

# VMware Performance Metrics

Last Modified on 06 May 2021

## Overview

This article covers the various VMware performance metrics displayed by the **Performance Analysis Dashboard** and **Performance Analysis Overview**, and how to interpret different metric values and combinations of values across different VMware metrics for SQL Sentry.

**Note:** For **Mode:** S = Sample and H = History.

## VMware Host Metrics

Section	Metric	Description		
Network	IN	The percent of network bandwidth across the VMHost used for downloads.		
		<table border="1"><tr><td><b>Mode:</b></td><td>S, H</td></tr><tr><td><b>Type:</b></td><td>Percent</td></tr></table>	<b>Mode:</b>	S, H
<b>Mode:</b>	S, H			
<b>Type:</b>	Percent			
Network	OUT	The percent of network bandwidth across the VMHost used for uploads.		
		<table border="1"><tr><td><b>Mode:</b></td><td>S, H</td></tr><tr><td><b>Type:</b></td><td>Percent</td></tr></table>	<b>Mode:</b>	S, H
<b>Mode:</b>	S, H			
<b>Type:</b>	Percent			
CPU Usage	Total CPU	The total amount of CPU used across the VM as a percent.		
		<table border="1"><tr><td><b>Mode:</b></td><td>S</td></tr><tr><td><b>Type:</b></td><td>Percent</td></tr></table>	<b>Mode:</b>	S
<b>Mode:</b>	S			
<b>Type:</b>	Percent			
CPU Usage	Co-stop %	Co-Stop time measures when a virtual machine is ready to run, but unable to run due to co-scheduling constraints. See <a href="#">blog on VMware Advisory Conditions</a> in SQL Sentry for more information.		

Section	Metric	Mode: Description	H
		Type:	Percent
CPU Usage	Ready Time %	Percentage of time when a vCPU is ready to do work, but must wait for the hypervisor to schedule that work on one or more physical CPUs. CPU ready time is a summation, and is dependent on the number of virtual machines on the host and their CPU loads. See the blog on <a href="#">VMware Advisory Conditions</a> in SQL Sentry for more information.	
		Mode:	H
		Type:	Percent
System Memory	Active	Amount of memory that is actively used, as estimated by VMkernel based on recently touched memory pages.	
		Mode:	S, H
		Type:	MB
System Memory	Consumed	Amount of machine memory used on the host. Consumed memory includes memory used by the service console, the VMkernel, vSphere services, and the total consumed metrics for all running virtual machines.	
		Mode:	S, H
		Type:	MB
System Memory	Overhead	Total of all overhead metrics (including VM overhead and VMKernel overhead) for powered-on virtual machines, and the overhead of running vSphere services on the host.	
		Mode:	S, H
		Type:	MB
System Memory	Granted	Amount of machine memory or physical memory that's mapped for the host.	
		Mode:	S, H

Section	Metric	Description	MB
System Memory	Available	<p>Amount of machine memory or physical memory that's available for the host.</p> <hr/> <p><b>Mode:</b></p> <hr/> <p><b>Type:</b></p>	<p>S, H</p> <hr/> <p>MB</p>
System Memory	Swap In	<p>The percentage of memory read in by the VMkernel swap file from memory to disk across all the virtual machines on the VMHost.</p> <hr/> <p><b>Mode:</b></p> <hr/> <p><b>Type:</b></p>	<p>S, H</p> <hr/> <p>Percent</p>
System Memory	Swap Out	<p>The percentage of memory written by the VMKernel swap file from memory across all the virtual machines on the VMHost.</p> <hr/> <p><b>Mode:</b></p> <hr/> <p><b>Type:</b></p>	<p>S, H</p> <hr/> <p>Percent</p>
Disk IO	ms/ Read by Datastore	<p>The amount of time it takes in milliseconds for the VMHost to read data from each Logical Unit Number (LUN) on the datastore.</p> <hr/> <p><b>Mode:</b></p> <hr/> <p><b>Type:</b></p>	<p>S, H</p> <hr/> <p>ms</p>
Disk IO	ms/ Write by Datastore	<p>The amount of time it takes in milliseconds for the VMHost to write data from each Logical Unit Number (LUN) on the datastore.</p> <hr/> <p><b>Mode:</b></p> <hr/> <p><b>Type:</b></p>	<p>S, H</p> <hr/> <p>ms</p>

Section	Metric	Description		
Disk IO	MB/sec Read by Datastore	The amount of data in megabytes read by the VMHost from each Logical Unit Number (LUN) on the datastore per second.		
		<table border="1"> <tr> <td><b>Mode:</b></td> <td>S, H</td> </tr> <tr> <td><b>Type:</b></td> <td>MB</td> </tr> </table>	<b>Mode:</b>	S, H
<b>Mode:</b>	S, H			
<b>Type:</b>	MB			
Disk IO	MB/sec Write by Datastore	The amount of data in megabytes written to the VMHost from each Logical Unit Number (LUN) on the datastore per second.		
		<table border="1"> <tr> <td><b>Mode:</b></td> <td>S, H</td> </tr> <tr> <td><b>Type:</b></td> <td>MB</td> </tr> </table>	<b>Mode:</b>	S, H
<b>Mode:</b>	S, H			
<b>Type:</b>	MB			

## VMware Guest Metrics

Section	Metric	Description		
Network (VM)	IN per Guest	The amount of network bandwidth in megabytes per second used for downloads by the VM Guest(s).		
		<table border="1"> <tr> <td><b>Mode:</b></td> <td>S, H</td> </tr> <tr> <td><b>Type:</b></td> <td>MB per second</td> </tr> </table>	<b>Mode:</b>	S, H
<b>Mode:</b>	S, H			
<b>Type:</b>	MB per second			
Network (VM)	OUT per Guest	The amount of network bandwidth in megabytes per second used for uploads by the VM Guest(s).		
		<table border="1"> <tr> <td><b>Mode:</b></td> <td>S, H</td> </tr> <tr> <td><b>Type:</b></td> <td>MB per second</td> </tr> </table>	<b>Mode:</b>	S, H
<b>Mode:</b>	S, H			
<b>Type:</b>	MB per second			
CPU Usage (VM)	Utilization Per Guest	The percentage of CPU used by the VM per guest.		
		<table border="1"> <tr> <td><b>Mode:</b></td> <td>S, H</td> </tr> <tr> <td><b>Type:</b></td> <td>Percentage</td> </tr> </table>	<b>Mode:</b>	S, H
<b>Mode:</b>	S, H			
<b>Type:</b>	Percentage			
		The amount of system memory in megabytes actively used		

Section	Metric	by each VM Guest. Description	
System Memory (VM)	Utilization per Guest	<b>Mode:</b>	S, H
		<b>Type:</b>	MB
Disk IO (VM)	ms/Read per VM	The average amount of time it takes in milliseconds for the VM to read data from the virtual disk.	
		<b>Mode:</b>	S, H
		<b>Type:</b>	ms
Disk IO (VM)	ms/Write per VM	The average amount of time it takes in milliseconds for the VM to write data to the virtual disk.	
		<b>Mode:</b>	S, H
		<b>Type:</b>	ms
Disk IO (VM)	MB/sec Read per VM	The average amount of data used for reads by each VM in megabytes per second.	
		<b>Mode:</b>	S, H
		<b>Type:</b>	MB per second
Disk IO (VM)	MB/sec Write per VM	The average amount of data used for writes by each VM in megabytes per second.	
		<b>Mode:</b>	S
		<b>Type:</b>	MB per second