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# SIP Server Deployment Guide

HTTP Monitoring Interface

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# HTTP Monitoring Interface

Starting with version 8.1.102.13, SIP Server provides the ability to monitor various operational statistics for its internal modules and statistics relating to trunks.

Starting with version 8.1.103.25, SIP Server adds the ability to monitor statistics related to **SIP Feature Server** interactions.

Starting with version 8.1.103.35, SIP Server adds the ability to monitor statistics related to **Extended Services (XS)** components.

Starting with version 8.1.103.72, SIP Server adds the following statistics in separate tables for **Trunk, Softswitch, MSML, and Trunk Group** devices: error statistics, the total number of calls created on the device, the number of out-of-service detection instances per device, and location matching instances.

Starting with version 8.1.103.95, SIP Server adds monitoring of state and quantitative statistics for T-Library client connections of the following SIP Server threads: Session Controller (the main T-Server thread), T-Controller, Interaction Proxy, and Smart Proxy. See **SIP Server threads statistics** for details.

This topic covers the following:

- [SIP Server statistics](#)
- [Trunk, Softswitch, MSML, and Trunk Group statistics](#)
- [How to monitor statistics](#)
- [SIP Server statistics details](#)
- [SIP Feature Server statistics](#)
- [Configuration options](#)
- [Feature limitations](#)

## SIP Server Statistics

SIP Server collects **statistics** for the following internal modules:

- **sipServer**—General SIP Server statistics
- **sipStackObjects**—SIP stack statistics
- **sipCallManager**—Call and client statistics
- **sipTSCP**—ISCC statistics
- **sipSessionController**—T-Library statistics
- **sipServiceChecker**—Out-of-service detection statistics
- **tLibClientsStatistics**—SIP Server threads statistics

## Trunk, Softswitch, MSML, and Trunk Group Statistics

SIP Server collects the following statistics (sipTrunkStatistics) for each configured Trunk, Softswitch, MSML, and Trunk Group DNS:

- Current statistics (real-time)
  - Number of calls currently established via this trunk (sum of incoming and outgoing calls)
  - Current call rate (average number of calls per second, both incoming and outgoing). Averaging interval is specified by the Application-level option **operational-stat-timeout** (in seconds, default value is 10 seconds).
  - Capacity (maximum number of calls allowed on a trunk, both incoming and outgoing)
  - Capacity group (to which a trunk belongs)
  - In Service status
  - Error code counters: 4xx, 5xx, 6xx. Error codes that are received by SIP Server for the device since SIP Server started.
  - Number of calls created since SIP Server started. It is a summary of incoming and outgoing calls created at the device. It includes failed to establish calls due to an error response or timeout.
  - Number of out-of-service detection instances since SIP Server started.
  - Statistics for Trunk, MSML, and Softswitch devices only: If location matching is enabled, devices that don't satisfy the location matching configuration are not displayed. Location matching is configured by the **enable-strict-location-match**, **overflow-location-map**, and **find-trunk-by-location** configuration options.
- Summary statistics (over a period of time, such as an hour or a day)
  - Peak number of calls
  - Peak call rate
  - Call attempts (total number of new calls)
  - Total number of released calls
  - Summary period start time
  - Summary period end time

SIP Server collects the following statistics (sipTrunkStatistics) for each configured Capacity Group:

- Current statistics
  - Current number of calls (combined number for all the trunks in a group)
  - Current call rate (combined rate for all the trunks in a group)
  - Capacity
- Summary statistics

- Peak number of calls
- Peak call rate
- Call attempts
- Total number of released calls
- Summary period start time
- Summary period end time
- Number of calls created since SIP Server started

The period of summary statistics calculation is configurable with the Application-level option **summary-stat-timeout**.

## How to Monitor Statistics

There are two possible ways to monitor the collected statistics:

- [Using the HTTP interface](#)
- [Using the dedicated SIP Server log file](#)

### Monitoring Statistics via HTTP interface

To enable the HTTP interface, set the **http-port** option to a valid and unoccupied port number in the range of 1024-65535 (values lower than 1024 are system reserved ports). Only the HTTP interface is available on the configured port (HTTPS is not available).

