Cisco Unified Real-Time Monitoring Tool Tracing PerfMon Counters and Alerts

This chapter briefly describes the Cisco Unified Communications Real-Time Monitoring Tool (RTMT) tracing capabilities, perfmon objects and counters, and alerts.

Cisco Unified Real-Time Monitoring

The RTMT runs as a client-side application and uses HTTPS and TCP to monitor system performance, device status, device discovery, CTI applications, and voice messaging ports. RTMT can connect directly to devices by using HTTPS to troubleshoot system issues. Cisco Unified RTMT performs the following tasks:

- Monitor a set of predefined management objects that monitor the health of the system.

- Generate various alerts, in the form of e-mails, for objects when values go over/below user-configured thresholds.

- Collect and view traces in various default viewers that exist in RTMT.

- Translate Q931 messages.

- View syslog messages in SysLog Viewer.

- Work with performance-monitoring counters.

In addition to SNMP traps, Cisco Unified RTMT can monitor and parse syslog messages that are provided by the hardware vendors, and then send these alerts to RTMT Alert Central. You can configure RTMT to notify the Unified Communications Manager system administrator when the alerts occur. The notifications can occur by using e-mail or Epage or both.

Note Be aware the RTMT is best used for a single cluster. For large and enterprise networks that have multiple clusters deployed, Cisco recommends using Cisco Unified Operations Manager. For details about Cisco Unified Operations Manager, go to http://www.cisco.com/en/US/products/ps6535/index.htm.

Performance Monitoring in RTMT

Unified Communications Manager updates performance counters (called PerfMon counters). The counters contain simple, useful information about the system and devices on the system, such as number of registered phones, number of active calls, number of available conference bridge resources, and voice messaging port usage.

You can monitor the performance of the components of the system and the components for the application on the system by choosing the counters for any object. The counters for each object display when the folder expands.

For Unified Communications Manager, the Cisco CallManager object contains most of the Unified Communications Manager performance counters, and these counters have only one instance. The instance-based counters that belong to the other objects can have zero or more instances. For example, if two phones are registered to Unified Communications Manager, two instances of each counter that belong to the Cisco phones object exist.

You can log perfmon counters locally on the computer and use the performance log viewer in RTMT to display the perfmon CSV log files that you collected or the Real-time Information Server Data Collection (RISDC) perfmon logs.

RTMT provides alert notifications for troubleshooting performance. It also periodically polls performance counters to display data for that counter. Performance monitoring allows you to perform the following tasks:

- Monitor performance counters including all the Unified Communications Manager servers in a cluster (if applicable), TFTP servers, and database servers.

- Continuously monitor a set of preconfigured objects and receive notification in the form of an e-mail message.

- Associate counter threshold settings to alert notification. An e-mail or popup message provides notification to the administrator.

- Save and restore settings, such as counters that get monitored, threshold settings, and alert notifications, for customized troubleshooting tasks.

- Display up to six perfmon counters in one chart for performance comparisons.

PerfMon Alert Notifications

The alert notifications keep you updated on system and Unified Communications Manager issues. You can use the parameters that are already contained in RTMT or configure your own. The following table lists the available settings and describes each. The Threshold, Value Calculated As, Duration, Frequency, and Schedule panes of RTMT contain the settings.

Table 1: Counter Alert Configuration Parameters

Setting	Description
Threshold Pane	

Setting	Description
Trigger alert when Over and Under conditions get met	Check the box and enter the value that applies. • Over—Check this box to configure a maximum threshold that must be met before an alert notification is activated. In the Over value field, enter a value. For example, enter a value that equals the number of calls in progress. • Under—Check this box to configure a minimum threshold that must be met before an alert notification is activated. In the Under value field, enter a value. For example, enter a value that equals the number of calls in progress. **Tip** Use these boxes in conjunction with the Frequency and Schedule configuration parameters.
Value Calculated As Pane	
Absolute, Delta, Delta Percentage	Click the radio button that applies. • Absolute—Choose Absolute to display the data at its current status. These counter values are cumulative. • Delta—Choose Delta to display the difference between the current counter value and the previous counter value. • Delta Percentage—Choose Delta Percentage to display the counter performance changes in percentage.
Duration Pane	
Trigger alert only when value constantly...; Trigger alert immediately	• Trigger alert only when value constantly...—If you want the alert notification only when the value is constantly below or over threshold for a desired number of seconds, click this radio button and enter seconds after which you want the alert to be sent. • Trigger alert immediately—If you want the alert notification to be sent immediately, click this radio button.
Frequency Pane	

Setting	Description
Trigger alert on every poll; trigger up to...	Click the radio button that applies. • Trigger alert on every poll—If you want the alert notification to activate on every poll when the threshold is met, click this radio button. For example, if the calls in progress continue to go over or under the threshold, the system does not send another alert notification. When the threshold is normal (between 50 and 100 calls in progress), the system deactivates the alert notification; however, if the threshold goes over or under the threshold value again, the system reactivates alert notification. • Trigger up to...—If you want the alert notification to activate at certain intervals, click this radio button and enter the number of alerts that you want sent and the number of minutes within which you want them sent.
Schedule Pane	
24-hours daily; start/stop	Click the radio button that applies: • 24-hours daily—If you want the alert to be triggered 24 hours a day, click this radio button. • Start/Stop—If you want the alert notification activated within a specific time frame, click the radio button and enter a start time and a stop time. If the check box is checked, enter the start and stop times of the daily task. For example, you can configure the counter to be checked every day from 9:00 am to 5:00 pm or from 9:00 pm to 9:00 am.

Note If you require an e-mail notifications, check the Enable E-mail box.

You can also use data sampling in RTMT. The perfmon counters that display in the RTMT Perfmon Monitoring pane have green dots that represent samples of data over time. You can configure the number of samples to collect and the number of data points to show in the chart. The following table lists and describes the parameters.

Table 2: Data Sample Parameters

Parameter	Description
Absolute	Because some counter values are accumulative, choose Absolute to display the data at its current status.

Parameter	Description
Delta	Choose Delta to display the difference between the current counter value and the previous counter value.
Delta Percentage	Choose Delta Percentage to display the counter performance changes in percentage.

PerfMon Objects and Counters for Cisco Unified Communications Manager

This section provides information on Unified Communications Manager PerfMon objects and counters.

Cisco Analog Access

The Cisco Analog Access object provides information about registered Cisco Analog Access gateways. The following table contains information about Cisco Analog Access counters.

Table 3: Cisco Analog Access

Counters	Counter Description
OutboundBusyAttempts	This counter represents the total number of times that Unified Communications Manager attempts a call through the analog access gateway when all ports were busy.
PortsActive	This counter represents the number of ports that are currently in use (active). A port appears active when a call is in progress on that port.
PortsOutOfService	This counter represents the number of ports that are currently out of service. Counter applies only to loop-start and ground-start trunks.

Cisco Annunciator Device

The Cisco Annunciator Device object provides information about registered Cisco annunciator devices. The following table contains information about Cisco Annunciator counters.

Table 4: Cisco Annunciator Device

Counters	Counter Description
OutOfResources	This counter represents the total number of times that Unified Communications Manager attempted to allocate an annunciator resource from an annunciator device and failed; for example, because all resources were already in use.
ResourceActive	This counter represents the total number of annunciator resources that are currently active (in use) for an annunciator device.

Counters	Counter Description
ResourceAvailable	This counter represents the total number of resources that are not active and are still available to be used at the current time for the annunciator device.
ResourceTotal	This counter represents the total number of annunciator resources that are configured for an annunciator device.

Cisco CallManager

The Cisco CallManager object provides information about calls, applications, and devices that are registered with the Unified Communications Manager. The following table contains information about Cisco CallManager counters.

Table 5: Cisco CallManager

Counters	Counter Description
AnnunciatorOutOfResources	This counter represents the total number of times that Unified Communications Manager attempted to allocate an annunciator resource from those that are registered to a Unified Communications Manager when none were available.
AnnunciatorResourceActive	This counter represents the total number of annunciator resources that are currently in use on all annunciator devices that are registered with a Unified Communications Manager.
AnnunciatorResourceAvailable	This counter represents the total number of annunciator resources that are not active and are currently available.
AnnunciatorResourceTotal	This counter represents the total number of annunciator resources that are provided by all annunciator devices that are currently registered with Unified Communications Manager.
AuthenticatedCallsActive	This counter represents the number of authenticated calls that are currently active (in use) on Unified Communications Manager. An authenticated call designates one in which all the endpoints that are participating in the call are authenticated. An authenticated phone uses the Transport Layer Security (TLS) authenticated Skinny protocol signaling with Unified Communications Manager.
AuthenticatedCallsCompleted	This counter represents the number of authenticated calls that connected and subsequently disconnected through Unified Communications Manager. An authenticated call designates one in which all the endpoints that are participating in the call are authenticated. An authenticated phone uses the TLS authenticated Skinny protocol signaling with Unified Communications Manager.
AuthenticatedPartiallyRegisteredPhone	This counter represents the number of partially registered, authenticated SIP phones.

Counters	Counter Description
AuthenticatedRegisteredPhones	This counter represents the total number of authenticated phones that are registered to Unified Communications Manager. An authenticated phone uses the TLS authenticated Skinny protocol signaling with Unified Communications Manager.
BRIChannelsActive	This counter represents the number of BRI voice channels that are currently in an active call on this Unified Communications Manager.
BRISpansInService	This counter represents the number of BRI spans that are currently available for use.
CallManagerHeartBeat	This counter represents the heartbeat of Unified Communications Manager. This incremental count indicates that Cisco Unified Communications Manager is up and running. If the count does not increment, that indicates that Unified Communications Manager is down.
CallsActive	This counter represents the number of voice or video streaming connections that are currently in use (active); in other words, the number of calls that actually have a voice path that is connected on Unified Communications Manager.
CallsAttempted	This counter represents the total number of attempted calls. An attempted call occurs any time that a phone goes off hook and back on hook, regardless of whether any digits were dialed, or whether it connected to a destination. The system considers some call attempts during feature operations (such as transfer and conference) to be attempted calls.
CallsCompleted	This counter represents the number of calls that were actually connected (a voice path or video stream was established) through Unified Communications Manager. This number increases when the call terminates.

Counters	Counter Description
CallsInProgress	This counter represents the number of voice or video calls that are currently in progress on Unified Communications Manager, including all active calls. When a phone that is registered with Skinny Client Control Protocol (SCCP) goes off hook, the CallsInProgress progress counter increments until it goes back on hook. For Cisco Unified IP Phones 7940, and 7960 that register with SIP, the CallsInProgress counter increments when the dial softkey is pressed. For all other phones that are running SIP, the CallsInProgress counter increments when the first digit is pressed. When all voice or video calls that are in progress are connected, the number of CallsInProgress represents the number of CallsActive. The counter decreases by one when a phone goes back on hook.
CM_MediaTermPointsRequestsThrottled	This counter represents the total number of media termination point (MTP) resource requests that have been denied due to throttling (a resource from this MTP was not allocated because, as specified by the Cisco CallManager service parameter, MTP and Transcoder Resource Throttling Percentage, the MTP was being utilized beyond the configured throttle percentage). This counter increments each time a request for an MTP on this Unified Communications Manager node is requested and denied due to MTP throttling and reflects a running total since the start of the Cisco CallManager service.
CM_TranscoderRequestsThrottled	This counter represents the total number of transcoder resource requests that have been denied due to throttling (a resource from this transcoder was not allocated because, as specified by the Cisco CallManager service parameter MTP and Transcoder Resource Throttling Percentage, the transcoder was being utilized beyond the configured throttle percentage). This counter increments each time a request for a transcoder on this Unified Communications Manager node is requested and denied due to transcoder throttling and reflects a running total since the start of the Cisco CallManager service
EncryptedCallsActive	This counter represents the number of encrypted calls that are currently active (in use) on this Unified Communications Manager. An encrypted call represents one in which all the endpoints that are participating in the call are encrypted.
EncryptedCallsCompleted	This counter represents the number of encrypted calls that were connected and subsequently disconnected through this Unified Communications Manager. An encrypted call represents one in which all the endpoints that are participating in the call are encrypted.

Counters	Counter Description
EncryptedPartiallyRegisteredPhones	This counter represents the number of partially registered, encrypted SIP phones.
EncryptedRegisteredPhones	This counter represents the total number of encrypted phones that are registered on this Unified Communications Manager.
FXOPortsActive	This counter represents the number of FXO ports that are currently in use (active) on a Unified Communications Manager.
FXOPortsInService	This counter represents the number of FXO ports that are currently available for use in the system.
FXSPortsActive	This counter represents the number of FXS ports that are currently in use (active) on a Unified Communications Manager.
FXSPortsInService	This counter represents the number of FXS ports that are currently available for use in the system.
HuntListsInService	This counter represents the number of hunt lists that are currently in service on Unified Communications Manager.
HWConferenceActive	This counter represents the total number of hardware conference resources that are provided by all hardware conference bridge devices that are currently registered with Unified Communications Manager.
HWConferenceCompleted	This counter represents the total number of conferences that used a hardware conference bridge (hardware-based conference devices such as Cisco Catalyst 6000, Cisco Catalyst 4000, Cisco VG200, Cisco series 26xx and 36xx) that is allocated from Unified Communications Manager and that have completed, which means that the conference bridge has been allocated and released. A conference activates when the first call connects to the bridge. The conference completes when the last call disconnects from the bridge.
HWConferenceOutOfResources	This counter represents the total number of times that Unified Communications Manager attempted to allocate a hardware conference resource from those that are registered to a Unified Communications Manager when none was available.
HWConferenceResourceActive	This counter represents the total number of conference resources that are in use on all hardware conference devices (such as Cisco Catalyst 6000, Catalyst 4000, Cisco VG200, Cisco series 26xx and 36xx) that are registered with Unified Communications Manager. System considers conference to be active when one or more calls are connected to a bridge.

Counters	Counter Description
HWConferenceResourceAvailable	This counter represents the number of hardware conference resources that are not in use and that are available to be allocated on all hardware conference devices (such as Cisco Catalyst 6000, Cisco Catalyst 4000, Cisco VG200, Cisco series 26xx and 36xx) that are allocated from Unified Communications Manager and that have been completed, which means that the conference bridge has been allocated and released. A conference activates when the first call connects to the bridge. The conference completes when the last call disconnects from the bridge.
HWConferenceResourceTotal	This counter represents the number of active conferences on all hardware conference devices that are registered with Unified Communications Manager.
InitializationState	This counter represents the current initialization state of Unified Communications Manager. Unified Communications Manager includes the following initialization state values: 1-Database; 2-Regions; 3-Locations; 4-QoS Policy; 5-Time Of Day; 6-AAR Neighborhoods; 7-Digit Analysis; 8-Route Plan; 9-Call Control; 10-RSVP Session Manager; 11-Supplementary Services; 12-Directory; 13-SDL Link; 14-Device; 100-Initialization Complete. Not all states display when this counter is used. This does not indicate that an error occurred; it simply indicates that the state(s) initialized and completed within the refresh period of the performance monitor.
LocationOutOfResources	This counter represents the total number of times that a call through Locations failed due to the lack of bandwidth.
MOHMulticastResourceActive	This counter represents the total number of multicast MOH resources that are currently in use (active) on all MOH servers that are registered with a Unified Communications Manager.
MOHMulticastResourceAvailable	This counter represents the total number of active multicast MOH connections that are not being used on all MOH servers that are registered with a Unified Communications Manager.
MOHOutOfResources	This counter represents the total number of times that the Media Resource Manager attempted to allocate an MOH resource when all available resources on all MOH servers that are registered with a Unified Communications Manager were already active.
MOHTotalMulticastResources	This counter represents the total number of multicast MOH resources or connections that are provided by all MOH servers that are currently registered with a Unified Communications Manager.

Counters	Counter Description
MOHTotalUnicastResources	This counter represents the total number of unicast MOH resources or streams that are provided by all MOH servers that are currently registered with Unified Communications Manager. Each MOH unicast resource uses one stream.
MOHUnicastResourceActive	This counter represents the total number of unicast MOH resources that are currently in use (active) on all MOH servers that are registered with Unified Communications Manager. Each MOH unicast resource uses one stream.
MOHUnicastResourceAvailable	This counter represents the total number of unicast MOH resources that are currently available on all MOH servers that are registered with Unified Communications Manager. Each MOH unicast resource uses one stream.
MTPOutOfResources	This counter represents the total number of times that Unified Communications Manager attempted but failed to allocate an MTP resource from one MTP device that is registered with Unified Communications Manager. This also means that no transcoders were available to act as MTPs.
MTPResourceActive	This counter represents the total number of MTP resources that are currently in use (active) on all MTP devices that are registered with a Unified Communications Manager. Each MTP resource uses two streams. An MTP in use represents one MTP resource that has been allocated for use in a call.
MTPResourceAvailable	This counter represents the total number of MTP resources that are not in use and are available to be allocated on all MTP devices that are registered with Unified Communications Manager. Each MTP resource uses two streams. An MTP in use represents one MTP resource that has been allocated for use in a call.
MTPResourceTotal	This counter represents the total number of media termination point (MTP) resources that are provided by all MTP devices that are currently registered with Unified Communications Manager.
MTP_RequestsThrottled	This counter represents the total number of media termination point (MTP) resource requests that have been denied due to throttling (a resource from this MTP was not allocated because, as specified by the Cisco CallManager service parameter MTP and Transcoder Resource Throttling Percentage, the MTP was being utilized beyond the configured throttle percentage). This counter increments each time a resource is requested from this MTP and is denied due to throttling. This counter reflects a running total since the MTP device registered with the Cisco CallManager service.
PartiallyRegisteredPhone	This counter represents the number of partially registered phones that are running SIP.

Counters	Counter Description
PRIChannelsActive	This counter represents the number of PRI voice channels that are in an active call on a Unified Communications Manager.
PRISpansInService	This counter represents the number of PRI spans that are currently available for use.
RegisteredAnalogAccess	This counter represents the number of registered Cisco analog access gateways that are registered with system. The count does not include the number of Cisco analog access ports.
RegisteredHardwarePhones	This counter represents the number of Cisco hardware IP phones (for example, Cisco Unified IP Phones 7960, 7940, and so on) that are currently registered in the system.
RegisteredMGCPGateway	This counter represents the number of MGCP gateways that are currently registered in the system.
RegisteredOtherStationDevices	This counter represents the number of station devices other than Cisco hardware IP phones that are currently registered in the system (for example, Cisco IP SoftPhone, CTI port, CTI route point, Cisco voice-mail port).
SIPLineServerAuthorizationChallenges	This counter represents the number of authentication challenges for incoming SIP requests that the Unified Communications Manager server issued to phones that are running SIP. An authentication challenge occurs when a phone that is running SIP with Digest Authentication enabled sends a SIP line request to Unified Communications Manager.
SIPLineServerAuthorizationFailures	This counter represents the number of authentication challenge failures for incoming SIP requests from SIP phones to the Unified Communications Manager server. An authentication failure occurs when a SIP phone with Digest Authentication enabled sends a SIP line request with bad credentials to Unified Communications Manager.
SIPTrunkAuthorization	This counter represents the number of application-level authorization checks for incoming SIP requests that Unified Communications Manager has issued to SIP trunks. An application-level authorization check occurs when Unified Communications Manager compares an incoming SIP request to the application-level settings on the SIP Trunk Security Profile Configuration window in Cisco Unified Communications Manager Administration.

