Monitoring Mail Server

eG Innovations Product Documentation

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Total Performance Visibility

Table of Contents

Table of Figures

Chapter 1: Introduction

Web servers may be the most important and ubiquitous servers on the Internet, but mail servers rank a close second. E-mail is generally considered the most important service provided by the Internet, which makes servers that move and store mail a crucial piece of software. Naturally, these components also need constant monitoring.

eG Enterprise provides a specialized model for monitoring the health of a wide variety of a mail server. This model executes tests on the mail server at pre-configured intervals, and report the availability of the mail server, the number of messages sent and time taken for message transmission.

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

Chapter 2: How to Monitor the Mail Server Using eG Enterprise?

eG Enterprise monitors the mail server in an agent-based manner. The eG agent deployed on the target server collects the important metrics pertaining to the performance of the mail server. Using these measures, administrators are able to track availability and the time duration that the mail server has taken for sending and receiving messages.

2.1 Managing the Mail Server

The eG Enterprise cannot automatically discover the mail server. This implies that you need to manually add the component for monitoring. Remember that the components, which are manually added, are automatically managed by the eG Enterprise. To manage a Mail server component, do the following:

1. Log into the eG administrative interface.
2. Follow the Components -> Add/Modify menu sequence in the Infrastructure tile of the **Admin** menu.
3. In the **COMPONENT** page that appears next, select Mail as the **Component type**. Then, click the **Add New Component** button. This will invoke Figure 2.1.

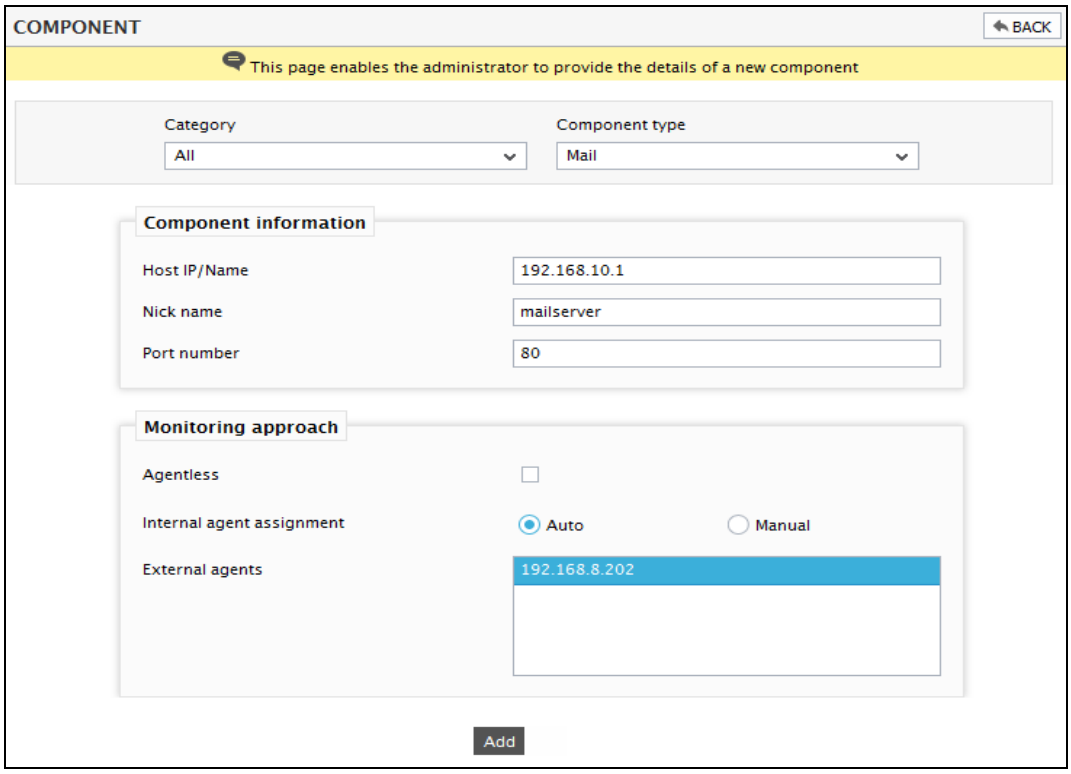

Figure 2.1: Adding a Mail Server

4. Specify the **Host IP/Name** and the **Nick name** of the mail server in Figure 2.1. Then, click on the **Add** button to register the changes.
5. When you attempt to sign out, a list of unconfigured tests appears (see Figure 2.2).

