Monitoring Oracle Communications Messaging Server

eG Innovations Product Documentation

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Chapter 1: Introduction

Oracle Communications Messaging Server is a standards-based Internet messaging server designed for high-capacity, reliable message handling for service providers and their customers. Messaging Server provides support for several email protocols and can manage embedded text, sound, graphics, video files, and other files and formats. In order to ensure smooth and swift communication between the service provides and the customers, the availability and the message processing ability of the messaging server should be periodically monitored.

eG Enterprise provides a bouquet of solutions that specialize in monitoring of the Oracle Communications Messaging server. Unlike silo tools that only provide application-specific monitoring expertise, the eG Enterprise provides end-to-end monitoring of an IT infrastructure. This implies that besides messaging servers, eG Enterprise can monitor a wide variety of other applications and network devices that form part of an IT infrastructure. While monitoring a messaging infrastructure for instance, eG Enterprise analyzes the performance of the messaging server in the light of the relationship it shares with other components in the environment, and accordingly determines the state of the server. This approach to monitoring enables eG Enterprise to accurately pinpoint the root-cause of problems that might occur in a messaging infrastructure.

This document focuses on the monitoring capabilities of eG Enterprise with regard to Oracle Communications Messaging server.

Chapter 2: How does eG Enterprise Monitor Oracle Communications Messaging Servers

This chapter guides users in configuring and managing the Oracle Communications messaging servers to wotk with eG Agent.

The eG agent on an Oracle Communications messaging server executes an IMS User test on the server, which reports key statistics pertaining to the user accounts that exist in a domain. The test retrieves the required user-specific statistics from the Directory server that has been configured for the messaging server. To ensure that the eG agent effectively executes this test, the following configurations are to be performed:

1. Open the **Netscape Console** using the menu sequence depicted in Figure 2.1.

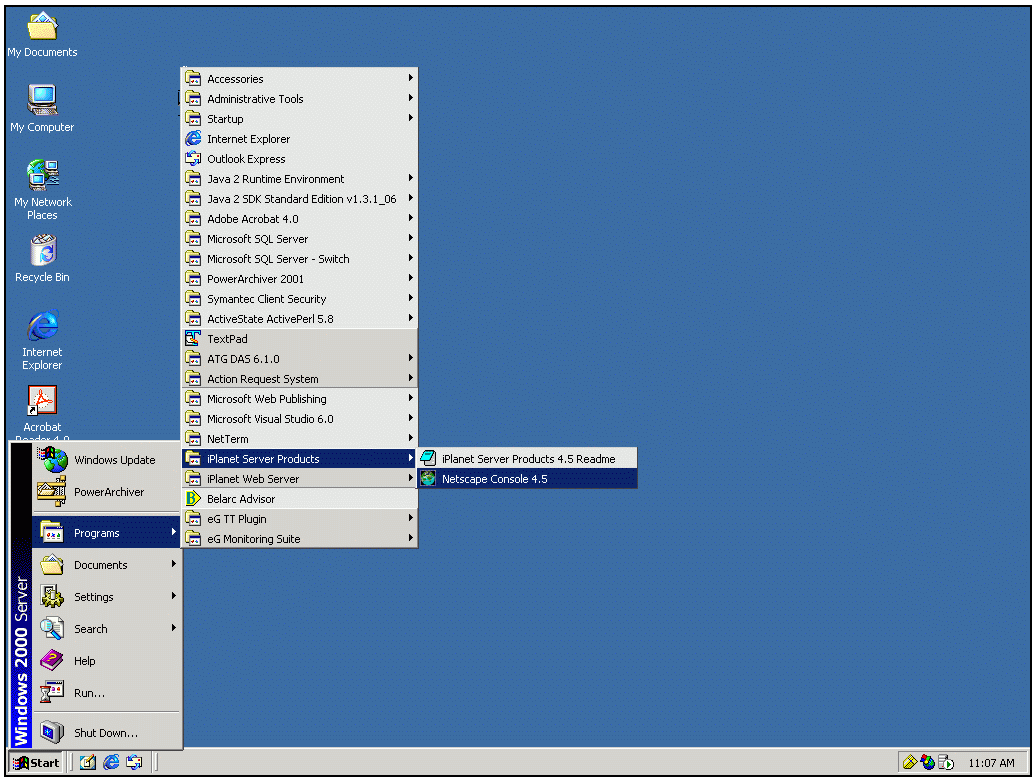

Figure 2.1: Opening the Netscape Console

2. Since only an administrator can access the console, specify the admin **User ID** and **Password** (see Figure 2.2) to login to the console.

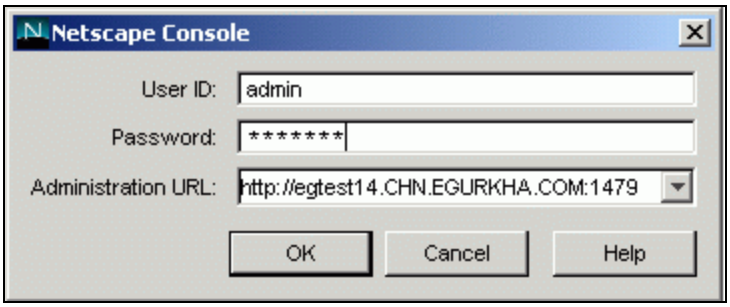

Figure 2.2: Logging in to the console

3. Using the tree-structure in the left pane of the Netscape Console, drill down to the Directory Server node (since the Directory server contains the user information to be retrieved by the IMSUser test) as depicted by Figure 2.3, and double-click on it.

