Performance Objects and Counters for the System

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This appendix provides information on system-related objects and counters.

Tip For the latest performance monitoring counters, objects, and counter descriptions that are available for system monitoring, access the performance monitoring counters in the Real-Time Monitoring Tool.

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 Cisco Unified Presence 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. Table A-1 contains information on the Tomcat HTTP connector counters.

Table A-1 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 Cisco Unified Presence 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 Cisco Unified Presence 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 Cisco Unified Presence 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 requests handled by 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 Cisco Unified Presence 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.

Table A-1 Cisco Tomcat Connector (continued)

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 Cisco Unified Presence 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 Cisco Unified Presence 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 are 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 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 Cisco Unified Presence 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 Cisco Unified Presence 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 Cisco Unified Presence related web applications such as Cisco Unified Presence Administration, Cisco Unified Serviceability, and more use. Table A-2 contains information on the Tomcat JVM counters.

Table A-2 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 Presence Administration and Cisco Unified Serviceability create. When the amount of free dynamic memory is low, more memory is 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 Presence Administration and Cisco Unified Serviceability 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 Presence Administration and Cisco Unified Serviceability create.

Cisco Tomcat Web Application

The Cisco Tomcat Web Application object provides information about how to run Cisco Unified Presence Administration web applications. The URLs for the web application provide basis for the instance name for each Tomcat Web Application. For example, Cisco Unified Presence Administration (https://<IP Address>:8443/ccmadmin) is identified by ccmadmin, Cisco Unified Serviceability is identified by ccmservice, Cisco Unified Presence User Options is identified by ccmuser, and URLs that do not have an extension, such as https://<IP Address>:8443 or http://<IP Address>:8080), is identified by _root. Table A-3 contains information on the Tomcat Web Application counters.

Table A-3 Tomcat Web Application

Counters	Counter Description
Errors	This counter represents the total number of HTTP errors (for example, 401 Unauthorized) that a Cisco Unified Presence related web application encountered. The URLs for the web application provide the basis instance name for each Tomcat Web Application. For example, Cisco Unified Presence Administration (https://<IP Address>:8443/ccmadmin) is identified by ccmadmin, Cisco Unified Serviceability is identified by ccmservice, Cisco Unified Presence User Options is identified by ccmuser, and URLs that do not have an extension, such as https://<IP Address>:8443 or http://<IP Address>:8080), are 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 Presence Administration (https://<IP Address>:8443/ccmadmin) is identified by ccmadmin, Cisco Unified Serviceability is identified by ccmservice, Cisco Unified Presence User Options is identified by ccmuser, and URLs that do not have an extension, such as https://<IP Address>:8443 or http://<IP Address>:8080), are 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 Presence Administration (https://<IP Address>:8443/ccmadmin) is identified by ccmadmin, Cisco Unified Serviceability is identified by ccmservice, Cisco Unified Presence User Options is identified by ccmuser, and URLs that do not have an extension, such as https://<IP Address>:8443 or http://<IP Address>:8080), are identified by _root.

Database Change Notification Client

The Database Change Notification Client object provides information on change notification clients. Table A-4 contains information on the Database Change Notification Client counters.

Table A-4 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 are 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. Table A-5 contains information on the Database Change Notification Server counters.

Table A-5 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.
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.

Table A-5 Database Change Notification Server (continued)

Counter	Counter Descriptions
CNProcessed	This counter represents the number of change notification messages processed by the server since reboot.
QueueDelay	This counter represents the number of seconds that the change notification process has to process messages, 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 set to a value of non-zero or the Latest Change Notification Messages Processed count is not changing. This condition is checked every 15 seconds.

Database Change Notification Subscriptions

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

The SubscribedTable object displays the table with the service or servlet that 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 server. Table A-6 contains information on the Database local DSN.

Table A-6 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.
LocalDSN	This counter represents the data source name (DSN) that is being referenced from the local server.
RootDbSpace_Used	This counter represents the amount of RootDbSpace that is being consumed.
CNDbSpace_Used	This counter represents the percentage of change notification (CN) DSspace that is being consumed.
SharedMemory_Free	This counter represents the shared memory that is free.
SharedMemory_Used	This counter represents the shared memory that is used.

