

vCenter Solution 1.1 Guide

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The vCenter Solution Guide

The *vCenter Solution Guide* includes information about the installation and metrics available for the plug-ins contained in the vCenter Solution.

The *vCenter Solution Guide* describes the process of deploying a working instance of the vCenter Solution in your vRealize Operations Manager environment. It also contains information about the plug-ins contained in the vCenter Solution.

Intended Audience

The information in this guide is intended for operations personnel who set up and support the vRealize Operations Manager infrastructure.

VMware Technical Publications Glossary

VMware Technical Publications provides a glossary of terms that might be unfamiliar to you. For definitions of terms as they are used in VMware technical documentation, go to <http://www.vmware.com/support/pubs>.

Introduction to the vCenter Solution

The vCenter Solution is deployed to the Endpoint Operations Management agent that helps to monitor the vCenter Server.

The vCenter Solution contains the following plug-ins:

- vCenter Server Plug-in
- Microsoft SQL Server Plug-in
- vSphere SSO Plug-in
- PostgreSQL Plug-in
- tc Server Plug-in

Installing the vCenter Solution

You can download the vCenter Solution from the VMware Solution Exchange website.

This chapter includes the following topics:

- [“Set the Agent as a Domain User,”](#) on page 9
- [“Install the vCenter Solution,”](#) on page 9
- [“Configure the vCenter Server Credentials,”](#) on page 10
- [“Configure PostgreSQL Credentials,”](#) on page 11
- [“Configure TC Server Credentials,”](#) on page 11

Set the Agent as a Domain User

If you plan to discover and monitor the Microsoft SQL Server cluster or standalone, change the agent process manually to run with the domain user account, unless it is a standalone Microsoft SQL Server that runs with a local user account. Use the Windows services tool to manually set the agent as a domain user.

Perform these steps if the vCenter Server runs on Windows and has an Microsoft SQL Server instance that is part of the cluster.

Procedure

- 1 Open the Windows Services tool.
- 2 Select End Point Operations Management Service and double-click.
- 3 Click the **Log On** tab in the End Point Operations Management Service Properties dialog box.
- 4 Select **This account** and enter the domain user credentials.
- 5 Click **OK** and restart the service.

You can also use the `sc.exe config "Hyperic HQ Agent" obj= "QA1\administrator" password="MyPassword"` command to set the agent as domain user.

Install the vCenter Solution

The vCenter Solution consists of a PAK file that contains default dashboards for the objects that are discovered by the plug-ins.

- Download the vCenter Solution from VMware Solutions Exchange.
- Log in to vRealize Operations Manager and install the vCenter Solution.

- Ensure that the cluster.exe command line interface is enabled on the monitored machine. This is required only for the Microsoft SQL server.

NOTE The cluster.exe command is not installed by default on Windows 2012 Server.

Prerequisites

- Ensure that the Endpoint Operations Management agents are installed on the host machines. See [Selecting an Agent Installer Package](#) in the vRealize Operations Manager help for more information.
- When you install the Endpoint Operations Management agents on a distributed system, ensure that you install the agent on every machine that you would like to monitor.

Procedure

- 1 Log in to the vRealize Operations Manager user interface with administrator privileges.
- 2 In the left pane of vRealize Operations Manager, click the **Administration** icon and click **Solutions**.
- 3 On the **Solutions** tab, click the plus sign.
- 4 Browse to the folder where you downloaded the PAK File and select the PAK file.
- 5 Click **Upload**.
The upload might take several minutes.
- 6 Read and accept the EULA, and click **Next**.
Installation details appear in the window during the process.
- 7 When the installation is completed, click **Finish**.

What to do next

After you install the vCenter Solution, configure the credentials for the vCenter Server and/or PostgreSQL. vRealize Operations Manager will discover and monitor the objects that belong to the plug-ins.

Configure the vCenter Server Credentials

After you install the vCenter Solution, configure the credentials of the vCenter App Server from which you are collecting data.

The minimum privilege that a vCenter Server user requires is the **Global > Diagnostics** privilege, applied at the vCenter Server level.

Prerequisites

Wait for vRealize Operations Manager to complete one collection cycle.

Procedure

- 1 In the left pane of vRealize Operations Manager, click the **Administration** icon and click **Inventory Explorer**.
- 2 Select **Adapter Types > EP Ops Adapter**.
- 3 Select the vCenter App Server for which you want to collect metrics and click the **Edit Object** icon.
The Edit Object dialog box opens.
- 4 Click on the **Add New** plus sign beside **Credentials**.
You will see the Manage Credentials dialog box.

- 5 Enter the credential details.

Option	Description
Credential Name	A name for the credential.
vcenter.http.user	A user name that has access to the vCenter Server. NOTE The user needs the Global Diagnostics privilege, applied at the vCenter Server level to access the VPX Operational dashboard to collect the metrics that is set. This privilege is not included in the default vCenter Server Read-Only role.
vcenter.http.pass	A password that has access to the vCenter Server.

- 6 Click OK.

Configure PostgreSQL Credentials

After you install the vCenter Solution, if you want to monitor the PostgreSQL server and its databases, you must configure the credentials of the PostgreSQL instance from which you are collecting data.

Prerequisites

Wait for vRealize Operations Manager to complete one collection cycle.

Procedure

- 1 In the left pane of vRealize Operations Manager, click **Administration** and then click **Inventory Explorer**.
- 2 Select **Adapter Instances > EP Ops Adapter Instance**.
- 3 Select the PostgreSQL instance for which you want to collect metrics and click the **Edit Object** icon.
The Edit Object dialog box opens.
- 4 Click on the **Add New** plus sign beside **Credentials**.
You will see the Manage Credentials dialog box.
- 5 Enter the credential details.

Option	Description
Credential Name	Name for the credential.
postgresql.user	A user name that has access to the PostgreSQL instance.
postgresql.pass	A password that has access to the PostgreSQL instance.

See [KB 2133716](#) for information about PostgreSQL database credentials.

- 6 Click OK.

Configure TC Server Credentials

After you install the vCenter Solution, if you want to use the tc Server Plug-in, configure the credentials of the tc Server instance from which you are collecting data.

You can configure the tc Server instance to enable Java Management Extensions (JMX) and to allow connections from the local host. Most of the metrics and services of tc Server are collected using JMX. If JMX is not enabled, the tc Server Plug-in collects metrics only for the tc Server processes.

NOTE Enabling JMX is optional. See [KB 2133716](#).

Dashboards in the vCenter Solution

With the dashboards in the vCenter Solution, you can monitor and troubleshoot objects in your environment.

The vCenter Servers dashboard is added to the default vRealize Operations Manager dashboards.

Access Dashboards

You can use the dashboards to view, monitor, and troubleshoot objects in your cloud infrastructure.

To access the dashboards, select the **Dashboard List > Applications > vCenter Server Monitoring** menu option from the vRealize Operations Manager menu bar.

Procedure

- 1 In the left pane of vRealize Operations Manager, click the **Home** icon.
- 2 To view a different dashboard, click the tab for the required dashboard in the menu bar.
- 3 If the dashboard is not displayed on the Home page, on the vRealize Operations Manager menu bar, click **Dashboards List**, and ensure that the **Applications** check box is selected.

vCenter Server Plug-in Dashboard

The vCenter Server Monitoring dashboard is added to the predefined vRealize Operations Manager dashboards. You can use the vCenter Server Monitoring dashboard to view the status of the vCenter Servers, Key Performance Indicators (KPIs), and a list of alerts.