Counters	Counter Description
SIPTrunkAuthorizationFailures	This counter represents the number of application-level authorization failures for incoming SIP requests that have occurred on Unified Communications Manager SIP trunks. An application-level authorization failure occurs when Unified Communications Manager compares an incoming SIP request to the application-level authorization settings on the SIP Trunk Security Profile Configuration window in Cisco Unified Communications Manager Administration and finds that authorization for one or more of the SIP features on that window is not allowed.
SIPTrunkServerAuthenticationChallenges	This counter represents the number of authentication challenges for incoming SIP requests that Unified Communications Manager issued to SIP trunks. An authentication challenge occurs when a SIP trunk with Digest Authentication enabled sends a SIP request to Unified Communications Manager.
SIPTrunkServerAuthenticationFailures	This counter represents the number of authentication challenge failures that occurred for incoming SIP requests from SIP trunks to Unified Communications Manager. An authentication failure occurs when a SIP trunk with Digest Authentication enabled sends a SIP request with bad credentials to Unified Communications Manager.
SWConferenceActive	This counter represents the number of active conferences on all software conference devices that are registered with Unified Communications Manager.
SWConferenceCompleted	This counter represents the total number of conferences that used a software conference bridge that was allocated from a Unified Communications Manager and that have been completed, which means that the conference bridge has been allocated and released. A conference activates when the first call connects to the bridge. The conference completes when the last call disconnects from the bridge.
SWConferenceOutOfResources	This counter represents the total number of times that Unified Communications Manager attempted to allocate a software conference resource from those that are registered to Unified Communications Manager when none was available. Counter includes failed attempts to add a new participant to an existing conference.
SWConferenceResourceActive	This counter represents the total number of conference resources that are in use on all software conference devices that are registered with Unified Communications Manager. The system considers a conference to be active when one or more calls connect to a bridge. One resource equals one stream.

Counters	Counter Description
SWConferenceResourceAvailable	This counter represents the number of new software-based conferences that can be started at the same time, for Unified Communications Manager. You must have a minimum of three streams available for each new conference. One resource equals one stream
SWConferenceResourceTotal	This counter represents the total number of software conference resources that are provided by all software conference bridge devices that are currently registered with Unified Communications Manager.
SystemCallsAttempted	This counter represents the total number of server-originated calls and attempted calls to the Unity message waiting indicator (MWI).
T1ChannelsActive	This counter represents the number of T1 CAS voice channels that are in an active call on a Unified Communications Manager.
T1SpansInService	This counter represents the number of T1 CAS spans that are currently available for use.
TLSConnectedSIPTrunks	This counter represents the number of SIP trunks that are configured and connected via Transport Layer Security (TLS).
TLSConnectedWSM	This counter represents the number of WSM Connectors that are configured and connected to Motorola WSM via Transport Layer Security (TLS).
TranscoderOutOfResources	This counter represents the total number of times that Unified Communications Manager attempted to allocate a transcoder resource from a transcoder device that is registered to a Unified Communications Manager when none was available.
TranscoderResourceActive	This counter represents the total number of transcoders that are in use on all transcoder devices that are registered with Unified Communications Manager. A transcoder in use represents one transcoder resource that has been allocated for use in a call. Each transcoder resource uses two streams.
TranscoderResourceAvailable	This counter represents the total number of transcoders that are not in use and that are available to be allocated on all transcoder devices that are registered with Unified Communications Manager. Each transcoder resource uses two streams.
TranscoderResourceTotal	This counter represents the total number of transcoder resources that are provided by all transcoder devices that are currently registered with Unified Communications Manager.
VCBConferenceActive	This counter represents the total number of active video conferences on all video conference bridge devices that are registered with Unified Communications Manager.

Counters	Counter Description
VCBConferenceAvailable	This counter represents the total number of new video conferences on all video conference bridge devices that are registered with Unified Communications Manager.
VCBConferenceCompleted	This counter represents the total number of video conferences that used a video conference bridge that are allocated from Unified Communications Manager and that have been completed, which means that the conference bridge has been allocated and released. A conference activates when the first call connects to the bridge. The conference completes when the last call disconnects from the bridge.
VCBConferenceTotal	This counter represents the total number of video conferences that are supported on all video conference bridge devices that are registered with Unified Communications Manager.
VCBOutOfConferences	This counter represents the total number of times that Unified Communications Manager attempted to allocate a video conference resource from those that are registered to Unified Communications Manager when none was available.
VCBOutOfResources	This counter represents the total number of failed new video conference requests. A conference request can fail because, for example, the configured number of conferences is already in use.
VCBResourceActive	This counter represents the total number of video conference resources that are currently in use on all video conference devices that are registered with Unified Communications Manager.
VCBResourceAvailable	This counter represents the total number of video conference resources that are not active and are currently available.
VCBResourceTotal	This counter represents the total number of video conference resources that are provided by all video conference bridge devices that are currently registered with Unified Communications Manager.
VideoCallsActive	This counter represents the number of active video calls with active video streaming connections on all video conference bridge devices that are registered with Unified Communications Manager.
VideoCallsCompleted	This counter represents the number of video calls that were actually connected with video streams and then released.
VideoOutOfResources	This counter represents the total number of times that Unified Communications Manager attempted to allocate a video-streaming resource from one of the video conference bridge devices that is registered to Unified Communications Manager when none was available.

Counters	Counter Description
XCODE_RequestsThrottled	This counter represents the total number of transcoder resource requests that have been denied due to throttling (a resource from this transcoder was not allocated because, as specified by the Cisco CallManager service parameter MTP and Transcoder Resource Throttling Percentage, the transcoder was being utilized beyond the configured throttle percentage). This counter increments each time a resource is requested from this transcoder and is denied due to throttling. This counter reflects a running total since the transcoder device registered with the Cisco CallManager service.

Cisco CallManager External Call Control

The Cisco CallManager External Call Control feature provides information about the counters that are added to support the External Call Control feature. The following table contains information about the External Call Control counters.

Table 6: Cisco CallManager External Call Control

Counters	Counter Description
Unified Communications Manager Object	
ExternalCallControlEnabledCallsAttempted	This counter specifies the total number of calls to devices that have the External Call Control feature enabled. This is a cumulative count of all calls to intercept-enabled patterns or DNs since the last restart of the Cisco CallManager service.
ExternalCallControlEnabledCallsCompleted	This counter specifies the total number of calls that were connected to a device that had the External Call Control feature enabled. This is a cumulative count of all calls to intercept-enabled patterns or DNs since the last restart of the Cisco CallManager service.
ExternalCallControlEnabledFailureTreatmentApplied	This counter specifies the total number of calls that were cleared or routed based on failure treatments (such as Allow or Deny) that are defined in the External Call Control profile.
External Call Control Objects	
PDPServersTotal	This counter defines the total number of PDP servers in all External Call Control Profiles configured in Cisco Unified Communications Manager Administration. This counter increments when a new PDP server is added and decrements when a PDP server is removed.
PDPServersInService	This counter defines the total number of in-service (active) PDP servers.

Counters	Counter Description
PDPServersOutOfService	This counter defines the total number of times that PDP servers have transitioned from in-service to out-of-service. This is a cumulative count of out-of-service PDP servers since the last restart of the Cisco CallManager service.
ConnectionsActiveToPDPServer	This counter specifies the total number of connections that Unified Communications Manager has established (currently active) with PDP servers.
ConnectionsLostToPDPServer	This counter specifies the total number of times that active connections between Unified Communications Manager and the PDP servers were disconnected. This is a cumulative count since the last restart of the Cisco CallManager service.

Cisco CallManager SAF

The Cisco SAF Client object provides information about SAF counters that are specific to each node. The following table contains information about Cisco SAF Client object counters.

Table 7: Cisco CallManager SAF Client Object

Counters	Counter Description
SAFConnectionsSucceeded (range from 0 to 2)	Total number of SAF client connections currently active on this Unified Communications Manager node.
SAFFConnectionsFailed (range from 0 to 2)	Total number of SAF client connections that failed on the Unified Communications Manager node. A failed connection is a connection that did not register with the SAF Forwarder.

Note   A Unified Communications Manager node restart causes a counter reset.

See *Real-Time Monitoring Tool Guide* for more information.

Cisco CallManager System Performance

The Cisco CallManager System Performance object provides system performance information about Unified Communications Manager. The following table contains information about Cisco CallManager system performance counters.

Table 8: Cisco CallManager System Performance

Counters	Counter Description
AverageExpectedDelay	This counter represents the current average expected delay before any incoming message gets handled.

Counters	Counter Description
CallsRejectedDueToICTThrottling	This counter represents the total number of calls that were rejected since the start of Cisco CallManager service due to Intercluster Trunk (ICT) call throttling. When the threshold limit of 140 calls per 5 seconds is met, the ICT will start throttling (rejecting) new calls. One cause for ICT call throttling occurs when calls across an ICT enter a route loop condition.
CallThrottlingGenericCounter3	This counter represents a generic counter that is used for call-throttling purpose.
CodeRedEntryExit	This counter indicates whether Unified Communications Manager has entered or exited a Code state (call-throttling mode). Valid values include 0 (Exit) and 1 (Entry).
CodeYellowEntryExit	This counter indicates whether has entered or exited a CodeUnified Communications Manager Yellow state (call-throttling mode). Valid values include 0 (Exit) and 1 (Entry).
EngineeringCounter1	Do not use this counter unless directed by a Cisco Engineering Special build. Cisco uses information in this counter for diagnostic purposes.
EngineeringCounter2	Do not use this counter unless directed by a Cisco Engineering Special build. Cisco uses information in this counter for diagnostic purposes.
EngineeringCounter3	Do not use this counter unless directed by a Cisco Engineering Special build. Cisco uses information in this counter for diagnostic purposes.
EngineeringCounter4	Do not use this counter unless directed by a Cisco Engineering Special build. Cisco uses information in this counter for diagnostic purposes.
EngineeringCounter5	Do not use this counter unless directed by a Cisco Engineering Special build. Cisco uses information in this counter for diagnostic purposes.
EngineeringCounter6	Do not use this counter unless directed by a Cisco Engineering Special build. Cisco uses information in this counter for diagnostic purposes.
EngineeringCounter7	Do not use this counter unless directed by a Cisco Engineering Special build. Cisco uses information in this counter for diagnostic purposes.
EngineeringCounter8	Do not use this counter unless directed by a Cisco Engineering Special build. Cisco uses information in this counter for diagnostic purposes.

Counters	Counter Description
QueueSignalsPresent 1-High	This counter indicates the number of high-priority signals in the Unified Communications Manager queue. High-priority signals include timeout events, internal Unified Communications Manager keepalives, certain gatekeeper events, and internal process creation, among other events. A large number of high-priority events will cause degraded performance on Unified Communications Manager and result in slow call connection or loss of dial tone. Use this counter in conjunction with the QueueSignalsProcessed 1-High counter to determine the processing delay on Unified Communications Manager.
QueueSignalsPresent 2-Normal	This counter indicates the number of normal-priority signals in the Unified Communications Manager queue. Normal-priority signals include call-processing functions, key presses, on-hook and off-hook notifications, among other events. A large number of normal-priority events will cause degraded performance on Unified Communications Manager, sometimes resulting in delayed dial tone, slow call connection, or loss of dial tone. Use this counter in conjunction with the QueueSignalsProcessed 2-Normal counter to determine the call-processing delay on Unified Communications Manager. Remember that high-priority signals must complete before normal-priority signals begin to process, so check the high-priority counters as well to get an accurate picture of the potential delay.
QueueSignalsPresent 3-Low	This counter indicates the number of low-priority signals in the Unified Communications Manager queue. Low-priority signals include station device registration (except the initial station registration request message), among other events. A large number of signals in this queue could result in delayed device registration, among other events.
QueueSignalsPresent 4-Lowest	This counter indicates the number of lowest priority signals in the Unified Communications Manager queue. Lowest priority signals include the initial station registration request message during device registration, among other events. A large number of signals in this queue could result in delayed device registration, among other events.
QueueSignalsProcessed 1-High	This counter indicates the number of high-priority signals that Unified Communications Manager processes for each 1-second interval. Use this counter in conjunction with the QueueSignalsPresent 1-High counter to determine the processing delay on this queue.

Counters	Counter Description
QueueSignalsProcessed 2-Normal	This counter indicates the number of normal-priority signals that Unified Communications Manager processes for each 1-second interval. Use this counter in conjunction with the QueueSignalsPresent 2-Normal counter to determine the processing delay on this queue. Remember that high-priority signals get processed before normal-priority signals.
QueueSignalsProcessed 3-Low	This counter indicates the number of low-priority signals that Unified Communications Manager processes for each 1-second interval. Use this counter in conjunction with the QueueSignalsPresent 3-Low counter to determine the processing delay on this queue. The number of signals processed gives an indication of how much device registration activity is being processed in this time interval.
QueueSignalsProcessed 4-Lowest	This counter indicates the number of lowest priority signals that Unified Communications Manager processes for each 1-second interval. Use this counter in conjunction with the QueueSignalsPresent 4-Lowest counter to determine the processing delay on this queue. The number of signals that are processed gives an indication of how many devices began the Unified Communications Manager registration process in this time interval.
QueueSignalsProcessed Total	This counter provides a sum total of all queue signals that Unified Communications Manager processes for each 1-second interval for all queue levels: high, normal, low, and lowest.
SkinnyDevicesThrottled	This counter represents the total number of Skinny devices that are being throttled. A Skinny device gets throttled (asked to shut down and reregister) when the total number of events that the Skinny device generated exceeds the configured maximum threshold value (default value specifies 2000 events) within a 5-second interval.
ThrottlingSampleActivity	This counter indicates how many samples, out of the configured sample size, have non-zero averageExpectedDelay values. This counter gets reset when any sample has an averageExpectedDelay value of zero. This process repeats for each batch of samples. A batch represents the configured sample size.
TotalCodeYellowEntry	This counter indicates the number of times that Unified Communications Manager call processing enters the code yellow state. This counter remains cumulative from the start of the Unified Communications Manager process.

Cisco CTIManager

The Cisco CTI Manager object provides information about Cisco CTI Manager. The following table contains information about Cisco CTIManager counters.

Table 9: Cisco CTI Manager

Counters	Counter Description
CcmLinkActive	This counter represents the total number of active Unified Communications Manager links. CTI Manager maintains links to all active servers in a cluster, if applicable.
CTIConnectionActive	This counter represents the total number of CTI clients that are currently connected to the CTIManager. This counter increases by one when a new connection is established and decreases by one when a connection is released. The CTIManager service parameter MaxCTIConnections determines the maximum number of active connections.
DevicesOpen	This counter represents the total number of devices that are configured in Unified Communications Manager that CTI applications control and/or monitor. Devices include hardware IP phones, CTI ports, CTI route points, and so on.
LinesOpen	This counter represents the total number of lines that are configured in Unified Communications Manager that control and/or monitor CTI applications.
QbeVersion	This counter represents the version number of the Quick Buffer Encoding (QBE) interface that the CTIManager uses.

Cisco Dual-Mode Mobility

The Cisco Dual-Mode Mobility object provides information about the dual-mode mobility application on Unified Communications Manager. The following table contains information about Cisco Dual-Mode Mobility counters.

Table 10: Cisco Dual-Mode Mobility

Counters	Counter Description
CallsAnchored	This counter represents the number of calls that are placed or received on dual-mode phones that are anchored in Unified Communications Manager. The counter increments when a call is received from or placed to a dual-mode phone. The counter increments twice if a dual-mode phone calls another dual-mode phone.
DMMSRegistered	This counter represents the number of Dual-mode Mobile Station (DMMS) subscribers that are registered in the wireless LAN (WLAN).
FollowMeAborted	This counter represents the number of failed follow-me operations.

Counters	Counter Description
FollowMeAttempted	This counter represents the number of follow-me operations that Unified Communications Manager attempted. The counter increments when a SIP 302 - Moved Temporarily message is received from the Wireless Service Manager (WSM) and Unified Communications Manager redirects the call to the DMMS in WLAN.
FollowMeCompleted	This counter represents the number of follow-me operations that were successfully completed. The counter increments when the DMMS in WLAN answers the call and the media (voice path) successfully gets established with the calling device.
FollowMeInProgress	This counter represents the number of follow-me operations that are currently in progress. The counter increments when a follow-me is attempted, and it decrements when the follow-me operation aborts or completes.
H1HandOutAttempted	This counter represents the number of H1 hand-out operations that dual-mode phones attempt. The counter increments when Unified Communications Manager processes a call to the H1 number from a DMMS.
H1HandOutCompleted	This counter represents the number of successfully completed H1 hand-out operations. The counter increments when the DMMS in WLAN successfully reestablishes a media (voice path).
H2HandOutCompleted	This counter represents the number of successfully completed H2 hand-out operations. The counter increments when the DMMS in WLAN successfully reestablishes a media (voice path).
H2HandOutsAttempted	This counter represents the number of H2 hand-out operations that dual-mode phones attempt. The counter increments when Unified Communications Manager receives a call to the H2 number from a DMMS.
HandInAborted	This counter represents the number of hand-in operations that failed.
HandInAttempted	This counter represents the number of hand-in operations that dual-mode phones attempt.
HandInCompleted	This counter represents the number of successfully completed hand-in operations. The counter increments when the DMMS in WLAN successfully reestablishes a media (voice path).
HandInInProgress	This counter represents the number of hand-in operations that are currently in progress. The counter increments when a hand-in is attempted, and the counter decrements when the hand-in is aborted or completed.

Counters	Counter Description
HandOutAborted	This counter represents the number of hand-out operations that failed.
HandOutInProgress	This counter represents the number of H1 and H2 hand-out operations that are currently in progress. The counter increments when a H1 or H2 hand-out is attempted, and it decrements when the hand-out is aborted or completed.

Cisco Extension Mobility

The Cisco Extension Mobility object provides information about the extension mobility application. The following table contains information about Cisco Extension Mobility counters.

Table 11: Cisco Extension Mobility Application

Counters	Counter Description
RequestsHandled	This counter represents the total number of HTTP requests that the extension mobility application handled since the last restart of the Cisco CallManager service. A typical login would constitute two HTTP requests: one to query the initial login state of the device and another to log in the user on a device. Similarly, a typical logout also results in two HTTP requests.
RequestsInProgress	This counter represents the number of HTTP requests that the extension mobility application currently is handling. A typical login would constitute two HTTP requests: one to query the initial login state of the device and another to log in the user on a device. Similarly, a typical logout also results in two HTTP requests.
RequestsThrottled	This counter represents the total number of Login/Logout Requests that failed due to throttling.
LoginsSuccessful	This counter represents the total number of successful login requests that were completed through Extension Mobility Service.
LogoutsSuccessful	This counter represents the total number of successful logout requests that were completed through Extension Mobility Service
Total Login/LogoutRequestsAttempted	This counter represents the total number of Login and Logout requests that were attempted through this Extension Mobility Service. This number includes both successful and unsuccessful attempts.
Total Number of EMCC Messages	This represents the total number of messages related to EMCC Requests that came from remote clusters.
Number of Remote Devices	This represents the total number of devices from other clusters that are currently using a EMCC Base Device (EMCC Logged in).