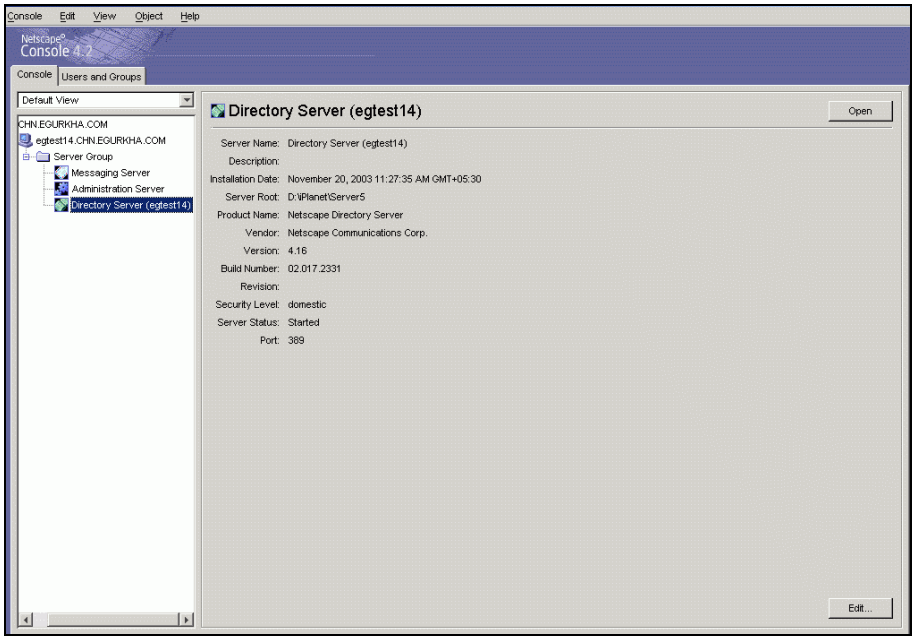

Figure 2.3: Selecting the Directory Server option

4. Upon double-clicking, Figure 2.4 will appear. Now, click on the **Configuration** tab in Figure 2.4.

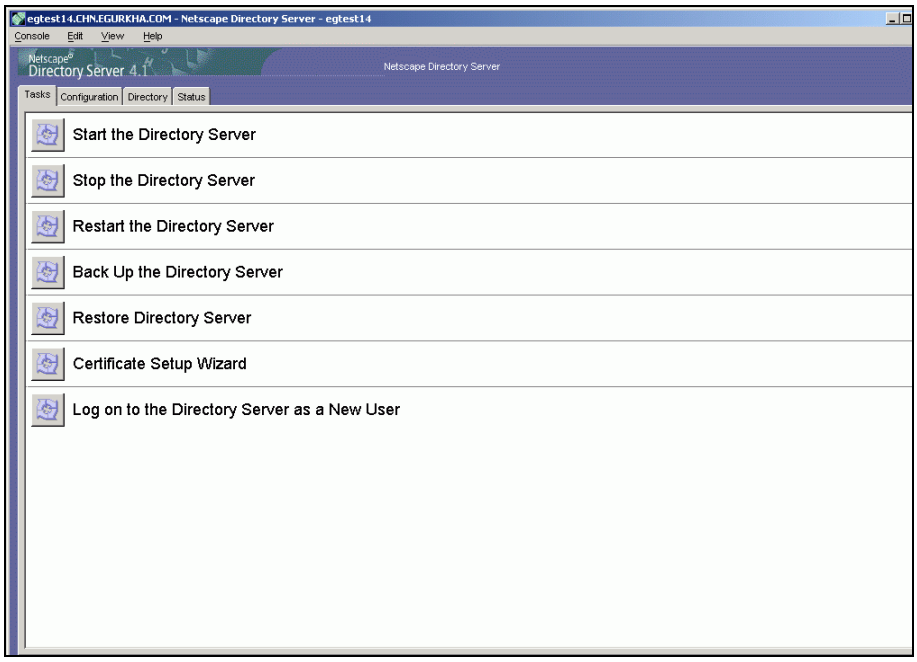

Figure 2.4: The Directory server window

5. In the **Configuration** tab (see Figure 2.5), select the top-most node (that represents the host name of the messaging server) of the tree-structure in the left pane. Doing so will reveal a series of tabs in the right pane (see Figure 2.5).

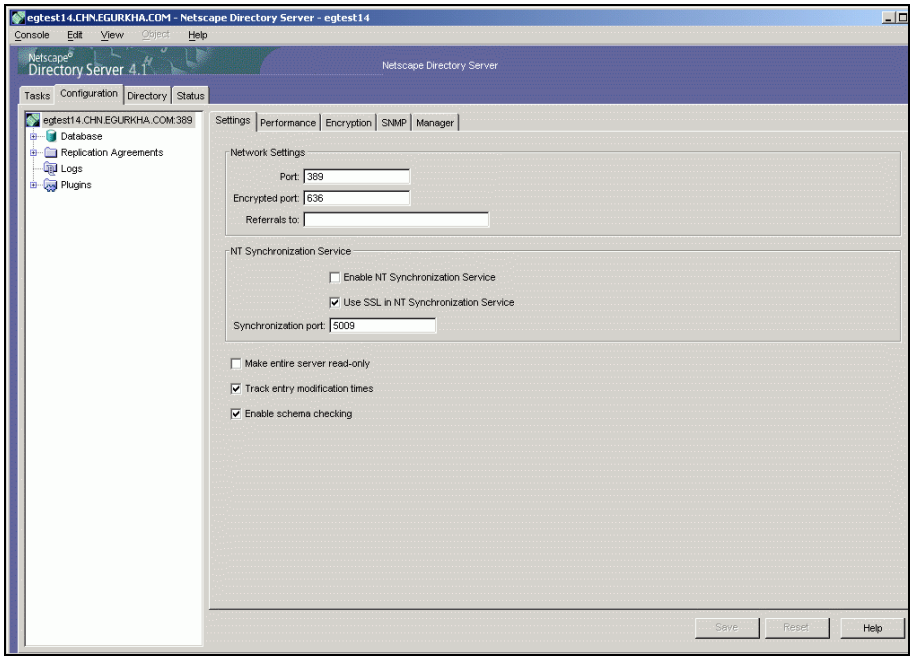

Figure 2.5: The Configuration tab of the Directory server

6. From the tabs in the right pane of Figure 2.6, select the **Performance** tab (see Figure 2.6). In this tab, set the **Size limit** parameter to **-1**. Size limit specifies the maximum number of entries to return from a search operation. -1 indicates that there is no limit. After resetting the parameter, click on the **Save** button to save the changes.