Widgets in the vCenter Servers Dashboard

You can use the the vCenter Server Monitoring dashboard to view the status of the vCenter Servers, Key Performance Indicators (KPIs), and a list of alerts .

The dashboard displays several widgets.

Table 3-1. vCenter Server Monitoring Dashboard Widgets

Widget	Description
vCenter App Servers	This widget displays all the health status of all the available vCenter servers.
KPIs	This widget displays important metrics, their current value and health, and the short term trend of the metrics. You can view important health metrics to see what is not working. You can view information in this widget only if you have selected a specific object in a heat map.

Table 3-1. vCenter Server Monitoring Dashboard Widgets (Continued)

Widget	Description
vCenter Application Overview	This widget displays the health status of the object types that belong to vCenter Server instances.
Alert List	This widget displays a list of active alerts for the objects it is configured to monitor.

Alerts

Alert definitions are combinations of symptoms and recommendations that identify problem areas in your environment and generate alerts on which you can act.

This chapter includes the following topics:

- [“vCenter Server and vSphere SSO Plug-in Alert Definitions,”](#) on page 15
- [“Microsoft SQL Server Plug-in Alert Definitions,”](#) on page 15

vCenter Server and vSphere SSO Plug-in Alert Definitions

Alert definitions are combinations of symptoms and recommendations that identify problem areas in your environment and generate alerts on which you can act.

Alert definitions are available for vCenter Server and vSphere objects. The alerts have been grouped into two broad categories:

- Alerts that contain the phrase `_is_down`. Indicates when a particular service is unavailable.
- Alerts that contain the phrase `_cpu_utilization_is_abnormally_high`. Indicates when CPU utilization is abnormally high and above 85% and over the dynamic threshold.

Microsoft SQL Server Plug-in Alert Definitions

When the Microsoft SQL Server Solution is installed, it adds preconfigured dashboards and alert definitions that you use to monitor and troubleshoot the components in your storage area network.

vRealize Operations Manager generates an alert if a problem occurs with the components in the storage area network that the Microsoft SQL Server Plug-in is monitoring.

Table 4-1. Alert Definitions

Alert Name	Object Type	Symptom	Recommendation
Cluster health is critical	MSSQL cluster	The SQL Server instance is unavailable	<ul style="list-style-type: none"> ■ Restart the node. ■ Verify connectivity between nodes. ■ Verify connectivity to shared storage.
Critical disk I/O latency and locks per second greater than specified	MSSQL	The disk on which the database resides has critical I/O latency.	Verify whether low disk response time causes the lock.

Table 4-1. Alert Definitions (Continued)

Alert Name	Object Type	Symptom	Recommendation
Database file at max file	MSSQL Database	<p>All conditions must be met for an alert to be triggered.</p> <ul style="list-style-type: none"> ■ The percentage used from the database file size allocated is greater than specified. ■ AutoGrowth is enabled. ■ The maximum file size for the database has been reached. ■ The maximum database file size is set. 	<ul style="list-style-type: none"> ■ Increase the maximum file size. ■ Add files to the file group.
Deadlocks per second greater than specified	MSSQL	The disk on which the database resides has critical i/O latency.	Optimize data manipulation statements.
Inadequate memory usage	MSSQL Database	<p>Any of the parent objects must exhibit all the symptoms for an alert to be triggered.</p> <ul style="list-style-type: none"> ■ The MS SQL instance memory usage is less than the specified memory allocation. ■ The buffer cache hit ratio is less than the specified ratio. ■ The MS SQL instance is up and running for more than one hour. 	<ul style="list-style-type: none"> ■ Check whether the queries load unnecessary data to memory (query tuning). ■ Check whether allocated machine memory size is insufficient for the current load.
Insufficient disk space	MSSQL Database	Insufficient space for the database file. Less than 15 to 5 percent free space.	<ul style="list-style-type: none"> ■ Increase the disk space and reduce the database files. ■ Add files to a file group on another disk.
Insufficient disk space for next allocation	MSSQL Database	<p>All conditions must be met for an alert to be triggered.</p> <ul style="list-style-type: none"> ■ The percentage of space used by the database file is greater than specified. ■ AutoGrowth is enabled. ■ The next allocation size is greater than the available disk space. 	<ul style="list-style-type: none"> ■ Increase the disk space and shrink database files. ■ Add files to a file group on another disk.

Table 4-1. Alert Definitions (Continued)

Alert Name	Object Type	Symptom	Recommendation
Insufficient file-group space	MSSQL Database	<p>All conditions must be met for an alert to be triggered.</p> <ul style="list-style-type: none"> ■ The percentage of space used by the database file is greater than specified. ■ AutoGrowth is not enabled. 	<ul style="list-style-type: none"> ■ Increase the disk space and reduce the number of database files. ■ Add files to file group on another disk. ■ Enable AutoGrowth for the files.
Lock waits per second greater than specified	MSSQL	The number of lock waits per second is greater than specified.	<ul style="list-style-type: none"> ■ Optimize the data manipulation statements. ■ Verify the disk response time.
Logical disk transfer speed is out if specified range	MSSQL	The data transfer speed on the logical disk is out of normal range or is critically slow.	<ul style="list-style-type: none"> ■ Verify your storage for one or more malfunctioning disks. ■ If you are using more than your planned throughput, look for untuned queries.
Low free memory and high paging	MSSQL	Free memory on the operating system is less than specified. The page output on the disk is greater than specified.	<ul style="list-style-type: none"> ■ Improve inefficient queries which consume memory. ■ Consider adding more memory to the guest.
Transaction log is inflating while the recovery mode is Full	MSSQL	<p>All conditions must be met for an alert to be triggered or any of the child objects must exhibit all the symptoms before an alert is triggered.</p> <ul style="list-style-type: none"> ■ The database recovery model is Full. ■ The total database log size is above dynamic threshold. 	<ul style="list-style-type: none"> ■ Take a backup of the transaction log to free already allocated space. ■ Check when you last took a successful backup of the transaction log. ■ If replication is involved, troubleshoot old articles.
Transaction log is inflating while the recovery mode is Simple	MSSQL	<p>All conditions must be met for an alert to be triggered or any of the child objects must exhibit all the symptoms before an alert is triggered.</p> <ul style="list-style-type: none"> ■ The database recovery model is or Simple. ■ The total database log size is above dynamic threshold. 	Check the size and duration of transactions.

Metrics in the vCenter Solution

The plug-ins in the vCenter Solution collect metrics for object types contained in the plug-ins.

You can view these metrics from the vRealize Operations Manager user interface.

- From the vRealize Operations Manager user interface, click **Environment > vCenter Server Application > Troubleshooting > All Metrics** tab.

This chapter includes the following topics:

- [“Process Metrics,”](#) on page 19
- [“vCenter Server Plug-in Metrics,”](#) on page 20
- [“PostgreSQL Plug-in Metrics,”](#) on page 22
- [“Microsoft SQL Server Plug-in Metrics,”](#) on page 24
- [“tc Server Plug-in Metrics,”](#) on page 38

Process Metrics

The vCenter Server Plug-in collects process metrics.

