Using IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring
Using IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring

This edition applies to version 3.7.0 of IBM® Tivoli® OMEGAMON® XE for WebSphere® MQ (product number 5724-L34 on Windows, UNIX, OS/400®, and HP NonStop Kernel; product number 5698-A57 on z/OS®) and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces GC32-9330-00.

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IBM® Tivoli® OMEGAMON® XE for WebSphere® Monitoring is a component product of IBM Tivoli OMEGAMON XE for WebSphere MQ which is a component product of the IBM Tivoli OMEGAMON XE for WebSphere Business Integration package. The IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring software lets you easily collect and analyze WebSphere MQ-specific data for all your remote and local queue managers from a single vantage point.

This book describes the features and capabilities of IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring, and explains how to use it to monitor your WebSphere MQ network.
About This Book

Who should read this book

This book provides information to all users of IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring.

The Customizing Monitoring Options chapter is intended for system administrators. It has been included in this guide for convenience in cross-referencing the features that are directly controlled by certain monitoring option parameters. Some features of this product have special security considerations; these are described in the Selected Features chapter.

This book is designed to complement the online help that is provided with the product package.

Note: Before you can follow any of the instructions in this book, you must have OMEGAMON Platform and IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring installed and configured in your enterprise. For instructions, see the installation and configuration books on the publications CDs that accompanied this product package.

Related publications

This section lists other useful publications in the IBM Tivoli OMEGAMON XE for WebSphere Business Integration library and in the OMEGAMON Platform library.

The installation and configuration instructions in the following books are a prerequisite to the instructions in Using IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring:

- **Windows and UNIX:**
  - Installing and Setting up OMEGAMON Platform and CandleNet® Portal on Windows and UNIX, SC32-1768
  - Installing and Setting up IBM Tivoli OMEGAMON XE for WebSphere Business Integration on Windows and UNIX, SC31-6885
- **z/OS®:**
  - Configuring Candle Management Server on z/OS, GC32-9414
  - Configuring IBM Tivoli OMEGAMON XE for WebSphere Business Integration on z/OS, SC31-6884
- **OS/400®:**
  - Installing and Setting up IBM Tivoli OMEGAMON XE for WebSphere MQ on OS/400, SC31-6886
- **HP NonStop Kernel**
  - Installing and Setting up IBM Tivoli OMEGAMON XE for WebSphere MQ on HP NonStop Kernel, SC31-6887
These books explain how to use the other component products of IBM Tivoli OMEGAMON XE for WebSphere Business Integration:

- Using IBM Tivoli OMEGAMON XE for WebSphere MQ Configuration, SC31-6889
- Using IBM Tivoli OMEGAMON XE for WebSphere Integration Brokers, SC31-6890
- Using IBM Tivoli OMEGAMON XE for WebSphere InterChange Server, SC31-6891

The following documents also provide useful information:

- Administering OMEGAMON Products: CandleNet® Portal, GC32-9180, describes the support tasks and functions required for the OMEGAMON Platform, including CandleNet Portal user administration.
- Using OMEGAMON Products: CandleNet Portal, GC32-9182, describes the features of CandleNet Portal and how to use them with your IBM Tivoli OMEGAMON XE products.
- Historical Data Collection Guide for IBM Tivoli OMEGAMON XE Products, GC32-9429, describes the process of collecting historical data and either warehousing it or converting it to delimited flat files for reporting purposes.
- IBM Tivoli Candle Products Messages, 5 vols. SC32-9416–SC32-9420, lists messages issued by the OMEGAMON Platform components.

The online glossary for the CandleNet Portal includes definitions for many of the technical terms related to OMEGAMON XE software.

Accessing publications online

Two publications CDs are shipped with IBM Tivoli OMEGAMON XE for WebSphere MQ:

- IBM Tivoli OMEGAMON XE for WebSphere Business Integration Documentation CD
- OMEGAMON Platform and CandleNet Portal Documentation CD

The format of all publications is PDF. Refer to the readme file on the CD for instructions on how to access the documentation.

IBM posts publications for this and all other Tivoli products, as they become available and whenever they are updated, to the Tivoli software information center Web site. Access the Tivoli software information center by first going to the Tivoli software library at the following Web address:


Scroll down and click the Product manuals link. In the Tivoli Technical Product Documents Alphabetical Listing window, click the IBM Tivoli OMEGAMON XE for WebSphere Business Integration link to access the product library at the Tivoli software information center.

If you print PDF documents on other than letter-sized paper, set the option in the File > Print window that allows Adobe Reader to print letter-sized pages on your local paper.

Ordering publications

You can order many Tivoli publications online at the following Web site:

You can also order by telephone by calling one of these numbers:

- In the United States: 800-879-2755
- In Canada: 800-426-4968

In other countries, see the following Web site for a list of telephone numbers:

http://www.ibm.com/software/tivoli/order-lit

**Tivoli technical training**

For Tivoli technical training information, refer to the following IBM Tivoli Education Web site:

http://www.ibm.com/software/tivoli/education

**Support information**

If you have a problem with your IBM software, you want to resolve it quickly. IBM provides the following ways for you to obtain the support you need:

- Searching knowledge bases: You can search across a large collection of known problems and workarounds, Technotes, and other information.
- Obtaining fixes: You can locate the latest fixes that are already available for your product.
- Contacting IBM Software Support: If you still cannot solve your problem, and you need to work with someone from IBM, you can use a variety of ways to contact IBM Software Support.

For more information about these three ways of resolving problems, see “Support Information” on page 179.
Documentation Conventions

Overview
This guide uses several conventions for special terms and actions, and operating system-dependent commands and paths.

Panels and figures
The panels and figures in this document are representations. Actual product panels may differ.

Required blanks
The slashed-b (\) character in examples represents a required blank. The following example illustrates the location of two required blanks.

```
!beBA*ServiceMonitor!0990221161551000
```

Revision bars
Revision bars (|) may appear in the left margin to identify new or updated material.

Variables and literals
In examples of z/OS® command syntax, uppercase letters are actual values (literals) that the user should type; lowercase letters are used for variables that represent data supplied by the user. Default values are underscored.

```
LOGON APPLID (cccccccc)
```

In the above example, you type LOGON APPLID followed by an application identifier (represented by cccccccc) within parentheses.

Symbols
The following symbols may appear in command syntax:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The “or” symbol is used to denote a choice. Either the argument on the left or the argument on the right may be used. Example: **YES</td>
</tr>
<tr>
<td>[ ]</td>
<td>Denotes optional arguments. Those arguments not enclosed in square brackets are required. Example: <strong>APPLDEST DEST [ALTDEST]</strong> In this example, DEST is a required argument and ALTDEST is optional.</td>
</tr>
</tbody>
</table>
Some documents use braces to denote required arguments, or to group arguments for clarity. Example:

```
COMPARE {workload} -
    REPORT={SUMMARY | HISTOGRAM}
```

The `workload` variable is required. The `REPORT` keyword must be specified with a value of SUMMARY or HISTOGRAM.

Default values are underscored. Example:

```
COPY infile outfile - [COMPRESS={YES \| NO}]
```

In this example, the `COMPRESS` keyword is optional. If specified, the only valid values are YES or NO. If omitted, the default is YES.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Usage</th>
</tr>
</thead>
</table>
| `{ }`  | Some documents use braces to denote required arguments, or to group arguments for clarity. Example:  
        `COMPARE {workload} -
            REPORT={SUMMARY | HISTOGRAM}
`
        The `workload` variable is required. The `REPORT` keyword must be specified with a value of SUMMARY or HISTOGRAM. |
| `_`    | Default values are underscored. Example:  
        `COPY infile outfile - [COMPRESS={YES \| NO}]
`
        In this example, the `COMPRESS` keyword is optional. If specified, the only valid values are YES or NO. If omitted, the default is YES. |
What’s New in Version 3.7.0

This product has a new name

IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring (formerly OMEGAMON XE for WebSphere MQ Monitoring) has been renamed because it is now produced by the Tivoli Software Group of IBM.

Its companion product, IBM Tivoli OMEGAMON XE for WebSphere MQ Configuration (formerly OMEGAMON XE for WebSphere MQ Configuration) has also been renamed.

These two component products together are called IBM Tivoli OMEGAMON XE for WebSphere MQ which is a component product of the IBM Tivoli OMEGAMON XE for WebSphere Business Integration package.

Monitoring product enhancements

This monitoring product includes many user-requested enhancements. They are:

- **Enhanced monitoring of WebSphere MQ queues**
  
  The Queue Statistics workspace displays new Initiation Queue Name and Process Name columns (and you can use these attributes in situations that you write). As in the previous release, important information about how this product collects queue statistics is described in “Queue Statistics Feature” on page 71.

  The following new workspaces are provided for you to examine the status of queues.

  - The new Open Queue Handles workspace displays (“on request only”) the most current queue handle data for all open local queues of a selected queue manager. This information can help you determine which applications or users opened the queue and for what purpose. This workspace requires WebSphere MQ V5.3 or above. The Open Queue Handles workspace is an alternate workspace at the Queue Statistics workspace level in the Navigator physical view.

  - The new Queue Status workspace displays (“on request only”) the most current queue status data for a selected open queue. For example, this workspace displays whether the selected queue has uncommitted messages. This workspace requires WebSphere MQ V5.3 or above. The Queue Status workspace is reached by selecting a row in the Queue Statistics workspace.

  **Note:** “on request only” means data is not sampled, a new query for current data occurs every time you open or refresh the workspace. For performance reasons,
workspaces of this type should not be placed in a short interval automatic refresh mode.

For detailed descriptions of workspaces and individual attributes within a workspace, see the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring section of the CandleNet Portal online help.

- **Enhanced monitoring of TCP/IP listeners on z/OS**
  The Channel Initiator Detail attributes (z/OS only) include the following additional attributes that you can use in situations:
  
  - **# TCPIP Group Listeners** The number of TCP/IP group listeners.
  - **# TCPIP Group Retrying** The number of TCP/IP group listeners that are attempting to become active following an error.
  - **# TCPIP QMgr Listeners** The number of TCP/IP queue manager listeners.
  - **# TCPIP QMgr Retrying** The number of TCP/IP queue manager listeners that are attempting to become active following an error.

  From the top-level Channel Initiator Status workspace (z/OS only), you can access the new TCP/IP Started Listeners workspace which displays multiple started TCP/IP listeners (z/OS only). For an overview of the Channel Initiator Status workspaces, see “Channel Initiator Status (z/OS only)” on page 84.

- **Enhanced display of the contents of a WebSphere MQ message**
  The Message Contents workspace includes a new Converted Data column. The contents of the selected message correctly displays in a readable format, even if the message originated on an ASCII-based Operating System machine and was sent to an EBCDIC-based OS machine (or the reverse). As in the previous release, access to browse a message’s contents is restricted, and depends upon the elements described in “Controlling access to WebSphere MQ messages” on page 66.

- **Enhanced monitoring options for this OMEGAMON Monitoring Agent**
  - You can optionally notify the monitoring agent to monitor active queue managers only (z/OS only). See the ACTIVEONLY parameter of the PERFORM STARTMON command in “Customizing Monitoring Options” on page 27.
  - You can optionally specify longer sampling intervals for specific queue managers and groups of queue managers (z/OS only). See the ICYCLE parameter of the SET GROUP and SET MANAGER monitoring options in “Customizing Monitoring Options” on page 27.
  - You can optionally notify the agent of the location of the appropriate queue manager and error log file to monitor when an alternate installation location has been used for WebSphere MQ (HP NonStop Kernel - formerly known as Tandem - only). See the Installing and Setting up IBM Tivoli OMEGAMON XE for WebSphere MQ on HP NonStop Kernel book for details about updated templates for configuring the agent on HP NonStop Kernel.
Introducing IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring

Introduction

This chapter introduces you to IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring, its facilities, and the environment in which it operates.

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About IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring

What IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring does

IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring lets you easily collect and analyze WebSphere MQ-specific data for all your remote and local queue managers from a single vantage point.

IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring provides many useful workspaces you can use to track trends and understand and troubleshoot system problems.

IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring provides you with the ability to view information about each WebSphere MQ system you are monitoring. You can use this information to:

- monitor the performance of each WebSphere MQ managed system, helping you to identify system bottlenecks and evaluate tuning decisions.
- select the most effective threshold values for situations you create.
- review status information when a change in the state of a given resource occurs, such as from Informational to Warning or from Warning to Critical.

Benefits of using IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring

IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring provides these benefits:

- Increases knowledge—with extensive reporting capabilities that provide real-time access to reliable, up-to-the-minute data. Thus, you can make faster, better-informed operating decisions.

- Enhances system performance—by letting you integrate, monitor, and manage your system, environment, console, and mission-critical applications. For example, IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring can alert you when conditions in your environment meet or exceed the thresholds you set. These alerts notify your system administrator to limit and control system traffic.

- Simplifies application and system management—by managing applications, platforms, and resources across your system.
About IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring

IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring uses the CandleNet Portal® interface. By providing a consolidated view of your environment, CandleNet Portal permits you to monitor and resolve performance issues throughout the enterprise. The characteristics of this user interface include:

- a **Navigator view** of your enterprise. When a condition you are monitoring exceeds thresholds you define, an alert appears within the physical navigator view to let you know.

  In this example, “Queue Manager Status” for queue manager Default has been flagged with an alert.

  ![ENTERPRISE](image)

  ![UNIX Systems](image)

  ![myhost](image)

  ![MQSERIES - Default](image)

  ![Channel Definitions](image)

  ![Channel Performance](image)

  ![Cluster Queue Manager](image)

  ![Dead-Letter Queue Messages](image)

  ![Error Log](image)

  ![MQSeries Events](image)

  ![Queue Manager Status](image)

  ![Queue Statistics](image)

- **Workspaces** that contain various types of information whose format and content you can customize. When a condition you are monitoring exceeds thresholds you define, an alert appears in the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring workspace to let you know. The following is an example of such an alert.

<table>
<thead>
<tr>
<th>QMgr Name</th>
<th>Host Name</th>
<th>QMgr Subsys</th>
<th>Host Jobname</th>
<th>Start Date and Time</th>
<th>QMgr Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>myhost</td>
<td></td>
<td></td>
<td>Not Available</td>
<td>QueueManager_Not_Available</td>
</tr>
</tbody>
</table>

- **Attributes** you can use to create situations that monitor areas of particular interest and issue alerts when specified conditions are met.

- **Predefined situations** you can either use as shipped to begin monitoring immediately or copy then modify to monitor your specific environment.
IBM Tivoli OMEGAMON XE for WebSphere MQ is one of a suite of IBM products that assist you in monitoring your mainframe and distributed systems and applications. IBM Tivoli OMEGAMON XE products share a common agent-server-client architecture. (see Figure 1).

OMEGAMON XE agents

OMEGAMON XE monitoring agents collect system or application data from monitored, or managed, systems. The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agents, for example, let you easily collect and analyze WebSphere MQ-specific data for all your remote and local queue managers from a single vantage point. The data are passed to the Candle Management Server, and displayed in the CandleNet Portal client.

Figure 1. OMEGAMON XE Agent–Server–Client Architecture

OMEGAMON XE monitoring agents can also compare the current values of monitored properties against a set of defined conditions, and trigger alerts or actions when conditions warrant. They can accept and execute requested actions relayed to them from CandleNet Portal clients by the Candle Management Server.

OMEGAMON configuration agents can create and configure objects. The configuration agents associated with IBM Tivoli OMEGAMON XE for WebSphere MQ Configuration can configure objects such as WebSphere MQ queue managers and all their components (queues, channels, processes, and so on).

Candle Management Server

The Candle Management Server (CMS) gathers data from the OMEGAMON XE agents and acts as a collection and control point for alerts received from the agents. The CMS
OMEGAMON Platform

sends the data it receives from the agents to CandleNet Portal clients, where it is displayed
in tabular or graphic views in a set of predefined or customized workspaces. The CMS
also accepts requests for information or action from CandleNet Portal clients and
distributes them to the agents for execution.

CandleNet Portal clients

CandleNet Portal is the Java-based interface to the data monitoring and management
resources of OMEGAMON Platform. Depending on how it is installed, CandleNet Portal
can be used as either a desktop or browser-based client.

CandleNet Portal has its own server, the CandleNet Portal Server. The CandleNet Portal
Server performs common CandleNet Portal functions and serves to lighten the CandleNet
Portal client.

Candle Management Workstation

The Candle Management Workstation (CMW) is used for certain administrative functions
that CandleNet Portal does not support. If you want to define and manage work groups
and work lists, you must use the CMW.

IBM Tivoli OMEGAMON DE

The IBM Tivoli OMEGAMON DE feature package for CandleNet Portal offers a
process-driven view of your enterprise. It enables you to pull together information from
disparsate sources, including a range of operating systems, servers, databases,
mainframes, and network and Web components, in a single workspace and provides a
single point of control from which you can manage all the resources your business-critical
applications rely on.

IBM Tivoli OMEGAMON DE extends the capabilities of OMEGAMON XE to include:

- Enterprise-specific Navigator views

  The Navigator physical view shows the hierarchy of your managed enterprise by
  operating platform and type of IBM Tivoli OMEGAMON XE agent. The Navigator
  business view offered by IBM Tivoli OMEGAMON DE shows the hierarchy of any
  managed objects. You can also define Navigator views for any logical grouping, such
  as a business process or a departmental hierarchy.

- Views of data from different types of monitoring agents in one workspace

  In a single workspace, you can build a table or chart with data from one type of
  monitoring agent, and another table or chart with data from a different agent. Within
  that workspace, you can show views from as many different agent types as are
  included on that branch of the Navigator.

- Linking application workspaces

  You can define a link from a workspace associated with one type of monitoring agent
to a workspace associated with another type of agent.
Policy Management

The CandleNet Portal Policy Management solution incorporates all the features of IBM Tivoli OMEGAMON DE and adds automation capabilities by means of the Workflow editor. The Workflow editor enables you to design sets of automated system processes, called policies, to resolve system problems. A policy performs actions, schedules work to be performed by users, or automates manual tasks.

Where to find more information

For more information about OMEGAMON Platform, see the CandleNet Portal online help and the books on the OMEGAMON Platform publications CD.
Key Features

What is a workspace?
CandleNet Portal displays information in workspaces. A workspace is the working area of the CandleNet Portal application window and is made up of one or more views. A view is a pane in the workspace, typically a chart or table showing data collected from a OMEGAMON monitoring agent, such as the process detail running on the UNIX operating system.

A workspace may be linked to other workspaces. A link may be context-sensitive, whereby you right-click a row in a table or a data series in a chart to link to more detailed information about one of the attributes in the row or data series.

As you select items in the Navigator, the workspace presents views pertinent to your selection. Every workspace has at least one view, and every workspace has a set of properties associated with it. You can customize the workspace by working in the Properties editor to change the style and content of each view. Another way to customize the workspace is to change the type of view or to add views to the workspace.

Predefined workspaces
IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring is shipped with predefined workspaces that you can use as shipped or modify by using the Properties editor. Predefined workspaces make it easy for you to quickly start using IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring effectively to monitor your environment.

A high-level overview of the types of workspaces included with this product is provided in “Workspaces” on page 77.

For a complete list of the predefined workspaces included with this product, see the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring section of the CandleNet Portal online help.

For information about creating and customizing views and workspaces, see the CandleNet Portal online help.

What is a situation?
A situation is a logical expression involving one or more system conditions. Situations are used to monitor the condition of systems in your network. You can manage situations from CandleNet Portal by using the Situation editor.

For detailed information about situations and about using the Situation editor, see the CandleNet Portal online help.

Predefined monitoring situations
IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring is shipped with a set of predefined situations that you can use as-is or modify to meet your requirements.
Predefined situations are precoded to check for system conditions common to many enterprises. Using predefined situations can improve the speed with which you can begin using IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring. You can examine and, if necessary, change the conditions or values being monitored by a predefined situation to those best suited to your enterprise.

**Note:** IBM suggests that if you choose to modify a predefined situation, you first use CandleNet Portal’s “Create another situation” function to make a copy of the original situation. This ensures that you can fall back if necessary.

For a list of the predefined situations provided with this product, together with the situations’ descriptions and formulas, see the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring section of the CandleNet Portal online help.

### What are attributes?

IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring gathers data on the managed systems of your network and stores the data as system elements called attributes. You can use these attributes to

- build situations to monitor the performance of the managed systems you are concerned with
- create queries and use the resulting data to build custom views

Related attributes are grouped into attribute groups, or attribute tables.

### Using attributes in situations and in queries

You use attributes to create situations that monitor the state of your operating system, database, or application. A situation describes a condition you want to test. When you start a situation, CandleNet Portal compares the values you have assigned for the situation’s attributes with the values collected by IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring and registers an event if the condition is met. You are alerted to events by indicator icons that appear in the Navigator physical view.

Chart and table views use queries to specify which attribute values to request from an OMEGAMON Monitoring Agent. You can use the Query editor to create a new query, modify an existing one, or apply filters and set styles to define the content and appearance of a view based on an existing query.

For complete descriptions of the attributes provided with this product, see the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring section of the CandleNet Portal online help.

### Take action commands

The Take Action feature of CandleNet Portal lets you issue a command to any system in your network where one or more OMEGAMON Monitoring Agents are installed. You can implement commands from the Take Action view, from a situation (when it becomes true), from the Navigator, or from a row in a table view.
For a complete description of the predefined Take Action commands provided with this product, see the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring section of the CandleNet Portal online help. For detailed information about creating and using Take Action commands, see the CandleNet Portal online help.

Historical data collection

In addition to the real-time reports offered by CandleNet Portal workspaces, you can set up historical data collection to store and save IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring data. You can specify

- attribute groups for historical data collection
- data collection intervals
- data warehousing interval (if you choose to write your data to a data warehouse)
- storage location for the collected data. Historical data can be stored either at the location of the monitoring agent or on the Candle Management Server® (CMS™).

To ensure that data samplings are saved to populate your predefined historical workspaces, you must first configure and start historical data collection. This requirement does not apply to workspaces using attribute groups that are historical in nature and show all their entries without your starting data collection separately.

Information about using the historical data collection function can be found in the CandleNet Portal online Help and in the Historical Data Collection Guide for IBM Tivoli OMEGAMON XE Products.

The attribute history tables, default filenames, default tables collected, and the estimated disk space required per 24-hour period for the historical data collected for IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring are listed in “Disk Space Requirements for Historical Data Tables” on page 169.
Investigating an Event

Event indicator and event workspace

When the conditions of a situation have been met, the situation evaluates True, causing an event indicator to appear in the Navigator physical view. You can investigate the cause of an event by opening its workspace.

The event workspace shows two table views, one with the values of the attributes when the situation evaluated True, and the other with the attributes' current values.

The event workspace can also display a view with any expert advice written by the situation's author. The advice will display as Web text and any links you have defined will be active. The take action view also displays in the event workspace so you can send a command to the application started on that system.

Here is an example Navigator with raised event indicators: red indicators for critical conditions and yellow indicators for warnings. If both a warning and a critical condition occur for the same workspace, the indicator always shows the highest level alert.

FIGURE 2. Navigator Item for an Event Workspace

When you see an alert icon overlaying a Navigator icon, open the Event workspace and drill down to investigate the cause of the alert. The following is an example Event workspace for IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring.
FIGURE 3. Event Workspace

Looking at this workspace, you can determine the situation that raised the event and the attributes whose values are contributing to the alert. You can also review available advice and take appropriate actions.

Acknowledgment

When you see an event indicator in the Navigator, you can create an acknowledgment. An acknowledgment notifies other users that you have taken ownership of the problem related to the event and are working on it. When you acknowledge an event, a blue checkmark appears next to the situation in the event flyover list and, if you opened the event workspace, over the situation item in the Navigator. If the situation is still true when the acknowledgment expires, the indicator changes accordingly. You can also cancel the acknowledgment before it has expired. This changes the indicator so that users can see that the acknowledgment has been removed even though the situation remains true.

For more information

For instructions on navigating through a monitoring agent’s workspaces, see Using OMEGAMON Products: CandleNet Portal.

For information specific to the using IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring, see subsequent chapters of this guide and the online Help.
Investigating an Event
Customizing Monitoring Options

Introduction

This chapter describes all monitoring options associated with IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring and how to change them on the supported platforms. The commands are summarized below.

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Monitoring Options

What are monitoring options?

IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring enables you to set a wide range of monitoring options which can be changed to suit the needs of your environment. For example, you can define which queue managers, queues, and channels you want monitored; specify the time interval for collecting WebSphere MQ data, manage the disposal of event messages from an event queue, or specify whether or not you want to collect historical monitoring data and how long you want to have that data available.

Monitoring options are set by defining certain commands and parameters in a special command file that we will refer to as the “monitoring file” (the actual name of the file varies slightly by operating system platform). When you start the OMEGAMON Monitoring Agent® for WebSphere MQ, the commands and parameter values in the monitoring file are read and executed.

You do not create the monitoring file; it is supplied with your product and is pre-configured with a set of default commands and parameter values. As supplied, the OMEGAMON Monitoring Agent for WebSphere MQ on z/OS monitors all queues and channels for all queue managers and all WebSphere MQ applications. As supplied, the OMEGAMON Monitoring Agent for WebSphere MQ on HP NonStop Kernel (formerly known as Tandem), UNIX, Windows, and OS/400 monitors all queues and channels on a single DEFAULT queue manager. You can change these default options as well as any others.

When you have finished reviewing the descriptions of monitoring options, refer to “Changing Monitoring Options” on page 56.
Create a queue manager group: SET GROUP

Description
The SET GROUP command defines a group of queue managers that have common monitoring characteristics. Within the group, you can override like-named parameters for specific queue managers using the SET MANAGER command.

At least one SET GROUP command is required.

Syntax

```
SET GROUP NAME(group-name)
  [DEFAULT(YES|NO)]
  [AGGRHIST(aggregation-samples)]
  [COMMAND(YES|NO)]
  [ERRLOGCYCLE(sampling-interval)]
  [ERRLOGMAX(max-messages-in-memory)]
  [EVENTS(REMOVE|BROWSE|NO)]
  [HLQ(high-level-qualifier)]
  [ICYCLE(interval-cycle)]
  [LIKE(like-group-name)]
  [MSGACCESS(NONE|DESC|RETRY|DATA|DELETE)]
  [RETAINHIST(historical-retention-value)]
  [RQMODEL(reply-to-queue’s-model-queue)]
```

Parameters

NAME (group-name)
1–48 character group name. Subsequent commands refer to the group and its parameter settings by this name. This parameter is required.

DEFAULT (YES | NO)
Specifies whether or not this is the default group. If YES, the settings on this command apply to any SET MANAGER statement that omits the GROUP parameter. The IBM-provided default group is named DEFAULT.

AGGRHIST (aggregation-samples)
Number of samples to maintain in recent history for all queue managers in this group. The default value is 15.

COMMAND (YES | NO)
Controls the MQ Command feature. For more details, see the same parameter in “Specify queue managers: SET MANAGER” on page 31.

ERRLOGCYCLE (sampling-interval)
Specifies, in seconds, the interval of the error log collection cycle. For more details, see the same parameter in “Specify queue managers: SET MANAGER” on page 31.

ERRLOGMAX (max-messages-in-memory)
Specifies the maximum number of error messages that are held in memory and displayed in the Error Log workspace. For more details, see the same parameter in “Specify queue managers: SET MANAGER” on page 31.
EVENTS (REMOVE | BROWSE | NO)
Specifies how to access system event queues. For more details, see the same parameter in "Specify queue managers: SET MANAGER" on page 31.

HLQ (high-level-qualifier)
Specifies the high-level qualifier for product-created queue names. The default is KMQ. For more details, see the same parameter in "Specify queue managers: SET MANAGER" on page 31.

ICYCLE (interval-cycle)
Specifies the number of sample interval cycles to wait before gathering queue manager performance data. For more details, see the same parameter in "Specify queue managers: SET MANAGER" on page 31.

LIKE (like-group-name)
Name of a previously defined manager group. Like-named parameter values are copied from the values in the named group definition.

MSGACCESS (NONE | DESC | RETRY | DATA | DELETE)
Level of user access to messages in queues. For more details, see the same parameter in "Specify queue managers: SET MANAGER" on page 31.

RETAINHIST (historical-retention-value)
Number of minutes that historical data is displayed for queue manager objects (such as channels and queues). The default value is 1440 (24 hours).

RQMODEL (reply-to-queue’s-model-queue)
Specifies the 1–48 character name of a model queue to use as a model for this product's reply-to queue. If not specified, the standard system default model is used. For more details, see the same parameter in "Specify queue managers: SET MANAGER" on page 31.

Example
To define a manager group named MYGROUP with new values for aggregation and historical retention, specify:

```
SET GROUP NAME(MYGROUP) LIKE(DEFAULT) - 
AGGRHIST(20) RETAINHIST(2400)
```
Specify queue managers: SET MANAGER

Description
The SET MANAGER command specifies queue managers to be monitored.

Syntax
```
SET MANAGER NAME(manager-name-mask)
   [GROUP(group-name)]
   [ACTIVE(YES|NO)]
   [AGGRHIST(aggregation-samples)]
   [COMMAND(YES|NO)]
   [ERRLOGCYCLE(sampling-interval)]
   [ERRLOGMAX(max-messages-in-memory)]
   [EVENTS(REMOVE|BROWSE|NO)]
   [HLQ(high-level-qualifier)]
   [ICYCLE(interval-cycle)]
   [LIKE(like-manager-name)]
   [MSGACCESS(NONE|DESC|RETRY|DATA|DELETE)]
   [NICKNAME(nickname)]
   [RETAINHIST(historical-retention-value)]
   [RQMODEL(reply-to-queue’s-model-queue)]
   [STATUS(ADD|DELETE|RESET)]
   [SYSNAME(z/OS-system-id)]
```

Parameters
\[NAME\] (manager-name-mask)
On z/OS, this is the 1–4 character specific or generic queue manager name to monitor. To specify a generic name, enter a character string followed by an asterisk (*). For example, to monitor all z/OS queue managers, specify NAME(*). This parameter is required on z/OS.

On distributed platforms, this parameter can be (), in which case the default queue manager is monitored, or is the name of the one queue manager this invocation of the monitoring agent is to monitor.

\[GROUP\] (group-name)
Previously defined group whose parameters apply to this queue manager. The name must exactly match the name specified on a prior SET GROUP statement. The IBM-provided default group is named DEFAULT.

\[ACTIVE\] (YES | NO)
Indicates whether or not to actively monitor this queue manager. YES is the default.

\[AGGRHIST\] (aggregation-samples)
Number of samples to maintain in recent history for this queue manager.

\[COMMAND\] (YES | NO)
Controls the MQ Command feature, as follows:

YES - Enables the MQ Command feature, which allows the user to pass WebSphere MQ commands to the queue manager from CandleNet Portal. YES is the default.
**Monitoring Options**

**NO** - Disables the MQ Command feature.

**ERRLOGCYCLE** *(sampling-interval)*

Specifies, in seconds, the interval of the error log collection cycle. The default value is 10 unless otherwise noted. The default value of ERRLOGCYCLE for NonStop is 120.

Specifying a value of 0 turns off error log collection for the queue manager. This disables the Error Log monitoring feature.

See also “Error Log Monitoring Feature (non-z/OS only)” on page 64.

**ERRLOGMAX** *(max-messages-in-memory)*

Specifies the maximum number of error messages that are held in memory and displayed in the Error Log workspace. The default value is 100.

**EVENTS** *(REMOVE | BROWSE | NO)*

Specifies how to access system event queues.

- **REMOVE** - Read and remove messages from the system event queues. IBM recommends this setting for the most accurate event reporting. The value pre-configured for you by the installation/configuration process is REMOVE. When REMOVE is specified, the agent opens the event queues for exclusive input.

To support multiple applications reading event queues, use the SET EVENTQIN and SET EVENTQOUT commands as described in “Specify event queues: SET EVENTQIN” on page 40 and “Share event queue data with other applications: SET EVENTQOUT” on page 42.

- **BROWSE** - Browse (read without removing) messages from the system event queues. You can use this if more than one application (IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring or another application) reads the event queues. In this case, you must run a separate application to clean the queues, such as CSQUTIL with the EMPTY function.

  Warning: If you specify EVENTS(BROWSE) and other applications perform destructive reads against the event queues, IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring may miss some or all event messages.

- **NO** - Do not monitor system event queues. The default, if not otherwise specified by the installation/configuration process, is NO.