To get the statistics data, the following URL must be retrieved with the HTTP GET request:  
`http://<SIP Server IP address>:<configured HTTP port>` (for example,  
`http://192.168.0.1:8088`)

Depending on the path used in the URL, the statistics page can be provided in the HTML or XML format:

- To get the statistics in the HTML format, use an empty path (" or "/) or path `/server`.  
For example: `http://192.168.0.1:8088` or `http://192.168.0.1:8088/server`.  
The above URL returns a root statistics page with the list of statistics for SIP Server internal modules, with each list item being a link to the statistic data for that module.
- To get the statistics in the XML format, use path `/serverx`.  
For example: `http://192.168.0.1:8088/serverx`.  
The above URL returns a root statistics page with the full statistics dump, including data for each SIP Server internal module.

To get the statistics page for one module, add the URL parameter with the module name. For example, to get the Trunk Statistics page in the HTML format, the following URL must be used:  
`http://192.168.0.1:8088/server?sipTrunkStatistics`.

## Trunk Statistics Examples

- In the HTML format:

### [+] Show HTML source

```

<table>
<caption>Trunk Statistics</caption>
<tr>
<table>
<caption>Trunks</caption>
<tr>
  <td>Trunk</td><td>21001</td>
  <td>Calls</td><td>100</td>
  <td>Call Rate</td><td>15</td>
  <td>Peak Calls</td><td>150</td>
  <td>Peak Call Rate</td><td>20</td>
  <td>Call Attempts</td><td>5000</td>
  <td>Released Calls</td><td>4900</td>
  <td>Summary Start</td><td>2016-01-01T12:00:01</td>
  <td>Summary End</td><td>2016-01-01T13:00:01</td>
  <td>Capacity</td><td>500</td>
  <td>Capacity Group</td><td>MyTrunks</td>
  <td>In Service</td><td>Yes</td>
</tr>
<tr>
  <td>Trunk</td><td>21002</td>
  <td>Calls</td><td>200</td>
  <td>Call Rate</td><td>30</td>
  <td>Peak Calls</td><td>250</td>
  <td>Peak Call Rate</td><td>40</td>
  <td>Call Attempts</td><td>10000</td>
  <td>Released Calls</td><td>9800</td>
  <td>Summary Start</td><td>2016-01-01T12:00:01</td>
  <td>Summary End</td><td>2016-01-01T13:00:01</td>
  <td>Capacity</td><td>500</td>
  <td>Capacity Group</td><td>MyTrunks</td>
  <td>In Service</td><td>Yes</td>
</tr>
</table>
</tr>
<table>
<caption>Capacity Groups</caption>
<tr>
  <td>Capacity Group</td><td>MyTrunks</td>
  <td>Calls</td><td>300</td>
  <td>Call Rate</td><td>45</td>
  <td>Peak Calls</td><td>400</td>
  <td>Peak Call Rate</td><td>60</td>
  <td>Call Attempts</td><td>15000</td>
  <td>Released Calls</td><td>14700</td>
  <td>Summary Start</td><td>2016-01-01T12:00:01</td>
  <td>Summary End</td><td>2016-01-01T13:00:01</td>
  <td>Capacity</td><td>500</td>
</tr>
</table>
</tr>
</table>

```

Example of statistics displayed in the HTML format in a browser:

---



```
Received">0</N6xx_RECEIVED>
</sipTrunkData>
< sipTrunkData id='sipTrunkData'>
<TRUNK id='001516E8-6A0A-1D4A-B024-3F3C330AAA77' type='7' rem="Trunk">trunk2_sjc</TRUNK>
<CURRENT_CALLS id='00151706-6A0A-1D4A-B024-3F3C330AAA77' type='4'
rem="Calls">0</CURRENT_CALLS>
<CURRENT_CALL_RATE id='00151710-6A0A-1D4A-B024-3F3C330AAA77' type='4' rem="Call
Rate">0</CURRENT_CALL_RATE>
<PEAK_CALLS id='00151724-6A0A-1D4A-B024-3F3C330AAA77' type='4' rem="Peak Calls">0</PEAK_CALLS>
<PEAK_CALL_RATE id='0015172E-6A0A-1D4A-B024-3F3C330AAA77' type='4' rem="Peak Call
Rate">0</PEAK_CALL_RATE>
<CALL_ATTEMPTS id='00151742-6A0A-1D4A-B024-3F3C330AAA77' type='4' rem="Call
Attempts">0</CALL_ATTEMPTS>
<RELEASED_CALLS id='0015174C-6A0A-1D4A-B024-3F3C330AAA77' type='4' rem="Released
Calls">0</RELEASED_CALLS>
<SUMMARY_START id='00151760-6A0A-1D4A-B024-3F3C330AAA77' type='5' rem="Summary
Start">1568671922665</SUMMARY_START>
<SUMMARY_END id='0015176A-6A0A-1D4A-B024-3F3C330AAA77' type='5' rem="Summary
End">1568675522665</SUMMARY_END>
<CAPACITY id='0015177E-6A0A-1D4A-B024-3F3C330AAA77' type='4' rem="Capacity">0</CAPACITY>
<CAPACITY_GROUP id='00151792-6A0A-1D4A-B024-3F3C330AAA77' type='7' rem="Capacity
Group">mshl_ash</CAPACITY_GROUP>
<IN_SERVICE id='0015179C-6A0A-1D4A-B024-3F3C330AAA77' type='7' rem="In
Service">No</IN_SERVICE>
<NCALLSCREATED id='00150FA4-6A0A-1D4A-B024-3F3C330AAA77' type='4' rem="Calls
Created">0</NCALLSCREATED>
<N00S_DETECTED id='0015103A-6A0A-1D4A-B024-3F3C330AAA77' type='4' rem="00S
Detected">0</N00S_DETECTED>
<N4xx_RECEIVED id='0015103A-6A0A-1D4A-B024-3F3C330AAA77' type='4' rem="4xx
Received">0</N4xx_RECEIVED>
<N5xx_RECEIVED id='0015103A-6A0A-1D4A-B024-3F3C330AAA77' type='4' rem="5xx
Received">0</N5xx_RECEIVED>
<N6xx_RECEIVED id='0015103A-6A0A-1D4A-B024-3F3C330AAA77' type='4' rem="6xx
Received">0</N6xx_RECEIVED>
</sipTrunkData>
</sipTrunkStatistics>
```

## Monitoring Statistics via Log File

SIP Server always creates a dedicated log file for a statistics output despite of the values set in the log options. The name of the file contains suffix 1536 (for example, server1-1536.20160201\_195851\_685.log).

Statistics are written to the log file periodically, with a period specified by the Application-level option **operational-stat-timeout** (default value is 10 seconds).

### Statistics log format

A statistics log file uses the following line format for statistics output:

```
<Timestamp in ISO 8601 format> <Statistics module name>
<Parameter>=<Value> [<Parameter>=<Value>]
```

For example, for the Call Manager module, the output for the "Number of devices" statistics is as

follows:

```
2016-01-01T12:00:01.001 sipCallManager NDEVICES=150
```

For more sophisticated Trunk statistics, the output is as follows:

```
2016-01-01T12:00:01.001 sipTrunkStatistics TRUNK=21001
CURRENT_CALLS=100 CURRENT_CALL_RATE=15 PEAK_CALLS=150
PEAK_CALL_RATE=20 CALL_ATTEMPTS=5000 RELEASED_CALLS=4900
SUMMARY_START=2016-01-01T12:00:01
SUMMARY_END=2016-01-01T13:00:01 CAPACITY=500
CAPACITY_GROUP=MyTrunks IN_SERVICE=Yes
```

## SIP Server Statistics Details

Each SIP Server internal module has its own statistics section. Each section has the identifier that is used in the log and XML output to distinguish one section from another. This identifier is also used as a URL parameter if a user wishes to get an HTML/XML page with only one statistics section.

The statistics for each SIP Server module is described below. Each statistic record is described in a table that has the following columns:

- **ID**—The ID that is used in the log and XML output.
- **Description**—The general description of the statistic record. It is also used in the HTML output.
- **Comments**—Additional information if the description of the record is not self-explanatory.

## General SIP Server Statistics

Section ID: **sipServer**

ID	Description	Comments
SIPS_PROCESS_ID	Process identifier	Identifier that is assigned by an Operating System to a SIP Server process
SIPS_MEMORY_USAGE	Memory usage	In bytes

SIPS_CPU_USAGE	CPU usage	In percent
PROCESS_INFO_TIME	Process info time	Time range on which statistics are gathered
NAME	Name	Name of the SIP Server Application in the Configuration Layer
BIT	Bit data model	32 or 64 bit
PLATFORM	Platform	
SERVER_VERSION	Server version	
COMPILED_DATE	Compiled date	
XS_CPU_USAGE	CPU usage	Extended Service CPU usage on a single CPU core. Applies only to SIP Cluster deployments starting with SIP Server release 8.1.103.29.
XS_REQUESTS_RATE	Requests rate	Rate of requests processed by the Extended Services component. Applies only to SIP Cluster deployments starting with SIP Server release 8.1.103.29.

