Monitoring FioranoMQ Messaging Server

eG Innovations Product Documentation

eG
Total Performance Visibility

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Chapter 1: Introduction

FioranoMQ is a communication platform that dramatically reduces the development time for network applications. It incorporates a 100% pure Java implementation of JMS, which provides a standards-based method to access distributed-system services. It further includes support for critical network services such as transactions and guaranteed message delivery.

To ensure high uptime and optimal performance of the FioranoMQ server, it is imperative that you monitor the server operations continuously. This is where eG Enterprise helps administrators. The eG Enterprise analyzes the performance of the FioranoMQ 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 the environment.

Chapter 2: How to Monitor eG Enterprise Using Fiorano MQ Server?

To monitor a Fiorano MQ Server, events generation in the Fiorano MQ Server should be enabled. The events are disabled by default. To enable them, include the flag **ENABLE_EVENTS=TRUE** in the server configuration file (server.cfg). This file can be found in the bin directory of the server. After making the above change, restart the server. When this is done, the events mechanism in the server will initialize and would be ready for publishing the events.

2.1 Managing the Fiorano MQ Server

eG Enterprise can automatically discover the Fiorano MQ Server in the environment and also lets you to add the Fiorano MQ Server component if the server is not auto-discovered. The following steps explain you how to manage the server that is auto-discovered using the eG administrative interface.

1. Log into the eG administrative interface.

2. If a Fiorano MQ Server is already discovered, then directly proceed towards managing it using the **COMPONENTS – MANAGE/UNMANAGE** page.

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.

4. To manage the component that is auto-discovered, follow the Infrastructure -> Components -> Manage/Unmanage menu sequence in the **Infrastructure** tile of the **Admin** menu.

5. In the **COMPONENTS – MANAGE/UNMANAGE** page that appears next, select *Fiorano MQ Server* as the **Component type**. Then, the auto-discovered component will be displayed under **Unmanaged Components** section.

6. Figure 2.1 and Figure 2.2 clearly illustrate the process of managing a FioranoMQ server.
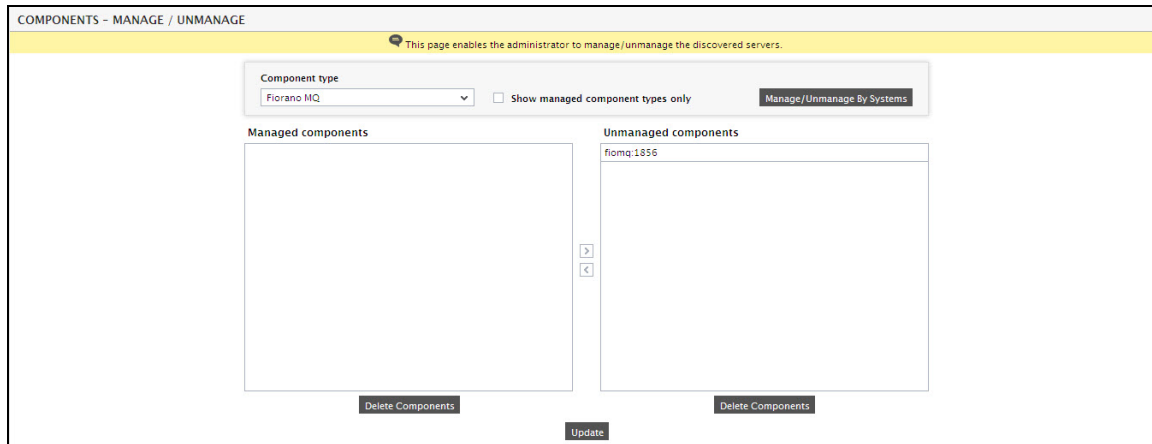
Figure 2.1: Viewing the list of unmanaged Fiorano MQ servers
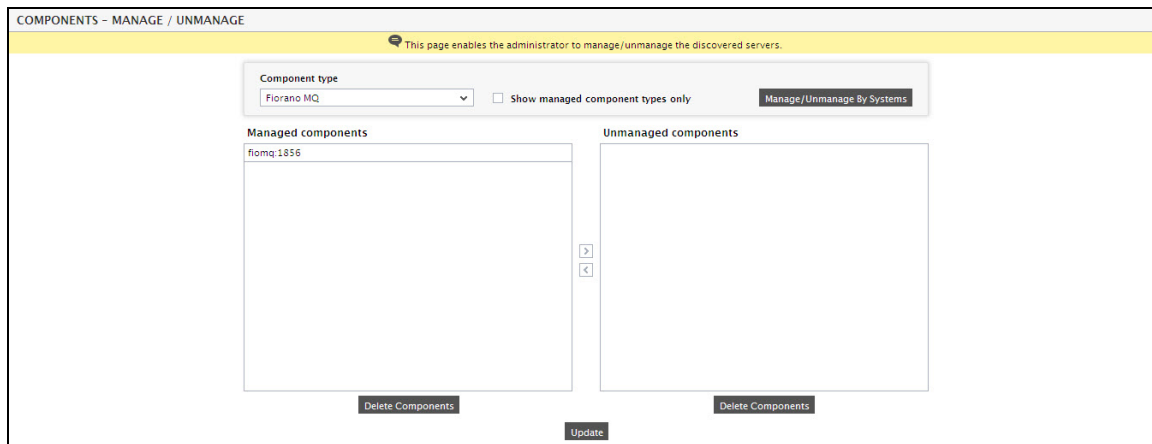
Figure 2.2: Managing a Fiorano MQ server