**HLQ** *(high-level-qualifier)*

Specifies the high-level qualifier for product-created queue names. The default is KMQ.

If you predefine queues with the following names, this product uses them:

On z/OS:

- hlq.COMMAND.REPLY
- hlq.REPLY

On non-z/OS:

- hlq.IRA.AGENT.QUEUE
where hlq is the value specified by the HLQ parameter of the SET MANAGER or the SET GROUP command.

Otherwise, if you do not predefine queues with the names described above, this product creates dynamic queues using the model queue specified by the RQMODEL parameter of the SET MANAGER or the SET GROUP command. In this case, the names of the dynamic queues are as follows.

On z/OS:

hlq.COMMAND.REPLY.dynamicsuffix
hlq.REPLY.dynamicsuffix

On non-z/OS:

hlq.IRA.AGENT.QUEUE.dynamicsuffix

where hlq is the value specified using the HLQ parameter of the SET MANAGER or the SET GROUP command, and dynamicsuffix is the standard dynamic suffix provided by WebSphere MQ.

ICYCLE(interval-cycle)
   This parameter applies only to z/OS.

This optional parameter specifies the number of sample interval cycles to wait before gathering queue manager performance data for the specified queue manager(s). It is intended for special cases when you want to effectively lengthen the sampling interval for specific queue managers and groups of queue managers. The ICYCLE value can be used to reduce the impact of monitoring a less critical queue manager. For example, if 60 is set as the sample interval and 5 is set as the interval cycle value for a queue manager, interrogative processing for that queue manager will only be done every fifth cycle, every five minutes instead of every minute.

If ICYCLE is not specified or is not specified on a prior SET GROUP statement, the default is 1; meaning queue manager data is gathered once every sample interval (SAMPINT).

LIKE(like-manager-name)
   Name or nickname of a previously defined manager. Like-named but unspecified parameter values are copied from the corresponding values for this queue manager.

MSGACCESS(NONE | DESC | RETRY | DATA | DELETE)
   Controls the level of user access to messages in queues for the specified queue managers.

NONE - Allows no access to message functions for this queue manager, including the ability to list messages on a queue or collect message statistics.

DESC - Allows message descriptor browse for either message summary workspaces, message detail workspaces, or message statistics workspaces and situations. This is the default level.

RETRY - Allows DLQ retry and message descriptor browse.

DATA - Allows message data (contents) browse, message descriptor browse, and DLQ retry.
**DELETE** - Allows message delete and all other message functions.

**NICKNAME (nickname)**
1–48 character nickname (alternate name) for this queue manager. Subsequent commands can refer to the manager by its manager name or by this nickname. This parameter is optional.

**RETAINHIST (historical-retention-value)**
Number of minutes that historical data is displayed for queue manager objects (such as channels and queues) that are no longer defined. The default value is 1440 (24 hours).

**RQMODEL (reply-to-queue's-model-queue)**
Specifies the 1–48 character name of a model queue to use as a model for this product's reply-to queue, if you did not predefine queues. If dynamic queues are needed see the discussion under the HLQ parameter (above).

If you do not specify a value for RQMODEL, the following standard system default models are used as a model for this product's reply-to-queue.

On z/OS

**SYSTEM.COMMAND.REPLY.MODEL**

On non-z/OS

**SYSTEM.DEFAULT.MODEL.QUEUE**

Note that if the queue you specify as a model has a definition type of permanent dynamic, DEFTYPE(PERMDYN), a number of unused reply-to-queues may accumulate. These are named in the form:

On z/OS:

.hlq.COMMAND.REPLY.dynamicsuffix
.hlq.REPLY.dynamicsuffix

On non-z/OS:

.hlq.IRA.AGENT.QUEUE.dynamicsuffix

where hlq is the value specified using the HLQ parameter of the SET MANAGER or the SET GROUP command, and dynamicsuffix is the standard dynamic suffix provided by WebSphere MQ.

**STATUS (ADD | DELETE | RESET)**
Specifies what to do if this SET MANAGER command was previously specified with the same name.

If omitted, the manager definition is added if it is a new name, or modified if the same name was specified previously.

**ADD** - Creates a new manager definition.

**DELETE** - Deletes the manager definition and all associated historical data.
RESET - Resets the monitoring parameters associated with this queue manager to their original values (as defined on the original SET MANAGER command for this manager name).

SYSNAME(z/OS-system-id)

This parameter applies only to z/OS.

SMF system ID where this queue manager runs. If omitted, this SET MANAGER command applies to any z/OS system.

Examples

- To monitor all z/OS queue managers whose names begin with MQM, specify:
  
  SET MANAGER NAME(MQM*)

- To monitor the queue manager named PAYROLL, specify:
  
  SET MANAGER NAME(PAYROLL)

- To set the number of recent samples to 30 and the retention interval for historical displays to 10 hours for queue manager MGRA, specify:
  
  SET MANAGER NAME(MGRA) AGGRHIST(30) RETAINHIST(600)

- To sample the error log every 20 seconds and display up to 200 error log events for the queue manager named QMGRA, specify:
  
  SET MANAGER NAME(QMGRA) ERRLOGCYCLE(20) ERRLOGMAX(200)

- This example specifies three queue managers with nicknames. Since the GROUP, AGGRHIST, and RETAINHIST keywords are omitted, the values specified on the SET GROUP command for the default group are in effect for those parameters. Each manager defines a different access to the system event queues.

  SET MANAGER NAME(MGRD) NICKNAME(DALLAS) EVENTS(REMOVE)

  SET MANAGER NAME(MGRA) NICKNAME(ATLANTA) EVENTS(NO)

  SET MANAGER NAME(MGRS) NICKNAME(SANFRAN) EVENTS(BROWSE)

- To specify an effective sample interval of one minute for z/OS queue manager QM01 and five minutes for z/OS queue manager QM02, specify:

  SET MANAGER NAME(QM01)

  SET MANAGER NAME(QM02) ICYCLE(5)

  PERFORM STARTMON SAMPINT(60)
Specify queues: SET QUEUE

Description
The SET QUEUE command specifies the queues to be monitored. IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring always monitors the dead-letter queue. To monitor other system or application queues, specify them with the SET QUEUE command.

Syntax
SET QUEUE NAME(queue-name-mask)
 MGRNAME(manager-name) | GROUP(group-name)
 [QDEFTYPE(PREDEFINED|PERMDYN|TEMPDYN|ALL)]
 [STATISTICS(YES|NO)]
 [STATUS(ADD|DELETE)]

Parameters
NAME (queue-name-mask)
Defines the 1–48 character specific or generic queue name to monitor. To specify a generic name, enter a string of characters followed by an asterisk (*). This parameter is required.

MGRNAME (manager-name)
Associates this SET QUEUE command with a queue manager defined on a previous SET MANAGER command. You can use the name or nickname of the manager. The name must exactly match the name specified on the corresponding SET MANAGER command. This parameter is required if GROUP is not specified.

GROUP (group-name)
Associates this SET QUEUE statement with a group of queue managers defined on a previous SET GROUP statement. The name must exactly match the name specified on the corresponding SET GROUP statement. This parameter is required if MGRNAME is not specified.

QDEFTYPE (PREDEFINED | PERMDYN | TEMPDYN | ALL)
Indicates which kinds of queues to monitor. Specify any or all of these definition types:
    PREDEFINED - Monitors only predefined queues matching the specific or generic queue name.
    PERMDYN - Monitors only permanent dynamic queues matching the specific or generic queue name.
    TEMPDYN - Monitors only temporary dynamic queues matching the specific or generic queue name.
    ALL - Monitors all queues matching the specific or generic queue name. This is the default.

STATISTICS (YES | NO)
Specifies whether or not to collect queue statistics using WebSphere MQ Reset Queue Statistics command processing.
**YES** - Collect statistics using Reset Queue Statistics command processing for queues matching the specific or generic queue name.

**NO** - Do not collect statistics using Reset Queue Statistics command processing for queues matching the specific or generic queue name. This is the default. See “Queue Statistics Feature” on page 71 for a description of the Queue Statistics feature which includes requirements and restrictions.

**STATUS (ADD | DELETE)**

Specifies what to do if this SET QUEUE command was previously specified with the same name.

If omitted, the queue definition is added if it is a new name, or modified if the same name was specified previously.

**ADD** - Creates a new queue definition. If this SET QUEUE command was previously specified with the same name then it will not be modified and an error message will be issued.

**DELETE** - Deletes a queue definition and all associated historical data.

**Examples**

- To monitor all queues managed by queue manager MGRA, specify:
  
  ```
  SET QUEUE NAME(*) MGRNAME(MGRA)
  ```

- To monitor a queue named ACCOUNTS, specify:
  
  ```
  SET QUEUE NAME(ACCOUNTS) MGRNAME(MGRA)
  ```

- To monitor and collect statistics using Reset Queue Statistics command processing for all queues managed by QMGRA, specify:
  
  ```
  SET QUEUE NAME(*) MGRNAME(QMGRA) STATISTICS(YES)
  ```

- To monitor permanent dynamic queues starting with the characters PAYR, specify:
  
  ```
  SET QUEUE NAME(PAYR*) MGRNAME(MGRA) QDEFTYPE(PERMDYN)
  ```

- To monitor predefined and temporary dynamic queues for queue manager MGRC whose names start with MARCH, specify:
  
  ```
  SET QUEUE NAME(MARCH*) MGRNAME(MGRC) - QDEFTYPE(PREDEFINED,TEMPDYN)
  ```
Specify channels: SET CHANNEL

Description
The SET CHANNEL command specifies channels to be monitored.

Syntax
```
SET CHANNEL NAME(channel-name-mask) 
  MGRNAME(manager-name) | GROUP(group-name) 
  [STATUS(ADD|DELETE)]
```

Parameters
- **NAME (channel-name-mask)**
  Defines the 1–20 character specific or generic channel name to monitor. To specify a generic name, enter a string of characters followed by an asterisk (*). This field is required.

- **MGRNAME (manager-name)**
  Associates this SET CHANNEL statement with a queue manager defined on a previous SET MANAGER statement. You can use the name or nickname of the manager. The name must exactly match the name specified on the corresponding SET MANAGER statement. This parameter is required if GROUP is not specified.

- **GROUP (group-name)**
  Associates this SET CHANNEL statement with a group of queue managers defined on a previous SET GROUP statement. The name must exactly match the name specified on the corresponding SET GROUP statement. This parameter is required if MGRNAME is not specified.

- **STATUS (ADD | DELETE)**
  Specifies what to do if this SET CHANNEL command was previously specified with the same name.
  
  If omitted, the result is the same as if ADD is specified.

  **ADD** - Creates a new channel definition. If this SET CHANNEL command was previously specified with the same name then it will not be modified and an error message will be issued.

  **DELETE** - Deletes a channel definition and all associated historical data.

Example

To monitor a channel named MONTANA owned by queue manager SMONICA, specify:
```
SET CHANNEL NAME(MONTANA) MGRNAME(SMONICA)
```
Specify the event log: SET EVENTLOG

Description
The SET EVENTLOG command specifies the size, location, and other attributes of the event log.

All parameters are optional; but, if the SET EVENTLOG statement is coded, at least one parameter must be coded as well.

This command applies to all platforms except z/OS.

Syntax
SET EVENTLOG
   [SIZE(n)]
   [DIR(dir_name)]
   [ARCHIVEFILE(arch_filename)]
   [ARCHIVEOPTS(karloff_options)]

Parameters
SIZE(n)
where n is the maximum event log file size in megabytes. If SIZE is not specified, the default is 10. Specify SIZE(0) to disable the event log.

DIR(dir_name)
The directory to write the event log file to. If DIR is not specified, the default is the value assigned to the ctira_hist_dir variable (@logpath@ — normally C:\Candle\Cma\Logs).

ARCHIVEFILE(arch_filename)
The archive directory and file name. If ARCHIVEFILE is not specified, the default is @logpath@\Qmeventh.arc. If this file already exists, karloff appends the new data to it.

ARCHIVEOPTS(karloff_options)
If ARCHIVEOPTS is not specified, all karloff defaults will be taken. See the Historical Data Collection Guide for IBM Tivoli OMEGAMON XE Products for details of the karloff (kra rolloff) command.
Specify event queues: SET EVENTQIN

Description
The SET EVENTQIN command identifies the queue manager event queue, channel event queue, performance event queue, and configuration event queue for a queue manager or group of queue managers.

If no SET EVENTQIN command applies to a queue manager, the following default WebSphere MQ names are used:
- SYSTEM.ADMIN.QMGR.EVENTS
- SYSTEM.ADMIN.CHANNEL.EVENTS
- SYSTEM.ADMIN.PERFM.EVENTS
- SYSTEM.ADMIN.CONFIG.EVENT (Configuration events are present on WebSphere MQ for z/OS version 5.3 and above only.)

Syntax
```
SET EVENTQIN
  MGRNAME(manager-name) | GROUP(group-name)
  [QMGRQ(queue-name)]
  [CHANNELQ(queue-name)]
  [PERFMQ(queue-name)]
  [CONFIGQ(queue-name)]
```

Parameters
- **MGRNAME (manager-name)**
  The queue manager that owns the specified event queue(s). You can use the name or nickname of the queue manager. The name must exactly match the name specified on the corresponding SET MANAGER statement. This parameter is required if GROUP is not specified.

- **GROUP (group-name)**
  A group of queue managers (as specified on a previous SET GROUP statement), each of which owns the specified event queue(s). The name must exactly match the name specified on the corresponding SET GROUP statement. This parameter is required if MGRNAME is not specified.

- **QMGRQ (queue-name)**
  Specifies the name of the queue manager event queue to monitor.

- **CHANNELQ (queue-name)**
  Specifies the name of the channel event queue to monitor.

- **PERFMQ (queue-name)**
  Specifies the name of the performance event queue to monitor.

- **CONFIGQ (queue-name)**
  Specifies the name of the configuration event queue to monitor.
Examples

To read events from a performance event queue named PERFORMANCE.EVENTS.IN instead of from the default WebSphere MQ performance event queue, SYSTEM.ADMIN.PERFM EVENTS, specify:

SET EVENTQIN MGRNAME(MQM3) PERFMQ(PERFORMANCE.EVENTS.IN)

The example above could apply to two possible scenarios:

- An application is reading from the default WebSphere MQ performance event queue, and it is copying events to PERFORMANCE.EVENTS.IN.
- Your site has changed the default WebSphere MQ performance queue name from SYSTEM.ADMIN.PERFM.EVENTS to PERFORMANCE.EVENTS.IN

To read events from a channel event queue called CHANNEL.EVENTS.IN and copy these events to a queue called CHANNEL.EVENTS.OUT, specify:

SET EVENTQIN MGRNAME(MQM2) CHANNELQ(CHANNEL.EVENTS.IN)

SET EVENTQOUT MGRNAME(MQM2) CHANNELQ(CHANNEL.EVENTS.OUT)

This example also uses the SET EVENTQOUT command (see “Share event queue data with other applications: SET EVENTQOUT” on page 42).
Share event queue data with other applications: SET EVENTQOUT

**Description**

Once IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring has read an event message from an event queue, it deletes the message to ensure that it is processed only once. If another application running at your site requires access to event messages, you can define an output queue where these messages are copied and point the other application to that queue.

The SET EVENTQOUT command identifies the output queue(s) where queue manager event information, channel event information, performance event information, and configuration event information will be copied.

If no SET EVENTQOUT command applies to a queue manager, the event information is discarded after being processed.

**Syntax**

```
SET EVENTQOUT
  MGRNAME(manager-name) | GROUP(group-name)
  [QMGRQ(queue-name)]
  [CHANNELQ(queue-name)]
  [PERFMQ(queue-name)]
  [CONFIGQ(queue-name)]
```

**Parameters**

**MGRNAME (manager-name)**

The queue manager that owns the specified output queue(s). You can use the name or nickname of the queue manager. The name must exactly match the name specified on the corresponding SET MANAGER statement. This parameter is required if GROUP is not specified.

**GROUP (group-name)**

The group of queue managers (as specified on a previous SET GROUP statement), each of which owns the specified event queue(s). The name must exactly match the name specified on the corresponding SET GROUP statement. This parameter is required if MGRNAME is not specified.

**QMGRQ (queue-name)**

Specifies the name of the local queue where queue manager events are copied after being processed. This queue must exist when the SET EVENTQOUT command is processed.

**CHANNELQ (queue-name)**

Specifies the name of the local queue where channel events are copied after being processed. This queue must exist when the SET EVENTQOUT command is processed.

**PERFMQ (queue-name)**

Specifies the name of the local queue where performance events are copied after being processed. This queue must exist when the SET EVENTQOUT command is processed.
**CONFIGQ(queue-name)**

Specifies the name of the local queue where configuration events are copied after being processed. This queue must exist when the SET EVENTQOUT command is processed. Configuration events are present on WebSphere MQ for z/OS version 5.3 and above only.

**Examples**

- To read events from the default WebSphere MQ queue manager event queue, `SYSTEM.ADMIN.QMGR.EVENTS`, and copy them to a queue named `QMGR.EVENTS.OUT`, specify:

  ```
  SET EVENTQOUT MGRNAME(MQM1) QMGRQ(QMGR.EVENTS.OUT)
  ```

- To read events from a channel event queue called `CHANNEL.EVENTS.IN` and copy these events to a queue called `CHANNEL.EVENTS.OUT`, specify:

  ```
  SET EVENTQIN MGRNAME(MQM2) CHANNELQ(CHANNEL.EVENTS.IN)
  SET EVENTQOUT MGRNAME(MQM2) CHANNELQ(CHANNEL.EVENTS.OUT)
  ```

  This example also uses the SET EVENTQIN command (see “Specify event queues: SET EVENTQIN” on page 40).
Include external customization commands: PERFORM INCLUDE

Description
The PERFORM INCLUDE command points to an external file containing customization commands. To execute the commands in this file, specify PERFORM INCLUDE in your startup file.

Syntax
PERFORM INCLUDE LIST(file-ID)

Parameter
LIST(file-ID)
Name of the file containing the list of IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring customization commands. On z/OS, file-ID must be a member of the RKANCMD dataset. This parameter is required.

Examples
- To execute a set of external commands in file remote.txt, specify:
  PERFORM INCLUDE LIST(remote.txt)
- To execute a set of external commands in member MYSET of the RKANCMD dataset on z/OS, specify:
  PERFORM INCLUDE LIST(MYSET)
Start monitoring: PERFORM STARTMON

Description
The PERFORM STARTMON command initiates monitoring of WebSphere MQ objects, specifies the sampling interval for collecting WebSphere MQ data, and specifies whether or not historical data will be collected.

The PERFORM STARTMON command is required.

Syntax
PERFORM STARTMON
   SAMPINT(sample-interval)
   HISTORY (YES|NO)
   [ACTIVEONLY(YES|NO)]
   [ROWLIM(limit)]
   [SVRCONN(YES|NO)]
   [QSGCHKINTERVAL(sss)]
   [GRPNAME(KMQQSG|ggggg)]

Parameter
SAMPINT(sample-interval)
How often, in seconds, IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring samples your queue manager(s) for performance data. The default is 60 seconds. The minimum is 10 seconds.

If your site is monitoring large numbers of queues or channels, you may experience a degradation in performance. If that occurs, IBM recommends that you increase the value of SAMPINT to improve performance.

If your site is monitoring queue-sharing groups on z/OS, the sample interval should be the same interval for all agents that monitor queue managers in queue-sharing groups.

See also, ICYCLE.

HISTORY(YES|NO)
Defines whether or not historical data will be collected. On distributed platforms, the value pre-configured for you by the installation/configuration process is NO. On z/OS, the value pre-configured for you by the Configuration tool is YES. The default, if not otherwise specified by the installation/configuration process, is NO. (For information about using the historical data collection function see the CandleNet Portal online help and the Historical Data Collection Guide for IBM Tivoli OMEGAMON XE Products.)

ACTIVEONLY(YES|NO)
This parameter applies only to z/OS.

This optional parameter indicates whether or not to monitor only active queue managers.

YES - Only queue managers that are running at agent startup time, or become active while the agent is running, are referenced in situations and displayed in the Navigator.
physical view. This parameter is intended for environments where a large number of queue managers are defined but only some of them are in use.

**NO** - All defined queue managers, active or not, are referenced in situations and displayed in the Navigator physical view. The default if not specified is NO.

Do not use this parameter if you want to monitor only a subset of your queue managers.

**ROWLIM**(limit)

This optional parameter specifies the maximum number of messages that will be processed and returned by the agent when reading messages from a queue for report requests. The default if not specified is 0 (zero) which means that the maximum number of messages is not limited.

**SVRCONN**(YES|NO)

This optional parameter indicates whether or not to collect server connection channel statistics which are displayed in the Channel Performance workspaces (and the short and long-term Channel Performance History workspaces). The default if not specified is YES.

**QSGCHKINTERVAL**(sss)

This optional parameter specifies how often, in seconds, IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring “wakes up” to perform queue-sharing group monitoring activities. The default is 300 which equals a 5-minute interval. The minimum is 60 seconds; with the exception that it can be set to 0 (zero) to turn off queue-sharing group monitoring activities. Note, if you turn this processing off, you must recycle the agent to turn this processing back on.

**GRPNAME**(KMQQSG|gggggggg)

This optional parameter allows you to specify an alternative SysPlex XCF group name, gggggggg, for the coexistence of multiple collection agents. The default is KMQQSG. Under normal circumstances, this parameter should not be specified. This parameter is intended for testing purposes, to allow multiple agents to coexist while being tested.

**Warning**: Specifying an XCF group name that is in use by other system components could have unexpected consequences and should not be done under any circumstances.

**Example**

To start monitoring with a sampling interval of 120 seconds and turn on historical data collection, as well as explicitly specify that historical data and server connection channel statistics will be collected, specify:

```
PERFORM STARTMON SAMPINT(120) HISTORY(YES) SVRCONN(YES)
```
Specify agent hostname: SET AGENT

Description
The SET AGENT command allows you to specify the middle qualifier used in the managed system name.

On distributed platforms, if this value is not specified, no value is used.

On z/OS, if this value is not specified, the host name is used. If you specify this value, it is used only in the managed system names of subnodes. For example, to avoid confusion and to allow multiple WebSphere MQ monitoring agents, instead of issuing the default agent startup command "IRAMAN KMQAGENT START" (to start a node named hostname:MQIRA) it allows you to issue the modified agent startup command "IRAMAN KMQAGENT START agentid" (to start a node named agentid:MQIRA).

Here are some reasons to use the SET AGENT command:

- On distributed platforms, if your site has multiple queue managers with the same name, running on different nodes, you would need to specify the node name for each queue manager to uniquely identify them.
- To group and identify queue manager names by something other than the host name and queue manager name.
- To allow multiple agents connected to the same CMS to monitor the same queue manager.

Syntax
SET AGENT NAME(agentid)

Parameter
NAME (agentid)
Name to be used for the middle qualifier of the managed system name.

On distributed platforms, the complete managed system name will be monitoredqueuemanagername:agentid:MQ.

On z/OS, the complete managed system name will be monitoredqueuemanagername:agentid:MQESA.

The maximum length allowed for the complete managed system name is 32 characters, so the maximum length allowed for agentid will depend on the length of the queue manager name. If there are not enough characters to fit the full agentid specified, it will be truncated to no less than 8 characters.
Example

To monitor a queue manager named PERSONNEL on node AIX1 when there is also a
queue manager named PERSONNEL on a node named HPUX2, specify the following in
the monitoring file for AIX1:

SET MANAGER NAME(PERSONNEL)
SET AGENT NAME(AIX1)

To simultaneously monitor the PERSONNEL queue manager on node HPUX2, specify
the following in the monitoring file for HPUX2:

SET MANAGER NAME(PERSONNEL)
SET AGENT NAME(HPUX2)
Monitor applications: SET APPL (z/OS only)

Description

The SET APPL command identifies the WebSphere MQ-based z/OS applications, CICS® transactions, and IMS™ programs that should be monitored for application debugging information and application statistics.

Use the SET APPL command together with the SET MQIMONITOR command to activate the application debugging and application statistics features. See “Monitor applications: SET MQIMONITOR (z/OS only)” on page 52 for a description of SET MQIMONITOR.

Syntax

```
SET APPL NAME(application-name)
   [TRANPGM(program-name)]
   [MGRNAME(manager-name)]
   [TRACE(NO|YES)]
   [TRACELIMIT(1000|number-of-trace-records)]
   [STATISTICS(NONE|INOQDATA|NODYNAMQ|ALL)]
   [STATUS(ADD|DELETE)]
```

Parameters

**NAME(application-name)**

1–8 character name of the z/OS application to monitor. To specify a generic name, enter a character string followed by an asterisk (*).
- The application name format differs depending on the applications being monitored:
  - For batch applications it is the 1–8 character job name.
  - For TSO applications it is the 1–7 character user ID of the TSO session.
  - For CICS applications it is the 1–8 character VTAM applid.
  - For IMS applications it is the 1–4 character IMS subsystem ID prefixed with the characters “IMS” and padded with a blank.

This parameter is required.

**TRANPGM(program-name)**

Further identifies the program(s) to monitor, as follows:
- The 1–4 character name of the CICS transaction to monitor within the VTAM applid identified by the NAME parameter.
- The 1–8 character name of the IMS program within the IMS subsystem identified by the NAME parameter.
- The 1–8 character name of the batch or TSO program within the address space identified by the NAME parameter.

To specify a generic name, enter a character string followed by an asterisk (*). This parameter is optional; if omitted, it defaults to "*".
**MGRNAME (manager-name)**

Name of the z/OS queue manager(s) whose applications are to be monitored. To specify a generic name, enter a character string followed by an asterisk (*). The name must exactly match the name specified on the corresponding SET MANAGER statement. This parameter is optional; if omitted, it defaults to "*".

**TRACE (NO | YES)**

Specifies whether or not to record WebSphere MQ tracing information for this application. This parameter is optional; the default is NO.

**TRACELIMIT (1000 | number-of-trace-records)**

Specifies the number of trace records to save for later viewing. After this value is reached, trace recording for this application is stopped. The maximum value allowed is 12000; the default is 1000. You can issue the SET APPL statement again with this parameter to resume trace recording after the maximum has been reached. This parameter is optional.

**STATISTICS (NONE | NOQDATA | NODYNAMQ | ALL)**

The level of statistical information to collect for the applications identified by the NAME parameter, as follows:

- **NONE** - No statistical information is collected for this application.
- **NOQDATA** - Application statistical information is not collected at the queue level; however, statistical information is still collected at the application and transaction levels.
- **NODYNAMQ** - Application statistical information is not collected for dynamic queues (temporary and permanent); however, statistical information is still collected for predefined queues. Specifying NODYNAMQ does not affect the collection of application statistics at the application and transaction level. Note specifying NODYNAMQ activates Application Queue Statistics monitoring.
- **ALL** - Statistical information is collected at the application, transaction, and queue levels. Note specifying ALL activates Application Queue Statistics monitoring.

This parameter is optional; the default is NODYNAMQ.

**STATUS (ADD | DELETE)**

Specifies what to do if this SET APPL command was previously specified with the same name.

If omitted, the application definition is added if it is a new name, or modified if the same name was specified previously.

- **ADD** - Creates a new application definition. If this SET APPL command was previously specified with the same name then it will not be modified and an error message will be issued.
- **DELETE** - Deletes the application definition and all associated historical data.
Example

To collect only application- and transaction-level statistics, as well as WebSphere MQ tracing information, for all the transactions running in CICS region PAYR, specify:

```
SET APPL NAME(PAYR) TRACE(YES) STATISTICS(NOQDATA)
```
Monitor applications: SET MQIMONITOR (z/OS only)

**Description**

SET MQIMONITOR is supported on z/OS only.

The SET MQIMONITOR command activates monitoring for the applications you specified using SET APPL. You must specify SET MQIMONITOR to turn on monitoring.

Use the SET MQIMONITOR command together with the SET APPL command to activate the application debugging and application statistics features.

**Syntax**

```
SET MQIMONITOR STATUS(INSTALL|REMOVE|FREMOVE)
   MGRNAME(manager-name) | GROUP(group-name)
   [BUFFERSIZE(buffer-space)]
```

**Parameters**

**STATUS (INSTALL | REMOVE | FREMOVE)**

Required. Turns z/OS application monitoring on or off.

**INSTALL** - Application monitoring begins for the z/OS applications, CICS transactions, and IMS programs identified on the SET APPL command. (If no SET APPL command is specified, no data is collected.)

**REMOVE** - Application monitoring ends for the applications identified on the SET APPL command. If monitoring has not already been activated by a previous SET MQIMONITOR STATUS(INSTALL) command, the request is ignored.

**FREMOVE** - Use the FREMOVE option only if instructed to do so by IBM Software Support. This parameter forces the removal and termination of application monitoring.

**MGRNAME (manager-name)**

Application monitoring is installed or removed for the queue manager identified by a previous SET MANAGER command. The name must exactly match the name specified on the SET MANAGER command. This parameter is required if GROUP is not specified.

**GROUP (group-name)**

Application monitoring is installed or removed for the group of queue managers identified by a previous SET GROUP command. The name must exactly match the name specified on the corresponding SET GROUP command. This parameter is required if MGRNAME is not specified.

**BUFFERSIZE (buffer-space)**

Applies only when STATUS(INSTALL) is also specified. This parameter specifies the size (in megabytes) of buffer data space for monitoring WebSphere MQ applications. This parameter is optional, though IBM recommends using it for queue managers that show more than 200 WebSphere MQ API calls per second. Use the following formula to calculate the buffer space you need:

```
BUFFERSIZE = High MQSeries API rate / 22
```
The default value, if BUFFERSIZE is not specified on the SET MQIMONITOR command, is 8. The maximum value is 2048 (2 GB of buffer storage).

Example
To begin collecting application debugging information and application statistics for the applications running for queue manager PRD1, with a buffersize of 32 megabytes, specify:

```
SET MQIMONITOR STATUS(INSTALL) MGRNAME(PRD1) BUFFERSIZE(32)
```
Queue sharing group monitoring: SET QSG (z/OS only)

Description

The SET QSG command specifies which queue-sharing groups the WebSphere MQ monitoring agent on z/OS monitors and which queue managers the agent uses to collect queue-sharing group data. At any given time, for a particular queue-sharing group, this monitoring product uses only one queue manager to gather data. If that queue manager becomes unavailable, data gathering will “fail over” to another queue manager.

The SET QSG command is optional. If not specified, the default behavior of the agent is to monitor all queue-sharing groups that are associated with monitored queue managers.

You might use a SET QSG command to specify such things as:

- that no queue-sharing groups will be monitored.
- that a particular queue-sharing group will not be monitored.
- that a particular queue manager should not be used to collect queue-sharing group data.

Syntax

SET QSG [NAME(nnnn)]
   [MGRNAME(mmmm)]
   [MONITOR(NO|YES|TAKEOVER)]

Parameters

NAME(nnnn)
   The NAME parameter specifies the name of a queue-sharing group. The NAME parameter is optional. The default if not specified is NAME(*).

MGRNAME(mmmm)
   The MGRNAME parameter specifies a queue manager name in a particular queue-sharing group. The MGRNAME parameter is optional. The default if not specified is MGRNAME(*).

MONITOR(NO|YES|TAKEOVER)
   The MONITOR parameter specifies whether the agent monitors the specified combination of queue-sharing group and queue manager. It also specifies whether takeover processing will be performed.

   The MONITOR parameter is optional. The default if not specified is MONITOR(YES).

   NO - The WebSphere MQ monitoring agent will not monitor the indicated combination of queue-sharing group and queue manager.

   YES - The WebSphere MQ monitoring agent will monitor the indicated combination of queue-sharing group and queue manager. This is the default behavior.

   TAKEOVER - The WebSphere MQ monitoring agent will takeover monitoring the indicated queue-sharing group even if another WebSphere MQ monitoring agent is already monitoring it. (Takeover processing does not occur if the other agent also specified TAKEOVER.)
Examples

- To monitor no queue-sharing groups, specify:
  
  \texttt{SET QSG MONITOR(NO)}

- To eliminate queue manager PMQ5 from queue-sharing group monitoring, specify:
  
  \texttt{SET QSG MONITOR(NO) MGRNAME(PMQ5)}

- To direct queue-sharing group monitoring to queue manager PMQ6, specify:
  
  \texttt{SET QSG MONITOR(TAKEOVER) MGRNAME(PMQ6)}

- To specify that a particular queue-sharing group will, or will not, be monitored may require multiple \texttt{SET QSG} commands.