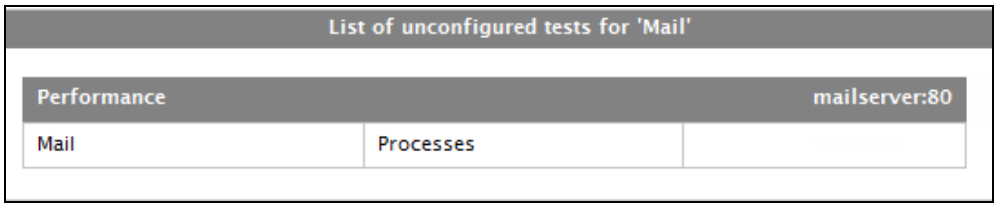

Figure 2.2: List of Unconfigured tests for the mail server

6. Click on the **Mail** test to configure it. In the page that appears, specify the parameters as shown in Figure 2.3.

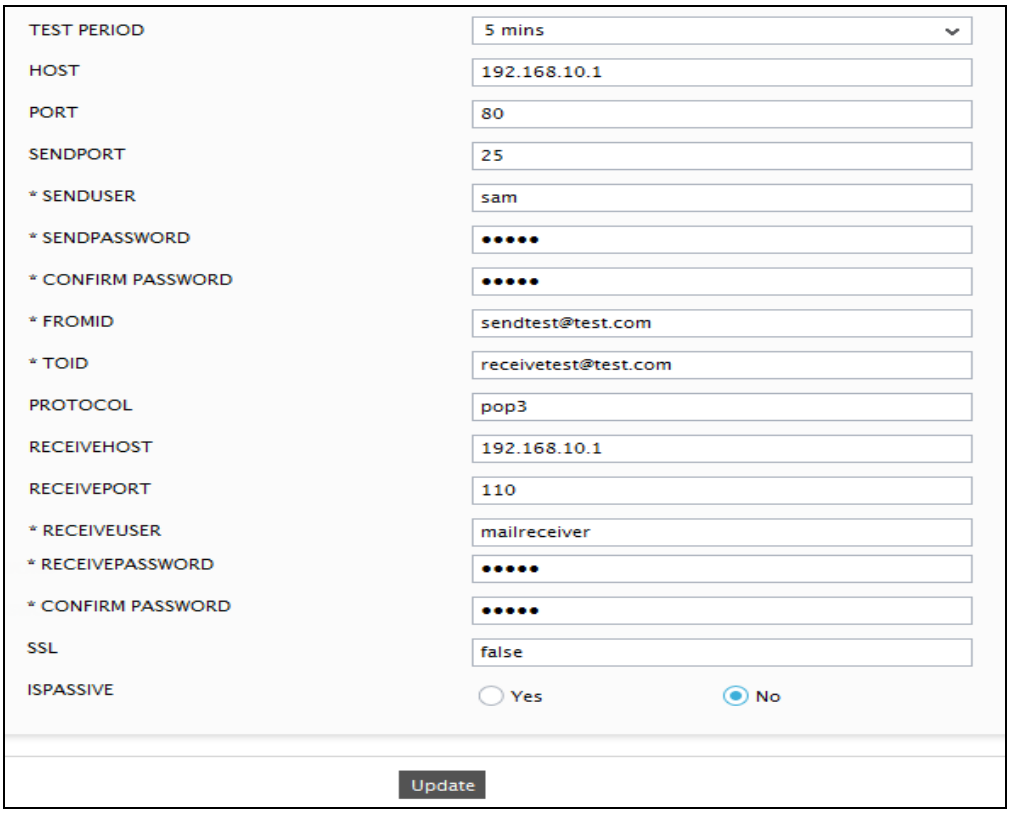

Figure 2.3: Configuring the Mail test

7. To know more details on configuring the **Mail** test, refer to Section **3.1.1**.
8. For information on the **Processes** test, refer to *Monitoring Unix and Windows Servers* document.
9. Then, signout of the eG administrative interface.