7. 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 2.4).

Figure 2.3: A list of tests to be configured

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

TEST PERIOD	5 mins
HOST	192.168.10.1
PORT	1856
* HOMEDIR	C:\PROGRA~1\Fiorano\FIORAN~1.0
* SVRBINDIR	C:\PROGRA~1\Fiorano\FIORAN~1.0\bin
* SERVERMODE	tcp
* ADMINID	admin
* ADMINPASSWORD	•••••
* CONFIRM PASSWORD	•••••
* ACF	acf1
* TCF	tcf1
TRUSTSTORE	NONE

Figure 2.4: Configuring the FMQ JVM test

9. To know how to configure the tests, refer to **Monitoring FioranoMQ Servers**.

10. Next, sign out of the admin interface. Now it will prompt you to configure the **Processes** test for Fiorano MQ server. This test has been elaborately discussed in *Monitoring Unix and Windows Servers* document.

11. Finally, signout of the eG administrative interface.

Chapter 3: Monitoring FioranoMQ Servers

eG Enterprise offers a specialized Fiorano MQ monitoring model (see Figure 3.1) , using which administrators can determine the overall health of FioranoMQ server
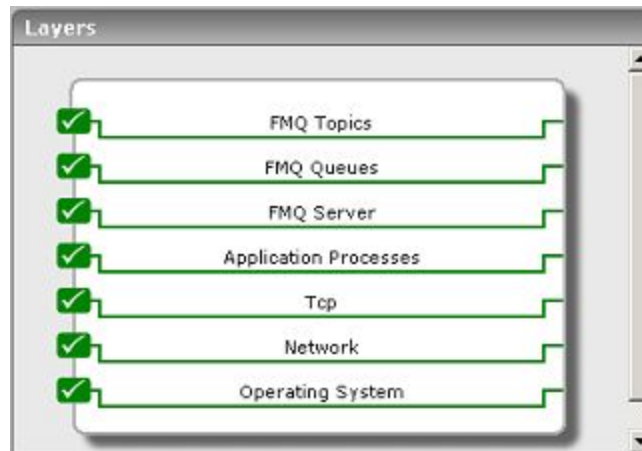
Figure 3.1: The layer model of a FioranoMQ server

The sections to come will discuss the top 3 layers only of Figure 3.1, as the remaining layers have already been discussed in detail in the *Monitoring Unix and Windows Servers* document.

Note:

To monitor a FioranoMQ Server, events generation in the FioranoMQ Server should be enabled.

3.1 The FMQ Server Layer

The tests mapped to this layer extract a wide variety of metrics from the FioranoMQ server, which reveal the following:

- Is the FioranoMQ server overloaded?

- Have adequate threads been spawned on the server to handle the load?

- Have sufficient memory resources been allocated to the server for processing requests?

- Are topics functioning smoothly?

- Do topics and queues consist of too many undelivered messages?

