

Tivoli Composite Application Manager Agents for WebSphere
Messaging
Version 7.0.1 fix pack 1

Installation and Configuration Guide



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Note

Before using this information and the product it supports, read the information in "Notices" on page 101.

Edition notice

This edition applies to version 7.0.1 fix pack 1 of ITCAM agent for WebSphere MQ, ITCAM configuration agent for WebSphere MQ, and ITCAM agent for WebSphere Message Broker (product number 5724-V09) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. Getting started

The guide provides instructions about how to install the fix pack and describes new product features, enhancements and changes in the ITCAM for WebSphere® Messaging 7.0.1 fix pack 1.

About this fix pack

This fix pack mainly resolved some critical issues of ITCAM for WebSphere Messaging version 7.0.1 GA.

Fix history

The following APARs are addressed in this fix pack.

Table 1. APARs addressed in this fix pack

APAR/ defect number	Description	Support website
IZ68990	Full data is not available in the Application Accounting workspace.	http://www.ibm.com/support/docview.wss?uid=swg1IZ68990
IZ69081	The MQDISC call hangs when the queue manager to be connected does not exist.	http://www.ibm.com/support/docview.wss?uid=swg1IZ69081
IZ75929	The hub Tivoli Enterprise Monitoring Server stops due to deadlock problems of the ITCAM configuration agent for WebSphere MQ application support.	http://www.ibm.com/support/docview.wss?uid=swg1IZ75929
IZ76775	The historical statistics and accounting data is missing.	http://www.ibm.com/support/docview.wss?uid=swg1IZ76775
IZ77419	When the monitoring server is not on a case sensitive system, the user whose ID is mixed case cannot issue take action commands using the ITCAM agent for WebSphere MQ on a case sensitive system.	N/A
IZ77582	The value of Message Count attribute is wrong in the Channel Long-Term History table.	http://www.ibm.com/support/docview.wss?uid=swg1IZ77582
IZ78462	The CandleMonitor node cannot work in WebSphere Message Broker Toolkit 7.0.0.2.	http://www.ibm.com/support/docview.wss?uid=swg1IZ78462
IZ79762	The Display Item function is not available for the Application tag.	http://www.ibm.com/support/docview.wss?uid=swg1IZ79762
IZ82930	The ITCAM agent for WebSphere Message Broker cannot discover a Version 7.0 broker correctly and reports the Version 7.0 broker as a Version 6.1 broker.	http://www.ibm.com/support/docview.wss?uid=swg1IZ82930

Table 1. APARs addressed in this fix pack (continued)

APAR/ defect number	Description	Support website
IZ83004	The ITCAM agent for WebSphere Message Broker is terminated with core dump.	http://www.ibm.com/support/docview.wss?uid=swg1IZ83004
IZ83572	The CandleMonitor node is supported in 64-bit broker environment on Windows systems.	http://www.ibm.com/support/docview.wss?uid=swg1IZ83572
IZ87496	The ITCAM agent for WebSphere MQ cannot remove temporary files in the /var/tmp folder when there is no enough system memory.	http://www.ibm.com/support/docview.wss?uid=swg1IZ87496
IZ87587	The ITCAM agent for WebSphere Message Broker cannot discover brokers with nondefault registry path.	http://www.ibm.com/support/docview.wss?uid=swg1IZ87587
IZ89827	In the Configuration view, when the update mode check box is cleared, items are not disabled correctly in the Authorization section.	http://www.ibm.com/support/docview.wss?uid=swg1IZ89827
IZ91184	The CandleMonitor node causes the core dump of execution groups.	http://www.ibm.com/support/docview.wss?uid=swg1IZ91184
OA30706	After the WebSphere MQ Configuration agent is stopped on a z/OS system, the address space abends with code A03.	http://www.ibm.com/support/docview.wss?uid=swg1OA30706
OA31422	The default configuration for the Application Statistics feature is changed and IBM Configuration Assistance Tool (ICAT) is updated accordingly.	http://www.ibm.com/support/docview.wss?uid=swg1OA31422
OA32278	The storage used by the UTF8 translation function causes a storage quiesce abend.	http://www.ibm.com/support/docview.wss?uid=swg1OA32278
OA33152	When there is a large number of queues in the environment, collecting sampled data might cause high CPU usage.	http://www.ibm.com/support/docview.wss?uid=swg1OA33152
OA33361	The value of % MQI Failures attribute is wrong in the Application Transaction/Program Statistics table.	http://www.ibm.com/support/docview.wss?uid=swg1OA33361
OA33472	When you export or import a queue manager, the Client userid is defined at queue manager check box is reset.	http://www.ibm.com/support/docview.wss?uid=swg1OA33472
OA33973	The MQI Hook function is disabled when there is no more data space.	http://www.ibm.com/support/docview.wss?uid=swg1OA33973
OA34021	When the ITCAM agent for WebSphere MQ is started, the KMQRM104E+ Code=X'00C4' FUNCTION=MQAD message is displayed.	http://www.ibm.com/support/docview.wss?uid=swg1OA34021
OA34756	PTF for the WebSphere MQ Configuration agent	http://www.ibm.com/support/docview.wss?uid=swg1OA31422