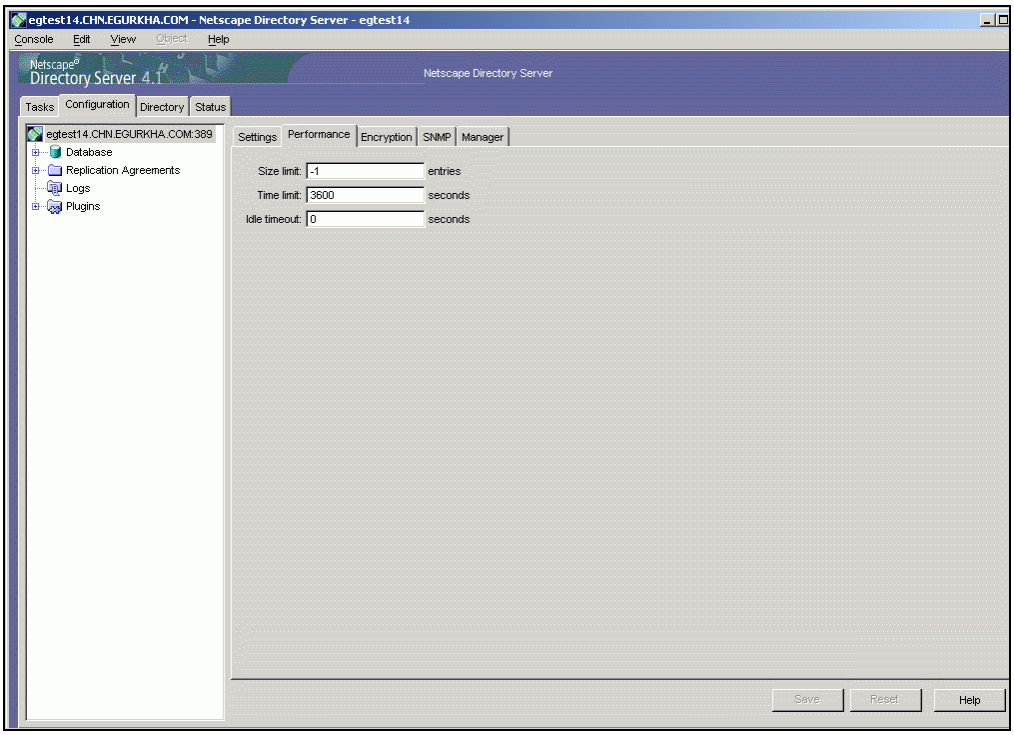

Figure 2.6: Setting the Size limit

7. Next, select the **Database** node from the tree structure in the left pane (Figure 2.7), and then click on the **Performance** tab in the right pane. Then, set the **Look through limit** parameter to **-1**. Look through limit specifies the maximum number of entries that the directory server will check when seeking candidate entries in response for a search request. -1 indicates that there is no limit. After resetting the parameter, click on the **Save** button to save the changes.

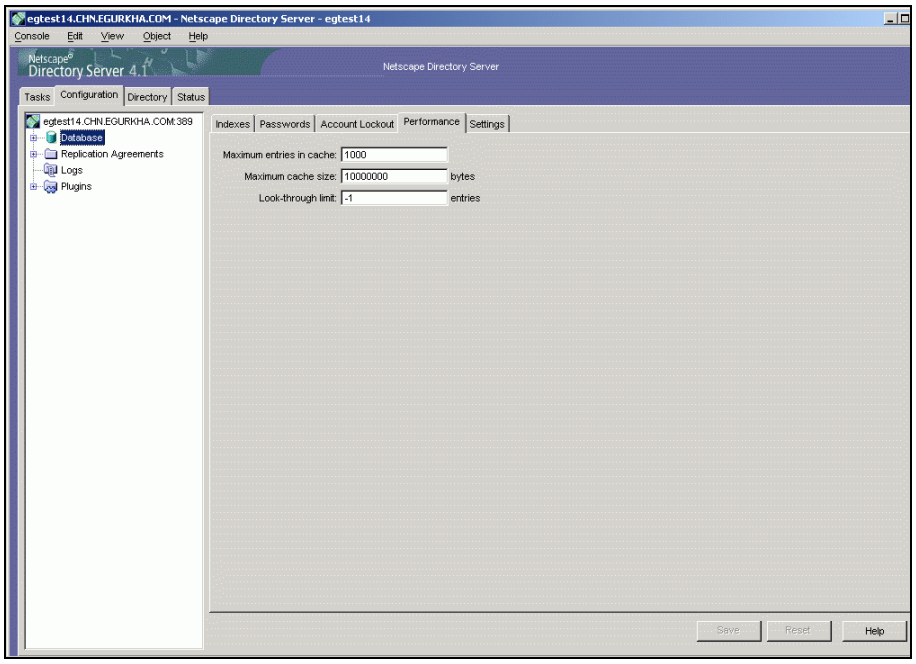

Figure 2.7: Setting the Look through limit

2.1 Managing the Oracle Communications Messaging Server

The eG Enterprise is capable of automatically discovering the Oracle Communications Messaging server. The discovered server needs to be managed for monitoring. This can be achieved using the following steps;

1. Log into the eG administrative interface.
2. If a Oracle Communications Messaging server is already discovered, then directly proceed towards managing it using the **COMPONENTS – MANAGE/UNMANAGE** page (Infrastructure -> Components -> Manage/Unmanage).
3. 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. 2.1 and 2.1 clearly illustrate the process of managing the *Oracle Communications Messaging Server.*

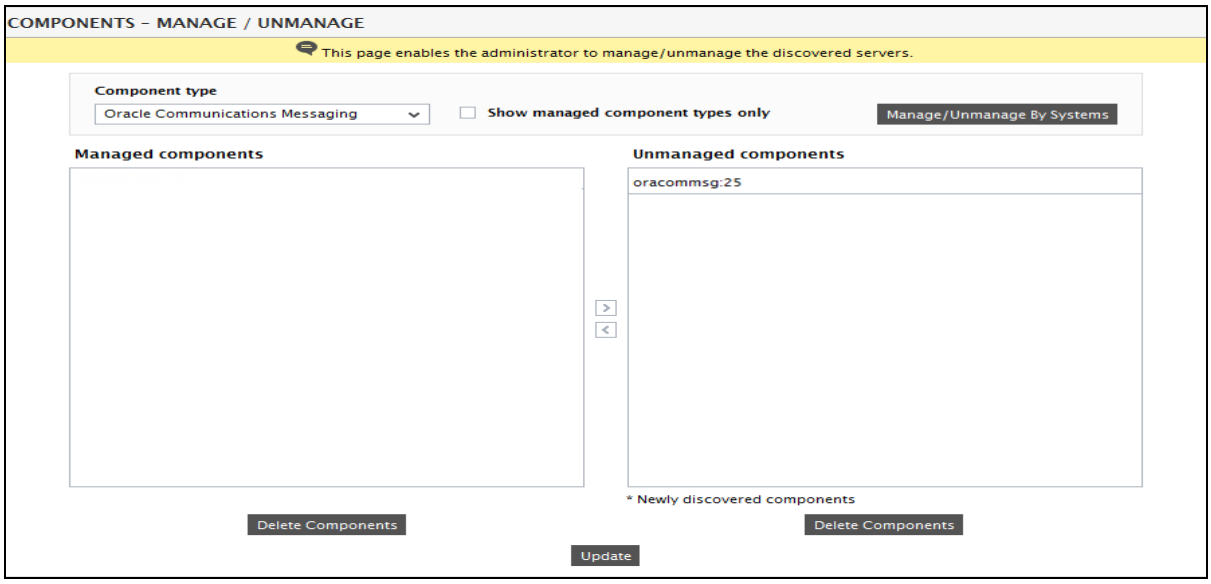

Figure 2.8: Viewing the list of unmanaged Oracle Communications messaging servers

