6	Retransmissions Server Total	Total number of server retransmission requests.
7	Retransmissions Client Total	Total number of client retransmission requests.
8	100 Trying Server Total	Total number of 100 Trying server response
9	100 Trying Client Total	Total number of 100 Trying client response

CSV position	HDR Column Name	Description
10	180 Ringing Server Total	Total number of 180 Ringing server response.
11	180 Ringing Client Total	Total number of 180 Ringing client response.
12	181 Forward Server Total	Total number of 181 Forward server response.
13	181 Forward Client Total	Total number of 181 Forward client response.
14	182 Queued Server Total	Total number of Invite 182 Queued Server response
15	182 Queued Client Total	Total number of 182 Queued client response.
16	183 Progress Server Total	Total Invite 182 Queued Server response
17	183 Progress Client Total	Total number of 183 Progress client response.
18	1xx Server Total	Total number of 1xx server response
19	1xx Client Total	Total number of 1xx client response
20	200OK Server Total	Total number of 200OK server response
21	200OK Client Total	Total number of 200OK client response
22	202 Accepted Server Total	Total number of 202Accepted server response
23	202 Accepted Client Total	Total number of 202 Accepted client response
24	2xx Success Server Total	Total number of 2xx Success server response
25	2xx Client Total	Total number of 2xx Success client response
26	30x Moved Server Total	Total number of 30x Moved server response
27	30x Moved Client Total	Total number of 30x Moved client response
28	305 Use ProxyServer Total	Total number of 305 Use Proxy server response
29	305 Use ProxyClient Total	Total number of 305 Use Proxy client response
30	380 Alternative Server Total	Total number of 380 Alternative server response
31	380 Alternative Client Total	Total number of 380 Alternative client response
32	3xx Redirect Server Total	Total number of 3xx Redirect server response.
33	3xx Redirect Client Total	Total number of 3xx Redirect client response.
34	400 Bad Request Server Total	Total number of 400 Bad Request server response.
35	400 Bad Request Client Total	Total number of 400 Bad Request client response.

CSV position	HDR Column Name	Description
36	401 Unauthorized Server Total	Total number of 401 Unauthorized server response.
37	401 Unauthorized Client Total	Total number of 401 Unauthorized client response.
38	403 Forbidden Server Total	Total number of 403 Forbidden server response.
39	403 Forbidden Client Total	Total number of 403 Forbidden client response.
40	404 Not Found Server Total	Total number of 404 Not Found server response.
41	404 Not Found Client Total	Total number of 404 Not Found client response.
42	405 Not Allowed Server Total	Total number of 405 Not Allowed server response.
43	405 Not Allowed Client Total	Total number of 405 Not Allowed client response.
44	406 Not Acceptable Server Total	Total number of 406 Not Acceptable server response.
45	406 Not Acceptable Client Total	Total number of 406 Not Acceptable client response.
46	407 Proxy Auth Req Server Total	Total number of 407 Proxy Auth Req server response.
47	407 Proxy Auth Req Client Total	Total number of 407 Proxy Auth Req client response.
48	408 Request Timeout Server Total	Total number of 408 Request Timeout server response.
49	408 Request Timeout Client Total	Total number of 408 Request Timeout client response.
50	415 Bad Media Type Server Total	Total number of 415 Bad Media Type server response.
51	415 Bad Media Type Client Total	Total number of 415 Bad Media Type client response.
52	420 Bad Extension Server Total	Total number of 420 Bad Extension server response.
53	420 Bad Extension Client Total	Total number of 420 Bad Extension client response.
54	421 Extension Reqd Server Total	Total number of 421 Extension Reqd server response.
55	421 Extension Reqd Client Total	Total number of 421 Extension Reqd client response.
56	422 Too Short Server Total	Total number of 422 Too Short server response.
57	422 Too Short Client Total	Total number of 422 Too Short client response.
58	423 Too Brief Server Total	Total number of 423 Too Brief server response.
59	423 Too Brief Client Total	Total number of 423 Too Brief client response.
60	480 Unavailable Server Total	Total number of 480 Unavailable server response.
61	480 Unavailable Client Total	Total number of 480 Unavailable client response.

CSV position	HDR Column Name	Description
62	481 Does Not Exist Server Total	Total number of 481 Does Not Exist server response.
63	481 Does Not Exist Client Total	Total number of 481 Does Not Exist client response.
64	482 Loop Detected Server Total	Total number of 482 Loop Detected server response.
65	482 Loop Detected Client Total	Total number of 482 Loop Detected client response.
66	483 Too Many Hops Server Total	Total number of 483 Too Many Hops server response.
67	483 Too Many Hops Client Total	Total number of 483 Too Many Hops client response.
68	484 Address Incompl Server Total	Total number of 484 Address Incompl server response.
69	484 Address Incompl Client Total	Total number of 484 Address Incompl client response.
70	485 Ambiguous Server Total	Total number of 485 Ambiguous server response.
71	485 Ambiguous Client Total	Total number of 485 Ambiguous client response.
72	486 Busy Here Server Total	Total number of 486 Busy Here server response.
73	486 Busy Here Client Total	Total number of 486 Busy Here client response.
74	486 Busy Here Server Total	Total number of 486 Busy Here server response.
75	486 Busy Here Client Total	Total number of 486 Busy Here client response.
76	487 Terminated Server Total	Total number of 487 Terminated server response.
77	487 Terminated Client Total	Total number of 487 Terminated client response.
78	488 Not Acceptable Server Total	Total number of 488 Not Acceptable server response.
79	488 Not Acceptable Client Total	Total number of 488 Not Acceptable client response.
80	489 Bad Event Server Total	Total number of 489 Bad Event server response.
81	489 Bad Event Client Total	Total number of 489 Bad Event client response.
82	491 Req Pending Server Total	Total number of 491 Req Pending server response.
83	491 Req Pending Client Total	Total number of 491 Req Pending client response.
84	4xx Server Total	Total number of 4xx error server response.
85	4xx Client Total	Total number of 4xx error client response.
86	500 Internal Error Server Total	Total number of 500 Internal Error server response.
87	500 Internal Error Client Total	Total number of 500 Internal Error client response.

CSV position	HDR Column Name	Description
88	501 Not Implemented Server Total	Total number of 501 Not Implemented error server response.
89	501 Not Implemented Client Total	Total number of 501 Not Implemented error client response.
90	502 Bad Gateway Server Total	Total number of 502 Bad Gateway error server response.
91	502 Bad Gateway Client Total	Total number of 502 Bad Gateway error client response.
92	503 Service Unavail Server Total	Total number of 503 Service Unavail error server response.
93	503 Service Unavail Client Total	Total number of 503 Service Unavail error client response.
94	504 Gateway Timeout Server Total	Total number of 504 Gateway Timeout error server response.
95	504 Gateway Timeout Client Total	Total number of 504 Gateway Timeout error client response.
97	513 Msg Too Large Client Total	Total number of 513 Msg Too Large error client response.
98	580 Precon Failure Server Total	Total number of 580 Precon Failure error server response.
99	580 Precon Failure Client Total	Total number of 580 Precon Failure error client response.
100	5xx Server Total	Total number of 5xx error server response.
101	5xx Client Total	Total number of 5xx error client response.
102	600 Busy Everywhere Server Total	Total number of 600 Busy Everywhere error server response.
103	600 Busy Everywhere Client Total	Total number of 600 Busy Everywhere error client response.
104	603 Decline Server Total	Total number of 603 Decline error server response.
105	603 Decline Client Total	Total number of 603 Decline error client response.
106	604 Not Found Server Total	Total number of 604 Not Found error server response.
107	604 Not Found Client Total	Total number of 604 Not Found error client response.
108	606 Not Acceptable Server Total	Total number of 606 Not Acceptable error server response.
109	606 Not Acceptable Client Total	Total number of 606 Not Acceptable error client response.
110	6xx Server Total	Total number of 6xx error server response.
111	6xx Client Total	Total number of 6xx error client response.
112	Response Retrans Server Total	Total number of server Response retransmission requests

CSV position	HDR Column Name	Description
113	Response Retrans Client Total	Total number of client Response retransmission requests
114	Transaction Timeouts Server Total	Total number of server transaction timeouts.
115	Transaction Timeouts Client Total	Total number of client transaction timeouts.

sip-agent-method

This HDR group identifies global counts for listed responses to SIP Methods across a unique session agent. **sip-agent-method** is this HDR group's configured name.

CSV position	HDR Column Name	Description
1	TimeStamp	Timestamp of this HDR record.
2	Agent	Name of this session agent.
3	Message/Event	Name of the SIP Method.
4	Request Server Total	Total number of server requests.
5	Request Client Total	Total number of client requests.
6	Retransmissions Server Total	Total number of server retransmission requests.
7	Retransmissions Client Total	Total number of client retransmission requests.
8	100 Trying Server Total	Total number of 100 Trying server response
9	100 Trying Client Total	Total number of 100 Trying client response
10	180 Ringing Server Total	Total number of 180 Ringing server response.
11	180 Ringing Client Total	Total number of 180 Ringing client response.
12	181 Forward Server Total	Total number of 181 Forward server response.
13	181 Forward Client Total	Total number of 181 Forward client response.
14	182 Queued Server Total	Total number of Invite 182 Queued Server response
15	182 Queued Client Total	Total number of 182 Queued client response.
16	183 Progress Server Total	Total Invite 182 Queued Server response
17	183 Progress Client Total	Total number of 183 Progress client response.
18	1xx Server Total	Total number of 1xx server response
19	1xx Client Total	Total number of 1xx client response
20	200OK Server Total	Total number of 200OK server response
21	200OK Client Total	Total number of 200OK client response

CSV position	HDR Column Name	Description
22	202 Accepted Server Total	Total number of 202Accepted server response
23	202 Accepted Client Total	Total number of 202 Accepted client response
24	2xx Success Server Total	Total number of 2xx Success server response
25	2xx Client Total	Total number of 2xx Success client response
26	30x Moved Server Total	Total number of 30x Moved server response
27	30x Moved Client Total	Total number of 30x Moved client response
28	305 Use ProxyServer Total	Total number of 305 Use Proxy server response
29	305 Use ProxyClient Total	Total number of 305 Use Proxy client response
30	380 Alternative Server Total	Total number of 380 Alternative server response
31	380 Alternative Client Total	Total number of 380 Alternative client response
32	3xx Redirect Server Total	Total number of 3xx Redirect server response.
33	3xx Redirect Client Total	Total number of 3xx Redirect client response.
34	400 Bad Request Server Total	Total number of 400 Bad Request server response.
35	400 Bad Request Client Total	Total number of 400 Bad Request client response.
36	401 Unauthorized Server Total	Total number of 401 Unauthorized server response.
37	401 Unauthorized Client Total	Total number of 401 Unauthorized client response.
38	403 Forbidden Server Total	Total number of 403 Forbidden server response.
39	403 Forbidden Client Total	Total number of 403 Forbidden client response.
40	404 Not Found Server Total	Total number of 404 Not Found server response.
41	404 Not Found Client Total	Total number of 404 Not Found client response.
42	405 Not Allowed Server Total	Total number of 405 Not Allowed server response.
43	405 Not Allowed Client Total	Total number of 405 Not Allowed client response.
44	406 Not Acceptable Server Total	Total number of 406 Not Acceptable server response.
45	406 Not Acceptable Client Total	Total number of 406 Not Acceptable client response.
46	407 Proxy Auth Req Server Total	Total number of 407 Proxy Auth Req server response.
47	407 Proxy Auth Req Client Total	Total number of 407 Proxy Auth Req client response.

CSV position	HDR Column Name	Description
48	408 Request Timeout Server Total	Total number of 408 Request Timeout server response.
49	408 Request Timeout Client Total	Total number of 408 Request Timeout client response.
50	415 Bad Media Type Server Total	Total number of 415 Bad Media Type server response.
51	415 Bad Media Type Client Total	Total number of 415 Bad Media Type client response.
52	420 Bad Extension Server Total	Total number of 420 Bad Extension server response.
53	420 Bad Extension Client Total	Total number of 420 Bad Extension client response.
54	421 Extension Reqd Server Total	Total number of 421 Extension Reqd server response.
55	421 Extension Reqd Client Total	Total number of 421 Extension Reqd client response.
56	422 Too Short Server Total	Total number of 422 Too Short server response.
57	422 Too Short Client Total	Total number of 422 Too Short client response.
58	423 Too Brief Server Total	Total number of 423 Too Brief server response.
59	423 Too Brief Client Total	Total number of 423 Too Brief client response.
60	480 Unavailable Server Total	Total number of 480 Unavailable server response.
61	480 Unavailable Client Total	Total number of 480 Unavailable client response.
62	481 Does Not Exist Server Total	Total number of 481 Does Not Exist server response.
63	481 Does Not Exist Client Total	Total number of 481 Does Not Exist client response.
64	482 Loop Detected Server Total	Total number of 482 Loop Detected server response.
65	482 Loop Detected Client Total	Total number of 482 Loop Detected client response.
66	483 Too Many Hops Server Total	Total number of 483 Too Many Hops server response.
67	483 Too Many Hops Client Total	Total number of 483 Too Many Hops client response.
68	484 Address Incompl Server Total	Total number of 484 Address Incompl server response.
69	484 Address Incompl Client Total	Total number of 484 Address Incompl client response.
70	485 Ambiguous Server Total	Total number of 485 Ambiguous server response.
71	485 Ambiguous Client Total	Total number of 485 Ambiguous client response.
72	486 Busy Here Server Total	Total number of 486 Busy Here server response.
73	486 Busy Here Client Total	Total number of 486 Busy Here client response.

CSV position	HDR Column Name	Description
74	486 Busy Here Server Total	Total number of 486 Busy Here server response.
75	486 Busy Here Client Total	Total number of 486 Busy Here client response.
76	487 Terminated Server Total	Total number of 487 Terminated server response.
77	487 Terminated Client Total	Total number of 487 Terminated client response.
78	488 Not Acceptable Server Total	Total number of 488 Not Acceptable server response.
79	488 Not Acceptable Client Total	Total number of 488 Not Acceptable client response.
80	489 Bad Event Server Total	Total number of 489 Bad Event server response.
81	489 Bad Event Client Total	Total number of 489 Bad Event client response.
82	491 Req Pending Server Total	Total number of 491 Req Pending server response.
83	491 Req Pending Client Total	Total number of 491 Req Pending client response.
84	4xx Server Total	Total number of 4xx error server response.
85	4xx Client Total	Total number of 4xx error client response.
86	500 Internal Error Server Total	Total number of 500 Internal Error server response.
87	500 Internal Error Client Total	Total number of 500 Internal Error client response.
88	501 Not Implemented Server Total	Total number of 501 Not Implemented error server response.
89	501 Not Implemented Client Total	Total number of 501 Not Implemented error client response.
90	502 Bad Gateway Server Total	Total number of 502 Bad Gateway error server response.
91	502 Bad Gateway Client Total	Total number of 502 Bad Gateway error client response.
92	503 Service Unavail Server Total	Total number of 503 Service Unavail error server response.
93	503 Service Unavail Client Total	Total number of 503 Service Unavail error client response.
94	504 Gateway Timeout Server Total	Total number of 504 Gateway Timeout error server response.
95	504 Gateway Timeout Client Total	Total number of 504 Gateway Timeout error client response.
97	513 Msg Too Large Client Total	Total number of 513 Msg Too Large error client response.
98	580 Precon Failure Server Total	Total number of 580 Precon Failure error server response.
99	580 Precon Failure Client Total	Total number of 580 Precon Failure error client response.

CSV position	HDR Column Name	Description
100	5xx Server Total	Total number of 5xx error server response.
101	5xx Client Total	Total number of 5xx error client response.
102	600 Busy Everywhere Server Total	Total number of 600 Busy Everywhere error server response.
103	600 Busy Everywhere Client Total	Total number of 600 Busy Everywhere error client response.
104	603 Decline Server Total	Total number of 603 Decline error server response.
105	603 Decline Client Total	Total number of 603 Decline error client response.
106	604 Not Found Server Total	Total number of 604 Not Found error server response.
107	604 Not Found Client Total	Total number of 604 Not Found error client response.
108	606 Not Acceptable Server Total	Total number of 606 Not Acceptable error server response.
109	606 Not Acceptable Client Total	Total number of 606 Not Acceptable error client response.
110	6xx Server Total	Total number of 6xx error server response.
111	6xx Client Total	Total number of 6xx error client response.
112	Response Retrans Server Total	Total number of server Response retransmission requests
113	Response Retrans Client Total	Total number of client Response retransmission requests
114	Transaction Timeouts Server Total	Total number of server transaction timeouts.
115	Transaction Timeouts Client Total	Total number of client transaction timeouts.

sip-srvcc

Displays SIP/SRVCC statistics regarding counters of the states of calls handovers. This HDR group corresponds to the **show sipd srvcc** command and the apSipSRVCCStatsGroup found in ap-sip.mib.