Table 1. APARs addressed in this fix pack (continued)

APAR/ defect number	Description	Support website
OA34757	PTF for the application support of WebSphere MQ Configuration agent	http://www.ibm.com/support/docview.wss?uid=swg1OA34757
OA34768	PTF for the WebSphere MQ Monitoring agent	http://www.ibm.com/support/docview.wss?uid=swg1OA34768

Enhancements and changes

To solve identified problems, the following enhancements and changes are made for ITCAM agent for WebSphere Message Broker in this fix pack.

- The CandleMonitor node is supported in 64-bit broker environment on Windows systems. For instructions about how to install the CandleMonitor node available in 64-bit broker environment on Windows systems, see Appendix D, “CandleMonitor node in 64-bit broker environments on Windows systems,” on page 97.
- New configuration parameters are added in case the ITCAM agent for WebSphere Message Broker cannot find the proper installation directory of WebSphere Message Broker or WebSphere MQ in a complex environment.

defaultWMBInstallDirectory

The **defaultWMBInstallDirectory** attribute provides the installation directory of the brokers that you want to monitor using the ITCAM agent for WebSphere Message Broker. By default, this parameter is not added to the `kqi.xml` file. With the default configuration, the monitoring agent can automatically search for the `bin` directory of WebSphere Message Broker and discover all brokers in that directory.

Specify this attribute only when the monitoring agent cannot find the correct installation directory in a complex environment. You might have to configure this parameter in the following circumstances:

- The work path directory of WebSphere Message Broker (`MQSI_WORKPATH`) is not the default value.
- Both the 32-bit and 64-bit brokers are installed on a 64-bit Windows system at the same time.

The **defaultWMBInstallDirectory** attribute only applies to distributed systems. This parameter is not in the default `kqi.xml` file. You can add it in the `kqi.xml` file as needed.

Remember: You can specify only one directory for this parameter.

WMBInstallDirectory

The **WMBInstallDirectory** attribute provides the installation directory of the broker that you want to monitor using the ITCAM agent for WebSphere Message Broker. By default, the monitoring agent can automatically search for the installation directory and discover the broker. Specify this attribute only when the monitoring agent cannot discover the broker in a complex environment. If this attribute is not specified or the specified value is not valid, the monitoring agent will use the **defaultWMBInstallDirectory** value to search for all brokers.

The **WMBInstallDirectory** attribute only applies to distributed systems. This parameter is not in the default `kqi.xml` file. You can add it in the `kqi.xml` file as needed.

Supported applications

This topic describes the ITCAM for WebSphere Messaging compatibility with IBM Tivoli Monitoring, IBM WebSphere MQ, and IBM broker products.

- IBM® Tivoli® Monitoring 6.2.2 at the minimum
- WebSphere MQ 6.0, 7.0, or 7.0.1
- Any of the following IBM broker products:
 - WebSphere Event Broker V6
 - WebSphere Message Broker V6
 - WebSphere Message Broker with Rules and Formatter Extension V6
 - WebSphere Message Broker V6.1
 - WebSphere Message Broker V7.0

Compatibilities with IBM Tivoli Monitoring

This section explains the coexistence scenarios between IBM Tivoli Monitoring and ITCAM for WebSphere Messaging.