Table 5-1. Process Metrics

Metric Name	Category Name
Process Virtual Memory Size	NA
Process Resident Memory Size	NA
Process Page Faults	NA
Process CPU System Time	NA
Process CPU User Time	NA
Process CPU Total Time	NA
Process CPU Usage	NA
Process Start Time	AVAILABILITY
Process Open File Descriptors	NA
Process Threads	NA
Child Processes	UTILIZATION

vCenter Server Plug-in Metrics

The vCenter Server Plug-in collects metrics for the object types in vCenter Server Plug-in.

Table 5-2. vCenter Server Plug-in Metrics

Object Type	Metric Name	Category
vSphere Auto Deploy	Availability	AVAILABILITY
	Response Time	PERFORMANCE
	Response Code	PERFORMANCE
	Process Availability	UTILIZATION
vCenter Inventory Service	Availability	AVAILABILITY
vSphere Network Dump Collector	Availability	AVAILABILITY
vSphere Network Dump Collector WebServer	Availability	AVAILABILITY
vCenter Server	Availability	AVAILABILITY
vCenter Management WebServices	Availability	AVAILABILITY
	Response Time	PERFORMANCE
	Response Code	PERFORMANCE
	Process Availability	UTILIZATION
vSphere Profile-Driven Storage	Availability	AVAILABILITY
vCenter ADAM Directory	Availability	AVAILABILITY
VMware Component Manager Server	Availability	AVAILABILITY
VMware vCenter License Service Server	Availability	AVAILABILITY
VMware Message Bus Config Service Server	Availability	AVAILABILITY
VMware Performance Charts Service Server	Availability	AVAILABILITY
VMware Reverse Proxy Service Server	Availability	AVAILABILITY
VMware Server Health Service Server	Availability	AVAILABILITY
VMware Service Control Agent Server	Availability	AVAILABILITY
VMware vAPI Endpoint Service Server	Availability	AVAILABILITY
VMware vCenter Configuration Service Server	Availability	AVAILABILITY
VMware vCenter Workflow Agent Server	Availability	AVAILABILITY
VMware Virtual Datacenter Service Server	Availability	AVAILABILITY
VMware vService Manager Server	Availability	AVAILABILITY
	Response Time	PERFORMANCE
	Response Code	PERFORMANCE
	Process Availability	UTILIZATION
VMware ESX Agent Manager Server	Availability	AVAILABILITY
	Response Time	PERFORMANCE
	Response Code	PERFORMANCE
	Process Availability	UTILIZATION
VMware Syslog Collector	Availability	AVAILABILITY
VMware Common Logging Service	Availability	AVAILABILITY

Table 5-2. vCenter Server Plug-in Metrics (Continued)

Object Type	Metric Name	Category
VMware Common Logging Service rsyslogd	Availability	AVAILABILITY
vSphere Update Manager Service	Availability	AVAILABILITY
vSphere Web Client	Availability	AVAILABILITY
	Response Time	PERFORMANCE
	Response Code	PERFORMANCE
	Process Availability	UTILIZATION
vSphere Web Client WebSocket	Availability	AVAILABILITY
vSphere Log Browser	Availability	AVAILABILITY
vSphere Auto Deploy CGI	Availability	AVAILABILITY
vSphere Auto Deploy Cached	Availability	AVAILABILITY
vSphere Auto Deploy Watchdog	Availability	AVAILABILITY
vSphere Auto Deploy vC Monitor	Availability	AVAILABILITY
vSphere Auto Deploy Feedback	Availability	AVAILABILITY
vSphere Auto Deploy Apache	Availability	AVAILABILITY
vSphere Managed Object Browser	Availability	AVAILABILITY
	Response Time	PERFORMANCE
	Response Code	PERFORMANCE
vSphere ESX Agent Manager	Availability	AVAILABILITY
	Response Time	PERFORMANCE
	Response Code	PERFORMANCE
vCenter Service Manager	Availability	AVAILABILITY
	Response Time	PERFORMANCE
	Response Code	PERFORMANCE
vCenter Licensing Service	Availability	AVAILABILITY
	Response Time	PERFORMANCE
	Response Code	PERFORMANCE
vCenter Storage Monitoring Service	Availability	AVAILABILITY
	Response Time	PERFORMANCE
	Response Code	PERFORMANCE
Watchdog	Availability	AVAILABILITY
vSphere Update Manager UFA Service	Availability	PERFORMANCE

vSphere SSO Metrics

The vSphere SSO Plug-in collects metrics for the object types in vSphere SSO.

Table 5-3. vSphere SSO Metrics

Object Type	Metric Name	Category Name
vSphere SSO	Availability	AVAILABILITY
	STS Service URL Availability	PERFORMANCE

Table 5-3. vSphere SSO Metrics (Continued)

Object Type	Metric Name	Category Name
	STS Service URL Response Time	PERFORMANCE
	websso URL Availability	PERFORMANCE
	websso URL Response Time	PERFORMANCE
vSphere SSO Load Balancer	Availability	AVAILABILITY
	Response Time	PERFORMANCE
	Response Code	PERFORMANCE
VMware Secure Token Service	Availability	AVAILABILITY
VMware Directory Service	Availability	AVAILABILITY
VMware Certificate Service	Availability	AVAILABILITY
VMware Kdc Service	Availability	AVAILABILITY
VMware Identity Management Service	Availability	AVAILABILITY
VMware AFD Service	Availability	AVAILABILITY
Likewise Service Manager	Availability	AVAILABILITY
Likewise Registry Service	Availability	AVAILABILITY
Likewise DCE/RPC End-Point Mapper	Availability	AVAILABILITY
Likewise Eventlog	Availability	AVAILABILITY
Likewise Input-Output Service	Availability	AVAILABILITY
Likewise NetLogon Service	Availability	AVAILABILITY
Likewise Security and Authentication Subsystem	Availability	AVAILABILITY

PostgreSQL Plug-in Metrics

The PostgreSQL Plug-in collects metrics for the object types in the PostgreSQL Plug-in.