Position	HDR Column Name	Data Type	Range	Description
1	Timestamp	Integer		The window of time the HDR collector used to collect the data. The value is in seconds.
2	Total Calls	Counter	0-2147483647	Total calls subjected to SRVCC
3	Total Success	Counter	0-2147483647	Total successful SRVCC HO
4	Total Failed	Counter	0-2147483647	Total failed SRVCC HO
5	Total Cancelled	Counter	0-2147483647	Total cancelled SRVCC HO
6	Calls After Answer	Counter	0-2147483647	Total calls subjected to SRVCC after answer

Position	HDR Column Name	Data Type	Range	Description
7	After Answer Success	Counter	0-2147483647	Total successful SRVCC HO after answer
8	After Answer Failed	Counter	0-2147483647	Total failed SRVCC HO after answer
9	Calls During Alerting	Counter	0-2147483647	Total calls subjected to SRVCC during alerting.
10	During Alerting Success	Counter	0-2147483647	Total successful SRVCC HO during alerting.
11	During Alerting Failed	Counter	0-2147483647	Total failed SRVCC HO during alerting.
12	ATCF Cancellation	Counter	0-2147483647	Total ATCF cancellations
13	Total Emergency Calls	Counter	0-2147483647	Total SRVCC HO for Emergency calls
14	Emergency Success	Counter	0-2147483647	Total successful SRVCC HO for Emergency calls
15	Emergency Failed	Counter	0-2147483647	Total failed SRVCC HO for Emergency calls
16	EATF Cancellation	Counter	0-2147483647	Total EATF Cancellations
17	Calls During Pre-Alerting	Counter	0-2147483647	Total calls subjected to SRVCC during pre-alerting
18	During Pre-Alerting Success	Counter	0-2147483647	Total successful SRVCC HO during pre-alerting
19	During Per-Alerting Failed	Counter	0-2147483647	Total failed SRVCC HO during pre-alerting

ext-Rx-policy-server

Displays external policy server statistics per configured policy server. This HDR group corresponds to the **show policy-server <name>** command and the apDiamRxPolicyServerStatsTable found in ap-diameter.mib.

Position	HDR Column Name	Data Type	Range	Description
1	Timestamp	Integer		The window of time the HDR collector used to collect the data. The value is in seconds.
2	Policy Server Name	String		Name of the Rx policy Server
3	Sockets	Counter	0-2147483647	Total number of sockets created for Rx Policy Server
4	Connections	Counter	0-2147483647	Total number of transport connections created for Rx Policy Server
5	Client Transactions (CT)	Counter	0-2147483647	Total number of client transactions for Rx Policy Server
6	CT Reserve Requests Sent	Counter	0-2147483647	Total number of client transactions reserve requests sent for Rx Policy Server
7	CT Update Requests Sent	Counter	0-2147483647	Total number of client transactions Update requests sent for Rx Policy Server
8	CT Remove Requests Sent	Counter	0-2147483647	Total number of client transactions Remove requests sent for Rx Policy Server

Position	HDR Column Name	Data Type	Range	Description
9	CT Requests Re-Trans	Counter	0-2147483647	Total number of re-transmitted request for client transactions for Rx Policy Server
10	CT Install Resp Received	Counter	0-2147483647	Total number of client transactions Install response received for Rx Policy Server
11	CT Reject Resp Received	Counter	0-2147483647	Total number of client transactions Reject response received for Rx Policy Server
12	CT Remove Resp Received	Counter	0-2147483647	Total number of client transactions Remove response received for Rx Policy Server
13	CT Errors Received	Counter	0-2147483647	Total number of client transactions Errors received for Rx Policy Server
14	CT Transaction Timeouts	Counter	0-2147483647	Total number of client transaction timeouts for Rx Policy Server
15	CT Errors	Counter	0-2147483647	Total number of client transaction errors for Rx Policy Server
16	Server Transactions (ST)	Counter	0-2147483647	Total number of server transaction for Rx Policy Server
17	ST Requests Received	Counter	0-2147483647	Total number of request received on server transaction for Rx Policy Server
18	ST Dup Req Received	Counter	0-2147483647	Total number of duplicate request received on server transaction for Rx Policy Server
19	ST Success Resp Sent	Counter	0-2147483647	Total number of success responses sent by server transactions for Rx Policy Server
20	ST Error Resp Sent	Counter	0-2147483647	Total number of error responses sent by server transactions for Rx Policy Server
21	ST Requests Dropped	Counter	0-2147483647	Total number of requests dropped by server transactions for Rx Policy Server
22	CER Sent	Counter	0-2147483647	Total number of CER messages sent by this Rx Policy Server.
23	CEA Success	Counter	0-2147483647	Total number of CEA success messages for this Rx Policy Server.
24	CEA Errors	Counter	0-2147483647	Total number of CEA error messages for this Rx Policy Server.
25	AAR Sent	Counter	0-2147483647	Total number of AAR messages sent by this Rx Policy Server.
26	AAA Success	Counter	0-2147483647	Total number of AAA success messages for this Rx Policy Server.
27	AAA Errors	Counter	0-2147483647	Total number of AAA error messages for this Rx Policy Server.
28	STR Sent	Counter	0-2147483647	Total number of STR messages sent by this Rx Policy Server.
29	STA Success	Counter	0-2147483647	Total number of STA success messages for this Rx Policy Server.
30	STA Errors	Counter	0-2147483647	Total number of STA error messages for this Rx Policy Server.
31	RAR Rcvd	Counter	0-2147483647	Total number of RAR messages sent by this Rx Policy Server.
32	RAA Rcvd Success	Counter	0-2147483647	Total number of RAA success messages for this Rx Policy Server.
33	RAA Rcvd Errors	Counter	0-2147483647	Total number of RAA error messages for this Rx Policy Server.

Position	HDR Column Name	Data Type	Range	Description
34	DWR Sent	Counter	0-2147483647	Total number of DWR messages sent by this Rx Policy Server.
35	DWA Success	Counter	0-2147483647	Total number of DWA success messages for this Rx Policy Server.
36	DWA Errors	Counter	0-2147483647	Total number of DWA error messages for this Rx Policy Server.
37	DWR Rcvd	Counter	0-2147483647	Total number of DWR messages received by this Rx Policy Server.
38	DWA Rcvd Success	Counter	0-2147483647	Total number of DWA success messages sent by this Rx Policy Server.
39	DWA Rcvd Errors	Counter	0-2147483647	Total number of DWA error messages sent by this Rx Policy Server.
40	ASR Rcvd	Counter	0-2147483647	Total number of ASR messages sent by this Rx Policy Server.
41	ASA Rcvd Success	Counter	0-2147483647	Total number of ASA success messages for this Rx Policy Server.
42	ASA Rcvd Errors	Counter	0-2147483647	Total number of ASA error messages for this Rx Policy Server.

sa-ike

Displays IKE Session Agent counters. This HDR group corresponds to the **show sa stats ike** command and the apSecuritySAIKEStats found in ap-security.mib.

Position	HDR Column Name	Data Type	Range	Description
1	Timestamp	Integer		The window of time the HDR collector used to collect the data. The value is in seconds.
2	ADD-SA Req Rcvd	Counter	0-2147483647	Total IKE ADD-SA Requests received
3	ADD-SA Success Resp Sent	Counter	0-2147483647	Total IKE ADD-SA success response sent
4	ADD-SA Fail Resp Sent	Counter	0-2147483647	Total IKE ADD-SA fail response sent
5	DEL-SA Req Rcvd	Counter	0-2147483647	Total IKE DEL-SA Requests received.
6	DEL-SA Success Resp Sent	Counter	0-2147483647	Total IKE DEL-SA Success response sent
7	DEL-SA Fail Resp Sent	Counter	0-2147483647	Total IKE DEL-SA Fail response sent.
8	ACQUIRE-SA Req Sent	Counter	0-2147483647	Total IKE ACQUIRE-SA Requests sent.
9	ACQUIRE-SA Success Resp Rcvd	Counter	0-2147483647	Total IKE ACQUIRE -SA Success response received.
10	ACQUIRE-SA Fail Resp Rcvd	Counter	0-2147483647	Total IKE ACQUIRE -SA Fail response received.
11	ACQUIRE-SA Trans Timeouts	Counter	0-2147483647	Total IKE ACQUIRE -SA Transaction timeouts.
12	SA Added	Counter	0-2147483647	Total number of SA Added.

Position	HDR Column Name	Data Type	Range	Description
13	SA Add Failed	Counter	0-2147483647	Total number of SA Add Failed
14	SA Deleted	Counter	0-2147483647	Total number of SA Deleted.
15	SA Delete Failed	Counter	0-2147483647	Total number of SA Delete failed.

sa-imsaka

Displays IMS-AKA Session Agent counters. This HDR group corresponds to the **show sa stats ims-aka all** command and the apSipSRVCCStatsobjects found in ap-sip.mib.

Position	HDR Column Name	Data Type	Range	Description
1	TimeStamp	Integer		The window of time the HDR collector used to collect the data. The value is in seconds.
2	ADD-SA Req Sent	Counter	0-2147483647	Total IMS-AKA ADD-SA Requests sent
3	ADD-SA Req Rcvd	Counter	0-2147483647	Total IMS-AKA ADD-SA Requests received
4	ADD-SA Success Resp Sent	Counter	0-2147483647	Total IMS-AKA ADD-SA success response sent
5	ADD-SA Success Resp Rcvd	Counter	0-2147483647	Total IMS-AKA ADD-SA success response received
6	ADD-SA Fail Resp Sent	Counter	0-2147483647	Total IMS-AKA ADD-SA fail response sent
7	ADD-SA Fail Invalid Param Sent	Counter	0-2147483647	Total IMS-AKA ADD-SA Fail Message sent due to invalid parameter.
8	ADD-SA Fail Resp Rcvd	Counter	0-2147483647	Total IMS-AKA ADD-SA fail response received
9	ADD-SA Fail Addr Mask Mismatch	Counter	0-2147483647	Total IMS-AKA ADD-SA Fail Message sent due to Address Mask Mismatch.
10	ADD-SA Fail Inv Proto Params	Counter	0-2147483647	Total IMS-AKA ADD-SA Fail Message sent due to invalid Protocol parameters.
11	ADD-SA Fail Inv Proto Data	Counter	0-2147483647	Total IMS-AKA ADD-SA Fail Message sent due to invalid Protocol data.
12	ADD-SA Trans Timeouts	Counter	0-2147483647	Total IMS-AKA ADD-SA Transaction timeouts.
13	DEL-SA Req Sent	Counter	0-2147483647	Total IMS-AKA DEL-SA Requests sent
14	DEL-SA Req Rcvd	Counter	0-2147483647	Total IMS-AKA DEL-SA Requests received.
15	DEL-SA Success Resp Sent	Counter	0-2147483647	Total IMS-AKA DEL-SA Success response sent
16	DEL-SA Success Resp Rcvd	Counter	0-2147483647	Total IMS-AKA DEL-SA Success response received.
17	DEL-SA Fail Resp Sent	Counter	0-2147483647	Total IMS-AKA DEL-SA Fail Response sent.
18	DEL-SA Fail Invalid Param Sent	Counter	0-2147483647	Total IMS-AKA DEL-SA Fail Message sent due to invalid parameter
19	DEL-SA Fail Resp Rcvd	Counter	0-2147483647	Total IMS-AKA DEL-SA Fail responses received.

Position	HDR Column Name	Data Type	Range	Description
20	DEL-SA Trans Timeouts	Counter	0-2147483647	Total IMS-AKA DEL-SA Messages resulting from Transaction timeouts
21	DEL-SA Due to Timeout	Counter	0-2147483647	Total IMS-AKA DEL-SA Messages resulting from timeouts.
22	MOD-SA Req Sent	Counter	0-2147483647	Total IMS-AKA MOD-SA Requests sent
23	MOD-SA Req Rcvd	Counter	0-2147483647	Total IMS-AKA MOD-SA Requests received.
24	MOD-SA Success Resp Sent	Counter	0-2147483647	Total IMS-AKA MOD-SA Success response sent
25	MOD-SA Success Resp Rcvd	Counter	0-2147483647	Total IMS-AKA MOD-SA Success response received.
26	MOD-SA Fail Resp Sent	Counter	0-2147483647	Total IMS-AKA MOD-SA Fail Response sent.
27	MOD-SA Fail Invalid Param Sent	Counter	0-2147483647	Total IMS-AKA MOD-SA Fail Message sent due to invalid parameter
28	MOD-SA Fail Resp Rcvd	Counter	0-2147483647	Total IMS-AKA MOD-SA Fail responses received.
29	MOD-SA Trans Timeouts	Counter	0-2147483647	Total IMS-AKA MOD-SA Messages resulting from Transaction timeouts
30	SA Added	Counter	0-2147483647	Total number of SA Added.
31	SA Added Inbound	Counter	0-2147483647	Total IMS-AKA SA added in inbound.
32	SA Added Outbound	Counter	0-2147483647	Total IMS-AKA SA added in outbound.
33	SA Add Failed	Counter	0-2147483647	Total SA addition failed.
34	SA Add Inbound PPM Failed	Counter	0-2147483647	Total SA Add Inbound PPM Failed
35	SA Add Outbound PPM Failed	Counter	0-2147483647	Total SA Add Outbound PPM Failed
36	SA Deleted	Counter	0-2147483647	Total number of SA deleted.
37	SA Deleted Inbound	Counter	0-2147483647	Total number of SA deleted in the inbound.
38	SA Deleted Outbound	Counter	0-2147483647	Total number of SA deleted in the outbound.
39	SA Delete Failed	Counter	0-2147483647	Total number of SA delete failed.
40	SA Delete Inbound PPM Failed	Counter	0-2147483647	Total number of SA Delete Inbound PPM Failed
41	SA Delete Outbound PPM Failed	Counter	0-2147483647	Total number of SA Delete Outbound PPM Failed
42	SA Del Fail Addr Mask Mismatch	Counter	0-2147483647	Total number of SA Delete Failed due to Addr Mask Mismatch
43	SA Del Fail Inv Proto Params	Counter	0-2147483647	Total number of SA Delete Failed due to Invalid Protocol Parameters.
44	SA Del Fail Inv Proto Data	Counter	0-2147483647	Total number of SA Delete Failed due to invalid Protocol Data.
45	SA Collision	Counter	0-2147483647	Total number of SA collisions.

Position	HDR Column Name	Data Type	Range	Description
46	SA CollisionRecovery Fail	Counter	0-2147483647	Total number of SA collision recovery failed
47	SA CollisionRecovery Succ	Counter	0-2147483647	Total number of SA collision recovery successful
48	SA CollisionRecovery LkupFail	Counter	0-2147483647	Total number of SA collisions recovery lookup failed.
49	SA Key Not Found	Counter	0-2147483647	Total number of SA Key not Found event.
50	SA Key Not Found Timeout	Counter	0-2147483647	Total number of SA Key not Found timeout event.
51	SA Key Exists	Counter	0-2147483647	Total number of SA Key exists event.
52	SA Recovery	Counter	0-2147483647	Total number of SA recovery event.
53	SA Recovery Fail	Counter	0-2147483647	Total number of SA recovery fail event.
54	SA Trans Queue	Counter	0-2147483647	Total count of SA Trans Queue.
55	SA Red Queue	Counter	0-2147483647	Total count of SA Redundancy Queue.
56	SA inbound record(SATable)	Counter	0-2147483647	Total count of SA inbound record (SA Table)
57	SA outbound record(SATable)	Counter	0-2147483647	Total count of SA outbound record (SA Table)
58	SA invalid timer	Counter	0-2147483647	Total number of times SA Invalid timer event occurred.
59	SA add fail in table	Counter	0-2147483647	Total number of times SA Add fail in table.
60	SA send ADD to Red	Counter	0-2147483647	Total number of times SA sent ADD event to redundant peer.
61	SA send MOD to Red	Counter	0-2147483647	Total number of times SA sent modify event to redundant peer.
62	SA Rcvd ADD from Active	Counter	0-2147483647	Total number of times SA received ADD event from Active
63	SA Rcvd MOD from Active	Counter	0-2147483647	Total number of times SA received MODIFY event from Active
64	SA Add Red Queue Failed	Counter	0-2147483647	Total number of SA Add to Redundancy Queue failed event.
65	Invalid Red Action	Counter	0-2147483647	Total number of Invalid Redundant action
66	Send Timed Del To Red	Counter	0-2147483647	Total number of times Timed Del sent to redundant pair.
67	Rcvd Timed Del Frm Act	Counter	0-2147483647	Total number of times Timed Del from Active received.
68	SA request transaction queue size	integer		SA request transaction queue size of the security association agent
69	Allow transaction quota	integer		Allowed transaction quota of the security association agent
70	Delay delete count	integer		Delay delete count of the security association agent
71	max trans queue size	integer		Maximum transaction queue size of the security association agent
72	Total Regmsg	Counter	0-2147483647	Total number of registration messages received.