- ITCAM for WebSphere Messaging application support and Tivoli Enterprise Portal, Tivoli Enterprise Portal Server, and Tivoli Enterprise Monitoring Server:
The following table displays the compatibility between the ITCAM for WebSphere Messaging application support and Tivoli Enterprise Portal, Tivoli Enterprise Portal Server, Tivoli Enterprise Monitoring Server.

Table 2. Compatibility between agent application support and Tivoli Enterprise Portal, Tivoli Enterprise Portal Server, and Tivoli Enterprise Monitoring Server

		ITCAM for WebSphere Messaging application support level								
		V7.0.1 FP01	V7.0.1 GA	V7.0 FP03	V7.0 FP02	V7.0 FP01	V7.0 GA	V6.0.1 FP02	V6.0.1 FP01	V6.0.1 GA
Tivoli Enterprise Portal, Tivoli Enterprise Portal Server, and Tivoli Enterprise Monitoring Server level	V6.2.2 FP03	Yes	Yes*	Yes	Yes*	No	No	No	No	No
	V6.2.2 FP02	Yes	Yes*	Yes	Yes*	No	No	No	No	No
	V6.2.2 FP01	Yes	Yes	Yes*	Yes	No	No	Yes*	No	No
	V6.2.2	Yes*	Yes	Yes*	Yes*	No	No	Yes*	No	No
	V6.2.1 FP03	No	No	Yes	Yes*	No	No	No	No	No
	V6.2.1 FP02	No	No	Yes*	Yes*	No	No	No	No	No
	V6.2.1 FP01	No	No	Yes*	Yes*	No	No	No	No	No
	V6.2.1	No	No	Yes*	Yes	Yes	No	Yes	No	No
	V6.2 FP03	No	No	Yes	Yes	Yes*	Yes*	Yes*	No	No
	V6.2 FP02	No	No	Yes*	Yes	Yes	Yes*	Yes	No	No
	V6.2 FP01	No	No	Yes*	Yes	Yes	Yes	Yes	Yes	No
	V6.2 GA	No	No	No	No	No	No	Yes*	Yes	No
	V6.1 FP07	No	No	No	No	No	No	Yes	Yes	Yes*
	V6.1 FP06	No	No	No	No	No	No	No	No	Yes
V6.1 FP05	No	No	No	No	No	No	No	No	Yes	

Note: Formal tests have not been conducted by IBM. However, support will be provided if you run into any problems.

- Compatibility between the ITCAM for WebSphere Messaging agents and the IBM Tivoli Monitoring agent framework:
The following table provides information on the compatibility between the ITCAM for WebSphere Messaging agents and the IBM Tivoli Monitoring agent framework.

Table 3. Compatibility between monitoring agents and IBM Tivoli Monitoring agent framework

		ITCAM for WebSphere Messaging agents								
		V7.0.1 FP01	V7.0.1 GA	V7.0 FP03	V7.0 FP02	V7.0 FP01	V7.0 GA	V6.0.1 FP02	V6.0.1 FP01	V6.0.1 GA
IBM Tivoli Monitoring agent framework level	V6.2.2 FP03	Yes	Yes*	Yes	Yes*	No	No	No	No	No
	V6.2.2 FP02	Yes	Yes*	Yes	Yes*	No	No	No	No	No
	V6.2.2 FP01	Yes	Yes	Yes*	Yes	No	No	Yes*	No	No
	V6.2.2	Yes*	Yes	Yes*	Yes*	No	No	Yes*	No	No
	V6.2.1 FP03	No	No	Yes	Yes*	No	No	No	No	No
	V6.2.1 FP02	No	No	Yes*	Yes*	No	No	No	No	No
	V6.2.1 FP01	No	No	Yes*	Yes*	No	No	No	No	No
	V6.2.1	No	No	Yes*	Yes	Yes	No	Yes	No	No
	V6.2 FP03	No	No	Yes	Yes	Yes*	Yes*	Yes*	No	No
	V6.2 FP02	No	No	Yes*	Yes	Yes	Yes*	Yes	No	No
	V6.2 FP01	No	No	Yes*	Yes	Yes	Yes	Yes	Yes	No
	V6.2 GA	No	No	No	No	No	No	Yes*	Yes	No
	V6.1 FP07	No	No	No	No	No	No	Yes	Yes	Yes*
	V6.1 FP06	No	No	No	No	No	No	No	No	Yes
V6.1 FP05	No	No	No	No	No	No	No	No	Yes	

Note: Formal tests have not been conducted by IBM. However, support will be provided if you run into any problems.