Table 5-4. PostgreSQL Plug-in Metrics

Server/Service Name	Metric Name
pg-db	Database Size
pg-db	Data Space Used
pg-db	Index Space Used
pg-db-collector	Availability
pg-db-collector	Connections
pg-db-collector	Connections Idle
pg-db-collector	Connections Usage
pg-db-collector	Commits
pg-db-collector	Rollbacks
pg-db-collector	Buffer Read
pg-db-collector	Buffer Hits
pg-db-collector	Buffer Hits %
pg-db-collector	Rows Read
pg-db-collector	Rows Write

Table 5-4. PostgreSQL Plug-in Metrics (Continued)

Server/Service Name	Metric Name
pg-db-collector	Locks Held
pg-db-collector	Locks Awaited
pg-db-collector	Indexes Scans
pg-db-collector	Indexes Reads
pg-db-collector	Indexes Scan Rows Read
pg-db-collector	Indexes Blocks Reads
pg-db-collector	Indexes Blocks Hit
pg-db-collector	Tables Sequential Scans
pg-db-collector	Tables Sequential Scan Rows Read
pg-dbstats-collector	Commits
pg-dbstats-collector	Rollbacks
pg-dbstats-collector	Buffer Read
pg-dbstats-collector	Buffer Hits
pg-dbstats-collector	Buffer Hits %
pg-dbstats-collector	Rows Read
pg-dbstats-collector	Rows Write
pg-index	Availability
pg-index	Index Scans
pg-index	Index Reads
pg-index	Index Fetches
pg-server	Availability
pg-server	Number of Processes
pg-server	Memory Size
pg-server	Resident Memory Size
pg-server	CPU System Time
pg-server	CPU User Time
pg-server	CPU Total Time
pg-server	CPU Usage
pg-server-collector	Connections
pg-server-collector	Connections Usage
pg-server-collector	Connections Idle
pg-table	Data Space Used
pg-table	Index Space Used
pg-table-collector	Availability
pg-table-collector	Sequential Scans
pg-table-collector	Index Scans
pg-table-collector	Sequential Scan Rows Read
pg-table-collector	Index Scan Rows Read
pg-table-collector	Number Of Row Inserts

Table 5-4. PostgreSQL Plug-in Metrics (Continued)

Server/Service Name	Metric Name
pg-table-collector	Number Of Row Updates
pg-table-collector	Number Of Row Deletes

Microsoft SQL Server Plug-in Metrics

The Microsoft SQL Server Plug-in collects metrics for objects.

You can view these metrics from the vRealize Operations Manager user interface. From the vRealize Operations Manager user interface, click **Environment > MSSQL Clusters Instances and Services > Troubleshooting > All Metrics** tab.

MSSQL Server Metrics

The Microsoft SQL Server Plug-in collects metrics for the MSSQL Server object type.

Table 5-5. MSSQL Server Metrics

Name	Category	KPI	Available in versions
Availability	AVAILABILITY	True	All
Total Database Active Transactions	THROUGHPUT	True	All
Total Database Transactions/sec	THROUGHPUT	True	All
% Processor Time	UTILIZATION	True	All
Batch Requests/sec	UTILIZATION	True	All
Buffer cache hit ratio	UTILIZATION	True	All
Instance uptime	UTILIZATION	True	2008 and above
Machine % disk time	CALCULATED	True	All
Machine avg disk queue length	CALCULATED	True	All
Machine CPU usage	CALCULATED	True	All
Machine total memory	CALCULATED	True	All
Machine used memory	CALCULATED	True	All
Memory usage	CALCULATED	True	All
SQL compilations/sec	UTILIZATION	True	All
SQL re-compilations/sec	UTILIZATION	True	All
Lazy writes/sec	UTILIZATION	True	All
Lock Wait Time (ms)	UTILIZATION	True	All
Lock Waits/sec	UTILIZATION	True	All
Locks Average Wait Time (ms)	UTILIZATION	True	All
Lock Requests/sec	UTILIZATION	True	All
Logins/sec	UTILIZATION	True	All
Logouts/sec	UTILIZATION	True	All
Number of Deadlocks/sec	UTILIZATION	True	All

Table 5-5. MSSQL Server Metrics (Continued)

Name	Category	KPI	Available in versions
Page life expectancy	UTILIZATION	True	All
Stored procedures invoked/sec	UTILIZATION	True	All
Total server memory (KB)	UTILIZATION	True	2012 and 2014
Target server memory (KB)	UTILIZATION	True	2012 and 2014
Total database log file size (KB)	UTILIZATION	True	All
Total database data file size (KB)	UTILIZATION	True	All
Active Transactions	THROUGHPUT	False	All
SQL compilations percent per second	UTILIZATION	False	All
SQL re-compilations percent per second	UTILIZATION	False	All
% User Time	UTILIZATION	False	All
% Privileged Time	UTILIZATION	False	All
Active Temp tables	UTILIZATION	False	All
AU cleanup batches/sec	UTILIZATION	False	All
AU cleanups/sec	UTILIZATION	False	All
Auto-Param Attempts/sec	UTILIZATION	False	All
Average Latch Wait Time (s)	UTILIZATION	False	All
Background writer pages/sec	UTILIZATION	False	2012 and 2014
By-reference LOB create count	UTILIZATION	False	All
By-reference LOB use count	UTILIZATION	False	All
Checkpoint Pages/sec	UTILIZATION	False	All
Connection Memory (KB)	UTILIZATION	False	All
Connection Reset/sec	UTILIZATION	False	2008 and above
Count LOB Read ahead	UTILIZATION	False	All
Count pull in row	UTILIZATION	False	All
Count push off row	UTILIZATION	False	All
Database cache memory (KB)	UTILIZATION	False	2012 and 2014
Database pages	UTILIZATION	False	All
Deferred dropped AUs	UTILIZATION	False	All
Deferred dropped rowsets	UTILIZATION	False	All
Data File Size	UTILIZATION	False	All
Dropped rowset cleanups/sec	UTILIZATION	False	All

Table 5-5. MSSQL Server Metrics (Continued)

Name	Category	KPI	Available in versions
Dropped rowsets skipped/sec	UTILIZATION	False	All
Elapsed time	UTILIZATION	False	All
Event notifications delayed drop	UTILIZATION	False	All
Extent deallocations/sec	UTILIZATION	False	All
Extents allocated/sec	UTILIZATION	False	All
External benefit for memory	UTILIZATION	False	2012 and 2014
Failed AU cleanup batches/sec	UTILIZATION	False	All
Failed auto-param/sec	UTILIZATION	False	All
Failed leaf page cookie	UTILIZATION	False	All
Failed tree page cookie	UTILIZATION	False	All
Forced parameterization/sec	UTILIZATION	False	All
Forwarded records/sec	UTILIZATION	False	All
Free list stalls/sec	UTILIZATION	False	All
Free Memory (KB)	UTILIZATION	False	2012 and 2014
Free space page fetches/sec	UTILIZATION	False	All
Free space scans/sec	UTILIZATION	False	All
Full scans/sec	UTILIZATION	False	All
Granted workspace memory (KB)	UTILIZATION	False	All
Guided plan executions/sec	UTILIZATION	False	2008 and above
Handle count	UTILIZATION	False	All
HTTP authenticated requests	UTILIZATION	False	All
Index searches/sec	UTILIZATION	False	All
InSysXact waits/sec	UTILIZATION	False	2012 and 2014
Integral Controller Slope	UTILIZATION	False	2012 and 2014
IO Data bytes/sec	UTILIZATION	False	All
IO Data operations/sec	UTILIZATION	False	All
IO other bytes/sec	UTILIZATION	False	All
IO other operations/sec	UTILIZATION	False	All
IO read operations/sec	UTILIZATION	False	All
IO read bytes/sec	UTILIZATION	False	All
IO write bytes/sec	UTILIZATION	False	All
IO write operations/sec	UTILIZATION	False	All
Latch waits/sec	UTILIZATION	False	All

Table 5-5. MSSQL Server Metrics (Continued)