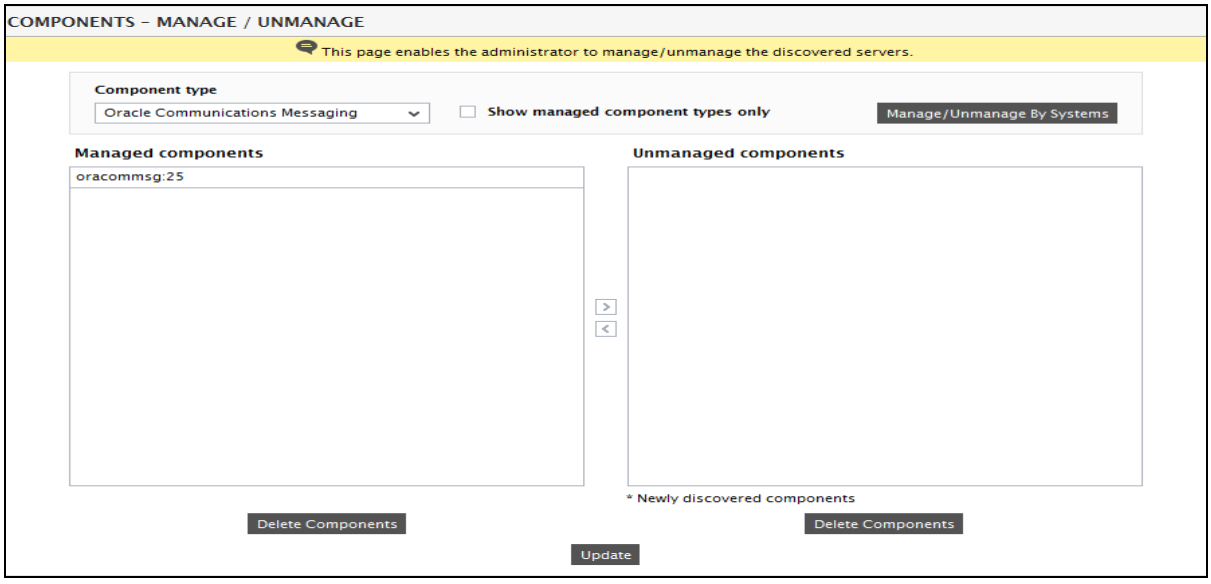

Figure 2.9: Managing an Oracle Communications messaging server

4. Next, try to sign out of the eG administrative interface. Upon doing so, a list of unconfigured tests will appear prompting you to configure the tests pertaining to the server (see Figure 2.10)

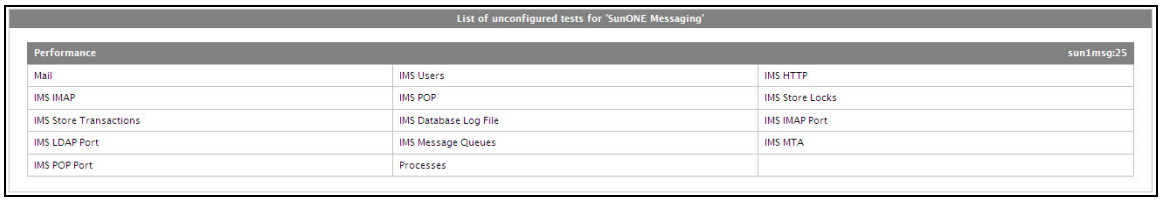

Figure 2.10: A list of tests to be configured

5. Click on the test names in the list of unconfigured tests to configure. Refer to **Monitoring Oracle Communications Messaging Servers** for more details on configuring the test.
6. Next, try to signout of the eG administrative interface, now you will be prompted to configure the **Processes** test. To know details on configuring these tests refer to *Monitoring Windows and Unix* document.
7. Finally, signout of the eG administrative interface.

Chapter 3: Monitoring Oracle Communications Messaging Servers

Using the customized model (see Figure 3.1) that eG Enterprise presents for the Oracle Communications messaging server, the following can be tracked:

- External measure of SMTP availability to accept messages, measure of POP3/IMAP availability, number of outstanding e-mails, and round trip time for mail delivery
- Monitoring of user activity, failed logins, internal message queue lengths, request processing and failure rates, messaging store database activity monitoring including transactions, deadlocks, etc.

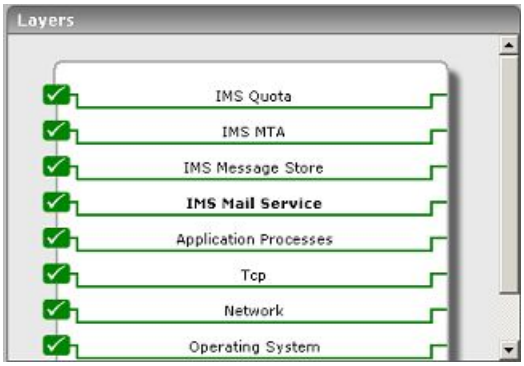

Figure 3.1: Layer model of the Oracle Communications Messaging Server

The sub-sections to come will discuss only the top 4 layers depicted by Figure 3.1. The remaining layers have already been dealt with in the *Monitoring Unix and Windows Servers* document.

3.1 The IMS Mail Service Layer

The tests associated with this layer enable a fair assessment of the efficiency of the HTTP, IMAP, and POP3 services offered by the messaging server, and the availability and responsiveness of the IMAP, LDAP, and POP3 ports.

Figure 3.2: The tests associated with the IMS Mail Service layer

The Http test and Mail test depicted by Figure 3.2 have been discussed elaborately in the Monitoring Web Servers and the Monitoring Mail Servers documents, respectively. However, the difference lies in how a few parameters of these tests are configured for the Oracle Communications Messaging Server.