- ITCAM for WebSphere Messaging application support and agent coexistence:
The level of application support must always be higher than or equal to the highest level of any ITCAM for WebSphere Messaging agent. The level of ITCAM for WebSphere Messaging application support on the Tivoli Enterprise Portal, Tivoli Enterprise Portal Server, and Tivoli Enterprise Monitoring Server must always be the same.
- ITCAM for WebSphere Messaging application support on the hub monitoring server and the application support on remote monitoring server coexistence:
The level of ITCAM for WebSphere Messaging application support on the hub monitoring server must be equal to the level on a remote monitoring server.

Preparing for installation

This chapter explains a series of steps that must be performed before installing ITCAM for WebSphere Messaging 7.0.1 fix pack 1. The information in this chapter applies to users who are upgrading from a previous version of agent and users who are installing the software for the first time, unless stated otherwise.

General guidelines

Before starting to install ITCAM for WebSphere Messaging, consider the following points to ensure that your environment is suitable for installation.

1. Ensure that the following IBM Tivoli Monitoring components have been installed and are running correctly:
 - Tivoli Enterprise Monitoring Server
 - Tivoli Enterprise Portal Server
 - Tivoli Enterprise Portal desktop client
 - The Warehouse Proxy (This component is optional and only required if you intend to use historical reporting or save historical data to a database for reference purposes.)

Important: If your system is running a version of IBM Tivoli Monitoring prior to IBM Tivoli Monitoring 6.2.2, you must first upgrade it to IBM Tivoli Monitoring 6.2.2 or higher. For upgrading instructions, see *IBM Tivoli Monitoring Installation and Setup Guide, SC32-9407*.

2. Identify where the systems or applications are running. In general, you can install and configure an agent on every operating system where the queue manager or message broker you want to monitor is running.
3. Identify the communications protocols that are available in your environment. Use TCP/IP (IP.UDP on Windows systems and IP on UNIX and Linux systems), IP.PIPE, or SNA for communication between the monitoring agent and the IBM Tivoli Monitoring components.
4. Ensure that the operating system of the computer on which you plan to install an agent is listed in Appendix A, "Supported operating systems," on page 91. If the operating system you are using is not listed in this section, you might still be able to use remote monitoring and configuration functions of ITCAM agent for WebSphere MQ and ITCAM configuration agent for WebSphere MQ to monitor and configure WebSphere MQ components remotely. For more information see the following documentation:
 - ITCAM agent for WebSphere MQ: Monitoring events on non-supported systems in the *WebSphere MQ Monitoring Agent User's Guide, SC23-7952*.
 - ITCAM configuration agent for WebSphere MQ: Configuring a remote queue manager in the *WebSphere MQ Configuration Agent User's Guide, SC23-7953*.
5. If your environment is protected by a firewall, read the section regarding firewalls in the *IBM Tivoli Monitoring Installation and Setup Guide, SC32-9407*.
6. If you plan to use the agent remote deployment function, ensure that the IBM Tivoli Monitoring OS agent is running on the target operating system where you plan to deploy an agent before installing an agent. For information about how to deploy agent remotely, see Chapter 4, "Deploying monitoring across your environment from a central location," on page 77.

Collecting information for Tivoli Enterprise Monitoring Server

Use the following worksheet to gather information for the installation. You are required to enter the following information during installation.

Table 4. Worksheet for installation

Name of the Tivoli Enterprise Monitoring Server that the agents will connect to	
Host name of the computer on which the Tivoli Enterprise Monitoring Server that the agents will connect to is running	
IP address of the computer on which the Tivoli Enterprise Monitoring Server that the agents will connect to is running	
Encryption key for the hub Tivoli Enterprise Monitoring Server	
Agent product code or codes	
Communications protocol details of the Tivoli Enterprise Monitoring Server that the agents will connect to	
Root user password (UNIX or Linux system)	

UNIX system considerations

This section provides information that you need to know before installing ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker on UNIX systems.