Counters	Counter Description
Number of Unknown Remote Users	This represents the total number of users who were not found in any of the remote cluster during inter-cluster extension mobility login.
Active Inter-cluster Sessions	This represents the total number of inter cluster Extension Mobility requests that are currently in progress.
Total Number of Remote Users	This represents the total number of users from other cluster who use a local device of this cluster and have logged into a remote cluster.
EMCC Check User Requests Handled	This represents the total number of EMCC check user requests that came from remote clusters.

Cisco Feature Control Policy

The Cisco Feature Control Policy feature provides information about the two new counters for TFTP. The following table contains information about Cisco Feature Control Policy feature counters.

Table 12: Cisco Feature Control Policy

Counters	Counter Description
BuildFeaturePolicyCount	Indicates the number of built FCP files
FeaturePolicyChangeNotifications	Indicates the number of sent FCP change notifications

Cisco Gatekeeper

The Cisco Gatekeeper object provides information about registered Cisco gatekeeper devices. The following table contains information about Cisco gatekeeper device counters.

Table 13: Cisco Gatekeeper

Counters	Counter Description
ACFsReceived	This counter represents the total number of RAS Admission Confirm messages that are received from the configured gatekeeper and its alternate gatekeepers.
ARQsAttempted	This counter represents the total number of RAS Admission Request messages that are attempted by using the configured gatekeeper and its alternate gatekeepers.
RasRetries	This counter represents the number of retries due to loss or delay of all RAS acknowledgement messages on the configured gatekeeper and its alternate gatekeepers.

Counters	Counter Description
VideoOutOfResources	This counter represents the total number of video-stream requests to the configured gatekeeper or its alternate gatekeepers that failed, most likely due to lack of bandwidth.

Cisco H.323

The Cisco H.323 object provides information about registered Cisco H.323 devices. The following table contains information about Cisco H.323 device counters.

Table 14: Cisco H.323

Counters	Counter Description
CallsActive	This counter represents the number of streaming connections that are currently active (in use) on the configured H.323 device; in other words, the number of calls that actually have a voice path that is connected.
CallsAttempted	This counter represents the total number of calls that have been attempted on a device, including both successful and unsuccessful call attempts.
CallsCompleted	This counter represents the total number of successful calls that were made from a device.
CallsInProgress	This counter represents the number of calls that are currently in progress on a device.
CallsRejectedDueToICTCallThrottling	This counter represents the total number of calls that are rejected due to Intercluster Trunk (ICT) call throttling since the start of the Cisco CallManager service. When the system reaches a threshold limit of 140 calls per 5 seconds, ICT will start throttling (rejecting) new calls. One cause for ICT call throttling occurs when calls across an ICT enter a route loop condition.
VideoCallsActive	This counter represents the number of video calls with video streaming connections that are currently active (in use) on all H.323 trunks that are registered with a Unified Communications Manager; in other words, the number of calls that actually have video-streaming connections on a Unified Communications Manager.
VideoCallsCompleted	This counter represents the number of video calls that were actually connected with video streams for all H.323 trunks that were registered with a Unified Communications Manager. This number increases when the call terminates.

Cisco Hunt Lists

The Cisco Hunt Lists object provides information about the hunt lists that are defined in Cisco Unified Communications Manager Administration. The following table contains information about Cisco hunt list counters.

Table 15: Cisco Hunt Lists

Counters	Counter Description
CallsAbandoned	This counter represents the number of abandoned calls that occurred through a hunt list. An abandoned call represents one in which a caller hangs up before the call is answered.
CallsActive	This counter represents the number of calls that are currently active (in use) that occurred through a hunt list. An active call represents one that gets distributed and answered, and to which a voice path connects.
CallsBusyAttempts	This counter represents the number of times that calls through a hunt list were attempted when all members of the line and/or route groups were busy.
CallsInProgress	This counter represents the number of calls that are currently in progress through a hunt list. A call in progress represents one that the call distributor is attempting to extend to a member of a line or route group and that has not yet been answered. Examples of a hunt list member include a line, a station device, a trunk device, or a port/channel of a trunk device.
CallsRingNoAnswer	This counter represents the total number of calls through a hunt list that rang but that called parties did not answer.
HuntListInService	This counter specifies whether the particular hunt list is currently in service. A value of 0 indicates that the hunt list is out of service; a value of 1 indicates that the hunt list is in service. Reasons that a hunt list could be out of service include the hunt list is not running on a primary Unified Communications Manager based on its Unified Communications Manager Group or the hunt list has been disabled in Cisco Unified Communications Manager Administration.
MembersAvailable	This counter represents the total number of available or idle members of line and route groups that belong to an in-service hunt list. An available member currently handles a call and will accept a new call. An idle member does not handle any call and will accept a new call. A hunt list member can comprise a route group, line group, or a combination. A member of a line group represents a directory number of a line on an IP phone or a voice-mail port. A member of a route group represents a station gateway, a trunk gateway, or port/channel of a trunk gateway.

Cisco HW Conference Bridge Device

The Cisco HW Conference Bridge Device object provides information about registered Cisco hardware conference bridge devices. The following table contains information about Cisco hardware conference bridge device counters.

Table 16: Cisco HW Conference Bridge Device

Counters	Counter Description
HWConferenceActive	This counter represents the number of conferences that are currently active (in use) on a HW conference bridge device. One resource represents one stream.
HWConferenceCompleted	This counter represents the total number of conferences that have been allocated and released on a HW conference device. A conference starts when the first call connects to the bridge. The conference completes when the last call disconnects from the bridge.
OutOfResources	This counter represents the total number of times that an attempt was made to allocate a conference resource from a HW conference device and failed, for example, because all resources were already in use.
ResourceActive	This counter represents the number of resources that are currently in use (active) for this HW conference device. One resource represents one stream.
ResourceAvailable	This counter represents the total number of resources that are not active and are still available to be used now for a HW conference device. One resource represents one stream.
ResourceTotal	This counter represents the total number of resources for a HW conference bridge device. This counter equals the sum of the counters ResourceAvailable and ResourceActive. One resource represents one stream.

Cisco IP Manager Assistant

The Cisco IP Manager Assistant (IPMA) Service object provides information about the Cisco Unified Communications Manager Assistant application. The following table contains information on Cisco IPMA counters.

Table 17: Cisco IP Manager Assistant Service

Counters	Counter Description
AssistantsActive	This counter represents the number of assistant consoles that are currently active. An active assistant console exists when an assistant is logged in from the assistant console desktop application.

Counters	Counter Description
LinesOpen	This counter represents the number of phone lines that the Cisco Unified Communications Manager Assistant application opened. An open phone line exists when the application assumes line control from CTI.
ManagersActive	This counter represents the current number of managers that the Cisco IPMA is servicing.
SessionsCurrent	This counter represents the total number of managers assistants that are currently using the Cisco Unified Communications Manager Assistant application. Each manager and each assistant constitute an active session; so, for one manager/assistant pair, this counter would reflect two sessions.

Cisco Lines

The Cisco Lines object represents the number of Cisco lines (directory numbers) that can dial and connect to a device. Lines represent all directory numbers that terminate on an endpoint. The directory number that is assigned to it identifies the line. The Cisco Lines object does not include directory numbers that include wildcards such as a pattern for a Digital or Analog Access gateway.

The Active counter represents the state of the line, either active or not active. A zero indicates that the line is not in use. When the number is greater than zero, this indicates that the line is active, and the number represents the number of calls that are currently in progress on that line. If more than one call is active, this indicates that the call is on hold either because of being placed on hold specifically (user hold) or because of a network hold operation (for example, a transfer is in progress, and it is on transfer hold). This applies to all directory numbers that are assigned to any device.

Cisco Locations

The Cisco Location object provides information about locations that are defined in Unified Communications Manager. The following table contains information on Cisco location counters.

Table 18: Cisco Locations

Counters	Counter Description
BandwidthAvailable	This counter represents the current bandwidth in a given location. A value of 0 indicates that no bandwidth is available.
BandwidthMaximum	This counter represents the maximum bandwidth that is available in a given location. A value of 0 indicates that infinite bandwidth is available.
CallsInProgress	This counter represents the number of calls that are currently in progress on a particular Unified Communications Manager.
OutOfResources	This counter represents the total number of times that a call on a particular Unified Communications Manager through the location failed due to lack of bandwidth.

Counters	Counter Description
RSVP AudioReservationErrorCounts	This counter represents the number of RSVP reservation errors in the audio stream.
RSVP MandatoryConnectionsInProgress	This counter represents the number of connections with mandatory RSVP that are in progress.
RSVP OptionalConnectionsInProgress	This counter represents the number of connections with optional RSVP that are in progress.
RSVP TotalCallsFailed	This counter represents the total number of failed calls due to a RSVP reservation failure.
RSVP VideoCallsFailed	This counter represents the number of video calls that failed due to a RSVP reservation failure.
RSVP VideoReservationErrorCounts	This counter represents the number of RSVP reservation errors in the video stream
VideoBandwidthAvailable	This counter represents the bandwidth that is currently available for video in the location where the person who initiated the video conference resides. A value of 0 indicates that no bandwidth is available.
VideoBandwidthMaximum	This counter represents the maximum bandwidth that is available for video in the location where the person who initiated the video conference resides. A value of 0 indicates that no bandwidth is allocated for video.
VideoOutOfResources	This counter represents the total number of failed video-stream requests (most likely due to lack of bandwidth) in the location where the person who initiated the video conference resides.

Cisco Media Streaming Application

The Cisco IP Voice Media Streaming Application object provides information about the registered MTPs, MOH servers, conference bridge servers, and annunciators. The following table contains information on Cisco IP Voice Media Streaming Application counters.

Note One object exists for each Unified Communications Manager in the Unified Communications Manager group that is associated with the device pool that the annunciator device is configured to use.

Table 19: Cisco Media Streaming Application

Counter	Counter Description
ANNConnectionsLost	This counter represents the total number of times since the last restart of the Cisco IP Voice Media Streaming Application that a Unified Communications Manager connection was lost.

Counter	Counter Description
ANNConnectionState	For each Unified Communications Manager that is associated with an annunciator, this counter represents the current registration state to Unified Communications Manager; 0 indicates no registration to Unified Communications Manager; 1 indicates registration to the primary Unified Communications Manager; 2 indicates connection to the secondary Unified Communications Manager (connected to Unified Communications Manager but not registered until the primary Unified Communications Manager connection fails).
ANNConnectionsTotal	This counter represents the total number of annunciator instances that have been started since the Cisco IP Voice Media Streaming Application service started.
ANNInstancesActive	This counter represents the number of actively playing (currently in use) announcements.
ANNStreamsActive	This counter represents the total number of currently active simplex (one direction) streams for all connections. Each stream direction counts as one stream. One internal stream provides the audio input and another output stream to the endpoint device.
ANNStreamsAvailable	This counter represents the remaining number of streams that are allocated for the annunciator device that are available for use. This counter starts as 2 multiplied by the number of configured connections (defined in the Cisco IP Voice Media Streaming App service parameter for the Annunciator, Call Count) and is reduced by one for each active stream that started.
ANNStreamsTotal	This counter represents the total number of simplex (one direction) streams that connected to the annunciator device since the Cisco IP Voice Media Streaming Application service started.
CFBConferencesActive	This counter represents the number of active (currently in use) conferences.
CFBConferencesTotal	This counter represents the total number of conferences that started since the Cisco IP Voice Media Streaming Application service started.
CFBConnectionsLost	This counter represents the total number of times since the last restart of the Cisco IP Voice Media Streaming Application that a Unified Communications Manager connection was lost.

Counter	Counter Description
CFBConnectionState	For each Unified Communications Manager that is associated with a SW Conference Bridge, this counter represents the current registration state to Unified Communications Manager; 0 indicates no registration to Unified Communications Manager; 1 indicates registration to the primary Unified Communications Manager; 2 indicates connection to the secondary Unified Communications Manager (connected to Unified Communications Manager but not registered until the primary Unified Communications Manager connection fails).
CFBStreamsActive	This counter represents the total number of currently active simplex (one direction) streams for all conferences. Each stream direction counts as one stream. In a three-party conference, the number of active streams equals 6.
CFBStreamsAvailable	This counter represents the remaining number of streams that are allocated for the conference bridge that are available for use. This counter starts as 2 multiplied by the number of configured connections (defined in the Cisco IP Voice Media Streaming App service parameter for Conference Bridge, Call Count) and is reduced by one for each active stream that started.
CFBStreamsTotal	This counter represents the total number of simplex (one direction) streams that connected to the conference bridge since the Cisco IP Voice Media Streaming Application service started.
MOHAudioSourcesActive	This counter represents the number of active (currently in use) audio sources for this MOH server. Be aware that some of these audio sources may not be actively streaming audio data if no devices are listening. The exception exists for multicast audio sources, which will always be streaming audio.
	When an audio source is in use, even after the listener has disconnected, this counter will always have one input stream for each configured MOH codec. For unicast streams, the stream may exist in a suspended state where no audio data is received until a device connects to listen to the stream. Each MOH multicast resource uses one stream for each audio source and codec combination. For example, if the default audio source is configured for multicast, G.711 mu-law and wideband codecs, then two streams get used (default audio source + G.711 mu-law and default audio source + wideband).
MOHConnectionsLost	This counter represents the total number of times since the last restart of the Cisco IP Voice Media Streaming Application that a Unified Communications Manager connection was lost.

Counter	Counter Description
MOHConnectionState	For each Unified Communications Manager that is associated with an MOH, this counter represents the current registration state to Unified Communications Manager; 0 indicates no registration to Unified Communications Manager; 1 indicates registration to the primary Unified Communications Manager; 2 indicates connection to the secondary Unified Communications Manager (connected to Unified Communications Manager but not registered until the primary Unified Communications Manager connection fails).
MOHStreamsActive	This counter represents the total number of active (currently in use) simplex (one direction) streams for all connections. One output stream exists for each device that is listening to a unicast audio source, and one input stream exists for each active audio source, multiplied by the number of MOH codecs. When an audio source has been used once, it will always have one input stream for each configured MOH codec. For unicast streams, the stream may exist in a suspended state where no audio data is received until a device connects to listen to the stream. Each MOH multicast resource uses one stream for each audio source and codec combination. For example, if the default audio source is configured for multicast, G.711 mu-law and wideband codecs, then two streams get used (default audio source + G.711 mu-law and default audio source + wideband).
MOHStreamsAvailable	This counter represents the remaining number of streams that are allocated for the MOH device that are available for use. This counter starts as 408 plus the number of configured half-duplex unicast connections and is reduced by 1 for each active stream that started. The counter gets reduced by 2 for each multicast audio source, multiplied by the number of MOH codecs that are configured. The counter gets reduced by 1 for each unicast audio source, multiplied by the number of MOH codecs that are configured.
MOHStreamsTotal	This counter represents the total number of simplex (one direction) streams that have connected to the MOH server since the Cisco IP Voice Media Streaming Application service started.
MTPConnectionsLost	This counter represents the total number of times since the last restart of the Cisco IP Voice Streaming Application that a Unified Communications Manager connection was lost.

Counter	Counter Description
MTPConnectionState	For each Unified Communications Manager that is associated with an MTP, this counter represents the current registration state to Unified Communications Manager; 0 indicates no registration to Unified Communications Manager; 1 indicates registration to the primary Unified Communications Manager; 2 indicates connection to the secondary Unified Communications Manager (connected to Unified Communications Manager but not registered until the primary Unified Communications Manager connection fails).
MTPConnectionsTotal	This counter represents the total number of MTP instances that have been started since the Cisco IP Voice Media Streaming Application service started.
MTPInstancesActive	This counter represents the number of active (currently in use) instances of MTP.
MTPStreamsActive	This counter represents the total number of currently active simplex (one direction) streams for all connections. Each stream direction counts as one stream.
MTPStreamsAvailable	This counter represents the remaining number of streams that are allocated for the MTP device that are available for use. This counter starts as 2 multiplied by the number of configured connections (defined in the Cisco IP Voice Media Streaming App service parameter for MTP, Call Count) and is reduced by one for each active stream that started.
MTPStreamsTotal	This counter represents the total number of simplex (one direction) streams that connected to the MTP device since the Cisco IP Voice Media Streaming Application service started.

Cisco MGCP BRI Device

The Cisco Media Gateway Control Protocol (MGCP) Foreign Exchange Office (FXO) Device object provides information about registered Cisco MGCP BRI devices. The following table contains information on Cisco MGCP BRI device counters.

Table 20: Cisco MGCP BRI Device

Counters	Counter Description
CallsCompleted	This counter represents the total number of successful calls that were made from this MGCP Basic Rate Interface (BRI) device

Counters	Counter Description
Channel 1 Status	This counter represents the status of the indicated B-Channel that is associated with the MGCP BRI device. Possible values: 0 (Unknown) indicates the status of the channel could not be determined; 1 (Out of service) indicates that this channel is not available for use; 2 (Idle) indicates that this channel has no active call and is ready for use; 3 (Busy) indicates an active call on this channel; 4 (Reserved) indicates that this channel has been reserved for use as a D-channel or for use as a Synch-Channel for BRI.
Channel 2 Status	This counter represents the status of the indicated B-Channel that is associated with the MGCP BRI device. Possible values: 0 (Unknown) indicates the status of the channel could not be determined; 1 (Out of service) indicates that this channel is not available for use; 2 (Idle) indicates that this channel has no active call and is ready for use; 3 (Busy) indicates an active call on this channel; 4 (Reserved) indicates that this channel has been reserved for use as a D-channel or for use as a Synch-Channel for BRI.
DatalinkInService	This counter represents the state of the Data Link (D-Channel) on the corresponding digital access gateway. This value will get set to 1 (one) if the Data Link is up (in service) or 0 (zero) if the Data Link is down (out of service).
OutboundBusyAttempts	This counter represents the total number of times that a call through this MGCP BRI device was attempted when no voice channels were available.

Cisco MGCP FXO Device

The Cisco Media Gateway Control Protocol (MGCP) Foreign Exchange Office (FXO) Device object provides information about registered Cisco MGCP FXO devices. The following table contains information on Cisco MGCP FXO device counters.

Table 21: Cisco MGCP FXO Device

Counters	Counter Description
CallsCompleted	This counter represents the total number of successful calls that were made from the port on an MGCP FXO device.
OutboundBusyAttempts	This counter represents the total number of times that a call through the port on this MGCP FXO device was attempted when no voice channels were available.
PortStatus	This counter represents the status of the FXO port that is associated with this MGCP FXO device.

Cisco MGCP FXS Device

The Cisco MGCP Foreign Exchange Station (FXS) Device object provides information about registered Cisco MGCP FXS devices. One instance of this object gets created for each port on a Cisco Catalyst 6000 24 port FXS Analog Interface Module gateway. For example, a fully configured Catalyst 6000 Analog Interface Module would represent 24 separate instances of this object. The following table contains information on Cisco MGCP FXS device counters.

Table 22: Cisco MGCP FXS Device

Counters	Counter Description
CallsCompleted	This counter represents the total number of successful calls that were made from this port on the MGCP FXS device.
OutboundBusyAttempts	This counter represents the total number of times that a call through this port on the MGCP FXS device was attempted when no voice channels were available.
PortStatus	This counter represents the status of the FXS port that is associated with a MGCP FXS device.

