Monitoring Qmail Server

eG Innovations Product Documentation

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Chapter 1: Introduction

Qmail is a simple message transfer agent. It is meant as a replacement for the entire sendmail-binmail system on typical Internet-connected UNIX hosts. It offers POP3, and support for mail retrieval.

eG Enterprise provides a specialized model for monitoring the health of a Qmail server. This model execute tests on the Qmail server at pre-configured intervals, and report plenty of useful performance metrics which reveal the availability of the Qmail server, time taken by the server to send/receive mails, the health of critical internal components and services offered by the Qmail server, the effectiveness of the protocols employed while mailing, etc.

This document discusses the monitoring model that eG Enterprise prescribes for monitoring Qmail server.

Chapter 2: How to Monitor Qmail Server using the eG Enterprise?

eG Enterprise monitors the Qmail server in both agent based and agentless manner. To monitor the Qmail server in the agentless manner, a single eG agent should be installed on a remote Windows host. To enable the eG agent to pull-out metrics from the Qmail server, a set of pre-requisites should be fulfilled, these requirements are discussed in the section below.

2.1 Pre-requisites for Monitoring Qmail Server

For the Qmail tests to work effectively, ensure that the following are in place:

1. The following packages should be installed along with Qmail:

   - netqmail-1.05

   - daemontools-0.76

   - ucspi-tcp-0.88

   A detailed Qmail installation procedure is available in the following URL: www.lifewithqmail.org.

2. All executable files (under /package/admin/daemontools- 0.76/command) related to the qmail admin services should have links under /usr/local/bin.

3. The executable file svstat (in the /usr/local/bin directory) must be given special executable permission using the command: chmod u+s svstat. Only a super- user can execute this command.

4. The eG agent user should be added to the **qmail** group.

2.2 Managing the Qmail Server

The eG Enterprise can automatically discover the Qmail server. However, the discovered Qmail component is managed manually. To achieve this, do the following:

1. Login to the administrative interface of eG as an administrator (admin).

2. If a Qmail server is already discovered, then directly proceed towards managing it using the **COMPONENTS – MANAGE / UNMANAGE** page (Infrastructure - > Components - > Manage/Unmanage). However, if it is yet to be discovered, then run discovery (Infrastructure -> Components -> Discover) to get it discovered or add the component manually using the **COMPONENTS**

page (Infrastructure -> Components -> Add/Modify). Remember that components manually added are managed automatically. Discovered components, however, are managed using the **COMPONENTS – MANAGE / UNMANAGE** page. Figure 2.1 and Figure 2.2 clearly illustrate the process of managing the Qmail server.
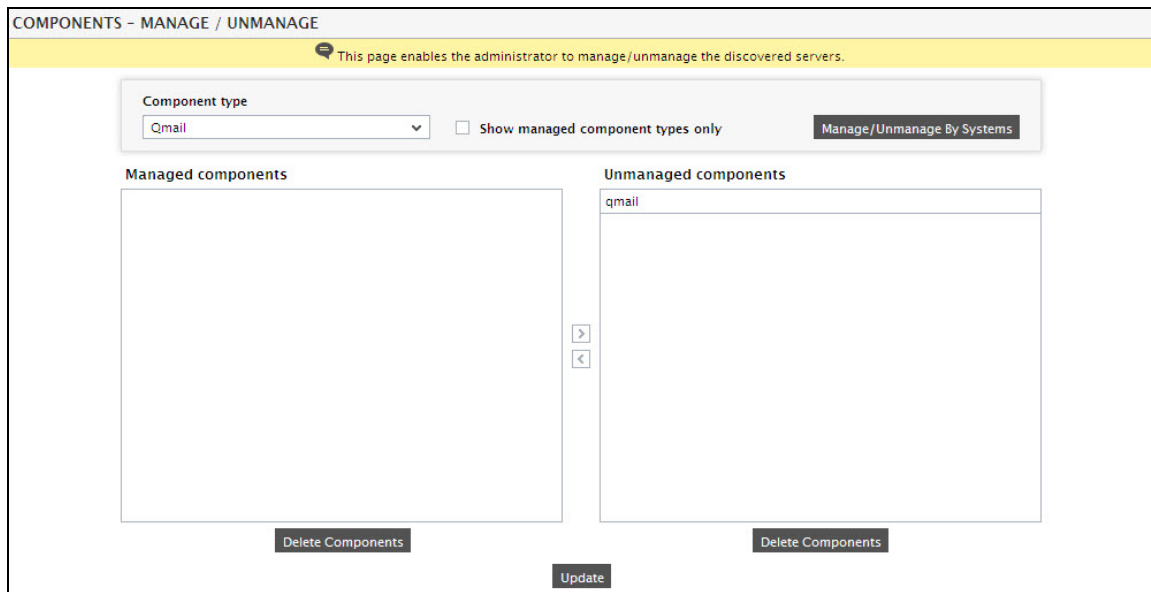