The Http test requires that a url parameter be configured. In the URL text box, the web page(s) that is being accessed has to be provided. While multiple URLs (separated by commas) can be provided, each URL should be of the format URL name:URL value. URL name is a unique name assigned to the URL, and the URL value is the value of the URL. By default, the URL text box will display HomePage:http://iplanetmessagingserverIPorhostname:defaultportoftheHttpserver/. For example, if the IP of the Oracle Communications messaging server is 192.168.10.47, then the URL displayed will be - HomePage:http://192.168.10.47:80/, where "80" is the default port of an HTTP server. If the Http port of the Oracle Communications messaging server is not "80", then you need to change the port in this display, accordingly. In other words, if "81" is the Http port of the messaging server, then you need to change the URL to HomePage:http://192.168.10.47:81/. Similarly, the port parameter should be configured with the SMTP port of messaging server.

Likewise, the SendPort parameter of the Mail test should be configured with the SMTP port of the messaging server.

3.1.1 IMS HTTP Test

This test monitors the HTTP service supported by the messaging server.

Target of the test : An Oracle Communications Messaging Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Oracle Communications messaging server.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The SMTP port of the Oracle Communications messaging server.
ServerRoot	Specify the path to the directory into which all servers of a given server group (i.e., all servers managed by a given Administration Server) are installed. For example, in Windows environments, the path can be expressed as: *C:\iOracom\server5*. In Unix platforms, the path can be specified in the following format: */usr/iOracom/server5*. A server group may include other Oracle Communications messaging servers in addition to the messaging server.
Version	This refers to the version number of the messaging server that is being monitored. By default, *none* will be displayed as the Version. If you are monitoring a messaging server that is of a version below 6.0, you need not change the default value of this parameter. However, while monitoring version 6.0 or above, the exact version number needs to be explicitly mentioned against this parameter.
CounterRegistry	Enter the full path to the counter registry to use. By default, the path to the counter registry will be: <IPLANET_MESSAGING_SERVER_ROOT_DIR>/<SERVER_INSTANCE>/counter/counter. Here, SERVER_ROOT_DIR will be the value of the ServerRoot parameter above, and the SERVER_INSTANCE is the name of the instance of the messaging server specified during installation. For example, in Windows environments, the path specification can be: *C:\iPlanet\Server5\msg-egtes\counter\counter*, and in Unix environments, it can be: *usr/iplanet/server5/msg-sun08/counter/counter*.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Active connections	Indicates the number of active HTTP connections to the server.	Number	A high value for this measure indicates that a large number of HTTP connections are opened to the server.
Active sessions	Indicates the number of HTTP server sessions (login to logout) currently active.	Number	A high value for this measure indicates that a large number of HTTP clients are logged into the server.
Connections served	Indicates the rate of	Conns/Sec	A high value for this measure indicates

Measurement	Description	Measurement Unit	Interpretation
	connections served by the HTTP server		that the messaging server is in good health.
Good logins	Indicates the rate of successful logins served by the HTTP server	Logins/Sec	
Failed logins	Indicates the rate of failed logins served by the HTTP server	Logins/Sec	
Failed connections	Indicates the rate at which Http connections failed	Conns/Sec	

3.1.2 IMS IMAP Test

This test reports critical metrics pertaining to the performance of the IMAP service of the Oracle Communications Messaging server.

Target of the test : An Oracle Communications Messaging Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Oracle Communications messaging server.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The SMTP port of the Oracle Communications messaging server.
ServerRoot	Specify the path to the directory into which all servers of a given server group (i.e., all servers managed by a given Administration Server) are installed. For example, in Windows environments, the path can be expressed as: *C:\iOracom\server5*. In Unix platforms, the path can be specified in the following format: */usr/iOracom/server5*. A server group may include other Oracle Communications messaging servers in addition to the messaging server.
Version	This refers to the version number of the messaging server that is being monitored. By default, *none* will be displayed as the Version. If you are monitoring a messaging

Parameter	Description
	server that is of a version below 6.0, you need not change the default value of this parameter. However, while monitoring version 6.0 or above, the exact version number needs to be explicitly mentioned against this parameter.
CounterRegistry	Enter the full path to the counter registry to use. By default, the path to the counter registry will be: <IPLANET_MESSAGING_SERVER_ROOT_DIR>/<SERVER_INSTANCE>/counter/counter. Here, SERVER_ROOT_DIR will be the value of the ServerRoot parameter above, and the SERVER_INSTANCE is the name of the instance of the messaging server specified during installation. For example, in Windows environments, the path specification can be: *C:\iPlanet\Server5\msg-egtes\counter\counter*, and in Unix environments, it can be: *usr/iplanet/server5/msg-sun08/counter/counter*.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Active connections	Indicates the number of active IMAP connections to the server.	Number	A high value for this measure indicates that a large number of IMAP connections are opened to the server.
Connections served	Indicates the rate of connections served by the IMAP server	Conns/Sec	A high value for this measure indicates that the IMAP service is functioning efficiently.
Good logins	Indicates the rate of successful logins served by the IMAP server	Logins/Sec	
Failed logins	Indicates the rate of failed logins served by the IMAP server	Logins/Sec	
Failed connections	Indicates the rate at which IMAP connections failed	Conns/Sec	

3.1.3 IMS POP Test

This test reports performance statistics related to the POP3 service of the Oracle Communications Messaging server.

Target of the test : An Oracle Communications Messaging Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Oracle Communications messaging server.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The SMTP port of the Oracle Communications messaging server.
ServerRoot	Specify the path to the directory into which all servers of a given server group (i.e., all servers managed by a given Administration Server) are installed. For example, in Windows environments, the path can be expressed as: *C:\iOracom\server5*. In Unix platforms, the path can be specified in the following format: */usr/iOracom/server5*. A server group may include other Oracle Communications messaging servers in addition to the messaging server.
Version	This refers to the version number of the messaging server that is being monitored. By default, *none* will be displayed as the Version. If you are monitoring a messaging server that is of a version below 6.0, you need not change the default value of this parameter. However, while monitoring version 6.0 or above, the exact version number needs to be explicitly mentioned against this parameter.
CounterRegistry	Enter the full path to the counter registry to use. By default, the path to the counter registry will be: <IPLANET_MESSAGING_SERVER_ROOT_DIR>/<SERVER_INSTANCE>/counter/counter. Here, SERVER_ROOT_DIR will be the value of the ServerRoot parameter above, and the SERVER_INSTANCE is the name of the instance of the messaging server specified during installation. For example, in Windows environments, the path specification can be: *C:\iPlanet\Server5\msg-egtes\counter\counter*, and in Unix environments, it can be: *usr/iplanet/server5/msg-sun08/counter/counter*.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Active connections	Indicates the number of active POP3 connections to the server.	Number	A high value for this measure indicates that a large number of POP3 connections are opened to the server.
Connections served	Indicates the rate of	Conns/Sec	A high value for this measure indicates

Measurement	Description	Measurement Unit	Interpretation
	connections served by the POP3 server		that the POP3 service is functioning efficiently.
Good logins	Indicates the rate of successful logins served by the POP3 server	Logins/Sec	
Failed logins	Indicates the rate of failed logins served by the POP3 server	Logins/Sec	
Failed connections	Indicates the rate at which POP3 connections failed	Conns/Sec	

3.1.4 IMS LDAP Port Test

This test monitors the availability and responsiveness of the TCP port of the Oracle Communications messaging server's LDAP service.

