Monitoring Microsoft System Management Server

eG Innovations Product Documentation

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Total Performance Visibility

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Chapter 1: Introduction

Microsoft Systems Management Server provides a comprehensive solution for change and configuration management for the Microsoft platform, enabling organizations to provide relevant software and updates to users quickly and cost-effectively.

In order to make sure that critical software updates are quickly and readily available to the users, the Microsoft SMS has to be monitored periodically for availability and optimal performance. The eG eG Enterprise helps administrator to achieve this.

Chapter 2: Administering eG Enterprise to Monitor Microsoft System Management Server

First, administrator needs to administer the eG manager to monitor the Microsoft SMS. To achieve this, do the following:

1. Login to the administrative interface of eG as an administrator (admin).
2. If the Microsoft SMS is automatically discovered, then use the **COMPONENTS – MANAGE / UNMANAGE** page to manage the server. On the other hand, if the Microsoft SMS is not discovered automatically, then either run discovery to get them discovered (Infrastructure -> Components -> Discover) or add them using the **COMPONENTS** page (Infrastructure -> Components -> Add/Modify) (see Figure 2.1). Components manually added will be automatically managed by the eG Enterprise system (see Figure 2.1).

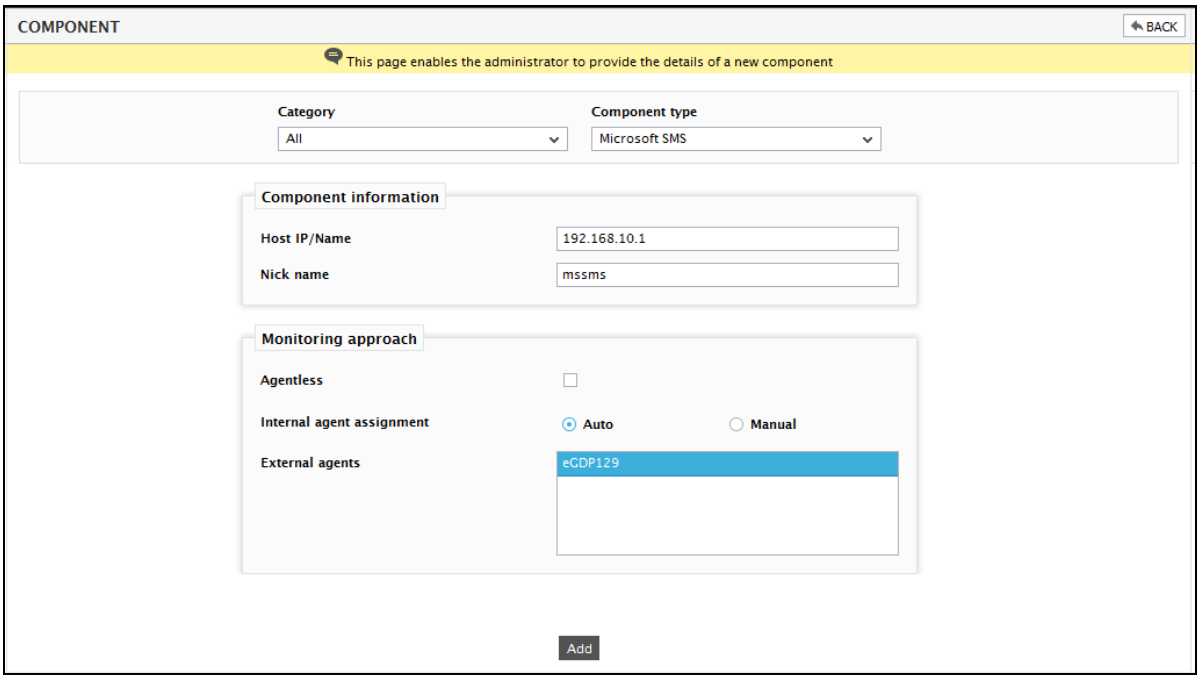

Figure 2.1: Adding the details of a new Microsoft SMS

3. Now, try to sign out of the user interface. Doing so, will bring up a page, which prompts you to configure the tests for the Microsoft SMS.

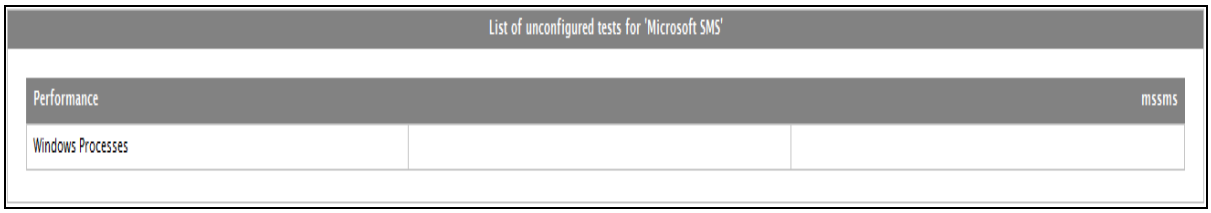

Figure 2.2: The list of unconfigured tests for the Microsoft SMS

4. Click on the **Windows Processes** test in Figure 2.2 to configure it. To know how to configure this test, refer to *Monitoring Windows and Unix Servers* document.
5. Finally, signout of the eG administrative interface.