Cisco MGCP Gateways

The Cisco MGCP Gateways object provides information about registered MGCP gateways. The following table contains information on Cisco MGCP gateway counters.

Table 23: Cisco MGCP Gateways

Counters	Counter Description
BRIChannelsActive	This counter represents the number of BRI voice channels that are currently active in a call in the gateway
BRISpansInService	This counter represents the number of BRI spans that are currently available for use in the gateway.
FXOPortsActive	This counter represents the number of FXO ports that are currently active in a call in the gateway.
FXOPortsInService	This counter represents the number of FXO ports that are currently available for use in the gateway.
FXSPortsActive	This counter represents the number of FXS ports that are currently active in a call in the gateway.
FXSPortsInService	This counter represents the number of FXS ports that are currently available for use in the gateway.
PRIChannelsActive	This counter represents the number of PRI voice channels that are currently active in a call in the gateway.

Counters	Counter Description
PRISpansInService	This counter represents the number of PRI spans that are currently available for use in the gateway.
T1ChannelsActive	This counter represents the number of T1 CAS voice channels that are currently active in a call in the gateway.
T1SpansInService	This counter represents the number of T1 CAS spans that are currently available for use in the gateway.

Cisco MGCP PRI Device

The Cisco MGCP Primary Rate Interface (PRI) Device object provides information about registered Cisco MGCP PRI devices. The following table contains information on Cisco MGCP PRI device counters.

Table 24: Cisco MGCP PRI Device

Counters	Counter Description
CallsActive	This counter represents the number of calls that are currently active (in use) on this MGCP PRI device.
CallsCompleted	This counter represents the total number of successful calls that were made from this MGCP PRI device.
Channel 1 Status through Channel 15 Status (consecutively numbered)	This counter represents the status of the indicated B-Channel that is associated with a MGCP PRI device. Possible values: 0 (Unknown) indicates that the status of the channel could not be determined; 1 (Out of service) indicates that this channel is not available for use; 2 (Idle) indicates that this channel has no active call and is ready for use; 3 (Busy) indicates that an active call exists on this channel; 4 (Reserved) indicates that this channel has been reserved for use as a D-Channel or for use as a Synch-Channel for E-1.
Channel 16 Status	This counter represents the status of the indicated B-Channel that is associated with a MGCP PRI Device. Possible values: 0-Unknown, 1-Out of service, 2-Idle, 3-Busy, 4-Reserved, for an E1 PRI Interface, this channel is reserved for use as a D-Channel.
Channel 17 Status through Channel 31 Status (consecutively numbered)	This counter represents the status of the indicated B-Channel that is associated with the MGCP PRI Device. 0-Unknown, 1-Out of service, 2-Idle, 3-Busy, 4-Reserved.
DatalinkInService	This counter represents the state of the Data Link (D-Channel) on the corresponding digital access gateway. This value will get set to 1 (one) if the Data Link is up (in service) or 0 (zero) if the Data Link is down (out of service).

Counters	Counter Description
OutboundBusyAttempts	This counter represents the total number of times that a call through an MGCP PRI device was attempted when no voice channels were available.

Cisco MGCP T1 CAS Device

The Cisco MGCP T1 Channel Associated Signaling (CAS) Device object provides information about registered Cisco MGCP T1 CAS devices. The following table contains information on Cisco MGCP TI CAS device counters.

Table 25: Cisco MGCP T1 CAS Device

Counters	Counter Description
CallsActive	This counter represents the number of calls that are currently active (in use) on this MGCP T1 CAS device.
CallsCompleted	This counter represents the total number of successful calls that were made from this MGCP T1 CAS device.
Channel 1 Status through Channel 24 Status (consecutively numbered)	This counter represents the status of the indicated B-Channel that is associated with an MGCP T1 CAS device. Possible values: 0 (Unknown) indicates the status of the channel could not be determined; 1 (Out of service) indicates that this channel is not available for use; 2 (Idle) indicates that this channel has no active call and is ready for use; 3 (Busy) indicates that an active call exists on this channel; 4 (Reserved) indicates that this channel has been reserved for use as a D-Channel or for use as a Synch-Channel for E-1.
OutboundBusyAttempts	This counter represents the total number of times that a call through the MGCP T1 CAS device was attempted when no voice channels were available.

Cisco Mobility Manager

The Cisco Mobility Manager object provides information on registered Cisco Unified Mobility Manager devices. The following table contains information on Cisco Unified Mobility Manager device counters.

Table 26: Cisco Mobility Manager

Counters	Counter Description
MobileCallsAnchored	This counter represents the total number of paths that are associated with single-mode/dual-mode phone call that is currently anchored on a Unified Communications Manager. Call anchoring occurs when a call enters an enterprise gateway and connects to a mobility application that then uses redirection to send the call back out an enterprise gateway. For example, this counter increments twice for a dual-mode phone-to-dual-mode phone call: once for the originating call and once for the terminating call. When the call terminates, this counter decrements accordingly.
MobilityHandinsAborted	This counter represents the total number of aborted handins.
MobileHandinsCompleted	This counter represents the total number of handins that were completed by dual-mode phones. A completed handin occurs when the call successfully connects in the enterprise network and the phone moves from WAN to WLAN.
MobilityHandinsFailed	This counter represents the total number of handins (calls on mobile devices that move from cellular to the wireless network) that failed.
MobilityHandoutsAborted	This counter represents the total number of aborted handouts.
MobileHandoutsCompleted	This counter represents the total number of handouts (calls on mobile devices that move from the enterprise WLAN network to the cellular network) that were completed. A completed handout occurs when the call successfully connects.
MobileHandoutsFailed	This counter represents the total number of handouts (calls on mobile devices that move from cellular to the wireless network) that failed.
MobilityFollowMeCallsAttempted	This counter represents the total number of follow-me calls that were attempted.
MobilityFollowMeCallsIgnoredDueToAnswerTooSoon	This counter represents the total number of follow-me calls that were ignored before the AnswerTooSoon timer went off.
MobilityIVRCallsAttempted	This counter represents the total number of attempted IVR calls.
MobilityIVRCallsFailed	This counter represents the total number of failed IVR calls.
MobilityIVRCallsSucceeded	This counter represents the total number of successful IVR calls.
MobilitySCCPDualModeRegistered	This counter represents the total number of dual-mode SCCP devices that are registered.
MobilitySIPDualModeRegistered	This counter represents the total number of dual-mode SIP devices that are registered.

Cisco Music On Hold (MOH) Device

The Cisco Music On Hold (MOH) Device object provides information about registered Cisco MOH devices. The following table contains information on Cisco MOH device counters.

Table 27: Cisco MOH Device

Counters	Counter Description
MOHHighestActiveResources	This counter represents the largest number of simultaneously active MOH connections for an MOH server. This number includes both multicast and unicast connections.
MOHMulticastResourceActive	This counter represents the number of currently active multicast connections to multicast addresses that are served by an MOH server.
	Each MOH multicast resource uses one stream for each audio source and codec combination. For example, if the default audio source is configured for multicast, G.711 mu-law and wideband codecs, two streams get used (default audio source + G.711 mu-law and default audio source + wideband).
MOHMulticastResourceAvailable	This counter represents the number of multicast MOH connections to multicast addresses that are served by an MOH server that are not active and are still available to be used now for the MOH server.
	Each MOH multicast resource uses one stream for each audio source and codec combination. For example, if the default audio source is configured for multicast, G.711 mu-law and wideband codecs, two streams get used (default audio source + G.711 mu-law and default audio source + wideband).
MOHOutOfResources	This counter represents the total number of times that the Media Resource Manager attempted to allocate an MOH resource when all available resources on all MOH servers that are registered with a Unified Communications Manager were already active.
MOHTotalMulticastResources	This counter represents the total number of multicast MOH connections that are allowed to multicast addresses that are served by an MOH server.
	Each MOH multicast resource uses one stream for each audio source and codec combination. For example, if the default audio source is configured for multicast, G.711 mu-law and wideband codecs, two streams get used (default audio source + G.711 mu-law and default audio source + wideband).
MOHTotalUnicastResources	This counter represents the total number of unicast MOH connections that are allowed by an MOH server.
	Each MOH unicast resource uses one stream.

Counters	Counter Description
MOHUnicastResourceActive	This counter represents the number of active unicast MOH connections to an MOH server. Each MOH unicast resource uses one stream.
MOHUnicastResourceAvailable	This counter represents the number of unicast MOH connections that are not active and are still available to be used now for an MOH server. Each MOH unicast resource uses one stream.

Cisco MTP Device

The Cisco Media Termination Point (MTP) Device object provides information about registered Cisco MTP devices. The following table contains information on Cisco MTP device counters.

Table 28: Cisco MTP Device

Counters	Counter Description
OutOfResources	This counter represents the total number of times that an attempt was made to allocate an MTP resource from an MTP device and failed; for example, because all resources were already in use.
ResourceActive	This counter represents the number of MTP resources that are currently in use (active) for an MTP device. Each MTP resource uses two streams. An MTP in use represents one MTP resource that has been allocated for use in a call.
ResourceAvailable	This counter represents the total number of MTP resources that are not active and are still available to be used now for an MTP device. Each MTP resource uses two streams. An MTP in use represents one MTP resource that has been allocated for use in a call.
ResourceTotal	This counter represents the total number of MTP resources that an MTP device provides. This counter equals the sum of the counters ResourceAvailable and ResourceActive.

Cisco Phones

The Cisco Phones object provides information about the number of registered Cisco Unified IP Phones, including both hardware-based and other station devices.

The CallsAttempted counter represents the number of calls that have been attempted from this phone. This number increases each time that the phone goes off hook and on hook.

Cisco Presence Feature

The Cisco Presence object provides information about presence subscriptions, such as statistics that are related to the speed dial or call list Busy Lamp Field (BLF) subscriptions. The following table contains information on Cisco Presence feature.

Table 29: Cisco Presence

Counters	Counter Description
ActiveCallListAndTrunkSubscriptions	This counter represents the active presence subscriptions for the call list feature as well as presence subscriptions through SIP trunk.
ActiveSubscriptions	This counter represents all active incoming and outgoing presence subscriptions.
CallListAndTrunkSubscriptionsThrottled	This counter represents the cumulative number of rejected call list and trunk side presence subscriptions due to throttling for the call list feature.
IncomingLineSideSubscriptions	This counter represents the cumulative number of presence subscriptions that were received on the line side.
IncomingTrunkSideSubscriptions	This counter represents the cumulative number of presence subscriptions that were received on the trunk side.
OutgoingTrunkSideSubscriptions	This counter represents the cumulative number of presence subscriptions that were sent on the trunk side.

Cisco QSIG Feature

The Cisco QSIG Feature object provides information regarding the operation of various QSIG features, such as call diversion and path replacement. The following table contains information on the Cisco QSIG feature counters.

Table 30: Cisco QSIG Feature

Counters	Counter Description
CallForwardByRerouteCompleted	This counter represents the number of successful calls that has been forwarded by rerouting. Call forward by rerouting enables the path for a forwarded call to be optimized (minimizes the number of B-Channels in use) from the originator perspective. This counter gets reset when the Cisco CallManager service parameter Call Forward by Reroute Enabled is enabled or disabled, or when the Cisco CallManager service restarts.

Counters	Counter Description
PathReplacementCompleted	This counter represents the number of successful path replacements that have occurred. Path replacement in a QSIG network optimizes the path between two edge PINX (PBXs) that are involved in a call. This counter resets when the Cisco CallManager service parameter Path Replacement Enabled is enabled or disabled, or when the Cisco CallManager service restarts.

Cisco Signaling Performance

The Cisco Signaling Performance object provides call-signaling data on transport communications on Unified Communications Manager. The following table contains information on the Cisco Signaling Performance counter.

Table 31: Cisco Signaling Performance

Counters	Counter Description
UDPPacketsThrottled	This counter represents the total number of incoming UDP packets that were throttled (dropped) because they exceeded the threshold for the number of incoming packets per second that is allowed from a single IP address. Configure the threshold via the SIP Station UDP Port Throttle Threshold and SIP Trunk UDP Port Throttle Threshold service parameters in Cisco Unified Communications Manager Administration. This counter increments for every throttled UDP packet that was received since the last restart of the Cisco CallManager Service.

Cisco SIP

The Cisco Session Initiation Protocol (SIP) object provides information about configured SIP devices. The following table contains information on the Cisco SIP counters.

Table 32: Cisco SIP

Counters	Counter Description
CallsActive	This counter represents the number of calls that are currently active (in use) on this SIP device.
CallsAttempted	This counter represents the number of calls that have been attempted on this SIP device, including both successful and unsuccessful call attempts.
CallsCompleted	This counter represents the number of calls that were actually connected (a voice path was established) from a SIP device. This number increases when the call terminates.

Counters	Counter Description
CallsInProgress	This counter represents the number of calls that are currently in progress on a SIP device, including all active calls. When all calls that are in progress are connected, the number of CallsInProgress equals the number of CallsActive.
VideoCallsActive	This counter represents the number of video calls with streaming video connections that are currently active (in use) on this SIP device.
VideoCallsCompleted	This counter represents the number of video calls that were actually connected with video streams for this SIP device. This number increments when the call terminates.

Cisco SIP Normalization

The Cisco SIP Normalization performance object contains counters that allow you to monitor aspects of the normalization script, including initialization errors, runtime errors, and script status. Each device that has an associated script causes a new instance of these counters to be created. The following table contains information on the Cisco SIP Normalization counters..

Table 33: Cisco SIP Normalization

Display Name	Description
DeviceResetAutomatically	This counter indicates the number of times that Unified Communications Managerautomatically resets the device (SIP trunk). The device reset is based on the values that are specified in the Script Execution Error Recovery Action and System Resource Error Recovery Action fields on the SIP Normalization Script Configuration window in Cisco Unified Communications Manager Administration. When the device (SIP trunk) is reset due to script errors, the counter value increments. This count restarts when the device is reset manually.
DeviceResetManually	This counter indicates the number of times that the device (SIP trunk) is reset manually in Cisco Unified Communications Manager Administration or by other methods, such as AXL. When the device associated with a script is reset due to configuration changes, the counter value increments. The counter restarts in the following situations: • The SIP trunk is deleted. • The script on the trunk gets changed or deleted. • Unified Communications Manager restarts.

Display Name	Description
ErrorExecution	This counter represents the number of execution errors that occurred while the script executed. Execution errors can occur while a message handler executes. Execution errors can be caused by resource errors, an argument mismatch in a function call, and so on.
	When an execution error occurs, Unified Communications Manager performs the following actions:
	• Automatically restores the message to the original content before applying additional error handling actions. • Increments the value of the counter. • Takes appropriate action based on the configuration of the Script Execution Error Recovery Action and System Resource Error Recovery Action fields in Cisco Unified Communications Manager Administration.
	Check the SIPNormalizationScriptError alarm for details, including the line number in the script that failed. Correct the script problem, upload the corrected script as needed, and reset the trunk. This counter increments every time an execution error occurs. This counter provides a count from the most recent trunk reset that involved a script configuration change. (A device reset alone does not restart the count; the script configuration must also change before the reset occurs.)
	If the counter continues to increment after you fix the script problem, examine the script again.
ErrorInit	This counter represents the number of times a script error occurred after the script successfully loaded into memory, but failed to initialize in Unified Communications Manager. A script can fail to initialize due to resource errors, an argument mismatch in a function call, the expected table was not returned, and so on.
	Check the SIPNormalizationScriptError alarm for details, including the line number in the script that failed. Correct the script problem, upload the corrected script as needed, and reset the trunk. This counter increments every time an initialization error occurs. This counter provides a count from the most recent trunk reset that was accompanied by a script configuration change. (A device reset alone does not restart the count; the script configuration must also change before the reset occurs.) If the counter continues to increment after you fix the script problem, examine the script again. When the error occurs during initialization, Unified Communications Manager automatically disables the script.

Display Name	Description
ErrorInternal	This counter indicates the number of internal errors that occurred while the script executed. Internal errors are very rare. If the value in this counter is higher than zero, a defect exists in the system that is not related to the script content or execution. Collect SDI traces and contact the Technical Assistance Center (TAC).
ErrorLoad	This counter represents the number of times a script error occurred when the script loaded into memory in Unified Communications Manager. A script can fail to load due to memory issues or syntax errors.
	Check the SIPNormalizationScriptError alarm for details. Check the script syntax for errors, upload the corrected script as needed, and reset the trunk. This counter increments every time a load error occurs. This counter provides a count from the most recent trunk reset that was accompanied by a script configuration change. (A device reset alone will not restart the count; the script configuration must also change before the reset occurs.) If the counter continues to increment even after you fix the script problem, examine the script again.
ErrorResource	This counter indicates whether the script encountered a resource error.
	Two kinds of resource errors exist: exceeding the value in the Memory Threshold field and exceeding the value in the Lua Instruction Threshold field. (Both fields display on the SIP Normalization Script Configuration window in Cisco Unified Communications Manager Administration.) If either condition occurs, Unified Communications Manager immediately closes the script and issues the SIPNormalizationScriptError alarm.
	If a resource error occurs while the script loads or initializes, the script is disabled. If a resource error occurs during execution, the configured system resource error recovery action is taken. (The setting of the System Resource Error Recovery Action field on the SIP Normalization Script Configuration window in Cisco Unified Communications Manager Administration defines this action.)
MemoryUsage	This counter specifies the amount of memory, in bytes, that the script consumes. This counter increases and decreases to match the amount of memory that the script uses. This count gets cleared when the script closes (because a closed script does not consume memory) and restarts when the script opens (gets enabled). A high number in this counter indicates a resource problem. Check the MemoryUsagePercentage counter and the SIPNormalizationResourceWarning alarm, which occur when the resource consumption exceeds an internally set threshold.

Display Name	Description
MemoryUsagePercentage	This counter specifies the percentage of the total amount of memory that the script consumes. The value in this counter is derived by dividing the value in the MemoryUsage counter by the value in the Memory Threshold field (in the SIP Normalization Script Configuration window) and multiplying the result by 100 to arrive at a percentage. This counter increases and decreases in accordance with the MemoryUsage counter. This count gets cleared when the script closes (because closed scripts do not consume memory) and restarts when the script opens (gets enabled). When this counter reaches the internally controlled resource threshold, the SIPNormalizationResourceWarning alarm is issued.
MessageRollback	This counter indicates the number of times that the system automatically rolled back a message. The system rolls back the message by using the error handling that is specified in the Script Execution Error Recovery Action field in the SIP Normalization Script Configuration window in Cisco Unified Communications Manager Administration. When an execution error occurs, Unified Communications Manager automatically restores the message to the original content before applying additional error handling actions. If error handling specifies Rollback only, no further action is taken beyond rolling back to the original message before the normalization attempt. For the other possible Script Execution Error Recovery Actions, message rollback always occurs first, followed by the specified action, such as disabling the script, resetting the script automatically, or resetting the trunk automatically.
msgAddContentBody	This counter represents the number of times that the script added a content body to the message. If you are using the msg:addContentBody API in the script, this counter increases each time that the msg:addContentBody API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
msgAddHeader	This counter represents the number of times that the script added a SIP header to the message. If you are using the msg:addHeader API in the script, this counter increases each time that the msg:addHeader API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
msgAddHeaderUriParameter	This counter represents the number of times that the script added a SIP header URI parameter to a SIP header in the message. If you are using the msg:addHeaderUriParameter API in the script, this counter increases each time that the msg:addHeaderUriParameter API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.