  For example, suppose you have three queue-sharing groups in your environment named QSGA, QSGB, and QSGC. To monitor only queue-sharing group QSGC, you could specify the following commands:

  \texttt{SET QSG NAME(*) MONITOR(NO)}
  
  \texttt{SET QSG NAME(QSGC) MONITOR(YES)}

  or the following commands could be used to produce the same effect.

  \texttt{SET QSG NAME(QSGA) MONITOR(NO)}
  
  \texttt{SET QSG NAME(QSGB) MONITOR(NO)}
  
  \texttt{SET QSG NAME(QSGC) MONITOR(YES)}

  However note that if you were to mistakenly specify only:

  \texttt{SET QSG NAME(QSGC) MONITOR(YES)}

  then all three queue-sharing groups, including QSGA and QSGB, would be monitored. This is because the default behavior of the agent is to monitor all queue-sharing groups.
Changing Monitoring Options

Introduction

This section explains how to change monitoring options to suit your site’s requirements. Instructions for each supported platform follow.

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- **UNIX** .................................................. 58
- **Windows** ............................................. 58
- **NonStop** ............................................. 59
- **OS/400** .............................................. 60

### z/OS

On z/OS, you can change monitoring options using any of the following methods:

- Entering basic options through a panel using the Configuration tool (monitoring group **DEFAULT** only).
- Dynamically specifying options from the MVS™ console.
- Editing the **KMQUSER** monitoring file.

These methods are discussed below.

**Entering options using the Configuration tool**

When you configured the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring component using the Configuration tool, a panel was displayed listing a set of commonly customized options for a monitoring group named **DEFAULT**. If you are using monitoring group **DEFAULT** and you want to change these particular options you can do so by restarting the Configuration tool and entering new values at this panel. For further information about accessing the Configuration tool, see the *Configuring IBM Tivoli OMEGAMON XE for WebSphere Business Integration on z/OS* book.

The values on this panel are inserted into a file called **KMQSTART**, which is read when the monitoring agent is started. Do not manually edit the **KMQSTART** file.

**Dynamically specifying options from the MVS console**

This method can be used to change monitoring options for any monitoring group. It can be used when the monitoring agent is running. It should be used to make temporary changes; for example, for testing purposes. The changes will be in effect only until the agent is restarted. Permanent changes should be made in the **KMQUSER** monitoring file (see “Editing the monitoring file” on page 57).

To dynamically specify options from the MVS console, follow the steps below. Note that these steps assume that you configured the monitoring agent in a separate address space from the CMS.
1. If you are unfamiliar with the various monitoring options and the commands to enable them, review the descriptions of the options in this chapter.

2. Display the monitoring options that are currently in effect:

   ```
   F CANSMQ,KMQCMD DISPLAY SETTINGS MGRNAME(qmgrname)
   ```

   where `CANSMQ` is the name of your started task for the monitoring agent and `qmgrname` is the name of the queue manager. The MGRNAME parameter is optional; if you omit it, the option settings for all monitored queue managers are displayed.

3. Change any options that you want:

   ```
   F CANSMQ,KMQCMD command
   ```

   where `CANSMQ` is the name of your started task for the monitoring agent and `command` is the command syntax for the monitoring option you want to enable.

   Continue to issue `commands` as needed.

   Remember that the commands you enter remain in effect only while the monitoring agent is running.

**Editing the monitoring file**

The KMQUSER monitoring file is invoked through the KMQSTART file (see “Entering options using the Configuration tool” on page 56). The KMQUSER monitoring file resides in your RKANCMD dataset (for example: `CANDLE.CCC.V370.RKANCMD(KMQUSER)`).

Editing KMQUSER is the recommended method for making long-term changes to monitoring options. Remember that since this file is read when the agent is started (through KMQSTART) you must restart the agent after making your changes.

To edit the KMQUSER monitoring file, follow these steps:

1. If you are unfamiliar with the various monitoring options and the commands to enable them, review the descriptions of the options in this chapter.

2. Edit KMQUSER and enter the commands to enable the monitoring options you require. Adhere to the following editing rules:

   - To continue a command onto the next line, end the current line with a hyphen (-).
   - Parameters you set when grouping objects are effective for all the objects in the group.
   - You can override parameters for an object in a group by explicitly defining parameters for that object.

3. Verify that the queue manager and its command server are running.

4. Stop and restart the monitoring agent for the changes to take effect:

   ```
   STOP CANSMQ
   START CANSMQ
   ```

   where `CANSMQ` is the name of your started task for the monitoring agent.
Changing Monitoring Options

UNIX

On UNIX, you can change monitoring options by editing the `mq.cfg` monitoring file. If your site has multiple queue managers, you may have created multiple instances of the monitoring agent, each with its own uniquely named monitoring file pointing to a single queue manager. You can customize monitoring options in any or all of these monitoring files.

Steps

To edit the `mq.cfg` monitoring file, follow these steps:

1. If you are unfamiliar with the various monitoring options and the commands to enable them, review the descriptions of the options in this chapter.
   If you want to collect historical data, you must set the HISTORY option to YES on the PERFORM STARTMON statement in the monitoring file. (For information about using the historical data collection function see the CandleNet Portal online help and the Historical Data Collection Guide for IBM Tivoli OMEGAMON XE Products.)

2. When you are ready to customize the monitoring file(s), do the following:
   - Edit the `mq.cfg` monitoring file as described in Installing and Setting up IBM Tivoli OMEGAMON XE for WebSphere Business Integration on Windows and UNIX.
   - Add, delete, or modify monitoring option commands, as your site requires. Adhere to these editing rules:
     - To continue a command onto the next line, end the current line with a hyphen (-).
     - Parameters you set when grouping objects are effective for all the objects in the group.
     - You can override parameters for an object in a group by explicitly defining parameters for that object.

3. Verify that the queue manager and its command server are running.

4. Restart each monitoring agent for your changes to take effect.

Windows

On Windows, you can change monitoring options by editing the `mq.cfg` monitoring file. If your site has multiple queue managers, you may have created multiple instances of the monitoring agent, each with its own uniquely named monitoring file pointing to a single queue manager. You can customize monitoring options in any or all of these monitoring files.

Steps

To edit the `mq.cfg` monitoring file, follow these steps:

1. If you are unfamiliar with the various monitoring options and the commands to enable them, review the descriptions of the options in this chapter.
   If you want to collect historical data, you must set the HISTORY option to YES on the PERFORM STARTMON statement in the monitoring file. (For information about using
the historical data collection function see the CandleNet Portal online help and the Historical Data Collection Guide for IBM Tivoli OMEGAMON XE Products.)

2. From the Manage Candle Services panel, under Service, select:
   - WebSphere MQ Monitoring Agent -- instance
     where instance is the name of the agent instance for which you want to change monitoring options.

3. On the toolbar, click Actions > Reconfigure.

4. Verify settings or change as needed and click OK.

5. Click Yes when you are prompted to update the mq_instance.file.

6. Click OK.
   A Notepad session opens.

7. Add, delete, or modify monitoring option commands as required for your site. Adhere to the following editing rules:
   - To continue a command onto the next line, end the current line with a hyphen (-).
   - Parameters you set when grouping objects are effective for all the objects in the group.
   - You can override parameters for an object in a group by explicitly defining parameters for that object.

8. Close the Notepad.

9. Click Yes at the next prompt to continue.

10. Verify that your queue manager and its command server are running.

11. Restart the agent for the changes to take effect.

**NonStop**

On HP NonStop Kernel (formerly known as Tandem), you can change monitoring options by editing the MQCFG monitoring file. If your site has multiple queue managers, you may have created multiple instances of the monitoring agent, each with its own uniquely named monitoring file (MQCFGx) pointing to a single queue manager. You can customize monitoring options in any or all of these monitoring files.

**Steps**

To edit the MQCFG (or MQCFGx) monitoring file, follow these steps:

1. If you are unfamiliar with the various monitoring options and the commands to enable them, review the descriptions of the options in this chapter.
   If you want to collect historical data, you must set the HISTORY option to YES on the PERFORM STARTMON statement in the monitoring file. (For information about using the historical data collection function see the CandleNet Portal online help and the Historical Data Collection Guide for IBM Tivoli OMEGAMON XE Products.)

2. When you are ready to customize the monitoring file(s), do the following:
If you are not already at the volume.subvolume containing the data files, move there now:

TAACL> VOLUME $VOL.CCMQDAT

where $VOL is your installation volume. If you changed the name of the default subvolume, enter the new name.

Edit MQCFG (or MQCFGx) and add, delete, or change the command statements to reflect the monitoring options you want to enable.

Refer to these general editing rules:
- To continue a command onto the next line, end the current line with a hyphen (-).
- Parameters you set when grouping objects are effective for all the objects in the group.
- You can override parameters for an object in a group by explicitly defining parameters for that object.

3. When you have finished customizing the monitoring file(s), save your changes and exit.
4. Verify that your queue manager and its command server are running.
5. Restart the agent for the changes to take effect.

OS/400

On OS/400, you can change monitoring options using the agent management program. (You can also use the agent management program to start, stop, delete, replicate, view status, display the log for, or change CMS configuration for one or more OMEGAMON Monitoring Agents for WebSphere MQ on the same OS/400 system.)

Steps
To edit the monitoring file, follow these steps:

1. If you are unfamiliar with the various monitoring options and the commands to enable them, review the descriptions of the options in this chapter.
   If you want to collect historical data, you must set the HISTORY option to YES on the PERFORM STARTMON statement in the monitoring file. (For information about using the historical data collection function see the CandleNet Portal online help and the Historical Data Collection Guide for IBM Tivoli OMEGAMON XE Products.)

2. When you are ready to customize the monitoring file, from an OS/400 command line enter the following command:

   WRKOMAMQ
The main panel for working with the OMEGAMON Monitoring Agent for WebSphere MQ displays.

<table>
<thead>
<tr>
<th>Work with OMEGAMON Monitoring Agent for WebSphere MQ System MYSYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type Option, press Enter</td>
</tr>
<tr>
<td>2=Change, 4=Delete, 5=Display agent Log, 14=Start, 15=End</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Option</th>
<th>Agent for MQ Manager...</th>
<th>Suffix</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>MYSYSTEM</td>
<td></td>
<td>00001</td>
<td>Not Started</td>
</tr>
<tr>
<td>MQITMISDE1</td>
<td></td>
<td>00002</td>
<td>Started</td>
</tr>
</tbody>
</table>

On this panel, multiple monitoring agents can be listed. These agents on an OS/400 system (and the unique monitoring file associated with each agent) are differentiated by a unique 5-character numeric suffix. The first agent Added is automatically assigned suffix 00001, the second agent Added is automatically assigned suffix 00002, and so on.

3. Enter 2 in the Option column next to the agent whose monitoring file you want to change.

The panel for changing the OMEGAMON Monitoring Agent for WebSphere MQ displays.

4. Press F8 to change the monitoring file associated with the agent.

An editing panel opens.

5. Insert, Delete, or modify monitoring option commands, as your site requires. Adhere to these editing rules:
   - To continue a command onto the next line, end the current line with a hyphen (-).
   - Parameters you set when grouping objects are effective for all the objects in the group.
   - You can override parameters for an object in a group by explicitly defining parameters for that object.

6. When you have finished customizing the monitoring file, press F3 to save your changes and exit. Press F3 twice more to exit the interface.

7. Verify that the queue manager and its command server are running.

8. Restart the agent for your changes to take effect.
Changing Monitoring Options
Introduction

This chapter briefly describes selected features of this monitoring product.

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Message Statistics Feature ................................................................. 69
Queue Statistics Feature ................................................................. 71
Enhanced Integration Using IBM Tivoli OMEGAMON DE ...................... 73
Queue-Sharing Group Monitoring Feature (z/OS only) .............................. 75
Error Log Monitoring Feature (non-z/OS only)

Description

The Error Log monitoring feature allows you to view and monitor WebSphere MQ error log data retrieved from a monitored queue manager (non-z/OS only). It does not provide error log data associated with unknown queue managers or with client applications.

This feature provides data for the Error Log workspace, provides you with Error Log attributes that you can use in situations, and provides the predefined situation: MQSeries_Channel_Out_Of_Sync.

For details about attributes, predefined situations, and workspace provided with this product, see the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring section of the CandleNet Portal online help.

Details of operation

Note Error Log data is only available if it is being collected for the queue manager. This product’s monitoring of the queue manager error log (non-z/OS only) is active by default. However, you can deactivate the error log monitoring feature using the ERRLOGCYCLE parameter of the SET MANAGER or SET GROUP monitoring option. You can also adjust the maximum number of messages displayed in the Error Log workspace using the ERRLOGMAX parameter of the SET MANAGER or SET GROUP monitoring option. See “Customizing Monitoring Options” on page 27 for details.

This product monitors error logs found in the following default locations.

On HP NonStop Kernel (formerly known as Tandem):

$qmvolume.qmsubvolumeL$

where $qmvolume$ is the WMQ installation volume (defined also in the "PARAM MQDEFAULTPREFIX" variable in the startup script) and $qmsubvolume$ is the queue manager "logs" (L) subvolume.

For example, in this error log:

$CLX9.QMGR004L.MQERRLG1$

the $qmvolume$ is $CLX9$ and the $qmsubvolume$ is QMGR004.

On OS/400:

/QIBM/UserData/mqm/qmgrs/qmname/errors

where $qmname$ is the queue manager name.

On UNIX:

/var/mqm/qmgrs/qmname/errors

where $qmname$ is the queue manager name.

On Windows:

<MQ WorkPath>\qmgrs\qmname\errors
where &lt;MQ WorkPath&gt; is obtained from the 
"{Software\IBM\MQSeries\CurrentVersion\WorkPath} NT Registry Key and where 
qmname is the queue manager name.

After you have created a queue manager, error log files used by IBM Tivoli OMEGAMON 
XE for WebSphere MQ Monitoring are automatically created when the queue manager 
needs them. The files are named:

- AMQERR01.LOG
- AMQERR02.LOG
- AMQERR03.LOG

Each of these error log files has a capacity of 256 KB. As error messages are 
generated, they are placed in AMQERR01. When AMQERR01 gets bigger than 256 KB, it 
is copied to AMQERR02. Before the copy, AMQERR02 is copied to AMQERR03. The 
previous contents of AMQERR03 (if any) are discarded.

The latest error messages are always placed in AMQERR01. The monitoring agent 
monitors the AMQERR01 file.
Message Manipulation Features

Description

The Message Manipulation features of IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring allow you to manipulate queued WebSphere MQ messages in these ways:

- **Browse** a message's header or its contents, or **delete** the message.
- **Delete** a message from the Dead-Letter Queue.
- **Forward** a message (from the DLQ) to its original destination queue or (from the DLQ) to a different destination queue.

The forward message function applies only to messages in the DLQ and is accessed from the Dead-Letter Queue Messages workspace (see “Dead-Letter Queue Messages” on page 87). You can also browse and delete messages displayed in this workspace. The browse and delete messages functions that apply to messages on other queues are accessed from the Queue Messages workspace (see “Queue Messages” on page 99).

Details of operation

Because of their potential for serious damage, the message-manipulation features have the special security considerations described below.

Controlling access to WebSphere MQ messages

The level of user access to queue manager messages is determined by the interrelationship of two elements, summarized below:

- The IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring MSGACCESS parameter setting.
  
  This element sets restrictions on the **monitoring agent**. It uses the MSGACCESS parameter of the SET GROUP and SET MANAGER monitoring options to set the level of message access that a monitoring agent has to the queue managers it is monitoring. See “Customizing Monitoring Options” on page 27 for details.

- The WebSphere MQ security setting on the CandleNet Portal user ID.
  
  This element sets restrictions on the **user ID**. It passes the CandleNet Portal user ID to the WebSphere MQ subroutines that the monitoring agent calls when manipulating messages. Using this element requires that you:

  - Set up WebSphere MQ security on each platform where WebSphere MQ is running.
  - Enable and customize the WebSphere MQ API resource security feature.

Interrelationship of MSGACCESS settings and user ID settings

Your site can choose not to use the WebSphere MQ security feature and to use only the MSGACCESS parameter settings on the SET GROUP and SET MANAGER monitoring options to control access to queue manager messages. For example, you can choose to
simply accept the default setting of DESC, which enables users to browse message descriptors in summary or detail reports. Or you can change the default to DATA to allow users to browse message contents. **Be aware, however, that these settings will apply to all user IDs at your site.** If someone at your site needs to be able to delete messages, you must set MSGACCESS to DELETE, thereby giving all user IDs permission to delete messages.

**IBM recommends that you use the MSGACCESS option only in conjunction with WebSphere MQ security.** The WebSphere MQ security settings on the CandleNet Portal user ID are passed to the Candle Management Server and then to the monitoring agent. Using the two options together ensures that user IDs have only the message access that they need.

If a user attempts to view a message report without the proper access, the following message is displayed:

(KMQW000W)2035-Not_Authorized

The table below illustrates the combination of MSGACCESS settings and WebSphere MQ settings that a user ID would require for the various levels of access to queue manager messages.

<table>
<thead>
<tr>
<th>For this level of message access . . .</th>
<th>The MSGACCESS setting for the queue manager must be . . .</th>
<th>The WebSphere MQ Security Access to the queue for the user ID must be . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>List the messages on a queue (display the Queue Messages workspace)</td>
<td>DESC or RETRY or DATA or DELETE</td>
<td>MQGET (with the browse option)</td>
</tr>
<tr>
<td>Browse a message’s descriptor</td>
<td>DESC or RETRY or DATA or DELETE</td>
<td>MQGET (with the browse option)</td>
</tr>
<tr>
<td>Retry a message on the dead-letter queue or forward a message on the dead-letter queue to another queue</td>
<td>RETRY or DATA or DELETE</td>
<td>MQGET (without the browse option)</td>
</tr>
<tr>
<td>Browse a message’s contents</td>
<td>DATA or DELETE</td>
<td>MQGET (with the browse option)</td>
</tr>
<tr>
<td>Delete a message</td>
<td>DELETE</td>
<td>MQGET (without the browse option)</td>
</tr>
</tbody>
</table>

**Procedure**

The following procedure is an example of a best practice to implement security for your queue manager messages:

1. Create new user IDs

On each WebSphere MQ node to be monitored, create new user IDs that correspond to the CandleNet Portal user IDs that you set up for users to access IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring. Note that when sending a command to WebSphere
MQ, CandleNet Portal sends the user ID as typed on the Logon dialog with the casing preserved exactly as typed.

2. Customize the WebSphere MQ security environment

Customize each node’s WebSphere MQ security environment to either allow or disallow the new user IDs access to that node’s WebSphere MQ queues. These user IDs are then passed to WebSphere MQ as alternate user IDs. Keep this in mind when assigning access to WebSphere MQ queues.

If you allow a user ID access to a particular queue or set of queues, that user will have access to queue manager messages as specified by the MSGACCESS setting (refer to the table above). If you disallow the user ID access to a queue or group of queues, that user will not have access to queue manager messages as specified by the MSGACCESS setting.
Message Statistics Feature

Description

The Message Statistics feature provides summarized statistics about all messages on a particular queue.

This feature provides data for the Message Statistics workspaces (for an overview, see “Message Statistics” on page 101), provides you with Message Statistics attributes that you can use in situations, and provides predefined situation examples: MQSeries_Delayed_Message_Group and MQSeries_High_Delayed_Messages.

Message statistics can also be stored historically. The data that is kept historically for message statistics is directly determined by the active situations for the Message Statistics attribute group.

For details about attributes, predefined situations, and workspace provided with this product, see the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring section of the CandleNet Portal online help.

Details of operation

Unlike many other types of data collection performed by this monitoring product, message statistics are collected “on request only” and sampling interval is not used. When these statistics are requested, each message in the specified queue is read and processed to provide the summarized message statistics.

IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring requests message statistics data collection whenever you open or refresh one of the Current Message Statistics workspaces (that is, whenever you query the Message Statistics attribute group).

To view the Current Message Statistics workspaces, WebSphere MQ Security Access to the selected queue for your CandleNet Portal Logon user ID must be MQGET (with the browse option). Additionally, user access to messages on the queue must be allowed. This can be adjusted during customization using the MSGACCESS parameter of the SET GROUP and SET MANAGER monitoring option. Any value other than MSGACCESS(NONE) allows collection of message statistics. The default setting of MSGACCESS(DESC) enables all users to browse message statistics workspaces. If you attempt to view one of the Current Message Statistics workspaces without the proper access, no data is returned.

The behavior of the Recent Message Statistics workspace differs from that of other “Recent” workspaces of this monitoring product. The Recent Message Statistics workspace displays all rows associated with the requested queue currently held by the agent waiting to be written to history. If there are no active situations associated with the Message Statistics attribute group for the requested queue, then no rows are returned. Once written to history, the data no longer displays in the Recent Message Statistics workspace. This is normal operation for the Recent Message Statistics workspace.

IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring also requests message statistics data collection whenever a situation uses the Message Statistics attributes. A
situation drives the collection of message statistics data for a particular queue name. The queue name is a required input attribute for message statistics situations and if it is not specified, then no data will be collected. Note the Queue Name attribute must specify an individual queue name, no wild cards are allowed. A separate situation must be created for every queue that is to be monitored. Because of the overhead of collecting message statistics data, it should only be collected for those queues that need to be closely monitored. Note that for situations, the user ID of the monitoring agent is used to access the queue.

Many of the message statistics are calculated using the put-date-and-time of the message in the queue. If the queue will have messages with put-date-and-times that do not reflect accurately when the message was put into the input queue, then the statistics will be correspondingly inaccurate. Put-date-and-times are not accurate indicators when origin context is preserved or set for a message during the put by an application to the queue. This commonly occurs when an application is a message mover that moves messages from one queue to another, or when any application passes or sets origin context for a message.

If there is no data returned for Message Statistics situations or workspaces, refer to the agent log to determine the reason. Messages KMQMI209E and KMQMI210E are associated with this feature.
Queue Statistics Feature

Description

The Queue Statistics feature provides additional current and historical information about message arrival and departure rates, high queue depth, and time when latest activity occurred.

This information allows you to better monitor queue activity, such as determining whether activity is at expected levels, whether messages are being read from the queues within a reasonable timeframe, or whether messages are being put on a queue and not retrieved.

This optional feature provides additional data in the Queue Statistics and Queue Manager Status workspaces, provides additional Queue Statistics attributes for use in situations, and provides data for the predefined situation: MQSeries_No_Queue_Messages_Read.

For details about attributes, predefined situations, and workspace provided with this product, see the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring section of the CandleNet Portal online help.

Details of operation

Note that queue statistics data is only available if it is being collected for the queue or queues. This product’s monitoring for queue statistics data is turned off by default to ensure downward compatibility. It can be activated if you specify STATISTICS(YES) on the SET QUEUE monitoring option for the queue or queues you want to monitor. See “Customizing Monitoring Options” on page 27 for descriptions of monitoring options.

Use of this feature effects processing of other information and has the requirements and restrictions described below.

Requirement

On all platforms, monitored queue managers must have the PERFMEV attribute that determines whether or not performance-related events are generated set to ENABLED.

Effect on queue service Interval events monitoring

This product’s monitoring agent obtains queue statistics information using the Reset Queue Statistics command. When this command is issued, the queue statistics information is reset. As a result of the reset, Queue Service Interval events such as:

- Queue_Service_Interval_High
- Queue_Service_Interval_OK

will cease functioning properly. This is because the service timer, which MQSeries relies on to determine the queue service interval, is reset by the Reset Queue Statistics command. Therefore if you are monitoring Queue Service Interval events for some queues, IBM recommends that you specify STATISTICS(NO) on the SET QUEUE monitoring option for those queues. This will ensure that the Queue Service Interval events continue to function properly. However, this will mean that such queues will not
have certain queue statistics available unless Application Queue Statistics monitoring is active on z/OS (SET APPL STATISTICS(ALL | NODYNAMQ)).

**Effect of queue events information monitoring**

If you are monitoring for queue events information, such as:

- Queue_Depth_High
- Queue_Depth_Low
- Queue_Full

when these events occur, the same queue statistics are collected and reset. As a result of the reset, the queue statistics information that the agent collects will be incomplete. The agent attempts to pick up queue statistics from events, but can only be successful if event monitoring is turned on. If event monitoring is not turned on, the information collected will be incomplete. Therefore if you are monitoring for queue events, IBM recommends that you specify EVENTS(BROWSE) or EVENTS(REMOVE) on the SET MANAGER monitoring option to ensure the most accurate event reporting.

**Effect of another application using the Reset Queue Statistics command**

As mentioned above, when the Reset Queue Statistics command is issued, the queue statistics information is reset. As a result, if another application besides this product’s monitoring agent issues this command, the agent will not be able to provide complete and accurate statistics.

**Effect of (z/OS only) Application Statistics collection**

If both Queue Statistics data using the Reset Queue Statistics command and (z/OS only) Application Statistics data are being collected with respect to a queue, the data used by this product will be what was collected using the Reset Queue Statistics command. Reset Queue Statistics provides data about all activity with respect to a queue, while Application Statistics provides data only for the applications being monitored.
Enhanced Integration Using IBM Tivoli OMEGAMON DE

Description
The optional Tivoli OMEGAMON DE version of IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring ("the monitoring product" in the discussion below) gives you the ability to easily change the parameters of specific WebSphere MQ objects (queue managers, queues, channels, and so on) by providing cross-product access to the Tivoli OMEGAMON DE version of IBM Tivoli OMEGAMON XE for WebSphere MQ Configuration ("the configuration product" in the discussion below).

Details of operation
Upgrading to the optional DE feature gives you a more integrated view of your WebSphere MQ environment. This integration allows you to select certain attributes of a WebSphere MQ resource as displayed in the monitoring product’s workspaces and, if the values are not to your liking, you can easily change them. The change will be deployed immediately.

For example, you are using the monitoring product’s Channel Performance workspace and you notice a problem with a SYSTEM.DEF.SENDER channel. You can select the channel, right-click and, from the pop-up menu, select **Configure Channel**.

![Configuration Channel](image)

The configuration product’s settings list for the channel opens.

From here you can change the channel’s parameters then click a single button to both save your changes and update your actual WebSphere MQ configuration.

Note that any WebSphere MQ resource that you want to configure using the configuration product must already be completely defined to the configuration database of IBM Tivoli OMEGAMON XE for WebSphere MQ Configuration. If it is not, the following message appears:

KCF0045E The requested object does not exist in the configuration database.
The following table lists the workspaces from which these additional actions using Tivoli OMEGAMON DE are available.

<table>
<thead>
<tr>
<th>From this workspace in IBM Tivoli OMEGAMON DE for WebSphere MQ Monitoring ...</th>
<th>You can quickly perform this action ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Definitions</td>
<td>Configure Channel</td>
</tr>
<tr>
<td>Channel Performance</td>
<td>Configure Channel</td>
</tr>
<tr>
<td>Cluster Queue Manager</td>
<td>Configure Channel</td>
</tr>
<tr>
<td>Namelist Detail</td>
<td>Configure Namelist</td>
</tr>
<tr>
<td>Queue Definitions</td>
<td>Configure Queue</td>
</tr>
<tr>
<td>Queue Manager Status</td>
<td>Configure Queue Manager</td>
</tr>
<tr>
<td>Queue Statistics</td>
<td>Configure Queue</td>
</tr>
</tbody>
</table>

Your user ID must have modify WebSphere MQ Configuration permission in order to use this feature.
Queue-Sharing Group Monitoring Feature (z/OS only)

Description

The Queue-Sharing Group monitoring feature provides the ability to monitor and display data unique to WebSphere MQ queue managers in a Sysplex environment that have been configured to form queue-sharing groups.

This feature provides a number of workspaces on z/OS only, provides additional Queue Statistics attributes for use in situations, and provides data for a number of predefined situations (named in the form MQSeries_QSG_*).

For details about attributes, predefined situations, and workspace provided with this product, see the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring section of the CandleNet Portal online help. For a navigational introduction to the Queue-Sharing Group workspaces, see page 98.

Details of operation

If there are no queue-sharing groups associated with your queue managers then you do not need to take any further action.

To successfully monitor queue-sharing groups, install a WebSphere MQ monitoring agent on the host system of each queue manager that participates in the queue-sharing group (and ensure that the agent is configured to monitor those queue managers).

The default behavior of the agent is to monitor all queue-sharing groups that are associated with monitored queue managers. This default behavior can be adjusted, if necessary (see the SET QSG monitoring option and the QSGCHKINTERVAL and GRPNAME parameters of the PERFORM STARTMON monitoring option). Also, all WebSphere MQ monitoring agents that monitor queue managers in queue-sharing groups should use the same sample interval length (refer to the SAMPINT parameter of the PERFORM STARTMON monitoring option).

For information about queue-sharing groups see the IBM WebSphere MQ for z/OS Concepts and Planning Guide.
**Introduction**

This chapter provides an introduction to the types of predefined workspaces provided in the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring user interface.

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- Buffer Pool Statistics (z/OS only) .................................... 81
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About Workspaces

Overview

IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring is installed with default views that are displayed in workspaces. Where applicable, links have been provided within the workspace to link from a parent view to a more detailed view about a selected row, or to a related workspace (for example, a workspace containing historical information).

The format and appearance of the views within a workspace may be customized to suit your preferences. For information on customizing workspaces and views, refer to the CandleNet Portal online help.

For a complete list of all workspaces included with this product and for detailed descriptions of workspaces and individual attributes within a workspace, see the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring section of the CandleNet Portal online help.
Application Debugging (z/OS only)

About Application Debugging workspaces

These workspaces apply only to the WebSphere MQ applications that are running on z/OS.

These workspaces can help you debug your WebSphere MQ applications by enabling you to view and sort debugging trace data.

Access these workspaces from the Application Debugging item for the selected queue manager within the Navigator physical view.

Data for these workspaces is only available if Application Statistics are being collected on z/OS. This can be activated using the STATISTICS parameter of the SET APPLICATION monitoring option. See the “Customizing Monitoring Options” chapter for details.

Guide for action

Use the Application Debugging workspaces to trace a WebSphere MQ application that is running on z/OS. While the Application Statistics workspaces show you those applications, CICS transactions, or programs that are experiencing or causing bottlenecks in your WebSphere MQ system, the Application Debugging workspaces can help you trace what went wrong in an application and correct it.

For example, is the MQOO_FAIL_IF_QUIESCING constant defined for MQOPEN calls? If not, why not? This constant specifies that the MQOPEN call will fail if the queue manager is quiescing, and it is a valid option for all MQSeries objects.
Application Statistics (z/OS only)

About Application Statistics workspaces
These workspaces provide statistics about WebSphere MQ applications that are running on z/OS only.

Data for these workspaces is only available if Application Statistics are being collected on z/OS. This can be activated using the STATISTICS parameter of the SET APPLICATION monitoring option. See the “Customizing Monitoring Options” chapter for details.

Access these workspaces from the Application Statistics item for the selected queue manager within the Navigator physical view.

Guide for action
Use the information in the Application Statistics workspaces for trend analysis, performance history, and security checking. For billing purposes, for example, you may want to check how often a particular application runs. To streamline the workload, compare current and historical queue and queue manager usage across different page sets.

Following are some examples of what you should check when viewing the data in these workspaces:

- Examine the number of puts versus the number of gets.
  
  If they are not equal, where is the data flow breaking down? If one queue has a large number of puts, you may want to alter the queue definition to use a different page set.

- Are the average MQPUT/MQGET response times meeting your business-service level objectives?
  
  If one application is running significantly faster than another, you may want to use a different page set to ensure better processing time.

- How many queues are being browsed, why, and by what applications?
  
  Verify that restricted queues (such as a payroll queue) are not being browsed without proper authority.

- Review the average message size for your queues; are messages typically the maximum size (MaxMsgLength queue attribute)?
  
  There may be a problem in an application or a queue definition.

You can use these workspaces in conjunction with the Application Debugging workspaces to help you locate and correct problems in your WebSphere MQ applications.
Buffer Pool Statistics (z/OS only)

About Buffer Pool Statistics workspaces

The Buffer Pool Statistics workspaces can help you ensure that your buffer managers are performing efficiently.

These workspaces show current buffer manager performance for all monitored z/OS queue managers. You can also drill down to display information about a specific buffer pool to isolate recent or historical performance trends.

Access these workspaces from the Buffer Pool Statistics item for the selected queue manager within the Navigator physical view.