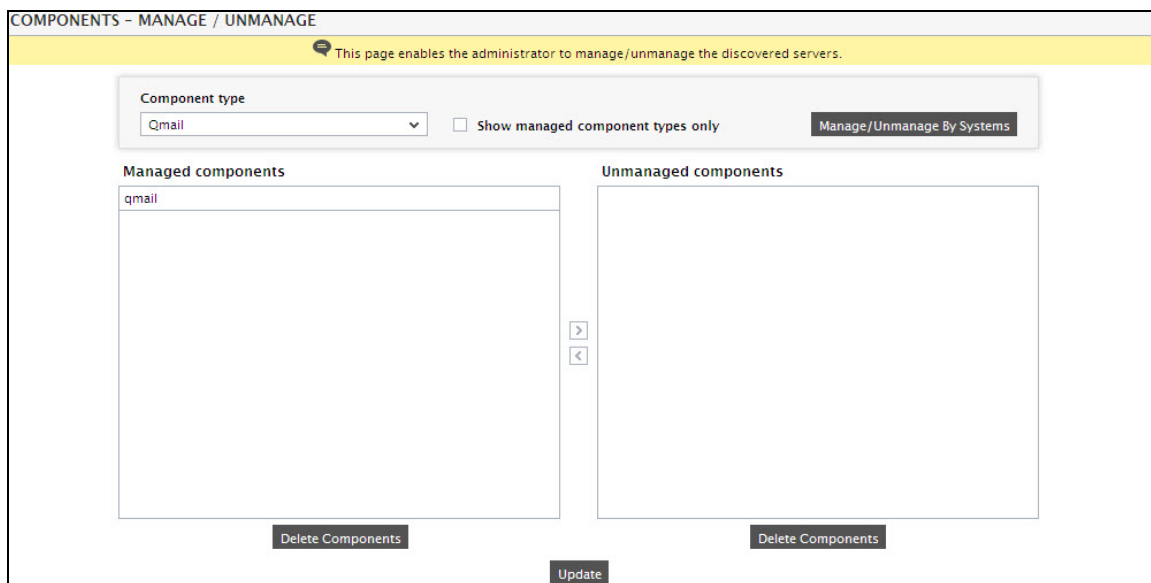Figure 2.1: Selecting the Qmail server to be monitored

Figure 2.2: Managing the selected Qmail server

3. Now, try to sign out of the user interface. Doing so, will bring up the following page, which lists the unconfigured tests for the Qmail server.

List of unconfigured tests for 'Qmail'		
Performance		qmail
Mail	Processes	Qmail Delivery
Qmail Messages	Qmail Queues	Qmail Snd Concur

Figure 2.3: A page displaying the tests the need to be configured for the Qmail server

4. Click on any test to configure in the list of unconfigured tests. For instance, click on the **Qmail Delivery** test to configure it. In the page that appears, specify the parameters as shown in Figure 2.4.

Qmail Delivery parameters to be configured for qmail (Qmail)	
TEST PERIOD	5 mins
HOST	192.168.10.1
PORT	NULL
" LOGDIR	C:\egurkha

Update

Figure 2.4: Configuring the Qmail Delivery test

5. Once again, try signing out of the administrative interface, and this time, click on **Mail** test in the list of unconfigured tests to configure it. Please refer to *Monitoring Mail Server* document for a more elaborate discussion on how to configure the **Mail** test.

6. After configuring the **Mail** test, try to sign out once again. Now, you will be prompted to configure the **Processes** test. Please refer to *Monitoring Unix and Windows Servers* document for more details on configuring the **Processes** test.

7. Finally, signout of the eG administrative interface.

Chapter 3: Monitoring Qmail Servers

eG Enterprise offers an exclusive model for monitoring a Qmail server as well.
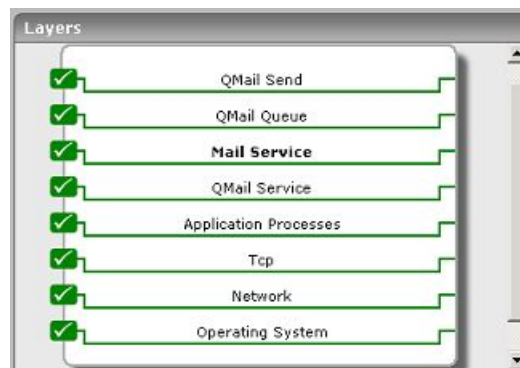

Figure 3.1: The layer model of a Qmail server

The tests mapped to every layer of Figure 3.1 extract critical statistics using which administrators can gauge the efficiency of the mail server.