Figure 3.2: The tests associated with the FMQ Server layer

3.1.1 FMQ Threads Test

This test reports the status of threads executed by the FioranoMQ.

Target of the test : A FioranoMQ Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for a FioranoMQ server being monitored.

Configurable parameters for the test

Parameter	Description
Test Period	How often should the test be executed.
Host	The IP address of the host for which this test is to be configured.
Port	The port at which the specified host listens.
HomeDir	The location of the directory in which the FioranoMQ server has been installed. For example, the HomeDir for a Windows installation of the FioranoMQ server will be of the following format: *C:\PROGRA~1\Fiorano\FIORAN~1.0*. The format for a Unix installation will be: */user/egurkha/Fiorano/FioranoMQ7.0*.
SvrBinDir	The full path to the bin directory of the FioranoMQ server installation that contains the file ConnectionManager.xmlin FioranoMQ server 6.0, or the FMQListeners.xmlin the FioranoMQ7.0. These files, which are required for starting the respective FioranoMQ servers, also help the test in determining the version number of the FioranoMQ server (whether 6 or 7). For example, the SvrBinDir for a Windows installation of the server will be of the format: *C:\PROGRA~1\Fiorano\FIORAN~1.0\bin*. The format for Unix

Parameter	Description
	installations will be: */user/egurkha/Fiorano/FioranoMQ7.0/bin.*
ServerMode	The mode in which the FioranoMQ server is running. This parameter can take any of the following values:
	• **tcp**: In this mode, the FioranoMQ server accepts non-secure TCP connections. This is the default value for ServerMode parameter.
	• **ssljsse**: In this mode, the FioranoMQ server accepts secure connections which are serviced using Sun's JSSE implementation.
	• **sslphaos**: In this mode, the FioranoMQ server accepts secure TCP connections and secure connections using Phaos.
	• **http**: In this mode, the FioranoMQ server accepts non-secure HTTP connections.
	• **httpjsse**: In this mode, the FioranoMQ server accepts secure HTTPS connections which are serviced using Sun's JSSE implementation.
	• **httpphaos**: In this mode, the FioranoMQ server accepts secure HTTPS connections using Phaos.
AdminID	The user name of the FioranoMQ server's administrator. The default is "admin".
Admin Password	The password corresponding to the specified admin user.
Confirm Password	Confirm the password by retyping it here.
ACF	**ACF** stands for *Admin Connection Factory* object. Specify the name of an existing ACF object in this text box. This object is used to obtain a handle to an Admin connection.
TCF	**TCF** stands for Topic Connection Factory object. Specify the name of an existing TCF object in this text box. This object is used to set up a connection with the provider.
TrustStore	The truststore or keystore database which the JVM uses to verify certificates. For example, this parameter can take the value *c:\FioranoMQ\bin\jssecacerts* on Windows (on Unix, the path would be expressed as: */user/egurkha/Fiorano/FioranoMQ7.0/bin/jssecacerts)*, where jssecacerts is the truststore database which the JVM uses.

Note:

Refer to Section **3.3.1.1** to know the values of the ServerMode, ACF and TCF test parameters.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Active threads	The number of threads in the FioranoMQ that are currently active.	Number	If the number of active threads is very high, then it indicates excessive activity on the server.
Idle threads	The number of threads in the FioranoMQ that are currently idle.	Number	

3.1.2 FMQ Server Test

This test reports performance statistics pertaining to the FioranoMQ server.

Target of the test : A FioranoMQ Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for a FioranoMQ server being monitored.

Configurable parameters for the test

Parameter	Description
Test Period	How often should the test be executed.
Host	The IP address of the host for which this test is to be configured.
Port	The port at which the specified host listens.
HomeDir	The location of the directory in which the FioranoMQ server has been installed. For example, the HomeDir for a Windows installation of the FioranoMQ server will be of the following format: *C:\PROGRA~1\Fiorano\FIORAN~1.0*. The format for a Unix installation will be: */user/egurkha/Fiorano/FioranoMQ7.0*.
SvrBinDir	The full path to the bin directory of the FioranoMQ server installation that contains the file ConnectionManager.xmlin FioranoMQ server 6.0, or the FMQListeners.xmlin the FioranoMQ7.0. These files, which are required for starting the respective FioranoMQ servers, also help the test in determining the version number of the FioranoMQ server (whether 6 or 7). For example, the svrbindir for a Windows installation of the server will be of the format: *C:\PROGRA~1\Fiorano\FIORAN~1.0\bin*. The format for Unix installations will be: */user/egurkha/Fiorano/FioranoMQ7.0/bin*.