DB User Host Information Counters

The DB User Host Information object provides information on DB User Host.

The DB:User:Host Instances 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. Table A-7 contains information on the enterprise replication DB monitors.

Table A-7 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. Table A-8 contains information on the IP counters.

Table A-8 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.
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 input IP datagrams where no problems were encountered, but which were discarded. Lack of buffer space provides one possible reason. This counter does not include any datagrams that were discarded while awaiting reassembly.

Table A-8 IP (continued)

Counters	Counter Descriptions
In HdrErrors	This counter represents the number of input datagrams that were discarded with header errors. This includes bad checksums, version number mismatch, other format errors, time-to-live exceeded, and other errors that were discovered in processing their 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 user-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. Table A-9 contains information on memory counters.

Table A-9 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.

Table A-9 Memory (continued)

Counters	Counter Descriptions
% 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.
HighFree	This counter represents the amount of free memory in the high region. Linux kernel splits the virtual memory address space into memory regions. The high memory is memory above a certain physical address, and its amount depends on the total memory and the type of kernel on the system. For the Cisco Unified Communications Manager system with 4GB memory, the high memory is roughly in the address of 896M to 4096M.
HighTotal	This counter represents the total amount of memory in the high region. Linux kernel splits the virtual memory address space into memory regions. The high memory is memory above a certain physical address, and its amount depends on the total memory and the type of kernel on the system. For the Cisco Unified Communications Manager system with 4GB memory, the high memory is roughly in the address of 896M to 4096M.
Low Free	This counter represents the free low (non-paged) memory in the kernel.
Low Total	This counter represents the total low (non-paged) memory in the kernel.
Page Faults Per Sec	This counter represents the number of page faults (major + minor) made by the system per second (post 2.5 kernels only). This is not a count of page faults that generate I/O, because some page faults can be resolved without I/O.
Page Major Faults Per Sec	This counter represents the number of major faults the system has made per second, those which 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.
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 the system paged in from 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 the system paged out to disk per second.
Shared KBytes	This counter represents the amount of shared memory in your system in kilobytes.
SlabCache	This counter represents all memory used by slabcaches created by various kernel components, as a macroscopic counter representing the sum of all the individual entries in the proc's slabinfo.

Table A-9 Memory (continued)

Counters	Counter Descriptions
SwapCached	This counter represents the amount of Swap used as cache memory. Memory that once was swapped out, is swapped back in, but is still in the swapfile.
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 on the system in kilobytes. The value of the Used KBytes counter equals Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes + Shared KBytes. The Used KBytes value differs from the Linux term that displays in the top or free command output. The Used value that displays in the top or free command output equals the difference in Total KBytes - 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. Table A-10 contains information on network interface counters.

Table A-10 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.

Table A-10 Network Interface (continued)

Counters	Counter Descriptions
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 information about the replication state on the system. Table A-11 contains information on replication counters.

Table A-11 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 realize template has not completed. • 1—The system created replicates of some tables but not all tables. 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. When the counter displays a value of 3, consider replication in the cluster as bad. It does not mean that replication failed on a particular node. 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. Table A-12 contains information on partition counters.

Table A-12 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.
% Used	This counter represents the percentage of disk space that is in use on this file system.
% Wait in Read	This counter is no longer valid with the counter value -1. It has been rendered obsolete by the Await Read Time counter.
% Wait in Write	This counter is no longer valid with the counter value -1. It has been rendered obsolete by the Await Write Time counter.
Await Read Time	This counter represents the average time, measured in milliseconds, for Read requests that are issued to the device to be served.
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 spent by the requests in queue and the time spent servicing them.

Table A-12 Partition (continued)

Counters	Counter Descriptions
Await Write Time	This counter represents the average time, measured in milliseconds, for write requests that are issued to the device to be served.
Queue Length	This counter represents the average queue length for the requests that were issued to the disk.
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 that is on this file system in megabytes.
Used Mbytes	This counter represents the amount of disk space that is in use on this file system in megabytes.
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. Table A-13 contains information on process counters.

Table A-13 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.
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 never equals zero.