Position	HDR Column Name	Data Type	Range	Description
73	Unprotect Msg	Counter	0-2147483647	Total number of unprotected registration messages received.
74	Unprotect Msg Before Expiry	Counter	0-2147483647	Total number of unprotected registration messages received before expiry.
75	Inbound Prior Disconnects	Counter	0-2147483647	Total number of prior disconnects on the inbound.
76	Outbound Prior Disconnects	Counter	0-2147483647	Total number of prior disconnects on the outbound.
77	Answer Before Challenge	Counter	0-2147483647	Total number of registration answer messages received before challenge.
78	Protect Msg	Counter	0-2147483647	Total number of protected registration messages received.
79	Initial Reg Rej too busy	Counter	0-2147483647	Total number of initial registration messages rejected with busy error code.
80	Initial Reg Rej no resource	Counter	0-2147483647	Total number of initial registration messages rejected because of resource unavailability.
81	Initial Reg Fail alloc mem	Counter	0-2147483647	Total number of initial registration messages rejected because of memory allocation failure.
82	Initial Reg Ims entry exist	Counter	0-2147483647	Total number of initial registration messages for which IMS entry already exists.
83	Initial Reg Bad sec hdr	Counter	0-2147483647	Total number of initial registration messages received with bad security header.
84	Initial Reg Passed quota	Counter	0-2147483647	Total number of initial registration messages that passed the quota.
85	Re-Reg Rej too busy	Counter	0-2147483647	Total number of re-registration messages rejected with busy error code.
86	Re-Reg Rej no resource	Counter	0-2147483647	Total number of re-registration messages rejected because of resource unavailability.
87	Re-Reg Bad sec hdr	Counter	0-2147483647	Total number of re-registration messages received with bad security header.
88	Re-Reg No ims entry	Counter	0-2147483647	Total number of re-registration messages for which no IMS entry exists.
89	Re-Reg Passed quota	Counter	0-2147483647	Total number of re-registration messages that passed the quota.
90	Re-Reg Fwd unpro Reg	Counter	0-2147483647	Total number of unprotected re-registration messages that were forwarded.
91	Re-Reg Reuse spi false	Counter	0-2147483647	Total number of re-registration messages for which re-use SPI is false.
92	Re-Reg Reuse spi true	Counter	0-2147483647	Total number of re-registration messages for which re-use SPI is true.
93	Re-Reg Incomplete reg	Counter	0-2147483647	Total number of re-registration messages resulting in incomplete registration.

sa-srtp

Displays SRTP Session Agent counters. This HDR group corresponds to the **show sa stats srtp** command and the apSecuritySASRTPStats found in ap-security.mib.

Position	HDR Column Name	Data Type	Range	Description
1	Timestamp	Integer		The window of time the HDR collector used to collect the data. The value is in seconds.
2	ADD-SA Req Sent	Counter	0-2147483647	Total SRTP ADD-SA Requests sent
3	ADD-SA Req Rcvd	Counter	0-2147483647	Total SRTP ADD-SA Requests received
4	ADD-SA Success Resp Sent	Counter	0-2147483647	Total SRTP ADD-SA success response sent
5	ADD-SA Success Resp Rcvd	Counter	0-2147483647	Total SRTP ADD-SA success response received
6	ADD-SA Fail Resp Sent	Counter	0-2147483647	Total SRTP ADD-SA fail response sent
7	ADD-SA Fail Resp Rcvd	Counter	0-2147483647	Total SRTP ADD-SA Fail response received.
8	ADD-SA Trans Timeouts	Counter	0-2147483647	Total SRTP ADD-SA Transaction timeouts.
9	DEL-SA Req Sent	Counter	0-2147483647	Total SRTP DEL-SA Requests sent
10	DEL-SA Req Rcvd	Counter	0-2147483647	Total SRTP DEL-SA Requests received.
11	DEL-SA Success Resp Sent	Counter	0-2147483647	Total SRTP DEL-SA Success response sent
12	DEL-SA Success Resp Rcvd	Counter	0-2147483647	Total SRTP DEL-SA Success response received.
13	DEL-SA Fail Resp Sent	Counter	0-2147483647	Total SRTP DEL-SA Fail Response sent.
14	DEL-SA Fail Resp Rcvd	Counter	0-2147483647	Total SRTP DEL-SA Fail response received.
15	DEL-SA Trans Timeouts	Counter	0-2147483647	Total SRTP DEL-SA Transaction timeouts.
16	MOD-SA Req Sent	Counter	0-2147483647	Total SRTP MOD-SA Requests sent
17	MOD-SA Req Rcvd	Counter	0-2147483647	Total SRTP MOD-SA Requests received.
18	MOD-SA Success Resp Sent	Counter	0-2147483647	Total SRTP MOD-SA Success response sent
19	MOD-SA Success Resp Rcvd	Counter	0-2147483647	Total SRTP MOD-SA Success response received.
20	MOD-SA Fail Resp Sent	Counter	0-2147483647	Total SRTP MOD-SA Fail Response sent.
21	MOD-SA Fail Resp Rcvd	Counter	0-2147483647	Total SRTP MOD-SA Fail response received.
22	MOD-SA Trans Timeouts	Counter	0-2147483647	Total SRTP MOD-SA transaction timeouts.
23	SA Added	Counter	0-2147483647	Total SRTP SA Added
24	SA Add Failed	Counter	0-2147483647	Total SRTP SA Add failed.
25	SA Deleted	Counter	0-2147483647	Total SRTP SA deleted.
26	SA Delete Failed	Counter	0-2147483647	Total SRTP SA delete failed.
27	SA Collision	Counter	0-2147483647	Total SRTP SA collision
28	SA Key Not Found	Counter	0-2147483647	Total SRTP SA Key not found event.

sip-codec-per-realm

Captures codec usage on a per-realm basis. This HDR group corresponds to the **show sipd codecs <realm_id>** command and the apCodecRealmStatsTable found in ap-codec.mib.

Position	HDR Column Name	Data Type	Range	Description
1	TimeStamp	Integer		The window of time the HDR collector used to collect the data. The value is in seconds.
2	Realm Name	String		Name of the Realm
3	Transcoded	Counter	0-2147483647	Lifetime total of all sessions for which transcoding between two or more codecs was applied.
4	Transrated	Counter	0-2147483647	Lifetime total of all sessions for which the packetization interval among dialogs in the session was changed.
5	Transparent	Counter	0-2147483647	Lifetime total of all sessions for which no transcoding was applied.
6	PCMU Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to PCMU codec.
7	PCMA Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to PCMA codec.
8	G722 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to G722 codec.
9	G723 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to G723 codec.
10	G726-16 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to G726-16 codec.
11	G726-24 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to G726-24 codec.
12	G726-32 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to G726-32 codec.
13	G726-40 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to G726-40 codec.
14	G728 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to G728 codec.
15	G729 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to G729 codec.
16	GSM Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to GSM codec.
17	iLBC Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to iLBC codec.

Position	HDR Column Name	Data Type	Range	Description
18	H261 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to H261 codec.
19	H263 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to H263 codec.
20	T38 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to T38 codec.
21	AMR Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to AMR codec.
22	AMR-WB Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to AMR-WB codec.
23	EVRC Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to EVRC codec.
24	EVRC0 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to EVRC0 codec.
25	EVRC1 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to EVRC1 codec.
26	EVRCB Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to EVRCB codec.
27	EVRCB0 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to EVRCB0 codec.
28	EVRCB1 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to EVRCB1 codec.
29	opus Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to opus codec.
30	SILK Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to SILK codec.
31	T140 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to T140 codec.
32	BAUDOT Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to BAUDOT codec.
33	H264 Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to H264 codec.
34	EVS Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to EVS codec.

Position	HDR Column Name	Data Type	Range	Description
35	Other Count	Counter	0-2147483647	Lifetime total of all SDP media streams received in the realm which negotiated to Other (Unknown) codec.

xcode-codec-util

Displays licensed codecs, the total provisioned capacity, and the current number of sessions in use. This HDR group corresponds to the **show xcode load** command and apLicenseEntry found in ap-license.mib and apCodecTranscodingResourceUtilMIBObjects found in ap-codec.mib.

Position	HDR Column Name	Data Type	Range	Description
1	TimeStamp	Integer		The window of time the HDR collector used to collect the data. The value is in seconds.
2	Licensed Codec Name	String		Name of the licensed Codec
3	Sessions	Gauge	0-2147483647	Total number of active transcoded session for this codec.
4	Capacity	Integer		Total licensed capacity of the codec. If the licensed capacity is uncapped, a zero is displayed.

xcode-session-gen-info

Displays general counters about transcoding sessions. This HDR group corresponds to the **show xcode load** command and the apCodecTranscodingTCULoadStatsTable found in ap-codec.mib.

Position	HDR Column Name	Data Type	Range	Description
1	TimeStamp	Integer		The window of time the HDR collector used to collect the data. The value is in seconds.
2	Total Transcoded Sessions	Gauge	64-bit int	Total number of active transcoded sessions in the system.
3	DSP MIPS Protection	String		Indication whether DSP MIPS Protection is active or not.

xcode-tcm-util

Displays transcoding resources load statistics. This HDR group corresponds to the **show xcode load** command and the apCodecTranscodingTCULoadStatsTable found in ap-codec.mib.

Position	HDR Column Name	Data Type	Range	Description
1	TimeStamp	Integer		The window of time the HDR collector used to collect the data. The value is in seconds.
2	TCU Num	Integer		Transcoding Unit Number
3	TCM Num	Integer		Transcoding Module for the particular TCU
4	DSP Num	Integer		DSP Number for the particular TCM
5	Session Count	Gauge	0 - 2147483647	The number of active sessions for a DSP
6	Current Load	Gauge	0.00% to 100.00%	The current load (in percentage) for a DSP. The precision of the value will be maintained up to two places of decimal as in acli.
7	Peak Load	Counter	0.00% to 100.00%	The peak lifetime load (in percentage) for a DSP. The precision of the value will be maintained up to two places of decimal as in acli.
8	DSP Overloaded	String		Indication whether the DSP is overloaded or not

stir-stats

This HDR group collects a wide range of STIR/SHAKEN statistics through **show stir**. This HDR group's configured name is **stir-stats**.

The following table lists STIR statistics in this HDR group.

CSV Position	HDR Column Name	Data Type	Range	Description
1	TimeStamp	Integer	N/A	Time that this data was written to this file.
2	STI-Server	String	N/A	Server name as configured on the SBC.
3	AS Queries	Counter	0-2^64-1	Total AS server queries made to the named server.
4	AS Success Responses	Counter	0-2^64-1	Total successful AS server responses received from the named server.
5	AS Fail Responses	Counter	0-2^64-1	Total failed AS server responses received from the named server.
6	AS Fail Service Exception	Counter	0-2^64-1	Total AS server responses received from the named server indicating failure caused by a service exception.
7	AS Fail Policy Exception	Counter	0-2^64-1	Total AS server responses received from the named server indicating failure caused by a policy exception.
8	AS Shaken Passport A	Counter	0-2^64-1	Total shaken passports with Attestation A added to the INVITE messages by SBC

CSV Position	HDR Column Name	Data Type	Range	Description
9	AS Shaken Passport B	Counter	0-2^64-1	Total shaken passports with Attestation B added to the INVITE messages by SBC
10	AS Shaken Passport C	Counter	0-2^64-1	Total shaken passports with Attestation C added to the INVITE messages by SBC
11	AS DIV Passport	Counter	0-2^64-1	Total DIV passports added to the INVITE messages by SBC
12	VS Queries	Counter	0-2^64-1	Total VS server queries made to the named server.
13	VS Success Responses	Counter	0-2^64-1	Total successful VS server responses received from the named server.
14	VS Fail Responses	Counter	0-2^64-1	Total failed VS server responses received from the named server.
15	VS Success Verification	Counter	0-2^64-1	Total VS server responses received from the named server indicating verification success.
16	VS Fail Verification	Counter	0-2^64-1	Total VS server responses received from the named server indicating verification failure.
17	VS Fail Service Exception	Counter	0-2^64-1	Total VS server responses received from the named server indicating failure caused by a service exception.
18	VS Fail Policy Exception	Counter	0-2^64-1	Total VS server responses received from the named server indicating failure caused by a policy exception.
19	VS No Passport	Counter	0-2^64-1	Total INVITE messages received without any passport by the SBC
20	VS Shaken Passport	Counter	0-2^64-1	Total INVITE messages received with shaken passport by the SBC
21	VS Div Passport VS	Counter	0-2^64-1	Total INVITE messages received with DIV passport by the SBC
22	TN-Validation-Passed	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to TN-Validation-Passed by the SBC
23	VS TN-Validation-Failed	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to TN-Validation-Failed by the SBC
24	VS No-TN-Validation	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to No-TN-Validation by the SBC
25	VS Invite Rejected	Counter	0-2^64-1	Total INVITE messages rejected per SBC configuration
26	STI Server Unreachable	Counter	0-2^64-1	The number of times the server has tripped the STI server's 'circuit breaker'
27	STI AS Service Unreachable	Counter	0-2^64-1	Total number of times the AS service was unreachable by the SBC
28	STI VS Service Unreachable	Counter	0-2^64-1	Total number of times the VS service was unreachable by the SBC

stir-stats-session-agent

This HDR group collects a wide range of STIR/SHAKEN statistics through **show stir**. This HDR group's configured name is **stir-stats-session-agent**.

This table lists STIR session-agent statistics in this HDR group.

Position	HDR Column Name	Data Type	Range	Description
1	TimeStamp	Integer	N/A	Time that this data was written to this file.
2	Session-Agent	String	N/A	Session agent name as configured on the SBC.
3	AS Queries	Counter	0-2^64-1	Total AS server queries made via the named session agent.
4	AS Success Responses	Counter	0-2^64-1	Total successful AS server responses received via the named session agent.
5	AS Fail Responses	Counter	0-2^64-1	Total failed AS server responses received via the named session agent.
6	AS Fail Service Exception	Counter	0-2^64-1	Total AS server responses received via the named session agent indicating failure caused by a service exception.
7	AS Fail Policy Exception	Counter	0-2^64-1	Total AS server responses received via the named session agent indicating failure caused by a policy exception.
8	AS Shaken Passport A	Counter	0-2^64-1	Total shaken passports with Attestation A added to the INVITE messages by SBC
9	AS Shaken Passport B	Counter	0-2^64-1	Total shaken passports with Attestation B added to the INVITE messages by SBC
10	AS Shaken Passport C	Counter	0-2^64-1	Total shaken passports with Attestation C added to the INVITE messages by SBC
11	AS DIV Passport	Counter	0-2^64-1	Total DIV passports added to the INVITE messages by SBC
12	VS Queries	Counter	0-2^64-1	Total VS server queries made via the named session agent.
13	VS Success Responses	Counter	0-2^64-1	Total successful VS server responses received via the named session agent.
14	VS Fail Responses	Counter	0-2^64-1	Total failed VS server responses received via the named session agent.
15	VS Success Verification	Counter	0-2^64-1	Total VS server responses received via the named session agent indicating verification success.
16	VS Fail Verification	Counter	0-2^64-1	Total VS server responses received via the named session agent indicating verification failure.
17	VS Fail Service Exception	Counter	0-2^64-1	Total VS server responses received via the named session agent indicating failure caused by a service exception.
18	VS Fail Policy Exception	Counter	0-2^64-1	Total VS server responses received via the named session agent indicating failure caused by a policy exception.
19	VS No Passport	Counter	0-2^64-1	Total INVITE messages received without any passport by the SBC
20	VS Shaken Passport VS	Counter	0-2^64-1	Total INVITE messages received with shaken passport by the SBC

Position	HDR Column Name	Data Type	Range	Description
21	Div Passport	Counter	0-2^64-1	Total INVITE messages received with shaken passport by the SBC
22	VS TN-Validation-Passed	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to TN-Validation-Passed by the SBC
23	VS TN-Validation-Failed	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to TN-Validation-Failed by the SBC
24	VS No-TN-Validation	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to No-TN-Validation by the SBC
25	VS Invite Rejected	Counter	0-2^64-1	Total INVITE messages rejected per SBC configuration

stir-stats-sip-interface

This HDR group collects a wide range of STIR/SHAKEN statistics through **show stir**. This HDR group's configured name is **stir-stats-sip-interface**.