Display Name	Description
msgAddHeaderValueParameter	This counter represents the number of times that the script added a SIP header value parameter to a SIP header in the message. If you are using the msg:addHeaderValueParameter API in the script, this counter increases each time that the msg:addHeaderValueParameter API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
msgApplyNumberMask	This counter represents the number of times that the script applied a number mask to a SIP header in the message. If you are using the msg:applyNumberMask API in the script, this counter increases each time that the msg:applyNumberMask API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
msgBlock	This counter represents the number of times that the script blocked a message. If you are using the msg:block API in the script, this counter increases each time that the msg:block API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
msgConvertDiversionToHI	This counter represents the number of times that the script converted Diversion headers into History-Info headers in the message. If you are using the msg:convertDiversionToHI API in the script, this counter increases each time that the msg:convertDiversionToHI API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
msgConvertHIToDiversion	This counter represents the number of times that the script converted Diversion headers into History-Info headers in the message. If you are using the msg:convertDiversionToHI API in the script, this counter increases each time that the msg:convertDiversionToHI API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
msgModifyHeader	This counter represents the number of times that the script modified a SIP header in the message. If you are using the msg:modifyHeader API in the script, this counter increases each time that the msg:modifyHeader API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
msgRemoveContentBody	This counter represents the number of times that the script removed a content body from the message. If you are using the msg:removeContentBody API in the script, this counter increases each time that the msg:removeContentBody API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.

Display Name	Description
msgRemoveHeader	This counter represents the number of times that the script removed a SIP header from the message. If you are using the msg:removeHeader API in the script, this counter increases each time that the msg:removeHeader API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
msgRemoveHeaderValue	This counter represents the number of times that the script removed a SIP header value from the message. If you are using the msg:removeHeaderValue API in the script, this counter increases each time that the msg:removeHeaderValue API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
msgSetRequestUri	This counter represents the number of times that the script modified the request URI in the message. If you are using the msg:setRequestUri API in the script, this counter increases each time that the msg:setRequestUri API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
msgSetResponseCode	This counter represents the number of times that the script modified the response code and/or response phrase in the message. If you are using the msg:setResponseCode API in the script, this counter increases each time that the msg:setResponseCode API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
msgSetSdp	This counter represents the number of times that the script set the SDP in the message. If you are using the msg:setSdp API in the script, this counter increases each time that the msg:setSdp API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
ptAddContentBody	This counter represents the number of times that the script added a content body to the PassThrough (pt) object. If you are using the pt:addContentBody API in the script, this counter increases each time that the pt:addContentBody API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
ptAddHeader	This counter represents the number of times that the script added a SIP header to the PassThrough (pt) object. If you are using the pt:addHeader API in the script, this counter increases each time that the pt:addHeader API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.

Display Name	Description
ptAddHeaderUriParameter	This counter represents the number of times that the script added a SIP header URI parameter to the PassThrough (pt) object. If you are using the pt:addHeaderUriParameter API in the script, this counter increases each time that the pt:addHeaderUriParameter API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
ptAddHeaderValueParameter	This counter represents the number of times that the script added a SIP header value parameter to the PassThrough (pt) object. If you are using the pt:addHeaderValueParameter API in the script, this counter increases each time that the pt:addHeaderValueParameter API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
ptAddRequestUriParameter	This counter represents the number of times that the script added a request URI parameter to the PassThrough (pt) object. If you are using the pt:addRequestUriParameter API in the script, this counter increases each time that the pt:addRequestUriParameter API executes successfully. If the counter behavior is not as expected, examine the script logic for errors.
ScriptActive	This counter indicates whether the script is currently active (running on the trunk). The following values display for the counter: • 0—Indicates that the script is closed (disabled). • 1—Indicates that the script is open and operational. To open the script that should be running on this trunk, perform the following actions: 1. Check for any alarms that might indicate why the script is not open. 2. Correct any errors. 3. Upload a new script if necessary. 4. Reset the trunk.

Display Name	Description
ScriptClosed	This counter indicates the number of times that Unified Communications Manager has closed the script.
	When the script is closed, it is not enabled on this device.
	Unified Communications Manager closes the script under one of the following conditions:
	• The device was reset manually. • The device was reset automatically (due to an error). • The device was deleted.
	This count restarts when the SIP trunk is reset after a change to the script configuration and when Unified Communications Manager restarts.
ScriptDisabledAutomatically	This counter indicates the number of times that the system automatically disabled the script. The values that are specified in the Script Execution Error Recovery Action and System Resource Error Recovery Action fields in the SIP Normalization Script Configuration window in Cisco Unified Communications Manager Administration determine whether the script is disabled. The script also gets disabled as a result of script error conditions that are encountered during loading and initialization. This counter provides a count from the most recent manual device reset that involved a script configuration change (a device reset alone does not restart the count; the script must also have changed before the reset occurs). This counter increments every time Unified Communications Manager automatically disables a script due to script errors.
	If the number in this counter is higher than expected, perform the following actions:
	• Check for SIPNormalizationScriptError alarm and SIPNormalizationAutoResetDisabled alarm. • Check for any resource-related alarms and counters in RTMT to determine whether a resource issue is occurring. • Check for any unexpected SIP normalization events in the SDI trace files.

Display Name	Description
ScriptOpened	This counter indicates the number of times that the Unified Communications Managerattempted to open the script. For the a script to open, it must load into memory in Unified Communications Manager, initialize, and be operational. A number greater than one in this counter means that Unified Communications Manager has made more than one attempt to open the script on this SIP trunk, either for an expected reason or due to an error during loading or initialization. The error can occur due to execution errors or resource errors or invalid syntax in the script. Expect this counter to be greater than one if any of these counters increment: DeviceResetManually, DeviceResetAutomatically, or ScriptResetAutomatically. The DeviceResetManually counter increments when an expected event, such as a maintenance window on the SIP trunk, causes the script to close. If the number in this counter is high for an unexpected reason, perform the following actions: • Check for alarms, such as the SIPNormalizationScriptClosed, SIPNormalizationScriptError, or SIPNormalizationResourceWarning. • Check resource-related alarms and counters in RTMT to determine whether a resource issue is occurring. • Check for any unexpected SIP normalization events in the SDI trace files. This count restarts when the SIP trunk resets after a script configuration change and when Unified Communications Manager restarts.
ScriptResetAutomatically	This counter indicates the number of times that the system automatically reset the script. The script resets based on the values that are specified in the Script Execution Error Recovery Action and System Resource Error Recovery Action fields in the SIP Normalization Script Configuration window in Cisco Unified Communications Manager Administration. This counter specifies a count of the number of automatic script resets after the last manual device reset; this counter increments every time the Unified Communications Manager automatically resets a script due to script errors. If the number in this counter is higher than expected, perform the following actions: • Check for a SIPNormalizationScriptError alarm. • Check for any resource-related alarms and counters in RTMT to determine whether a resource issue is occurring. • Check for any unexpected SIP normalization events in the SDI trace files.

Cisco SIP Stack

The Cisco SIP Stack object provides information about Session Initiation Protocol (SIP) stack statistics that are generated or used by SIP devices such as SIP Proxy, SIP Redirect Server, SIP Registrar, and SIP User Agent. The following table contains information on Cisco SIP Stack counters.

Table 34: Cisco SIP Stack

Counters	Counter Description
AckIns	This counter represents the total number of ACK requests that the SIP device received.
AckOuts	This counter represents the total number of ACK requests that the SIP device sent.
ByeIns	This counter represents the total number of BYE requests that the SIP device received. This number includes retransmission.
ByeOuts	This counter represents the total number of BYE requests that the SIP device sent. This number includes retransmission.
CancelIns	This counter represents the total number of CANCEL requests that the SIP device received. This number includes retransmission.
CancelOuts	This counter represents the total number of CANCEL requests that the SIP device sent. This number includes retransmission.
CCBsAllocated	This counter represents the number of Call Control Blocks (CCB) that are currently in use by the SIP stack. Each active SIP dialog uses one CCB.
GlobalFailedClassIns	This counter represents the total number of 6xx class SIP responses that the SIP device received. This number includes retransmission. This class of responses indicates that a SIP device, that is providing a client function, received a failure response message. Generally, the responses indicate that a server had definitive information on a particular called party and not just the particular instance in the Request-URI.
GlobalFailedClassOuts	This counter represents the total number of 6xx class SIP responses that the SIP device sent. This number includes retransmission. This class of responses indicates that a SIP device, that is providing a server function, received a failure response message. Generally, the responses indicate that a server had definitive information on a particular called party and not just the particular instance in the Request-URI.
InfoClassIns	This counter represents the total number of 1xx class SIP responses that the SIP device received. This includes retransmission. This class of responses provides information on the progress of a SIP request.

Counters	Counter Description
InfoClassOuts	This counter represents the total number of 1xx class SIP responses that the SIP device sent. This includes retransmission. This class of responses provides information on the progress of processing a SIP request.
InfoIns	This counter represents the total number of INFO requests that the SIP device has received. This number includes retransmission.
InfoOuts	This counter represents the total number of INFO requests that the SIP device has sent. This number includes retransmission.
InviteIns	This counter represents the total number of INVITE requests that the SIP device received. This number includes retransmission.
InviteOuts	This counter represents the total number of INVITE requests that the SIP device sent. This number includes retransmission.
NotifyIns	This counter represents the total number of NOTIFY requests that the SIP device received. This number includes retransmission.
NotifyOuts	This counter represents the total number of NOTIFY requests that the SIP device sent. This number includes retransmission.
OptionsIns	This counter represents the total number of OPTIONS requests that the SIP device received. This number includes retransmission.
OptionsOuts	This counter represents the total number of OPTIONS requests that the SIP device sent. This number includes retransmission.
PRAckIns	This counter represents the total number of PRACK requests that the SIP device received. This number includes retransmission.
PRAckOuts	This counter represents the total number of PRACK requests that the SIP device sent. This number includes retransmission.
PublishIns	This counter represents the total number of PUBLISH requests that the SIP device received. This number includes retransmissions.
PublishOuts	This counter represents the total number of PUBLISH requests that the SIP device sent. This number includes retransmission
RedirClassIns	This counter represents the total number of 3xx class SIP responses that the SIP device received. This number includes retransmission. This class of responses provides information about redirections to addresses where the callee may be reachable.
RedirClassOuts	This counter represents the total number of 3xx class SIP responses that the SIP device sent. This number includes retransmission. This class of responses provides information about redirections to addresses where the callee may be reachable.

Counters	Counter Description
ReferIns	This counter represents the total number of REFER requests that the SIP device received. This number includes retransmission.
ReferOuts	This counter represents the total number of REFER requests that the SIP device sent. This number includes retransmission.
RegisterIns	This counter represents the total number of REGISTER requests that the SIP device received. This number includes retransmission.
RegisterOuts	This counter represents the total number of REGISTER requests that the SIP device sent. This number includes retransmission.
RequestsFailedClassIns	This counter represents the total number of 4xx class SIP responses that the SIP device received. This number includes retransmission. This class of responses indicates a request failure by a SIP device that is providing a client function.
RequestsFailedClassOuts	This counter represents the total number of 4xx class SIP responses that the SIP device sent. This number includes retransmission. This class of responses indicates a request failure by a SIP device that is providing a server function.
RetryByes	This counter represents the total number of BYE retries that the SIP device sent. To determine the number of first BYE attempts, subtract the value of this counter from the value of the sipStatsByeOuts counter.
RetryCancels	This counter represents the total number of CANCEL retries that the SIP device sent. To determine the number of first CANCEL attempts, subtract the value of this counter from the value of the sipStatsCancelOuts counter.
RetryInfo	This counter represents the total number of INFO retries that the SIP device sent. To determine the number of first INFO attempts, subtract the value of this counter from the value of the sipStatsInfoOuts counter.
RetryInvites	This counter represents the total number of INVITE retries that the SIP device sent. To determine the number of first INVITE attempts, subtract the value of this counter from the value of the sipStatsInviteOuts counter.
RetryNotify	This counter represents the total number of NOTIFY retries that the SIP device sent. To determine the number of first NOTIFY attempts, subtract the value of this counter from the value of the sipStatsNotifyOuts counter.
RetryPRAck	This counter represents the total number of PRACK retries that the SIP device sent. To determine the number of first PRACK attempts, subtract the value of this counter from the value of the sipStatsPRAckOuts counter.

Counters	Counter Description
RetryPublish	This counter represents the total number of PUBLISH retries that the SIP device sent. To determine the number of first PUBLISH attempts, subtract the value of this counter from the value of the sipStatsPublishOuts counter.
RetryRefer	This counter represents the total number of REFER retries that the SIP device sent. To determine the number of first REFER attempts, subtract the value of this counter from the value of the sipStatsReferOuts counter.
RetryRegisters	This counter represents the total number of REGISTER retries that the SIP device sent. To determine the number of first REGISTER attempts, subtract the value of this counter from the value of the sipStatsRegisterOuts counter.
RetryRel1xx	This counter represents the total number of Reliable 1xx retries that the SIP device sent.
RetryRequestsOut	This counter represents the total number of Request retries that the SIP device sent.
RetryResponsesFinal	This counter represents the total number of Final Response retries that the SIP device sent.
RetryResponsesNonFinal	This counter represents the total number of non-Final Response retries that the SIP device sent.
RetrySubscribe	This counter represents the total number of SUBSCRIBE retries that the SIP device sent. To determine the number of first SUBSCRIBE attempts, subtract the value of this counter from the value of the sipStatsSubscribeOuts counter.
RetryUpdate	This counter represents the total number of UPDATE retries that the SIP device sent. To determine the number of first UPDATE attempts, subtract the value of this counter from the value of the sipStatsUpdateOuts counter.
SCBsAllocated	This counter represents the number of Subscription Control Blocks (SCB) that are currently in use by the SIP stack. Each subscription uses one SCB.
ServerFailedClassIns	This counter represents the total number of 5xx class SIP responses that the SIP device received. This number includes retransmission. This class of responses indicates that failure responses were received by a SIP device that is providing a client function.

Counters	Counter Description
ServerFailedClassOuts	This counter represents the total number of 5xx class SIP responses that the SIP device sent. This number includes retransmission. This class of responses indicates that failure responses were received by a SIP device that is providing a server function.
SIPGenericCounter1	Do not use this counter unless directed to do so by a Cisco Engineering Special build. Cisco uses information in this counter for diagnostic purposes.
SIPGenericCounter2	Do not use this counter unless directed to do so by a Cisco Engineering Special build. Cisco uses information in this counter for diagnostic purposes.
SIPGenericCounter3	Do not use this counter unless directed to do so by a Cisco Engineering Special build. Cisco uses information in this counter for diagnostic purposes.
SIPGenericCounter4	Do not use this counter unless directed to do so by a Cisco Engineering Special build. Cisco uses information in this counter for diagnostic purposes.
SIPHandlerSDLQueueSignalsPresent	This counter represents the number of SDL signals that are currently on the four SDL priority queues of the SIPHandler component. The SIPHandler component contains the SIP stack.
StatusCode1xxIns	This counter represents the total number of 1xx response messages, including retransmission, that the SIP device received. This count includes the following 1xx responses: • 100 Trying • 180 Ringing • 181 Call is being forwarded • 182 Queued • 183 Session Progress
StatusCode1xxOuts	This counter represents the total number of 1xx response messages, including retransmission, that the SIP device sent. This count includes the following 1xx responses: • 100 Trying • 180 Ringing • 181 Call is being forwarded • 182 Queued • 183 Session Progress

Counters	Counter Description
StatusCode2xxIns	This counter represents the total number of 2xx response messages, including retransmission, that the SIP device received. This count includes the following 2xx responses: • 200 OK • 202 Success Accepted
StatusCode2xxOuts	This counter represents the total number of 2xx response messages, including retransmission, that the SIP device sent. This count includes the following 2xx responses: • 200 OK • 202 Success Accepted
StatusCode3xxins	This counter represents the total number of 3xx response messages, including retransmission, that the SIP device received. This count includes the following 3xx responses: • 300 Multiple Choices • 301 Moved Permanently • 302 Moved Temporarily • 303 Incompatible Bandwidth Units • 305 Use Proxy • 380 Alternative Service
StatusCode302Outs	This counter represents the total number of 302 Moved Temporarily response messages, including retransmission, that the SIP device sent.

Counters	Counter Description
StatusCode4xxIns	This counter represents the total number of 4xx response messages, including retransmission, that the SIP device received. This count includes the following 4xx responses: • 400 Bad Request • 401 Unauthorized • 402 Payment Required • 403 Forbidden • 404 Not Found • 405 Method Not Allowed • 406 Not Acceptable • 407 Proxy Authentication Required • 408 Request Timeout • 409 Conflict • 410 Gone • 413 Request Entity Too Large • 414 Request-URI Too Long • 415 Unsupported Media Type • 416 Unsupported URI Scheme • 417 Unknown Resource Priority • 420 Bad Extension • 422 Session Expires Value Too Small • 423 Interval Too Brief • 480 Temporarily Unavailable • 481 Call/Transaction Does Not Exist • 482 Loop Detected • 483 Too Many Hops • 484 Address Incomplete • 485 Ambiguous • 486 Busy Here • 487 Request Terminated • 488 Not Acceptable Here • 489 Bad Subscription Event • 491 Request Pending

Counters	Counter Description
StatusCode4xxOuts	This counter represents the total number of 4xx response messages, including retransmission, that the SIP device sent. This count includes the following 4xx responses: • 400 Bad Request • 401 Unauthorized • 402 Payment Required • 403 Forbidden • 404 Not Found • 405 Method Not Allowed • 406 Not Acceptable • 407 Proxy Authentication Required • 408 Request Timeout • 409 Conflict • 410 Gone • 413 Request Entity Too Large • 414 Request-URI Too Long • 415 Unsupported Media Type • 416 Unsupported URI Scheme • 417 Unknown Resource Priority • 420 Bad Extension • 422 Session Expires Value Too Small • 423 Interval Too Brief • 480 Temporarily Unavailable • 481 Call/Transaction Does Not Exist • 482 Loop Detected • 483 Too Many Hops • 484 Address Incomplete • 485 Ambiguous • 486 Busy Here • 487 Request Terminated • 488 Not Acceptable Here • 489 Bad Subscription Event • 491 Request Pending
StatusCode5xxIns	This counter represents the total number of 5xx response messages, including retransmission, that the SIP device received. This count includes the following 5xx responses: • 500 Server Internal Error • 501 Not Implemented • 502 Bad Gateway • 503 Service Unavailable • 504 Server Timeout • 505 Version Not Supported • 580 Precondition Failed

Counters	Counter Description
StatusCode5xxOuts	This counter represents the total number of 5xx response messages, including retransmission, that the SIP device sent. This count includes the following 5xx responses: • 500 Server Internal Error • 501 Not Implemented • 502 Bad Gateway • 503 Service Unavailable • 504 Server Timeout • 505 Version Not Supported • 580 Precondition Failed
StatusCode6xxIns	This counter represents the total number of 6xx response messages, including retransmission, that the SIP device received. This count includes the following 6xx responses: • 600 Busy Everywhere • 603 Decline • 604 Does Not Exist Anywhere • 606 Not Acceptable
StatusCode6xxOuts	This counter represents the total number of 6xx response messages, including retransmission, that the SIP device sent. This count includes the following 6xx responses: • 600 Busy Everywhere • 603 Decline • 604 Does Not Exist Anywhere • 606 Not Acceptable
SubscribeIns	This counter represents the total number of SUBSCRIBE requests that the SIP device received. This number includes retransmission.
SubscribeOuts	This counter represents the total number of SUBSCRIBE requests that the SIP device sent. This number includes retransmission.
SuccessClassIns	This counter represents the total number of 2xx class SIP responses that the SIP device received. This includes retransmission. This class of responses provides information on the successful completion of a SIP request.
SuccessClassOuts	This counter represents the total number of 2xx class SIP responses that the SIP device sent. This includes retransmission. This class of responses provides information on the successful completion of a SIP request.
SummaryRequestsIn	This counter represents the total number of SIP request messages that the SIP device received. This number includes retransmissions.