Name	Category	KPI	Available in versions
LOB handle destroy count	UTILIZATION	False	All
LOBSS provider create count	UTILIZATION	False	All
LOBSS provider destroy count	UTILIZATION	False	All
LOBSS provider truncation count	UTILIZATION	False	All
LOB Handle create count	UTILIZATION	False	All
Lock Blocks	UTILIZATION	False	All
Lock Blocks Allocated	UTILIZATION	False	All
Lock Memory (KB)	UTILIZATION	False	All
Lock Owner Blocks	UTILIZATION	False	All
Lock Owner Blocks Allocated	UTILIZATION	False	All
Lock Timeouts/sec	UTILIZATION	False	All
Log Pool Memory (KB)	UTILIZATION	False	2012 and 2014
Logical connections	UTILIZATION	False	All
Mars deadlock	UTILIZATION	False	All
Maximum Workspace Memory (KB)	UTILIZATION	False	All
Memory Grants Outstanding	UTILIZATION	False	All
Memory Grants Pending	UTILIZATION	False	All
Misguided plan executions/sec	UTILIZATION	False	2008 and above
Mixed page allocations/sec	UTILIZATION	False	All
Non-atomic yield rate	UTILIZATION	False	All
Number of super latches	UTILIZATION	False	All
Optimizer Memory (KB)	UTILIZATION	False	All
Page compression attempts/sec	UTILIZATION	False	2008 and above
Page deallocations/sec	UTILIZATION	False	All
Page faults/sec	UTILIZATION	False	All
Page file bytes	UTILIZATION	False	All
Page file bytes peak	UTILIZATION	False	All
Page lookups/sec	UTILIZATION	False	All
Page reads/sec	UTILIZATION	False	All
Page splits/sec	UTILIZATION	False	All
Page writes/sec	UTILIZATION	False	All
Page reads per Minute	UTILIZATION	False	All
Page writes per Minute	UTILIZATION	False	All

Table 5-5. MSSQL Server Metrics (Continued)

Name	Category	KPI	Available in versions
Page allocated/sec	UTILIZATION	False	All
Page splits	UTILIZATION	False	All
Percent Log Used	UTILIZATION	False	All
Pages compressed/sec	UTILIZATION	False	2008 and above
Pool Nonpaged bytes	UTILIZATION	False	All
Pool paged bytes	UTILIZATION	False	All
Priority base	UTILIZATION	False	All
Private bytes	UTILIZATION	False	All
Probe scans/sec	UTILIZATION	False	All
Processes blocked	UTILIZATION	False	All
Range scans/sec	UTILIZATION	False	All
Read ahead pages/sec	UTILIZATION	False	All
Replication Pending Transactions	UTILIZATION	False	All
Replication Transaction Rate	UTILIZATION	False	All
Reserved Server Memory (KB)	UTILIZATION	False	2012 and 2014
Safe auto-param/sec	UTILIZATION	False	All
Scan point revalidation/sec	UTILIZATION	False	All
Skipped ghosted records/sec	UTILIZATION	False	All
SOAP empty requests	UTILIZATION	False	All
SOAP method invocations	UTILIZATION	False	All
SOAP session initiate requests	UTILIZATION	False	All
SOAP session terminate requests	UTILIZATION	False	All
SOAP SQL requests	UTILIZATION	False	All
SOAP WSDL requests	UTILIZATION	False	All
SQL attention rate	UTILIZATION	False	All
SQL cache memory (KB)	UTILIZATION	False	All
SQL trace IO provider lock waits	UTILIZATION	False	All
Stolen server memory (KB)	UTILIZATION	False	2012 and 2014
Stolen pages	UTILIZATION	False	All
Super latch promotions/sec	UTILIZATION	False	All
Super latch demotions/sec	UTILIZATION	False	All
Table lock escalations/sec	UTILIZATION	False	All

Table 5-5. MSSQL Server Metrics (Continued)

Name	Category	KPI	Available in versions
Temp tables creation rate	UTILIZATION	False	All
Temp tables for destruction	UTILIZATION	False	All
Tempdb recovery unit ID	UTILIZATION	False	2008 and above
Tempdb rowset ID	UTILIZATION	False	2008 and above
Thread count	UTILIZATION	False	All
Total database log cache hit ratio	UTILIZATION	False	All
Total database log file used size (KB)	UTILIZATION	False	All
Total database log flush wait time	UTILIZATION	False	All
Total database log growths	UTILIZATION	False	All
Total database log shrinks	UTILIZATION	False	All
Total database log truncations	UTILIZATION	False	All
Total database percent log used (%)	UTILIZATION	False	All
Total database repl.pending Xacts	UTILIZATION	False	All
Total database repl.trans. rate	UTILIZATION	False	All
Total latch wait time (ms)	UTILIZATION	False	All
Trace event notification queue	UTILIZATION	False	All
Transactions	UTILIZATION	False	All
Unsafe auto params/sec	UTILIZATION	False	All
Used leaf page cookie	UTILIZATION	False	All
Used tree page cookie	UTILIZATION	False	All
User connections	UTILIZATION	False	All
Virtual bytes	UTILIZATION	False	All
Virtual bytes peak	UTILIZATION	False	All
Workfiles created/sec	UTILIZATION	False	All
Working set	UTILIZATION	False	All
Working set - private	UTILIZATION	False	All
Working set peak	UTILIZATION	False	All
Worktables created/sec	UTILIZATION	False	All
Worktables from cache ratio	UTILIZATION	False	All

MSSQL Agent Metrics

The Microsoft SQL Server Plug-in collects metrics for the MSSQL Agent object type.

Table 5-6. MSSQL Agent Metrics

Name	Category	KPI	Available in versions
Availability	AVAILABILITY	True	All
Active Jobs	UTILIZATION	True	All
Failed Jobs	UTILIZATION	True	All
Job Success Rate	UTILIZATION	False	All
Jobs activated/minute	UTILIZATION	False	All
Queued jobs	UTILIZATION	False	All
Successful jobs	UTILIZATION	False	All

MSSQL Analysis Service Metrics

The Microsoft SQL Server Plug-in collects metrics for the MSSQL Analysis Service object type.

Table 5-7. MSSQL Analysis Service Metrics

Name	Category	KPI	Available in versions
Availability	AVAILABILITY	True	All
Total Failures	UTILIZATION	True	All
Avg time/query	UTILIZATION	True	All
Agg Cache KB	UTILIZATION	False	All
Aggregation hits/sec	UTILIZATION	False	2008 and above
Aggregation lookups/sec	UTILIZATION	False	2008 and above
Aggregation map files	UTILIZATION	False	All
Avg time/query	UTILIZATION	False	All
Bytes sent/sec	UTILIZATION	False	All
Calculation cache hits/sec	UTILIZATION	False	2008 and above
Calculation cache lookups/sec	UTILIZATION	False	2008 and above
Cases/sec	UTILIZATION	False	All
Cleaner balance/sec	UTILIZATION	False	All
Cleaner current price	UTILIZATION	False	All
Cleaner Memory KB	UTILIZATION	False	All
Cleaner memory nonshrinkable KB	UTILIZATION	False	All
Cleaner memory shrinkable KB	UTILIZATION	False	All
Cleaner Memory shrunk KB/sec	UTILIZATION	False	All
Concurrent DM queries	UTILIZATION	False	All
Current connections	UTILIZATION	False	All

Table 5-7. MSSQL Analysis Service Metrics (Continued)