Target of the test : An Oracle Communications Messaging Server

Agent deploying the test : An external agent

Outputs of the test : One set of results for every Oracle Communications messaging server.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The SMTP port of the Oracle Communications messaging server.
TargetPorts	Specify the port at which the IMAP service of the messaging server listens.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
LDAP availability	Indicates whether the TCP connection is available or	Percent	An availability problem can be caused by different factors - e.g., the server

Measurement	Description	Measurement Unit	Interpretation
	not.		process may not be up, or, a network problem may exist, etc.
LDAP response time	Indicates the time taken (in seconds) by the server to respond to a request.	Secs	An increase in response time can be caused by several factors such as a server bottleneck, a network problem, etc.

3.1.5 IMS IMAP Port Test

This test monitors the availability and responsiveness of the TCP port of the Oracle Communications messaging server's IMAP service.

Target of the test : An Oracle Communications Messaging Server

Agent deploying the test : An external agent

Outputs of the test : One set of results for every Oracle Communications messaging server.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The SMTP port of the Oracle Communications messaging server.
TargetPorts	Specify the port at which the IMAP service of the messaging server listens.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
IMAP availability	Indicates whether the TCP connection is available or not.	Percent	An availability problem can be caused by different factors - e.g., the server process may not be up, or, a network problem may exist, etc.
IMAP response time	Indicates the time taken (in seconds) by the server to	Secs	An increase in response time can be caused by several factors such as a

Measurement	Description	Measurement Unit	Interpretation
	respond to a request.		server bottleneck, a network problem, etc.

3.1.6 IMS POP Port Test

This test monitors the availability and responsiveness of the TCP port of the Oracle Communications messaging server's IMAP service.

Target of the test : An Oracle Communications Messaging Server

Agent deploying the test : An external agent

Outputs of the test : One set of results for every Oracle Communications messaging server.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The SMTP port of the Oracle Communications messaging server.
TargetPorts	Specify the port at which the IMAP service of the messaging server listens.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
POP availability	Indicates whether the TCP connection is available or not.	Percent	An availability problem can be caused by different factors - e.g., the server process may not be up, or, a network problem may exist, etc.
POP response time	Indicates the time taken (in seconds) by the server to respond to a request.	Secs	An increase in response time can be caused by several factors such as a server bottleneck, a network problem, etc.

3.2 The IMS Message Store Layer

The tests associated with this proactively alerts administrators of log file accumulation that can choke the database, abnormal locking behaviour that can result in deadlocks, and a high number of transaction aborts indicative of a performance bottleneck on the messaging server.

Figure 3.3: The tests associated with the IMS Message Store layer

3.2.1 IMS Database Log File Test

The Oracle Communications messaging server instance message store contains a database (Berkley DB) that stores information about the mailboxes on the server, and stores quota information about the mailboxes. This test monitors the log files of the message store database.

Target of the test : An Oracle Communications Messaging Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Oracle Communications messaging server.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The SMTP port of the Oracle Communications messaging server.
MboxListPath	The complete path to the "mboxlist" directory of the current instance of the messaging server. By default, this directory will be located within the "store" directory of the "messaging server instance directory". For example, the MboxListPath in Windows environments can be: C:\iPlanet\Server5\msg-egtest\store\mboxlist, and in Unix environments, it can be: /usr/iplanet/server5/msg-sun08/store/mboxlist.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Number of files	Indicates the number of database log files present in the directory, <IPLANET_ MESSAGING_ SERVER_ INSTALL_DIR>/<CURRENT_ INSTANCE_ DIRECTORY>/store/mboxlist. Example of the log file is log.0000000014.	Number	Database log files refer to sleepycat transaction checkpointing log files (in the directory, <IPLANET_ MESSAGING_SERVER_INSTALL_ DIR>/<CURRENT_INSTANCE_ DIRECTORY>/store/mboxlist). If log files accumulate, then database checkpointing will not occur. At any given point of time, the presence of 2 or 3 log files is indicative of good health. If there are more files, it could be a sign of a problem. Log file accumulation could also be due to "stored" problems.
Total size of files	Indicates the space occupied by the database log files.	MB	

3.2.2 IMS Store Locks Test

The Oracle Communications messaging server instance message store contains a database (Berkley DB) that stores information about the mailboxes on the server and stores quota information about the mailboxes. The state of DB-locks is held by different server processes. These database locks can affect the performance of the message store. This test monitors the behaviour of the database locks.

Target of the test : An Oracle Communications Messaging Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Oracle Communications messaging server.

Configurable parameters for the test

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

Parameter	Description
Port	The SMTP port of the Oracle Communications messaging server.
ServerRoot	Specify the path to the directory into which all servers of a given server group (i.e., all servers managed by a given Administration Server) are installed. For example, in Windows environments, the path can be expressed as: *C:\iOracom\server5*. In Unix platforms, the path can be specified in the following format: */usr/iOracom/server5*. A server group may include other Oracle Communications messaging servers in addition to the messaging server.
CounterRegistry	Enter the full path to the counter registry to use. By default, the path to the counter registry will be: <IPLANET_MESSAGING_SERVER_ROOT_DIR>/<SERVER_INSTANCE>/counter/counter. Here, SERVER_ROOT_DIR will be the value of the ServerRoot parameter above, and the SERVER_INSTANCE is the name of the instance of the messaging server specified during installation. For example, in Windows environments, the path specification can be: *C:\iPlanet\Server5\msg-egtes\counter\counter*, and in Unix environments, it can be: *usr/iplanet/server5/msg-sun08/counter/counter*.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Lock requests	Indicates the rate of database lock requests.	Reqs/Sec	
Lock releases	Indicates the rate of database lock releases.	Reqs/Sec	
Deadlocks occurred	The rate of deadlocks	Deadlocks/Sec	A non zero value for this measure is indicative of the occurrence of a deadlock in the message store database. In case of deadlocks, messages will not be getting inserted into the store at reasonable speeds and the ims-ms channel queue will grow larger as a result. The stored utility will automatically perform Deadlock detection and rollback of deadlocked database transactions.