Guide for action

Each z/OS queue manager includes a buffer manager. The buffer manager uses the buffers in a buffer pool to hold WebSphere MQ objects, including messages. With proper allocation of buffer pools, messages can be accessed more efficiently because they are retrieved from buffers in storage rather than from disk.

To enhance buffer pool performance, monitor these conditions:

- Examine the ratio of pages read from DASD to pages retrieved. This shows the efficiency of page retrieval within buffer pool storage. The object is to keep this ratio low.
  
  The ratio of pages not found in the buffer pool to pages retrieved is another measure of page-retrieval efficiency.

  The number of asynchronous write-processor starts indicates how many times more than 85% of the buffer pool was waiting for write I/O or less than 15% of the buffer pool was available for reads. The object is to keep the number of these starts low.

  In any of these cases, first try increasing buffer pool size. If the ratio remains high, pages are not being frequently reaccessed. A WebSphere MQ application may be allowing long delays between putting messages and subsequently getting them.

  The ratio of pages updated to pages written to DASD indicates the efficiency of the asynchronous write processor. The object is to keep this ratio high. Increasing buffer pool size increases this ratio.

- Monitor the number of updates performed synchronously. This occurs when more than 95% of the pages in the buffer pool are waiting for write I/O or less than 5% of the buffer pool is available for reads. The object is to maintain zero synchronous updates. Monitor the number of times there are no buffers available for page gets. If this number ever becomes nonzero, WebSphere MQ is under severe stress.

  In these cases, increase buffer pool size, and then look at I/O contention on the DASD page sets.
You can also consult the Page Set Statistics workspace to review the performance of the page sets associated with a specific buffer pool ID (see “Page Set Statistics (z/OS only)” on page 94).
Channel Definitions

About Channel Definitions workspaces
The Channel Definitions workspaces provide you with information about the channels your site has defined and is monitoring for each monitored queue manager. Included is the channel type (sender, receiver, server, or requestor) and whether each is current or inactive.

Access these workspaces from the Channel Definitions item for the selected queue manager within the Navigator physical view.

Guide for action
Use the Channel Definitions workspaces to check queue manager channel definitions and channel parameters. You can often solve channel problems by correcting channel definitions.

You may need to define multiple channels to allow for high message traffic, different message priorities, or different queue types.
About the Channel Initiator Status workspaces

These workspaces pertain only to z/OS queue managers. The Channel Initiator status workspaces provide information about:

- channel connection states (the number of current, maximum, active, starting, stopping, and retrying)
- whether channel initiator, TCP/IP listener, and LU62 listener are active
- the success of adapter subtask and dispatcher activity

Channel Initiator Status information can also be stored historically. Note historical collection must be activated using standard OMEGAMON XE historical processing.

Access the top-level workspace from the Channel Initiator Status item for the selected queue manager within the Navigator physical view.

Guide for action

Use the Channel Initiator Status workspace to improve your processing capacity and to detect errors in the communications system.

- Compare the number of adapter subtasks that are currently active to the number of adapter subtasks requested in the channel initiator parameters.
  
  If the numbers differ, some adapter subtasks have failed and not restarted, reducing processing capacity.

- Compare the number of dispatchers that are currently active to the number of dispatchers requested in the channel initiator parameters.
  
  If the numbers differ, some dispatchers have failed and not restarted. The number of current TCP/IP and LU 6.2 channels allowed will be reduced proportionately, and other processing capacity might be reduced.

- Compare the relationship of the numbers of channel connections that are current, active, maximum, starting, stopping, and retrying.

- Check to see whether channel initiator, TCP/IP listener, TCP/IP group listener, LU 6.2 listener, and LU 6.2 group listener are active.
  
  If a listener had been started, and was not deliberately stopped, this might indicate an error in the communications system.

**Note:** On z/OS, TCP IP listeners can be started many times with different combinations of port number and address. If this occurs, columns TCP IP Listener Active and Port Number in this workspace are set to the last set of TCP IP listener information provided by WebSphere MQ. To display all started TCP IP listeners, right-click on a row with a TCP IP Listener Active to access the TCPIP Started Listeners workspace.
Channel Performance

About Channel Performance workspaces

The Channel Performance workspaces provide performance information about the monitored channels on each monitored queue manager. Included is whether or not each channel is in-doubt, current, or inactive, as well as the channel type.

Note client connection channel definitions do not produce statistics therefore they are not listed in any of the Channel Performance workspaces.

Access these workspaces from the Channel Performance item for the selected queue manager within the Navigator physical view.

Guide for action

A channel provides a communication path between two queue managers (on the same or different platforms). It shields the application programs from the complexities of the underlying network protocols. A channel consists of a transmission queue, a message channel agent (communications program), and a communications link.

When using these workspaces, you should check for the following:

- What is the depth of the transmission queue? If this number remains high, consider assigning more channels. You may need to define multiple channels to allow for high message traffic, different message priorities, or different queue types. Sequence number and logical unit-of-work data can help you with channel recovery and restart.

- Use the information in the Channel Performance workspace to examine and compare channel performance among the selected channels. Look for patterns in resource activity, traffic, or time of day.

- Use the information in the Recent Channel Performance workspace to investigate recent trends in the performance of the selected channels. Look for patterns in time of day, channel type, or transmission rate.

- Use the information in the Channel Parameters workspace to check the defined parameters for the selected channel.
Cluster Queue Manager

About Cluster Queue Manager workspaces

These workspaces provide information about explicitly and automatically defined cluster channels and the cluster queue manager associated with them.

Access these workspaces from the Cluster Queue Manager item for the selected queue manager within the Navigator physical view.

Guide for action

Use the Cluster Queue Manager workspaces to determine clustering activity and definitions for monitored queue managers. For example, the workspaces tell you:

- how many automatically defined cluster-defined channels exist
- cluster queues and cluster queue managers associated with cluster channels
- which queue managers are repositories for the cluster
Dead-Letter Queue Messages

About Dead-Letter Queue Messages workspaces

These workspaces allow you to list and examine the messages that a queue manager queued to its dead-letter queue (DLQ) because they could not be delivered. These workspaces can help you manage your dead-letter queues and ensure that you maintain the efficiency and integrity of your business application data. With these workspaces you can recover important messages or resend them to their original destinations, delete obsolete messages, and identify problem applications.

Access these workspaces from the Dead-Letter Queue Messages item for the selected queue manager within the Navigator physical view.

Guide for action

Your ability to access the Dead-Letter Queue Messages workspaces and perform the actions described below depends upon the elements described in “Controlling access to WebSphere MQ messages” on page 66.

WebSphere MQ puts a message on the DLQ when it cannot deliver the message to the requested queue. This can occur for various reasons, such as the message is too long, the queue name is invalid, or the queue is full.

You can use these workspaces as follows:

- From the Dead-Letter Queue Messages workspace, you can select a message to view its header or application data, delete it, or retry its delivery.
- If a queue is full, you can use the Queue Messages workspace to delete unnecessary messages (as described in “Queue Messages” on page 99). Then you can use the Dead-Letter Queue Messages workspace to retry delivering those messages that failed because the queue was full.

When you confirm a delete or retry, a return code and message displays. For an explanation of numeric return codes, refer to the IBM WebSphere MQ Application Programming Reference manual.
Deleting a message from the dead-letter queue

Use this procedure to delete a message from the dead-letter queue:

1. Within the Dead-Letter Queue Messages workspace, right-click on the message you want to delete.

2. From the pop-up menu, select **MQ Commands > Delete**.
   
   A confirmation message showing the current queue and the current queue manager appears.

3. To delete the message whose parameters match those in the confirmation message, click **Yes**.
   
   The message is deleted. The status of your delete request appears.

   **Note:** If you delete a segmented or grouped message, IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring deletes the entire logical message.

4. To remove the status message, click **OK**.

Resending a message to its original destination queue

Use this procedure to resend a message on the dead-letter queue to its original destination queue and then delete it from the dead-letter queue. (Deleting the message after you resend it prevents the message from appearing more than once on the DLQ if it is undeliverable again.)

1. Within the Dead-Letter Queue Messages workspace, right-click on the message you want to resend.

2. From the pop-up menu, select **MQ Commands > Forward**.
   
   A confirmation message showing the original destination queue of the message and the current queue manager appears.

3. To retry the message whose parameters match those in the confirmation message, click **Yes**.
   
   The message is resent and then deleted from the dead-letter queue. The status of your retry request appears.

   **Note:** If you retry a segmented or grouped message, IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring retries the entire logical message.

   To remove the status message, click **OK**.

Forwarding a message to a destination you specify

Use this procedure to forward a message on the dead-letter queue to a destination that you supply, and then delete it from the dead-letter queue. (Deleting the message after you forward it prevents the message from appearing more than once on the DLQ if it is undeliverable again.)

The message can be forwarded to a queue on any queue manager known to the WebSphere MQ system.
1. Within the Dead-Letter Queue Messages workspace, right-click on the message you want to forward.

2. From the pop-up menu, select **MQ Commands > Forward**. A dialog, showing the original destination queue of the message and the current queue manager, appears.

3. Fill in the dialog:
   - In the **Queue name** field, enter the name of the queue to send the message to.
   - In the **Queue Manager** field, enter the name of the queue manager for the queue that you specify in the Queue name field.

   then click **Yes**.

4. The message is forwarded and then deleted from the dead-letter queue. The status of your forward request appears; click **OK** to clear the status message.

   **Note:** If you forward a segmented or grouped message, IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring forwards the entire logical message.
Error Log (non-z/OS only)

About the Error Log workspace

This workspace allows you to view and monitor WebSphere MQ error log data retrieved from a monitored queue manager (non-z/OS only). It does not provide error log data associated with unknown queue managers or with client applications.

Note Error Log data is only available for display if it is being collected for the queue manager. See “Error Log Monitoring Feature (non-z/OS only)” on page 64. Error Log data can also be stored historically. Note historical collection must be activated using standard OMEGAMON XE historical processing.

Access this workspace from the Error Log item for the selected queue manager within the Navigator physical view.

Guide for action

The Error Log table view provides you with the latest WebSphere MQ error log data retrieved from a monitored (non-z/OS only) queue manager. Use the information in this workspace to resolve queue manager problems in a timely manner. Only error log entries recorded after the monitoring agent has started are displayed.
Log Manager Performance (z/OS only)

About Log Manager Performance workspaces

These workspaces give information about the logging activity (such as I/O levels and the number of times an WebSphere MQ application was delayed because no logging buffers were available) for each monitored z/OS queue manager.

Access these workspaces from the Log Manager Performance item for the selected queue manager within the Navigator physical view.

Guide for action

Use the information in the Log Manager Performance workspaces to monitor recent and long-running activity for a particular z/OS queue manager or to compare log manager performance of various z/OS queue managers.

Messages on the log are used to back out messages in an incomplete logical unit of work or to recover messages after queue manager or system failure. For best performance, you should eliminate contention for DASD log files, provide sufficient buffer and log file capacity, and maintain correct log buffer thresholds.

Monitor these conditions:

- Check the number of times a task was suspended because all buffers were waiting to be written to the active log dataset.
  
  Ensure that the active log is available for writing. If so, you can increase the value of the OUTBUFF parameter within CSQ6LOGP.

- Is the ratio of reads satisfied from the archive dataset to all read requests excessive? Most log reads should come from the output buffer or the active log.
  
  To satisfy requests for backout, unit-of-recovery records are read from the in-storage buffer, the active log, and the archived logs. Also the ratio of log reads to log writes can indicate how much work must be backed out.

  A long-running unit of recovery may require log records spread across many different logs. This degrades performance because extra work is required to recover the log records.

  Request that the WebSphere MQ application reduce the unit-of-recovery length. Also consider increasing the size of the active log. Statistics produced right after system startup may show significant log activity because the log was used to back out in-flight LUWs. Check that log activity subsides after startup.
Message Manager Performance (z/OS only)

About Message Manager Performance workspaces

The Message Manager Performance workspaces provide information on how frequently calls to the WebSphere MQ application programming interface (API) are being made against your monitored z/OS queue managers. These rates can help you determine how frequently messages are being passed to and pulled from a particular queue manager.

Access these workspaces from the Message Manager Performance item for the selected queue manager within the Navigator physical view.

Guide for action

Use the information in these workspaces to determine the following information about a monitored z/OS queue manager:

- how frequently queues are being opened (MQOPEN calls)
- how frequently queues are being closed (MQCLOSE calls)
- how frequently messages are being queued (MQPUT calls)
- how frequently messages are being pulled from queues (MQGET calls)
- how frequently a single API call is being used to open a queue, queue a message, then close the queue (MQPUT1 calls)
- how frequently object characteristics are being queried (MQINQ calls)
- how frequently object characteristics are being modified (MQSET calls)
- how frequently WebSphere MQ closes handles independent of WebSphere MQ API calls
MQSeries Events

About MQSeries Events workspaces

These workspaces provide information about the following six events for each monitored queue manager:

- Channel Stopped
- Queue Full
- Queue Depth High
- Queue Service Interval High
- Bridge Stopped
- Channel Not Activated

These events require prompt resolution, and are reported both for:

- Local queue managers (that is, those belonging to a system that IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring is monitoring) and
- Remote queue managers. In this case, your site must have defined the event queues of these remote queue managers to be local to a system that IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring is monitoring.

Access these workspaces from the MQSeries Events item for the selected queue manager within the Navigator physical view.

Guide for action

Use the information in the MQSeries Events workspaces to review the exception conditions currently on the event queue. Exception conditions, such as Queue Full, Channel Stopped, etc., remain on the event queue until another condition occurs that resets them. For example, a Queue Service Interval High condition remains on the event queue until a Service Interval OK event occurs for that queue.

You can see events occurring on the local queue manager or on any remote queue manager, if the following are true:

- The remote queue manager supports events.
- Events are activated/enabled on the remote queue manager or local queue manager.
- The system event queues in the remote queue manager are defined as remote.
- The system event queues for the remote queue manager are local to a monitored queue manager.

To maintain good performance, investigate the problems shown on these workspaces. Look for patterns in time of day, day of week, and resource used. You can use the information in the Event Parameters workspace to review more detailed information about a specific event. The data displayed in this workspace varies depending on the event.
Page Set Statistics (z/OS only)

About Page Set Statistics workspaces

These workspaces give information about the usage and allocation of page sets for each monitored z/OS queue manager.

Access these workspaces from the Page Set Statistics item for the selected queue manager within the Navigator physical view.

Guide for action

A queue manager running on WebSphere MQ for z/OS uses page sets to store object definitions and queue messages. Use the Page Set Statistics workspaces to monitor these conditions:

- Examine the percentage of pages in use and the total number of extents to ensure that no page sets are reaching capacity.

  Once a page set becomes full, applications cannot put messages on the queue that is mapped to that page set. This situation is especially critical when the full page set is number zero (0), since all object definitions required by the queue manager are stored there.

  If a page set is full, expand that page set, or balance the load between page sets by moving queues from one page set to another.

- Examine the number of buffers in the buffer pool being used.

  If the buffer pool’s efficiency is poor and a page set is responsible for most of the activity, try increasing the buffer pool size or assigning that page set to another buffer pool.
Queue Definitions

About Queue Definitions workspaces

The Queue Definitions workspaces provide information about your monitored queues. Access these workspaces from the Queue Definitions item for the selected queue manager within the Navigator physical view.

Guide for action

Use the information in the Queue Definitions workspaces to compare queue definitions among your monitored queue managers.

Application and system queue characteristics must be defined to WebSphere MQ. For example:

- whether applications can retrieve messages from the queue
- whether applications can put messages on the queue
- whether access to the queue is exclusive or shared
- the maximum number of messages that can be stored on the queue
- the maximum length of messages that can be put on the queue

Application queues can be local, alias, or model. System queues can be initiation, transmission, channel, dead-letter, system-command input, event, or system default.
Queue Manager Status

About Queue Manager Status workspaces

These workspaces show the status of the monitored queue managers in your network and give basic descriptive information about each monitored queue manager.

Access these workspaces from the Queue Manager Status item for the selected queue manager within the Navigator physical view.

Guide for action

Use the information in the Queue Manager Status workspaces to compare the status and activity of your queue managers and to look for patterns in resource usage, status, or time of day.

Check these factors:

- dead-letter queue depth
- each queue manager’s status (Active Queue Manager Not Available, Command Server Not Responding, Dynamic Queue Allocation Error, Cluster Repository Not Available)

**Note:** The time and date the queue manager was started are available on UNIX and z/OS only.
Queue Statistics

About Queue Statistics workspaces

The Queue Statistics workspaces provide usage information about all monitored queues and queue managers (such as the number of open queues, how full they are, whether they are get- or put-inhibited, and the number of messages currently on each queue manager’s dead-letter queue).

Access the default top-level workspace, the Queue Statistics workspace, from the Queue Statistics item for the selected queue manager within the Navigator physical view.

Access the alternate top-level workspace, the Open Queue Handles workspace, from the Queue Statistics item for the selected queue manager within the Navigator physical view.

Guide for action

Use the Queue Statistics workspaces to compare activity and parameter definitions among your various queues. Look for activity and usage trends.

To maximize message integrity, you want to minimize dead-letter queue depth. Check how many open queues you have and review their patterns of activity. Also check to see how many undeliverable messages fell into the dead-letter queue.

The following can adversely affect performance:

- lengthy logical units of work
- a CICS transaction or a program that is tying up resources
Queue-Sharing Group (z/OS only)

About QSG workspaces

See “Queue-Sharing Group Monitoring Feature (z/OS only)” on page 75.

Access these workspaces from the Queue-Sharing Group item (at the same level as the MQSERIES item) within the Navigator physical view tree.

Guide for action

Use the information in the Queue-Sharing Group workspaces to examine:

- the status of each queue manager in the queue-sharing group
- the status of the Coupling Facility (CF) application structures that store your queue-sharing group’s essential data, and also the date and time that these CF application structures were last backed up
- the status of shared queues and channels used by the queue-sharing group
Queue Messages

About Queue Messages workspaces

The Queue Messages workspaces can help you manage queues by allowing you to:

- display queue status and contents
- list queued messages
- display message descriptor information
- display message application data (that is, message contents)
- delete messages

With these tools, you can balance queue usage, test and debug applications, and delete obsolete messages.

Access these workspaces from the Queue Definitions item (or from the Queue Statistics item) for the selected queue manager within the Navigator physical view.

For example, from the top-level Queue Definitions workspace, if you right click on a table row and select Link To you can select the following workspace:

- Queue Messages

For the complete list of predefined workspaces included with this product, see the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring section of the CandleNet Portal online help.

Guide for action

Your ability to access the Queue Messages workspaces to perform the actions described below depends upon the elements described in “Controlling access to WebSphere MQ messages” on page 66.

Use the Queue Messages workspaces to check the number of monitored queues per queue manager; how many of those queues are put or get-inhibited, how many of those queues have reached their high-depth threshold, and so on.

For those queues approaching their high-depth threshold, use the Queue Messages workspace to get detailed information about the messages residing there and/or to delete a message from a queue.

After you confirm a message deletion, a return code and message display. Zero indicates successful completion. Non zeros indicate a problem. For an explanation of non-zero return codes, refer to the IBM WebSphere MQ Application Programming Reference manual. You should also refresh the workspace display; some messages may have already been deleted by the application that retrieved them. The workspace is automatically refreshed after you delete a message.

For detailed instructions on deleting messages, refer to “Deleting a message from a queue” on page 100.
Deleting a message from a queue

Use this procedure to delete a message from the selected queue:

1. Open the Queue Messages workspace.

2. Right-click on the message you want to delete and, from the pop-up menu, select **Delete**. A confirmation message showing the current queue and the current queue manager appears.

3. To delete the message whose parameters match those in the confirmation message, click **Yes**.

The matching message is deleted. The status of your delete request appears; click **OK** to clear the status message.

**Note:** If you delete a segmented or grouped message, IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring deletes the entire logical message.
Message Statistics

About Message Statistics workspaces

The Message Statistics workspaces allow you to closely monitor the messages on a particular queue.

Access these workspaces from the Queue Definitions item (or from the Queue Statistics item) for the selected queue manager within the Navigator physical view.

For example, from the Queue Definitions workspace, if you right click on a table row and select **Link To** you can select one of the following workspaces:

- Current Message Statistics
- Current Message Statistics by Application Name
- Current Message Statistics by Correlation ID
- Current Message Statistics by Group ID
- Recent Message Statistics

For the complete list of predefined workspaces included with this component product, see the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring section of the CandleNet Portal online help.

Guide for action

Your ability to access the Message Statistics workspaces depends upon the elements described in “Message Statistics Feature” on page 69.

Use the information in the Message Statistics workspaces to determine how many messages of different priorities reside on a particular queue and to determine whether messages for a particular queue are being processed in an acceptable amount of time.

Here are some examples of the type of message statistics you can access.

- Average message time (the average number of seconds messages have been on the queue)
- Late messages (the number of messages not processed within a time threshold)
- Oldest message time (the number of seconds the oldest message has been on the queue)
- Priority 0–Priority 9 messages (the number of messages in each priority group on the queue)
- Total messages
Introduction

IBM assumes that you will install the OMEGAMON Monitoring Agent for WebSphere MQ on each supported operating system platform. However, you can use the procedure below to monitor events only on non-supported platforms. This procedure causes event data to be stored in a monitored queue manager.

Procedure

1. In the queue manager on the non-supported platform, define the system event queues as QREMOTE and residing in your monitored queue manager.

2. In the queue manager on the non-supported platform, enable events. Events must be recorded in Coordinated Universal Time (CUT).

3. Enable monitoring of the queue manager on the supported platform to which the events on the non-supported platform are sent.
Introduction

This appendix documents the KMQ-prefixed messages that are produced by the IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring feature, and certain messages which may appear in the Windows Event Log.

Appendix contents

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KMQ messages

The following messages have numbers in the form KMQccnnns, where cc is the component identifier, nnn is a three-digit numeric identifier, and s is the message severity (error, warning, informational, severe). The messages are listed alphabetically by cc, then numerically within that group.

**Note:** Messages KMQ**001E** through KMQ**005E** apply to multiple components, where the ** will be any of the various component identifiers.

<table>
<thead>
<tr>
<th>KMQ**001E</th>
<th>Parameter error on domain call</th>
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<tr>
<td>KMQ**001E</td>
<td>The gate being called was call</td>
</tr>
<tr>
<td>KMQ**001E</td>
<td>The parameter in error was number parmno</td>
</tr>
</tbody>
</table>

**Explanation:** This generic message can be issued from any IBM Tivoli OMEGAMON XE for WebSphere MQ component. It indicates that an internal error has occurred on a call to an IBM Tivoli OMEGAMON XE for WebSphere MQ gate.

**System Action:** The error is propagated to the calling module.

**User Response:** Note the message text, and contact IBM Software Support.

<table>
<thead>
<tr>
<th>KMQ**002E</th>
<th>Error initializing domain component</th>
</tr>
</thead>
</table>

**Explanation:** This generic message can be issued from any IBM Tivoli OMEGAMON XE for WebSphere MQ component. It indicates that an internal error has occurred during initialization of the specified component.

**System Action:** Initialization does not complete successfully.

**User Response:** Note the message text, and contact IBM Software Support.

<table>
<thead>
<tr>
<th>KMQ**003E</th>
<th>Gate validation failed for domain call</th>
</tr>
</thead>
<tbody>
<tr>
<td>KMQ**003E</td>
<td>Calling module module - Gate called call</td>
</tr>
</tbody>
</table>

**Explanation:** This generic message can be issued from any IBM Tivoli OMEGAMON XE for WebSphere MQ component. It indicates that an internal error has occurred on a call to an IBM Tivoli OMEGAMON XE for WebSphere MQ gate.

**System Action:** The error is propagated to the calling module.

**User Response:** Note the message text, and contact IBM Software Support.

<table>
<thead>
<tr>
<th>KMQ**004E</th>
<th>Logic error on domain call</th>
</tr>
</thead>
<tbody>
<tr>
<td>KMQ**004E</td>
<td>Calling module module - Gate called call</td>
</tr>
<tr>
<td>KMQ**004E</td>
<td>- Response=response_code - Reason=reason_code</td>
</tr>
</tbody>
</table>

**Explanation:** This generic message can be issued from any IBM Tivoli OMEGAMON XE for WebSphere MQ component. It indicates that an internal error has occurred on a call to an IBM Tivoli OMEGAMON XE for WebSphere MQ gate.

**System Action:** The error is propagated to the calling module.

**User Response:** Note the message text, and contact IBM Software Support.

| KMQ**005E | Component trace failed to initialize for component component |

**Explanation:** This generic message can be issued from any IBM Tivoli OMEGAMON XE for WebSphere MQ component. It indicates that an internal error has occurred during trace initialization for the specified component.

**System Action:** Tracing is not activated for the specified component.
User Response: If tracing is required and cannot be activated, note the message text, and contact IBM Software Support.

KMQCI101E Base startup already in progress
Explanation: A command has been entered to start IBM Tivoli OMEGAMON XE for WebSphere MQ, but a prior command is still being processed.
System Action: The command is not executed.
User Response: Wait for the prior command to complete, and resubmit the command.

KMQCI102W Base startup already completed
Explanation: Startup of IBM Tivoli OMEGAMON XE for WebSphere MQ has already completed.
System Action: The current command is not executed.
User Response: None.

KMQCI103E Base startup failure - storage allocation error
Explanation: Initialization of IBM Tivoli OMEGAMON XE for WebSphere MQ failed because of a virtual-storage shortage.
System Action: IBM Tivoli OMEGAMON XE for WebSphere MQ does not initialize.
User Response: Increase the memory allocated to the Candle Management Server (CMS) address space, and restart it.

KMQCI104E Base startup failure - module module failed
Explanation: IBM Tivoli OMEGAMON XE for WebSphere MQ could not initialize because the named initialization module failed.
System Action: IBM Tivoli OMEGAMON XE for WebSphere MQ does not initialize.
User Response: Note the message text, and contact IBM Software Support.

KMQCI105I OMEGAMON XE for WebSphere MQ base initialization complete
Explanation: The IBM Tivoli OMEGAMON XE for WebSphere MQ base functions have initialized successfully.
User Response: None.

KMQCI106E Invalid major command
Explanation: The major verb on the IBM Tivoli OMEGAMON XE for WebSphere MQ command is invalid.
System Action: The command is not executed.
User Response: Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQCI107E Invalid minor command
Explanation: The minor verb on the IBM Tivoli OMEGAMON XE for WebSphere MQ command is invalid.
System Action: The command is not executed.
**User Response:** Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI108E Invalid keyword keyword**

**Explanation:** The named keyword on the IBM Tivoli OMEGAMON XE for WebSphere MQ command is invalid.

**System Action:** The command is not executed.

**User Response:** Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI109E Invalid value value for keyword keyword**

**Explanation:** The value supplied for the named keyword on the IBM Tivoli OMEGAMON XE for WebSphere MQ command is invalid.

**System Action:** The command is not executed.

**User Response:** Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI110E Command not supported**

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ does not support the command entered.

**System Action:** The command is not executed.

**User Response:** Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI111E Command processing failed**

**KMQCI111E Function function Response=response_code Reason=reason_code**

**Explanation:** An error occurred processing an IBM Tivoli OMEGAMON XE for WebSphere MQ operator command.

**System Action:** The command is not executed.

**User Response:** Search for prior errors in the agent log, note the message text, and contact IBM Software Support.

**KMQCI112E Startup already in progress**

**Explanation:** A PERFORM STARTUP command was entered, but IBM Tivoli OMEGAMON XE for WebSphere MQ has already been started.

**System Action:** The command is not executed.

**User Response:** None.

**KMQCI113W Startup already completed**

**Explanation:** A PERFORM STARTUP command was entered, but IBM Tivoli OMEGAMON XE for WebSphere MQ has already completed.

**System Action:** The command is not executed.

**User Response:** None.

**KMQCI114E Unable to load domain initialization module**

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ module KMQACIVC could not be loaded.

**System Action:** Processing of the PERFORM STARTUP command terminates.
User Response: Note the message text, and contact IBM Software Support.

**KMQCI116I** VALIDATE command completed successfully

**Explanation:** The LIST parameter on the PERFORM STARTUP command was successfully checked and validated.

**System Action:** The commands within the LIST member will be executed when IBM Tivoli OMEGAMON XE for WebSphere MQ initialization completes.

**User Response:** None.

**KMQCI117E** SPAM request *request* failed - Return code=*return_code*

**Explanation:** While attempting to process the LIST member of the PERFORM STARTUP command, the named $PAM request failed with return code *return_code* from the service.

**System Action:** The PERFORM STARTUP command fails.

**User Response:** Validate the member name specified by the LIST parameter. Ensure that the member exists in the RKANCMDF dataset. If problems persist, note the message text, and contact IBM Software Support.

**KMQCI118E** LIST operand missing

**Explanation:** The LIST operand is missing from the PERFORM STARTUP command.

**System Action:** The command is not executed.

**User Response:** Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI119E** OMEGAMON XE for WebSphere MQ not active - unable to process

**Explanation:** A PERFORM SHUTDOWN command was entered, but IBM Tivoli OMEGAMON XE for WebSphere MQ is not active.

**System Action:** The command is not executed.

**User Response:** None.

**KMQCI120E** Shutdown already in progress

**Explanation:** A PERFORM SHUTDOWN command was entered, but IBM Tivoli OMEGAMON XE for WebSphere MQ is already shutting down.

**System Action:** The command is not executed.

**User Response:** Wait for the original shutdown request to complete.

**KMQCI121I** Shutdown is in progress

**Explanation:** The shutdown of IBM Tivoli OMEGAMON XE for WebSphere MQ has begun.

**System Action:** The command is not executed.

**User Response:** None.

**KMQCI122E** Sample interval time missing

**Explanation:** A PERFORM STARTMON command was entered, but the sample interval time associated with the SAMPINT keyword is missing.

**System Action:** The command is not executed.
User Response: Correct the PERFORM STARTMON command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI123I** Perform STARTMON command processed successfully

**Explanation:** The PERFORM STARTMON command was processed successfully.

**System Action:** OMEGAMON XE Monitoring of WebSphere MQ begins.

**User Response:** None.

**KMQCI124W** Monitoring already active

**Explanation:** A PERFORM STARTMON command was entered, but monitoring is already active.

**System Action:** The command is not executed.

**User Response:** None.

**KMQCI125E** Name parameter missing

**Explanation:** A SET GROUP, SET HISTORY, SET QUEUE, or SET CHANNEL command was entered, but the command was missing the NAME parameter.

**System Action:** The command is not executed.

**User Response:** Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI126I** SET GROUP command processed successfully

**Explanation:** A SET GROUP command was processed successfully.

**System Action:** Normal processing continues.

**User Response:** None.

**KMQCI127E** LIKE name not found

**Explanation:** A SET GROUP or SET MANAGER command was entered with the LIKE parameter, but the group or manager referenced by the LIKE parameter was not previously defined.

**System Action:** The command is not executed.

**User Response:** Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI128E** NAME or SUBSYS parameter required

**Explanation:** A SET MANAGER command was entered without the required NAME or SUBSYS parameter.

**System Action:** The command is not executed.

**User Response:** Correct the SET MANAGER command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI129E** Inconsistent parameters specified for STATUS

**Explanation:** A SET MANAGER command was entered with parameters that conflict with the STATUS(DELETE) or STATUS(RESET) parameters.

**System Action:** The command is not executed.
User Response: Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI130I**  
**SET MANAGER command processed successfully**  
**Explanation:** The SET MANAGER command was processed successfully.  
**System Action:** Normal processing continues.  
**User Response:** None.