The bottom 4 layers of the Figure 3.1 have already been discussed in the *Monitoring Unix and Windows Servers* document. The **Mail Service** layer, finds a place in Chapter 2 itself. Hence, the sections to come delve deep into the **Qmail Service**, **Qmail Queue**, and the **Qmail Send** layers only.

3.1 The QMail Service Layer

The test associated with this layer report the availability of the services configured for the Qmail MTA.

Figure 3.2: The tests associated with the QMail Service layer

3.1.1 Qmail Service Test

This test checks the availability of the services running for the Qmail MTA.

Target of the test : A Qmail server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Qmail service being monitored.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host on which the Qmail server is executing.
Port	The port at which the Qmail server listens.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Availability	Checks the availability of the service.	Percent	A value of 100 indicates that the specified service has been configured and is currently executing. A value of 0 for this measure indicates that the specified service has been configured on the server but is not running at this time.
Service downtime	The time that has elapsed since the service has been stopped.	Secs	A value of 0 indicates that the service is normal . A value more than 0 indicates that the service has not been running for some time.

3.2 The QMail Queue Layer

The test associated with this layer reveals the number of messages in queue, and thus indicates the speed with which the Qmail server processes messages.

Figure 3.3: The test associated with the QmailQueueTest

3.2.1 Qmail Queues Test

This test monitors the performance of the queues in the Qmail server.

Target of the test : A Qmail server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Qmail server being monitored.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host on which the Qmail server is executing.
Port	The port at which the Qmail server listens.
QmailDir	Specify the complete path to the Qmail install directory. For example, */var/qmail*.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Queue messages	The total number of messages in queue.	Number	A very high value indicates that Qmail is unable to process the messages faster. A value zero indicates that no messages are in queue to process.
Not preprocess messages	The number of messages that were not pre-	Number	A high value indicates that the qmail-

Measurement	Description	Measurement Unit	Interpretation
	processed.		send service is not running. A value of zero indicates that all the messages have been processed.
Queue size	The total queue size.	KB	A very high value indicates that Qmail is unable to process the messages faster. A value zero indicates that no messages are in queue to process.

3.3 The QMail Send Layer

The tests associated with this layer monitor the performance of the Qmail-send service.

Figure 3.4: The tests associated with the QMail Send layer

3.3.1 Qmail Delivery Test

This test tracks key statistics pertaining to the delivery status of messages.

Target of the test : A Qmail server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Qmail server being monitored.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.

Parameter	Description
Host	The host on which the Qmail server is executing.
Port	The port at which the Qmail server listens.
LogDir	This test parses the qmail log files to extract the required measures. Therefore, in the LogDir text box here, specify the complete path to the qmail log directory, which stores the log files. For example, */var/log/qmail*.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Delivery attempts	The number of delivery attempts during the last measurement period.	Number	
Success deliveries	The number of successful deliveries during the last measurement period.	Number	
Failures	The number of delivery attempts that failed	Number	
Deferrals	The number of delivery attempts that were deferred.	Number	
Remote success	The number of remote successful deliveries.	Number	
Local success	The number of local successful deliveries.	Number	
Rate of mail delivery	The rate at which the delivery attempts were made.	Operations/Sec	
Rate of success	The rate at which messages were successfully delivered.	Operations/Sec	

3.3.2 Qmail Messages Test

This test returns message-centric performance metrics.

Target of the test : A Qmail server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Qmail server being monitored.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host on which the Qmail server is executing.
Port	The port at which the Qmail server listens.
LogDir	This test parses the qmail log files to extract the required measures. Therefore, in the LogDir text box here, specify the complete path to the qmail log directory, which stores the log files. For example, */var/log/qmail*.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Messages transferred	The number of messages transferred.	Number	
Data transferred	Data transferred by the mail server during the last measurement period.	KB	
Bounce messages	The number of bounced messages.	Number	
Thrown away messages	The number of messages that were discarded because they bounced thrice.	Number	
Transfer rate	The rate at which bytes were transferred.	KB/Sec	

3.3.3 Qmail Snd Concur Test

This test tracks the concurrency checks for local and remote messages.

Target of the test : A Qmail server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Qmail server being monitored.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host on which the Qmail server is executing.
Port	The port at which the Qmail server listens.
LogDir	This test parses the qmail log files to extract the required measures. Therefore, in the LogDir text box here, specify the complete path to the qmail log directory, which stores the log files. For example, */var/log/qmail*.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Local concurrency	The maximum number of concurrent local deliveries.	Number	
Remote concurrency	The maximum number of concurrent remote deliveries.	Number	
Percent local	The percentage of local concurrent messages that were delivered.	Percent	
Percent remote	The percentage of remote concurrent messages that were delivered.	Percent	

Note:

Apart from Processes test, a **TCP Port Status** test also executes on the **Application Processes** layer of the Qmail server. For more details about the **TCP Port Status** test, refer to the *Monitoring Unix and Windows Servers* document.

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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