3.2.3 IMS Store Transactions Test

This test monitors the transactions to the message store database.

Target of the test : An Oracle Communications Messaging Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every Oracle Communications messaging server.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The SMTP port of the Oracle Communications messaging server.
ServerRoot	Specify the path to the directory into which all servers of a given server group (i.e., all servers managed by a given Administration Server) are installed. For example, in Windows environments, the path can be expressed as: *C:\iOracom\server5*. In Unix platforms, the path can be specified in the following format: */usr/iOracom/server5*. A server group may include other Oracle Communications messaging servers in addition to the messaging server.
CounterRegistry	Enter the full path to the counter registry to use. By default, the path to the counter registry will be: <IPLANET_MESSAGING_SERVER_ROOT_DIR>/<SERVER_INSTANCE>/counter/counter. Here, SERVER_ROOT_DIR will be the value of the ServerRoot parameter above, and the SERVER_INSTANCE is the name of the instance of the messaging server specified during installation. For example, in Windows environments, the path specification can be: *C:\iPlanet\Server5\msg-egtes\counter\counter*, and in Unix environments, it can be: *usr/iplanet/server5/msg-sun08/counter/counter*.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Active transactions	Indicates the number of transactions that are currently active.	Number	A high value for this measure may indicate a large number of active transactions.
Transaction begins	Indicates the rate at which	Trans/Sec	

Measurement	Description	Measurement Unit	Interpretation
	transactions have begun.		
Transaction commits	Indicates the rate at which transactions have been committed	Trans/Sec	
Transaction aborts	Indicates the rate at which transactions have been aborted/rolled back	Trans/Sec	Rollbacks are expensive operations on a database, and hence, will have to be kept at a minimum.

3.3 The IMS MTA Layer

Using the tests associated with this layer, you can continuously monitor message traffic to identify undelivered messages and message queues that grow consistently.

Figure 3.4: The tests associated with the IMS MTA layer

3.3.1 IMS Message Queues Test

The channel is the fundamental MTA component that processes a message in an Oracle Communications messaging server. A channel represents a connection with another computer system or group of systems. The actual hardware connection or software transport or both may vary widely from one channel to the next. Messages are enqueued by channels on the way into the MTA and dequeued on the way out. A channel might dequeue a message, process the message, or enqueue the message to another MTA channel.

This test will track the queued messages and .HELD messages in a channel's queue directories.

Target of the test : An Oracle Communications Messaging Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every channel in the Oracle Communications messaging server.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The SMTP port of the Oracle Communications messaging server.
Version	This refers to the version number of the messaging server that is being monitored. By default, *none* will be displayed as the Version. If you are monitoring a messaging server that is of a version below 6.0, you need not change the default value of this parameter. However, while monitoring version 6.0 or above, the exact version number needs to be explicitly mentioned against this parameter.
InstanceDirectory	If you are monitoring a messaging server that is of a version below 6.0, then specify the full path to the directory that corresponds to the current messaging server instance. For example, in Windows environments, the path can be expressed as: *C:\iPlanet\Server5\msg-egtest*. In Unix platforms, the path can be specified in the following format: */usr/iplanet/server5/msg-sun08*. On the other hand, if you are monitoring version 6.0 or above of a messaging server, then ensure that the messaging server's root directory is specified as the InstanceDirectory.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Messages attempted	Indicates the number of queued message files in a particular channel's queue directories.	Number	A consistent high value in this measure is an indication that messages are not being delivered, are being delayed in their delivery, or are coming in faster than the system can deliver them. This may be caused by a number of reasons such as a denial of service attack caused by a huge number of messages flooding your system, or the Job Controller not running. Common symptoms of message queue problems are:

Measurement	Description	Measurement Unit	Interpretation
			• Disk space usage grows • User not receiving messages in a reasonable time • Message queue sizes are abnormally high
Messages held	Indicates the number of .HELD message files in a specific channel's queue directories.	Number	If the MTA detects that messages are bouncing between servers or channels, then delivery is halted and the messages are stored in a file with the suffix .HELD in <IPLANET_MESSAGING_ SERVER_ROOT_DIR>/<SERVER_ INSTANCE_DIR>/imta/queue/channel. Whenever you find a value for this measure you have to diagnose and clean up .HELD messages.
Space consumed	Indicates the total space occupied by the queued and .HELD message files	MB	

3.3.2 IMS MTA Test

This test will report statistics related to the message traffic in channels.

Target of the test : An Oracle Communications Messaging Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every channel in the Oracle Communications messaging server.

Configurable parameters for the test

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

Parameter	Description
Port	The SMTP port of the Oracle Communications messaging server.
Version	This refers to the version number of the messaging server that is being monitored. By default, *none* will be displayed as the Version. If you are monitoring a messaging server that is of a version below 6.0, you need not change the default value of this parameter. However, while monitoring version 6.0 or above, the exact version number needs to be explicitly mentioned against this parameter.
InstanceDirectory	If you are monitoring a messaging server that is of a version below 6.0, then specify the full path to the directory that corresponds to the current messaging server instance. For example, in Windows environments, the path can be expressed as: *C:\iPlanet\Server5\msg-egtest*. In Unix platforms, the path can be specified in the following format: */usr/iplanet/server5/msg-sun08*. On the other hand, if you are monitoring version 6.0 or above of a messaging server, then ensure that the messaging server's root directory is specified as the InstanceDirectory.

Measurements made by the test

Measurement	Desacription	Measurement Unit	Interpretation
Messages delivered	Indicates the number of messages which have been processed (dequeued) by the channel since the last measurement. A dequeue operation may either correspond to a successful delivery, or to a dequeue due to the message being returned to the sender.	Number	A high value of this measure indicates that the server is healthy.
Messages attempted	Indicates the number of messages which have experienced temporary problems in dequeuing from message queue since the last measurement.	Number	
Messages rejected	Indicates the number of attempted enqueues which have been rejected by the	Number	

Measurement	Desacription	Measurement Unit	Interpretation
	slave channel program since the last measurement.		
Messages failed	Indicates the number of attempted dequeues which have failed since the last measurement.	Number	This measure refers to recipient addresses that were rejected on attempted dequeue (rejection by Master channel program), or generation of a failure/bounce message.