This table lists STIR statistics in this HDR group.

Position	HDR Column Name	Data Type	Range	Description
1	TimeStamp	Integer	N/A	Time that this data was written to this file.
2	SIP Interface	String	N/A	SIP interface name as configured on the SBC.
3	AS Queries	Counter	0-2^64-1	Total AS server queries made via the named SIP interface.
4	AS Success Responses	Counter	0-2^64-1	Total successful AS server responses received via the named SIP interface.
5	AS Fail Responses	Counter	0-2^64-1	Total failed AS server responses received via the named SIP interface.
6	AS Fail Service Exception	Counter	0-2^64-1	Total AS server responses received via the named SIP interface indicating failure caused by a service exception.
7	AS Fail Policy Exception	Counter	0-2^64-1	Total AS server responses received via the named SIP interface indicating failure caused by a policy exception.
8	AS Shaken Passport A	Counter	0-2^64-1	Total shaken passports with Attestation A added to the INVITE messages by SBC
9	AS Shaken Passport B	Counter	0-2^64-1	Total shaken passports with Attestation B added to the INVITE messages by SBC
10	AS Shaken Passport C	Counter	0-2^64-1	Total shaken passports with Attestation C added to the INVITE messages by SBC
11	AS DIV Passport	Counter	0-2^64-1	Total DIV passports added to the INVITE messages by SBC
12	VS Queries	Counter	0-2^64-1	Total VS server queries made via the named SIP interface.
13	VS Success Responses	Counter	0-2^64-1	Total successful VS server responses received via the named SIP interface.

Position	HDR Column Name	Data Type	Range	Description
14	VS Fail Responses	Counter	0-2^64-1	Total failed VS server responses received via the named SIP interface.
15	VS Success Verification	Counter	0-2^64-1	Total VS server responses received via the named SIP interface indicating verification success.
16	VS Fail Verification	Counter	0-2^64-1	Total VS server responses received via the named SIP interface indicating verification failure.
17	VS Fail Service Exception	Counter	0-2^64-1	Total VS server responses received via the named SIP interface indicating failure caused by a service exception.
18	VS Fail Policy Exception	Counter	0-2^64-1	Total VS server responses received via the named SIP interface indicating failure caused by a policy exception.
19	VS No Passport	Counter	0-2^64-1	Total INVITE messages received without any passport by the SBC
20	VS Shaken Passport VS	Counter	0-2^64-1	Total INVITE messages received with shaken passport by the SBC
21	Div Passport	Counter	0-2^64-1	Total INVITE messages received with shaken passport by the SBC
22	VS TN-Validation-Passed	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to TN-Validation-Passed by the SBC
23	VS TN-Validation-Failed	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to TN-Validation-Failed by the SBC
24	VS No-TN-Validation	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to No-TN-Validation by the SBC
25	VS Invite Rejected	Counter	0-2^64-1	Total INVITE messages rejected per SBC configuration

stir-stats-realm

This HDR group collects a wide range of STIR/SHAKEN statistics through **show stir**. This HDR group's configured name is **stir-stats-realm**.

This table lists STIR statistics in this HDR group.

Position	HDR Column Name	Data Type	Range	Description
1	TimeStamp	Integer	NA	Time that this data was written to this file.
2	Realm	String	N/A	Realm name as configured on the SBC.
3	AS Queries	Counter	0-2^64-1	Total AS server queries made via the named realm.
4	AS Success Responses	Counter	0-2^64-1	Total successful AS server responses received via the named realm.
5	AS Fail Responses	Counter	0-2^64-1	Total failed AS server responses received via the named realm.

Position	HDR Column Name	Data Type	Range	Description
6	AS Fail Service Exception	Counter	0-2^64-1	Total AS server responses received via the named realm indicating failure caused by a service exception.
7	AS Fail Policy Exception	Counter	0-2^64-1	Total AS server responses received via the named realm indicating failure caused by a policy exception.
8	AS Shaken Passport A	Counter	0-2^64-1	Total shaken passports with Attestation A added to the INVITE messages by SBC
9	AS Shaken Passport B	Counter	0-2^64-1	Total shaken passports with Attestation B added to the INVITE messages by SBC
10	AS Shaken Passport C	Counter	0-2^64-1	Total shaken passports with Attestation C added to the INVITE messages by SBC
11	AS DIV Passport	Counter	0-2^64-1	Total DIV passports added to the INVITE messages by SBC
12	VS Queries	Counter	0-2^64-1	Total VS server queries made via the named realm.
13	VS Success Responses	Counter	0-2^64-1	Total successful VS server responses received via the named realm.
14	VS Fail Responses	Counter	0-2^64-1	Total failed VS server responses received via the named realm.
15	VS Success Verification	Counter	0-2^64-1	Total VS server responses received via the named realm indicating verification success.
16	VS Fail Verification	Counter	0-2^64-1	Total VS server responses received via the named realm indicating verification failure.
17	VS Fail Service Exception	Counter	0-2^64-1	Total VS server responses received via the named realm indicating failure caused by a service exception.
18	VS Fail Policy Exception	Counter	0-2^64-1	Total VS server responses received via the named realm indicating failure caused by a policy exception.
19	VS No Passport	Counter	0-2^64-1	Total INVITE messages received without any passport by the SBC
20	VS Shaken Passport VS	Counter	0-2^64-1	Total INVITE messages received with shaken passport by the SBC
21	Div Passport	Counter	0-2^64-1	Total INVITE messages received with shaken passport by the SBC
22	VS TN-Validation-Passed	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to TN-Validation-Passed by the SBC
23	VS TN-Validation-Failed	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to TN-Validation-Failed by the SBC
24	VS No-TN-Validation	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to No-TN-Validation by the SBC
25	VS Invite Rejected	Counter	0-2^64-1	Total INVITE messages rejected per SBC configuration

stir-stats-system

This HDR group collects a wide range of STIR/SHAKEN statistics through **show stir**. This HDR group's configured name is **stir-stats-system**.

This table lists STIR statistics in this HDR group.

Position	HDR Column Name	Data Type	Range	Description
1	TimeStamp	N/A	N/A	Time that this data was written to this file.
2	AS Queries	Counter	0-2^64-1	Total AS server queries made across the system.
3	AS Success Responses	Counter	0-2^64-1	Total successful AS server responses received across the system.
4	AS Fail Responses	Counter	0-2^64-1	Total failed AS server responses received across the system.
5	AS Fail Service Exception	Counter	0-2^64-1	Total AS server responses received across the system realm indicating failure caused by a service exception.
6	AS Fail Policy Exception	Counter	0-2^64-1	Total AS server responses received across the system indicating failure caused by a policy exception.
7	AS Shaken Passport A	Counter	0-2^64-1	Total shaken passports with Attestation A added to the INVITE messages by SBC
8	AS Shaken Passport B	Counter	0-2^64-1	Total shaken passports with Attestation B added to the INVITE messages by SBC
9	AS Shaken Passport C	Counter	0-2^64-1	Total shaken passports with Attestation C added to the INVITE messages by SBC
10	AS DIV Passport	Counter	0-2^64-1	Total DIV passports added to the INVITE messages by SBC
11	VS Queries	Counter	0-2^64-1	Total VS server queries made across the system.
12	VS Success Responses	Counter	0-2^64-1	Total successful VS server responses received across the system.
13	VS Fail Responses	Counter	0-2^64-1	Total failed VS server responses received across the system.
14	VS Success Verification	Counter	0-2^64-1	Total VS server responses received across the system indicating verification success.
15	VS Fail Verification	Counter	0-2^64-1	Total VS server responses received across the system indicating verification failure.
16	VS Fail Service Exception	Counter	0-2^64-1	Total VS server responses received across the system indicating failure caused by a service exception.
17	VS Fail Policy Exception	Counter	0-2^64-1	Total VS server responses received across the system indicating failure caused by a policy exception.
18	VS No Passport	Counter	0-2^64-1	Total INVITE messages received without any passport by the SBC
19	VS Shaken Passport VS	Counter	0-2^64-1	Total INVITE messages received with shaken passport by the SBC
20	Div Passport	Counter	0-2^64-1	Total INVITE messages received with shaken passport by the SBC
21	VS TN-Validation-Passed	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to TN-Validation-Passed by the SBC
22	VS TN-Validation-Failed	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to TN-Validation-Failed by the SBC

Position	HDR Column Name	Data Type	Range	Description
23	VS No-TN-Validation	Counter	0-2^64-1	Total INVITE messages sent with verstat parameter set to No-TN-Validation by the SBC
24	VS Invite Rejected	Counter	0-2^64-1	Total INVITE messages rejected per SBC configuration

msrp-stats

This HDR group collects a wide range of MSRP stats through **show msrp statistics**. **msrp-stats** is this HDR group's configured name.

The following table lists MSRP stats in this HDR group. In the Data Type column, Unit is equal to 0 to 4,294,967,295 and Ulong is equal to 0 to 18,446,744,073,709,551,615.

CSV Position	HDR Column Name	Data Type	Description
1	Timestamp	Integer	The window of time the HDR collector used to collect the data. The value is in seconds.
2	FD Table Size	Uint/Unsigned 32-bit integer	The number of entries in the MSRP File Descriptor Table
3	Session-ID Table Size	Uint/Unsigned 32-bit integer	The number of entries in the MSRP Session-Id table
4	Total Active Sessions	Uint/Unsigned 32-bit integer	The number of total Active MSRP Sessions
5	Maximum Active Sessions	Ulong/Unsigned 62-bit integer	The number of max active MSRP sessions
6	Total Established Sessions	Ulong/Unsigned 62-bit integer	Total number of MSRP Established Sessions
7	Total Provisioned Sessions	Ulong/Unsigned 62-bit integer	Total number of MSRP Provisioned Sessions
8	Total Finished Sessions	Ulong/Unsigned 62-bit integer	Total number of MSRP Finished Sessions
9	Total Accepted Connections	Ulong/Unsigned 62-bit integer	Total number of Accepted Connections in MSRP sessions
10	Total Connected Connections	Ulong/Unsigned 62-bit integer	Total number of Connected Connections in MSRP sessions
11	Total Released Connections	Ulong/Unsigned 62-bit integer	Total number of Released Connections in MSRP sessions
12	Total Requests Received	Ulong/Unsigned 62-bit integer	Total number of Stream Requests Received in MSRP sessions
13	Total Requests Sent	Ulong/Unsigned 62-bit integer	Total number of stream Requests Sent in MSRP sessions

CSV Position	HDR Column Name	Data Type	Description
14	Total Responses Received	Ulong/Unsigned 62-bit integer	Total number of Stream Responses Received in MSRP sessions
15	Total Responses Sent	Ulong/Unsigned 62-bit integer	Total number of Stream Responses Sent in MSRP sessions
16	Total Global Buffer Data	Uint/Unsigned 32-bit integer	Current Global Buffer Data size for MSRP sessions
17	Total MSRP Nat Flows Added	Ulong/Unsigned 62-bit integer	Total number of MSRP Nat Flows Added
18	Total MSRP Nat Flows Deleted	Ulong/Unsigned 62-bit integer	Total number of MSRP Nat Flows Deleted
19	Total No Session Route Failures	Ulong/Unsigned 62-bit integer	Total number of Failed MSRP Sessions due to No Session Route Failure
20	Total Failed Session Connects	Ulong/Unsigned 62-bit integer	Total number of Failed MSRP Sessions that can not connect
21	Total Fingerprint Mismatches	Ulong/Unsigned 62-bit integer	Total number of Failed MSRP Sessions due to Fingerprint Mismatches
22	Total Message Send Failures	Ulong/Unsigned 62-bit integer	Total number of Message Send Failures in MSRP sessions
23	Total Malformed Messages Received	Ulong/Unsigned 62-bit integer	Total number of Malformed Messages Received in MSRP sessions
24	TCP Send-Q Full Events	Ulong/Unsigned 62-bit integer	Total number of TCP Send-Q Full Events in MSRP sessions
25	TCP Send-Q Congested Events	Ulong/Unsigned 62-bit integer	Total number of TCP Send-Q Congested Events in MSRP sessions
26	TCP Send-Q Relieved Events	Ulong/Unsigned 62-bit integer	Total number of TCP Send-Q Relieved Events in MSRP sessions
27	Total No Trans-Id Errors	Ulong/Unsigned 62-bit integer	Total number of No Trans-Id Stream Errors in MSRP sessions
28	Total No Msg Type Errors	Ulong/Unsigned 62-bit integer	Total number of No Message Type Stream Errors in MSRP Sessions
29	Total No Byte Length Errors	Ulong/Unsigned 62-bit integer	Total number of No Byte Length stream Errors in MSRP Sessions
30	Total Buffer Limit Exceeded Errors	Ulong/Unsigned 62-bit integer	Total number of Buffer Limit Exceeded Errors in MSRP Sessions

CSV Position	HDR Column Name	Data Type	Description
31	Total Failed Connection Attempts	Ulong/Unsigned 62-bit integer	Total number of Connection Attempts Failed in MSRP Sessions
32	Total Session Reprovision Mismatches	Ulong/Unsigned 62-bit integer	Total number of Session Reprovision Mismatches
33	Total TCP Listen Errors	Ulong/Unsigned 62-bit integer	Total number of TCP Listen Errors in MSRP Sessions
34	Total TCP Connect Errors	Ulong/Unsigned 62-bit integer	Total number of TCP Connect Errors in MSRP Sessions
35	Total TCP Errors	Ulong/Unsigned 62-bit integer	Total number of TCP Errors in MSRP Sessions
36	Total FROM HDRS without a session-id	Ulong/Unsigned 62-bit integer	Total number of FROM Header without a session-id in MSRP Sessions
37	Total Message without FROM HDRS	Ulong/Unsigned 62-bit integer	Total number of Messages without FROM Header in MSRP Sessions
38	Total FROM HDR Parse errors	Ulong/Unsigned 62-bit integer	Total number of FROM Header Parse errors in MSRP Sessions
39	Total FROM HDRS with no Address	Ulong/Unsigned 62-bit integer	Total number of FROM Header with no Address in MSRP Sessions
40	Total FROM HDRS with no port	Ulong/Unsigned 62-bit integer	Total number of FROM Header with no port in MSRP Sessions
41	Total From HDRS with no Authority	Ulong/Unsigned 62-bit integer	Total number of From Header with no Authority in MSRP Sessions
42	Total FROM HDR service type mismatches	Ulong/Unsigned 62-bit integer	Total number of FROM Header service type mismatches in MSRP Sessions
43	Total Send failures due to No Destination FD found	Ulong/Unsigned 62-bit integer	Total number of send failures due to No Destination File Descriptor found in MSRP Sessions
44	Total Send failures due to No Destination Session found	Ulong/Unsigned 62-bit integer	Total number of send failures due to No Destination Session found in MSRP Sessions
45	Total TO HDRS without a session-id	Ulong/Unsigned 62-bit integer	Total number of TO Headers without a session-id in MSRP Sessions