Counters	Counter Description
SummaryRequestsOut	This counter represents the total number of SIP request messages that the device sent. This number includes messages that originate on the device and messages that are being relayed by the device. When a particular message gets sent more than once, each transmission gets counted separately; for example, a message that is re-sent as a retransmission or as a result of forking.
SummaryResponsesIn	This counter represents the total number of SIP response messages that the SIP device received. This number includes retransmission.
SummaryResponsesOut	This counter represents the total number of SIP response messages that the SIP device sent (originated and relayed). This number includes retransmission.
UpdateIns	This counter represents the total number of UPDATE requests that the SIP device received. This number includes retransmission.
UpdateOuts	This counter represents the total number of UPDATE requests that the SIP device sent. This number includes retransmission.

Cisco SIP Station

The Cisco SIP Station object provides information about SIP line-side devices. The following table contains information on the Cisco SIP Station counters.

Table 35: Cisco SIP Station

Counters	Counter Description
ConfigMismatchesPersistent	This counter represents the number of times that a phone that is running SIP was persistently unable to register due to a configuration version mismatch between the TFTP server and Unified Communications Manager since the last restart of the Unified Communications Manager. This counter increments each time that Unified Communications Manager cannot resolve the mismatch and manual intervention is required (such as a configuration update or device reset).
ConfigMismatchesTemporary	This counter represents the number of times that a phone that is running SIP was temporarily unable to register due to a configuration version mismatch between the TFTP server and Unified Communications Manager since the last restart of the Cisco CallManager service. This counter increments each time Unified Communications Manager can resolve the mismatch automatically.
DBTimeouts	This counter represents the number of new registrations that failed because a timeout occurred while the system was attempting to retrieve the device configuration from the database.

Counters	Counter Description
NewRegAccepted	This counter represents the total number of new REGISTRATION requests that have been removed from the NewRegistration queue and processed since the last restart of the Cisco CallManager service.
NewRegQueueSize	This counter represents the number of REGISTRATION requests that are currently on the NewRegistration queue. The system places REGISTRATION requests that are received from devices that are not currently registered on this queue before they are processed.
NewRegRejected	This counter represents the total number of new REGISTRATION requests that were rejected with a 486 Busy Here response and not placed on the NewRegistration queue since the last restart of the Cisco CallManager service. The system rejects REGISTRATION requests if the NewRegistration queue exceeds a programmed size.
TokensAccepted	This counter represents the total number of token requests that have been granted since the last Unified Communications Manager restart. Unified Communications Manager grants tokens as long as the number of outstanding tokens remains below the number that is specified in the Cisco CallManager service parameter Maximum Phone Fallback Queue Depth.
TokensOutstanding	This counter represents the number of devices that have been granted a token but have not yet registered. The system requires that devices that are reconnecting to a higher priority Unified Communications Manager server be granted a token before registering. Tokens protect Unified Communications Manager from being overloaded with registration requests when it comes back online after a failover situation.
TokensRejected	This counter represents the total number of token requests that have been rejected since the last Unified Communications Manager restart. Unified Communications Manager will reject token request if the number of outstanding tokens is greater than the number that is specified in the Cisco CallManager service parameter Maximum Phone Fallback Queue Depth.

Cisco SW Conf Bridge Device

The Cisco SW Conference Bridge Device object provides information about registered Cisco software conference bridge devices. The following table contains information on the Cisco software conference bridge device counters.

Table 36: Cisco SW Conf Bridge Device

Counters	Counter Description
OutOfResources	This counter represents the total number of times that an attempt was made to allocate a conference resource from a SW conference device and failed because all resources were already in use.
ResourceActive	This counter represents the number of resources that are currently in use (active) for a SW conference device. One resource represents one stream.
ResourceAvailable	This counter represents the total number of resources that are not active and are still available to be used now for a SW conference device. One resource represents one stream.
ResourceTotal	This counter represents the total number of conference resources that a SW conference device provides. One resource represents one stream.This counter equals the sum of the ResourceAvailable and ResourceActive counters.
SWConferenceActive	This counter represents the number of software-based conferences that are currently active (in use) on a SW conference device.
SWConferenceCompleted	This counter represents the total number of conferences that have been allocated and released on a SW conference device. A conference starts when the first call connects to the bridge. The conference completes when the last call disconnects from the bridge.

Cisco TFTP Server

The Cisco Trivial File Transfer Protocol (TFTP) Server object provides information about the Cisco TFTP server. The following table contains information on Cisco TFTP server counters.

Table 37: Cisco TFTP Server

Counters	Counter Description
BuildAbortCount	This counter represents the number of times that the build process aborted when it received a Build all request. This counter increases when building of device/unit/softkey/dial rules gets aborted as a result of group level change notifications.
BuildCount	This counter represents the number of times since the TFTP service started that the TFTP server has built all the configuration files in response to a database change notification that affects all devices. This counter increases by one every time the TFTP server performs a new build of all the configuration files.

Counters	Counter Description
BuildDeviceCount	This counter represents the number of devices that were processed in the last build of all the configuration files. This counter also updates while processing device change notifications. The counter increases when a new device is added and decreases when an existing device is deleted.
BuildDialruleCount	This counter represents the number of dial rules that were processed in the last build of the configuration files. This counter also updates while processing dial rule change notifications. The counter increases when a new dial rule is added and decreases when an existing dial rule is deleted.
BuildDuration	This counter represents the time in seconds that it took to build the last configuration files.
BuildSignCount	This counter represents the number of security-enabled phone devices for which the configuration file was digitally signed with the Unified Communications Manager server key in the last build of all the configuration files. This counter also updates while processing security-enabled phone device change notifications.
BuildSoftKeyCount	This counter represents the number of softkeys that were processed in the last build of the configuration files. This counter increments when a new softkey is added and decrements when an existing softkey is deleted.
BuildUnitCount	This counter represents the number of gateways that were processed in the last build of all the configuration files. This counter also updates while processing unit change notifications. The counter increases when a new gateway is added and decreases when an existing gateway is deleted.
ChangeNotifications	This counter represents the total number of all the Unified Communications Manager database change notifications that the TFTP server received. Each time that a device configuration is updated in Cisco Unified Communications Manager Administration, the TFTP server gets sent a database change notification to rebuild the XML file for the updated device.
DeviceChangeNotifications	This counter represents the number of times that the TFTP server received database change notification to create, update, or delete configuration files for devices.
DialruleChangeNotifications	This counter represents the number of times that the TFTP server received database change notification to create, update, or delete configuration files for dial rules.
EncryptCount	This counter represents the number of configuration files that were encrypted. This counter gets updated each time a configuration file is successfully encrypted

Counters	Counter Description
GKFoundCount	This counter represents the number of GK files that were found in the cache. This counter gets updated each time a GK file is found in the cache
GKNotFoundCount	This counter represents the number of GK files that were not found in the cache. This counter gets updated each time a request to get a GK file results in the cache not finding it
HeartBeat	This counter represents the heartbeat of the TFTP server. This incremental count indicates that the TFTP server is up and running. If the count does not increase, this means that the TFTP server is down.
HttpConnectRequests	This counter represents the number of clients that are currently requesting the HTTP GET file request.
HttpRequests	This counter represents the total number of file requests (such as requests for XML configuration files, phone firmware files, audio files, and so on.) that the HTTP server handled. This counter represents the sum total of the following counters since the HTTP service started: RequestsProcessed, RequestsNotFound, RequestsOverflow, RequestsAborted, and RequestsInProgress.
HttpRequestsAborted	This counter represents the total number of HTTP requests that the HTTP server. canceled (aborted) unexpectedly. Requests could get aborted if the requesting device cannot be reached (for instance, the device lost power) or if the file transfer was interrupted due to network connectivity problems.
HttpRequestsNotFound	This counter represents the total number of HTTP requests where the requested file was not found. When the HTTP server does not find the requested file, a message gets sent to the requesting device.
HttpRequestsOverflow	This counter represents the total number of HTTP requests that were rejected when the maximum number of allowable client connections was reached. The requests may have arrived while the TFTP server was building the configuration files or because of some other resource limitation. The Cisco TFTP advanced service parameter, Maximum Serving Count, sets the maximum number of allowable connections.
HttpRequestsProcessed	This counter represents the total number of HTTP requests that the HTTP server. successfully processed.
HttpServedFromDisk	This counters represents the number of requests that the HTTP server completed with the files that are on disk and not cached in memory.

Counters	Counter Description
LDFoundCount	This counter represents the number of LD files that were found in the cache. This counter gets updated each time that a LD file is found in cache memory.
LDNotFoundCount	This counter represents the number of LD files that were not found in cache memory. This counter gets updated each time that a request to get an LD file results in the cache not finding it.
MaxServingCount	This counter represents the maximum number of client connections that the TFTP can serve simultaneously. The Cisco TFTP advanced service parameter, Maximum Serving Count, sets this value.
Requests	This counter represents the total number of file requests (such as requests for XML configuration files, phone firmware files, audio files, and so on.) that the TFTP server handles. This counter represents the sum total of the following counters since the TFTP service started: RequestsProcessed, RequestsNotFound, RequestsOverflow, RequestsAborted, and RequestsInProgress.
RequestsAborted	This counter represents the total number of TFTP requests that the TFTP server canceled (aborted) unexpectedly. Requests could get aborted if the requesting device cannot be reached (for instance, the device lost power) or if the file transfer was interrupted due to network connectivity problems.
RequestsInProgress	This counter represents the number of file requests that the TFTP server currently is processing. This counter increases for each new file request and decreases for each file request that completes. This counter indicates the current load of the TFTP server.
RequestsNotFound	This counter represents the total number of TFTP requests for which the requested file was not found. When the TFTP server does not find the requested file, a message gets sent to the requesting device. If this counter increments in a cluster that is configured as secure, this event usually indicates an error condition. If, however, the cluster is configured as non-secure, it is normal for the CTL file to be absent (not found), which results in a message being sent to the requesting device and a corresponding increment in this counter. For non-secure clusters, this normal occurrence does not represent an error condition.
RequestsOverflow	This counter represents the total number of TFTP requests that were rejected because the maximum number of allowable client connections was exceeded, because requests arrived while the TFTP server was building the configuration files, or because of some other resource limitation. The Cisco TFTP advanced service parameter, Maximum Serving Count, sets the maximum number of allowable connections.

Counters	Counter Description
RequestsProcessed	This counter represents the total number of TFTP requests that the TFTP server successfully processed.
SegmentsAcknowledged	This counter represents the total number of data segments that the client devices acknowledged. Files get sent to the requesting device in data segments of 512 bytes, and for each 512-byte segment, the device sends the TFTP server an acknowledgment message. Each additional data segment gets sent upon receipt of the acknowledgment for the previous data segment until the complete file successfully gets transmitted to the requesting device.
SegmentsFromDisk	This counter represents the number of data segments that the TFTP server reads from the files on disk, while serving files.
SegmentSent	This counter represents the total number of data segments that the TFTP server sent. Files get sent to the requesting device in data segments of 512 bytes.
SEPFoundCount	This counter represents the number of SEP files that were successfully found in the cache. This counter gets updated each time that a SEP file is found in the cache.
SEPNotFoundCount	This counter represents the number of SEP files that were not found in the cache. This counter gets updated each time that a request to get a SEP file produces a not found in cache memory result.
SIPFoundCount	This counter represents the number of SIP files that were successfully found in the cache. This counter gets updated each time that a SIP file is found in the cache
SIPNotFoundCount	This counter represents the number of SIP files that were not found in the cache. This counter gets updated each time that a request to get a SIP file produces a not found in cache memory result.
SoftkeyChangeNotifications	This counter represents the number of times that the TFTP server received database change notification to create, update, or delete configuration files for softkeys.
UnitChangeNotifications	This counter represents the number of times that the TFTP server received database change notification to create, update, or delete gateway-related configuration files.

Cisco Transcode Device

The Cisco Transcode Device object provides information about registered Cisco transcoding devices. The following table contains information on Cisco transcoder device counters.

Table 38: Cisco Transcode Device

Counters	Counter Description
OutOfResources	This counter represents the total number of times that an attempt was made to allocate a transcoder resource from a transcoder device and failed; for example, because all resources were already in use.
ResourceActive	This counter represents the number of transcoder resources that are currently in use (active) for a transcoder device. Each transcoder resource uses two streams.
ResourceAvailable	This counter represents the total number of resources that are not active and are still available to be used now for a transcoder device. Each transcoder resource uses two streams.
ResourceTotal	This counter represents the total number of transcoder resources that a transcoder device provided. This counter equals the sum of the ResourceActive and ResourceAvailable counters.

Cisco Video Conference Bridge

The Cisco Video Conference Bridge object provides information about registered Cisco video conference bridge devices. The following table contains information on Cisco video conference bridge device counters.

Table 39: Cisco Video Conference Bridge

Counters	Counter Description
ConferencesActive	This counter represents the total number of video conferences that are currently active (in use) on a video conference bridge device. The system specifies a conference as active when the first call connects to the bridge.
ConferencesAvailable	This counter represents the number of video conferences that are not active and are still available on a video conference device.
ConferencesCompleted	This counter represents the total number of video conferences that have been allocated and released on a video conference device. A conference starts when the first call connects to the bridge. The conference completes when the last call disconnects from the bridge.
ConferencesTotal	This counter represents the total number of video conferences that are configured for a video conference device.

Counters	Counter Description
OutOfConferences	This counter represents the total number of times that an attempt was made to initiate a video conference from a video conference device and failed because the device already had the maximum number of active conferences that is allowed (as specified by the TotalConferences counter).
OutOfResources	This counter represents the total number of times that an attempt was made to allocate a conference resource from a video conference device and failed, for example, because all resources were already in use.
ResourceActive	This counter represents the total number of resources that are currently active (in use) on a video conference bridge device. One resource gets used per participant.
ResourceAvailable	This counter represents the total number of resources that are not active and are still available on a device to handle additional participants for a video conference bridge device.
ResourceTotal	This counter represents the total number of resources that are configured on a video conference bridge device. One resource gets used per participant.

Cisco Web Dialer

The Cisco Web Dialer object provides information about the Cisco Web Dialer application and the Redirector servlet. The following table contains information on the Cisco Web Dialer counters.

Table 40: Cisco Web Dialer

Counters	Counter Description
CallsCompleted	This counter represents the number of Make Call and End Call requests that the Cisco Web Dialer application successfully completed.
CallsFailed	This counter represents the number of Make Call and End Call requests that were unsuccessful.
RedirectorSessionsHandled	This counter represents the total number of HTTP sessions that the Redirector servlet handled since the last service startup.
RedirectorSessionsInProgress	This counter represents the number of HTTP sessions that are currently being serviced by the Redirector servlet.
RequestsCompleted	This counter represents the number of Make Call and End Call requests that the Web Dialer servlet successfully completed.
RequestsFailed	This counter represents the number of Make Call and End Call requests that failed.

Counters	Counter Description
SessionsHandled	This counter represents the total number of CTI sessions that the Cisco Web Dialer servlet handled since the last service startup.
SessionsInProgress	This counter represents the number of CTI sessions that the Cisco Web Dialer servlet is currently servicing.

Cisco WSM Connector

The WSM object provides information on WSMConnectors that are configured on Unified Communications Manager. Each WSMConnector represents a physical Motorola WSM device. The following table contains information on the Cisco WSM Connector counters.

Table 41: Cisco WSM Connector

Counters	Counter Description
CallsActive	This counter represents the number of calls that are currently active (in use) on the WSMConnector device.
CallsAttempted	This counter represents the number of calls that have been attempted on the WSMConnector device, including both successful and unsuccessful call attempts.
CallsCompleted	This counter represents the number of calls that are connected (a voice path was established) through the WSMConnector device. The counter increments when the call terminates.
CallsInProgress	This counter represents the number of calls that are currently in progress on the WSMConnector device. This includes all active calls. When the number of CallsInProgress equals the number of CallsActive, this indicates that all calls are connected.
DMMSRegistered	This counter represents the number of DMMS subscribers that are registered to the WSM.

PerfMon Objects and Counters for System

This section provides information on Unified Communications Manager System PerfMon objects and counters.

Cisco Tomcat Connector

The Tomcat Hypertext Transport Protocol (HTTP)/HTTP Secure (HTTPS) Connector object provides information about Tomcat connectors. A Tomcat HTTP connector represents an endpoint that receives requests and sends responses. The connector handles HTTP/HTTPS requests and sends HTTP/HTTPS responses that occur when Unified Communications Manager related web pages are accessed. The Secure Socket Layer (SSL) status of the URLs for web applications provides the basis for the instance name for each Tomcat HTTP Connector. For example, `https://<IP Address>:8443` for SSL or `http://<IP Address>:8080` for non-SSL. The following table contains information on the Tomcat HTTP connector counters.

Table 42: Cisco Tomcat Connector

Counters	Counter Description
Errors	This counter represents the total number of HTTP errors (for example, 401 Unauthorized) that the connector encountered. A Tomcat HTTP connector represents an endpoint that receives requests and sends responses. The connector handles HTTP/HTTPS requests and sends HTTP/HTTPS responses that occur when Unified Communications Manager related windows are accessed. The Secure Socket Layer (SSL) status of the URLs for the web application provides basis for the instance name for each Tomcat HTTP connector. For example, `https://<IP Address>:8443` for SSL or `http://<IP Address>:8080` for non-SSL.
MBytesReceived	This counter represents the amount of data that the connector received. A Tomcat HTTP connector represents an endpoint that receives requests and sends responses. The connector handles HTTP/HTTPS requests and sends HTTP/HTTPS responses that occur when Unified Communications Manager related windows are accessed. The Secure Socket Layer (SSL) status of the URLs for the web application provides basis for the instance name for each Tomcat HTTP connector. For example, `https://<IP Address>:8443` for SSL or `http://<IP Address>:8080` for non-SSL.
MBytesSent	This counter represents the amount of data that the connector sent. A Tomcat HTTP connector represents an endpoint that receives requests and sends responses. The connector handles HTTP/HTTPS requests and sends HTTP/HTTPS responses that occur when Unified Communications Manager related windows are accessed. The Secure Socket Layer (SSL) status of the URLs for the web application provides basis for the instance name for each Tomcat HTTP connector. For example, `https://<IP Address>:8443` for SSL or `http://<IP Address>:8080` for non-SSL.
Requests	This counter represents the total number of request that the connector handled. A Tomcat HTTP connector represents an endpoint that receives requests and sends responses. The connector handles HTTP/HTTPS requests and sends HTTP/HTTPS responses that occur when Unified Communications Manager related windows are accessed. The Secure Socket Layer (SSL) status of the URLs for the web application provides basis for the instance name for each Tomcat HTTP connector. For example, `https://<IP Address>:8443` for SSL or `http://<IP Address>:8080` for non-SSL.