Parameter	Description
ServerMode	The mode in which the FioranoMQ server is running. This parameter can take any of the following values: • **tcp**: In this mode, the FioranoMQ server accepts non-secure TCP connections. This is the default value for ServerMode parameter. • **ssljsse**: In this mode, the FioranoMQ server accepts secure connections which are serviced using Sun's JSSE implementation. • **sslphaos**: In this mode, the FioranoMQ server accepts secure TCP connections and secure connections using Phaos. • **http**: In this mode, the FioranoMQ server accepts non-secure HTTP connections. • **httpjsse**: In this mode, the FioranoMQ server accepts secure HTTPS connections which are serviced using Sun's JSSE implementation. • **httpphaos**: In this mode, the FioranoMQ server accepts secure HTTPS connections using Phaos.
AdminID	The user name of the FioranoMQ server's administrator. The default is "admin".
Admin Password	The password corresponding to the specified admin user.
Confirm Password	Confirm the password by retyping it here.
ACF	**ACF** stands for *Admin Connection Factory* object. Specify the name of an existing ACF object in this text box. This object is used to obtain a handle to an Admin connection.
TCF	**TCF** stands for Topic Connection Factory object. Specify the name of an existing TCF object in this text box. This object is used to set up a connection with the provider.
TrustStore	The truststore or keystore database which the JVM uses to verify certificates. For example, this parameter can take the value *c:\FioranoMQ\bin\jssecacerts* on Windows (on Unix, the path would be expressed as: */user/egurkha/Fiorano/FioranoMQ7.0/bin/jssecacerts)*, where jssecacerts is the truststore database which the JVM uses.

Note:

Refer to Section **3.3.1.1** to know the values of the ServerMode, ACF and TCF test parameters.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Active connections	The number of active client connections to the server	Number	A large number of active connections could indicate that a large number of clients have connected to the server. Alternatively, it could also mean that connections are not being released / closed properly.
Total topics	The number of topics present in the server. The FioranoMQ server sends messages to a client through a queue or a topic. While a message in a queue can be sent to a single recipient only, a message in a topic can be sent to multiple recipients who subscribed for the topic.	Number	
Topics messages consumed	The rate at which messages are received from all the topics on the server	Reads/Sec	This measure is an indicator of clients actively connecting and receiving messages from topics for which they have subscribed. An increase or decrease in the rate of message consumption represents the system load.
Topic messages published	The rate of publication of messages to all the topics on the server.	Writes/Sec	This measure is an indicator of clients actively connecting and sending messages to topics. An increase or decrease in the rate of message publication represents the system load.
Total durable subscribers	The number of durable subscriptions on all the topics present in the	Number	If the total number of durable subscribers is high, then we can expect the total durable messages to be stored on the FioranoMQ also to be

Measurement	Description	Measurement Unit	Interpretation
	server. If a client with a durable subscription is not currently available for receiving messages, then such messages will not be lost in transit. Instead, the messages will be stored by the server until such time that client becomes available. Once the client is activated, the messages will be automatically sent.		relatively on the higher side.
Total durable messages	The total number of messages pending for all durable subscribers on all topics present in the server	Number	If the value of this measure is consistently high, it indicates that the receivers are not receiving the messages stored in the topics. The reason is that the clients may not be active to receive messages or the clients may be unable to connect to the server.
Total queues	The number of queues present in the server	Number	
Queue messages consumed	The rate at which messages are received from all the queues on the server	Reads/Sec	This measure is an indicator of clients actively connecting and popping messages from queues. An increase or decrease in the rate of message consumption represents the system load.
Queue messages pushed	The rate of number of messages pushed to all queues on the server.	Writes/Sec	This measure is an indicator of clients actively connecting and pushing messages into the queues. An increase or decrease in this rate represents the system load.
Topic connection factories	The number of topic connection factories present in the server.	Number	

Measurement	Description	Measurement Unit	Interpretation
Admin connection factories	The number of admin connection factories present in the server.	Number	

3.1.3 FMQ JVM Test

This test reports the memory usage of the FioranoMQ server.