CSV Position	HDR Column Name	Data Type	Description
46	Total Message without TO HDRS	Ulong/Unsigned 62-bit integer	Total number of Messages without TO Header in MSRP Sessions
47	Total TO HDR Parse errors	Ulong/Unsigned 62-bit integer	Total number of TO Headers Parse errors in MSRP Sessions
48	Total TO HDRS with no Address	Ulong/Unsigned 62-bit integer	Total number of TO Headers with no Address in MSRP Sessions
49	Total TO HDRS with no port	Ulong/Unsigned 62-bit integer	Total number of TO Headers with no port in MSRP Sessions
50	Total TO HDRS with no Authority	Ulong/Unsigned 62-bit integer	Total number of TO Headers with no Authority in MSRP Sessions
51	Total TO HDR service type mismatches	Ulong/Unsigned 62-bit integer	Total number of TO Header service type mismatches in MSRP Sessions
52	Total No Dest FD Entry Errors	Ulong/Unsigned 62-bit integer	Total number of No Destination File Descriptor Entry Errors in MSRP Sessions
53	Total TCP Send Failures	Ulong/Unsigned 62-bit integer	Total number of TCP Send Failures in MSRP Sessions
54	Total FD Table Insert Collisions	Ulong/Unsigned 62-bit integer	Total number of Insert Collisions errors in File Descriptor Table
55	Total FD Table No Data Insert Errors	Ulong/Unsigned 62-bit integer	Total number of No Data Insert Errors in File Descriptor Table
56	Total FD Table Memory Insert Errors	Ulong/Unsigned 62-bit integer	Total number of Memory Insert Errors in File Descriptor Table
57	Total FD Table Max Hops Insert Errors	Ulong/Unsigned 62-bit integer	Total number of Max Hops Insert Errors in File Descriptor Table
58	Total FD Table Bad Insert Errors	Ulong/Unsigned 62-bit integer	Total number of Bad Insert Errors in File Descriptor Table
59	Total Session Table Insert Collisions	Ulong/Unsigned 62-bit integer	Total number of Insert Collisions Errors in Session Table
60	Total Session Table No Data Insert Errors	Ulong/Unsigned 62-bit integer	Total number of No Data Insert Errors in Session Table
61	Total Session Table Memory Insert Errors	Ulong/Unsigned 62-bit integer	Total number of Memory Insert Errors in Session Table

CSV Position	HDR Column Name	Data Type	Description
62	Total Session Table Max Hops Insert Errors	Ulong/Unsigned 62-bit integer	Total number of Max Hops Insert Errors in Session Table
63	Total Session Table Bad Insert Errors	Ulong/Unsigned 62-bit integer	Total number of Bad Insert Errors in Session Table
64	Total Flow-To-Session Table Insert Errors	Ulong/Unsigned 62-bit integer	Total number of Insert Errors in Flow-To-Session Table
65	Total PreProvisioned Sessions	Ulong/Unsigned 62-bit integer	Total number of PreProvisioned Sessions in MSRP Sessions
66	Total PreProvision RX Messages	Ulong/Unsigned 62-bit integer	Total number of PreProvision RX Messages in MSRP Sessions
67	Sockets in Initial State	Uint/Unsigned 32-bit integer	Total number of Sockets in Initial State in MSRP Sessions
68	Sockets in Listening State	Uint/Unsigned 32-bit integer	Total number of Sockets in Listening State in MSRP Sessions
69	Sockets in Pending State	Uint/Unsigned 32-bit integer	Total number of Sockets in Pending State in MSRP Sessions
70	Sockets in Connecting State	Uint/Unsigned 32-bit integer	Total number of Sockets in Connecting State in MSRP Sessions
71	Sockets in Connected State	Uint/Unsigned 32-bit integer	Total number of Sockets in Connected State in MSRP Sessions
72	Sockets in Established State	Uint/Unsigned 32-bit integer	Total number of Sockets in Established State in MSRP Sessions
73	Sockets in Finished State	Uint/Unsigned 32-bit integer	Total number of Sockets in Finished State in MSRP Sessions
74	Sockets in Released State	Uint/Unsigned 32-bit integer	Total number of Sockets in Released State in MSRP Sessions
75	Sockets in Unqualified Status	Uint/Unsigned 32-bit integer	Total number of Sockets in Unqualified Status in MSRP Sessions
76	Sessions in Initial State	Uint/Unsigned 32-bit integer	Total number of Sessions in Initial State
77	Sessions in Listening State	Uint/Unsigned 32-bit integer	Total number of Sessions in Listening State
78	Sessions in Pre-Provisioned State	Uint/Unsigned 32-bit integer	Total number of Sessions in Pre-Provisioned State
79	Sessions in Provisioned State	Uint/Unsigned 32-bit integer	Total number of Sessions in Provisioned State

CSV Position	HDR Column Name	Data Type	Description
80	Sessions in Established State	Uint/Unsigned 32-bit integer	Total number of Sessions in Established State
81	Sessions in Finished State	Uint/Unsigned 32-bit integer	Total number of Sessions in Finished State
82	Closed FD Table Size	Uint/Unsigned 32-bit integer	Closed FD Table Size
83	Total Closed FD Table Insert Errors	Ulong/Unsigned 62-bit integer	Total number of Insert Errors in Closed File Descriptor Table
84	Total FD Forced Releases	Ulong/Unsigned 62-bit integer	Total number of Forced Release File Descriptor in MSRP Sessions
85	Total Listen FD Not Found in Forced Releases	Ulong/Unsigned 62-bit integer	Total number of Forced Release Listen File Descriptor Not Found in MSRP Sessions
86	Total Forked FD Not Found in Forced Releases	Ulong/Unsigned 62-bit integer	Total number of Forced Release Forked File Descriptor Not Found in MSRP Sessions
87	Total Listen FD Forced Releases	Ulong/Unsigned 62-bit integer	Total number of Forced Release Listen File Descriptor in MSRP Sessions
88	Total Request Bytes Received	Ulong/Unsigned 62-bit integer	Total number of Request Bytes Received in MSRP Sessions
89	Total Request Bytes Sent	Ulong/Unsigned 62-bit integer	Total number of Request Bytes Sent in MSRP Sessions
90	Total Response Bytes Received	Ulong/Unsigned 62-bit integer	Total number of Response Bytes Received in MSRP Sessions
91	Total Response Bytes Sent	Ulong/Unsigned 62-bit integer	Total number of Response Bytes Sent in MSRP Sessions
92	Total Unqualified Closes	Ulong/Unsigned 62-bit integer	Total number of Unqualified Closes in MSRP Sessions
93	Total Unconnected Closes	Ulong/Unsigned 62-bit integer	Total number of File Descriptor did not get any connection in MSRP Sessions
94	Total Accept Error Closes	Ulong/Unsigned 62-bit integer	Total number of Accept Error Closes in MSRP Sessions
95	Total Pre-provision Closes	Ulong/Unsigned 62-bit integer	Total number of Pre-provision Closes in MSRP Sessions

CSV Position	HDR Column Name	Data Type	Description
96	Total Read Error Closes	Ulong/Unsigned 62-bit integer	Total number of Read Error Closes in MSRP Sessions
97	Total Stream Error Closes	Ulong/Unsigned 62-bit integer	Total number of Stream Error Closes in MSRP Sessions
98	Total Buffer Error Closes	Ulong/Unsigned 62-bit integer	Total number of Buffer Error Closes in MSRP Sessions
99	Total Release Notifications Send Failures	Ulong/Unsigned 62-bit integer	Total number of Release Notification send failures
100	Total Unsent Release Notifications - No ID	Ulong/Unsigned 62-bit integer	Total number of Unsent Release Notifications due to No session ID
101	Total Unsent Release Notifications - No FD	Ulong/Unsigned 62-bit integer	Total number of Unsent Release Notifications due to invalid File Descriptor
102	Total Unsent Release Notifications - No Listen FD	Ulong/Unsigned 62-bit integer	Total number of Unsent Release Notifications due to No Listen File Descriptor
103	CEMA Accepted Connections	Ulong/Unsigned 62-bit integer	Total number of CEMA Accepted Connections
104	CEMA Connected Connections	Ulong/Unsigned 62-bit integer	Total number of CEMA Connected Connections
105	Total Active CEMA Sessions	Uint/Unsigned 32-bit integer	Total number of Active CEMA Sessions
106	Total Established Sessmatch Sessions	Ulong/Unsigned 62-bit integer	Total number of Established Sessmatch Sessions
107	Total Provisioned Sessmatch Sessions	Ulong/Unsigned 62-bit integer	Total number of Provisioned Sessmatch Sessions
108	Total Active Sessmatch Sessions	Uint/Unsigned 32-bit integer	Total number of Active Sessmatch Sessions
109	Messages Received from Host	Ulong/Unsigned 62-bit integer	Total number of Messages Received from Host in MSRP Sessions
110	Messages Sent to Host	Ulong/Unsigned 62-bit integer	Total number of Messages Sent to Host in MSRP Sessions
111	Messages Sent to Host Fail	Ulong/Unsigned 62-bit integer	Total number of Messages Sent to Host Failed in MSRP sessions

4

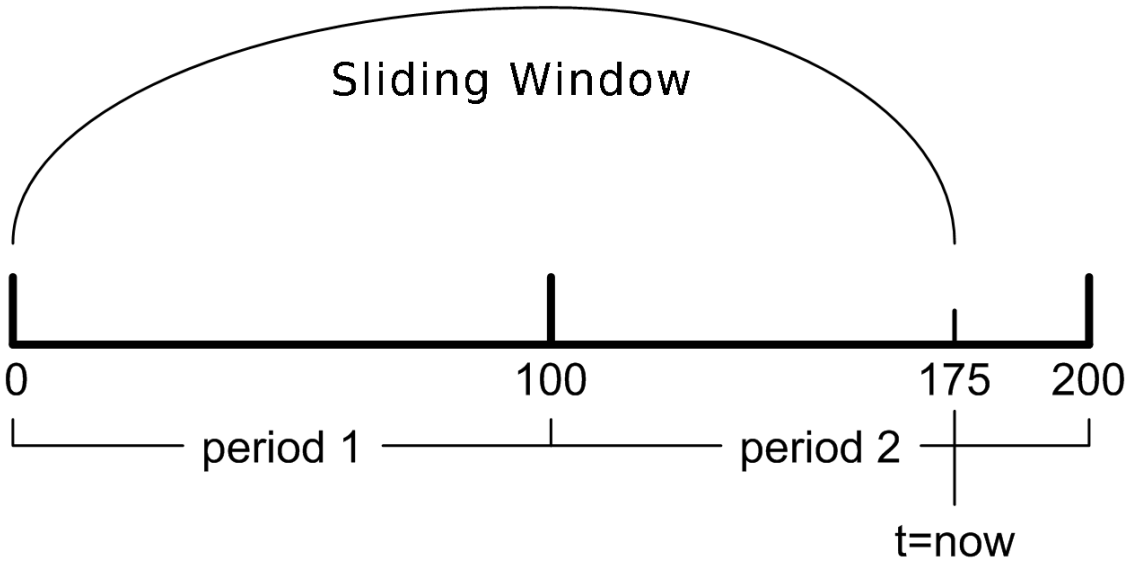
HDR Show Commands

The SBC **show** commands are entered at the root level of the ACLI. The parameters in these tables map to the Historical Data Recording (HDR) data used by the HDR Collector when generating comma-separated value (CSV) reports.

For more information about the HDR Collection data, see HDR Groups and Group Statistics.

Statistic Counts

For each **show** command table output, statistical counts are based on the SBC defining a period as 100 seconds. The recent window represents the previous complete period (period 1 shown below) PLUS the time incurred into the current period (period 2 shown below). Period 1 = 100 seconds and period 2 = 75 seconds. The complete window period = 175 seconds. After period 3 is entered (not pictured below), the Recent window will begin at the 100 second mark.



When you execute a **show** command, a timestamp and period count display.

```
ORACLE> show sipd sessions
10:37:25-141
```

In the period count, the number after the dash, indicates the number of seconds into the recent period. In the above example, the number of seconds into the recent period is 141 seconds. Therefore, the recent window ranges from 100 to 199 seconds.

Table Column Descriptions

For each Show command table, the columns are defined as follows:

Column	Description
Period Active	Represents the current number of active counts
Period High	Represents the highest number during the recent window
Period Total	Represents the total accumulated count during the recent window
Lifetime Total	Represents the total accumulated count
Lifetime PerMax	Represents the maximum recorded in one period
Lifetime High	Represents the highest momentary count

> **Note:**
>
> The Lifetime statistics begin accumulating from the last reboot.

Show Commands Associated with HDR Groups

This section provides ACLI show command output tables and descriptions. These show commands are associated with the HDR Groups described in the section, **ACLI-Associated Groups and Group Statistics**.

> **Note:**
>
> The **show sipd agents** command is associated with the **session-agent** HDR Group, and the **show sipd realms** command is associated with the **session-realm** HDR Group (in the section **MIB-Associated Groups and Group Statistics**). The **show sipd realm** command is also associated with the registration-realm HDR Group in the section, **ACLI-Associated Groups and Group Statistics**.

show sipd sessions

The **show sipd sessions** command displays information about SIP session transactions on the SBC. These statistics include session information over Period and Lifetime monitoring spans, as well as information on active sessions. For associated HDR Group and Group Statistics, see **sip-sessions**.

```
ORACLE> show sipd sessions
09:40:09-105
SIP Session Status          -- Period -- -------- Lifetime --------
                  Active     High   Total       Total  PerMax     High
Sessions              10       10      10          65      10       55
  Initial             10       30      40          65      50        5
  Early               20       10      30          65      45       10
  Established         15       10      25          60      30       35
  Terminated           3        0       3           5      10       10
Dialogs               10        3      13          45      20       30
  Early                7        8      15          47      25       25
  Confirmed           15        0      15          60      40       10
  Terminated           4        0       4          45      25       20
```

Parameter	Description
Sessions	Number of sessions established by INVITE and SUBSCRIBE messages
Initial	Number of sessions for which an INVITE or SUBSCRIBE is being forwarded.
Early	Number of sessions for which the first provisional response (1xx other than 100) is received.
Established	Number of sessions for which a success (2xx) response is received.
Terminated	Number of 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 remains in the Terminated state until all the resources for the session are freed.
Dialogs	Number of end-to-end SIP signaling connections.
Early	Number of dialogs created by a provisional response.
Confirmed	Number of dialogs created by a success response. An “Early” dialog transitions to Confirmed when a success response is received.
Terminated	Number of dialogs that ended by receiving/sending a BYE for an “Established” session or receiving/sending error response “Early” dialog. The dialog remains in the Terminated state until all the resources for the session are freed.

show sipd agents

The **show sipd agents** command displays statistics related to defined SIP session agents. SIP session agents can be softswitches, SIP proxies, application servers, SIP gateways, or SIP endpoints.

In addition to functioning as a single logical next hop for a signaling message (for example, where a SIP INVITE is forwarded), session agents can provide information about next or previous hops for packets in a SIP agent, including providing a list of equivalent next hops.

Entering this show command without 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 associated HDR Group and Group Statistics, see **session-agent**.

When the FQDN-resolved Session Agent Statistics are enabled with the sa-routes-stats parameter set to enabled, the format session-agent-hostname#IP-address is used to indicate each IP address returned for a DNS query on a session agent configured as a hostname.

Show sipd agents Command

```
ORACLE> show sipd agents
14:41:34-31 (recent)
                  ------ Inbound ------  ----- Outbound ------ -- Latency
--   Max
Session Agent      Active    Rate  ConEx  Active    Rate  ConEx    Avg    Max
Burst
session-agent1    I     0     0.0      0       0     0.0      0  0.000
0.000     0
session-agent2    I     0     0.0      0       0     0.0      0  0.000
0.000     0
```

Parameter	Description
Session Agent	Host name of the session agent in Fully Qualified Domain Name (FQDN) or IP Address format (softswitch, SIP proxy, application server, SIP gateway or SIP endpoint).
Inbound	
Active	Total number of current, active inbound sessions sent to the session agent.
Rate	Average rate of inbound session invitations (per second) sent to the session agent.
ConEx	Number of times that signaling & bandwidth constraints for inbound packets sent to the session agent were exceeded on the session agent. This helps determine resource availability.
Outbound	
Active	Total number of current, active outbound sessions sent to the session agent.
Rate	Average rate of outbound session invitations (per second) sent to the session agent.
ConEx	Number of times that signaling & bandwidth constraints for outbound packets were exceeded on the session agent. This helps determine resource availability.
Latency	
Avg	Average amount of time between the moment the session-agent transmits a SIP packet and the moment it reaches its destination.
Max	Maximum amount of time between the moment the session-agent transmits a SIP packet and the moment it reaches its destination.
Max Burst	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 for the burst-rate window.