Counters	Counter Description
ThreadsTotal	This counter represents the current total number of request processing threads, including available and in-use threads, for the connector. A Tomcat HTTP connector represents an endpoint that receives requests and sends responses. The connector handles HTTP/HTTPS requests and sends HTTP/HTTPS responses that occur when Unified Communications Manager related windows are accessed. The Secure Socket Layer (SSL) status of the URLs for the web application provides basis for the instance name for each Tomcat HTTP connector. For example, `https://<IP Address>:8443` for SSL or `http://<IP Address>:8080` for non-SSL.
ThreadsMax	This counter represents the maximum number of request processing threads for the connector. Each incoming request on a Unified Communications Manager related window requires a thread for the duration of that request. If more simultaneous requests are received than the currently available request processing threads can handle, additional threads will get created up to the configured maximum shown in this counter. If still more simultaneous requests are received, they accumulate within the server socket that the connector created, up to an internally specified maximum number. Any further simultaneous requests will receive connection refused messages until resources are available to process them.
	A Tomcat HTTP connector represents an endpoint that receives requests and sends responses. The connector handles HTTP/HTTPS requests and sends HTTP/HTTPS responses that occur when Unified Communications Manager related windows are accessed. The Secure Socket Layer (SSL) status of the URLs for the web application provides basis for the instance name for each Tomcat HTTP connector. For example, `https://<IP Address>:8443` for SSL or `http://<IP Address>:8080` for non-SSL.
ThreadsBusy	This counter represents the current number of busy/in-use request processing threads for the connector. A Tomcat Connector represents an endpoint that receives requests and sends responses. The connector handles HTTP/HTTPS requests and sends HTTP/HTTPS responses that occur when web pages that are related to Unified Communications Manager are accessed. The Secure Sockets Layer (SSL) status of the URLs for the web application provides the basis for the instance name for each Tomcat connector. For example, `https://<IP Address>:8443` for SSL or `http://<IP Address>:8080` for non-SSL.

Cisco Tomcat JVM

The Cisco Tomcat Java Virtual Machine (JVM) object provides information about the Tomcat JVM, which represents, among other things, a pool of common resource memory that Unified Communications Manager related web applications such as Cisco Unified Communications Manager Administration, Cisco Unified Serviceability, Cisco Unity Connection Administration, and more use. The following table contains information on the Tomcat JVM counters.

Table 43: Tomcat JVM

Counters	Counter Description
KBytesMemoryFree	This counter represents the amount of free dynamic memory block (heap memory) in the Tomcat Java Virtual Machine. The dynamic memory block stores all objects that Tomcat and its web applications, such as Cisco Unified Communications Manager Administration, Cisco Unified Serviceability, and Cisco Unity Connection create. When the amount of free dynamic memory is low, more memory gets automatically allocated, and total memory size (represented by the KbytesMemoryTotal counter) increases but only up to the maximum (represented by the KbytesMemoryMax counter). You can determine the amount of memory in use by subtracting KBytesMemoryFree from KbytesMemoryTotal.
KBytesMemoryMax	This counter represents the amount of free dynamic memory block (heap memory) in the Tomcat Java Virtual Machine. The dynamic memory block stores all objects that Tomcat and its web applications, such as Cisco Unified Communications Manager Administration, Cisco Unified Serviceability, and Cisco Unity Connection Administration, create.
KBytesMemoryTotal	This counter represents the current total dynamic memory block size, including free and in-use memory, of Tomcat Java Virtual Machine. The dynamic memory block stores all objects that Tomcat and its web applications, such as Cisco Unified Communications Manager Administration, Cisco Unified Serviceability, and Cisco Unity Connection Administration, create.

Cisco Tomcat Web Application

The Cisco Tomcat Web Application object provides information about how to run Unified Communications Manager web applications. The URLs for the web application provide basis for the instance name for each Tomcat Web Application. For example, Cisco Unified Communications Manager Administration (`https://<IP Address>:8443/ccmadmin`) gets identified by ccmadmin, Cisco Unified Serviceability gets identified by ccmservice, Unified Communications Manager User Options gets identified by ccmuser, Cisco Unity Connection Administration (`https://<IP Address>:8443/cuadmin`) gets identified by cuadmin, and URLs that do not have an extension, such as `https://<IP Address>:8443` or `http://<IP Address>:8080`), get identified by _root. The following table contains information on the Tomcat Web Application counters.

Table 44: Tomcat Web Application

Counters	Counter Description
Errors	This counter represents the total number of HTTP errors (for example, 401 Unauthorized) that a Unified Communications Manager related web application encountered. The URLs for the web application provide the basis instance name for each Tomcat Web Application. For example, Cisco Unified Communications Manager Administration (`https://<IP Address>:8443/ccmadmin`) gets identified by ccmadmin, Cisco Unified Serviceability gets identified by ccmservice, Unified Communications Manager User Options gets identified by ccmuser, Cisco Unity Connection Administration (`https://<IP Address>:8443/cuadmin`) gets identified by cuadmin, and URLs that do not have an extension, such as `https://<IP Address>:8443` or `http://<IP Address>:8080`), get identified by _root.
Requests	This counter represents the total number of requests that the web application handles. Each time that a web application is accessed, its Requests counter increments accordingly. The URLs for the web application provide the basis instance name for each Tomcat Web Application. For example, Cisco Unified Communications Manager Administration (`https://<IP Address>:8443/ccmadmin`) gets identified by ccmadmin, Cisco Unified Serviceability gets identified by ccmservice, Unified Communications Manager User Options gets identified by ccmuser, Cisco Unity Connection Administration (`https://<IP Address>:8443/cuadmin`) gets identified by cuadmin, and URLs that do not have an extension, such as `https://<IP Address>:8443` or `http://<IP Address>:8080`), get identified by _root.
SessionsActive	This counter represents the number of sessions that the web application currently has active (in use). The URLs for the web application provide the basis instance name for each Tomcat Web Application. For example, Cisco Unified Communications Manager Administration (`https://<IP Address>:8443/ccmadmin`) gets identified by ccmadmin, Cisco Unified Serviceability gets identified by ccmservice, Unified Communications Manager User Options gets identified by ccmuser, Cisco Unity Connection Administration (`https://<IP Address>:8443/cuadmin`) gets identified by cuadmin, and URLs that do not have an extension, such as `https://<IP Address>:8443` or `http://<IP Address>:8080`), get identified by _root.

Database Change Notification Client

The Database Change Notification Client object provides information on change notification clients. The following table contains information on the Database Change Notification Client counters.

Table 45: Database Change Notification Client

Counters	Counter Descriptions
MessagesProcessed	This counter represents the number of database change notifications that have been processed. This counter refreshes every 15 seconds.
MessagesProcessing	This counter represents the number of change notification messages that are currently being processed or are waiting to be processed in the change notification queue for this client. This counter refreshes every 15 seconds.
QueueHeadPointer	This counter represents the head pointer to the change notification queue. The head pointer acts as the starting point in the change notification queue. To determine the number of notifications in the queue, subtract the head pointer value from the tail pointer value. By default, this counter refreshes every 15 seconds.
QueueMax	This counter represents the largest number of change notification messages that will be processed for this client. This counter remains cumulative since the last restart of the Cisco Database Layer Monitor service.
QueueTailPointer	This counter represents the tail pointer to the change notification queue. The tail pointer represents the ending point in the change notification queue. To determine the number of notifications in the queue, subtract the head pointer value from the tail pointer value. By default, this counter refreshes every 15 seconds
TablesSubscribed	This counter represents the number of tables in which this client has subscribed.

Database Change Notification Server

The Database Change Notification Server object provides information on different change-notification-related statistics. The following table contains information on the Database Change Notification Server counters.

Table 46: Database Change Notification Server

Counter	Counter Descriptions
Clients	This counter represents the number of change notification clients (services/servlets) that have subscribed for change notification.

Counter	Counter Descriptions
Queue Delay	This counter provides the number of seconds that the change notification process has messages to process but is not processing them. This condition is true if: • Either Change Notification Requests Queued in Database (QueuedRequestsInDB) and Change Notification Requests Queued in Memory (QueuedRequestsInMemory) are non-zero, or • The Latest Change Notification Messages Processed count is not changing. This condition gets checked every 15 seconds.
QueuedRequestsInDB	This counter represents the number of change notification records that are in the DBCNQueue (Database Change Notification Queue) table via direct TCP/IP connection (not queued in shared memory). This counter refreshes every 15 seconds.
QueuedRequestsInMemory	This counter represents the number of change notification requests that are queued in shared memory.

Database Change Notification Subscription

The Database Change Notification Subscription object displays the names of tables where the client will receive Change Notifications.

The SubscribedTable object displays the table with the service or servlet that will receive change notifications. Because the counter does not increment, this display occurs for informational purposes only.

Database Local DSN

The Database Local Data Source Name (DSN) object and LocalDSN counter provide the DSN information for the local machine. The following table contains information on the Database local DSN.

Table 47: Database Local Data Source Name

Counters	Counter Descriptions
CcmDbSpace_Used	This counter represents the amount of Ccm DbSpace that is being consumed
CcmtempDbSpace_Used	This counter represents the amount of Ccmtemp DbSpace that is being consumed.
CNDbSpace_Used	This counter represents the percentage of CN dbspace consumed.
LocalDSN	This counter represents the data source name (DSN) that is being referenced from the local machine.
SharedMemory_Free	This counter represents total shared memory that is free.
SharedMemory_Used	This counter total shared memory that is used.

Counters	Counter Descriptions
RootDbSpace_Used	This counter represents the amount of RootDbSpace that is being consumed.

DB User Host Information Counters

The DB User Host Information object provides information on DB User Host. The DB:User:Host Instance object displays the number of connections that are present for each instance of DB:User:Host.

Enterprise Replication DBSpace Monitors

The enterprise replication DBSpace monitors object displays the usage of various ER DbSpaces. The following table contains information on the enterprise replication DB monitors.

Table 48: Enterprise Replication DBSpace Monitors

Counters	Counter Descriptions
ERDbSpace_Used	This counter represents the amount of enterprise replication DbSpace that was consumed.
ERSBDbSpace_Used	This counter represents the amount of ERDbSpace that was consumed.

Enterprise Replication Perfmon Counters

The Enterprise Replication Perfmon Counter object provides information on the various replication counters. The ServerName:ReplicationQueueDepth counter displays the server name followed by the replication queue depth.

IP

The IP object provides information on the IP statistics on your system. The following table contains information on the IP counters.

Table 49: IP

Counters	Counter Descriptions
Frag Creates	This counter represents the number of IP datagrams fragments that have been generated at this entity.
Frag Fails	This counter represents the number of IP datagrams that were discarded at this entity because the datagrams could not be fragmented, such as datagrams where the Do not Fragment flag was set.
Frag OKs	This counter represents the number of IP datagrams that were successfully fragmented at this entity.

Counters	Counter Descriptions
In Delivers	This counter represents the number of input datagrams that were delivered to IP user protocols. This includes Internet Control Message Protocol (ICMP).
In Discards	This counter represents the number of discarded input IP datagrams when no problems were encountered. Lack of buffer space provides one possible reason. This counter does not include any datagrams that were discarded while they were awaiting reassembly.
In HdrErrors	This counter represents the number of discarded input datagrams that had header errors. This includes bad checksums, version number mismatch, other format errors, time-to-live exceeded, and other errors that were discovered in processing IP options.
In Receives	This counter represents the number of input datagrams that were received from all network interfaces. This counter includes datagrams that were received with errors
In UnknownProtos	This counter represents the number of locally addressed datagrams that were received successfully but discarded because of an unknown or unsupported protocol.
InOut Requests	This counter represents the number of incoming IP datagrams that were received and the number of outgoing IP datagrams that were sent.
Out Discards	This counter represents the number of output IP datagrams that were not transmitted and were discarded. Lack of buffer space provides one possible reason.
Out Requests	This counter represents the total number of IP datagrams that local IP protocols, including ICMP, supply to IP in requests transmission. This counter does not include any datagrams that were counted in ForwDatagrams.
Reasm Fails	This counter represents the number of IP reassembly failures that the IP reassembly algorithm detected, including time outs, errors, and so on. This counter does not represent the discarded IP fragments because some algorithms, such as the algorithm in RFC 815, can lose track of the number of fragments because it combines them as they are received.
Reasm OKs	This counter represents the number of IP datagrams that were successfully reassembled.
Reasm Reqds	This counter represents the number of IP fragments that were received that required reassembly at this entity.

Memory

The memory object provides information about the usage of physical memory and swap memory on the server. The following table contains information on memory counters.

Table 50: Memory

Counters	Counter Descriptions
% Mem Used	This counter displays the system physical memory utilization as a percentage. The value of this counter equals (Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes + Shared KBytes) / Total KBytes, which also corresponds to the Used KBytes/Total KBytes.
% Page Usage	This counter represents the percentage of active pages.
% VM Used	This counter displays the system virtual memory utilization as a percentage. The value of this counter equals (Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes + Shared KBytes + Used Swap KBytes) / (Total KBytes + Total Swap KBytes), which also corresponds to Used VM KBytes/Total VM KBytes.
Buffers KBytes	This counter represents the capacity of buffers in your system in kilobytes.
Cached KBytes	This counter represents the amount of cached memory in kilobytes.
Free KBytes	This counter represents the total amount of memory that is available in your system in kilobytes.
Free Swap KBytes	This counter represents the amount of free swap space that is available in your system in kilobytes.
Faults Per Sec	This counter represents the number of page faults (both major and minor) that the system made per second (post 2.5 kernels only). This does not necessarily represent a count of page faults that generate I/O because some page faults can get resolved without I/O.
Low Total	This counter represents the total low (non-paged) memory for kernel.
Low Free	This counter represents the total free low (non-paged) memory for kernel.
Major Faults Per Sec	This counter represents the number of major faults that the system has made per second that have required loading a memory page from disk (post 2.5 kernels only).
Pages	This counter represents the number of pages that the system paged in from the disk plus the number of pages that the system paged out to the disk.

Counters	Counter Descriptions
Pages Input	This counter represents the number of pages that the system paged in from the disk.
Pages Input Per Sec	This counter represents the total number of kilobytes that the system paged in from the disk per second.
Pages Output	This counter represents the number of pages that the system paged out to the disk.
Pages Output Per Sec	This counter represents the total number of kilobytes that the system paged out to the disk per second.
Shared KBytes	This counter represents the amount of shared memory in your system in kilobytes.
Total KBytes	This counter represents the total amount of memory in your system in kilobytes.
Total Swap KBytes	This counter represents the total amount of swap space in your system in kilobytes.
Total VM KBytes	This counter represents the total amount of system physical and memory and swap space (Total Kbytes + Total Swap Kbytes) that is in use in your system in kilobytes.
Used KBytes	This counter represents the amount of system physical memory that is in use in kilobytes. The value of the Used KBytes counter equals Total KBytes minus Free KBytes minus Buffers KBytes minus Cached KBytes plus Shared KBytes. In a Linux environment, the Used KBytes value that displays in the top or free command output equals the difference of Total KBytes and Free KBytes and also includes the sum of Buffers KBytes and Cached KBytes.
Used Swap KBytes	This counter represents the amount of swap space that is in use on your system in kilobytes.
Used VM KBytes	This counter represents the system physical memory and the amount of swap space that is in use on your system in kilobytes. The value equals Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes + Shared KBytes + Used Swap KBytes. This corresponds to Used Mem KBytes + Used Swap KBytes.

Network Interface

The network interface object provides information about the network interfaces on the system. The following table contains information on network interface counters.

Table 51: Network Interface

Counters	Counter Descriptions
Rx Bytes	This counter represents the number of bytes, including framing characters, that were received on the interface.
Rx Dropped	This counter represents the number of inbound packets that were chosen to be discarded even though no errors had been detected. This prevents the packet from being delivered to a higher layer protocol. Discarding packets to free up buffer space provides one reason.
Rx Errors	This counter represents the number of inbound packets (packet-oriented interfaces) and the number of inbound transmission units (character-oriented or fixed-length interfaces) that contained errors that prevented them from being deliverable to a higher layer protocol.
Rx Multicast	This counter represents the number of multicast packets that were received on this interface.
Rx Packets	This counter represents the number of packets that this sublayer delivered to a higher sublayer. This does not include the packets that were addressed to a multicast or broadcast address at this sublayer.
Total Bytes	This counter represents the total number of received (Rx) bytes and transmitted (Tx) bytes.
Total Packets	This counter represents the total number of Rx packets and Tx packets.
Tx Bytes	This counter represents the total number of octets, including framing characters, that were transmitted out from the interface.
Tx Dropped	This counter represents the number of outbound packets that were chosen to be discarded even though no errors were detected. This action prevents the packet from being delivered to a higher layer protocol. Discarding a packet to free up buffer space represents one reason.
Tx Errors	This counter represents the number of outbound packets (packet-oriented interfaces) and the number of outbound transmission units (character-oriented or fixed-length interfaces) that could not be transmitted because of errors.
Tx Packets	This counter represents the total number of packets that the higher level protocols requested for transmission, including those that were discarded or not sent. This does not include packets that were addressed to a multicast or broadcast address at this sublayer.
Tx QueueLen	This counter represents the length of the output packet queue (in packets).

Number of Replicates Created and State of Replication

The Number of Replicates Created and State of Replication object provides real-time replication information for the system. The following table contains information on replication counters.

Table 52: Number of Replicates Created and State of Replication

Counters	Counter Descriptions
Number of Replicates Created	This counter displays the number of replicates that were created by Informix for the DB tables. This counter displays information during Replication Setup.
Replicate_State	This counter represents the state of replication. The following list provides possible values: • 0—Initializing. The counter equals 0 when the server is not defined or when the server is defined but the template has not completed. • 1—Replication setup script fired from this node. Cisco recommends that you run utils dbreplication status on the CLI to determine the location and cause of the failure. • 2—Good Replication. • 3—Bad Replication. A counter value of 3 indicates replication in the cluster is bad. It does not mean that replication failed on a particular server in the cluster. Cisco recommends that you run utils dbreplication status on the CLI to determine the location and cause of the failure. • 4—Replication setup did not succeed.

Partition

The partition object provides information about the file system and its usage in the system. The following table contains information on partition counters. Be aware that these counters are available for the spare partition, if present.

Table 53: Partition

Counters	Counter Descriptions
% CPU Time	This counter represents the percentage of CPU time that is dedicated to handling I/O requests that were issued to the disk. This counter is no longer valid when the counter value equals -1.
% Used	This counter represents the percentage of disk space that is in use on this file system.
% Wait in Read	Not Used. The Await Read Time counter replaces this counter. This counter is no longer valid when the counter value equals -1.