3.4 The IMS Quota Layer

To monitor users to the server domain and their resource usage on the server, use the IMSUser test associated with this layer (see Figure 3.5).

Figure 3.5: The tests associated with the IMS Quota layer

3.4.1 IMS User Test

This test monitors the user accounts that exist in a domain.

Target of the test : An Oracle Communications Messaging Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every domain.

Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The SMTP port of the Oracle Communications messaging server.
ServerRoot	Specify the path to the directory into which all servers of a given server group (i.e., all servers managed by a given Administration Server) are installed. For example, in Windows environments, the path can be expressed as: *C:\iOracom\server5*. In Unix platforms, the path can be specified in the following format: */usr/iOracom/server5*. A server group may include other Oracle Communications messaging servers in addition to the messaging server.
ConfigRoot	Specify the path to the directory in which the config root file "msg.conf" exists. By default, this file will be located within the "config" directory of the "current messaging server instance directory". For example, in Windows environments, the path can be expressed as: *C:\iPlanet\Server5\msg-egtest\config*. In Unix platforms, the path can be specified in the following format: *usr/iplanet/server5/msg-sun08/config*.
Domains	Specify the names of the domains hosted in the current messaging server instance. Multiple domains can be provided as a comma-separated list, but ensure that there is no space between a comma and a domain name. Example: *chn.egurkha.com,eg.egurkha.com*. Only the users present in the specified domains will be monitored.
Detailed Diagnosis	To make diagnosis more efficient and accurate, the eG Enterprise suite embeds an optional detailed diagnostic capability. With this capability, the eG agents can be configured to run detailed, more elaborate tests as and when specific problems are detected. To enable the detailed diagnosis capability of this test for a particular server, choose the **On** option. To disable the capability, click on the **Off** option. The option to selectively enable/disable the detailed diagnosis capability will be available only if the following conditions are fulfilled: • The eG manager license should allow the detailed diagnosis capability • Both the normal and abnormal frequencies configured for the detailed diagnosis measures should not be 0.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Users connected	Indicates the number of user accounts present in a domain.	Number	
Disk space consumed	Indicates the total disk space consumed by the messages in the user accounts of a particular domain.	MB	If this value is high then it indicates that the users of this domain are consuming more disk space. The detailed diagnosis of this measure, if enabled, provides the list of top 10 users of a domain who have consumed maximum disk resources. This information helps users in identifying the user accounts which utilize more space, and take the necessary measures to free adequate disk space in those accounts
Messages stored	Indicates the total number of messages present in the user accounts of a particular domain	Number	The detailed diagnosis of this measure, if enabled, provides the list of top 10 users of a domain holding maximum number of messages in their respective user accounts.

3.5 Troubleshooting

The tests that the eG agent executes on a Oracle Communications Messaging server extract performance data from the server by issuing some commands. At any given point in time, you can verify the authenticity of the metrics displayed in the monitoring console, by issuing the corresponding command from the command prompt. The key tests executed on the Oracle Communications Messaging server, and the command that each of these tests use for extracting the metrics, are discussed below. **Note that you will need 'root user permissions' to execute all these commands.**

1. If the **IMS Message Queues** test is not reporting measures, then issue the following command from the command prompt, to check whether the desired measures are retrieved:

```
<SERVER_ROOT_DIR>/sbin/imsimta qm summarize -directory_tree -noheading -held,
```

where the <SERVER_ROOT_DIR> refers to the value that you have passed to the ServerRoot parameter of this test.

2. If the **IMS MTA** test is not reporting measures, then issue the following command from the command prompt, to check whether the desired measures are retrieved:

```
<Server_Rootdir>/sbin/imsimta counters -show -noassociations,
```

where the <SERVER_ROOT_DIR>refers to the value that you have passed to the serverroot parameter of this test.

3. If the **IMS Store Locks** test is not reporting measures, then issue the following command from the command prompt, to check whether the desired measures are retrieved:

```
<SERVER_ROOT_DIR>/sbin/counterutil -o db_lock -r <counterregistry> -n 1,
```

where,

<SERVER_ROOT_DIR> - refers to the value that you have passed to the ServerRoot parameter of this test.

<COUNTERREGISTRY> - refers to the value specified against the CounterRegistry parameter of this test

4. If the **IMS Store Transactions** test is not reporting measures, then issue the following command from the command prompt, to check whether the desired measures are retrieved:

```
<SERVER_ROOT_DIR>/sbin/counterutil -o db_txn -r <counterregistry>-n 1,
```

where,

<SERVER_ROOT_DIR> - refers to the value that you have passed to the ServerRoot parameter of this test.

<COUNTERREGISTRY> - refers to the value specified against the CounterRegistry parameter of this test

5. If the **IMS User** test is not reporting measures, then issue the following command from the command prompt, to check whether the desired measures are retrieved:

```
<SERVER_ROOT_DIR>/sbin/imquotacheck -d <domain>,
```

where,

<SERVER_ROOT_DIR> - refers to the value that you have passed to the serverroot parameter of this test.

<DOMAIN> - refers to any of the domain names specified against the domains parameter of this test

6. If the **IMS HTTP** test is not reporting measures, then issue the following command from the command prompt, to check whether the desired measures are retrieved:

```
<SERVER_ROOT_DIR>/sbin/counterutil -o httpstat -r <counterregistry>  -n 1,
```

where,

<SERVER_ROOT_DIR> - refers to the value that you have passed to the ServerRoot parameter of this test.

<COUNTERREGISTRY> - refers to the value specified against the CounterRegistry parameter of this test

7. If the **IMS IMAP** test is not reporting measures, then issue the following command from the command prompt, to check whether the desired measures are retrieved:

```
<SERVER_ROOT_DIR>/sbin/counterutil -o imapstat -r <counterregistry>  -n 1, where,
```

<SERVER_ROOT_DIR> - refers to the value that you have passed to the ServerRoot parameter of this test.

<COUNTERREGISTRY> - refers to the value specified against the CounterRegistry parameter of this test

8. If the **IMS POP** test is not reporting measures, then issue the following command from the command prompt, to check whether the desired measures are retrieved:

```
<SERVER_ROOT_DIR>/sbin/counterutil -o popstat -r <counterregistry>  -n 1, where,
```

<SERVER_ROOT_DIR> - refers to the value that you have passed to the ServerRoot parameter of this test.

<COUNTERREGISTRY> - refers to the value specified against the CounterRegistry parameter of this test.

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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