Target of the test : A FioranoMQ Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for a FioranoMQ server being monitored.

Configurable parameters for the test

Parameter	Description
Test Period	How often should the test be executed.
Host	The IP address of the host for which this test is to be configured.
Port	The port at which the specified host listens.
HomeDir	The location of the directory in which the FioranoMQ server has been installed. For example, the HomeDir for a Windows installation of the FioranoMQ server will be of the following format: *C:\PROGRA~1\Fiorano\FIORAN~1.0*. The format for a Unix installation will be: */user/egurkha/Fiorano/FioranoMQ7.0*.
SvrBinDir	The full path to the bin directory of the FioranoMQ server installation that contains the file ConnectionManager.xmlin FioranoMQ server 6.0, or the FMQListeners.xmlin the FioranoMQ7.0. These files, which are required for starting the respective FioranoMQ servers, also help the test in determining the version number of the FioranoMQ server (whether 6 or 7). For example, the svrbindir for a Windows installation of the server will be of the format: *C:\PROGRA~1\Fiorano\FIORAN~1.0\bin*. The format for Unix installations will be: */user/egurkha/Fiorano/FioranoMQ7.0/bin.*
ServerMode	The mode in which the FioranoMQ server is running. This parameter can take any of the following values:

- **tcp**: In this mode, the FioranoMQ server accepts non-secure TCP connections. This is the default value for ServerMode parameter.

Parameter	Description
	• **ssljsse**: In this mode, the FioranoMQ server accepts secure connections which are serviced using Sun's JSSE implementation. • **sslphaos**: In this mode, the FioranoMQ server accepts secure TCP connections and secure connections using Phaos. • **http**: In this mode, the FioranoMQ server accepts non-secure HTTP connections. • **httpjsse**: In this mode, the FioranoMQ server accepts secure HTTPS connections which are serviced using Sun's JSSE implementation. • **httpphaos**: In this mode, the FioranoMQ server accepts secure HTTPS connections using Phaos.
AdminID	The user name of the FioranoMQ server's administrator. The default is "admin".
Admin Password	The password corresponding to the specified admin user.
Confirm Password	Confirm the password by retyping it here.
ACF	**ACF** stands for *Admin Connection Factory* object. Specify the name of an existing ACF object in this text box. This object is used to obtain a handle to an Admin connection.
TCF	**TCF** stands for Topic Connection Factory object. Specify the name of an existing TCF object in this text box. This object is used to set up a connection with the provider.
TrustStore	The truststore or keystore database which the JVM uses to verify certificates. For example, this parameter can take the value *c:\FioranoMQ\bin\jssecacerts* on Windows (on Unix, the path would be expressed as: */user/egurkha/Fiorano/FioranoMQ7.0/bin/jssecacerts)*, where jssecacerts is the truststore database which the JVM uses.

Note:

Refer to Section **3.3.1.1** to know the values of the ServerMode, ACF and TCF test parameters.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Memory consumed	The memory utilized by the	MB	This measure serves as an indicator of

Measurement	Description	Measurement Unit	Interpretation
	server		the level of activity on the FioranoMQ server. While a high value indicates that the server is actively performing its messaging functions, a low value indicates that client connections, and the receipt and transmission of messages, is low.
Free memory	The unused memory in the server	MB	This indicates how much more memory is available for the JVM to perform further duties. If frequently fully used up and close to 0, it means the total memory allocation to JVM has to be tuned up accordingly.
Total memory	The total memory available to the FioranoMQ server	MB	This indicates how much memory is totally available for the JVM of FioranoMQ server.

3.2 The FMQ Queues Layer

Use the **FMQ Queue** test associated with this layer to determine how many messages pending delivery are still available in the queue.

Figure 3.3: The tests associated with the FMQ Queues layer

3.2.1 FMQ Queues Test

This test tracks various statistics pertaining to the queues on a FioranoMQ server.

Target of the test : A FioranoMQ Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every queue on a FioranoMQ server.