- Use fully qualified path names.
Because there are many different versions of UNIX systems and possible user environments, it is good form to use fully qualified path names, without pattern-matching characters, when specifying a directory during the installation process. IBM scripts use the Korn shell, and when a new process or shell is invoked, use of symbolic links, environment variables, or aliases can cause unexpected results.
- Specify which Network Interface Card (NIC) to use when specifying the name of the Tivoli Enterprise Monitoring Server and host name during the installation in either of the following situations:
 - The computer on which Tivoli Enterprise Monitoring Server is installed has more than one NIC.
 - The host name of the system does not match the interface name, even when only one NIC exists.

For the agents to be able to connect to the Tivoli Enterprise Monitoring Server, specify an additional variable when configuring the Tivoli Enterprise Monitoring Server or the agents. This variable is listed under the Optional Primary Network Name in the configuration windows or during the command-line installation.

Hardware and software prerequisites

See the following sections for information about the software and hardware prerequisites of different operating systems:

- “Windows system prerequisites” on page 9
- “UNIX and Linux system prerequisites” on page 11
- “i5/OS system prerequisites” on page 15

Windows system prerequisites

This section lists the hardware and software prerequisites for installing ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker on Windows systems.

Software requirements:

Before installing ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker, ensure that the software requirements are met on the Windows systems.

Windows Service Packs

Service Pack 1 or above is required for Windows XP Professional.

Communications among components

TCP/IP communications:

- One of the following must be installed:
 - Microsoft Winsock (version 1.1 or higher)
 - Microsoft TCP/IP protocol stack
- Internet Protocol network services (such as NIS, DNS, and the HOSTS file) must be configured to return the fully qualified host name.

SNA communications: A 32-bit version of one of the following SNA Server or Client products must be installed:

- IBM Personal Communications (version 4.11 or higher).
- IBM Communications Server (version 5.0 or higher). Fixes JR10466 and JR10368 are required for SNA Server version 5.0.
- Microsoft SNA Server (version 3 or higher). Service Pack 1 is required for SNA Server version 4.0.
- Attachmate EXTRA! (version 6.2, 6.3, or 6.4). Fix for case number 1221139 is required for versions 6.2 and 6.3. Fix for case number 1274151 is required for version 6.4.
- Walldata RUMBA (version 5.1 or higher). Walldata PTF OPK52002 is required for versions 5.2A or lower.

Hardware requirements:

Before installing ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker, ensure that the hardware requirements are met on the Windows platforms.

Disk space requirements

- 650 MB free disk space on the installation drive
- 10 MB free disk space on the system user drive
- 250 MB temporary free disk space for installation files
- Additional free disk space for log file growth

Memory requirements

- Minimum: 512 MB
- Recommended: 1 GB

CPU requirements

RISC architectures:

- Minimum: 1 GHz

Intel architectures:

- Minimum: 1 GHz
- Recommended: 2 GHz

Requirements for individual agents: This table lists the individual requirements for installing ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker.

Table 5. Windows system installation requirements for each agent

Component name	Windows system version	Hardware	Other requirements
ITCAM agent for WebSphere Message Broker	<ul style="list-style-type: none"> • Windows 2003 Server • Windows XP Professional Edition with service pack 1 or later • Windows 2008 Server • Windows Vista 	<ul style="list-style-type: none"> • 18 MB disk space • Additional 210 MB disk space for remote deployment support, if enabled • Additional 150 MB disk space for Tivoli Enterprise Monitoring Agent Framework • Additional 70 MB disk space for the Global Security Toolkit and IBM Java Virtual Machine. • Additional disk space for historical data storage, if historical data collection is enabled 	<p>One of the following IBM broker products:</p> <ul style="list-style-type: none"> • IBM WebSphere Event Broker 6 • IBM WebSphere Message Broker 6 • IBM WebSphere Message Broker 6.1 • IBM WebSphere Message Broker 6.1.0.3 • IBM WebSphere Message Broker with Rules and Formatter Extension 6 • IBM WebSphere Message Broker 7
ITCAM agent for WebSphere MQ	<ul style="list-style-type: none"> • Windows 2003 Server • Windows XP Professional Edition with service pack 1 or later • Windows 2008 Server • Windows Vista 	<ul style="list-style-type: none"> • 4 MB disk space • Additional 210 MB disk space for remote deployment support, if enabled • Additional 150 MB disk space for Tivoli Enterprise Monitoring Agent Framework • Additional 70 MB disk space for the Global Security Toolkit and IBM Java Virtual Machine. • Additional disk space for historical data storage, if historical data collection is enabled 	<ul style="list-style-type: none"> • IBM WebSphere MQ 6.0 • IBM WebSphere MQ 7.0 • IBM WebSphere MQ 7.0.1