## SIP Stack Statistics

Section ID: **sipStackObjects**

ID	Description	Comments
DIALOG_CREATED	SIP Dialogs created	A cumulative metric that is reset to zero on restart.
DIALOG_DELETED	SIP Dialogs deleted	A cumulative metric that is reset to zero on restart.
MESSAGES_CREATED	SIP Messages created	A cumulative metric that is reset to zero on restart.
MESSAGES_DELETED	SIP Messages deleted	A cumulative metric that is reset to zero on restart.
CLIENT_TRANSACTION_CREATED	SIP Client transactions created	A cumulative metric that is reset to zero on restart.
CLIENT_TRANSACTION_DELETED	SIP Client transactions deleted	A cumulative metric that is reset to zero on restart.
SERVER_TRANSACTION_CREATED	SIP Server transactions created	A cumulative metric that is reset

		to zero on restart.
SERVER_TRANSACTION_DELETED	SIP Server transactions deleted	A cumulative metric that is reset to zero on restart.
TRANSPORT_CREATED	Transports created	A cumulative metric that is reset to zero on restart.
TRANSPORT_DELETED	Transports deleted	A cumulative metric that is reset to zero on restart.
DATASENT	Data sent	In bytes. If a value is not increased, it might be used as indication of the backup mode of SIP Server.
DATARECEIVED	Data received	In bytes. If a value is not increased, it might be used as indication of the backup mode of SIP Server.
RESPONSE_TIME_LESS20	Response time less than 20 ms	Response time to SIP messages sent by SIP Server.
RESPONSE_TIME_20TO50	Response time 20 to 50 ms	Response time to SIP messages sent by SIP Server.
RESPONSE_TIME_50TO100	Response time 50 to 100 ms	Response time to SIP messages sent by SIP Server.
RESPONSE_TIME_100TO200	Response time 100 to 200 ms	Response time to SIP messages sent by SIP Server.
RESPONSE_TIME_200TO500	Response time 200 to 500 ms	Response time to SIP messages sent by SIP Server.
RESPONSE_TIME_500TO1SEC	Response time 500 ms to 1 sec	Response time to SIP messages sent by SIP Server.
RESPONSE_TIME_1TO5SEC	Response time 1 to 5 sec	Response time to SIP messages sent by SIP Server.
RESPONSE_TIME_5TO10SEC	Response time 5 to 10 sec	Response time to SIP messages sent by SIP Server.
RESPONSE_TIME_MORE10SEC	Response time more than 10 sec	Significant increase of the value might indicate network problems or a SIP Server overload condition.

## Call and Client Statistics

Section ID: **sipCallManager**

ID	Description	Comments
CM_THREAD_ID	Thread ID	
CM_CPU_USAGE	CPU usage of call manager thread	In percent.

NCALLSCREATED	Number of calls created	A cumulative metric that is reset to zero on restart.
NDIALOGS	Number of dialogs	Current active SIP dialogs.
NCALLS	Number of calls	Current active calls.
NPARTIES	Number of parties	Current active parties. If the number of calls is zero, a nonzero value of the number of parties might indicate a leak of resources which might lead to an abnormal behavior of SIP Server.
HADATASENT	HA sync data sent	In bytes.
HADATARECEIVED	HA sync data received	In bytes.
NROUTINGTIMEOUTS	Number of routing timeouts	Increases when the routing timer expires (specified by the option <b>router-timeout</b> ). Significant increase of the value might indicate issues in the routing strategies or router overload.
NLOGGEDAGENTS	Number of logged on agents	
NREGISTEREDDNS	Number of registered DNS	Number of registered DNSs by using a TRegisterAddress request.
NTLIBCLIENTS	Number of T-Library clients	Number of T-Library clients currently connected to SIP Server.
NCALLSABANDONED	Number of abandoned calls	Number of calls released by a caller before the call was answered.
NCALLRECORDINGFAILED	Number of failed call recording sessions	Significant increase of the value might indicate problems with the recording services.
NSIPREGISTERED	Number of active SIP registrations	
NSIPEXPIREDREGS	Number of expired SIP registrations	Number of SIP registrations that were expired since SIP Server startup. Significant increase of the value might indicate problems with the network.
NCALLSOVRLREJECTED	Number of rejected calls due to overload control	Related to the static overload control feature.