Counters	Counter Descriptions
% Wait in Write	Not Used. The Await Write Time counter replaces this counter.This counter is no longer valid when the counter value equals -1.
Await Read Time	This counter represents the average time, measured in milliseconds, for Read requests that are issued to the device to be served. This counter is no longer valid when the counter value equals -1.
Await Time	This counter represents the average time, measured in milliseconds, for I/O requests that were issued to the device to be served. This includes the time that the requests spent in queue and the time that was spent servicing them.This counter is no longer valid when the counter value equals -1.
Await Write Time	This counter represents the average time, measured in milliseconds, for write requests that are issued to the device to be served. This counter is no longer valid when the counter value equals -1.
Queue Length	This counter represents the average queue length for the requests that were issued to the disk.This counter is no longer valid when the counter value equals -1.
Read Bytes Per Sec	This counter represents the amount of data in bytes per second that was read from the disk.
Total Mbytes	This counter represents the amount of total disk space in megabytes that is on this file system.
Used Mbytes	This counter represents the amount of disk space in megabytes that is in use on this file system.
Write Bytes Per Sec	This counter represents the amount of data that was written to the disk in bytes per second.

Process

The process object provides information about the processes that are running on the system. The following table contains information on process counters.

Table 54: Process

Counters	Counter Descriptions
% CPU Time	This counter, which is expressed as a percentage of total CPU time, represents the tasks share of the elapsed CPU time since the last update.
% MemoryUsage	This counter represents the percentage of physical memory that a task is currently using.

Counters	Counter Descriptions
Data Stack Size	This counter represents the stack size for task memory status.
Nice	This counter represents the nice value of the task. A negative nice value indicates that the process has a higher priority while a positive nice value indicates that the process has a lower priority. If the nice value equals zero, do not adjust the priority when you are determining the dispatchability of a task.
Page Fault Count	This counter represents the number of major page faults that a task encountered that required the data to be loaded into memory.
PID	This counter displays the task-unique process ID. The ID periodically wraps, but the value will never equal zero.
Process Status	This counter displays the process status: • 0—Running • 1—Sleeping • 2—Uninterruptible disk sleep • 3—Zombie • 4—Stopped • 5— Paging • 6—Unknown
Shared Memory Size	This counter displays the amount of shared memory (KB) that a task is using. Other processes could potentially share the same memory.
STime	This counter displays the system time (STime), measured in jiffies, that this process has scheduled in kernel mode. A jiffy corresponds to a unit of CPU time and gets used as a base of measurement. One second comprises 100 jiffies.
Thread Count	This counter displays the number of threads that are currently grouped with a task. A negative value (-1) indicates that this counter is currently not available. This happens when thread statistics (which includes all performance counters in the Thread object as well as the Thread Count counter in the Process object) are turned off because the system total processes and threads exceeded the default threshold value.
Total CPU Time Used	This counter displays the total CPU time in jiffies that the task used in user mode and kernel mode since the start of the task. A jiffy corresponds to a unit of CPU time and gets used as a base of measurement. One second comprises 100 jiffies.
UTime	This counter displays the time, measured in jiffies, that a task has scheduled in user mode.
VmData	This counter displays the virtual memory usage of the heap for the task in kilobytes (KB).

Counters	Counter Descriptions
VmRSS	This counter displays the virtual memory (Vm) resident set size (RSS) that is currently in physical memory in kilobytes (KB). This includes the code, data, and stack.
VmSize	This counter displays the total virtual memory usage for a task in kilobytes (KB). It includes all code, data, shared libraries, and pages that have been swapped out: Virtual Image = swapped size + resident size.
Wchan	This counter displays the channel (system call) in which the process is waiting.

Processor

The processor object provides information on different processor time usage in percentages. The following table contains information on processor counters.

Table 55: Processor

Counters	Counter Descriptions
% CPU Time	This counter displays the processors share of the elapsed CPU time, excluding idle time, since the last update. This share gets expressed as a percentage of total CPU time.
Idle Percentage	This counter displays the percentage of time that the processor is in the idle state and did not have an outstanding disk I/O request.
IOwait Percentage	This counter represents the percentage of time that the processor is in the idle state while the system had an outstanding disk I/O request.
Irq Percentage	This counter represents the percentage of time that the processor spends executing the interrupt request that is assigned to devices, including the time that the processor spends sending a signal to the computer.
Nice Percentage	This counter displays the percentage of time that the processor spends executing at the user level with nice priority.
Softirq Percentage	This counter represents the percentage of time that the processor spends executing the soft IRQ and deferring task switching to get better CPU performance.
System Percentage	This counter displays the percentage of time that the processor is executing processes in system (kernel) level.
User Percentage	This counter displays the percentage of time that the processor is executing normal processes in user (application) level.

System

The System object provides information on file descriptors on your system. The following table contains information on system counters.

Table 56: System

Counters	Counter Descriptions
Allocated FDs	This counter represents the total number of allocated file descriptors.
Being Used FDs	This counter represents the number of file descriptors that are currently in use in the system.
Freed FDs	This counter represents the total number of allocated file descriptors on the system that are freed.
Max FDs	This counter represents the maximum number of file descriptors that are allowed on the system.
Total CPU Time	This counter represents the total time in jiffies that the system has been up and running.
Total Processes	This counter represents the total number of processes on the system.
Total Threads	This counter represents the total number of threads on the system.

TCP

The TCP object provides information on the TCP statistics on your system. The following table contains information on the TCP counters.

Table 57: TCP

Counters	Counter Description
Active Opens	This counter displays the number of times that the TCP connections made a direct transition to the SYN-SENT state from the CLOSED state.
Attempt Fails	This counter displays the number of times that the TCP connections have made a direct transition to the CLOSED state from either the SYN-RCVD state or the SYN-RCVD state, plus the number of times TCP connections have made a direct transition to the LISTEN state from the SYS-RCVD state.
Curr Estab	This counter displays the number of TCP connections where the current state is either ESTABLISHED or CLOSE- WAIT.

Counters	Counter Description
Estab Resets	This counter displays the number of times that the TCP connections have made a direct transition to the CLOSED state from either the ESTABLISHED state or the CLOSE-WAIT state.
In Segs	This counter displays the total number of segments that were received, including those received in error. This count only includes segments that are received on currently established connections.
InOut Segs	This counter displays the total number of segments that were sent and the total number of segments that were received.
Out Segs	This counter displays the total number of segments that were sent. This count only includes segments that are sent on currently established connections, but excludes retransmitted octets.
Passive Opens	This counter displays the number of times that TCP connections have made a direct transition to the SYN-RCVD state from the LISTEN state.
RetransSegs	This counter displays the total number of segments that were retransmitted because the segment contains one or more previously transmitted octets.

Thread

The Thread object provides a list of running threads on your system. The following table contains information on the Thread counters.

Table 58: Thread

Counters	Counter Description
% CPU Time	This counter displays the thread share of the elapsed CPU time since the last update. This counter expresses the share as a percentage of the total CPU time.
PID	This counter displays the threads leader process ID.

Cisco Intercompany Media Engine Performance Objects and Alerts

This section provides information on new performance objects, and alerts for both the Unified Communications Manager server and the Cisco Intercompany Media Engine server.

Related Topics

Cisco Intercompany Media Engine Server Objects, on page 88

Cisco Intercompany Media Engine Server Objects

Performance Objects

The following performance objects are available on the Cisco Intercompany Media Engine server to support the Cisco Intercompany Media Engine feature.

Related Topics

IME Configuration Manager

The IME Configuration Manager object provides information about the IME distributed cache certificate. The following table contains information on the Cisco IME configuration counters.

Table 59: IME Configuration Manager

Counters	Counter Description
DaysUntilCertExpiry	This counter indicates the number of days that remain until the IME distributed cache certificate expires. You must replace the certificate before it expires. When the value of this counter falls below 14, an alert gets generated once every day until the value exceeds 14.

IME Server

The IME Server object provides information about the Cisco IME server. The following table contains information on the Cisco IME Server counters.

Table 60: IME Server

Counters	Counter Description
BlockedValidationOrigTLSLimit	This counter indicates the total number of blocked validations that occurred because the TLSValidationThreshold was reached.
BlockedValidationTermTLSLimit	This counter indicates the total number of blocked validations that occurred because the TLSValidationThreshold was reached.
ClientsRegistered	This counter indicates the number of Cisco IME clients that are currently connected to the Cisco IME server.

Counters	Counter Description
IMEDistributedCacheHealth	The counter indicates the health of the IME distributed cache. The following values may display: • 0 (red)—Warns that the IME distributed cache is not functioning properly; for example, the Cisco IME cannot resolve issues after the network has been partitioned In this case, validation attempts might fail. For example, the Cisco IME service is not connected to the network and is unable to reach the bootstrap servers. An alert gets generated once every hour until the value changes from red status. • 1 (yellow)—Indicates that the Cisco IME network is experiencing minor issues, such as connectivity between bootstrap servers or other Cisco IME network issues. (Check the Cisco IME alarms to determine network issues.) • 2 (green)—Indicates that the Cisco IME is functioning normally and is considered healthy.
IMEDistributedCacheNodeCount	The counter is an integer that indicates an approximation of the total number of nodes in the IME distributed cache. Since each physical Cisco IME server hosts multiple nodes, this counter does not directly indicate the number of physical Cisco IME servers that participate in the IME distributed cache. This counter can provide an indication of the health of the IME distributed cache; for example, a problem may exist with the IME distributed cache if an expected value displays on one day (for example, 300), but then on the next day, the value drops dramatically (for example, to 10 or 2).
IMEDistributedCacheQuota	Indicates the number of individual DIDs that can be written into the IME Distributed Cache, by Cisco Unified CMs attached to this IME server. This number is determined by the overall configuration of the IME Distributed Cache, and the IME license installed on the IME server.
IMEDistributedCacheQuotaUsed	Indicates the total number of unique DID numbers that have been configured, to be published via enrolled patterns for Intercompany Media Services, by Cisco Unified CMs currently attached to this IME server.
IMEDistributedCacheReads	This counter indicates the total number of reads that the Cisco IME server has attempted into the IME distributed cache. This number serves as an indicator of whether the Cisco IME server is functional; that is, whether the server is interacting with other nodes.
IMEDistributedCacheStoredData	This counter indicates the amount of IME distributed cache storage, measured in bytes, that this Cisco IME server provides.

Counters	Counter Description
IMEDistributedCacheStores	This counter indicates the total number of stores (published numbers) that the Cisco IME server has attempted into the IME distributed cache. This number serves as an indicator of whether the Cisco IME server is functional.
InternetBandwidthRecv	This counter measures the amount of downlink Internet bandwidth, in Kbits/s, that the Cisco IME server is consuming.
InternetBandwidthSend	This counter measures the amount of uplink Internet bandwidth that the Cisco IME server in Kbits/s is consuming.
TerminatingVCRs	This counter indicates the total Cisco IME voice call records (VCRs) that are stored on the Cisco IME server after receiving calls. You can use these records for validating learned routes.
ValidationAttempts	This counter indicates the total number of attempts that the Cisco IME server has made at performing a validation because the dialed number was found in the Cisco IME network. This counter provides an overall indication of system usage.
ValidationsAwaitingConfirmation	This counter indicates the total number of destination phone numbers that have been validated, but that are awaiting further calls to improve the security of the system. If you use a higher level of security for learning new routes, the Cisco IME server requires multiple successful validations for a route before that route is available for calls over IP. This counter tracks the number of successful validations that have not resulted in available IP routes.
ValidationsPending	This counter, which is an integer, indicates the number of scheduled validation attempts to retrieve a learned route. This value indicates the backlog of work for the Cisco IME service on the Cisco IME server. An alert gets generated when the value rises either above the high watermark or falls below the low watermark. After the high watermark is reached, an alert gets sent immediately and then once an hour until the value falls below the high watermark. When the high watermark is reached, the Cisco IME service cannot clear the backlog of work prior to the expiration of data; this situation causes records to drop, and validation may not occur. To reduce the workload, add more Cisco IME servers that can share the workload.
ValidationsBlocked	This counter indicates the number of times that the Cisco IME service rejected a validation attempt because the calling party was not trusted; that is, the party was on a blacklist or not on a whitelist. This value provides an indication of the number of cases where a VoIP calls cannot happen in the future because of the blocked validation.

IME Server System Performance

The Cisco IME System Performance object provides information about performance on the Cisco IME server. The following table contains information on the Cisco IME server system performance counters.

Table 61: IME Server System Performance

Counters	Counter Description
QueueSignalsPresent 1-High	This counter indicates the number of high-priority signals in the queue on the Cisco IME server. High-priority signals include timeout events, internal KeepAlive messages, internal process creation, and so on. A large number of high-priority events causes degraded performance of the Cisco IME service and results in slower or failed validations. Use this counter in conjunction with the QueueSignalsProcessed 1-High counter to determine the processing delay on the Cisco IME server.
QueueSignalsPresent 2-Normal	This counter indicates the number of normal-priority signals in the queue on the Cisco IME server. Normal-priority signals include call validations, IME distributed cache operations such as stores and reads, and so on. A large number of normal-priority events causes degraded performance of the Cisco IME service and may result in slower or failed validations or disruption to IME distributed cache connectivity. Use this counter in conjunction with the QueueSignalsProcessed 2-Normal counter to determine the processing delay on the Cisco IME server. Since high-priority signal must complete before normal priority signals begin to process, check the high-priority counters to accurately understand why a delay occurs.
QueueSignalsPresent 3-Low	This counter indicates the number of low-priority signals in the queue on the Cisco IME server. Low-priority signals include IME distributed cache signaling and other events. A large number of signals in this queue may disrupt IME distributed cache connectivity or other events.
QueueSignalsPresent 4-Lowest	This counter indicates the number of lowest-priority signals in the queue on the Cisco IME server. A large number of signals in this queue may disrupt IME distributed cache connectivity and other events.
QueueSignalsProcessed 1-High	This counter indicates the number of high-priority signals that the Cisco IME service processes for each one-second interval. Use this counter in conjunction with the QueueSignalsPresent 1-High counter to determine the processing delay for this queue.
QueueSignalsProcessed 2-Normal	This counter indicates the number of normal-priority signals that the Cisco IME service processes for each one-second interval. Use this counter in conjunction with the QueueSignalsPresent 1-High counter to determine the processing delay for this queue. High-priority signals are processed before normal-priority signals.

Counters	Counter Description
QueueSignalsProcessed 3-Low	This counter indicates the number of low-priority signals that the Cisco IME service processes for each one-second interval. Use this counter in conjunction with the QueueSignalsPresent 3-Low counter to determine the processing delay for this queue.
QueueSignalsProcessed 4-Lowest	This counter indicates the number of lowest-priority signals that the Cisco IME service processes for each one-second interval. Use this counter in conjunction with the QueueSignalsPresent 4-Lowest counter to determine the processing delay for this queue.
QueueSignalsProcessed Total	This counter provides a total of all queue signals that the Cisco IME service processes for each one-second period for all queue levels: high, normal, low, and lowest.

Cisco Intercompany Media Engine Server Alerts

The following alerts are available on the Cisco Intercompany Media Engine server to support the Cisco Intercompany Media Engine feature. For descriptions and default configuration settings, refer to the *Cisco Intercompany Media Engine Installation and Configuration Guide*.

- BannedFromNetwork
- IMEDistributedCacheCertificateExpiring
- IMEDistributedCacheFailure
- IMESdlLinkOutOfService
- InvalidCertificate
- InvalidCredentials
- MessageOfTheDay
- SWUpdateRequired
- TicketPasswordChanged
- ValidationsPendingExceeded
- CriticalAuditEventGenerated

Cisco Unified Communications Manager Server Objects

The following performance objects are available on the Unified Communications Manager server to support Cisco Intercompany Media Engine.

Related Topics

IME Client

The IME Client object provides information about the Cisco IME client on the Unified Communications Manager server. contains information on the Cisco IME client counters.

Table 62: Cisco IME Client

Counters	Counter Description
CallsAccepted	This counter indicates the number of Cisco IME calls that the Unified Communications Manager received successfully and that the called party answered, resulting in an IP call.
CallsAttempted	This counter indicates the number of calls that the Unified Communications Manager received through Cisco IME. This number includes accepted calls, failed calls, and busy, no-answer calls. The counter increments each time that Unified Communications Manager receives a call through Cisco IME.
CallsReceived	This counter indicates the number of calls that Unified Communications Manager receives through Cisco IME. This number includes accepted calls, failed calls, and busy, no-answer calls. The counter increments on call initiation.
CallsSetup	This counter indicates the number of Cisco IME calls that Unified Communications Manager placed successfully and that the remote party answered, resulting in an IP call.
DomainsUnique	This counter indicates the number of unique domain names of peer enterprises that the Cisco IME client discovered. The counter serves as an indicator of overall system usage.
FallbackCallsFailed	This counter indicates the total number of failed fallback attempts.
FallbackCallsSuccessful	This counter indicates the total number of Cisco IME calls that have fallen back to the PSTN mid-call due to a quality problem. The counter includes calls initiated and calls received by this Unified Communications Manager.
IMESetupsFailed	This counter indicates the total number of call attempts for which a Cisco IME route was available but that were set up through the PSTN due to a failure to connect to the target over the IP network.
RoutesLearned	This counter indicates the total number of distinct phone numbers that the Cisco IME has learned and that are present as routes in the Unified Communications Manager routing tables. If this number grows too large, the server may exceed the per-cluster limit, and you may need to add additional servers to your cluster.

Counters	Counter Description
RoutesPublished	This counter indicates the total number of DIDs that were published successfully into the IME distributed cache across all Cisco IME client instances. The counter provides a dynamic measurement that gives you an indication of your own provisioned usage and a sense of how successful the system has been in storing the DIDs in the network.
RoutesRejected	This counter indicates the number of learned routes that were rejected because the administrator blacklisted the number or domain. This counter provides an indication of the number of cases where a VoIP call cannot happen in the future because of the blocked validation.
VCRUploadRequests	This counter indicates the number of voice call record (VCR) upload requests that the Unified Communications Manager has sent to the Cisco IME server to be stored in the IME distributed cache.

IME Client Instance

The IME Client Instance object provides information about the Cisco IME client instance on the Unified Communications Manager server. The following table contains information on the Cisco IME client instance counters.

Table 63: IME Client Instance

Counters	Counter Description
IMEServiceStatus	This counter indicates the overall health of the connection to the Cisco IME services for a particular Cisco IME client instance (Unified Communications Manager). The following values may display for the counter:

0—Indicates an unknown state (which may mean that the Cisco IME service is not active).

If the value specifies 0, an alert gets generated once per hour while the connection remains in the unknown state.

1—Indicates a healthy state; that is, the Cisco IME service is active, and the Unified Communications Manager has successfully established a connection to its primary and backup servers for the Cisco IME client instance, if configured.

2—Indicates an unhealthy state; that is, the Cisco IME service is active, but the Unified Communications Manager has not successfully established a connection to its primary and backup servers for the Cisco IME client instance, if configured. |

Cisco Unified Communications Manager Server Alerts

The following alerts are available on the Unified Communications Manager server to support Cisco Intercompany Media Engine. For descriptions and default configuration settings, refer to the *Cisco Intercompany Media Engine Installation and Configuration Guide*.

- IMEDistributedCacheInactive
- IMEOverQuota
- IMEQualityAlert
- InsufficientFallbackIdentifiers
- IMEServiceStatus
- InvalidCredentials
- TCPSetupToIMEFailed
- TLSConnectionToIMEFailed