Chapter 3: Monitoring Mail Servers

The Mail server model that eG Enterprise offers out-of-the-box, is typically meant for situations where administrators only want to know whether the mail server is available or not, how quickly is it able to send/receive mails, and alongside determine the overall health of the mail server host. To assess these performance parameters, users can manage any mail server, regardless of type (Exchange, Domino, etc.), as a generic Mail server using the eG administrative interface.

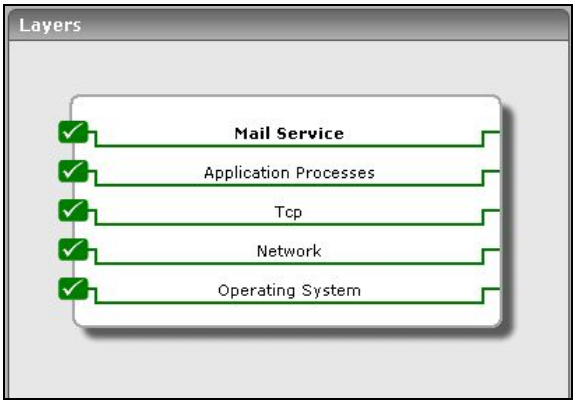

Figure 3.1: Layer model for a mail server

The layer model that the eG Enterprise suite uses for monitoring generic mail servers is shown in Figure 3.1. The **Operating System, Network**, **Tcp**, and **Application Processes** layers have already been discussed in the *Monitoring Unix and Windows Servers* document section. This chapter therefore will deal with the **Mail Service** layer only.

3.1 The Mail Service Layer

This layer handles the connectivity of the mail server to different hosts in the environment using the **Mail** test that is shown in Figure 3.2.

Figure 3.2: Tests mapping to the Mail Service layer

3.1.1 Mail Test

This test monitors the availability of the mail server from an external perspective. To do this, the **Mail** Test sends a test mail periodically from one user account to another and measures whether the mail was sent successfully and what the delivery time was. This test uses SMTP protocol for sending and POP3 or IMAP protocols for receiving mails.

Target of the test : A mail server

Agent deploying the test : An internal agent

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

Configurable parameters for the test

Parameter	Description
Test Period	How often should the test be executed.
Host	Indicates the IP address of the mail server.
Port	The port number of the mail server's routing engine.
SendPort	The SMTP port of the mail server. The default SMTP port is 25.
SendUser	Denotes the user name with which the test sends mails.
SendPassword	The password associated with the above user name. The SendUser and SendPassword can be '*none*' if the target mail server does not need authentication to send mails.
Confirm Password	Confirm the SendPassword by retyping it here.

Parameter	Description
FromID	Takes the email id from which the test generates mails.
ToID	Takes the email id to which the test sends mails. It is advisable that a separate email account be created for the MailTest.
Protocol	The protocol to be used for receiving the mails (could be POP3 or IMAP).
ReceiveHost	Indicates the IP address at which the test receives mails. Typically, this would be the IP address of a POP3 or IMAP server.
ReceivePort	Indicates the port number of the host, which receives the mails. The default port for POP3 is 110 and that of IMAP is *143*.
ReceiveUser	Indicates the user name with which the test receives mails.
ReceivePassword	Indicates the password corresponding to the above user.
Confirm Password	Confirm the ReceivePassword by retyping it here.
SSL	If the mail server is SSL-enbled, set this flag to **True**. By default, this is set to **False**.
IsPassive	If the value chosen is **Yes**, then the mail server under consideration is a passive server in a mail server cluster. No alerts will be generated if the system is not running. Measures will be reported as “Not applicable" by the agent if the server is not up.