Chapter 3: Monitoring Microsoft System Management Servers (SMS)

eG Enterprise provides administrators with an exclusive Microsoft SMS monitoring model that carefully examines the critical services and core functions of the Microsoft SMS, and proactively alerts them to performance aberrations that can adversely impact the user interaction with the server.

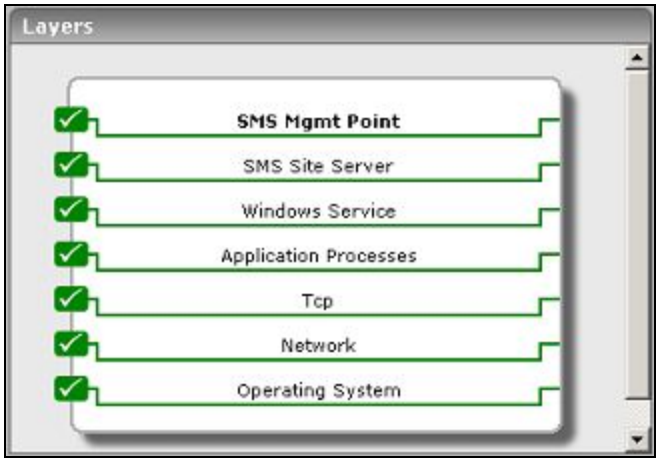

Figure 3.1: The layer model of Microsoft SMS

The sections to come discuss the top 2 layers of the hierarchical layer model depicted by Figure 3.1. The other layers have already been dealt with in the *Monitoring Unix and Windows Servers* document.

3.1 The SMS Site Server Layer

The tests mapped to this layer monitor the health of core components of the Microsoft SMS, such as:

- The Discovery Data Manager
- The Inventory Loader
- The SMS Memory Queue
- The SMS_STATUS_MANAGER
- The Software Inventory Processor

Figure 3.2: The tests associated with the SMS Site Server layer

Besides, the layer also reveals the state of threads executing on the Microsoft SMS, and the effectiveness of its Software Metering feature.

3.1.1 Data Discovery Test

This test monitors the Discovery data manager of SMS. This Data Manager discovers data about the SMS Clients (computers connected to the network and the SMS server).

Target of the test : A Microsoft SMS

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Microsoft SMS server monitored

Configurable parameters for the test

Parameters	Description
Test period	How often should the test be executed
Host	The host for which the test is to be configured

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Bad data records processed	Indicates the number of bad (ill- formed or invalid) data records processed by the Discovery Data Manager.	Number	
Data records waiting in the input queue	Indicates the number of SMS Discovery data records waiting in the Discovery Manager's input queue the last time the input queue was scanned minus the number of data records processed till then.	Number	When many data records are written to the input queue, this counter is too low until the Discovery Manager scans the input queue again. This means many data records have been processed in that period.
Total data records processed	Indicates the number of Discovery Data records processed in the last test frequency.	Number	

3.1.2 Inv Load Test

This test reports metrics pertaining to the Inventory Data Loader of SMS, which loads the client configuration details pertaining to the system hardware.

Target of the test : A Microsoft SMS

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Microsoft SMS server monitored

Parameters	Description
Test period	How often should the test be executed
Host	The host for which the test is to be configured

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Bad Management Information Files (MIFs) processed	Indicates the number of bad (ill- formed or otherwise invalid) SMS hardware inventory records (in MIF - Management Information Format files) processed by Inventory Data Loader since it was last started.	Number	
MIFs enqueued	Indicates the number of MIF files (containing SMS hardware inventory records) that were waiting in the Inventory Data Loader's input queue the last time Inventory Data Loader scanned the queue, minus the MIF files processed since then	Number	When many MIF files are being written to the input queue, this measure will be too low until Inventory Data Loader scans the input queue again.
MIFs processed	Indicates the number of SMS hardware inventory records (in MIF files) processed by the Inventory Data Loader since it was last started.	Number	

3.1.3 Memory Queue Test

This test monitors the health of the SMS memory queue. It is to this SMS Memory Queue thread that a component adds an object when waiting and another component picks the object for its function and removes it from the queue.