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NMSMLLOCATIONFAILED	Number of MSML location resolution failed	Significant increase of the value might indicate problems with configuration of geo-location of MSML services.
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## ISCC Statistics

Section ID: **sipTSCP**

ID	Description	Comments
ISCC_ACTIVE_ORIG_TRANSACTIONS	ISCC active orig transactions	
ISCC_ACTIVE_DEST_TRANSACTIONS	ISCC active destination transactions	
ISCC_SUCCEEDED_ORIG_TRANSACTIONS	ISCC succeeded origination transactions	
ISCC_SUCCEEDED_DEST_TRANSACTIONS	ISCC succeeded destination transactions	
ISCC_FAILED_ORIG_TRANSACTIONS	ISCC failed origination transactions	Significant increase of the value might indicate issues in the communication between sites in a multisite environment.
ISCC_FAILED_DEST_TRANSACTIONS	ISCC failed destination transactions	Significant increase of the value might indicate issues in the communication between sites in a multisite environment.

## T-Library Statistics

Section ID: **sipSessionController**

ID	Description	Comments
MAIN_THREAD_ID	Thread ID	
MAIN_CPU_USAGE	CPU usage	In percent.
NAPPLY_TREATMENTS	Number of Apply Treatments	Number of processed TApplyTreatment requests. A cumulative metric that is reset to zero on restart.
URS_RESPONSE_LESS50	URS Response less than 50 ms	URS response time means the time passed between the moment the call is queued on a Routing Point (indicated by

		EventQueued) and the moment the call is routed to a destination, including the default destination in case of URS failure/timeout (indicated by EventRouteUsed). Long response times might indicate problems with the network or URS overload. Response times corresponding to the <b>router-timeout</b> option value most likely indicate a URS failure/timeout (e.g. as a result of incorrect routing strategy).
URS_RESPONSE_50TO100	URS Response 50 to 100 ms	
URS_RESPONSE_100TO200	URS Response 100 to 200 ms	
URS_RESPONSE_200TO500	URS Response 200 to 500 ms	
URS_RESPONSE_500TO1SEC	URS Response 500 ms to 1sec	
URS_RESPONSE_1TO5SEC	URS Response 1 to 5 sec	
URS_RESPONSE_MORE5SEC	URS Response more than 5 sec	
NUSER_DATA_UPDATES	Number of User Data updates	Number of processed requests related to UserData (TAttachUserData, TUpdateUserData, TDeletePair, TDeleteUserData). A cumulative metric that is reset to zero on restart.
NTREQUESTS	Number of T-Requests	Number of all processed T-Library requests (of any type). A cumulative metric that is reset to zero on restart.

## Out-Of-Service Detection Statistics

Section ID: **sipServiceChecker**

ID	Description	Comments
SRVC_THREAD_ID	Thread ID	
SRVC_CPU_USAGE	CPU usage	
SRVC_NOOS_DEVICES	Number Out Of Service devices	Significant increase of the value might indicate problems with the network

## SIP Server threads statistics

To enable statistics for T-Library client connections of the SIP Server threads, set the **t-library-stats-enabled** configuration option to true. SIP Server provides state and quantitative statistics for the following SIP Server threads:

- Session Controller
- T-Controller
- Interaction Proxy
- Smart Proxy

Table name: **tLibClientsStatistics**

Table ID: **tLibClientsPage**

For each thread, SIP Server displays the **client connection statistics** and **error statistics**. See also a **limitation** for this feature.

### Client connection statistics

Statistics tables for client connections have the following names and IDs per SIP Server thread:

- Session Controller: **SC\_clientsStatistics** and **id='SC\_clientsDataTable'**
- T-Controller: **TC\_clientsStatistics** and **id='TC\_clientsDataTable'**
- Interaction Proxy: **IP\_clientsStatistics** and **id='IP\_clientsDataTable'**
- Smart Proxy: **SP\_clientsStatistics** and **id='SP\_clientsDataTable'**

ID	Description	Comment
CLIENT	Client	The name of the connected client.
CURRENT_CONN_STATE	Client Connection State	The connection state of the client either 1 (connected) or 0 (disconnected).
NSTATE_DISCONNECTED	Number of client disconnects	The number of client disconnections since SIP Server is started.
NCLIENT_REQUESTS	Accumulated number of requests	The accumulated number of requests sent by the client since SIP Server is started.
NCLIENT_EVENTS	Accumulated number of events (errors including)	The accumulated number of events sent by SIP Server to the client since SIP Server is started.
NCLIENT_ERROR_EVENTS	Accumulated number of errors	The accumulated number of errors among events sent by SIP Server to the client since SIP Server is started.
CLIENT_OUTPUT_QUEUE	Output queue size (bytes)	The output queue size (the

ID	Description	Comment
		connection output buffer), in bytes.
CLIENT_DATA_RX_BYTES	Accumulated incoming bytes	The accumulated incoming bytes received by SIP Server from the client since SIP Server is started.
CLIENT_DATA_TX_BYTES	Accumulated outgoing bytes	The accumulated outgoing bytes sent by SIP Server to the application since SIP Server is started.