Here are example settings of the **Mail** Test parameters:

- SendUser = sam
- SendPassword = send user's password
- FromID = sendtest@test.com
- ToID = receivetest@test.com
- Protocol = POP3
- ReceiveHost = mail.test.com (the POP3 server's host)
- ReceivePort = 110
- ReceiveUser = mailreceiver
- ReceivePassword = mailreceiver's password

It is advisable that you create a separate user account on your mail server for this test to use.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Ability to send mail	Indicates the availability of the mail server to which the test attempts to connect to send mail	Percent	A value of 0 indicates that the test was not successful in sending a mail. Possible reasons for this could include the mail server being down, the network connection to the server not being available, etc.
Ability to receive mail	Indicates the availability of the POP3/IMAP server to which the test attempts to connect to receive mail messages	Percent	A value of 0 indicates that the test was not successful in receiving a mail message from the POP3/IMAP server. Possible reasons for this could include the POP3/IMAP server being down, the user login being invalid, a failure of the authentication system that the POP3/IMAP server uses for authenticating user requests, etc.
Outstanding messages	Indicates the number of messages that have been sent but have not been received	Number	A large value is usually associated with a very high value of the *Roundtrip time* measurement. This is usually attributable to excessive load on the SMTP mail server. Delivery delays may also happen if the server is not able to send mail out (e.g., due to DNS failures, due to large number of failed messages which are being retried often, etc.).
Roundtrip time	The average delay between the transmission of one message and its reception by a user.	Mins	This is a key measure of the quality of the mail service. An increase in Roundtrip time may be indicative of a problem with the SMTP mail service. Possible reasons could include spamming, queuing failures, disk space being full, etc.

Note:

The accuracy of the *Roundtrip time* measurement is dependent on the frequency at which the Mail test is executed. For example, assume that Mail test is executed once every 5 minutes. Since the

Mail test only checks for message receptions every time it executes, the *Roundtrip time* may be reported as 5 mins even if the message has actually been delivered to the user within a minute of its transmission.

Chapter 4: Externally Monitoring Mail Servers

The Mail server offered by eG Enterprise requires that an agent be deployed on the mail server being monitored, so that the critical processes running on the mail server host, their resource utilization, and other OS-level metrics are extracted from within the host. However, in some environments, administrators might not have access to mail servers for installing agents; yet, they might be interested in knowing whether the mail server is available / not, and how well it processes mails. To enable such administrators to extract only external metrics such as availability and responsiveness, the eG Enterprise suite prescribes the External Mail model (see Figure 4.1). To use this model, an external agent would suffice. This agent employs native application-level protocols to determine the overall network health, mail server availability, and how quickly the server processes mails.

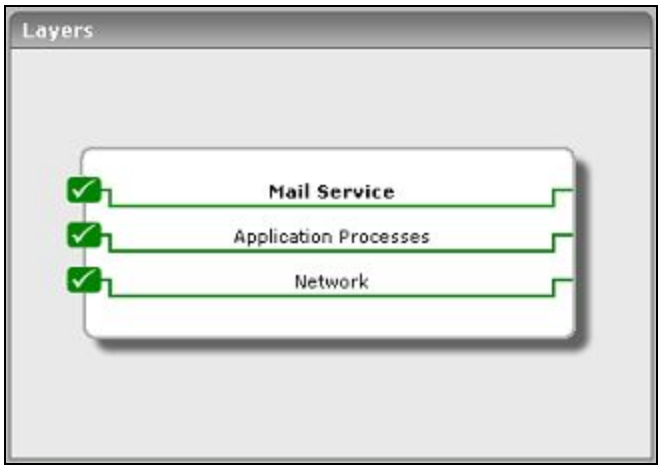

Figure 4.1: Layer model of the External Mail server

Only the **Network** test is mapped to the **Network** layer; this external test, upon execution, reveals network bottlenecks that could be denying users access to the mail server. The **TcpPortStatus** test that is mapped to the **Application Processes** layer indicates whether/not critical TCP ports are available. The **Mail** test that is associated with the **Mail Service** layer is executed by an external agent; the test emulates a mail send-receive activity to verify the availability of the mail server and the speed with which it sends/receives mails. For an in-depth discussion on the **Mail** test, refer to Section **3.1.1**. For details regarding the other tests mapped to this layer, please refer to the *Monitoring Unix and Windows Servers* document.

Note:

Apart from **Processes** test, a **TCP Port Status** test also executes on the **Application Processes** layer of the Mail 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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