Name	Category	KPI	Available in versions
Current dimension queries	UTILIZATION	False	All
Current entries	UTILIZATION	False	All
Current KB	UTILIZATION	False	All
Current latch waits	UTILIZATION	False	All
Current lock waits	UTILIZATION	False	All
Current locks	UTILIZATION	False	All
Current measure group queries	UTILIZATION	False	All
Current models processing	UTILIZATION	False	All
Current partitions	UTILIZATION	False	All
Current user partitions	UTILIZATION	False	All
Data bytes/sec	UTILIZATION	False	All
Data reads/sec	UTILIZATION	False	All
Dimension cache hits/sec	UTILIZATION	False	2008 and above
Dimension cache lookups/sec	UTILIZATION	False	2008 and above
Dimension Index (Hash) Files	UTILIZATION	False	All
Dimension property files	UTILIZATION	False	All
Dimension queries/sec	UTILIZATION	False	All
Dimension string files	UTILIZATION	False	All
Direct hit ratio	UTILIZATION	False	All
Direct hits/sec	UTILIZATION	False	All
Evictions/sec	UTILIZATION	False	All
Fact aggregation files	UTILIZATION	False	All
Fact data files	UTILIZATION	False	All
Fact string files	UTILIZATION	False	All
Failures/sec	UTILIZATION	False	All
Filestore clock pages examined/sec	UTILIZATION	False	All
Filestore clock pages have ref/sec	UTILIZATION	False	All
Filestore clock pages valid /sec	UTILIZATION	False	All
Filestore IO errors	UTILIZATION	False	All
Filestore IO errors/sec	UTILIZATION	False	All
Filestore KB	UTILIZATION	False	All
Filestore KB reads/KB	UTILIZATION	False	All
Filestore KB write/sec	UTILIZATION	False	All

Table 5-7. MSSQL Analysis Service Metrics (Continued)

Name	Category	KPI	Available in versions
Filestore memory pinned KB	UTILIZATION	False	All
Filestore page faults/sec			All
Filestore reads/sec	UTILIZATION	False	All
Filestore writes/sec	UTILIZATION	False	All
Flat cache hits/sec	UTILIZATION	False	2008 and above
Flat cache lookups/sec	UTILIZATION	False	2008 and above
In-memory aggregation map file KB	UTILIZATION	False	All
In-memory aggregation map file KB/sec	UTILIZATION	False	All
In-memory dimension index (hash) file KB	UTILIZATION	False	All
In-memory dimension index (hash) file KB/sec	UTILIZATION	False	All
In-memory dimension property file KB	UTILIZATION	False	All
In-memory dimension property file KB/sec	UTILIZATION	False	All
In-memory dimension string file KB	UTILIZATION	False	All
In-memory dimension string file KB/sec	UTILIZATION	False	All
In-memory fact aggregation file KB	UTILIZATION	False	All
In-memory fact aggregation file KB/sec	UTILIZATION	False	All
In-memory fact data file KB	UTILIZATION	False	All
In-memory fact data file KB/sec	UTILIZATION	False	All
In-memory fact string file KB			All
In-memory fact string file KB/sec	UTILIZATION	False	All
In-memory map file KB	UTILIZATION	False	All
In-memory map file KB/sec	UTILIZATION	False	All
In-memory other file KB	UTILIZATION	False	All
In-memory other file KB/sec	UTILIZATION	False	All
Inserts/sec	UTILIZATION	False	All
KB added/sec	UTILIZATION	False	All
Latch waits/sec	UTILIZATION	False	All
Lock denials/sec	UTILIZATION	False	All

Table 5-7. MSSQL Analysis Service Metrics (Continued)

Name	Category	KPI	Available in versions
Lock grants/sec	UTILIZATION	False	All
Lock requests/sec	UTILIZATION	False	All
Lock waits/sec	UTILIZATION	False	All
Long parsing busy threads	UTILIZATION	False	All
Long parsing idle threads	UTILIZATION	False	All
Long parsing job queue length	UTILIZATION	False	All
Long parsing job rate	UTILIZATION	False	All
Lookups/sec	UTILIZATION	False	All
Map bytes/sec	UTILIZATION	False	All
Map files	UTILIZATION	False	All
Map reads/sec	UTILIZATION	False	All
Measure group cache hits/sec	UTILIZATION	False	2008 and above
Measure group cache lookups/sec	UTILIZATION	False	2008 and above
Measure group queries/sec	UTILIZATION	False	All
Memory limit hard KB	UTILIZATION	False	2012 and 2014
Memory limit high KB	UTILIZATION	False	All
Memory limit low KB	UTILIZATION	False	All
Memory limit Vertipaq KB	UTILIZATION	False	2012 and 2014
Memory size bytes	UTILIZATION	False	All
Memory size rows	UTILIZATION	False	All
Memory usage KB	UTILIZATION	False	All
Misses/SEC	UTILIZATION	False	All
Network round trips/sec	UTILIZATION	False	2008 and above
Notifications/sec	UTILIZATION	False	2012 and 2014
Other files	UTILIZATION	False	All
Page pool 1 Alloc KB	UTILIZATION	False	All
Page pool 1 lookaside KB	UTILIZATION	False	All
Page pool 64 Alloc KB	UTILIZATION	False	All
Page pool 64 lookaside KB	UTILIZATION	False	All
Page pool 8 Alloc KB	UTILIZATION	False	All
Page pool 8 lookaside KB	UTILIZATION	False	All
Persisted cache hits/sec	UTILIZATION	False	2008 and above
Persisted cache lookups/sec	UTILIZATION	False	2008 and above
Potential in-memory aggregation map file KB	UTILIZATION	False	All

Table 5-7. MSSQL Analysis Service Metrics (Continued)

Name	Category	KPI	Available in versions
Potential in-memory dimension index (hash) file KB	UTILIZATION	False	All
Potential in-memory dimension property file KB	UTILIZATION	False	All
Potential in-memory dimension string file KB	UTILIZATION	False	All
Potential in-memory fact aggregation file KB	UTILIZATION	False	All
Potential in-memory fact data file KB	UTILIZATION	False	All
Potential in-memory fact string file KB	UTILIZATION	False	All
Potential in-memory fact map file KB	UTILIZATION	False	All
Potential in-memory other file KB			All
Predictions/sec	UTILIZATION	False	All
Proactive caching begin/sec	UTILIZATION	False	2012 and 2014
Proactive caching completion/sec	UTILIZATION	False	2012 and 2014
Processing cancellations/sec	UTILIZATION	False	2012 and 2014
Processing pool busy I/O job threads	UTILIZATION	False	2012 and 2014
Processing pool busy non-I/O threads	UTILIZATION	False	2012 and 2014
Processing pool busy threads	UTILIZATION	False	All
Processing pool busy I/O job completion rate	UTILIZATION	False	2012 and 2014
Processing pool I/O job queue length	UTILIZATION	False	2012 and 2014
Processing pool idle I/O job threads	UTILIZATION	False	2012 and 2014
Processing pool idle non-I/O threads	UTILIZATION	False	2012 and 2014
Processing pool idle threads	UTILIZATION	False	All
Processing pool job queue length	UTILIZATION	False	All
Processing pool job rate	UTILIZATION	False	All
Queries answered/sec	UTILIZATION	False	All
Queries from cache direct/sec	UTILIZATION	False	All