### Error statistics

Error statistics tables contain embedded tables. There are as many tables as different types of errors that are received by a particular thread since SIP Server is started. The error statistics tables have the following names and IDs per SIP Cluster thread:

- Session Controller: **SC\_errorsStatistics** and **id='SC\_errorsDataTable'**
- T-Controller: **TC\_errorsStatistics** and **id='TC\_errorsDataTable'**
- Interaction Proxy: **IP\_errorsStatistics** and **id='IP\_errorsDataTable'**
- Smart Proxy: **SP\_errorsStatistics** and **id='SP\_errorsDataTable'**

ID	Description	Comment
ERROR_CODE	ErrorCode	The digital error code.
ERROR_TEXT	Error Meaning	The error description.
N_ERRORS	Accumulated number of errors	The accumulated number of errors of this particular type thread that are received since SIP Server is started.

### Example of Session Controller client and error statistics in the XML format:

#### [+] Show XML source

```
<tLibClientsStatistics id='tLibClientsPage'>
<SC_clientsStatistics id='SC_clientsDataTable'>
<ClientData id='ClientData'>
<CLIENT id='9C9A80A9-9ED3-40C6-8077-A582F30CBD5E' type='7'
rem="Client">interactionProxy</CLIENT>
<CURRENT_CONN_STATE id='2B50E251-E09E-45B1-A79F-5E104889B283' type='4' rem="Client Connection
State">1</CURRENT_CONN_STATE>
<NSTATE_DISCONNECTED id='ECC42C89-729A-49FE-84F4-E496DECFE402' type='4' rem="Number of client
disconnects">0</NSTATE_DISCONNECTED>
<NCLIENT_REQUESTS id='181B9E5D-5184-48BC-A7C2-012F8B302C4F' type='7' rem="Accumulated number
of requests">1</NCLIENT_REQUESTS>
<NCLIENT_EVENTS id='BAE7D8E-D422-4662-997D-5870DF686409' type='7' rem="Accumulated number of
events (errors including)">83</NCLIENT_EVENTS>
<NCLIENT_ERROR_EVENTS id='4CCD9E8B-52A6-4563-8665-16AF7EC556E6' type='7' rem="Accumulated
number of errors">0</NCLIENT_ERROR_EVENTS>
<CLIENT_OUTPUT_QUEUE_BYTES id='45BD9498-1131-434F-B0D5-34173D3AE5E1' type='7' rem="Output
queue size (bytes)">0</CLIENT_OUTPUT_QUEUE_BYTES>
```

```

<CLIENT_DATA_RX_BYTES id='A3E173C1-E3BB-4E70-B03C-5397DBE1EC8D' type='7' rem="Accumulated
incoming bytes">386</CLIENT_DATA_RX_BYTES>
<CLIENT_DATA_TX_BYTES id='F20B02D0-6F95-4CF2-A955-C97CF2D1AA13' type='7' rem="Accumulated
outgoing bytes">9789</CLIENT_DATA_TX_BYTES>
</ClientData>
</SC_clientsStatistics>
<SC_errorsStatistics id='SC_errorsDataTable'>
<ErrorData id='ErrorData'>
<ERROR_CODE id='E8E72766-52EB-4C95-B8ED-B6D39A437513' type='7' rem="ErrorCode">59</ERROR_CODE>
<ERROR_TEXT id='AEBEAC34-2633-4D23-8E89-E9DBFDF031EF' type='7' rem="Error Meaning">DN is not
configured in CME</ERROR_TEXT>
<N_ERRORS id='4F1EB8D1-1ABA-4BA6-8E99-82F3988C03EC' type='4' rem="Accumulated number of
errors">2</N_ERRORS>
</ErrorData>
</SP_errorsStatistics>
</tLibClientsStatistics>

```

## SIP Feature Server Statistics

SIP Server collects the following statistics related to SIP Feature Server (**sipFeatureServer**) interactions:

ID	Description
FS_STATE	The Current service state. Values: 0 is out of service, 1 is in service.
FS_QUEUE_SIZE	Current number of XS requests in a queue (requests that have not been sent to Feature Server).
FS_AVERAGE_QUEUE_TIME	Average request in queue time in milliseconds during the period of statistic's summary.
FS_CONNECTIONS	Number of connections for each URL.
<b>Statistics for each configured URL</b>	
FS_URL	URL of Feature Server.
FS_ACTIVE_CONNECTIONS	Current number of active connections.
FS_REQUEST_RATE	Requests rate during the period of statistic's summary (request/sec).
FS_TIMEOUTS	Number of timeouts for requests (sent or in queue) during the period of statistic's summary.
FS_400_ERRORS	Number of 400 error responses during the period of statistic's summary.
FS_404_ERRORS	Number of 404 error responses during the period of statistic's summary.
FS_4XX_ERRORS	Number of 4xx error responses during the period of statistic's summary.
FS_500_ERRORS	Number of 500 error responses during the period of statistic's summary.
FS_501_ERRORS	Number of 501 error responses during the period of statistic's summary.
FS_5XX_ERRORS	Number of 5xx error responses during the period of

ID	Description
	statistic's summary.
FS_AVERAGE_RESPONSE_LATENCY	Average response latency during the period of statistic's summary (in milliseconds).

### SIP Feature Server Statistics Examples

- In the HTML format:

#### [+] Show HTML source

```

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
<!-- saved from url=(0045)http://localhost:8080/server -->
<HTML><HEAD><META content="IE=5.0000" http-equiv="X-UA-Compatible">

<META http-equiv="Content-Type" content="text/html; charset=utf-8">
<META name="GENERATOR" content="MSHTML 11.00.9600.19104"></HEAD>
<BODY> <LINK href="server_files/style.css" rel="StyleSheet">
<TABLE>
  <TBODY>
  <TR>
    <TD>\\<A
href="http://localhost:8080/server?core">sipserver</A></TD></TR></TBODY></TABLE>
<TABLE class="object">
  <CAPTION class="Caption">Feature Server</CAPTION>
  <TBODY>
  <TR>
    <TD class="SubTitle" colspan="2">FeatureServer objects</TD></TR>
  <TR>
    <TD class="Name" colspan="0">State</TD>
    <TD class="Value" colspan="0">0</TD></TR>
<TR>
  <TD class="Name" colspan="0">Number of configured connections</TD>
  <TD class="Value" colspan="0">10</TD></TR>
<TR>
  <TD class="Name" colspan="0">Queue size</TD>
  <TD class="Value" colspan="0">0</TD></TR>
<TR>
  <TD class="Name" colspan="0">Average request in queue time (ms)</TD>
  <TD class="Value" colspan="0">0</TD></TR>
<TR></TR></TBODY></TABLE></BODY></HTML>

```

The code above displays these results in a browser:

Feature Server	
FeatureServer objects	
State (0 - out of service, 1 - in service)	0
Number of configured connections	10
Queue size	0
Average request in queue time (ms)	0

- The URL-related statistic in the HTML format:

#### [+] Show HTML source

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
<!-- saved from url=(0058)http://localhost:8080/server -->
<HTML><HEAD><META content="IE=5.0000" http-equiv="X-UA-Compatible">

<META http-equiv="Content-Type" content="text/html; charset=utf-8">
<META name="GENERATOR" content="MSHTML 11.00.9600.19104"></HEAD>
<BODY> <LINK href="server1_files/style.css" rel="StyleSheet">
<TABLE>
  <TBODY>
    <TR>
      <TD>\\<A
href="http://localhost:8080/server?core">sipserver</A></TD></TR></TBODY></TABLE>
<TABLE class="object">
  <CAPTION class="Caption">Feature Server URL Statistics</CAPTION>
  <TBODY>
    <TR></TR></TBODY>
<TABLE class="object">
  <CAPTION class="Caption">FeatureServerUrls</CAPTION>
  <TBODY>
    <TR>
      <TD class="Name" colspan="0">URL</TD>
      <TD class="Value" colspan="0">http://localhost:8080/myurl</TD>
      <TD class="Name" colspan="0">Number of active connections</TD>
      <TD class="Value" colspan="0">410</TD>
      <TD class="Name" colspan="0">Requests rate</TD>
      <TD class="Value" colspan="0">0</TD>
      <TD class="Name" colspan="0">Number of error responses</TD>
      <TD class="Value" colspan="0">0</TD>
      <TD class="Name" colspan="0">Number of failed requests by timeout</TD>
      <TD class="Value" colspan="0">0</TD>
      <TD class="Name" colspan="0">Average response latency (ms)</TD>
      <TD class="Value" colspan="0">0</TD></TR></TBODY></TABLE></BODY></HTML>
```

The code above displays these results in a browser:

Feature Server URL Statistics																			
FeatureServerUrls																			
URL	http://localhost:8080/myurl	Number of active connections	410	Requests rate	0	Number of 400 error responses	0	Number of 404 error responses	0	Number of 500 error responses	0	Number of 501 error responses	0	Number of 50X error responses	0	Number of failed requests by timeout	0	Average response latency (ms)	0

- The URL-related statistic in the XML format:

### [+] Show XML source