Configurable parameters for the test

Parameter	Description
Test Period	How often should the test be executed.
Host	The IP address of the host for which this test is to be configured.
Port	The port at which the specified host listens.
HomeDir	The location of the directory in which the FioranoMQ server has been installed. For example, the HomeDir for a Windows installation of the FioranoMQ server will be of the following format: *C:\PROGRA~1\Fiorano\FIORAN~1.0*. The format for a Unix installation will be: */user/egurkha/Fiorano/FioranoMQ7.0*.
ServerMode	The mode in which the FioranoMQ server is running. This parameter can take any of the following values:

- **tcp**: In this mode, the FioranoMQ server accepts non-secure TCP connections. This is the default value for ServerMode parameter.

- **ssljsse**: In this mode, the FioranoMQ server accepts secure connections which are serviced using Sun's JSSE implementation.

- **sslphaos**: In this mode, the FioranoMQ server accepts secure TCP connections and secure connections using Phaos.

- **http**: In this mode, the FioranoMQ server accepts non-secure HTTP connections.

- **httpjsse**: In this mode, the FioranoMQ server accepts secure HTTPS connections which are serviced using Sun's JSSE implementation.

- **httpphaos**: In this mode, the FioranoMQ server accepts secure HTTPS connections using Phaos.

AdminID	The user name of the FioranoMQ server's administrator. The default is "admin".
Admin Password	The password corresponding to the specified admin user.
Confirm Password	Confirm the password by retyping it here.
ACF	**ACF** stands for *Admin Connection Factory* object. Specify the name of an existing

Parameter	Description
	ACF object in this text box. This object is used to obtain a handle to an Admin connection.
TCF	**TCF** stands for Topic Connection Factory object. Specify the name of an existing TCF object in this text box. This object is used to set up a connection with the provider.
TrustStore	The truststore or keystore database which the JVM uses to verify certificates. For example, this parameter can take the value *c:\FioranoMQ\bin\jssecacerts* on Windows (on Unix, the path would be expressed as: */user/egurkha/Fiorano/FioranoMQ7.0/bin/jssecacerts)*, where jssecacerts is the truststore database which the JVM uses.

Note:

Refer to page Section **3.3.1.1** to know the values of the ServerMode, ACF and TCF test parameters.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Total deliverable messages	The number of messages in the queue that are awaiting delivery	Number	If the value of this measure has been consistently high, then it indicates that the receivers are not receiving the messages in the queue. This could be due to either of the following reasons: • The client may not be active to receive messages • The client may be unable to connect to the server
Total undeleted messages	The number of undeleted messages in the queue. Undeleted messages are those for which the server has not received acknowledgment from the client.	Number	MQ servers mostly consider a message as delivered only if an acknowledgment is received from the client after delivery. Undeleted messages are those messages for which the MQ server has not received the acknowledgment from the client, and are waiting for deletion from the queue. Too many undeleted messages could

Measurement	Description	Measurement Unit	Interpretation
			unnecessarily burden the server and seriously hamper performance. Alternately it can mean that due to some reasons the clients are not able to connect/send acknowledgment to the FioranoMQ server.

3.3 The FMQ Topics Layer

This layer helps administrators quickly determine processing delays in the topics (see Figure 3.4).

Figure 3.4: The tests associated with the FMQ Topics layer

3.3.1 FMQ Topics Test

This test reports general statistics pertaining to the topics on a FioranoMQ server.

Target of the test : A FioranoMQ Server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every topic on a FioranoMQ server.

Configurable parameters for the test

Parameter	Description
Test Period	How often should the test be executed.
Host	The IP address of the host for which this test is to be configured.