Target of the test : A Microsoft SMS

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every memory queue thread on the monitored SMS server

Parameters	Description
Test period	How often should the test be executed
Host	The host for which the test is to be configured

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Objects dequeued	Indicates the number of objects that the destination component has removed from the queue.	Number	
Objects enqueued	Indicates the number of objects that the source component has added to the queue	Number	

3.1.4 SMS Status Messages Test

The SmsStatusMsgs test tracks the status messages handled by the SMS_STATUS_MANAGER.

Target of the test : A Microsoft SMS

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Microsoft SMS server monitored

Parameters	Description
Test period	How often should the test be executed
Host	The host for which the test is to be configured

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
High priority	Indicates the number of SMS status messages replicated to the parent site at high priority by the Status Manager.	Number	
Low priority	Indicates the number of SMS status messages replicated to the parent site at low priority by the Status Manager.	Number	
Normal priority	Indicates the number of SMS status messages replicated to the parent site at normal priority by the Status Manager.	Number	
Report app evt log	Indicates the number of SMS status messages reported by the Status Manager to the Windows NT Application Event Log on the site server.	Number	
Database writes	Indicates the number of SMS status messages queued by the Status Manager to be written to the SMS site database.	Number	This number equals the number of status messages actually written to the database, unless Status Manager cannot write to the database (because it is full, for example), in which case the number of queued messages (shown

Measurement	Description	Measurement Unit	Interpretation
			by this counter) will increase even though no messages are being written to the database. (Queued messages are stored as .SQL files in \SMS\Inboxes\Statmgr.box\Retry.) When the database becomes writable again, the queued messages will rapidly be written to it, and this counter will again reflect the actual number of messages written to the database.

3.1.5 SMS Threads Test

This test reports the state of the SMS threads.

Target of the test : A Microsoft SMS

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Microsoft SMS server monitored

Parameters	Description
Test period	How often should the test be executed
Host	The host for which the test is to be configured

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Running threads	Indicates the number of running threads in the SMS Executive (SMSEXEC.EXE) service.	Number	When this measure is associated with a single thread instead of the entire service, its value is zero (the thread is not running) or one (the thread is running).

3.1.6 Software Inventory Proc Test

This test reports metrics pertaining to the Software Inventory Processor of SMS. The Software Inventory Processor processes the files produced by the Software Inventory Manager.

Target of the test : A Microsoft SMS

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Microsoft SMS server monitored

Parameters	Description
Test period	How often should the test be executed
Host	The host for which the test is to be configured

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Bad software inventory records processed	Indicates the number of bad (ill- formed or otherwise invalid) SMS software inventory records (SINVs) processed by the Software Inventory Processor since it was last started.	Number	
Software inventory records waiting in input queue	Indicates the number of SMS software inventory records (SINVs) waiting in the Software Inventory Processor's input queue the last time Software Inventory Processor scanned the queue, minus the SINVs that have been	Number	When many SINVs are being written to the input queue, this counter is too low until Software Inventory Processor scans the input queue again.

Measurement	Description	Measurement Unit	Interpretation
	processed since the queue was last scanned.		
Total software inventory records processed	Indicates the number of SMS software inventory records (SINVs) processed by Software Inventory Processor since it was last started.	Number	

3.1.7 Software Metering Test

This test monitors the Software Metering feature, which allows one to monitor program usage on client computers. By using software metering, one can collect data about software usage in one's organization. Software metering data can be conveniently summarized to produce useful reports that can help one monitor licensing compliance and plan software purchases in one's organization. Software metering collects detailed information about the programs that you chose to monitor. This includes information about program usage, program users, the program start time, and the length of time it is used.

Target of the test : A Microsoft SMS

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Microsoft SMS server monitored

Parameters	Description
Test period	How often should the test be executed
Host	The host for which the test is to be configured

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Bad software	Indicates the number of	Number	

Measurement	Description	Measurement Unit	Interpretation
metering files processed	bad (ill- formed or otherwise invalid) SMS software metering usage files processed by Software Metering Processor since it was last started.		
Usage files waiting in the input queue	Indicates the number of SMS software metering usage files waiting in the Software Metering Processor's input queue, minus the number of files that have been processed since the queue was last scanned.	Number	
Usage processing threads	Indicates the number of threads the Software Metering Processor is currently using to process incoming SMS software metering usage files.	Number	
Total usage records processed	Indicates the number of software metering records processed by the SWM Processor.	Number	

3.2 The SMS Mgmt Point Layer

This layer tracks the health of the SMS Management Point components.

Figure 3.3: The tests associated with the SMS Mgmt Point layer

3.2.1 Management Point Data Loader Test

This test reports metrics pertaining to the Management Point Data Loader object, which monitors the SMS interactions with the database.