```
<sipFeatureServer id='sipFeatureServer'>
<FS_STATE id='14984276-E823-47B9-9094-93FBF41F8249' type='4' rem="State">0</FS_STATE>
<FS_QUEUE_SIZE id='0AC61903-88B8-423E-8ADE-617AA1FA6D0F' type='4' rem="Queue size">0</FS_QUEUE_SIZE>
<FS_AVERAGE_QUEUE_TIME id='9CB891D1-31E6-4681-829C-CC690F960D00' type='4' rem="Average request in queue time (ms)">0</FS_AVERAGE_QUEUE_TIME>
</sipFeatureServer>
<sipFeatureServerUrlStatistics id='sipFeatureServerUrlStatistics'>
<sipFeatureServerUrlStatistics id='sipFeatureServerUrlTable'>
<sipFeatureServerUrlData id='sipFeatureServerUrlData'>
<FS_URL id='2C66B966-BF01-4F05-9364-D310304376A7' type='7' rem="URL">http://localhost:8080/myurl</FS_URL>
<FS_CONNECTIONS id='FB5DEE8B-2C65-46C7-BC25-96C8DC6A620E' type='4' rem="Number of active connections">9</FS_CONNECTIONS>
<FS_REQUESTS_RATE id='B263BAB0-BA71-490E-A502-185239BEAE15' type='4' rem="Requests rate">0</FS_REQUESTS_RATE>
<FS_ERRORS id='948FCA63-A0E7-4064-B26A-C5E32D572674' type='4' rem="Number of error responses">0</FS_ERRORS>
```

```
<FS_TIMEOUTS id='E6406AB8-E600-4968-86A0-18ED85BFC516' type='4' rem="Number of failed requests by timeout">0</FS_TIMEOUTS>
<FS_AVERAGE_RESPONSE_LATENCY id='8DBE5B2F-6DF7-4C5D-B329-94AB2026F89E' type='4' rem="Average response latency (ms)">0</FS_AVERAGE_RESPONSE_LATENCY>
</sipFeatureServerUrlData>
</sipFeatureServerUrlStatistics>
</sipFeatureServerUrlStatistics>
```

## Configuration Options

### http-port

Section: **[TServer]**

Default Value: 0

Valid Values: 0, 1024-65535

Changes Take Effect: After SIP Server restart

Specifies the HTTP interface port number. When set to 0, the HTTP server is disabled. The port numbers in the range of 1 through 1023 are the system ports and must not be used.

### operational-stat-timeout

Section: **[TServer]**

Default Value: 10

Valid Values: 3-65535

Changes Take Effect: After SIP Server restart

Specifies how often, in seconds, a local LCA is queried for system information such as CPU and memory usage. This information is then written into the SIP Server Operational Information log as defined in the SIP Server configuration.

### summary-stat-timeout

Section: **[TServer]**

Default Value: 60

Valid Values: Integer value 1-65535

Changes Take Effect: After SIP Server restart

Specifies how often, in minutes, the summary statistics are calculated.

### t-library-stats-enabled

Section: **[TServer]**

Default Value: false

Valid Values: true, false

Changes Take Effect: After SIP Server restart

When set to true, SIP Server collects T-Library client statistics and embeds them inside HTTP monitoring statistics. When set to false (the default, this feature is disabled).

## Feature Limitations

- The CSS style for the HTML statistics page is hardcoded.
- For the **SIP Server threads statistics** feature, each client connected to SIP Server must have a unique name. Two or more clients with the same name must *not* connect to SIP Server simultaneously.