Table 5. Windows system installation requirements for each agent (continued)

Component name	Windows system version	Hardware	Other requirements
ITCAM configuration agent for WebSphere MQ	<ul style="list-style-type: none"> Windows 2003 Server Windows XP Professional Edition with service pack 1 or later Windows 2008 Server Windows Vista 	<ul style="list-style-type: none"> 4 MB disk space Additional 210 MB disk space for remote deployment support, if enabled Additional 150 MB disk space for Tivoli Enterprise Monitoring Agent Framework Additional 70 MB disk space for the Global Security Toolkit and IBM Java Virtual Machine. Additional disk space is required for storing the WebSphere MQ configuration database on the system where the hub Tivoli Enterprise Monitoring Server is installed. 	<ul style="list-style-type: none"> IBM WebSphere MQ 6.0 IBM WebSphere MQ 7.0 IBM WebSphere MQ 7.0.1 <p>The ITCAM configuration agent for WebSphere MQ requires one of the following databases to store configuration information:</p> <ul style="list-style-type: none"> The WebSphere MQ configuration internal configuration database, which is installed automatically as part of Tivoli Enterprise Monitoring Server. DB2 Universal Database™ (UDB) Workgroup Server Edition 8.1 or later, which must be installed on the same server as the hub Tivoli Enterprise Monitoring Server. If the Tivoli Enterprise Monitoring Server is installed on a z/OS® system and you want to use the DB2® configuration database, DB2 8.1 or later is required. If DB2 is not already installed on the z/OS system that hosts the Tivoli Enterprise Monitoring Server, it must be purchased and installed separately.

UNIX and Linux system prerequisites

This section lists the hardware and software prerequisites for installing ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker on UNIX or Linux systems.

Software requirements:

Before installing ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker, ensure that the hardware requirements are met on UNIX or Linux systems.

Shell requirements

Korn shell command interpreter.

GSKit requirements

GSKit, which is used to provide security between monitoring components. The following table lists the operating system patches required for GSKit.

Table 6. Operating system patches required for GSKit

Operating system	Patches required
Solaris V9	111711-08
Solaris V10	125100-10
HP-UX V11i	PHSS_26946, PHSS_33033
AIX® V5.x	xlC.aix50.rte.6.0.0.3 or later
RedHat Enterprise Linux 4 Intel	<ul style="list-style-type: none"> • compat-gcc-32-c++-3.2.3-46.1.i386.rpm • compat-gcc-32-3.2.3-46.1.i386.rpm • compat-libstdc++-33-3.2.3-47.3.i386.rpm
SUSE Linux Enterprise Server 8 Intel	none
SUSE Linux Enterprise Server 9 Intel	none

Communication requirements

- Communications between components can use the TCP/IP, SNA, IP.PIPE, IP.SPIPE protocols.
For TCP/IP communication, and Internet Protocol network service can be used (such as NIS, DNS, or the /etc/hosts file). These components must be configured to return the fully qualified host name, not an abbreviated name. For example, HostName.ibm.com
- Ethernet or token ring LAN connection

Hardware requirements:

Before installing ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker, ensure that the hardware requirements are met on UNIX or Linux platforms.