**KMQCI131E**  
**NICKNAME duplicates existing queue manager**  
**Explanation:** A SET MANAGER command was entered with a NICKNAME that duplicates an existing MANAGER or NICKNAME.  
**System Action:** The command is not executed.  
**User Response:** Correct the SET MANAGER command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI132E**  
**GROUP name not found**  
**Explanation:** The SET MANAGER command was specified with a GROUP that does not exist.  
**System Action:** The command is not executed.  
**User Response:** Correct the SET MANAGER command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI133E**  
**Inconsistent NAME and SUBSYS parameters**  
**Explanation:** A SET MANAGER command specifies both NAME and SUBSYS parameters, but these names are inconsistent with a previous SET MANAGER command.  
**System Action:** The command is not executed.  
**User Response:** Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI134E**  
**Duplicate queue manager for STATUS(ADD)**  
**Explanation:** A SET MANAGER command with STATUS(ADD) refers to a queue manager that has already been defined by a previous SET MANAGER command.  
**System Action:** The command is ignored. Processing continues.  
**User Response:** If you did not wish to modify the queue manager specification, STATUS(ADD) has done its job, and no further action is necessary. Otherwise, correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI135E**  
**Queue manager not found**  
**Explanation:** The queue manager name specified on a SET QUEUE or SET CHANNEL command was not defined by a prior SET MANAGER command.  
**System Action:** The command is ignored. Processing continues.  
**User Response:** Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.
KMQCI136E Channel not found
Explanation: A SET CHANNEL command with STATUS(DELETE) was entered, but the NAME was not specified in a prior SET CHANNEL command.
System Action: The command is not executed.
User Response: Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQCI137E Duplicate channel
Explanation: A SET CHANNEL command with STATUS(ADD) refers to a channel that has already been defined by a previous SET CHANNEL command.
System Action: The command is ignored. Processing continues.
User Response: If you did not wish to modify the channel specification, STATUS(ADD) has done its job, and no further action is necessary. Otherwise, correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQCI138E Queue not found
Explanation: A SET QUEUE command with STATUS(DELETE) was entered, but the NAME specified was not defined by a prior SET QUEUE command.
System Action: The command is not executed.
User Response: Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQCI139E Duplicate queue
Explanation: A SET QUEUE command with STATUS(ADD) refers to a queue that has already been defined as the result of a previous SET QUEUE command.
System Action: The command is ignored. Processing continues.
User Response: If you did not wish to modify the queue specification, STATUS(ADD) has done its job, and no further action is necessary. Otherwise, correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQCI140E MGRNAME parameter missing
Explanation: The MGRNAME parameter is missing from the SET CHANNEL or SET QUEUE command.
System Action: The command is not executed.
User Response: Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQCI141E Invalid STATUS parameter
Explanation: The STATUS parameter on the SET command is invalid.
System Action: The command is not executed.
User Response: Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQCI142I SET CHANNEL command processed successfully
Explanation: The SET CHANNEL command was processed successfully.
User Response: None.
**KMQCI143I** SET QUEUE command processed successfully

**Explanation:** The SET QUEUE command was processed successfully.

**User Response:** None.

**KMQCI144E** Null command ignored

**Explanation:** A command was entered with no operands.

**System Action:** The command is not executed.

**User Response:** Correct the command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI145I** command

**Explanation:** The command command was returned and processed.

**System Action:** The command is executed.

**User Response:** None.

**KMQCI146E** Trace head node initialization failed, RC=return_code Reason=reason_code

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ failed to define a trace to z/OS component trace services. The return code return_code and reason code reason_code are either the hexadecimal return codes from the CTRACE DEFINE macro call or an internal IBM Tivoli OMEGAMON XE for WebSphere MQ error.

**System Action:** Processing continues, but component tracing may not be available.

**User Response:** To determine why the CTRACE DEFINE failed, refer to the MVS Authorized Assembler Services Reference, Volume 1 for the return and reason codes for the CTRACE macro. If the return code is not described therein, an internal IBM Tivoli OMEGAMON XE for WebSphere MQ error has occurred; note the message text, and contact IBM Software Support.

**KMQCI147E** module Subtrace initialization failed. RC=return_code Reason=reason_code

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ failed to define a trace to z/OS component trace services for the named subtrace component. The return code return_code and reason code reason_code are either the hexadecimal return codes from the CTRACE DEFINE macro call or an internal IBM Tivoli OMEGAMON XE for WebSphere MQ error.

**System Action:** Processing continues, but component tracing may not be available.

**User Response:** To determine why the CTRACE DEFINE failed, refer to the MVS Authorized Assembler Services Reference, Volume 1 for the return and reason codes for the CTRACE macro. If the return code is not described therein, an internal IBM Tivoli OMEGAMON XE for WebSphere MQ error has occurred; note the message text, and contact IBM Software Support.

**KMQCI148E** Only one of MGRNAME, RMGRNAME or GROUP may be specified

**Explanation:** The SET QUEUE or SET CHANNEL command has been entered with incompatible operands.

**System Action:** Processing of the command is aborted.
User Response: Specify either the MGRNAME (manager name) or GROUP (group name) operands for the given queue or channel mask being set, and reenter the command. The RMGRNAME parameter is no longer supported.

**KMQCI149W MSGSECURITY is obsolete; use MSGACCESS**

**Explanation:** The MSGSECURITY keyword has been used on the SET MANAGER command but is no longer valid. It has been replaced by the MSGACCESS keyword.

**System Action:** The keyword is ignored.

**User Response:** Use the MSGACCESS keyword on the SET MANAGER COMMAND to specify one of the following security levels for the queue manager’s message functions: NONE, DESC, RETRY, DATA, or DELETE. For more information about these parameters, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI150E RMANAGER name cannot be generic**

**Explanation:** A SET RMANAGER command has been entered with the name operand specified as a mask.

**System Action:** Processing of the command is aborted.

**User Response:** SET RMANAGER is no longer supported. Remove the SET RMANAGER command.

**KMQCI151I SET RMANAGER command processed successfully**

**Explanation:** The SET RMANAGER command has been entered and processed successfully.

**System Action:** Normal processing continues.

**User Response:** None.

**KMQCI152E Both MGRNAME and RMGRNAME cannot be specified**

**Explanation:** The DISPLAY SETTINGS command has been entered with incompatible operands.

**System Action:** Processing of the command is aborted.

**User Response:** Remove the RMGRNAME parameter. The RMGRNAME parameter is no longer supported.

**KMQCI153W QOPEN|MAXEVENT keyword is obsolete**

**Explanation:** The QOPEN or MAXEVENT keyword is no longer used on the SET MANAGER or SET GROUP commands.

**System Action:** The keyword is ignored.

**User Response:** Remove the keyword from the SET MANAGER or SET GROUP command, and resubmit it.

**KMQCI154E GROUP, MGRNAME or RMGRNAME must be specified**

**Explanation:** A monitoring option for the agent—for example, a SET EVENTQIN or SET EVENTQOUT or SET MQIMONITOR command—was entered without one of the required parameter options: GROUP or MGRNAME. The RMGRNAME parameter is no longer supported.

**System Action:** The command is ignored. Processing continues.
User Response: Correct and resubmit the command. For more information about the GROUP and MGRNAME parameters, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI155E** The remote queue manager specified in the EVENTQIN | EVENTQOUT command has not been defined

**KMQCI155E** It must be defined before this command is issued

**Explanation:** The syntax for the SET EVENTQIN or SET EVENTQOUT command was correct, but the queue manager specified in the RMGRNAME parameter has not been defined to IBM Tivoli OMEGAMON XE for WebSphere MQ.

**System Action:** The command is ignored. Processing continues.

**User Response:** The RMGRNAME parameter is no longer supported. Use the MGRNAME parameter instead. For instructions on using the SET EVENTQIN or SET EVENTQOUT command, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI156E** The group specified in the SET EVENTQIN | EVENTQOUT command does not exist.

**KMQCI156E** The group must be defined before this command is issued

**Explanation:** The syntax for the SET EVENTQIN or SET EVENTQOUT command was correct, but the group name specified in the GROUP option has not been defined to IBM Tivoli OMEGAMON XE for WebSphere MQ.

**System Action:** The command is ignored. Processing continues.

**User Response:** Use the SET GROUP command to define the remote queue manager, and resubmit the command. For instructions on using SET GROUP, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI157I** SET EVENTQIN | EVENTQOUT command processed successfully

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ accepted the SET EVENTQIN or SET EVENTQOUT command.

**System Action:** The command is processed.

**User Response:** None.

**KMQCI158E** The queue manager name specified in the EVENTQIN | EVENTQOUT command has not been defined

**KMQCI158E** It must be defined before this command is issued

**Explanation:** The syntax for the SET EVENTQIN or SET EVENTQOUT command is correct, but the queue manager specified in the MGRNAME option has not been defined to IBM Tivoli OMEGAMON XE for WebSphere MQ.

**System Action:** The command is ignored. Processing continues.

**User Response:** Use the SET MANAGER command to define the remote queue manager, and resubmit the command. For instructions on using SET MANAGER, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI159E** STATUS parameter missing

**Explanation:** The STATUS parameter is missing from a SET MQIMONITOR command.

**System Action:** The command is ignored. Processing continues.
**User Response:** Correct the SET MQIMONITOR command, and resubmit it. For instructions on using SET MQIMONITOR, see the chapter “Customizing Monitoring Options” in this guide.

**Explanation:**
This message is issued in response to the DISPLAY SETTINGS command and displays information from the previously issued SET GROUP commands.

**System Action:** Normal processing continues.

**User Response:** None.

**Explanation:**
This message is issued in response to the DISPLAY SETTINGS command and displays information from the previously issued SET MANAGER commands.

**User Response:** None.

**Explanation:**
This message is issued in response to the DISPLAY SETTINGS command.

**User Response:** None.

**Explanation:**
This message is issued in response to the DISPLAY SETTINGS command and displays information from the previously issued SET QUEUE command. Queue types can be any combination of the following: PREDEFINED, PERMDYN, TEMPDYN or ALL.

**User Response:** None.

**Explanation:**
This message is issued in response to the DISPLAY SETTINGS command and displays information from the previously issued SET QUEUE command. The specified qmask was superseded by another queue mask. Queue types can be any combination of the following: PREDEFINED, PERMDYN, TEMPDYN or ALL.

**System Action:** This mask is not executed.

**User Response:** None.
KMQCI306I Channel SET(chlmask) is established
Explanation: This message is issued in response to the DISPLAY SETTINGS command and displays information from the previously issued SET CHANNEL command.
User Response: None.

KMQCI307I MSGACCESS(parm) ICYCLE(interval_cycle) HLQ(high_level_qualifier) MQIMONITOR(INSTALL|REMOVE|FREMOVE|<blank>)

KMQCI307I RQMODEL(rqueue_model) COMMAND(high_level_qualifier)
Explanation: This message is issued in response to the DISPLAY SETTINGS command and displays supplemental information from previously issued SET commands such as SET GROUP or SET MANAGER.
User Response: None.

KMQCI308I RMANAGER SET(mgrmask) IS ESTABLISHED WITH THE FOLLOWING SPECIFICATIONS:
KMQCI308I GROUP(group) EVENTS(REMOVE|BROWSE|NO) ACTIVE(YES|NO) REMOTEQ(rqname)
KMQCI308I AGGRHIST(aggregation_samples) RETAINHIST(historical_aggregation_values)
Explanation: This message is issued in response to the DISPLAY SETTINGS command, displays information from the previously issued SET RMANAGER command, and displays information about remote manager settings.
User Response: None.

KMQCI309I Remote QMgr rmgrname is monitored via local queue manager mgrname
Explanation: The DISPLAY SETTINGS command shows that the specified remote manager rmgrname is monitored using a connection with the specified local manager mgrname.
User Response: None.

KMQCI310I Total number of monitored queues is num_queues,
KMQCI310I Total number of monitored channels is num_chans
Explanation: This message is issued in response to the DISPLAY SETTINGS command if the MGRNAME parameter was specified. It displays the number of queues and channels monitored for the specified queue manager.
User Response: None.

KMQCI311I ROUTE(route_list)
Explanation: The DISPLAY SETTINGS command is continuing to display information about a GROUP or RMANAGER by showing the ROUTE list that has been set.
User Response: None.

KMQCI312I RUSERID(remote_userid)
Explanation: The DISPLAY SETTINGS command is continuing to display information about a GROUP or RMANAGER by showing the remote userid that has been set.
User Response: None.

**KMQCI313I** \( \text{REPLYTOQMGR}(mgrname) \)

**Explanation:** This message is one of several possible messages given in response to a DISPLAY SETTINGS command. It gives the REPLYTOQMGR name specified for the group or remote queue manager being addressed by the response.

User Response: None.

**KMQCI315W** QMgr \( mgrname \) is active but not monitored because reason_text

**Explanation:** This message is issued in response to the DISPLAY SETTINGS command if the queue manager name is active but monitoring failed. reason_text can be one of the following:

1. NO SET MANAGER BLOCK WAS FOUND
2. MONITORING IS INITIALIZING
3. MONITORING IS BEING TERMINATED
4. INVALID SET MANAGER BLOCK WAS FOUND
5. SET MANAGER BLOCK WAS IN USE
6. SET MANAGER BLOCK IS NOT ACTIVE
7. SET MANAGER BLOCK HAS AFFINITY TO A DIFFERENT SYSTEM
8. MQSERIES VERSION IS NOT SUPPORTED
9. MONITORING FAILED
10. OF UNDETERMINED REASON

**System Action:** Processing continues as indicated.

User Response: Depending on the reason_text, do one of the following:
- For reasons 1, 6, 7, issue the corrected SET MANAGER command.
- For reasons 2 and 3, no response is necessary.
- For reasons 4, 5, 8, and 9, contact IBM Software Support.
- For reason 10, reissue the DISPLAY SETTINGS command. This error may occur during the transition from one state to another.

**KMQCI316I** QMgr \( mgrname \) is not active

**Explanation:** This message is issued in response to the DISPLAY SETTINGS command if the specified queue manager mgrname is not active.

User Response: None.

**KMQCI317W** Remote QMgr \( rmgrname \) SET not found

**Explanation:** The DISPLAY SETTINGS command could not find remote manager \( rmgrname \) given in the RMGRNAME parameter.

**System Action:** The remote manager will not be monitored.

User Response: The RMGRNAME parameter is no longer supported. Use the MGRNAME parameter instead. For instructions on using the SET EVENTQIN or SET EVENTQOUT command, see the chapter “Customizing Monitoring Options” in this guide.
KMQCI318W Remote QMgr rmgrname is not monitored because

**Explanation:** This message is issued in response to the DISPLAY SETTINGS command when a remote queue manager (which has been specified for monitoring via a SET RMANAGER command) is not being monitored because of the given reason.

**System Action:** Processing continues as indicated.

**User Response:** SET RMANAGER is no longer supported. Remove the SET RMANAGER command.

KMQCI320I Display complete

**Explanation:** The DISPLAY SETTINGS command was processed successfully.

**User Response:** None.

KMQCI321E Command not valid before startup has completed

**Explanation:** The specified command cannot be entered prior to complete initialization of IBM Tivoli OMEGAMON XE for WebSphere MQ.

**System Action:** The command is not executed.

**User Response:** Wait for IBM Tivoli OMEGAMON XE for WebSphere MQ to complete initialization; then reenter your command. If necessary, restart the OMEGAMON XE agent.

KMQCI322I eventqueuein|eventqueueout:

KMQCI322I QMGRQ(queue_manager_event_queue)

KMQCI322I PERFMO(performance_event_queue)

KMQCI322I CHANNELQ(channel_event_queue)

KMQCI322I CONFIGQ(config_queue)

**Explanation:** This message is issued in response to a DISPLAY SETTINGS command. It provides information about the names defined using the SET EVENTQIN and SET EVENTQOUT commands.

**User Response:** None.

KMQCI323I Application SET(applid_mask) is established with the following specifications:

KMQCI323I TRANPGM(tranpgm_mask) MGRNAME(qmask)

KMQCI323I STATISTICS(statistics_level) TRACE(trace_level) TRACELIMIT(trace_limit)

**Explanation:** This message is one of several possible messages given in response to a DISPLAY SETTINGS command. It displays the monitored IBM Tivoli OMEGAMON XE for WebSphere MQ application sets.

**User Response:** None.

KMQCI324I TRACELIMIT remainder is entries_remaining; entries_written trace records written for this set

**Explanation:** This message is displayed in response to a DISPLAY SETTINGS command. It follows message KMQCI323I and displays the number of trace entries remaining to be written and the number of trace records already written for the application set described in the KMQCI323I message.
**User Response:** None.

**KMQCI325I** SET AGENT command processed successfully  
**Explanation:** The SET AGENT control statement has been read and processed successfully.  
**System Action:** Options specified on this command are now in effect.  
**User Response:** None.

**KMQCI326W** Agent name already set. SET AGENT command ignored  
**Explanation:** Only one SET AGENT command may be entered.  
**System Action:** The command is ignored. Processing continues.  
**User Response:** If necessary, remove the extraneous SET AGENT command from your KMQUSER member. For instructions on using SET AGENT, see the chapter “Customizing Monitoring Options” in this guide.

**KMQCI327I** ACTIVEONLY(YES|NO) SVRCONN(YES|NO) SAMPINT(sample_interval)  
**Explanation:** Monitoring is started with the indicated values for ACTIVEONLY and SAMPINT.  
**User Response:** None.

**KMQCI330I** SET QSG command processed successfully  
**Explanation:** The processing of the SET QSG statement has succeeded.  
**System Action:** Processing continues.  
**User Response:** None.

**KMQCI331E** SET QSG processing failed RC(return_code) Reason(reason_code)  
**Explanation:** The processing of the SET QSG statement has unexpectedly failed.  
**System Action:** Processing continues without QSG monitoring active.  
**User Response:** Correct the options specified on the command, and reissue it. For example, MGRNAME may specify a queue manager that is not available for monitoring. If problems persist, note the message text, and contact IBM Software Support.

**KMQCI340I** QSG checking interval is interval seconds  
**KMQCI340I** XCF group name is xcfname  
**Explanation:** QSG monitoring will check for changes in the QSG queue manager status every interval seconds. The XCF group name xcfname will be used for SYSPLEX communication and recording of active QSG monitoring queue managers.  
**User Response:** None.

**KMQCI341I** QSG NAME(qsgname) MONITOR(monitorname) MGRNAME(mgrname)  
**Explanation:** The indicated QSG options have been set.  
**User Response:** None. For explanations of the SET QSG operands, see the chapter “Customizing Monitoring Options” in this guide.
KMQCI999E  TEST command rejected, XDC(Y) not in KDSSYSIN
Explanation:  This message is produced when the TEST command is entered. The command is available only for internal test versions of IBM Tivoli OMEGAMON XE for WebSphere MQ.
System Action:  The command is ignored. Processing continues.
User Response:  Do not use the TEST command.

KMQCR002I  Candle WebSphere MQ agent starting up.
Explanation:  This message is produced on z/OS only at agent startup if the Configuration tool value for "Enable startup console messages" was set to Y during installation. Automation software can use this setting to detect that the agent has started.
User Response:  None.

KMQCT127I  Message with MSGID(msgid)
KMQCT127I  AND CORRELID(correlid) IS DELETED
KMQCT127I  FROM QUEUE(qname) in QMgr(mgrname)
Explanation:  This message confirms that the delete was successful.
System Action:  The specified message is deleted from the queue.
User Response:  None.

KMQCT128I  Message with MSGID(msgid)
KMQCT128I  AND CORRELID(correlid) IS RETRIED
KMQCT128I  FROM QUEUE(dlqname) IN QMGR(mgrname)
KMQCT128I  TO QUEUE(qname) in QMgr(mgrname2)
Explanation:  This message confirms that the retry action was successful.
System Action:  The indicated message was successfully delivered from the dead-letter queue to the intended queue.
User Response:  None.

KMQCT129I  All messages with GROUPID(group)
KMQCT129I  have been deleted from QUEUE(qname) in QMgr(mgrname)
Explanation:  All messages within the specified group have been deleted successfully from the specified queue in queue manager mgrname.
User Response:  None.

KMQCT130I  All messages with GROUPID(group)
KMQCT130I  are retried from QUEUE(qname) in QMgr(mgrname)
KMQCT130I  to QUEUE(qname2) in QMgr(mgrname2)
Explanation:  All messages within the specified group in queue manager mgrname have been successfully retried and put to the specified queue in queue manager mgrname2.
User Response:  None.

KMQDI101E  Unable to LOAD/UNLOAD data dictionary module
Explanation:  IBM Tivoli OMEGAMON XE for WebSphere MQ was unable to load or unload the named data dictionary module.
System Action: Monitoring for the queue manager is not initialized.
User Response: Note the message text, and contact IBM Software Support.

**KMQDU102I** The system dump for DUMPID dumpid

**KMQDU102I** is not complete

**Explanation:** The system executes a dump of the Candle Management Server (CMS) address space for diagnostic purposes.

**System Action:** The CMS address space dump is recorded into an available SYS1.DUMP dataset. Processing of the failure continues.

**User Response:** Save the dump, note the message text, and contact IBM Software Support.

**KMQDU105I** A system dump for DUMPID dumpid has failed with return code return_code and reason code reason_code

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ attempted to dump the Candle Management Server (CMS) address space, and the SDUMP macro failed with return code return_code and reason code reason_code.

**System Action:** Processing of the failure continues.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQUIT101E** Error in function function. Response=response_code Reason=reason_code

**Explanation:** A failure has occurred while initializing IBM Tivoli OMEGAMON XE for WebSphere MQ. The named function is the routine that encountered the error, response_code is the response code from this routine, and reason_code is the reason code.

**System Action:** Initialization of IBM Tivoli OMEGAMON XE for WebSphere MQ cannot continue.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQUIT102I** OMEGAMON XE for WebSphere MQ initialization complete

**DMAN=dman_addr**

**Explanation:** Initialization of IBM Tivoli OMEGAMON XE for WebSphere MQ has completed successfully. The address dman_addr is the location of the main vector table and is intended for diagnostic purposes only.

**User Response:** None.
KMQIT103E Initialization function function failed. Response=response_code
Reason=reason_code
Explanation: The named IBM Tivoli OMEGAMON XE for WebSphere MQ initialization function encountered an error, where response_code is the response code and reason_code is the reason code.
System Action: Initialization of IBM Tivoli OMEGAMON XE for WebSphere MQ cannot continue.
User Response: Note the message text, and contact IBM Software Support.

KMQIT104I OMEGAMON XE for WebSphere MQ termination started
Explanation: Termination of IBM Tivoli OMEGAMON XE for WebSphere MQ has started.
System Action: Shutdown processing is performed.
User Response: Wait for message KMQIT105I, which indicates that termination has completed.

KMQIT105I OMEGAMON XE for WebSphere MQ termination complete
Explanation: Termination of IBM Tivoli OMEGAMON XE for WebSphere MQ has completed.
User Response: None.

KMQME102E Unable to load message table KMQAMEMT
Explanation: IBM Tivoli OMEGAMON XE for WebSphere MQ was unable to load the message table named KMQAMEMT.
System Action: IBM Tivoli OMEGAMON XE for WebSphere MQ terminates.
User Response: Ensure KMQAMEMT is still in the installation library for IBM Tivoli OMEGAMON XE for WebSphere MQ and that the library remains APF-authorized. Note the message text, and contact IBM Software Support.

KMQME103E Message msgid not found
Explanation: IBM Tivoli OMEGAMON XE for WebSphere MQ attempted to issue a message whose message ID msgid is not in the message table.
System Action: Processing continues.
User Response: Verify that the message module KMQAMEMT version matches the installed version of IBM Tivoli OMEGAMON XE for WebSphere MQ. Note the message text, and contact IBM Software Support.

KMQME104I ID=nnnnn cccccccc+xxxxxxxx hex_string *char_string*
Explanation: This message displays the memory block in dump format for diagnostic purposes. The ID nnnnn is a numeric display ID that associates this generic display message with the preceding message, KMQMQ232W. cccc is the name of the memory block, and xoxoxoxox is the offset into the memory block of the displayed data. hex_string and char_string are the hexadecimal and character representations of the memory block.
User Response: None.
Insufficient private storage

Explanation: The hook to the WebSphere MQ interface failed to obtain sufficient storage for its needs.

System Action: The interface hook disables itself.

User Response: Increase the region size of the WebSphere MQ application where the error occurred.

MQIMONITOR(addrspc) unable to establish ESTAE, RC=return_code

Explanation: The hook to the WebSphere MQ interface failed to establish a recovery environment in the specified application address space addrspc, which installed the interface hook. return_code is documented in manual MVS Programming: Assembler Services Reference under the topic “ESTAE and ESTAEX Macro”.

System Action: The interface hook disables itself.

User Response: If return_code is 20, increase the WebSphere MQ application region size, and retry. If problems persist, note the message text, and contact IBM Software Support.

MQIMONITOR(addrspc) ALESERV failed, RC=return_code

Explanation: The hook to the WebSphere MQ interface failed when establishing addressability to the specified Candle Management Server (CMS) address space addrspc. This message can be ignored since control is returned back to the WebSphere MQ address space.

System Action: The interface hook disables itself.

User Response: Check whether the specified Candle Management Server (CMS) address space addrspc is still running. If it is not running, determine why it stopped, and if appropriate, restart it. If problems persist, note the message text, and contact IBM Software Support.

MQIMONITOR(addrspc) insufficient dataspace storage

Explanation: The hook to the WebSphere MQ interface detected that there is insufficient dataspace to hold more WebSphere MQ data.

System Action: The WebSphere MQ interface disables itself.

User Response: Check if the specified IBM Tivoli OMEGAMON XE for WebSphere MQ address space addrspc is running without problems. If the RKLVLOG indicates abends or other error messages in the address space, analyze these errors. Modify the agent's monitoring file so that the SET MQIMONITOR command specifies a larger BUFFERSIZE. Restart the OMEGAMON XE agent.

MQIMONITOR(addrspc) SDUMPX failed, RC=return_code

Explanation: The hook to the WebSphere MQ interface failed to produce a diagnostic dump for the specified Candle Management Server (CMS) address space addrspc, which activated the interface. The return_code explanation can be found in MVS Authorized Assembler Services Reference, Volume 3 under the topic “SDUMPX Macro”.

System Action: The diagnostic dump is not produced. The WebSphere MQ interface disables itself.

User Response: Note the message text, and contact IBM Software Support.
KMQMH112E MQIMONITOR(*addrspc) dataspace unexpectedly deleted
Explanation: The hook to the WebSphere MQ interface abended, and the recovery routine detected that the dataspace for communicating with the Candle Management Server (CMS) address space *addrspc was deleted.
System Action: A diagnostic dump is not produced. The WebSphere MQ interface disables itself.
User Response: Check if the specified Candle Management Server (CMS) address space *addrspc is running without problems. If the RKLVLOG indicates abends or other error messages in the CMS address space, analyze these errors. If problems persist, note the message text, and contact IBM Software Support.

KMQMI101E MQ API Error. Operation=mqiop CC=completion_code RS=reason_code
Explanation: An error occurred within the WebSphere MQ API request for the indicated type of operation, *mqiop, with the indicated completion and reason codes.
System Action: Processing terminates or continues, as appropriate for the operation.
User Response: Look up the completion and reason codes in the WebSphere MQ Application Programming Reference. Note the message text, and contact IBM Software Support.

KMQMI102E Error accessing queue qname Operation=mqiop CC=completion_code RS=reason_code
Explanation: An error occurred on a WebSphere MQ API request, for the indicated type of operation, *mqiop, on the named queue, with the indicated completion and reason codes.
System Action: Processing terminates or continues, as appropriate for the operation type.
User Response: Look up the completion and reason codes in the WebSphere MQ Application Programming Reference. Note the message text, and contact IBM Software Support.

KMQMI103E Error allocating new storage for type
Explanation: A storage allocation error occurred for the indicated object type.
System Action: Processing terminates.
User Response: Note the message text, and contact IBM Software Support.

KMQMI104I Monitoring ended because of event: *type
Explanation: The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent ended because of an external event of the type indicated.
System Action: Processing terminates.
User Response: If you entered Ctrl-C to terminate the agent and the event type is Ctrl-C Detected, this is a successful termination. For any other event type, note the message text, and contact IBM Software Support.

KMQMI105E *type exception thrown
Explanation: An unexpected exception of the indicated type occurred.
System Action: Processing terminates.
User Response: Note the message text, and contact IBM Software Support.
Initialization completed, System sysid QMgr mgrname Waiting for Server initiation message

Explanation: Initialization of the IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent has completed for the queue manager named mgrname on the local system named sysid. The OMEGAMON XE agent now waits for Candle Management Server initiation.
User Response: None.

Monitoring started for mgrname, ReplytoQ is replyqueue

Explanation: The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent has been contacted by the Candle Management Server (CMS) and is now monitoring the local queue manager named mgrname. The reply-to queue named replyqueue, defined in the named local queue manager, will be used to receive data collected by the agent.
System Action: Monitoring begins.
User Response: None.

Channel and queue masks reset by server

Explanation: The agent has received and successfully processed a request from the Candle Management Server (CMS) to reset the channel and queue masks.
System Action: Processing resumes.
User Response: None.

MQ inquire command error. CC=completion_code Reason=reason_code

Explanation: An INQUIRE command sent to the WebSphere MQ command server has failed with the indicated completion and reason codes.
System Action: Processing continues, but some data will be missing.
User Response: Look up the completion and reason codes in the WebSphere MQ Application Programming Reference. Note the message text, and contact IBM Software Support.

MQ version not available because reason_text. RC=return_code

Explanation: The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent was unable to determine the current version and release of WebSphere MQ for one of the following reasons:
- Unable to create temporary file name: A temporary file for receiving the output from SYSLEVEL could not be allocated.
- Unable to open file for output: The temporary file used to receive output from SYSLEVEL could not be opened.
- Unable to save STDOUT handle: The handle for the STDOUT file could not be saved.
- Unable to redirect STDOUT: Standard output could not be redirected to the temporary file.
- DosExecPgm failure: An error occurred attempting to invoke SYSLEVEL.
- Unable to open file for input: The temporary file could not be opened for input.
Unable to locate MQ Version information: The WebSphere MQ version information could not be located in the SYSLEVEL output file.

The reasons above may apply to some platforms and not to others. The indicated return code is from the attempted operation.

**System Action:** Processing continues without WebSphere MQ version information.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQMI111I Terminate command processed. Waiting for server initiation message**

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent has received an indication from the Candle Management Server (CMS) that monitoring of the remote queue manager should be stopped.

**System Action:** Monitoring stops.

**User Response:** To resume monitoring the queue manager at a later time, take the appropriate action at the Candle Management Server (CMS).

**KMQMI112E Unable to allocate remote queue**

**Explanation:** An error occurred while allocating the remote queue named in the preceding KMQMI002E message. This can occur when more than one IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent is started.

**System Action:** Processing terminates.

**User Response:** Look up the completion and reason codes of the previous KMQMI002E message in the *WebSphere MQ Application Programming Reference*.

**KMQMI113E Unable to connect to QMgr mgrname**

**Explanation:** An error occurred while connecting to the queue manager named *mgrname*. This can occur when there is an authorization problem or when the queue manager is not started.

**System Action:** Processing terminates.

**User Response:** Look up the completion and reason codes of the previous KMQMI001E message in the *WebSphere MQ Application Programming Reference*.

**KMQMI114E event_type signal received, ignored**

**Explanation:** A signal event of type *event_type* has occurred.

**User Response:** None.

**KMQMI115E Start time for QMgr mgrname not available, because reason_text. RC=return_code**

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent could not determine the start date and time of the queue manager named *mgrname*, for one of the following reasons:

- Unable to create temporary file name: A temporary file for receiving the output from the *ps -ef* command could not be allocated.
- Unable to open file for output: The temporary file used to receive output from *ps -ef* could not be opened.
- WebSphere MQ manager not started: Queue manager *mgrname* has not been started.
**System Action:** Processing continues without start date and time information.

**User Response:** Note the message text, and contact IBM Software Support.

### KMQMI116E QMgr command server not responding

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent attempted to verify that the WebSphere MQ command server is running, but the command server did not respond.

**System Action:** Processing terminates.

**User Response:** Ensure the WebSphere MQ command server is running for the queue manager being monitored. If necessary, start the command server by entering the following command:

```
strmqcsv queue-manager-name
```

### KMQMI117I QMgr `mgrname` is not defined or monitored

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent contacted the Candle Management Server (CMS), but either the CMS queue manager is either not defined to the local queue manager or it is not being monitored.

**System Action:** Processing continues.

**User Response:** Verify that the CMS queue manager is defined properly to the local queue manager as either a transmit queue or a queue manager alias.

### KMQMI118I Queue `mgrname` is not a transmit queue

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent contacted the Candle Management Server (CMS), but `mgrname` is not defined as a transmit queue or a queue manager alias.

**System Action:** Processing continues.

**User Response:** If you have problems with the OMEGAMON XE agent, verify that the CMS queue manager is defined properly to the local queue manager.

### KMQMI119I Error validating reply-to queue manager

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent contacted the Candle Management Server (CMS) but could not confirm that the transmit queue and channel are properly defined.

**System Action:** Processing continues.

**User Response:** If you encounter problems with the OMEGAMON XE agent, verify that the CMS queue manager is defined properly to the local queue manager and that the sender/server channel is properly defined.

### KMQMI120I Channel `chlname` is not running

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent contacted the Candle Management Server (CMS), but sender/server channel `chlname` is not running.