Show sipd agents <IP address or hostname> Command

```
AcmePacket> show sipd agents session-agent1
12:11:17-51
Session Agent session-agent1(public) [In Service]
                        ------ Period -----  ----- Lifetime -----
                        Active  High  Total   Total  PerMax  High
Inbound Sessions             0     0      0       0       0     0
Rate Exceeded                -     -      0       0       0     -
Num Exceeded                 -     -      0       0       0     -
Burst Rate                   0     0      0       0       0     0
Reg Rate Exceeded            -     -      0       0       0     -
Outbound Sessions            0     1     11      11      11     1
Rate Exceeded                -     0      0       0       0     -
Num Exceeded                 -     -      0       0       0     -
Burst Rate                   0    11      0       0       0    11
Reg Rate Exceeded            -     -      0       0       0     -
Out of Service               -     -      0       0       0     -
Trans Timeout                0     0      0       0       0     0
Requests Sent                -     -      0       0       0     -
Requests Complete            -     -      0       0       0     -
Seizure                      -     -      0       0       0     -
Answer                       -     -      0       0       0     -
```

```
ASR Exceeded                    -     -      0       0       0     -
Messages Received               -     -     30      30      30     -
Latency=0.000: max=0.000
```

Parameter	Description
Inbound Sessions	Number of inbound SIP sessions for this session agent.
Rate Exceeded	Number of times session rate was exceeded for inbound SIP sessions on this session agent.
Num Exceeded	Number of times that signaling & bandwidth constraints for inbound SIP sessions were exceeded on this session agent. This helps determine resource availability.
Burst Rate	Number of times burst rate was exceeded for this session agent on inbound SIP sessions.
Reg Rate Exceeded	Number of times the registration rate was exceeded for this session agent on inbound SIP sessions.
Outbound Sessions	Number of outbound SIP sessions for this session agent.
Rate Exceeded	Number of times session rate was exceeded for outbound SIP sessions.
Num Exceeded	Number of times time constraints were exceeded for outbound SIP sessions.
Burst Rate	Maximum burst rate of traffic (both inbound and outbound).
Reg Rate Exceeded	Number of times the registration rate was exceeded for this session agent on outbound SIP sessions.
Out of Service	Number of times this session agent went out of service.
Trans Timeout	Number of SIP transactions that timed out for this session agent.
Requests Sent	Number of SIP requests sent via this session agent.
Requests Complete	Number of SIP requests completed for this session agent.
Seizure	Number of seizures that occurred on this session agent.
Answer	Number of answered SIP sessions on this session agent.
ASR Exceeded	Number of times that Access Service Requests (ASRs) were exceeded on this session agent.
Messages Received	Number of SIP messages received by this session agent.
Latency	Average and maximum amount of time between the moment the session-agent transmits a SIP packet and the moment it reaches its destination.

show sipd acls

An access control list (ACL) allows/denies specific sources (IP or IP:port) to access the SBC.

The **show sipd acls** command displays information about SIP ACL activity on the SBC. These statistics include ACL information over Period and Lifetime monitoring spans, as well as information on active ACL status. For associated HDR Group and Group Statistics, see **sip-acl-oper** and **sip-acl-status**.

```
ORACLE> show sipd acls
09:12:04-120
SIP ACL Status              -- Period -- -------- Lifetime --------
                  Active     High   Total      Total  PerMax     High
Total Entries          0        0       0          0       0        0
Trusted                0        0       0          0       0        0
Blocked                0        0       0          0       0        0
Blocked NATs           0        0       0          0       0        0
```

```
ACL Operations                    ---- Lifetime ----
                          Recent      Total   PerMax
ACL Requests                   0          0        0
Bad Messages                   0          0        0
Promotions                     0          0        0
Demotions                      0          0        0
Trust->Untrust                 0          0        0
Untrust->Deny                  0          0        0
```

Parameter	Description
SIP ACL Status	
Total Entries	Total number of ACL entries, both trusted and blocked.
Trusted	Number of trusted ACL entries
Blocked	Number of blocked ACL entries
ACL Operations	
ACL Requests	Number of ACL requests
Bad Messages	Number of bad messages
Promotions	Total number of ACL entry promotions. These are the ACL entries that have been promoted from untrusted to trusted status.
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

show sipd client

A SIP client can initiate and terminate SIP sessions. The **show sipd client** command displays statistics for SIP client events when the SBC is acting as a SIP client in its back-to-back User Agent (B2BUA) role. These statistics include SIP client information over Period and Lifetime monitoring spans, as well as information on active SIP client status. For associated HDR Group and Group Statistics, see **sip-client**.

```
ORACLE> show sipd client
09:28:15-191
SIP Client Trans           -- Period -- -------- Lifetime --------
                  Active     High   Total       Total  PerMax     High
All States             0        0       0           0       0        0
<Initial>              0        0       0           0       0        0
<Queued>               0        0       0           0       0        0
<Trying>               0        0       0           0       0        0
<Calling>              0        0       0           0       0        0
<Proceeding>           0        0       0           0       0        0
<Cancelled>            0        0       0           0       0        0
<EarlyMedia>           0        0       0           0       0        0
<Completed>            0        0       0           0       0        0
<SetMedia>             0        0       0           0       0        0
<Established>          0        0       0           0       0        0
<Terminated>           0        0       0           0       0        0
```

Parameter	Description
All States	Number of all client session transactions

Parameter	Description
Initial	Number of times the Initial state was entered due to the receipt of a request
Queued	Number of times the Queued state was entered due to the receipt of a request
Trying	Number of times the Trying state was entered due to the receipt of a request
Calling	Number of times the Calling state was entered due to the receipt of an INVITE request
Proceeding	Number of times the “Proceeding” state was entered due to the receipt of a provisional response while in the Calling state
Cancelled	Number of INVITE transactions that received a CANCEL
EarlyMedia	Number of times the “Proceeding” state was entered due to the receipt of a provisional response that contained a Session Description Protocol (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 SBC was setting up NAT and steering ports
Established	Number of times the client received a 2xx response to an INVITE, but could not forward it because the NAT and steering port information was missing
Terminated	Number of times the Terminated state was entered after a 2xx message

show sipd server

A SIP server can receive and terminate SIP sessions. The **show sipd server** command displays statistics for SIP server events when the SBC is acting as a SIP server in its back-to-back User Agent (B2BUA) role. These statistics include SIP server information over Period and Lifetime monitoring spans, as well as information on active SIP server status. For associated HDR Group and Group Statistics, see **sip-server**.

```
ORACLE> show sipd server
09:39:22-158
SIP Server Trans           -- Period -- -------- Lifetime --------
                  Active    High   Total       Total  PerMax     High
All States             0       0       0           0       0        0
<Initial>              0       0       0           0       0        0
<Queued>               0       0       0           0       0        0
<Trying>               0       0       0           0       0        0
<Proceeding>           0       0       0           0       0        0
<Cancelled>            0       0       0           0       0        0
<Established>          0       0       0           0       0        0
<Completed>            0       0       0           0       0        0
<Confirmed>            0       0       0           0       0        0
<Terminated>           0       0       0           0       0        0
```

Parameter	Description
All States	Number of all server session transactions
Initial	Number of times the Initial state was entered due to the receipt of a request

Parameter	Description
Queued	Number of times the Queued state was entered due to the receipt of a request
Trying	Number of times the Trying state was entered due to the receipt of a request
Proceeding	Number of times the “Proceeding” state was entered due to the receipt of a provisional response while in the Calling state
Cancelled	Number of INVITE transactions that received a CANCEL
Established	Number of times the server received a 2xx response to an INVITE, but could not forward it because the NAT and steering port information was missing
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
Confirmed	Number of times that an ACK was received while the server was in “Completed” state, and then transitioned to the Confirmed state
Terminated	Number of times the Terminated state was entered after a 2xx message, or never received an ACK in the “Completed” state, and then transitioned to the Terminated state.

show sipd policy

Multistage local policy routing enables the SBC to perform multiple stages of route lookups where the result from one stage is used as the lookup key for the next routing stage.

The **show sipd policy** command displays single and multistage local policy lookups. All counters are reported for the recent, lifetime total, and lifetime maximum periods. For associated HDR Group and Group Statistics, see **sip-policy**.

```
ORACLE> show sipd policy
09:38:43-118
SIP Policy/Routing            ---- Lifetime ----
                       Recent      Total  PerMax
Local Policy Lookups        0          0       0
Local Policy Hits           0          0       0
Local Policy Misses         0          0       0
Local Policy Drops          0          0       0
Agent Group Hits            0          0       0
Agent Group Misses          0          0       0
No Routes Found             0          0       0
Missing Dialog              0          0       0
Inb SA Constraints          0          0       0
Outb SA Constraints         0          0       0
Inb REG SA Constraint       0          0       0
Out REG SA Constraint       0          0       0
Requests Challenged         0          0       0
Challenge Found             0          0       0
Challenge Not Found         0          0       0
Challenge Dropped           0          0       0
Local Policy Inits          0          0       0
Local Policy Results        0          0       0
Local Policy Exceeded       0          0       0
Local Policy Loops          0          0       0
```

Parameter	Description
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 H.323
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 the session agent group
No Routes Found	Number of successful local policy lookups, but temporarily unable to route (for example, session agent out of service)
Missing Dialog	Number of local policy lookups where the dialog was not found for a request addressed to the SBC with a To tag or for a NOTIFY-SUBSCRIBE SIP request
Inb SA Constraints	Number of successful local policy lookups where the inbound session agent (SA) exceeded constraints
Outb SA Constraints	Number of successful local policy lookups where the outbound SA exceeded constraints
Inb REG SA Constraint	Number of successful inbound local policy lookups where the registrar (REG) SA exceeded constraints
Outb REG SA Constraint	Number of successful outbound local policy lookups where the registrar (REG) SA exceeded constraints
Request Challenged	Number of requests that were challenged.
Challenge Found	Number of challenges found.
Challenge Not Found	Number of challenges not found.
Challenge Dropped	Number of challenges dropped.
Local Policy Inits	Number of times the SBC made an initial local policy lookup
Local Policy Results	Number of times the SBC truncated the number of routes returned for a local policy lookup because the maximum number of routes per local policy lookup (max local policy lookups routes per lookup) threshold was reached.
Local Policy Exceeded	Number of times the SBC truncated the number of routes returned for a local policy lookup because the maximum number of routes per message request (total local policy routes) threshold was reached.
Local Policy Loops	Number of times the SBC detected a loop while performing a multistage local policy lookup

show sipd errors

The **show sipd errors** command displays 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). Error statistics display for the lifetime monitoring span only. For associated HDR Group and Group Statistics, see **sip-errors**.

```
ORACLE> show sipd errors
14:56:53-110
SIP Errors/Events             ---- Lifetime ----
                        Recent      Total  PerMax
SDP Offer Errors             0          0       0
SDP Answer Errors            0          0       0
Drop Media Errors            0          0       0
Transaction Errors           0          0       0
```

```
Application Errors          0          0          0
Media Exp Events            0          0          0
Early Media Exps            0          0          0
Exp Media Drops             0          0          0
Expired Sessions            0          0          0
Multiple OK Drops           0          0          0
Multiple OK Terms           0          0          0
Media Failure Drops         0          0          0
Non-ACK 2xx Drops           0          0          0
Invalid Requests            0          0          0
Invalid Responses           0          0          0
Invalid Messages            0          0          0
CAC Session Drop            0          0          0
Nsep User Exceeded          0          0          0
Nsep SA   Exceeded          0          0          0
Mps User Exceeded           0          0          0
Mps SA Exceeded             0          0          0
CAC BW Drop                 0          0          0
Calls Rejected              0          0          0
Dialog Replace Fails        0          0          0
errors due to SRTP          0          0          0
FPE Calls Rejected          0          0          0
Media State Errors          0          0          0
Ignore Notify Events        0          0          0
Flows in stopping           0          0          0
Not All Flows Dead          0          0          0
```

Parameter	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 a Session Description Protocol (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 a Session Description Protocol (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/ session, or c) a BYE initiated by the SBC due to a timeout notification from the Middlebox Control Daemon (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.
Application Errors	Number of miscellaneous errors in the SIP application that are otherwise uncategorized
Media Exp Events	Number of flow timer expiration notifications received from the Middlebox Control Daemon (MBCD).
Early Media Exps	Number of flow timer expiration notifications received for media sessions that were not completely set up due to an incomplete or pending INVITE transaction
Exp Media Drops	Number of flow timer expiration notifications from the Middlebox Control Daemon (MBCD) that resulted in the termination of the dialog/session by the SIP application.
Expired Sessions	Number of sessions terminated due to the session timer expiring

Parameter	Description
Multiple OK Drops	Number of dialogs terminated upon reception of a 200 OK response from multiple User Agent Servers (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 SBC
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 (for example, an unsupported header was received).
Invalid Responses	Number of invalid responses (for example, no Via header in response)
Invalid Messages	Number of messages dropped due to parse failure
CAC Session Drop	Number of call admission control (CAC) session setup failures
Nsep User Exceeded	Number of Emergency Telecommunications Service (ETS), user call sessions that exceeded the calls-per-second rate configured on the SBC for National Security and Emergency Preparedness (NSEP).
Nsep SA Exceeded	Number of Emergency Telecommunications Service (ETS), Session Agent (SA) call sessions that exceeded the calls-per-second rate configured on the SBC for National Security and Emergency Preparedness (NSEP).
Mps User Exceeded	Number of messages that exceeded the messages-per-second rate configured on the SBC.
Mps SA Exceeded	Number of session agent call sessions that exceeded the messages-per-second rate configured on the SBC.
CAC BW Drop	Number of call admission control (CAC) session setup failures due to insufficient bandwidth (BW)
Calls Rejected	Number of calls rejected.
Dialog Replace Fails	Number of dialogs replacement actions that failed.
errors due to SRTP	Errors due to SRTP.
FPE Calls Rejected	Number of fraud protection calls rejected.
Media State Errors	Error in the state of the media.
Ignore Notify Events	The number of notify events that are ignored by the system.
Flows in stopping	Number of call flows that have stopped.
Not All Flows Dead	Number of flows that are not dead.

show sipd status

The **show sipd status** command displays information about Session Initiation Protocol (SIP) transactions. These statistics are given for the Period and Lifetime monitoring spans. This display also provides statistics related to SIP media events. These statistics include SIP status information over Period and Lifetime monitoring spans, as well as information on active SIP status. For associated HDR Group and Group Statistics, see **sip-status**.

```
ORACLE> show sipd status
09:41:00-156
SIP Status                -- Period -- -------- Lifetime --------
                  Active     High   Total       Total  PerMax     High
Sessions               0        0       0           0       0        0
Subscriptions          0        0       0           0       0        0
Reg Evt Subs           0        0       0           0       0        0
Dialogs                0        0       0           0       0        0
```

```
Preconditions          0       0       0          0       0       0
CallID Map             0       0       0          0       0       0
Rejections             -       -       0          0       0
ReINVITEs              -       -       0          0       0
ReINV Suppress         -       -       0          0       0
Refreshes Sent         -       -       0          0       0
Replaced Dialogs       -       -       0          0       0
Media Sessions         0       0       0          0       0       0
Media Pending          0       0       0          0       0       0
Client Trans           0       0       0          0       0       0
Server Trans           0       0       0          0       0       0
Resp Contexts          0       0       0          0       0       0
Saved Contexts         0       0       0          0       0       0
Session Locks          0       0       0          0       0       0
Sockets                2       2       2          2       2       2
Req Dropped            -       -       0          0       0
DNS Trans              0       0       0          0       0       0
DNS Sockets            0       0       0          0       0       0
DNS Results            0       0       0          0       0       0
Rejected Msgs          0       0       0          0       0       0
Standalone Messages    -       -       0          0       0
Local Call Drops       -       -       0          0       0
Normal Call Drops      -       -       0          0       0
Call Duration          -       -       0          0       0
Forward User PVNI      -       -       0          0       0
Forward Default PVNI   -       -       0          0       0
Encrypt Disabled       -       -       0          0       0
S8HR Emgy Reg 200      -       -       0          0       0
S8HR Emgy Reg 403      -       -       0          0       0
S8HR Emgy Inv          -       -       0          0       0
S8HR Emgy Inv 403      -       -       0          0       0

Session Rate = 0.0
Load Rate = 0.5
Remaining Connections = 96000 (max 96000)
```

Parameter	Description
Sessions	Number of sessions established by INVITE and SUBSCRIBE messages
Subscriptions	Number of sessions established by SUBSCRIPTION
Reg Evt Subs	Number of sessions established by REGISTER messages
Dialogs	Number of end-to-end SIP signaling connections
Preconditions	The number of sessions with preconditions. See RFC 3312.
CallID Map	Number of successful session header Call ID mappings
Rejections	Number of rejected INVITEs
ReINVITEs	Number of ReINVITEs
ReINV Suppress	Number of ReINVITEs that were suppressed
Refreshes Sent	The number of session refreshes sent
Replaced Dialogs	The number of replaced dialogs
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 SBC