Table 5-7. MSSQL Analysis Service Metrics (Continued)

Name	Category	KPI	Available in versions
Queries from cache filtered/sec	UTILIZATION	False	All
Queries from file/sec	UTILIZATION	False	All
Queries/sec	UTILIZATION	False	All
Query pool busy threads	UTILIZATION	False	All
Query pool idle threads	UTILIZATION	False	All
Query pool job queue length	UTILIZATION	False	All
Query pool job rate	UTILIZATION	False	All
Quota blocked	UTILIZATION	False	All
Quota KB	UTILIZATION	False	All
Requests/sec	UTILIZATION	False	All
Rows converted/sec	UTILIZATION	False	All
Rows created/sec	UTILIZATION	False	All
Rows merged/sec	UTILIZATION	False	All
Rows read/sec	UTILIZATION	False	All
Rows sent/sec	UTILIZATION	False	All
Rows written/sec	UTILIZATION	False	All
Rows/sec	UTILIZATION	False	All
Short parsing busy threads	UTILIZATION	False	All
Short parsing idle threads	UTILIZATION	False	All
Short parsing job queue length	UTILIZATION	False	All
Short parsing job rate	UTILIZATION	False	All
Successes/sec	UTILIZATION	False	All
Temp file bytes written/sec	UTILIZATION	False	All
Temp file rows written/sec	UTILIZATION	False	All
Total autoexist	UTILIZATION	False	All
Total cells calculated	UTILIZATION	False	All
Total deadlocks detected	UTILIZATION	False	All
Total dimension queries	UTILIZATION	False	All
Total direct hits	UTILIZATION	False	All
Total evictions	UTILIZATION	False	All
Total existing	UTILIZATION	False	All
Total filtered iterator cache hits	UTILIZATION	False	2008 and above
Total filtered iterator cache misses	UTILIZATION	False	2008 and above
Total flat cache inserts	UTILIZATION	False	All

Table 5-7. MSSQL Analysis Service Metrics (Continued)

Name	Category	KPI	Available in versions
Total inserts	UTILIZATION	False	All
Total lookups	UTILIZATION	False	All
Total measure group queries	UTILIZATION	False	All
Total misses	UTILIZATION	False	All
Total network round trips	UTILIZATION	False	All
Total non empty	UTILIZATION	False	All
Total non empty for calculated members	UTILIZATION	False	All
Total non empty unoptimized	UTILIZATION	False	All
Total partitions	UTILIZATION	False	All
Total predictions	UTILIZATION	False	All
Total queries	UTILIZATION	False	All
Total queries answered	UTILIZATION	False	All
Total queries from cache direct	UTILIZATION	False	All
Total queries from cache filtered	UTILIZATION	False	All
Total queries from file	UTILIZATION	False	All
Total recomputes	UTILIZATION	False	All
Total requests	UTILIZATION	False	All
Total rows	UTILIZATION	False	All
Total rows converted	UTILIZATION	False	All
Total rows read	UTILIZATION	False	All
Total rows written	UTILIZATION	False	All
Total sonar subcubes	UTILIZATION	False	All
Total successes	UTILIZATION	False	All
Unlock requests/sec	UTILIZATION	False	All
VertiPaq Memory-Mapped KB	UTILIZATION	False	2012 and 2014
VertiPaq Nonpaged KB	UTILIZATION	False	2012 and 2014
VertiPaq Paged KB	UTILIZATION	False	2012 and 2014

MSSQL Reporting Services Metrics

The Microsoft SQL Server Plug-in collects metrics for the MSSQL Reporting Services object type.

Table 5-8. MSSQL Reporting Services Metrics

Name	Category	KPI	Available in versions
Availability	AVAILABILITY	True	All
Total Processing Failures	UTILIZATION	True	All

Table 5-8. MSSQL Reporting Services Metrics (Continued)

Name	Category	KPI	Available in versions
Total Rejected Threads	UTILIZATION	True	All
Active sessions	UTILIZATION	False	All
Cache flushes/sec	UTILIZATION	False	All
Cache hits/sec	UTILIZATION	False	All
cache hits/sec (semantic motion)	UTILIZATION	False	All
cache misses/sec	UTILIZATION	False	All
cache misses/sec (semantic motion)	UTILIZATION	False	All
Delivers/sec	UTILIZATION	False	All
Events/sec	UTILIZATION	False	All
First session requests/sec	UTILIZATION	False	All
Memory cache hits/sec	UTILIZATION	False	All
Memory cache miss/sec	UTILIZATION	False	All
Next session requests/sec	UTILIZATION	False	All
Report requests	UTILIZATION	False	All
Reports executed/sec	UTILIZATION	False	All
Reports/sec	UTILIZATION	False	All
Snapshot updates/sec	UTILIZATION	False	All
Total App domain recycles	UTILIZATION	False	All
Total cache flushes	UTILIZATION	False	All
Total cache hits	UTILIZATION	False	All
Total cache hits (semantic mode)	UTILIZATION	False	All
Total cache misses	UTILIZATION	False	All
Total cache misses (semantic mode)	UTILIZATION	False	All
Total deliveries	UTILIZATION	False	All
Total events	UTILIZATION	False	All
Total memory cache hits	UTILIZATION	False	All
Total memory cache misses	UTILIZATION	False	All
Total Reports Executed	UTILIZATION	False	All
Total requests	UTILIZATION	False	All
Total snapshot updates	UTILIZATION	False	All

MSSQL Database Metrics

The Microsoft SQL Server Plug-in collects metrics for the MSSQL Database object type.

Table 5-9. MSSQL Database Metrics

Name	Category	KPI	Available in versions
Availability	AVAILABILITY	True	All
Active Transactions	THROUGHPUT	True	All
Transactions/sec	THROUGHPUT	True	All
Database Free Percent %	UTILIZATION	True	All
Data File Disk % Free Space	UTILIZATION	True	All
Data File Disk Free Space (MB)	UTILIZATION	True	All
Recovery Model	UTILIZATION	True	All
Data File next Allocation (KB)	UTILIZATION	True	All
Data File Size (KB)	UTILIZATION	True	All
Data file max size (KB)	UTILIZATION	True	All
Data File Available Free Space	CALCULATED	True	All
Data File Disk Post-Allocation Free Space	CALCULATED	True	All
Log Cache Hit Ratio	UTILIZATION	False	All
Log File Size (KB)	UTILIZATION	False	All
Log File Used Size (KB)	UTILIZATION	False	All
Log Flush Wait Time	UTILIZATION	False	All
Log Growths	UTILIZATION	False	All
Log Shrinks	UTILIZATION	False	All
Log Truncations	UTILIZATION	False	All
Percent Log Used	UTILIZATION	False	All
Replication Pending Xacts	UTILIZATION	False	All
Replication Transaction Rate	UTILIZATION	False	All

tc Server Plug-in Metrics

The tc Server Plug-in collects metrics for the object types in the tc Server Plug-in.