Parameter	Description
Port	The port at which the specified host listens.
HomeDir	The location of the directory in which the FioranoMQ server has been installed. For example, the HomeDir for a Windows installation of the FioranoMQ server will be of the following format: *C:\PROGRA~1\Fiorano\FIORAN~1.0*. The format for a Unix installation will be: */user/egurkha/Fiorano/FioranoMQ7.0*.
SvrBinDir	The full path to the bin directory of the FioranoMQ server installation that contains the file ConnectionManager.xmlin FioranoMQ server 6.0, or the FMQListeners.xmlin the FioranoMQ7.0. These files, which are required for starting the respective FioranoMQ servers, also help the test in determining the version number of the FioranoMQ server (whether 6 or 7). For example, the svrbindir for a Windows installation of the server will be of the format: *C:\PROGRA~1\Fiorano\FIORAN~1.0\bin*. The format for Unix installations will be: */user/egurkha/Fiorano/FioranoMQ7.0/bin.*
ServerMode	The mode in which the FioranoMQ server is running. This parameter can take any of the following values: • **tcp**: In this mode, the FioranoMQ server accepts non-secure TCP connections. This is the default value for ServerMode parameter. • **ssljsse**: In this mode, the FioranoMQ server accepts secure connections which are serviced using Sun's JSSE implementation. • **sslphaos**: In this mode, the FioranoMQ server accepts secure TCP connections and secure connections using Phaos. • **http**: In this mode, the FioranoMQ server accepts non-secure HTTP connections. • **httpjsse**: In this mode, the FioranoMQ server accepts secure HTTPS connections which are serviced using Sun's JSSE implementation. • **httpphaos**: In this mode, the FioranoMQ server accepts secure HTTPS connections using Phaos.
AdminID	The user name of the FioranoMQ server's administrator. The default is "admin".
Admin Password	The password corresponding to the specified admin user.
Confirm Password	Confirm the password by retyping it here.
ACF	**ACF** stands for *Admin Connection Factory* object. Specify the name of an existing ACF object in this text box. This object is used to obtain a handle to an Admin

Parameter	Description
	connection.
TCF	**TCF** stands for Topic Connection Factory object. Specify the name of an existing TCF object in this text box. This object is used to set up a connection with the provider.
TrustStore	The truststore or keystore database which the JVM uses to verify certificates. For example, this parameter can take the value *c:\FioranoMQ\bin\jssecacerts* on Windows (on Unix, the path would be expressed as: */user/egurkha/Fiorano/FioranoMQ7.0/bin/jssecacerts)*, where jssecacerts is the truststore database which the JVM uses.

Note:

Refer to Section **3.3.1.1** to know the values of the ServerMode, ACF and TCF test parameters.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Total durable subscribers	The total durable subscribers for this topic. Messages meant for a durable subscriber are stored in the persistent cache even when the subscriber is inactive. These messages are delivered for durable subscribers when they connect to the FioranoMQ server.	Number	If the total number of durable subscribers is high, then we can expect the total durable messages to be stored on the FioranoMQ also to be relatively on the higher side.
Total deliverable messages	The number of messages deliverable (undelivered+redeliverable) to the durable subscribers of this topic	Number	If the value of this measure is consistently high, it indicates that the receivers are not receiving the messages stored in the topic. The reason is that the client may not be active to receive messages or the client may be unable to connect to the server. The detailed diagnosis of this measure, if enabled, provides the details of the messages still to be delivered to a particular topic. The detailed diagnosis of this

Measurement	Description	Measurement Unit	Interpretation
			measure, if enabled, reveals information pertaining to the messages still to be delivered to a particular topic. The details displayed include the subscriber to which the message(s) is addressed to, the client from which the message(s) originated, and the number of undelivered messages.

3.3.1.1 How to find the ServerMode, ACF and TCF parameters for a FioranoMQ server?

To know the values for ServerMode, ACF and TCF parameters for a FioranoMQ server 6.0, first, open the **ConnectionManager.xml** file in the <FIORANO_INSTALL_DIR>/bin directory. You will find the following section within:

```
<FMQConnectionFactories>

<ClientConnectionFactories>

<ConnectionFactoryInfo type="HTTPS_SUN">

<URL>http://localhost:1856</URL>

<SSLVendor>Sun</SSLVendor>

<SecurityManager>fiorano.jms.ex.sm.def.DefaultJSSESecurityManager</SecurityManager>

<ConnectionManager>


<ClassName>fiorano.jms.cm.def.SocketReadHandlerDefImpl</ClassName>

                </ConnectionManager>

<ConnectionFactoryName fmq_type='TOPIC'>primaryTCF</ConnectionFactoryName>

                <ConnectionFactoryName fmq_
type='TOPIC'>secondaryTCF</ConnectionFactoryName>

                <ConnectionFactoryName fmq_
type='QUEUE'>primaryQCF</ConnectionFactoryName>

                <ConnectionFactoryName fmq_
type='QUEUE'>secondaryQCF</ConnectionFactoryName>

<ConnectionFactoryName fmq_type='UNIFIED'>primaryCF</ConnectionFactoryName>
</ConnectionFactoryInfo>

        </ClientConnectionFactories>
```

```
<AdminConnectionFactories>

<ConnectionFactoryInfo type="HTTPS_SUN">

        <URL>http://localhost:1857</URL>

   <SSLVendor>Sun</SSLVendor>

<SecurityManager>fiorano.jms.ex.sm.def.DefaultJSSESecurityManager</SecurityManager>

                <ConnectionManager>

                   <ClassName>
fiorano.jms.cm.def.SocketReadHandlerDefImpl</ClassName>

                </ConnectionManager>
```