Target of the test : A Microsoft SMS

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Microsoft SMS server monitored

Configurable parameters for the test

Parameters	Description
Test period	How often should the test be executed
Host	The host for which the test is to be configured

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Connections created	Indicates the number of database connections created by the management point.	Number	

Measurement	Description	Measurement Unit	Interpretation
Connections create rate	Indicates the number of database connections created by the management point per second.	Conns/Sec	

3.2.2 MgmtPointHwInv Test

This test reports metrics pertaining to the Hardware Inventory Manager. The SMS hardware inventory feature automatically collects detailed information about the hardware characteristics of clients in an SMS hierarchy. By using this feature, you can collect a wide variety of information about client computers such as memory, operating system, peripherals, services, and processes that are running on the client computer.

Target of the test : A Microsoft SMS

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Microsoft SMS server monitored

Configurable parameters for the test

Parameters	Description
Test period	How often should the test be executed
Host	The host for which the test is to be configured

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Delta reports	Indicates the number of hardware inventory reports marked as Delta.	Number	
Reports data generated	Indicates the size of generated reports.	MB	

Measurement	Description	Measurement Unit	Interpretation
Reports processed	Indicates the number of reports processed, successfully or unsuccessfully.	Number	
Reports process rate	Indicates the number of reports processed per second.	Reports/Sec	

3.2.3 Management Point Policy Manager Test

This test monitors the responses of the SMS Policy Manager to the policy requests of clients.

Target of the test : A Microsoft SMS

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Microsoft SMS server monitored

Configurable parameters for the test

Parameters	Description
Test period	How often should the test be executed
Host	The host for which the test is to be configured

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Request arrival rate	Indicates the rate at which Policy Assignment requests are arriving at the Policy Manager.	Requests/Sec	

3.2.4 Management Point Policy Test

This test reports the results of the client requests to the SMS Policy Manager. There are certain SMS policies which download in the client system. This is controlled by the SMS Policy Manager.

Target of the test : A Microsoft SMS

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Microsoft SMS server monitored

Configurable parameters for the test

Parameters	Description
Test period	How often should the test be executed
Host	The host for which the test is to be configured

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Cache hit rate	Indicates the rate of requests to the Get Policy component that resulted in the policy being served from a cache.	Hits/Sec	
Requests process rate	Indicates the rate of requests to the Get Policy component.	Requests/Sec	

3.2.5 Management Point Status Manager Test

This test reports metrics pertaining to the Status Manager of SMS. SMS generates status messages to report the activity of components on site systems and clients. A status message is a text string, generated by a component, describing a specific activity performed by the component. In addition, each status message contains important information such as which component generated the message, the exact time that the message was generated, and the severity of the message. Status messages are sent from clients and site systems to the site server and are stored in the SMS site

database. You can then view status messages in the SMS Administrator console. Viewing status messages in the SMS Administrator console helps you monitor the activity of the various components, determine the health of SMS, and identify issues that might require your attention.

Target of the test : A Microsoft SMS

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Microsoft SMS server monitored

Configurable parameters for the test

Parameters	Description
Test period	How often should the test be executed
Host	The host for which the test is to be configured

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Events processed	Indicates the number of events (i.e. status messages) processed, successfully or unsuccessfully.	Number	
Events process rate	Indicates the number of events (i.e. status messages) processed per second.	Number	

3.2.6 Management Point Software Inventory Test

This test reports metrics pertaining to the reports generated by the Software Inventory manager of SMS. With the SMS Software Inventory Manager one can collect information about the applications listed in Add or Remove Programs in Control Panel. By using software inventory, one can collect a significantly larger amount of information about client's software.

Target of the test : A Microsoft SMS

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Microsoft SMS server monitored

Configurable parameters for the test

Parameters	Description
Test period	How often should the test be executed
Host	The host for which the test is to be configured

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Delta reports	Indicates the number of Software Inventory reports marked as Delta.	Number	
Reports data generated	Indicates the size of generated reports.	MB	
Reports processed	Indicates the number of reports processed successfully or unsuccessfully.	Number	
Reports process rate	Indicates the number of reports processed per second.	Reports/Sec	

About eG Innovations

eG Innovations provides intelligent performance management solutions that automate and dramatically accelerate the discovery, diagnosis, and resolution of IT performance issues in on-premises, cloud and hybrid environments. Where traditional monitoring tools often fail to provide insight into the performance drivers of business services and user experience, eG Innovations provides total performance visibility across every layer and every tier of the IT infrastructure that supports the business service chain. From desktops to applications, from servers to network and storage, from virtualization to cloud, eG Innovations helps companies proactively discover, instantly diagnose, and rapidly resolve even the most challenging performance and user experience issues.

eG Innovations is dedicated to helping businesses across the globe transform IT service delivery into a competitive advantage and a center for productivity, growth and profit. Many of the world's largest businesses use eG Enterprise to enhance IT service performance, increase operational efficiency, ensure IT effectiveness and deliver on the ROI promise of transformational IT investments across physical, virtual and cloud environments.

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