**System Action:** Processing continues.

**User Response:** If you encounter problems with the OMEGAMON XE agent, verify that the sender/server channel is active.
**KMQMI121I** Unable to find sender/server channel for *mgrname*

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent contacted the Candle Management Server (CMS), but the CMS queue manager *mgrname* is not associated with any monitored sender or server channels.

**System Action:** Processing continues.

**User Response:** If you encounter problems with the OMEGAMON XE agent, verify that the CMS queue manager is defined properly to the local queue manager.

**KMQMI122E** Message received with unsupported CCSID=*ccsid*, ignored

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent received a message from the Candle Management Server (CMS) with an unsupported Coded Character Set ID. *ccsid* is the decimal value of the CCSID.

**System Action:** The command is ignored. Processing continues.

**User Response:** Determine why the CMS used the CCSID shown in the message. If problems persist, note the message text, and contact IBM Software Support.

**KMQMI123E** The correct password has not been provided

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent received the reply quit when it prompted for a password.

**System Action:** Processing terminates.

**User Response:** Rerun the program, and supply the correct password.

**KMQMI124E** Environment error - Unable to create event due to reason *reason_text*, RC=*return_code*

**Explanation:** Due to an internal problem, IBM Tivoli OMEGAMON XE for WebSphere MQ is unable to process an event.

**System Action:** The event is discarded.

**User Response:** If the problem persists, note the message text, and contact IBM Software Support.

**KMQMI125I** System *sysname*, QMgr *mgrname*, initialization completed.

**Explanation:** Monitoring of queue manager *mgrname* on the system named *sysname* has finished initialization. Monitoring will begin.

**User Response:** None.

**KMQMI126I** Will retry in one minute...

**Explanation:** This message appears if the queue manager or its command server is not started.

**System Action:** The OMEGAMON XE agent sleeps for one minute and then tries again to locate the server.

**User Response:** Verify that the queue manager and its command server are started.

**KMQMI127I** DLQ Name inquire failed.

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ could not locate the dead-letter queue for the monitored queue manager.

**System Action:** Processing continues.
User Response: Verify that you have defined a dead-letter queue for this queue manager. If you have and this problem persists, note the message text, and contact IBM Software Support.

KMQMI128I MQ monitoring terminating...

Explanation: IBM Tivoli OMEGAMON XE for WebSphere MQ is shutting down.
User Response: None.

KMQMI129E SET GROUP option option is invalid. Reason: reason_text

Explanation: The specified SET GROUP option is either invalid or used incorrectly. reason_text indicates further what is wrong.
System Action: The command is ignored. Processing continues.
User Response: Review the reason_text, and correct the option.

KMQMI130E SET GROUP setting option is not supported

Explanation: The specified option for SET GROUP is not supported.
System Action: The command is ignored. Processing continues.
User Response: Enter a valid option, and retry the command.

KMQMI131E LIKE GROUP group was not defined. Command ignored

Explanation: The group group specified in the LIKE operand is not defined.
System Action: The command is ignored. Processing continues.
User Response: Either specify a group that exists, define the group group using SET GROUP, or remove the LIKE operand from the command; then resubmit it.

KMQMI132E SET MANAGER option option is invalid: reason_text

Explanation: The specified SET MANAGER option is either invalid or used incorrectly. reason_text indicates further what is wrong.
System Action: The command is ignored. Processing continues.
User Response: Review the reason_text, and correct the option.

KMQMI133E SET MANAGER setting option is not supported

Explanation: The specified option for SET MANAGER is not supported.
System Action: The command is ignored. Processing continues.
User Response: Enter a valid option, and retry the command.

KMQMI134E LIKE MANAGER mgrname was not defined. Command ignored

Explanation: The queue manager specified in the LIKE MANAGER command is not defined.
System Action: The command is ignored. Processing continues.
User Response: Either specify a queue manager that has been defined, define the queue manager using SET MANAGER, or remove the LIKE operand from the command; then resubmit the command.

KMQMI135I Multiple manager is not supported

Explanation: A mask has been specified for the queue manager name, but non-z/OS platforms do not support monitoring multiple queue managers via a single agent.
System Action: The command is ignored. Processing continues.
User Response: Replace the mask specification of the manager name with the name of a specific queue manager. If multiple managers are to be monitored, create additional instances of the OMEGAMON XE agent.

**KMQMI136E** Manager *mgrname* exists, STATUS(ADD) is invalid. SET MANAGER ignored
Explanation: The specified manager already exists and cannot be added.
System Action: The command is ignored. Processing continues.
User Response: If you did not wish to modify the queue manager specification, STATUS(ADD) has done its job, and no further action is necessary. Otherwise, correct your command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQMI137E** PERFORM INCLUDE option *option* is invalid. Reason: *reason_text*
Explanation: The specified PERFORM INCLUDE option is either invalid or used incorrectly. *reason_text* indicates further what is wrong.
System Action: The command is ignored. Processing continues.
User Response: Review the *reason_text*, and correct the option.

**KMQMI138E** PERFORM STARTMON option *option* is invalid. Reason: *reason_text*
Explanation: The specified PERFORM STARTMON option is either invalid or used incorrectly. *reason_text* indicates further what is wrong.
System Action: The command is ignored. Processing continues.
User Response: Review the *reason_text*, and correct the option.

**KMQMI139I** PERFORM STARTUP is not supported
Explanation: The PERFORM STARTUP command is not supported on non-z/OS platforms.
System Action: The command is ignored. Processing continues.
User Response: None.

**KMQMI140I** PERFORM SHUTDOWN is not supported
Explanation: The PERFORM SHUTDOWN command is not supported on non-z/OS platforms.
System Action: The command is ignored. Processing continues.
User Response: None.

**KMQMI141E** Invalid command: *command*
Explanation: The specified command is not valid.
System Action: The command is ignored. Processing continues.
User Response: Enter a valid command, and resubmit it.

**KMQMI142E** Cannot open command file *command_file*.
Explanation: IBM Tivoli OMEGAMON XE for WebSphere MQ cannot open the *command_file* you specified. It is likely that the either the file does not exist or you do not have authority to read it.
System Action: The command is ignored. Processing continues.
User Response: Correct the command file name, and resubmit.
KMQMI143E  Command file ended with a -, continuation is expected.
Explanation: The command file has a hyphen as the last character of the last line. This character indicates a continuation to the next line, but the next line is not present.
System Action: The last command in the command file is ignored. Processing continues.
User Response: Delete the last hyphen from the last line of the command file.

KMQMI144E  SET QUEUE option option is invalid. Reason: reason_text
Explanation: The specified SET QUEUE option is either invalid or used incorrectly. reason_text indicates further what is wrong.
System Action: The command is ignored. Processing continues.
User Response: Review the reason_text, and correct the option.

KMQMI145E  SET CHANNEL option option is invalid. Reason: reason_text
Explanation: The specified SET QUEUE option is either invalid or used incorrectly. reason_text indicates further what is wrong.
System Action: The command is ignored. Processing continues.
User Response: Review the reason_text, and correct the option.

KMQMI146E  Queue qname exists, STATUS(ADD) is invalid. SET QUEUE ignored
Explanation: A SET QUEUE command with STATUS(ADD) refers to a queue that has already been defined as the result of a previous SET QUEUE command.
System Action: The command is ignored. Processing continues.
User Response: If you do not wish to modify the queue specification, STATUS(ADD) has done its job, and no further action is necessary. Otherwise, correct your command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQMI147E  Channel chname exists, STATUS(ADD) is invalid. SET CHANNEL ignored
Explanation: A SET CHANNEL command with STATUS(ADD) refers to a channel that has already been defined as the result of a previous SET CHANNEL command.
System Action: The command is ignored. Processing continues.
User Response: If you do not wish to modify the channel specification, STATUS(ADD) has done its job, and no further action is necessary. Otherwise, correct your command, and resubmit it. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQMI148E  Queue qname does not exist, STATUS(DELETE) is invalid. SET QUEUE ignored
Explanation: A SET QUEUE command with STATUS(DELETE) refers to a queue qname that does not exist.
System Action: The command is ignored. Processing continues.
User Response: If you misspelled the queue name, correct the command, and resubmit it. Otherwise, the queue you specified for deletion does not exist, so no action is necessary. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.
KMQMI149E  Channel chlname does not exist, STATUS(DELETE) is invalid. SET CHANNEL ignored
Explanation: A SET CHANNEL command with STATUS(DELETE) refers to a channel chlname that does not exist.
System Action: The command is ignored. Processing continues.
User Response: If you misspelled the channel name, correct the command, and resubmit it. Otherwise, the channel you specified for deletion does not exist, so no action is necessary. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQMI150E  SET QUEUE setting option is not supported
Explanation: The specified option in the SET QUEUE command is not supported.
System Action: The command is ignored. Processing continues.
User Response: Correct or remove the invalid option, and resubmit the command. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQMI151E  SET CHANNEL setting chlname is not supported
Explanation: The specified option in the SET CHANNEL command is not supported.
System Action: The command is ignored. Processing continues.
User Response: Correct or remove the invalid option, and resubmit the command. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQMI152E  SET QUEUE refers to a MGRNAME mgrname that does not exist. SET QUEUE ignored
Explanation: A SET QUEUE command refers to a queue manager that has not previously been specified.
System Action: The command is ignored. Processing continues.
User Response: Either change the mgrname to one that has previously been specified, or replace the MGRNAME option with a valid GROUP option. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQMI153E  SET QUEUE refers to a GROUP group that does not exist. SET QUEUE ignored
Explanation: A SET QUEUE command refers to a group that has not been previously specified.
System Action: The command is ignored. Processing continues.
User Response: Either change the group to one that has previously been specified, or replace the GROUP option with a valid MGRNAME option. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQMI154E  SET CHANNEL refers to a MGRNAME mgrname that does not exist. SET
CHANNEL ignored

**Explanation:** A SET CHANNEL command refers to a queue manager that has not been previously specified.

**System Action:** The command is ignored. Processing continues.

**User Response:** Either change the `mgrname` to one that has previously been specified, or replace the MGRNAME option with a valid GROUP option. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQMI155E** SET CHANNEL refers to a GROUP `group` that does not exist. SET CHANNEL ignored

**Explanation:** A SET CHANNEL command refers to a group that has not been previously specified.

**System Action:** The command is ignored. Processing continues.

**User Response:** Either change the group to one that has previously been specified, or replace the GROUP option with a valid MGRNAME option. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQMI156E** SET QUEUE refers to a queue mask `queue_mask` that does not exist in `group|mgrname`. SET QUEUE ignored

**Explanation:** The SET QUEUE command cannot delete the indicated `queue_mask` because it has not been previously specified for the associated `group` or `mgrname`.

**System Action:** The command is ignored. Processing continues.

**User Response:** If necessary, change the `group` or `mgrname` to one that has previously been specified. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQMI157E** SET CHANNEL refers to a channel mask `chlmask` that does not exist in `group|mgrname`. SET CHANNEL ignored

**Explanation:** The SET CHANNEL command cannot delete the indicated `chlmask` because it has not been previously specified for the associated `group` or `mgrname`.

**System Action:** The command is ignored. Processing continues.

**User Response:** If necessary, change the `group` or `mgrname` to one that has previously been specified. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQMI158E** No MGRNAME or GROUP defined for resource, command is ignored

**Explanation:** There is no group or manager associated with the queue or channel.

**System Action:** The command is ignored. Processing continues.

**User Response:** Specify either GROUP or MANAGER on the SET QUEUE or SET CHANNEL command.
KMQMI159E Channel chiname already exists. SET CHANNEL command ignored
Explanation: chiname has been specified on a previous SET CHANNEL command.
System Action: The command is ignored. Processing continues.
User Response: If necessary, remove the existing channel specification using STATUS(DELETE), and resubmit the command. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

KMQMI160E Component component invalid table index, value=value
Explanation: The OMEGAMON XE agent component named component has encountered an invalid index parameter of the value given.
System Action: The agent does not return data for the request.
User Response: Note the message text, and contact IBM Software Support.

KMQMI161E Component component is missing required table index values
Explanation: The OMEGAMON XE agent component named component cannot find required index parameter values. This message is typically a symptom of some other problem.
System Action: The agent does not return data for the request.
User Response: Examine the messages in the log that precede this message—previous messages give more detailed information about why the agent is not functioning correctly. If problems persist, note the message text, and contact IBM Software Support.

KMQMI162E component encountered unexpected value=value
Explanation: The OMEGAMON XE agent component named component encountered an unexpected variable value.
System Action: Data returned for the request may be incomplete.
User Response: Note the message text, and contact IBM Software Support.

KMQMI163I Message deleted. QMgr=mgrname, Q=qname, Msgid=msgid, Correlid=correlid
Explanation: The message with the specified msgid and correlid has been deleted from the queue qname on queue manager mgrname.
User Response: None.

KMQMI164I Message retried. QMgr=mgrname, Q=qname, DestQMgr=dest_mgrname, DestQ=dest_qname, Msgid=msgid, Correlid=correlid
Explanation: The referenced message has been taken from the indicated queue and retried to the indicated destination.
User Response: None.

KMQMI165W component invoked for unsupported platform
Explanation: The OMEGAMON XE agent component named component has been called on a platform for which the function is not supported.
System Action: Applicable data cannot be returned for an unsupported platform.
User Response: Note the message text, and contact IBM Software Support.
KMQMI166I No SET MANAGER command in command file. Default manager monitored
Explanation: No SET MANAGER command was present in the command file.
System Action: IBM Tivoli OMEGAMON XE for WebSphere MQ monitors the default queue manager. Processing continues.
User Response: To monitor a queue manager other than the default, add a SET MANAGER command to the command file.

KMQMI167I No PERFORM STARTMON command in command file. Monitoring not initiated
Explanation: A PERFORM STARTMON command must exist for IBM Tivoli OMEGAMON XE for WebSphere MQ to start monitoring.
System Action: Processing continues, but monitoring is not initiated.
User Response: Add a PERFORM STARTMON command to the command file, and restart the IBM Tivoli OMEGAMON XE for WebSphere MQ agent.

KMQMI168W No queue manager provided with -n command. Default manager monitored
Explanation: The -n option was specified on the kmqira start command, but no queue manager was specified.
System Action: The default queue manager will be monitored.
User Response: Either remove the -n operand from the startup script or append the name of the desired queue manager to it.

KMQMI169E Environment error - Unable to create thread
Explanation: An attempt to start an independent execution path within the IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent failed.
System Action: The monitoring agent does not initialize successfully.
User Response: Correct any resource constraints for the OMEGAMON XE agent that may be preventing thread creation; then terminate and restart the monitoring agent. If problems persist, note the message text, and contact IBM Software Support.

KMQMI170E Persistent Data Store module failure, RC=return_code
Explanation: A failure has occurred in the specified persistent datastore module. return_code gives diagnostic information.
System Action: The data requested from the persistent datastore are unavailable.
User Response: Note the message text, and contact IBM Software Support.

KMQMI171I Node node is online
Explanation: The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent has registered the specified node as online. One IBM Tivoli OMEGAMON XE for WebSphere MQ agent can monitor multiple z/OS queue managers. The node corresponds to the queue manager it is monitoring.
User Response: None.

KMQMI172I Node node is offline
Explanation: The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent has unregistered the specified node, putting it offline. One IBM Tivoli OMEGAMON XE for WebSphere MQ agent can monitor multiple z/OS queue managers. The node corresponds the queue manager it is no longer monitoring.
User Response: If this is expected as the result of the queue manager going inactive or the agent shutting down, no action is needed. If this occurs unexpectedly, note the message text, and contact IBM Software Support.

**KMQMI173E**  
**Event arrived from module, failed with status status_code**  
**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent attempted to signal that a WebSphere MQ event has occurred from module module, but received an error with status code status_code.  
**System Action:** The event is ignored. No alerts are issued for it.  
**User Response:** If problems persist, note the message text, and contact IBM Software Support.

**KMQMI174I**  
**Event communication queue ended with return code return_code**  
**Explanation:** The return code return_code was received while retrieving a WebSphere MQ event notification.  
**System Action:** The WebSphere MQ event notification process is terminated.  
**User Response:** During normal address-space shutdown, this message is normal. If this message appears at any other time, note the message text, and contact IBM Software Support.

**KMQMI175E**  
**Abend in event processing intercepted**  
**Explanation:** An abnormal termination was averted while attempting to process a WebSphere MQ event message.  
**System Action:** The event message is ignored. Processing continues.  
**User Response:** Search for prior errors in the log, note the message text, and contact IBM Software Support.

**KMQMI176E**  
**Invalid message retrieved from event communication queue - type=type**  
**Explanation:** An event communication message with invalid type type was received.  
**System Action:** The event message is ignored. Processing continues.  
**User Response:** Note the message text, and contact IBM Software Support.

**KMQMI177E**  
**Invalid message format detected in event notification message**  
**Explanation:** An event notification message was received with an invalid format.  
**System Action:** The message is ignored. Processing continues.  
**User Response:** Note the message text, and contact IBM Software Support.

**KMQMI178E**  
**SET AGENT command option option is invalid: reason_text**  
**Explanation:** The specified option entered in the SET AGENT command is invalid for the reason given in reason_text.  
**System Action:** The command is ignored. Processing continues.  
**User Response:** Correct the option, and resubmit the command. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.
**KMQMI179E** Value specified for SET AGENT is too long. Value truncated.

**Explanation:** The specified NAME parameter of the SET AGENT command is longer than 8 characters; 8 characters is the maximum length for this parameter.

**System Action:** The name is truncated to 8 characters.

**User Response:** Specify a name with 8 characters or fewer, and resubmit the command.

**KMQMI180E** SET EVENTQIN |OUT option option is invalid: reason_text

**Explanation:** The SET EVENTQIN or SET EVENTQOUT option is invalid for the reason given in reason_text.

**System Action:** The command is ignored. Processing continues.

**User Response:** Correct or remove the option, and resubmit the command. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQMI181E** SET EVENTQIN |OUT option is not supported

**Explanation:** The specified SET EVENTQIN or SET EVENTQOUT option is not supported.

**System Action:** The command is ignored. Processing continues.

**User Response:** Correct or remove the option, and resubmit the command. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQMI182I** Maximum delayed events queued awaiting online status; older events will roll off

**Explanation:** WebSphere MQ events notification for situations using the MQSeries_Events attribute group has been delayed until the IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent is fully online.

**System Action:** Because the maximum number of events that can be retained has been reached, the agent will no longer retain the oldest event for each new event it intercepts.

**User Response:** This message can occur at startup when the monitored queue manager's event queues have many back-logged event messages. Determine the reason for either the OMEGAMON XE agent's inability to come online or its loss of online status, and correct the problem.

This may occur due to a communication failure with the Candle Management Server (CMS). If this is a new monitoring environment, communication parameters such as CTIRA_CELL_NAME may need adjustment. If the problem persists, contact IBM Software Support.

**KMQMI183E** Excessive IPC Dequeue failures. Event communication terminated

**Explanation:** More than 100 errors were encountered while attempting to retrieve an event notification message.

**System Action:** The event notification process is terminated.

**User Response:** Look for other error messages that may have preceded this message. Note the message text, and contact IBM Software Support.
**KMQMI184E** Error in opening *filename* file

**Explanation:** The specified filename cannot be opened, most likely because it does not exist.

**System Action:** The current function is terminated. Processing continues.

**User Response:** Ensure the specified file exists and that sufficient authority and resources exist to open it for reading and retry.

**KMQMI185E** Error in writing to *filename* file. Write is not successful or data lost

**Explanation:** An error occurred when trying to write data to the specified file.

**System Action:** The write is unsuccessful. The data written is lost.

**User Response:** Ensure enough disk space is available for a write operation and that there are no other file system problems, and retry the operation.

**KMQMI186E** SET EVENTQIN |OUT refers to a GROUP|MGRNAME group|mgrname that does not exist. SET EVENTQIN |OUT ignored

**Explanation:** The specified group or queue manager named in the SET EVENTQIN or SET EVENTQOUT command does not exist.

**System Action:** The command is ignored. Processing continues.

**User Response:** Replace the group or mgrname name with a valid one, and resubmit the command.

**KMQMI187I** Agent CONNECTED|RECONNECTED|DISCONNECTED TO|FROM the server (server_name)

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent successfully established a connection or reconnection to the Candle Management Server (CMS), or the agent disconnected from the CMS.

**User Response:** None.

**KMQMI188I** MQ command invoked for QMgr=mgrname

**Explanation:** An automation request has been made to issue a WebSphere MQ command against the specified queue manager mgrname.

**System Action:** The WebSphere MQ command is issued.

**User Response:** None.

**KMQMI189I** Command text: *command_text*

**Explanation:** An automation request has been made to issue the WebSphere MQ command command_text.

**User Response:** None.

**KMQMI190I** WebSphere MQ command completed for QMgr=mgrname

**Explanation:** A WebSphere MQ command has completed for the indicated queue manager mgrname. Subsequent KMQMI191I and KMQMI192I messages will display the command responses.

**User Response:** None.
KMQMI191I Response text: response_text
Explanation: This message displays the response text response_text from the command identified in the previous KMQMI189I message. There may be multiple responses or none, and the response_text may be truncated if too long.
User Response: None.

KMQMI192I MQ command completion status: CCCRC=command_response, CompCode=completion_code, Reason=reason_code
Explanation: The command displayed by the previous KMQMI189I message completed with the indicated status.
User Response: None.

KMQMI193E Error in establishing Commitment Control. RC=return_code errno=errno
Explanation: The OS/400 command you submitted, strcmctl lcklv1(*cs) nfyobj(qsys/qsysopr *msgq) cmtscope(*job), has failed with return code return_code and error code errno.
System Action: The command is ignored. Processing continues.
User Response: Correct the error in the command, and restart the OMEGAMON XE monitoring agent.

KMQMI194E Error in issuing _Rcommit command. RC=return_code errno=errno
Explanation: The command you submitted, _Rcommit(KMQAGENT - KMQCMQMI commit), has failed with return code return_code and error code errno.
System Action: The command is ignored. Processing continues.
User Response: Correct the error in the command, and restart the OMEGAMON XE monitoring agent.

KMQMI195E Error in issuing _Rrollbck command. RC=return_code errno=errno
Explanation: The command you submitted, _Rrollbck(), has failed with return code return_code and error code errno.
System Action: The command is ignored. Processing continues.
User Response: Correct the error in the command, and restart the OMEGAMON XE monitoring agent.

KMQMI196I QMgr mgrname is inactive. Operation=operation CC=completion_code RC=reason_code
Explanation: The WebSphere MQ API call identified by operation failed with the specified completion code and reason code, indicating that the queue manager is inactive or terminating.
System Action: IBM Tivoli OMEGAMON XE for WebSphere MQ continues trying to connect to the queue manager until it becomes active.
User Response: To monitor the queue manager, start the queue manager and its command server.

KMQMI197I QMgr command server is available.
Explanation: The IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent has detected that the command server is available and processing commands.
System Action: Monitoring of the queue manager begins.
KMQMI198I Messages deleted. QMgr=mgrname, Q=qname, Groupid=group
Explanation: As requested, the messages with the specified group have been deleted from the specified queue qname in queue manager mgrname.
User Response: None.

KMQMI199I Messages retried. QMgr=mgrname, Q=qname, DestQMgr=dest_mngrname, DestQ=dest_qname, Groupid=group
Explanation: As requested, the dead-letter queue messages with the specified group have been retried from queue qname in queue manager mgrname to queue dest_queue in destination queue manager dest_mngrname.
User Response: None.

KMQMI200W Report display row limit exceeded - ROWLIM(row_limit).
Explanation: The message display report returned more than row_limit rows of data.
System Action: The additional rows of data are displayed.
User Response: None.

KMQMI201W Failed to notify offline status
Explanation: The agent’s attempt to send the offline status to the Candle Management Server (CMS) has failed.
System Action: It is the failure of the agent to notify during the heartbeat interval that causes this error. The agent will attempt to notify the Candle Management Server (CMS) in its next cycle when the heartbeat interval again expires.
User Response: If the problem persists, contact IBM Software Support.

KMQMI202I PDS insert function reinitialized for table tblname
Explanation: The persistent datastore insert function for the specified table tblname that had previously been disabled has become available again. The time at which it was disabled is indicated by the preceding message KMQMI170E.
System Action: Historical data recording for the specified table resumes.
User Response: None.

KMQMI203W event_count events lost in Event Log for queue manager mgrname
Explanation: During the time that event logging was disabled, the specified number of events event_count from queue manager mgrname were not recorded into the persistent datastore. The time at which event logging was disabled is indicated by the preceding message KMQMI170E.
System Action: Event-log recording resumes.
User Response: If event-log integrity is critical, resolve the original problem reported in message KMQMI170E.

KMQMI204W Directory name dirname is too long and ignored. The maximum allowed
The directory name \textit{dirname} you specified using the SET EVENTLOG command or the CTIRA_HIST_DIR environment variable is too long. The maximum length of a directory name is \textit{maxlen}.

**System Action:** The specified directory name is ignored.

**User Response:** Specify a valid directory name under the maximum allowable length.

**KMQMI205E** SET EVENTLOG option \textit{option} is invalid. Reason: \textit{reason_text}

**Explanation:** The SET EVENTLOG option \textit{option} is either invalid or used incorrectly. The specified reason \textit{reason_text} indicates why the option is invalid.

**System Action:** The command is ignored. Processing continues.

**User Response:** Correct or remove the option, and resubmit the command. For complete command descriptions, see the chapter “Customizing Monitoring Options” in this guide.

**KMQMI206W** Invalid event message encountered and ignored

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ tried to process a WebSphere MQ event, but the event was not valid.

**System Action:** The event is ignored.

**User Response:** Analyze the event information displayed following this message to determine why it is invalid. If the event appears valid, note the message text, and contact IBM Software Support.

**KMQMI207W** SAMPINT is increased to \textit{new_interval} seconds because value specified in configuration file (\textit{old_interval}) is too small.

**Explanation:** The SAMPINT specified in the IBM Tivoli OMEGAMON XE for WebSphere MQ configuration file was not large enough to collect all WebSphere MQ data samples. Data collection for the interval was still in progress on when the interval \textit{old_interval} expired.

**System Action:** SAMPINT is increased to \textit{new_interval}, and processing continues.

**User Response:** Increase the SAMPINT value in the OMEGAMON XE agent configuration file.

**KMQMI208I** Error Log monitoring feature turned off

**Explanation:** The error log monitoring feature has been disabled by specifying ERRLOGCYCLE(0) on either the SET MANAGER or SET GROUP monitoring option.

**System Action:** Processing continues with error log monitoring disabled.

**User Response:** If it was your intention to deactivate this monitoring feature then no further action is required. The Error Log Monitoring feature is described in this guide.

**KMQMI209E** Situation \textit{sitname} for message statistics attribute group must specify single queue name.

**Explanation:** The specified situation \textit{sitname} must specify a queue name plus an equal operator. A separate situation must be written for each individual queue. The reason for this requirement is the overhead of collecting these data—this
information should only be collected for specific queues that need to be closely monitored.

**System Action:** No rows are returned for the requested situation.

**User Response:** Modify the situation to specify a specific queue name for the qname attribute.

**KMQMI210E Collection of message statistics failed. QMgr=mgrname, Queue=qname, Userid=userid, RS=reason_code**

**Explanation:** Collection of message statistics for the specified queue was requested by either a situation or an ad-hoc report request. The attempt to browse messages on queue qname failed with reason code reason_code. Reason code below 9000 are returned by WebSphere MQ; additional information about these reason codes may be obtained by referring to the WebSphere MQ Application Programming Reference. Reason codes 9000 and higher are set by the agent. Some possible values are:

- 2001 Alias Base Q Type Error
- 2004 Buffer Error
- 2005 Buffer Length Error
- 2009 Connection Broken
- 2010 Data Length Error
- 2011 Dynamic_Q_Name_Error
- 2016 Get_Inhibited
- 2017 Handle_Not_Available
- 2018 Hconn_Error
- 2019 Hobj_Error
- 2024 Syncpoint_Limit_Reached
- 2026 MD_Error
- 2033 No_Msg_Available
- 2034 No_Msg_Under_Cursor
- 2035 Not_Authorized
- 2036 Not_Open_For_Browse
- 2037 Not_Open_For_Input
- 2041 Object_Changed
- 2042 Object_In_Use
- 2043 Object_Type_Error
- 2044 OD_Error
- 2045 Option_Not_Valid_For_Type
- 2046 Options_Error
- 2052 Q_Deleted
- 2057 Q_Type_Error
- 2058 Q_Mgr_Name_Error
- 2059 Q_Mgr_Not_Available
- 2062 Second_Mark_Not_Allowed
- 2063 Security_Error
- 2069 Signal_Outstanding
- 2070 Signal_Request_Accepted
- 2071 Storage_Not_Available
- 2079 Truncated_Msg_Accepted
### KMQ Messages

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<td>2102</td>
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<tr>
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<td>Suppressed_By_Exit</td>
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<td>2110</td>
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<td>2111</td>
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<td>2116</td>
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<td>2193</td>
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<td>2194</td>
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<td>2195</td>
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<tr>
<td>2196</td>
<td>Unknown_Xmit_Q</td>
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<tr>
<td>2197</td>
<td>Unknown_Def_Xmit_Q</td>
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<tr>
<td>2198</td>
<td>Def_Xmit_Q_Type_Error</td>
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<tr>
<td>2199</td>
<td>Def_Xmit_Q_Usage_Error</td>
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<tr>
<td>2201</td>
<td>Name_In_Use</td>
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<tr>
<td>2202</td>
<td>Connection_Quiescing</td>
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KMQ messages

2203  Connection_Stopping
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2217  Connection_Not_Authorized
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2244  Inconsistent_Encodings
2245  Inconsistent_UOW
2246  Invalid_Msg_Under_Cursor
2247  Match_Options_Error
2255  UOW_Not_Available
2256  Wrong_GMO_Version
9002  Unsupported CCSID found.
9005  Insufficient Storage
9008  Not allowed by MSGACCESS value
9009  Agent timeout occurred

System Action:  No rows are returned.
User Response:  Resolve the problem indicated by the reason code.

KMQMI211E  Request for queue status failed. RC=return_code,
CompCode=completion_code, Reason=reason_code, Queue=qname,
QMgr=mgrname

Explanation:  A command requesting queue status information has been
submitted to the indicated queue manager mgrname. This request has failed with the
indicated return, completion and reason codes.

System Action:  Any data that may be returned in spite of the error are processed.
User Response:  Review the cause of the error in the WebSphere MQ Application
Programming Reference, and repair any problems that can be determined from the
reason code displayed. If problems persist, note the message text, and contact IBM
Software Support.

KMQMQ101E  ALESERV failed. REQ=request RC=return_code Reason=reason_code

Explanation:  The named ALESERV request request issued by IBM Tivoli
OMEGAMON XE for WebSphere MQ failed.

System Action:  Monitoring of the queue manager cannot continue.
User Response:  Note the message text, and contact IBM Software Support.

KMQMQ102E  Cross-memory server initialization failed. RC=return_code

Explanation:  Initialization of the IBM Tivoli OMEGAMON XE for WebSphere
MQ cross-memory service task has encountered a serious error. The return_code
gives diagnostic information.

System Action:  IBM Tivoli OMEGAMON XE for WebSphere MQ initialization
fails.
User Response:  Search for prior errors in the log, note the message text, and
contact IBM Software Support.
**KMQMQ103E Duplicate SMF hook installed**

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ was unable to install its SMF recording hook because there are ten previously installed copies of the hook already active. Because existing SMF hooks that match SMF versions are reused, this problem in a customer environment indicates some kind of internal error.

**System Action:** IBM Tivoli OMEGAMON XE for WebSphere MQ initialization fails.

**User Response:** If this problem occurs, a system IPL will be necessary to circumvent the problem. Note the message text, and contact IBM Software Support.

**KMQMQ104E Error installing SMF hook. RC=return_code Reason=reason_code**

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ was unable to install its SMF recording hook. *return_code* is the return code, and *reason_code* is the reason code.

**System Action:** IBM Tivoli OMEGAMON XE for WebSphere MQ initialization fails.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQMQ105E Bad return code from server. RC=return_code**

**Explanation:** A data collection component of IBM Tivoli OMEGAMON XE for WebSphere MQ received a bad return code of *return_code* from either the cross-memory or WebSphere MQ interface service task.