Parameter	Description
Resp Contexts	Number of response contexts
Saved Contexts	Number of saved contexts
Session Locks	Number of sessions locks
Sockets	Number of SIP sockets
Req Dropped	Number of dropped requests
DNS Trans	Number of Domain Name System (DNS) transactions
DNS Sockets	Number of Domain Name System (DNS) sockets
DNS Results	Number of Domain Name System (DNS) results
Rejected Msgs	Number of rejected messages
Standalone Messages	The number of standalone messages
Local Call Drops	The number of local calls dropped
Normal Call Drops	The number of normal calls dropped
Call Duration	The average call duration
Forward User PVNI	Number of user PVNI headers that have been forwarded to a S-CSCF.
Forward Default PVNI	Number of default PVNI headers that have been forwarded to a S-CSCF.
Encrypt Disabled	Whether encryption is disabled
S8HR Emgy Reg 200	The number S8HR emergency registrations that received a 200 response.
S8HR Emgy Reg 403	The number S8HR emergency registrations that received a 403 response.
S8HR Emgy Inv	The number S8HR emergency INVITEs.
S8HR Emgy Inv 403	The number S8HR emergency INVITEs that received a 403 response.
Session Rate	The rate, per second, of SIP invites allowed to or from the SBC during the sliding window period. The rate is computed every 10 seconds .
Load Rate	Average Central Processing Unit (CPU) utilization of the SBC during the current window. The average is computed every 10 seconds unless the load-limit is configured in the SIPConfig record, in which case it is 5 seconds.
Remaining Connections	Number of SIP connections currently available

show sipd invite

The **show sipd invite** command displays information about Session Initiation Protocol (SIP) INVITE requests. These statistics are given for both Server and Client and display recent, per maximum, and total for each. For associated HDR Group and Group Statistics, see **sip-invites**.

```
ORACLE# show sipd invite
INVITE (18:23:28-113)
                      --------- Server --------   --------- Client --------
Message/Event         Recent      Total  PerMax   Recent      Total  PerMax
                      ------  ---------  ------   ------  ---------  ------
INVITE Requests            3         40      37        0          0       0
Retransmissions            0          0       0        0          0       0
100 Trying                 3         40      37        0          0       0
503 Service Unavail        3         40      37        0          0       0
```

```
Response Retrans           0          0       0       0       0       0
Transaction Timeouts       -          -       -       0       0       0
Locally Throttled          -          -       -       0       0       0

Avg Latency=0.000 for 0
Max Latency=0.000
ORACLE#
```

Parameter	Description
INVITE Requests	Number of INVITE requests
Retransmissions	Number of retransmissions of INVITEs
100 Trying	The number of INVITE requests that generated a 100 Trying response.
503 Service Unavail	The number of INVITE requests that generated a 503 Service Unavailable response.
Response Retrans	Number of response retransmissions
Transaction Timeouts	Number of INVITE request transaction timeouts
Locally Throttled	Number of INVITE requests locally throttled
Avg Latency	Average latency of traffic flow for inbound and outbound packets
Max Latency	Maximum latency of traffic flow for inbound and outbound packets.

show sipd realms

Realms are a logical distinction representing routes (or groups of routes) reachable by the SBC and what kinds of resources and special functions apply to those routes. Realms are used as a basis for determining ingress and egress associations to network interfaces, which can reside in different VPNs. The ingress realm is determined by the signaling interface on which traffic arrives. The egress realm is determined by the following:

- Routing policy - Where the egress realm is determined in the session agent configuration or external address of a SIP-NAT
- Realm-bridging - As applied in the SIP-NAT configuration and H.323 stack configurations
- Third-party routing/redirect (i.e., SIP redirect or H.323 LCF) 170

Realms can also be nested in order to form nested realm groups. Nested realms consist of separate realms that are arranged within a hierarchy to support network architectures that have separate backbone networks and VPNs for signaling and media.

The **show sipd realms** command displays information about sessions (both inbound and outbound), out of service sessions, early and successful sessions, and session registration information for realms. This information displays for Period and Lifetime monitoring spans, as well as for active sessions. For associated HDR Group and Group Statistics, see the **session-realm**, and **registration-realm**.

> **Note:**
>
> The following example shows the statistics for the realm name of public.

```
ORACLE> show sipd realms public
16:50:42-50
```

```
Realm core() [In Service]
                              -- Period -- -------- Lifetime --------
                    Active    High   Total       Total  PerMax    High
Inbound Sessions         0       0       0          58      58       1
  Rate Exceeded          -       -       0           0       0       -
  Num Exceeded           -       -       0           0       0       -
  Burst Rate             0       0       0           0       0      10
  Reg Rate Exceeded      -       -       0           0       0       -
  Reg Burst Rate         0       0       0           0       0       0
  Call Duration          -       -       0           0       0       -
Outbound Sessions        0       0       0           0       0       0
  Rate Exceeded          -       -       0           0       0       -
  Num Exceeded           -       -       0           0       0       -
  Burst Rate             0       0       0           0       0       0
  Reg Rate Exceeded      -       -       0           0       0       -
  Call Duration          -       -       0           0       0       -
Local Contacts           0       0       0           0       0       0
HNT Entries              0       0       0           0       0       0
Non-HNT Entries          0       0       0           0       0       0
Subscriptions            0       0       0           0       0       0
Trans Timeout            0       0       0           0       0       0
Requests Sent            -       -       0           0       0       -
Requests Complete        -       -       0           0       0       -
Seizure                  -       -       0           0       0       -
Answer                   -       -       0           0       0       -
  ASR Exceeded           -       -       0           0       0       -
Requests Received        -       -       0         116     116       -
QoS Major Exceeded       -       -       0           0       0       -
QoS Critical Exceeded    -       -       0           0       0       -
Local Call Drops         -       -       0           0       0       -
Normal Call Drops        -       -       0           0       0       -
Latency=0.000; max=0.000
QoS R-Factor Avg=0.00; max=0.00
Early Sessions           -       -       0           0       0       -
Successful Sessions      -       -       0           0       0       -
Initial Registrations
  Total                  -       -       0           0       0       -
  Successful             -       -       0           0       0       -
  Unsuccessful           -       -       0           0       0       -
Refresh Registrations
  Total                  -       -       0           0       0       -
  Successful             -       -       0           0       0       -
  Unsuccessful           -       -       0           0       0       -
De-Registrations
  Total                  -       -       0           0       0       -
  Successful             -       -       0           0       0       -
  Unsuccessful           -       -       0           0       0       -
```

Parameter	Description
Inbound Sessions	Total number of active inbound sessions during an Active and Lifetime period.
Rate Exceeded	Number of times session rate was exceeded for inbound SIP sessions on this realm.
Num Exceeded	Number of times time constraints were exceeded for inbound sessions.

Parameter	Description
Burst Rate	Number of times burst rate was exceeded for this realm on inbound SIP sessions.
Reg Rate Exceeded	Number of times the registration rate was exceeded for this realm on inbound SIP sessions.
Reg Burst Rate	Number of times the registration burst rate was exceeded for this realm on inbound SIP sessions.
Call Duration	The average call duration of inbound sessions.
Outbound Sessions	Total number of active outbound sessions during an Active and Lifetime period.
Rate Exceeded	Number of times session rate was exceeded for outbound SIP sessions on this realm.
Num Exceeded	Number of times time constraints were exceeded for outbound sessions.
Burst Rate	Number of times burst rate was exceeded for this realm on outbound SIP sessions.
Reg Rate Exceeded	Number of times the registration rate was exceeded for this realm on outbound SIP sessions.
Call Duration	The average call duration of outbound sessions
Local Contacts	Number of contact entries in the registration cache.
HNT Entries	Number of hosted NAT traversal (HNT) contact entries that are behind a NAT device.
Non-HNT Entries	Number of contact entries that are not hosted NAT traversal that are behind a NAT device.
Subscriptions	Specifies the following: Active Subscriptions: The current global count of active SIP subscriptions during Survivability. Subscriptions PreMax: The maximum global count of SIP subscriptions initiated during any 100 second period since the last SBC re-boot, and during Survivability. Subscriptions High: The maximum global count of active SIP subscriptions since the last SBC re-boot, and during Survivability.
Out of Service	Number of times this realm went out of service.
Trans Timeout	Number of transactions timed out for this realm.
Requests Sent	Number of requests sent via this realm.
Requests Complete	Number of requests that have been completed for this realm.
Seizure	Number of seizures that occurred on this realm.
Answer	Number of answered SIP sessions on this session agent.
ASR Exceeded	Number of times that Access Service Requests (ASRs) were exceeded on this realm.
Requests Received	Number of requests received on this realm.
QoS Major Exceeded	Number of times the major Rfactor threshold was exceeded during the sliding window period. The peg count provides counts of calls with different service classes that occur during intervals of frequency which reliability indicate the traffic load. R-factors are metrics in VoIP that use a formula to determine a numeric expression of voice quality.
QoS Critical Exceeded	Number of times the critical Rfactor threshold was exceeded during the sliding window period. Provides counts of calls with different service classes that occur during intervals of frequency which reliability indicate the traffic load. R-factors are metrics in VoIP that use a formula to determine a numeric expression of voice quality.
Local Call Drops	The number of local calls dropped.
Normal Call Drops	The number of normal calls dropped.

Parameter	Description
Latency	• Avg—Average amount of time between the moment the realm transmits a SIP packet and the moment it reaches its destination. • Max—Maximum amount of time between the moment the realm transmits a SIP packet and the moment it reaches its destination.
QoS R-Factor	• Avg—Average Quality of Service (QoS) factor observed during the current window period. Quality of service shapes traffic to provide different priority and level of performance to different data flows. R-factors are metrics in VoIP, that use a formula to take into account both user perceptions and the cumulative effect of equipment impairments to arrive at a numeric expression of voice quality. This statistic defines the call or transmission quality expressed as an R factor. • Max—Maximum Quality of Service (QoS) factor observed during the sliding window period. Quality of service shapes traffic to provide different priority and level of performance to different data flows. R-factors are metrics in VoIP that use a formula to determine a numeric expression of voice quality. This statistic defines the call or transmission quality expressed as an R factor.
Early Sessions	Indicates the number of early sessions for each realm. Each time the SBC receives an INVITE on the ingress realm or the egress realm sends an INVITE request, a counter increments if the session is established with a 200 OK response. This counter also increments in sessions when there are no 18x responses (Ringing (180), Call is Being Forwarded (181), Queued (182), Session in Progress (183)), but a 200 OK is established. This counter represents the number of sessions that have reached the early dialog state or later.
Successful Sessions	Indicates the number of successful sessions for each realm. Successful sessions are when the SBC receives a successful 200 OK response from an initial INVITE request. Note: This counter is NOT incremented for re-INVITES.
Initial Registrations	
Total	Total number of initial registrations. This counter is incremented once for each initial REGISTER message even when the REGISTER is challenged. This counter is based on ingress (received) messages only. Note: This counter is not incremented when registrations are challenged by the following response messages: 401 (Unauthorized - user authentication required) 407 (Proxy authentication required) 423 (Interval too brief - expiration time of the resource is too short)
Successful	Number of successful initial registrations. This counter is incremented once for each successful initial registration with a 200 OK response. This counter is based on ingress (received) messages only.
Unsuccessful	Number of unsuccessful initial registrations. This counter is incremented once for each unsuccessful initial registration when the response to the initial REGISTER has a non-success status code. This counter is based on ingress (received) messages only. Note: This counter is not incremented when registrations are challenged by the following response messages: 401 (Unauthorized - user authentication required) 407 (Proxy authentication required) 423 (Interval too brief - expiration time of the resource is too short)
Refresh Registrations	

Parameter	Description
Total	Total number of registrations that were refreshed. This counter is incremented once for every refresh registration. This counter is based on ingress (received) messages only.
Successful	Total number of registrations that were successfully refreshed. This counter is incremented once for each successful refresh registration. This counter is based on ingress (received) messages only.
Unsuccessful	Total number of registrations that were unsuccessfully refreshed. This counter is incremented once for each unsuccessful refresh registration. This counter is based on ingress (received) messages only.
De-Registrations	
Total	Total number of registrations that de-registered. This counter is incremented once for every de-registration. This counter is based on ingress (received) messages only. In the event a de-registration message is received on a realm that is different than that of the initial registration message, the de-registration counter for the ingress realm of that de-registration message is incremented.
Successful	Total number of registrations that successfully de-registered. This counter is incremented once for each successful de-registration. This counter is based on ingress (received) messages only. In the event a successful de-registration message is received on a realm that is different than that of the initial registration message, the de-registration counter for the ingress realm of that successful de-registration message is incremented.
Unsuccessful	Total number of registrations that unsuccessfully de-registered. This counter is incremented once for each unsuccessful de-registration. This counter is based on ingress (received) messages only. In the event an unsuccessful de-registration message is received on a realm that is different than that of the initial registration message, the de-registration counter for the ingress realm of that unsuccessful de-registration message is incremented.

show enum

Telephone Number Mapping (ENUM) is an IETF standard (RFC 2916) for mapping the public telephone number address space into the Domain Name System (DNS). It links a phone number to an Internet address that is published in the DNS system. This allows a number to be reachable anywhere via the best and cheapest route.

The **show enum** command displays information about the ENUM Agent. These statistics provide current information only. For associated HDR Group and Group Statistics, see **enum-stats**.

```
ORACLE> show enum
09:05:20-106

            ---Queries--- --Successful-- --NotFound--- --Timed Out--
ENUM Agent  Current Total Current  Total Current Total Current Total
```

Parameter	Description
Enum Agent	Name of the ENUM Agent on the SBC.
Queries Total	Number of ENUM queries
Successful Total	Number of successful ENUM queries
Not Found Total	Number of ENUM queries returning a not found

Parameter	Description
Times Out Total	Number of ENUM query timeouts

show mgcp

Not Supported.

show mgcp errors

Not Supported.

show mgcp acls

Not Supported.

show h323

H.323 is a recommendation from the ITU Telecommunication Standardization Sector (ITU-T) that defines the protocols to provide audio-visual communication sessions on any packet network. H.323 addresses call signaling and control, multimedia transport and control, and bandwidth control for point-to-point and multi-point calls. The SBC responds to and forwards H.323 signaling messages and sets up H.323 sessions based on the system configuration.

The **show h323** command displays information about H323 operations. These statistics include H323 information over Period and Lifetime monitoring spans, as well as information on active H323 status. For associated HDR Group and Group Statistics, see **h323-stats**.

> **Note:**
>
> H323D Status displays recent Lifetime monitoring information ONLY.

```
ORACLE> show h323
10:36:07–94
Session Stats        -- Period --    -------- Lifetime -------
                     Active  High    Total    Total PerMax High
Incoming Calls            0     0        0        0      0    0
Outgoing calls            0     0        0        0      0    0
Connected Calls           0     0        0        0      0    0
Incoming Channels         0     0        0        0      0    0
Outgoing Channels         0     0        0        0      0    0
Contexts                  0     0        0        0      0    0

H323D Status         Current   Lifetime
Queued Messages            0          0
TPKT Channels              0          0
UDP Channels               0          0

Load Rate = 0.2
```

Parameter	Description
Session Stats	
Incoming Calls	Number of incoming H.323 calls
Outgoing Calls	Number of outgoing H.323 calls
Connected Calls	Number of connected calls
Incoming Channels	Number of established incoming calls
Outgoing Channels	Number of established outgoing channels
Contexts	Number of established H.323 contexts (or call terminations)
H323D Status	
Queued Messages	Number of messages queued
TPKT Channels	Number of ThroughPacket (TPKT) channels open(ed)
UDP Channels	Number of User Datagram Protocol (UDP) channels open(ed)
Load Rate	Total H323 current load rate, in seconds, on the SBC

show sipd rate

The **show sipd rate** command displays request and response rates for messages (per method) on a system-wide basis. The rates are calculated based on the time in the current monitoring window (100+current period elapsed). The Message Received and the Messages Sent columns are the sum of the corresponding requests or responses. For example:

```
ORACLE# show sipd rate
17:24:28-103
Method Name  Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv  Resp Sent
                Rate      Rate      Rate      Rate       Rate       Rate
INVITE           0.0       0.0       0.0       0.0        0.0        0.0
ACK              0.0       0.0       0.0       0.0        0.0        0.0
BYE              0.0       0.0       0.0       0.0        0.0        0.0
REGISTER         0.0       0.0       0.0       0.0        0.0        0.0
CANCEL           0.0       0.0       0.0       0.0        0.0        0.0
PRACK            0.0       0.0       0.0       0.0        0.0        0.0
OPTIONS          0.0       0.0       0.0       0.0        0.0        0.0
INFO             0.0       0.0       0.0       0.0        0.0        0.0
SUBSCRIBE        0.0       0.0       0.0       0.0        0.0        0.0
NOTIFY           0.0       0.0       0.0       0.0        0.0        0.0
REFER            0.0       0.0       0.0       0.0        0.0        0.0
UPDATE           0.0       0.0       0.0       0.0        0.0        0.0
MESSAGE          0.0       0.0       0.0       0.0        0.0        0.0
PUBLISH          0.0       0.0       0.0       0.0        0.0        0.0
OTHER            0.0       0.0       0.0       0.0        0.0        0.0
ALL              0.0       0.0       0.0       0.0        0.0        0.0
ORACLE#
```

show sipd rate agent

The **show sipd rate agent** command displays request and response rates for messages (per method) for all session agents. By adding a session agent name in the form show sipd rate agent <session-agent-name>, you can view statistics for the identified agent only. The rates are calculated based on the time in the current monitoring window (30+current period elapsed).