<ConnectionFactoryName fmq_type='ADMIN'>primaryACF</ConnectionFactoryName>

```
</ConnectionFactoryInfo>

</AdminConnectionFactories>

</FMQConnectionFactories>
```

Note the lines marked in Bold. The first of these lines reads as follows: **<ConnectionFactoryInfo type="HTTPS_ SUN">** . If the **ConnectionFactoryInfo type** is **HTTPS_ SUN** , then the ServerMode will be **httpjsse** . For the other ServerModes, the corresponding **ConnectionFactoryInfo type** will be:

ConnectionFactoryInfo Type	ServerMode
HTTP	**http**
HTTPS_PHAOS	**Httpphaos**
SUN_SSL	**Ssljsse**
PHAOS_SSL	**Sslphaos**

The next line marked in Bold, reads as follows: **<ConnectionFactoryName fmq_ type='TOPIC'>primaryTCF</ConnectionFactoryName>**. Here, the term **primaryTCF** indicates the name of the TCF object, and the same has to be provided as the TCF parameter.

The last line marked in Bold, reads as follows: **<ConnectionFactoryName fmq_ type='ADMIN'>primaryACF</ConnectionFactoryName>** . Here, the term **primaryACF** indicates the name of the ACF object, and the same has to be provided as the ACF parameter.

To know the values for ServerMode, ACF and TCF for a FioranoMQ server 7.0, open the **AdminTool.xml** file in the <FIORANO_INSTALL_DIR>/bin directory. You will find the following section within:

```
<AdminToolCfg>

<Param Name="LOG_MANAGER">fiorano.jms.log.def.LogManagerImpl</Param>

        <Param Name="REPEATER_ENABLED">yes</Param>

<Param Name="REPEATER_TOPIC">REPEATER_QUERY_TOPIC</Param>

<Param Name="REPEATER_REQUEST_TIMEOUT">10000</Param>

<Param Name="ConfigurationTab">true</Param>

<Param Name="showalltracecomponents">true</Param>
```

<Param Name="TransportProtocol">HTTP</Param>

```
<Param Name="SYSTEM_MESSAGESNOOPER_TOPIC">SYSTEM_MESSAGESNOOPER_TOPIC</Param>


<Param Name="SYSTEM_MESSAGESNOOPER_QUEUE">SYSTEM_MESSAGESNOOPER_QUEUE</Param>

<FioranoMQServer  URL="http://localhost:1856">
```

<AdminCF Name="primaryACF"></AdminCF>

<TopicCF Name="primarytcf"></TopicCF>

```
<QueueCF Name="primaryqcf"></QueueCF>

</FioranoMQServer>

</AdminToolCfg>
```

Note the lines marked in Bold. The first of these lines reads as follows: **<Param Name="TransportProtocol">HTTP</Param>** . If the **TransportProtocol** is **HTTP** then the ServerMode will be **http**. For the other ServerModes, the corresponding **TransportProtocol** will be:

Transportprotocol	ServerMode
HTTPS_SUN	**httpjsse**
HTTPS_PHAOS	**httpphaos**
SUN_SSL	**ssljsse**
PHAOS_SSL	**sslphaos**

The next line marked in Bold, reads as follows: **<AdminCF Name="primaryACF"></AdminCF>**. Here, the term primaryACF indicates the name of the ACF object, and the same has to be provided as the ACF parameter.

The last line marked in Bold, reads as follows: **<TopicCF Name ="primaryTCF"></TopicCF>**.
Here, the term primaryTCF indicates the name of the TCF object, and the same has to be provided
as the TCF parameter.

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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For support queries, email support@eginnovations.com.

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