**System Action:** The data-collection request fails.

**User Response:** Search for prior errors in the log, note the message text, and contact IBM Software Support.

**KMQMQ106E Unable to wait for event. RC=return_code**

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ was unable to get events from the queue manager's event queue because of bad signal code *return_code*.

**System Action:** Monitoring of the event queue ends.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQMQ107E Error from MQ API request request. QMgr=mgrname CC=completion_code Reason=reason_code**

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ has received a bad completion code *completion_code* from the named WebSphere MQ API request, where *mgrname* is the queue manager name, *completion_code* is the completion code, and *reason_code* is the reason code.

**System Action:** The function fails.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQMQ108E Error returned by cross-memory server. RC=response_code**

**Explanation:** A bad response code *response_code* was received from the IBM Tivoli OMEGAMON XE for WebSphere MQ cross-memory server.

**System Action:** The function fails.

**User Response:** Note the message text, and contact IBM Software Support.
KMQMQ109I  Now monitoring QMgr \textit{mgrname} event queue \textit{qname}
\textbf{Explanation:} IBM Tivoli OMEGAMON XE for WebSphere MQ is now monitoring the event queue named \textit{qname} associated with the queue manager named \textit{mgrname}.
\textbf{User Response:} None.

KMQMQ110E  Unable to monitor QMgr \textit{mgrname} event queue \textit{qname}
\textbf{Explanation:} IBM Tivoli OMEGAMON XE for WebSphere MQ is unable to monitor the event queue named \textit{qname} associated with the queue manager named \textit{mgrname}.
\textbf{System Action:} Event monitoring for the named event queue is terminated.
\textbf{User Response:} Search for prior errors in the log, note the message text, and contact IBM Software Support.

KMQMQ111I  Collection initialization in progress for QMgr=\textit{mgrname}
\textbf{Explanation:} Data-collection initialization has begun for the WebSphere MQ queue manager named \textit{mgrname}.
\textbf{User Response:} None.

KMQMQ112I  Collection initialization complete for QMgr=\textit{mgrname}
\textbf{Explanation:} Data-collection initialization has completed successfully for the WebSphere MQ queue manager named \textit{mgrname}.
\textbf{System Action:} Data collection for this queue manager will be performed during each sample by IBM Tivoli OMEGAMON XE for WebSphere MQ until the queue manager terminates or collection is stopped by an IBM Tivoli OMEGAMON XE for WebSphere MQ operator command or the monitoring agent is restarted.
\textbf{User Response:} None.

KMQMQ113E  Collection terminated for QMgr=\textit{mgrname}, REASON=\textit{reason_text}
\textbf{Explanation:} Data collection has been terminated for a queue manager named \textit{mgrname}, where \textit{reason_text} is the reason for the termination.
\textbf{System Action:} Data collection for this queue manager is terminated. IBM Tivoli OMEGAMON XE for WebSphere MQ does not resume data collection until the queue manager restarts or collection is restarted via an IBM Tivoli OMEGAMON XE for WebSphere MQ operator command or the monitoring agent is restarted.
\textbf{User Response:} Check the \textit{reason_text} value in the message (\textit{reason_text} values indicate that the collection initialization has failed due to an internal condition). Note the message text, and contact IBM Software Support.

KMQMQ114I  Monitor ended for QMgr \textit{mgrname} event queue \textit{qname}
\textbf{Explanation:} IBM Tivoli OMEGAMON XE for WebSphere MQ has stopped monitoring the event queue named \textit{qname} associated with the queue manager named \textit{mgrname}.
\textbf{User Response:} None.

KMQMQ115E  No more handles available to open queue for QMgr=\textit{mgrname}
\textbf{Explanation:} The IBM Tivoli OMEGAMON XE for WebSphere MQ data-collection component has exceeded the MAXHANDLES value (maximum number of
handles that can be held by a single task) for the queue manager named `mgrname`.

Data collection for queues in the indicated queue manager cannot be completed.

**System Action:** Data for some queues will not be available for display. IBM Tivoli OMEGAMON XE for WebSphere MQ requires that you monitor the MAXHANDLES value for the number of queues you have defined to each queue manager plus a fixed overhead of three queues.

**User Response:** Issue an `ALTER QMGR MAXHANDS(nn)nn` command to the queue manager, where `nn` is greater than or equal to the number of queues defined to that queue manager plus three.

**KMQMQ116E** module timeout waiting for response from QMgr=`mgrname`

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ issued a DISPLAY command to the queue manager named `mgrname` but timed out before receiving a response.

**System Action:** Data collection for the resource cannot be performed. The KMQMQ117E message, which contains the text of the DISPLAY command, is written to the TLVLOG.

**User Response:** See message KMQMQ117E.

**KMQMQ117E command_text**

**Explanation:** This message contains the text of the DISPLAY command that timed out. The KMQMQ116E message precedes this message.

**System Action:** Data collection for the resource cannot be performed.

**User Response:** Investigate the queue manager, and determine why it did not respond to the WebSphere MQ operator command. Possible causes include the command server not running and performance problems in the queue manager address space. If problems persist, note the message text, and contact IBM Software Support.

**KMQMQ118E** Unable to obtain common storage for SRB driver

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ cross-memory server task was unable to allocate sufficient storage in the z/OS extended common storage area (ECSA) for the cross-memory SRB driver. The ECSA storage required for this function is about 400 bytes.

**System Action:** Initialization of IBM Tivoli OMEGAMON XE for WebSphere MQ fails. (If 400 bytes of ECSA space are not available, it is highly likely z/OS will soon fail.)

**User Response:** Note the message text, and contact IBM Software Support.

**KMQMQ119I** Collection terminated for QMgr=`mgrname`, reason=`reason_text`

**Explanation:** Data collection has been terminated normally for the queue manager named `mgrname`. This is a normal condition. Termination was caused by an IBM Tivoli OMEGAMON XE for WebSphere MQ operator command, or the queue manager itself has stopped.

**System Action:** Data collection for this queue manager is terminated. IBM Tivoli OMEGAMON XE for WebSphere MQ does not resume data collection until the queue manager restarts or collection is restarted using an IBM Tivoli OMEGAMON XE for WebSphere MQ operator command.
User Response: None.

**KMQMQ120E Authorization failed. QMgr=mgrname, QUEUE=qname**

**Explanation:** The named queue in the queue manager named *mgrname* could not be opened because the Candle Management Server (CMS) is not authorized to open the queue.

**System Action:** Data collection for the specified queue *qname* cannot be performed.

**User Response:** Grant the Candle Management Server (CMS) started task READ access to the named queue.

**KMQMQ121I Timeout waiting for agent response for remote QMgr=rmgrname**

**Explanation:** A timeout occurred while polling a remote monitoring agent for the remote queue manager named *rmgrname*.

**System Action:** The current sample of data cannot be collected, but processing otherwise continues as normal.

**User Response:** If this happens frequently, consider giving the remote queue manager or the remote agent monitoring the queue manager the resources to provide a timely response.

**KMQMQ122I Now monitoring CICS channels for APPLID applid ON mgrname**

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ is now monitoring CICS channels on the named application ID *applid* with the queue manager named *mgrname*.

**User Response:** None.

**KMQMQ123E Unable to monitor CICS channels for APPLID applid on mgrname**

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ is unable to monitor CICS channels on the application ID named *applid* with the queue manager named *mgrname*.

**System Action:** CICS channel monitoring for the named APPLID is terminated.

**User Response:** Search for prior errors in the log, note the message text, and contact IBM Software Support.

**KMQMQ124I CICS channel monitoring ended for APPLID applid on mgrname**

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ has stopped monitoring CICS channels on the application ID named *applid* for the queue manager named *mgrname*.

**User Response:** None.

**KMQMQ125W Current Events Table lock failure. Obsolete events not removed for QMgr=mgrname**

**Explanation:** An error prevented the acquisition of the lock for the current events table.

**System Action:** Any expired or obsolete events remain in the table.

**User Response:** If problems persist, note the message text, and contact IBM Software Support.
KMQMQ140W  Remote QMgr=rmgrname not accessible via local QMgr=mgrname

**Explanation:** Communication with the remote queue manager named rmgrname through the local queue manager named mgrname could not be established because the ROUTE specification is incorrect. response_code and reason_code represent response and reason codes from an MQOPEN for the remote queue representing the remote queue manager.

**System Action:** The connection between the specified queue managers cannot be established. If there are other local queue managers that satisfy the ROUTE specification, IBM Tivoli OMEGAMON XE for WebSphere MQ attempts to use them. If no other local queue manager is available, monitoring fails.

**User Response:** SET RMANAGER is no longer supported. Remove the SET RMANAGER command.

KMQMQ141E  Connection to local QMgr=mgrname for communication with remote QMgr=rmgrname failed

**Explanation:** Communication with the local queue manager named mgrname using the remote queue manager named rmgrname could not be established because the ROUTE specification is incorrect. response_code and reason_code represent internal response and reason codes.

**System Action:** The connection between the specified queue managers cannot be established. If there are other local queue managers that satisfy the ROUTE specification, IBM Tivoli OMEGAMON XE for WebSphere MQ attempts to use them. If no other local queue manager is available, initialization of monitoring fails.

**User Response:** SET RMANAGER is no longer supported. Remove the SET RMANAGER command.

KMQMQ142E  INQUIRE for remote queue qname on QMgr=mgrname failed

**Explanation:** The command server on the specified WebSphere MQ queue manager replied to an INQUIRE_Q command, but the reply indicated an unexpected error. response_code and reason_code represent response and reason codes from an INQUIRE_Q command for the specified remote queue qname.

**System Action:** IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring fails for the specified remote WebSphere MQ queue manager.

**User Response:** Analyze the response and reason codes, and fix the underlying problem; then restart monitoring for the specified remote queue manager.

KMQMQ143E  Message with unsupported CCSID=ccsid received

**Explanation:** The message is received from the queue manager named mgrname with a coded character set ID ccsid that is not currently supported.

**System Action:** Monitoring for the specified WebSphere MQ queue manager is terminated.

**User Response:** Note the message text, and contact IBM Software Support.
KMQM150W  Event queue=qname for queue manager=mgrname open for input by another application - OPEN_INPUT_COUNT=num_open
Explanation: IBM Tivoli OMEGAMON XE for WebSphere MQ may not report on some or all of the events on the monitored event queue named qname because another application is performing destructive reads on that queue. Other applications may include another monitoring product for WebSphere MQ.
System Action: Processing continues with whatever event messages are available.
User Response: Close the other applications using this queue.

KMQM151I  Event queue=qname for queue manager=mgrname is no longer open for input by another application
Explanation: There are no longer any other applications holding open the event queue qname on the specified queue manager mgrname.
System Action: Processing of all events for the named event queue resumes.
User Response: None.

KMQM152I  Events read from queue qname QMgr mgrname will be written to queue qname2
Explanation: IBM Tivoli OMEGAMON XE for WebSphere MQ will copy event information from queue qname to output queue qname2. This message is displayed after the user issues a SET EVENTQOUT command.
User Response: None.

KMQM200E  MQI monitoring for QMgr mgrname not started, invalid environment
KMQM200E RC=return_code Reason=reason_code
Explanation: Monitoring of the WebSphere MQ API could not start because the specified queue manager mgrname does not meet all environmental requirements. return_code and reason_code are diagnostic information.
System Action: WebSphere MQ interface monitoring is not started, but the rest of the product continues normally.
User Response: Verify that the specified queue manager operates without problems. Also, confirm that the WebSphere MQ version you are running is supported by IBM Tivoli OMEGAMON XE for WebSphere MQ. If problems persist, note the message text, and contact IBM Software Support.

KMQM202I  Now monitoring MQI requests for QMgr=mgrname. MQKA address=mqkaptr
Explanation: Monitoring of the WebSphere MQ API was successfully started for the specified queue manager. mqkaptr is diagnostic information.
User Response: None.

KMQM203E  MQI component processor initialization failed. QMgr=mgrname, RC=reason_code
Explanation: Initialization of one of the WebSphere MQ interface monitoring components failed. component is the name of the failed component, mgrname is the name of the queue manager where WebSphere MQ interface monitoring failed, and reason_code is the reason code.
System Action: WebSphere MQ interface monitoring is not started.
User Response: Note the message text, and contact IBM Software Support.
KMQM204I Monitoring of MQI requests for QMgr=mgrname completed
Explanation: Monitoring of the WebSphere MQ API for the specified queue manager mgrname has terminated.
User Response: None.

KMQM205W Monitoring of MQI requests for QMgr=mgrname forcibly terminated
KMQM205W Other vendor’s WebSphere MQ monitors may be affected
Explanation: The option STATUS(FREMOVE) was specified on the START MQIMONITOR command, and the hook cannot be safely removed.
System Action: The hook has been removed. It is possible that there are other users of the hook that this action may affect.
User Response: Use of the FREMOVE option should be avoided under normal circumstances. Check any other WebSphere MQ monitors for problems as soon as possible.

KMQM206E Monitoring of MQI requests for QMgr=mgrname deactivated
KMQM206E Reason code=reason_code
Explanation: The WebSphere MQ interface’s data processor detected that interface monitoring is deactivated for the specified queue manager mgrname. reason_code is the internal reason code for deactivation.
System Action: Monitoring of the WebSphere MQ interface terminates.
User Response: Check for KMQMHxxxx messages preceding this one in the job log, which may contain more specific information. Check for SVC dumps with the title OMEGAMON XE FOR WEBSHHERE MQ (MQI) PROBLEM DETERMINATION DUMP. Note the message text, and contact IBM Software Support.

KMQM209E MQI record not complete. QMgr=mgrname, reason code=reason_code
KMQM209E hex_string
Explanation: The WebSphere MQ interface’s data processor detected that the incoming WebSphere MQ interface record is incomplete. mgrname is the name of monitored queue manager, reason_code is the reason code, and hex_string is the hexadecimal display of the key portion of the interface record.
System Action: The WebSphere MQ interface record is not processed.
User Response: Note the message text, and contact IBM Software Support.

KMQM210E MQI record type invalid, QMgr=mgrname
KMQM210E hex_string
Explanation: The WebSphere MQ interface’s data processor detected that the incoming WebSphere MQ interface record has an invalid type. mgrname is the name of the monitored queue manager, and hex_string is the hexadecimal display of the key portion of the interface record.
System Action: The WebSphere MQ interface record is not processed.
User Response: Note the message text, and contact IBM Software Support.
KMQMQ211E MQI tracing disabled for QMgr=mgrname
**Explanation:** An error was detected for the specified queue manager mgrname while initializing WebSphere MQ interface tracing. module is the name of the module that detected the error, return_code is the return code, and reason_code is the reason code.

**System Action:** WebSphere MQ interface tracing is disabled.

**User Response:** Check the RKPDLOG for persistent datastore error messages, and make sure at least one of the datasets in the RKMQDSA group has write access.

KMQMQ212W MQI handle translation failed. QMgr=mgrname, application=appname,
TRAN/PROGRAM=pgmname. This may result in incomplete application
queue statistics
**Explanation:** The identified application appname and transaction/program pgmname were already in progress at the time that IBM Tivoli OMEGAMON XE for WebSphere MQ started monitoring. An attempt failed to perform handle translation to determine the name of the queue being accessed. This may occur if the identified application thread terminates immediately after the WebSphere MQ interface call.

**System Action:** Queue-related statistics are not updated. Processing continues.

**User Response:** To avoid this problem, bring up IBM Tivoli OMEGAMON XE for WebSphere MQ before any applications connect to WebSphere MQ. If problems persist, note the message text, and contact IBM Software Support.

KMQMQ213E KMQAPI: requested API module not supported
**Explanation:** The KMQAPI router module has encountered a request for an API-unsupported module.

**System Action:** The request fails.

**User Response:** Note the message text, and contact IBM Software Support.

KMQMQ214E KMQAPI error; API=module, response=response_code,
reason=reason_code
**Explanation:** The KMQAPI router module detected an error from the specified WebSphere MQ interface module. response_code and reason_code are diagnostic information.

**System Action:** The data requested is unavailable.

**User Response:** It is possible for this message to occur during shutdown without serious problems. Note the message text, and contact IBM Software Support.

KMQMQ215E Application data sample processor terminated
**Explanation:** The application data sample processor unexpectedly terminated. mgrname is the name of the monitored queue manager, and return_code is the return code.

**System Action:** The application data sample processor terminates.

**User Response:** Note the message text, and contact IBM Software Support.
**KMOMQ216I** MQI record diagnostics, QMgr=mgrname

**Explanation:** This message is issued in response to a diagnostic trace of the WebSphere MQ interface’s trace facility. **mgrname** is the name of monitored queue manager, and **hex_string** is the hexadecimal display of the key portion of the interface record.

**User Response:** None.

**KMOMQ217E** Error returned by $IPC access. RC=return_code

**Explanation:** An unexpected return code **return_code** occurred while attempting to access the event communication queue.

**System Action:** The WebSphere MQ event notification mechanism is disabled.

**User Response:** Note the message text, and contact IBM Software Support.

**KMOMQ218E** Error returned by $IPC queue. RC=return_code. Event communication disabled.

**Explanation:** An unexpected return code **return_code** occurred while attempting to add a message to the event communication queue.

**System Action:** The WebSphere MQ event notification mechanism is disabled.

**User Response:** Note the message text, and contact IBM Software Support.

**KMOMQ219E** text

**Explanation:** When attempting to issue a command to WebSphere MQ, the command response contained a CSQN205I message with an unexpected return code **return_code**. The text of this message comprises the command attempted and the responses to it returned by the command server.

A common cause of this message is that the channel initiator is not running, but that is by no means the only possible cause.

**System Action:** In general, the command has failed. Refer to CSQN205I message and the return code contained within for further explanation.

**User Response:** If the command is failing because the channel initiator has failed or has not yet been started, restart it. Correct any conditions associated with the CSQN205I message. If the command appears to be syntactically or semantically incorrect or the problem cannot otherwise be resolved, note the text of the KMOMQ219E messages and those immediately preceeding it, and call IBM Software Support.

**KMOMQ220E** Error returned by $IPC query. RC=return_code. Event communication disabled

**Explanation:** An unexpected return code **return_code** occurred while attempting to count the records on the IPF queue.

**System Action:** The WebSphere MQ event notification mechanism is disabled.

**User Response:** Note the message text, and contact IBM Software Support.

**KMOMQ222W** MQI tracing for APPLID=applid TRANPGM=tranpgm QMgr=mgrname terminated due to high load

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ detected a shortage of memory resources and attempted to alleviate the problem by stopping
tracing of the WebSphere MQ interface for applications identified by applid, tranpgm, and mgrname.

**System Action:** WebSphere MQ interface tracing for the specified applications is suspended.

**User Response:** Narrow the scope of interface tracing as much as possible, or specify a lower TRACELIMIT value. See the description of the SET APPLICATION command for information about narrowing the scope of WebSphere MQ interface tracing; see the chapter “Customizing Monitoring Options” in this guide.

**KMQMQ223W** MQI monitor for QMgr=mgrname left 5K of ECSA storage orphaned to maintain system integrity

**Explanation:** During termination of WebSphere MQ interface monitoring, IBM Tivoli OMEGAMON XE for WebSphere MQ detected that some of the storage could not be freed because of a possible violation of system integrity.

**System Action:** Termination completes while the 5K block of ECSA storage remains allocated.

**User Response:** None.

**KMQMQ224E** MQ commands cannot be executed for remote queue managers. Command not executed for QMgr=rmgrname

**Explanation:** You attempted to execute an IBM Tivoli OMEGAMON XE for WebSphere MQ automation command on the remote queue manager named mgrname, but IBM Tivoli OMEGAMON XE for WebSphere MQ automation commands cannot be executed on remote queue managers.

**System Action:** The command is ignored.

**User Response:** SET RMANAGER is no longer supported. Remove the SET RMANAGER command.

**KMQMQ225I** WebSphere MQ command invoked for QMgr=mgrname

**Explanation:** The agent issuing the message has received an IBM Tivoli OMEGAMON XE for WebSphere MQ automation command to execute on the queue manager named mgrname. A KMQMQ226I message will follow this message to display the command text to execute on the target queue manager.

**System Action:** The monitoring agent submits the command to the specified queue manager mgrname.

**User Response:** None.

**KMQMQ226I** Command text: command

**Explanation:** This message is issued to display the command text of an IBM Tivoli OMEGAMON XE for WebSphere MQ automation command before it is executed on the target queue manager.

**User Response:** None.

**KMQMQ227I** WebSphere MQ command completed for QMgr=mgrname

**Explanation:** The agent issuing the message has received a response to a previously submitted IBM Tivoli OMEGAMON XE for WebSphere MQ automation command from the queue manager named mgrname. A KMQMQ228I message will follow to display the response text received from the queue manager.
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**User Response:** None.

**KMQM228I** Response text: *response_text*

**Explanation:** This message is issued to display the response text of an IBM Tivoli OMEGAMON XE for WebSphere MQ automation command that was previously submitted to a queue manager for execution.

**User Response:** None.

**KMQM229E** WebSphere MQ message corruption for message *msgid*, keyword prefixes=(msgtable/parsekeywd), QMgr=mgname

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ detected the corruption of WebSphere MQ messages during data collection.

**System Action:** Monitored samples may be dropped for the queue manager named mgname.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQM230W** Report display row limit exceeded - ROWLIM(*row_limit*)

**Explanation:** More than *row_limit* messages were received in response to a display command.

**System Action:** Messages beyond the row limit are discarded, and incomplete data may be gathered.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQM231E** Invalid MQ message order encountered for QMgr=mgname,

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ did not receive IBM Tivoli OMEGAMON XE for WebSphere MQ messages from command execution in the expected order. *msg_text* indicates the message that was unexpectely received.

**System Action:** Monitored samples may be dropped for the queue manager named mgname.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQM232W** Channel initiator for QMgr mgname not active. Cluster information cannot be collected.

**Explanation:** The channel initiator address space for the queue manager named mgname is not active.

**System Action:** IBM Tivoli OMEGAMON XE for WebSphere MQ cannot collect some cluster-related and cluster queue manager channel information. Processing continues.

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User Response: Determine the reason for the channel initiator address space not being active. In some cases this may be a normal situation. If appropriate start the channel initiator address space.

KMQMQ234W Channel initiator for QMgr `mgrname` not active. Cluster information is not available.
Explanation: The channel initiator address space for the queue manager named `mgrname` is now active.
System Action: IBM Tivoli OMEGAMON XE for WebSphere MQ can now collect cluster-related information, such as cluster queue and cluster queue manager channel information. Processing continues.
User Response: None.

KMQMQ235W Performance events disabled for QMgr `mgrname`. Queue statistics information cannot be collected.
Explanation: Queue statistics information was requested by specifying STATISTICS(YES) on the SET QUEUE monitoring option. However, the PERFMEV attribute of the queue manager being monitored is set to DISABLED. This attribute must be set to ENABLED for IBM Tivoli OMEGAMON XE for WebSphere MQ to collect this information.
System Action: The IBM Tivoli OMEGAMON XE for WebSphere MQ agent continues monitoring, but some queue statistics will be unavailable.
User Response: None.

KMQMQ236W Performance events for QMgr `mgrname` now enabled. Queue statistics information now available.
Explanation: The PERFMEV attribute of the queue manager being monitored has been set to ENABLED. Queue statistics information can now be collected.
System Action: The IBM Tivoli OMEGAMON XE for WebSphere MQ agent continues monitoring. All available queue statistics data will be collected.
User Response: None.

KMQMQ237W QSG data extraction error RC=return_code Reason=reason_code
Explanation: An unexpected error has been detected while attempting to collect QSG data.
System Action: Processing continues; some data for the current sample will be lost.
User Response: Note the message text, and contact IBM Software Support.

KMQMQ238W XCF macro FUNCTION function FOR group.member failed
RC=return_code Reason=reason_code
Explanation: The indicated XCF function has failed.
System Action: Processing continues; some data for the current sample will be lost.
User Response: Note the message text, and contact IBM Software Support.

KMQMQ239W XCF function failed RC=return_code Reason=reason_code
Explanation: An XCF function has unexpectedly failed.
System Action: Processing continues, but QSG data collection will probably not be done.
User Response: Note the message text, and contact IBM Software Support.

KMQMQ240W SRB(module) ABEND(abend_code) EPA(entry_addr) ADDR(failure_address)
Explanation: An SRB scheduled by the IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent has unexpectedly abended.
System Action: Channel status data for the current cycle are lost. Processing continues.
User Response: Note the message text, and contact IBM Software Support.

KMQMQ241E MQ command <command_text> failed MSG(CSQ2N05I) RC=return_code
Explanation: A WebSphere MQ command has failed with the indicated return code.
System Action: Processing continues, but no data are collected for the executing function.
User Response: Ensure that the command server is running on all queue managers. Ensure that the channel initiator is running. Check the queue manager and channel initiator for error messages. Note the message text, and contact IBM Software Support.

KMQMQ242I QSG monitor disabled due to zero QSGCHKINTERVAL
Explanation: A value of zero seconds for the QSGCHKINTERVAL was specified on the PERFORM STARTMON command.
System Action: Processing continues, but all QSG monitoring is disabled.
User Response: If QSG monitoring is not desired on this agent, no action is necessary. To activate monitoring, the QSGCHKINTERVAL value must be nonzero and the agent restarted.

KMQMQ243I QSG thread started for XCF group group
Explanation: The QSG monitoring thread has been started with the indicated XCF group name.
System Action: This thread will watch for queue managers of interest that could perform the QSG monitoring function. When one is found, the thread determines whether to start monitoring by using the XCF serialization function.
User Response: None. To completely disable the thread, specify QSGCHKINTERVAL(0) on the PERFORM STARTMON command.

KMQMQ244I QSG monitor active for QSG(qsgname) at QMgr(mgrname)
Explanation: QSG monitoring for the queue-sharing group qsgname using the queue manager mgrname has been initiated.
System Action: Processing continues with the monitoring function active.
User Response: None.

KMQMQ245I QSG monitor takeover for QSG(qsgname) at QMgr(mgrname)
Explanation: QSG monitoring for the queue-sharing group qsgname using the queue manager mgrname has been initiated in response to a takeover request.
**System Action:** Processing continues with the monitoring function active.

**User Response:** None.

**KMQMQ246I QSG monitor inactive for QSG(qsgname) at QMgr(mgrname)**

**Explanation:** QSG monitoring for the queue-sharing group qsgname using the queue manager mgrname has been terminated, probably in response to a request for takeover by another agent.

**System Action:** Processing continues. If takeover has been requested, the other agent should start QSG monitoring from another queue manager.

**User Response:** If produced in response to a takeover or shutdown request, no action is necessary. Otherwise, note the message text, and contact IBM Software Support.

**KMQMQ247I QSG takeover initiated for QSG(qsgname) QMgr(mgrname)**

**Explanation:** It was determined that QSG monitoring is already active from another agent with MONITOR(YES) specified, but this agent has specified MONITOR(TAKEOVER). The other agent is requested to release the monitoring function.

**System Action:** When this is complete, the IBM Tivoli OMEGAMON XE for WebSphere MQ agent will take over the monitoring function for the queue-sharing group qsgname using the queue manager mgrname.

**User Response:** Unless the message is seen repeatedly, no action is required. Otherwise, note the message text, and contact IBM Software Support.

**KMQMQ400E applid EIBFN = function EIBRESP = response_code EIBRESP2 = reason_code**

**Explanation:** An EXEC CICS command has returned an unexpected return code. applid is the CICS application ID.

**System Action:** Data collection for CICS channels is terminated.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQMQ401E applid CICS release must be at least 3.3.0**

**Explanation:** The CICS channel monitoring feature of IBM Tivoli OMEGAMON XE for WebSphere MQ requires at least version 3.3 for CICS. applid is the CICS application ID.

**System Action:** Data collection for CICS channels is not initiated.

**User Response:** Ensure that CICS channel monitoring support is started in the appropriate environments.

**KMQMQ402E applid Unknown input method**

**Explanation:** An attempt at initiating CICS channel monitoring support has been made by a method other than those documented in the product installation documentation. applid is the CICS application ID.

**System Action:** Data collection for CICS channels is not initiated.

**User Response:** Use one of the methods given in the product installation documentation to start data collection for CICS channels.
**KMQ MQ403E applid No valid action specified**

**Explanation:** The KMQC transaction was initiated without a valid action being specified. *applid* is the CICS application ID.

**System Action:** The request is ignored.

**User Response:** Reenter the transaction with a valid action keyword.

**KMQ MQ404E applid No transaction ID specified for KMQAMQCI**

**Explanation:** Program KMQAMQCI must be associated with a valid transaction ID in order to run. None was found. *applid* is the CICS application ID.

**System Action:** The program is terminated.

**User Response:** Using CEDA, specify a transaction ID (KMQC) for program KMQAMQCI.

**KMQ MQ405E applid Function keyword has not been implemented yet**

**Explanation:** A keyword was specified for transaction KMQC that has not been implemented at this time. *applid* is the CICS application ID.

**System Action:** The request is ignored.

**User Response:** Reenter the transaction using a valid action keyword.

**KMQ MQ406W applid Extraneous parameter or HLQ invalid. Ignored**

**Explanation:** Following a valid START keyword, either a parameter other than HLQ was found or the format of the HLQ parameter was invalid. *applid* is the CICS application ID.

**System Action:** The parameter is ignored.

**User Response:** Ensure only valid, correctly formatted parameters are entered.

**KMQ MQ407E applid KMQAMQCI specified with RELOAD=YES is not supported**

**Explanation:** Program KMQAMQCI has been defined with option RELOAD=YES. This is not supported. *applid* is the CICS application ID.

**System Action:** Data collection for CICS channels is not initiated.

**User Response:** Change the definition to RELOAD=NO.

**KMQ MQ408W applid OMEGAMON XE for WebSphere MQ already active in CICS**

**Explanation:** An attempt was made to start CICS channel data collection in IBM Tivoli OMEGAMON XE for WebSphere MQ, but collection is already active. *applid* is the CICS application ID.

**System Action:** The request is ignored.

**User Response:** None.

**KMQ MQ409W applid OMEGAMON XE for WebSphere MQ not active in CICS. Request ignored**

**Explanation:** An attempt was made to stop CICS channel data collection in IBM Tivoli OMEGAMON XE for WebSphere MQ, but collection is not active. *applid* is the CICS application ID.

**System Action:** The request is ignored.

**User Response:** None.
**KMQMQ410E applid Channel Definition File (CSQKCDF) not available**

**Explanation:** CICS channel data collection in IBM Tivoli OMEGAMON XE for WebSphere MQ is unable to read information from the WebSphere MQ channel definition file. *applid* is the CICS application ID.

**System Action:** Data collection for CICS channels is not initiated.

**User Response:** Ensure that the channel definition file (CSQKCDF) is available for BROWSE and READ.

**KMQMQ411I applid OMEGAMON XE for WebSphere MQ start accepted. HLQ=high_level_qualifier**

**Explanation:** A successful request to start the data collection portion of the CICS channel monitoring feature in IBM Tivoli OMEGAMON XE for WebSphere MQ has been made using the specified HLQ. *applid* is the CICS application ID.

**User Response:** None.

**KMQMQ412E applid MQ Verb=verb CCode=completion_code Reason=reason_code**

**Explanation:** An unexpected error occurred while processing a WebSphere MQ API request. *applid* is the CICS application ID.

**System Action:** Data collection for CICS channels is terminated.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQMQ413I applid OMEGAMON XE for WebSphere MQ stop accepted**

**Explanation:** A successful request to terminate data collection for CICS channels was entered. *applid* is the CICS application ID.

**System Action:** Data collection for CICS channels stops.

**User Response:** None.

**KMQMQ414W applid WebSphere MQ not active. Will retry connection**

**Explanation:** CICS channel monitoring support attempted to start data collection in IBM Tivoli OMEGAMON XE for WebSphere MQ, but the queue manager for this CICS region is not active. *applid* is the CICS application ID.

**System Action:** The start request is retried.

**User Response:** None.

**KMQPD101E module Routine for PDS function failed. POST code return_code**

**Explanation:** The persistent datastore routine named *module* failed for the specified function. *return_code* is the post code from the PDS routine.

**System Action:** If this message occurs several times, WebSphere MQ interface tracing is disabled.

**User Response:** Check the RKPDLOG for persistent datastore error messages, and ensure at least one of the datasets in the RKMQDSA group is available for write access.