Table 5-10. tc Server Plug-in Metrics

Server/Service Name	Metric Name	Default Policy
tcServer	Uptime	Yes
tcServer	Thread Count	No
tcServer	Thread Count per Minute	No
tcServer	Current Thread Cpu Time	No
tcServer	Current Thread Cpu Time per Minute	No
tcServer	Current Thread User Time	No
tcServer	Current Thread User Time per Minute	No

Table 5-10. tc Server Plug-in Metrics (Continued)

Server/Service Name	Metric Name	Default Policy
tcServer	Daemon Thread Count	No
tcServer	Peak Thread Count	No
tcServer	Total Started Thread Count	No
tcServer	Free Swap Space Size	No
tcServer	Free Physical Memory Size	No
tcServer	Process Cpu Time	No
tcServer	Process Cpu Time per Minute	No
tcServer	Open File Descriptor Count	No
tcServer	System Load Average	No
tcServer	Heap Memory Used	Yes
tcServer	Heap Memory Committed	No
tcServer	Heap Memory Max	No
tcServer	Heap Memory Free	Yes
tcServer	Deadlocks Detected	Yes
tcServer	Availability	Yes
tcServer	Percent Up Time in Garbage Collection	Yes
tcServer	Process Virtual Memory Size	No
tcServer	Process Resident Memory Size	Yes
tcServer	Process Page Faults	No
tcServer	Process Page Faults per Minute	No
tcServer	Process Cpu System Time	No
tcServer	Process Cpu System Time per Minute	No
tcServer	Process Cpu User Time	No
tcServer	Process Cpu User Time per Minute	No
tcServer	Process Cpu Total Time	No
tcServer	Process Cpu Total Time per Minute	No
tcServer	Process Cpu Usage	Yes
tcServer	Process Start Time	No
tcServer	Process Open File Descriptors	No
tcServer	Process Threads	No
tcServer	Child Processes	No
tcServer Data Source Context	Availability	Yes
tcServer Data Source Context	Current Number of Active Connections	Yes
tcServer Data Source Context	Current Number of Idle Connections	Yes
tcServer Data Source Context	Maximum Open Prepared Statements	No

Table 5-10. tc Server Plug-in Metrics (Continued)

Server/Service Name	Metric Name	Default Policy
tcServer Data Source Context	Maximum Wait	No
tcServer Data Source Context	Minimum Evictable Idle Time milliseconds	No
tcServer Data Source Context	Percent Active Connections	No
tcServer Data Source Global	Availability	Yes
tcServer Data Source Global	Current Number of Active Connections	Yes
tcServer Data Source Global	Current Number of Idle Connections	Yes
tcServer Data Source Global	Maximum Open Prepared Statements	No
tcServer Data Source Global	Maximum Wait	No
tcServer Data Source Global	Minimum Evictable Idle Time milliseconds	No
tcServer Data Source Global	Percent Active Connections	No
tcServer Garbage Collector	Availability	Yes
tcServer Garbage Collector	Collection Count	No
tcServer Garbage Collector	Collection Count per Minute	Yes
tcServer Garbage Collector	Collection Time	No
tcServer Garbage Collector	Collection Time per Minute	Yes
tcServer Web Module Stats	Availability	Yes
tcServer Web Module Stats	Processing Time	No
tcServer Web Module Stats	Processing Time per Minute	Yes
tcServer Thread Pools	Availability	Yes
tcServer Thread Pools	Current Thread Count	Yes
tcServer Thread Pools	Current Thread Busy	Yes
tcServer Thread Pools	Percent Allocated Threads	Yes
tcServer Thread Pools	Percent Active Threads	Yes
tcServer Executor	Availability	Yes
tcServer Executor	Max Threads	No
tcServer Executor	Pool Size	No
tcServer Executor	Active Count	No

Table 5-10. tc Server Plug-in Metrics (Continued)

Server/Service Name	Metric Name	Default Policy
tcServer Executor	Queue Size	Yes
tcServer Servlet Monitor	Availability	Yes
tcServer Servlet Monitor	Class Load Time	No
tcServer Servlet Monitor	Error Count	No
tcServer Servlet Monitor	Error Count per Minute	No
tcServer Servlet Monitor	Load Time	No
tcServer Servlet Monitor	Processing Time	No
tcServer Servlet Monitor	Processing Time per Minute	No
tcServer Servlet Monitor	Request Count	No
tcServer Servlet Monitor	Request Count per Minute	No
tcServer JSP Monitor	Availability	Yes
tcServer JSP Monitor	JSP Count	No
tcServer JSP Monitor	JSP Count per Minute	Yes
tcServer JSP Monitor	JSP Reload Count	No
tcServer JSP Monitor	JSP Reload Count per Minute	Yes
tcServer Global Request Processor	Availability	Yes
tcServer Global Request Processor	Bytes Sent	No
tcServer Global Request Processor	Bytes Sent per Minute	No
tcServer Global Request Processor	Bytes Received	No
tcServer Global Request Processor	Bytes Received per Minute	No
tcServer Global Request Processor	Error Count	No
tcServer Global Request Processor	Error Count per Minute	Yes
tcServer Global Request Processor	Processing Time	No
tcServer Global Request Processor	Processing Time per Minute	Yes
tcServer Global Request Processor	Request Count	No
tcServer Global Request Processor	Request Count per Minute	Yes
tcServer Cache	Availability	Yes
tcServer Cache	Access Count	No
tcServer Cache	Access Count per Minute	Yes
tcServer Cache	Cache Max Size	Yes
tcServer Cache	Cache Size	No
tcServer Cache	Desired Entry Access Ratio	No

Table 5-10. tc Server Plug-in Metrics (Continued)

Server/Service Name	Metric Name	Default Policy
tcServer Cache	Hits Count	No
tcServer Cache	Hits Count per Minute	Yes
tcServer Cache	Max Allocate Iterations	No
tcServer Cache	Max Allocate Iterations per Minute	No
tcServer Cache	Spare Not Found Entries	No
tcServer Manager	Availability	Yes
tcServer Manager	Active Sessions	Yes
tcServer Manager	Expired Sessions	No
tcServer Manager	Expired Sessions per Minute	No
tcServer Manager	Max Active	No
tcServer Manager	Processing Time	Yes
tcServer Manager	Rejected Sessions	No
tcServer Manager	Rejected Sessions per Minute	Yes
tcServer Manager	Session Average Alive Time	No
tcServer Manager	Session Counter	No
tcServer Manager	Sessions Created per minute	Yes
tcServer Manager	Sessions Destroyed per minute	No
tcServer Manager	Session Max Alive Time	No
tcServer HTTP	Availability	Yes
tcServer HTTP	Inbound Connections	No
tcServer HTTP	Outbound Connections	No
tcServer EM4J	Availability	Yes
tcServer EM4J	Potential Balloon Size Hard	No
tcServer EM4J	Potential Balloon Size Soft	No
tcServer EM4J	Potential Balloon Size Weak	No
tcServer EM4J	Locked Balloon Bytes	No
tcServer EM4J	Tenured Balloon Bytes Per Sec	No
tcServer EM4J	Max Potential Balloon Size	Yes
tcServer EM4J	Potential Balloon Size Tenured	No
tcServer EM4J	Potential Balloon Size Total	No
tcServer EM4J	Balloon Size	No
tcServer EM4J	Balloon Target	Yes

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