The Message Received and the Messages sent columns are the sum of the corresponding Requests or responses. For example:

```
ORACLE# show sipd rate agent 192.168.202.100
17:26:47-42
Session Agent 192.168.202.100
Method Name  Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv  Resp Sent
                Rate      Rate      Rate      Rate       Rate       Rate
INVITE           0.0       0.0       0.0       0.0        0.0        0.0
ACK              0.0       0.0       0.0       0.0        0.0        0.0
BYE              0.0       0.0       0.0       0.0        0.0        0.0
REGISTER         0.0       0.0       0.0       0.0        0.0        0.0
CANCEL           0.0       0.0       0.0       0.0        0.0        0.0
PRACK            0.0       0.0       0.0       0.0        0.0        0.0
OPTIONS          0.0       0.0       0.0       0.0        0.0        0.0
INFO             0.0       0.0       0.0       0.0        0.0        0.0
SUBSCRIBE        0.0       0.0       0.0       0.0        0.0        0.0
NOTIFY           0.0       0.0       0.0       0.0        0.0        0.0
REFER            0.0       0.0       0.0       0.0        0.0        0.0
UPDATE           0.0       0.0       0.0       0.0        0.0        0.0
MESSAGE          0.0       0.0       0.0       0.0        0.0        0.0
PUBLISH          0.0       0.0       0.0       0.0        0.0        0.0
OTHER            0.0       0.0       0.0       0.0        0.0        0.0
```

show sipd rate interface

The **show sipd rate interface** command displays request and response rates for messages (per method) for all configured sip-interfaces. The rates are calculated based on the time in the current monitoring window (30+current period elapsed). The Message Received and the Messages sent columns are the sum of the corresponding Requests or responses. For example:

```
ORACLE# show sipd rate interface
17:24:33-58
Sip Interface core
Method Name  Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv  Resp Sent
                Rate      Rate      Rate      Rate       Rate       Rate
INVITE           0.0       0.0       0.0       0.0        0.0        0.0
ACK              0.0       0.0       0.0       0.0        0.0        0.0
BYE              0.0       0.0       0.0       0.0        0.0        0.0
REGISTER         0.0       0.0       0.0       0.0        0.0        0.0
CANCEL           0.0       0.0       0.0       0.0        0.0        0.0
PRACK            0.0       0.0       0.0       0.0        0.0        0.0
OPTIONS          0.0       0.0       0.0       0.0        0.0        0.0
INFO             0.0       0.0       0.0       0.0        0.0        0.0
SUBSCRIBE        0.0       0.0       0.0       0.0        0.0        0.0
NOTIFY           0.0       0.0       0.0       0.0        0.0        0.0
REFER            0.0       0.0       0.0       0.0        0.0        0.0
UPDATE           0.0       0.0       0.0       0.0        0.0        0.0
MESSAGE          0.0       0.0       0.0       0.0        0.0        0.0
PUBLISH          0.0       0.0       0.0       0.0        0.0        0.0
OTHER            0.0       0.0       0.0       0.0        0.0        0.0
17:24:33-58
Sip Interface peer
Method Name  Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv  Resp Sent
```

```
                  Rate       Rate       Rate       Rate       Rate       Rate
INVITE             0.0        0.0        0.0        0.0        0.0        0.0
ACK                0.0        0.0        0.0        0.0        0.0        0.0
BYE                0.0        0.0        0.0        0.0        0.0        0.0
REGISTER           0.0        0.0        0.0        0.0        0.0        0.0
CANCEL             0.0        0.0        0.0        0.0        0.0        0.0
PRACK              0.0        0.0        0.0        0.0        0.0        0.0
OPTIONS            0.0        0.0        0.0        0.0        0.0        0.0
INFO               0.0        0.0        0.0        0.0        0.0        0.0
SUBSCRIBE          0.0        0.0        0.0        0.0        0.0        0.0
NOTIFY             0.0        0.0        0.0        0.0        0.0        0.0
REFER              0.0        0.0        0.0        0.0        0.0        0.0
UPDATE             0.0        0.0        0.0        0.0        0.0        0.0
MESSAGE            0.0        0.0        0.0        0.0        0.0        0.0
PUBLISH            0.0        0.0        0.0        0.0        0.0        0.0
OTHER              0.0        0.0        0.0        0.0        0.0        0.0
```

By entering a configured interface, the ACLI displays aggregate statistics for that interface and then displays all Session Agents' counts configured on that SIP interface. Displays have been truncated below. For example:

```
ORACLE# show sipd rate interface peer
17:24:40-34
Sip Interface peer
Method Name  Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv  Resp Sent
                  Rate       Rate       Rate       Rate       Rate       Rate
INVITE             0.0        0.0        0.0        0.0        0.0        0.0
[...]
OTHER              0.0        0.0        0.0        0.0        0.0        0.0
clank#
```

```
____
Session Agent 172.16.202.102
Method Name  Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv  Resp Sent
                  Rate       Rate       Rate       Rate       Rate       Rate
INVITE             0.0        0.0        0.0        0.0        0.0        0.0
ACK                0.0        0.0        0.0        0.0        0.0        0.0
BYE                0.0        0.0        0.0        0.0        0.0        0.0
REGISTER           0.0        0.0        0.0        0.0        0.0        0.0
CANCEL             0.0        0.0        0.0        0.0        0.0        0.0
PRACK              0.0        0.0        0.0        0.0        0.0        0.0
OPTIONS            0.0        0.0        0.0        0.0        0.0        0.0
INFO               0.0        0.0        0.0        0.0        0.0        0.0
SUBSCRIBE          0.0        0.0        0.0        0.0        0.0        0.0
NOTIFY             0.0        0.0        0.0        0.0        0.0        0.0
REFER              0.0        0.0        0.0        0.0        0.0        0.0
UPDATE             0.0        0.0        0.0        0.0        0.0        0.0
MESSAGE            0.0        0.0        0.0        0.0        0.0        0.0
PUBLISH            0.0        0.0        0.0        0.0        0.0        0.0
OTHER              0.0        0.0        0.0        0.0        0.0        0.0
17:26:21-46
Session Agent 192.168.202.100
Method Name  Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv  Resp Sent
                  Rate       Rate       Rate       Rate       Rate       Rate
INVITE             0.0        0.0        0.0        0.0        0.0        0.0
```

```
[...]
OTHER              0.0       0.0       0.0       0.0        0.0        0.0
ORACLE#
```

show dnsalg rate

The **show dnsalg rate** command displays request and response rates for DNS messages on a system-wide basis. The rates are calculated based on the time in the current monitoring window (100+current period elapsed). The Message Received and the Messages sent columns are the sum of the corresponding Requests or responses. For example:

```
ORACLE# show dnsalg rate
17:31:21-15
Realm-id  Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv  Resp Sent
              Rate      Rate      Rate      Rate       Rate       Rate
ALL            0.0       0.0       0.0       0.0        0.0        0.0
```

show dnsalg rate realm-id

The **show dnsalg rate realm-id** command displays request and response rates for DNS messages on a per-realm basis. If you add a realm-name to the query, that specific realm's data will be returned. Entered without a realm name, all configured realms will be displayed. The rates are calculated based on the time in the current monitoring window (30+current period elapsed). The Message Received and the Messages sent columns are the sum of the corresponding Requests or responses. For example:

```
ORACLE# show dnsalg rate realm-id peer
17:31:31-26
Realm-id  Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv  Resp Sent
              Rate      Rate      Rate      Rate       Rate       Rate
peer           0.0       0.0       0.0       0.0        0.0        0.0
```

show dnsalg rate server-ip-addr

The **show dnsalg rate server-ip-addr** command displays request and response rates for DNS messages on a per-DNS server basis. If you add a DNS Server IP address to the query, that specific server's data will be returned. Entered without a server IP address, all configured servers will be displayed. The rates are calculated based on the time in the current monitoring window (30+current period elapsed). The Message Received and the Messages sent columns are the sum of the corresponding Requests or responses. For example:

```
ORACLE# show dnsalg rate server-ip-addr 172.16.10.5
17:32:19-44
DNS ALG Realm peer
Ip Address             Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv
Resp Sent
                           Rate      Rate      Rate      Rate
Rate       Rate
172.16.10.5                 0.0       0.0       0.0       0.0
0.0        0.0
```

show enum rate

The **show enum rate** command displays request and response rates for ENUM messages on a system-wide basis. The rates are calculated based on the time in the current monitoring window (100+current period elapsed). The Message Received and the Messages sent columns are the sum of the corresponding Requests or responses. For example:

```
ORACLE# # show enum rate
17:22:28-23
Config Name  Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv  Resp Sent
                Rate      Rate      Rate      Rate       Rate       Rate
ALL              0.0       0.0       0.0       0.0        0.0        0.0
```

show enum rate config-name

The **show enum rate config-name** command displays request and response rates for ENUM messages per ENUM configuration. If you add a an enum-config-name to the query, that specific configuration's data will be returned. Entered without a name, all configured enum-configs will be displayed. The rates are calculated based on the time in the current monitoring window (30+current period elapsed). The Message Received and the Messages sent columns are the sum of the corresponding Requests or responses. For example:

```
ORACLE# show enum rate config-name test1
17:22:53-48
Config Name  Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv  Resp Sent
                Rate      Rate      Rate      Rate       Rate       Rate
test1            0.0       0.0       0.0       0.0        0.0        0.0
```

show enum rate server-ip-addr

The **enum rate server-ip-addr** command displays request and response rates for individual enum-servers. If you add an IP address to the query, that specific server's data will be returned. Entered without a server IP address, all configured servers will be displayed. If an IP address is present in more than one ENUM configuration then the message processing level is displayed separately for each configuration object. The rates are calculated based on the time in the current monitoring window (30+current period elapsed). The Message Received and the Messages sent columns are the sum of the corresponding Requests or responses. For example:

```
ORACLE# show enum rate server-ip-addr 192.168.201.5
17:24:00-55
ENUM Config Name enum
Ip Address       Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv  Resp Sent
                    Rate      Rate      Rate      Rate       Rate       Rate
192.168.201.5        0.0       0.0       0.0       0.0        0.0        0.0
17:24:00-55
ENUM Config Name test1
Ip Address       Msg Recv  Msg Sent  Req Recv  Req Sent  Resp Recv  Resp Sent
                    Rate      Rate      Rate      Rate       Rate       Rate
192.168.201.5        0.0       0.0       0.0       0.0        0.0        0.0
```

A

CSV File Data Formats

When enabled, the HDR collector transmits data to a Comma-Separated-Value (CSV) file. The format of the HDR data in the CSV file is dependant on the type of Group Statistics in the file and the method used to open the file. This appendix describes the data formats of the HDR data in the CSV file.

Methods for Display and Format of CSV File Contents

The HDR collector transmits data to a CSV file in standard format. Each file is formatted as <Unix timestamp>.csv (for example, 1302041977.csv). Within the file, each record also has an associated record timestamp. The **filename timestamp** is the time that the CSV file was create. The **record timestamp** is the window of time that the HDR collector used to collect the data. For more information on windows of time, see **Windows of Time**.

You can display the file in any of the following ways:

- The Linux command **cat <timestamp>.csv**
- The Microsoft command **type <timestamp>.csv**
- A spreadsheet application

The following examples show each of these methods.

Example 1 - Using the UNIX Command

The following shows the use of the **cat <timestamp>.csv** UNIX command to display the contents of a system group CSV file in raw data format.

```
[AcmePacket]$ cat 1302041977.csv
TimeStamp,CPU Utilization,Memory Utilization,Health
Score,Redundancy State,Signaling Sessions,
Signaling Rate (CPS),CAM Utilization (NAT),
CAM Utilization (ARP),I2C Bus State,License Capacity,
Current Cached SIP Local Contact Registrations,
Current MGCP Public Endpoint Gateway Registrations,
Current H323 Number of Registrations,
Application Load Rate

1302041977,39,22,50,active,0,0,0,0,online,0,0,0,0,39
1302042037,100,22,50,active,0,0,0,0,online,0,0,0,0,100
```

Example 2 - Using the DOS Command

The following shows the use of the **type <timestamp>.csv** Microsoft® Windows DOS command to display the contents of a sip-sessions group CSV file in raw data format.

```
C:\AcmePacket> type 1301702284.csv
Timestamp,Sessions,Sessions Initial,
```

```
Sessions Early,Sessions    Established,Sessions
Terminated,Dialogs,Dialogs Early,
Dialogs Confirmed,Dialogs Terminated

1301702288,45,45,28,35,10,35,35,35,0
1301702456,35,35,21,35,0,0,0,0,0
```

Example 3 - Using a Rendering Agent

The following shows the use of a rendering agent (a Microsoft application) to display the contents of a sip-sessions group CSV file in table format.

```
Timestamp   Sessions  Sessions Initial  Sessions Early ...
130170228   45        45                28             ...
1301702456  35        35                35             ...
```

The formats in the examples above pertain to all of the HDR groups specified in **HDR Groups and Group Statistics**, except the **sip-invite** Group. For information on the sip-invite HDR data format in the CSV file, see the next section.

Sip-invite Format of HDR Data in CSV File

The HDR data for the sip-invite group displays on multiple lines in the CSV file. The first HDR record displays the list of statistics in column format. The second HDR record also displays statistics in column format, and so on. Both client and server totals are included in the data.

The following shows an example of the sip-invite group CSV file for a client and a server displayed in a Microsoft DOS window format.

```
C:\AcmePacket> type 130204198.csv
Timestamp,Message/Event,Server Totals,Client Totals
1301702288,INVITE Requests ,0,0
1301702288,Retransmission,0,0
1301702288,100 Trying,0,0
1301702288,180 Ringing,0,0
1301702288,181 Forwarded,0,0
1301702288,183 Progress,0,0
1301702288,1xx Provisional,0,0
1301702288,200 OK,0,0
1301702288,202 Accepted,0,0
1301702288,2xx Success,0,0
1301702288,30x Moved,0,0
.,,,
.,,,
.,,,
1301702288,Transaction Timeouts,,0
1301702288,Locally Throttled,,0
1301702348,INVITE Requests ,0,0
1301702348,Retransmission,0,0
1301702348,100 Trying,0,0
1301702348,180 Ringing,0,0
1301702348,181 Forwarded,0,0
1301702348,183 Progress,0,0
1301702348,1xx Provisonal,0,0
```

```
1301702348,200 OK,0,0
1301702348,202 Accepted,0,0
1301702348,2xx Success,0,0
1301702348,30x Moved,0,0
.,,,
.,,,
.,,,
1301702348,Response Retrans,0,0
1301702348,Transaction Timeouts,,0
1301702348,Locally Throttled,,0
```

The following shows an example of the sip-invite group CSV file for a client and a server displayed in a Microsoft rendering application format.

```
Timestamp       Message/Event     Server Totals     Client Totals
1301702288      INVITE Requests   0                 0
1301702288      Retransmission    0                 0
1301702288      100 Trying        0                 0
1301702288      180 Ringing       0                 0
1301702288      181 Forwarded     0                 0
1301702288      183 Progress      0                 0
1301702288      1xx Provisional   0                 0
1301702288      200 OK            0                 0
1301702288      202 Accepted      0                 0
1301702288      2xx Success       0                 0
1301702288      30x Moved         0                 0
```

Data Caveats

For those who wish to extract data from HDR CSVs, please note the following:

- Although SNMP presents enumerated fields as integers, HDR translates this data presenting the applicable string in the CSV.
- In some cases, no data is available for a given record. An example of this is a record for an agent that is out of service during the collection window. For these cases, HDR presents only the timestamp and a single field indicating that no data is available, as shown below.

  ```
  enum-stats:
  TimeStamp,ENUM Agent,Queries Total,Successful Total,Not Found
  Total,Timeout Total
  1314110727,no data available
  ```