**KMQRM104E ABEND recovery entered**

**KMQRM104E Code=abend_code FUNCTION=function ADDRESS=address**

**Explanation:** An abend has occurred within IBM Tivoli OMEGAMON XE for WebSphere MQ, where *abend_code* indicates the abend code, *function* is the function that was in control, and *address* is the address where the abend occurred.
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**System Action:** Standard error recovery is performed. A system dump may be produced.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQTR101E** Buffer size requested is too large

**Explanation:** An attempt was made to set the component trace table size to a value outside the valid range. The BUFSIZE parameter, specified in an operator TRACE CT command or in SYS1.PARMLIB(CTKMQ00), cannot exceed 2 megabytes.

**System Action:** The size of the internal trace table remains unchanged.

**User Response:** Specify a smaller trace buffer size through the TRACE CT command or the CTKMQ00 PARMLIB member.

**KMQTR102E** No defined TRACE components found

**Explanation:** The component trace start/stop routine was invoked, but no component trace had been defined for the KMQ100 component.

**System Action:** Tracing is unchanged.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQTR103E** Bad return code from NAME/TOKEN services

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ received a bad return code while attempting to use z/OS name or token services.

**System Action:** Processing continues, but component tracing may not function.

**User Response:** Investigate whether z/OS modules IEANTRT, IEANTCR, and IEANTDL are globally available to the z/OS system. If the problem persists after they have been made available as common service routines, note the message text, and contact IBM Software Support.

**KMQTR104I** TRACE COMP= component buffer size set to regionszK

**Explanation:** The internal component trace table buffer size was set to the value of regionsz kilobytes.

**System Action:** regionszK of virtual storage is used for each internal trace buffer. When tracing is active, there are at least 18 separate trace buffers in each IBM Tivoli OMEGAMON XE for WebSphere MQ address space.

**User Response:** None.

**KMQTR105E** Invalid subname name specified.

**Explanation:** A TRACE CT operator command was issued with the subtrace named name. Either the named subtrace was not initialized or the name is invalid.

**System Action:** The trace is not initiated.

**User Response:** Specify another subtrace name, or omit the subtrace name, which sets tracing for all subtraces.

**KMQTR106E** Invalid ASID hexasid specified.

**Explanation:** A TRACE CT operator command was issued with the indicated hexadecimal ASID parameter hexasid. The ASID is invalid or not available.

**System Action:** The trace command is ignored.
User Response: Specify a valid hexadecimal ASID parameter on the TRACE CT operator command.

KMQTR107E Invalid jobname jobname specified.
Explanation: A TRACE CT operator command was issued with the indicated jobname parameter, but the jobname is invalid or not available.
System Action: The trace command is ignored.
User Response: Specify a valid jobname on the TRACE CT operator command.

KMQTR111I TRACE started for COMP=component
Explanation: Application component tracing has started in the system for the named component. Tracing can be stopped or modified by operator commands. For more information about controlling component traces, refer to the manual MVS System Commands.
System Action: The system trace continues until it is stopped by the TRACE CT operator command.
User Response: None.

KMQTR112I TRACE stopping for COMP=component
Explanation: Application component tracing is being terminated for the named component component.
System Action: The system trace flushes any external write buffers and terminates.
User Response: None.

KMQTR113I TRACE external writer STOP for COMP=component
Explanation: Component tracing has stopped writing to an external trace writer.
System Action: The system flushes the remaining trace buffers. Internal tracing continues as long as the trace remains active for this component.
User Response: None.

KMQTR114I TRACE external writer START for COMP=component
Explanation: Component tracing has begun to write trace data to an external writer.
System Action: Trace data are written to the external writer procedure until a TRACE CT,WTRSTP command is issued.
User Response: None.

KMQTR115E TRACE buffer could not be written
Explanation: The component trace timed out waiting for an external writer's trace buffer to become available.
System Action: The system continues, but trace data may be lost.
User Response: Determine why the trace external writer is not responding. Check the status of the external writer procedure to which the component trace is connected.

KMQTR116E CTRACE write error RC=return_code Reason=reason_code
Explanation: The component trace received an error condition while attempting to issue an external trace writer request with the z/OS CTRACEWR macro.
System Action: Processing continues, but trace data may be lost.
**User Response:** Check the return code `return_code` and reason code `reason_code` from the CTRACEWR macro in the *MVS Authorized Assembler Services Reference, Volume 1*.

**KMQTR117E** *module LOAD failed*

**Explanation:** The system attempted to use z/OS name or token services, but the named module could not be found.

**System Action:** Processing continues, but component tracing may not function.

**User Response:** Investigate whether z/OS modules IEANTRT, IEANTCR, and IEANTDL are globally available to the z/OS system. If the problem persists after the modules have been made available as common service routines, note the message text, and contact IBM Software Support.

**KMQVS101E** *Dataspace creation failed. RC=return_code Reason=reason_code*

**Explanation:** An error occurred while attempting to create the IBM Tivoli OMEGAMON XE for WebSphere MQ historical dataspace, where `return_code` is the return code from the DSPSERV request and `reason_code` is the reason code.

**System Action:** Initialization of IBM Tivoli OMEGAMON XE for WebSphere MQ fails.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQVS102E** *ALESERV failed. RC=return_code*

**Explanation:** An ALESERV request issued by IBM Tivoli OMEGAMON XE for WebSphere MQ failed, where `return_code` is the return code.

**System Action:** Initialization of IBM Tivoli OMEGAMON XE for WebSphere MQ fails.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQVS103E** *Cell pool extend failed. RC=return_code*

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ was unable to extend one of its dataspace cell pools, where `return_code` is the return code from the CSRP service.

**System Action:** The error is propagated back to the caller of the service.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQVS104E** *Cell pool creation failed. RC=return_code*

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ was unable to create a dataspace cell pool, where `return_code` is the return code from the CSRPBLD service.

**System Action:** The error is propagated back to the caller of the service.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQVS105E** *Failure extending size of dataspace. RC=return_code Reason=reason_code*

**Explanation:** IBM Tivoli OMEGAMON XE for WebSphere MQ was unable to expand the size of the historical dataspace, where `return_code` is the return code from the DSPSERV service and `reason_code` is the reason code.

**System Action:** The error is propagated back to the caller of the service.

**User Response:** Note the message text, and contact IBM Software Support.
KMQVS106E Failure getting cell from pool. RC=return_code
Explanation: IBM Tivoli OMEGAMON XE for WebSphere MQ was unable to allocate a cell from a dataspace cell pool, where return_code is the return code from the CSRPGET service.
System Action: The error is propagated back to the caller of the service.
User Response: Note the message text, and contact IBM Software Support.

KMQVS107E Failure freeing cell to pool. RC=return_code
Explanation: IBM Tivoli OMEGAMON XE for WebSphere MQ was unable to free a cell back to a dataspace cell pool, where return_code is the return code from the CSRPFRE service.
System Action: The error is propagated back to the caller of the service.
User Response: Note the message text, and contact IBM Software Support.

KMQW000W reason_code - explanation_text
Explanation: A WebSphere MQ error has occurred when performing the requested operation.
System Action: The request fails.
User Response: Look up the reason code in the WebSphere MQ Application Programming Reference for detailed information.

KMQW001I PUT ON XMIT QUEUE SUCCESSFUL
Explanation: The requested message has been successfully put on the transmission queue.
User Response: None.

KMQW002E UNSUPPORTED CCSID FOUND
Explanation: A message with an unsupported Coded Character Set Identifier (CCSID) is received.
System Action: The message is ignored.
User Response: Verify that the message has a valid CCSID.

KMQW005E INSUFFICIENT STORAGE
Explanation: Insufficient storage is available to perform the requested function.
System Action: The requested function is ignored.
User Response: Reissue the requested function after ensuring there is sufficient storage.

KMQW006E MSG MISSING DLQ HEADER
Explanation: The IBM Tivoli OMEGAMON XE for WebSphere MQ agent has received a retry request for a message with no dead-letter header.
System Action: The retry request is ignored.
User Response: Ensure that the WebSphere MQ application that put the message does not generate messages without a dead-letter header.

KMQW007E TRUNCATED MSG NOT RETRIED
Explanation: The IBM Tivoli OMEGAMON XE for WebSphere MQ agent has received a retry request for a truncated message.
**System Action:** The retry request is ignored.

**User Response:** Ensure that the WebSphere MQ application that put the message does not generate truncated messages.

**KMQW008E NOT ALLOWED BY MSGACCESS**

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ agent does not have the proper access level to the requested message.

**System Action:** The message request is ignored.

**User Response:** Correct the MSGACCESS value in the agent configuration file, and restart the WebSphere MQ agent.

**KMQW009E AGENT TIMEOUT OCCURRED**

**Explanation:** An agent timeout occurred while issuing the requested operation.

**System Action:** The operation is ignored.

**User Response:** Retry the operation.

**KMQW010E NOT ALLOWED BY COMMAND OPTION**

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ agent does not allow executing the requested command.

**System Action:** The command is ignored.

**User Response:** Correct the COMMAND option in the agent configuration file, and restart the IBM Tivoli OMEGAMON XE for WebSphere MQ agent.

**KMQW011E FAILED DUE TO QMGR QUIESCING**

**Explanation:** The command failed because queue manager is quiescing.

**System Action:** The command is ignored.

**User Response:** Ensure that the queue manager is running, and retry the command.

**KMQW012E UNKNOWN REASON CODE**

**Explanation:** An unknown reason code was returned by WebSphere MQ.

**System Action:** The function fails.

**User Response:** Note the message text, and contact IBM Software Support.

**KMQW013I COMMAND ACCEPTED BY MVS**

**Explanation:** The queue manager on z/OS has accepted the command.

**User Response:** None.

**KMQW014E QMGR NOT ACTIVE**

**Explanation:** The command cannot be processed because the queue manager is inactive.

**System Action:** The command is ignored.

**User Response:** Start the queue manager and its associated command server; then retry the command.

**KMQW015E REMOTE QMGR NOT SUPPORTED**

**Explanation:** The IBM Tivoli OMEGAMON XE for WebSphere MQ agent does not support submitting commands to the remote queue manager.
**System Action:** The command is ignored.
**User Response:** Start the IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent for the remote queue manager.

**KMQW016E SYNTAX ERROR**
**Explanation:** A syntax error was detected in the command.
**System Action:** The command is ignored.
**User Response:** Correct the syntax error, and reissue the command.

**KMQW017E COMMAND FAILED**
**Explanation:** The requested command failed during execution.
**System Action:** The command is ignored.
**User Response:** Examine the agent log for the response returned by WebSphere MQ.

**KMQW018E NOT ALLOWED BY SECURITY**
**Explanation:** The requested command is not allowed by the security system.
**System Action:** The command fails.
**User Response:** Contact your security administrator.

**KMQW019E NOT SUPPORTED BY PLATFORM**
**Explanation:** The command has been issued on a Windows platform on which the Take Action feature is not supported.
**System Action:** The command is ignored.
**User Response:** None.
Windows Event Log Messages

Overview

When the IBM Tivoli OMEGAMON XE for WebSphere MQ monitoring agent is running as a system service on Windows, if an error condition or critical event occurs, the agent writes an application message into the Windows Event Log. (Refer to the installation documentation for supported versions of Windows.)

Procedure

To access the Application Event Log

1. From the Start menu, select Control Panel.
2. Select Administrative Tools.
3. Select Event Viewer, then select Application.

Messages logged

The following messages (when the condition occurs) appear in the application event log.

*Note:* The Event ID number corresponds to the KMQ message number.

<table>
<thead>
<tr>
<th>Event ID</th>
<th>Severity</th>
<th>Symbolic Name</th>
<th>Message Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>11200</td>
<td>Error</td>
<td>EVT_REMOTEQ_NOT_ALLOCATED</td>
<td>KMQMI112</td>
</tr>
<tr>
<td>11300</td>
<td>Error</td>
<td>EVT_CONNECT_2_QMGR_FAILED</td>
<td>KMQMI113</td>
</tr>
<tr>
<td>11600</td>
<td>Error</td>
<td>EVT_MQMANAGER_NO_COMMAND_SERVER</td>
<td>KMQMI116</td>
</tr>
<tr>
<td>12500</td>
<td>Informational</td>
<td>EVT_IRA_MONITOR</td>
<td>KMQMI125</td>
</tr>
<tr>
<td>18701</td>
<td>Informational</td>
<td>EVT_CONN_TO_SERVER</td>
<td>KMQMI187 Connected</td>
</tr>
<tr>
<td>18702</td>
<td>Informational</td>
<td>EVT_RECONN_TO_SERVER</td>
<td>KMQMI187 Reconnected</td>
</tr>
<tr>
<td>18703</td>
<td>Informational</td>
<td>EVT_DISC_FROM_SERVER</td>
<td>KMQMI187 Disconnected</td>
</tr>
<tr>
<td>19700</td>
<td>Informational</td>
<td>EVT_COMMAND_SERVER_AVAILABLE</td>
<td>KMQMI197</td>
</tr>
</tbody>
</table>
Disk Space Requirements for Historical Data Tables

Introduction

The installation documentation for your product or product package provides the basic disk space requirements for required components such as for the CMS and for CandleNet Portal. These basic disk space requirements do not include additional space that is required for maintaining historical data files. Because of the variations in client distributed systems, system size, number of managed systems, and so on, it is difficult to provide actual additional disk space requirements necessary for historical data collection. This chapter provides the system administrator with basic record sizes for each of the tables from which historical data is collected.

Historical data tables

It is a good practice to always collect IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring historical tables at the remote managed system for WebSphere MQ. Product performance is improved by keeping the data at the remote managed system, especially data that applies only to z/OS, which can deal with large volumes of data more efficiently.

**Important:** To reduce the performance impact on your system, you can set a longer collection interval for tables that collect a large amount of data. For this product, the Queue Statistics table collects a large amount of data. For additional information, see the topic “Performance Impact of Historical Data Requests” in the Historical Data Collection Guide for IBM Tivoli OMEGAMON XE Products.

The attribute history tables, default filenames, default tables collected, and the estimated disk space required per 24-hour period for the historical data collected for IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring are listed in the table that follows. Total default space is the estimated space required per managed system per 24-hour period for the default file collection option for all WebSphere MQ platforms except z/OS, and is based on monitoring 100 queues, 10 channels, and 500 events.

For information specific to this product’s historical data collection options, see “Customizing Monitoring Options” on page 27.
<table>
<thead>
<tr>
<th>Attribute History Table</th>
<th>Filename for Historical Data</th>
<th>Default HDC Table</th>
<th>Estimated Space Required per managed system per 24 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Statistics*</td>
<td>QM_APAL</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Application Queue Statistics*</td>
<td>QM_APQL</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Application Transaction/Program Statistics*</td>
<td>QM_APTL</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Channel Initiator*</td>
<td>QMCHIN_LH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel Statistics</td>
<td>QMCH_LH</td>
<td>Yes</td>
<td>630 kilobytes</td>
</tr>
<tr>
<td>Buffer Pools*</td>
<td>QMLHBM</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Error Log</td>
<td>QMERRLOG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Event Log**</td>
<td>QMEVENTH</td>
<td>No**</td>
<td>1,229 kilobytes</td>
</tr>
<tr>
<td>Log Manager*</td>
<td>QMLHLM</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Message Manager*</td>
<td>QMLHMM</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Message Statistics</td>
<td>QMSG_STAT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Page Sets*</td>
<td>QMPS_LH</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Queue Statistics</td>
<td>QMQ_LH</td>
<td>Yes</td>
<td>4,088 kilobytes</td>
</tr>
<tr>
<td>Queue Sharing Group CF Structure Backups*</td>
<td>QSG_CFBKUP</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Queue Sharing Group CF Structure Statistics*</td>
<td>QSG_CFSTR</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Queue Sharing Group Channel Statistics*</td>
<td>QSG_CHANS</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Queue Sharing Group Queue Statistics*</td>
<td>QSG_QUEUES</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Queue Sharing Group Queue Managers*</td>
<td>QSG_QMGR</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Queue Sharing Group CF Structure Connection Statistics*</td>
<td>QSG_CFCCONN</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Total Default Space</td>
<td></td>
<td></td>
<td>5,947 kilobytes</td>
</tr>
</tbody>
</table>

*These tables are not available on platforms other than z/OS. They are not included for determining default space estimates.

** The Event Log is created for all platforms but cannot be configured via option 3, Customize Historical Collection, on the HDC Main menu. It is included here since the data is available for use in the same way as history data. By default, QMEVENTH is automatically archived into CTIRA_HIST_DIR when it reaches 10MB. The name of the archive is QMEVENTH.arc.
## Historical table record sizes

### Table 3. Historical table record sizes

<table>
<thead>
<tr>
<th>History Table</th>
<th>Record Size</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Statistics</td>
<td>348 bytes</td>
<td>1 record per application monitored per interval</td>
</tr>
<tr>
<td>Application Queue Statistics</td>
<td>440 bytes</td>
<td>1 record per queue per transaction/program per application monitored per interval</td>
</tr>
<tr>
<td>Application Transaction/Program Statistics</td>
<td>360 bytes</td>
<td>1 record per transaction/program per application monitored per interval</td>
</tr>
<tr>
<td>Channel Initiator</td>
<td>196 bytes</td>
<td>One record for each z/OS queue manager</td>
</tr>
<tr>
<td>Channel Statistics</td>
<td>812 bytes</td>
<td>1 record per active channel monitored per interval</td>
</tr>
<tr>
<td>Buffer Pools</td>
<td>352 bytes</td>
<td>1 record per buffer pool in use per interval</td>
</tr>
<tr>
<td>Error Log</td>
<td>1,496 bytes</td>
<td>One record for each message written to the error log</td>
</tr>
<tr>
<td>Event Log</td>
<td>2,516 bytes</td>
<td>1 record per event</td>
</tr>
<tr>
<td>Log Manager</td>
<td>424 bytes</td>
<td>1 record per queue manager per interval</td>
</tr>
<tr>
<td>Message Manager</td>
<td>312 bytes</td>
<td>1 record per queue manager per interval</td>
</tr>
<tr>
<td>Message Statistics</td>
<td>556 bytes</td>
<td>One record for every row returned by active situations associated with Message Statistics attribute group</td>
</tr>
<tr>
<td>Page Sets</td>
<td>328 bytes</td>
<td>1 record per active page set per interval</td>
</tr>
<tr>
<td>Queue Statistics</td>
<td>484 bytes</td>
<td>1 record per queue monitored per interval</td>
</tr>
<tr>
<td>Queue Sharing Group CF Structure Backups</td>
<td></td>
<td>1 record per per backup of CF Structure per QSG per interval</td>
</tr>
<tr>
<td>Queue Sharing Group CF Structure Statistics</td>
<td></td>
<td>1 record per per CF Structure per QSG per interval</td>
</tr>
<tr>
<td>Queue Sharing Group Channel Statistics</td>
<td></td>
<td>1 record per per shared channel in QSG per interval</td>
</tr>
<tr>
<td>Queue Sharing Group Queue Statistics</td>
<td></td>
<td>1 record per per shared queue in QSG per interval</td>
</tr>
<tr>
<td>Queue Sharing Group Queue Managers</td>
<td></td>
<td>1 record per queue manager per interval</td>
</tr>
<tr>
<td>Queue Sharing Group CF Structure Connection Statistics</td>
<td></td>
<td>1 record per per connection to CF Structure per QSG per interval</td>
</tr>
</tbody>
</table>
Historical space requirement worksheets

Use the following worksheets to estimate expected file sizes and the additional disk space requirements for your site. A sample calculation is provided for each historical data collection table.

Table 4. Application Statistics (QM_APAL) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>348 bytes</td>
<td>(60/15 x 24 x 348 x 5) / 1024 for 5 monitored applications</td>
<td>163 kilobytes</td>
</tr>
</tbody>
</table>

Table 5. Application Queue Statistics (QM_APQL) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>440 bytes</td>
<td>(60/15 x 24 x 440 x 20) / 1024 for 20 queues used by monitored applications</td>
<td>825 kilobytes</td>
</tr>
</tbody>
</table>

Table 6. Application Transaction/Program Statistics (QM_APTL) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>360 bytes</td>
<td>(60/15 x 24 x 360 x 10) / 1024 for 10 transaction/programs for monitored applications</td>
<td>338 kilobytes</td>
</tr>
</tbody>
</table>
### Table 7. Buffer Pools (QMLHBM) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>352 bytes</td>
<td>$(60/15 \times 24 \times 352 \times 4) / 1024$ for 4 buffer pools in use</td>
<td>132 kilobytes</td>
</tr>
</tbody>
</table>

### Table 8. Channel Initiator (QMCHIN_LH) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>196 bytes</td>
<td>$(60/15 \times 24 \times 196 \times 1) / 1024$ for each z/OS queue manager</td>
<td>19 kilobytes</td>
</tr>
</tbody>
</table>

### Table 9. Channel Statistics (QMCH_LH) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>812 bytes</td>
<td>$(60/15 \times 24 \times 812 \times 10) / 1024$ for 10 active monitored channels</td>
<td>761 kilobytes</td>
</tr>
</tbody>
</table>

### Table 10. Error Log (QMERRLOG) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>1496 bytes</td>
<td>$(60/15 \times 24 \times 1496 \times 1) / 1024$ for 1 monitored queue manager</td>
<td>140 kilobytes</td>
</tr>
</tbody>
</table>
### Table 11. Event Log (QMEVENTH) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Events are written as they happen.</td>
<td>2516 bytes</td>
<td>(2516 x 500) / 1024 for 500 events</td>
<td>1,229 kilobytes</td>
</tr>
</tbody>
</table>

### Table 12. Log Manager (QMLHLM) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>424 bytes</td>
<td>(60/15 x 24 x 424 x 1) / 1024 for 1 monitored queue manager</td>
<td>40 kilobytes</td>
</tr>
</tbody>
</table>

### Table 13. Message Manager (QMLHMM) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>312 bytes</td>
<td>(60/15 x 24 x 312 x 1) / 1024 for 1 monitored queue manager</td>
<td>29 kilobytes</td>
</tr>
</tbody>
</table>
### Table 14. Message Statistics (QMSG_STAT) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>556 bytes</td>
<td>(60/15 x 24 x 556 x 30 rows*) / 1024</td>
<td>1.56 megabytes</td>
</tr>
</tbody>
</table>

*Calculated as follows for 10 active situations at 5 minute situation interval written for 10 queues all using Queue as the grouping mechanism. A 5 minute situation interval divided into the 15 minute historical collection interval (15/5) = 3 collection intervals. 10 rows (10 situations per queue) x 3 collection intervals = 30 rows per 15 minute historical interval.

### Table 15. Page Sets (QMPS_LH) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>328 bytes</td>
<td>(60/15 x 24 x 328 x 10) / 1024 for 10 active page sets</td>
<td>308 kilobytes</td>
</tr>
</tbody>
</table>
### Table 16. Queue Statistics (QMQ_LH) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>484 bytes</td>
<td>(60/15 x 24 x 484 x 10) / 1024 for 10 monitored queues</td>
<td>454 kilobytes</td>
</tr>
</tbody>
</table>

### Table 17. Queue Sharing Group CF Structure Backups (QSG_CFBKUP) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>240 bytes</td>
<td>(60/15 x 24 x 240 x 5) / 1024 for 5 connected queue managers</td>
<td>113 kilobytes</td>
</tr>
</tbody>
</table>

### Table 18. Queue Sharing Group CF Structure Statistics (QSG_CFSTR) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>304 bytes</td>
<td>(60/15 x 24 x 304 x 3) / 1024 for 3 monitored structures</td>
<td>86 kilobytes</td>
</tr>
</tbody>
</table>

### Table 19. Queue Sharing Group Channel Statistics (QSG_CHANS) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>268 bytes</td>
<td>(60/15 x 24 x 268 x 10) / 1024 for 10 monitored channels</td>
<td>251 kilobytes</td>
</tr>
</tbody>
</table>
### Table 20. Queue Sharing Group Queue Statistics (QSG_QUEUEES) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>236 bytes</td>
<td>((60/15 \times 24 \times 236 \times 20) / 1024) for 20 monitored queues</td>
<td>443 kilobytes</td>
</tr>
</tbody>
</table>

### Table 21. Queue Sharing Group Queue Managers (QSG_QMGR) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>332 bytes</td>
<td>((60/15 \times 24 \times 332 \times 2) / 1024) for 2 monitored queue managers</td>
<td>62 kilobytes</td>
</tr>
</tbody>
</table>

### Table 22. Queue Sharing Group CF Structure Connection Statistics (QSG_CFCONN) worksheet

<table>
<thead>
<tr>
<th>Interval</th>
<th>Record Size</th>
<th>Formula</th>
<th>Expected File Size per 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>332 bytes</td>
<td>((60/15 \times 24 \times 332 \times 5) / 1024) for 5 monitored queue manager connections to DB2</td>
<td>156 kilobytes</td>
</tr>
</tbody>
</table>
## Historical disk space summary worksheet

### Table 23. Historical disk space summary worksheet

<table>
<thead>
<tr>
<th>History Table</th>
<th>Historical Data Table Size (kilobytes) (24 hours)</th>
<th>No. of Archives</th>
<th>Subtotal Space Required (kilobytes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Statistics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Queue Statistics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Transaction/Program Statistics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buffer Pools</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel Initiator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel Statistics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error Log</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Event Log</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log Manager</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Message Manager</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Message Statistics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Page Sets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queue Statistics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queue Sharing Group CF Structure Backups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queue Sharing Group CF Structure Statistics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queue Sharing Group Channel Statistics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queue Sharing Group Queue Statistics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queue Sharing Group Queue Managers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queue Sharing Group CF Structure Connection Statistics</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Disk Space Required**
If you have a problem with your IBM software, you want to resolve it quickly. This section describes the following options for obtaining support for IBM software products:

- “Searching knowledge bases” on page 179
- “Obtaining fixes” on page 180
- “Receiving weekly support updates” on page 180
- “Contacting IBM Software Support” on page 181

**Searching knowledge bases**

You can search the available knowledge bases to determine whether your problem was already encountered and is already documented.

**Searching the information center**

IBM provides extensive documentation that can be installed on your local computer or on an intranet server. You can use the search function of this information center to query conceptual information, instructions for completing tasks, and reference information.

**Searching the Internet**

If you cannot find an answer to your question in the information center, search the Internet for the latest, most complete information that might help you resolve your problem.

To search multiple Internet resources for your product, use the **Web search** topic in your information center. In the navigation frame, click **Troubleshooting and support > Searching knowledge bases** and select **Web search**. From this topic, you can search a variety of resources, including the following:

- IBM technotes
- IBM downloads
- IBM Redbooks®
- IBM developerWorks®
- Forums and newsgroups
- Google
Obtaining fixes

A product fix might be available to resolve your problem. To determine what fixes are available for your IBM software product, follow these steps:

2. Click Downloads and drivers in the Support topics section.
3. Select the Software category.
4. Select a product in the Sub-category list.
5. In the Find downloads and drivers by product section, select one software category from the Category list.
6. Select one product from the Sub-category list.
7. Type more search terms in the Search within results if you want to refine your search.
8. Click Search.
9. From the list of downloads returned by your search, click the name of a fix to read the description of the fix and to optionally download the fix.

For more information about the types of fixes that are available, IBM Software Support Handbook at http://techsupport.services.ibm.com/guides/handbook.html.

Receiving weekly support updates

To receive weekly e-mail notifications about fixes and other software support news, follow these steps:

2. Click My Support in the upper right corner of the page.
3. If you have already registered for My Support, sign in and skip to the next step. If you have not registered, click register now. Complete the registration form using your e-mail address as your IBM ID and click Submit.
4. Click Edit Profile.
5. In the Products list, select Software. A second list is displayed.
6. In the second list, select a product segment, for example, Application servers. A third list is displayed.
7. In the third list, select a product sub-segment, for example, Distributed Application & Web Servers. A list of applicable products is displayed.
8. Select the products for which you want to receive updates, for example, IBM HTTP Server and WebSphere Application Server.
9. Click Add products.
10. After selecting all products that are of interest to you, click Subscribe to email on the Edit profile tab.
11. Select Please send these documents by weekly email.
12. Update your e-mail address as needed.

13. In the Documents list, select Software.

14. Select the types of documents that you want to receive information about.

15. Click Update.

If you experience problems with the My support feature, you can obtain help in one of the following ways:

**Online:** Send an e-mail message to erchelp@ca.ibm.com, describing your problem.

**By phone:** Call 1-800-IBM-4You (1-800-426-4968).

### Contacting IBM Software Support

IBM Software Support provides assistance with product defects.

Before contacting IBM Software Support, your company must have an active IBM software maintenance contract, and you must be authorized to submit problems to IBM. The type of software maintenance contract that you need depends on the type of product you have:

- For IBM distributed software products (including, but not limited to, Tivoli, Lotus®, and Rational® products, as well as DB2® and WebSphere® products that run on Windows or UNIX operating systems), enroll in Passport Advantage® in one of the following ways:
  - **Online:** Go to the Passport Advantage Web page ([http://www.lotus.com/services/passport.nsf/WebDocs/Passport_Advantage_Home](http://www.lotus.com/services/passport.nsf/WebDocs/Passport_Advantage_Home)) and click **How to Enroll**
  - **By phone:** For the phone number to call in your country, go to the IBM Software Support Web site at [http://techsupport.services.ibm.com/guides/contacts.html](http://techsupport.services.ibm.com/guides/contacts.html) and click the name of your geographic region.

- For customers with Subscription and Support (S & S) contracts, go to the Software Service Request Web site at [https://techsupport.services.ibm.com/ssr/login](https://techsupport.services.ibm.com/ssr/login).


- For IBM eServer™ software products (including, but not limited to, DB2 and WebSphere products that run in zSeries, pSeries, and iSeries environments), you can purchase a software maintenance agreement by working directly with an IBM sales representative or an IBM Business Partner. For more information about support for eServer software products, go to the IBM Technical Support Advantage Web site at [http://www.ibm.com/servers/eserver/techsupport.html](http://www.ibm.com/servers/eserver/techsupport.html).

If you are not sure what type of software maintenance contract you need, call 1-800-IBMSERV (1-800-426-7378) in the United States. From other countries, go to the contacts page of the IBM Software Support Handbook on the Web at
To contact IBM Software Support, follow these steps:

1. “Determining the business impact” on page 182
2. “Describing problems and gathering information” on page 182
3. “Submitting problems” on page 183

Determining the business impact

When you report a problem to IBM, you are asked to supply a severity level. Therefore, you need to understand and assess the business impact of the problem that you are reporting. Use the following criteria:

<table>
<thead>
<tr>
<th>Severity 1</th>
<th>The problem has a critical business impact. You are unable to use the program, resulting in a critical impact on operations. This condition requires an immediate solution.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity 2</td>
<td>The problem has a significant business impact. The program is usable, but it is severely limited.</td>
</tr>
<tr>
<td>Severity 3</td>
<td>The problem has some business impact. The program is usable, but less significant features (not critical to operations) are unavailable.</td>
</tr>
<tr>
<td>Severity 4</td>
<td>The problem has minimal business impact. The problem causes little impact on operations, or a reasonable circumvention to the problem was implemented.</td>
</tr>
</tbody>
</table>

Describing problems and gathering information

When explaining a problem to IBM, be as specific as possible. Include all relevant background information so that IBM Software Support specialists can help you solve the problem efficiently. To save time, know the answers to these questions:

- What software versions were you running when the problem occurred?
- Do you have logs, traces, and messages that are related to the problem symptoms? IBM Software Support is likely to ask for this information.
- Can you re-create the problem? If so, what steps were performed to re-create the problem?
- Did you make any changes to the system? For example, did you make changes to the hardware, operating system, networking software, and so on.
- Are you currently using a workaround for the problem? If so, be prepared to explain the workaround when you report the problem.
- What software versions were you running when the problem occurred?
Submitting problems

You can submit your problem to IBM Software Support in one of two ways:

- **Online:** Click **Submit and track problems** on the IBM Software Support site at [http://www.ibm.com/software/support/probsub.html](http://www.ibm.com/software/support/probsub.html). Type your information into the appropriate problem submission form.

- **By phone:** For the phone number to call in your country, go to the contacts page of the IBM Software Support Handbook ([http://techsupport.services.ibm.com/guides/contacts.html](http://techsupport.services.ibm.com/guides/contacts.html)) and click the name of your geographic region.

If the problem you submit is for a software defect or for missing or inaccurate documentation, IBM Software Support creates an Authorized Program Analysis Report (APAR). The APAR describes the problem in detail. Whenever possible, IBM Software Support provides a workaround that you can implement until the APAR is resolved and a fix is delivered. IBM publishes resolved APARs on the Software Support Web site daily, so that other users who experience the same problem can benefit from the same resolution.
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