Table A-13 Process (continued)

Counters	Counter Descriptions
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 amount of system time (STime), measured in jiffies, that this process has scheduled in kernel mode. A jiffy corresponds to a unit of CPU time and is used as a base of measurement. One second consists of 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 is used as a base of measurement. One second consists of 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).
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.

Processor

The processor object provides information on different processor time usage in percentages. Table A-14 contains information on processor counters.

Table A-14 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 is 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. Table A-15 contains information on system counters.

Table A-15 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.
IOAwait	This counter represents the average time (in millisecond) it takes for input/output (I/O) requests issued to all devices to be served. This includes the time spent by the requests in queue and the time spent servicing the requests.
IOCpuUtil	This counter represents the percentage of CPU time during which I/O requests were issued to the device (bandwidth utilization for the device) on the server.
IOKBytesReadPerSecond	This counter represents the total number of KBytes read per second from all devices on the server.
IOKBytesWrittenPerSecond	This counter represents the total number of KBytes written per second to all devices on the server.

Table A-15 System (continued)

Counters	Counter Descriptions
IOPerSecond	This counter represents the total number of I/O operations on all disk partitions per second on the server. If you experience a system performance issue, use the information in this counter to measure the impact of the aggregate I/O operations on the server.
IOReadReqMergedPerSec	This counter represents the total number of read requests merged per second that were queued to all devices on the server.
IOReadReqPerSecond	This counter represents the total number of read requests per second that were issued to all devices on the server.
IOReqQueueSizeAvg	This counter represents the average queue length of the requests that were issued to all devices on the server.
IOSectorsReadPerSecond	This counter represents the total number of sectors read per second from all devices on the server.
IOSectorsReqSizeAvg	This counter represents the average size in sectors of the requests that were issued to all devices on the server.
IOSectorsWrittenPerSecond	This counter represents the total number of sectors written per second to all devices on the server.
IOServiceTime	This counter represents the average service time (in milliseconds) for I/O requests that were issued to all devices on the server.
IOWriteReqMergedPerSecond	This counter represents the total number of write requests merged per second that were queued to all devices on the server.
IOWriteReqPerSecond	This counter represents the total number of write requests per second that were issued to all devices on the server.
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. Table A-16 contains information on the TCP counters.

Table A-16 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 stated 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.
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.

Threads

The Threads object provides a list of running threads on your system. Table A-17 contains information on the Thread counters.

Table A-17 Threads

Counters	Counter Description
% CPU Time	This counter displays the threads 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.

AXL Web Service

The AXL Web Service object provides information about the AXL Web Service running on your system. Table A-18 contains information on the AXL Web Service counters.

Table A-18 AXL Web Service

Counters	Counter Description
ThrottleCount	This counter represents the number of times Administrative XML Layer (AXL) throttling has been engaged since the last restart of the Cisco AXL Web Service. Throttling occurs when the AXL service receives more change requests than it is able to process.
ThrottleState	This counter represents whether Administrative XML Layer (AXL) throttling is currently active (throttling is engaged). A value of 1 in this counter indicates that throttling is currently engaged, which means that any application attempting to send a write request to Cisco Unified Communications Manager via AXL will be denied due to AXL throttling. Read requests will continue to be allowed and processed while AXL throttling is engaged. A value of zero indicates that throttling is not occurring at this time and all read and write requests will be processed.

Ramfs

The Ramfs object provides information about the ram file system. Table A-19 contains information on the Ramfs counters.

Table A-19 Ramfs

Counters	Counter Description
FilesTotal	This counter represents the total number of files in the ram-based file system (ramfs).
SpaceFree	This counter represents the amount of free data blocks in the ram-based file system (ramfs). A block is a uniformly sized unit of data storage for a filesystem. The block size specifies the size that the file system will use to read and write data. On the Cisco Unified Communications Manager system, the block size is 4096 bytes.
SpaceUsed	This counter represents the amount of used data blocks in the ram-based filesystem (ramfs). A block is a uniformly sized unit of data storage for a file system. The block size specifies the size that the file system will use to read and write data. On the Cisco Unified Communications Manager system, the block size is 4096 bytes.