Disk space requirements

- 450 MB free disk space on installation drive
- 10 MB free disk space on system user drive
- 650 MB temporary free disk space for installation files
- Additional disk space for log file growth

Memory requirements

- Minimum: 512 MB
- Recommended: 1 GB

Additional Solaris requirements: On Solaris systems, X Window System Version 11 (X11) support is required. If X11 support has not been installed, you must add these two modules to your configuration:

- LIBX11.SO.4
- LIBXEXT.SO.4

Additional AIX requirements: Supported AIX systems must be at the required maintenance level for IBM Java 1.5. Refer to the following Web site for the Java 5 AIX maintenance level matrix: <http://www.ibm.com/developerworks/java/jdk/aix/service.html>. Component xlC.aix50.rte must be at 8.0.0.4. See the following Web site for installation instructions: <http://www.ibm.com/support/>

docview.wss?uid=swg1IY84212. The AIX C++ compiler must be at version 8. For the Tivoli Enterprise Portal Server, AIX 5.3 must be at TL5 SP3 or newer.

Requirements for individual agents: This table lists the individual requirements for installing ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker.

Table 7. UNIX and Linux system installation requirements for each agent

Component name	Operating system version	Hardware	Other requirements
ITCAM agent for WebSphere Message Broker	<ul style="list-style-type: none"> • AIX V5.2, V5.3, V6.1, or V7.1 (32/64 bit) • Solaris V9 or V10 (32/64 bit) • Linux on zSeries® or Intel architectures: <ul style="list-style-type: none"> – SUSE Enterprise Server 8 (2.4.x kernel level), 9 (2.6.x kernel level), 10, or 11 – Red Hat Enterprise Linux 3 (2.4.x kernel level), 4 (2.6.x kernel level), 5, or 6 • Linux on iSeries® and pSeries®: <ul style="list-style-type: none"> – SUSE Enterprise Server 9, 10, or 11 – Red Hat Enterprise Linux 4 or 5 • Linux on AMD64/EM64T 64-bit: <ul style="list-style-type: none"> – SUSE Enterprise Server 9, 10, or 11 – Red Hat Enterprise Linux 4, 5, or 6 	<ul style="list-style-type: none"> • 10 MB disk space • Additional 210 MB for remote deployment support, if enabled • Additional 230 MB for Tivoli Enterprise Monitoring Agent Framework, Global Security Toolkit, and IBM Java Virtual Machine. • Additional disk space for historical data storage, if historical data collection is enabled. 	<p>One of the following IBM broker products:</p> <ul style="list-style-type: none"> • IBM WebSphere Event Broker V6 • IBM WebSphere Message Broker V6 • IBM WebSphere Message Broker V6.1 • IBM WebSphere Message Broker V6.1.0.3 • IBM WebSphere Message Broker with Rules and Formatter Extension V6 • IBM WebSphere Message Broker 7

Table 7. UNIX and Linux system installation requirements for each agent (continued)

Component name	Operating system version	Hardware	Other requirements
ITCAM agent for WebSphere MQ	<ul style="list-style-type: none"> • AIX V5.2, V5.3, V6.1, or V7.1 (32/64 bit) • Solaris V9 or V10 (32/64 bit) • Linux on zSeries or Intel architectures: <ul style="list-style-type: none"> – SUSE Enterprise Server 8 (2.4.x kernel level), 9 (2.6.x kernel level), 10, or 11 – Red Hat Enterprise Linux 3 (2.4.x kernel level), 4 (2.6.x kernel level), 5, or 6 • Linux on iSeries and pSeries: <ul style="list-style-type: none"> – SUSE Enterprise Server 9, 10, or 11 – Red Hat Enterprise Linux 4 or 5 • Linux on AMD64/EM64T 64-bit: <ul style="list-style-type: none"> – SUSE Enterprise Server 9, 10, or 11 – Red Hat Enterprise Linux 4, 5, or 6 	<ul style="list-style-type: none"> • 35 MB disk space • Additional 210 MB for remote deployment support, if enabled • Additional 230 MB for Tivoli Enterprise Monitoring Agent Framework, Global Security Toolkit, and IBM Java Virtual Machine. • Additional disk space for historical data storage, if historical data collection is enabled. 	<ul style="list-style-type: none"> • IBM WebSphere MQ 6.0 • IBM WebSphere MQ 7.0 • IBM WebSphere MQ 7.0.1

Table 7. UNIX and Linux system installation requirements for each agent (continued)

Component name	Operating system version	Hardware	Other requirements
ITCAM configuration agent for WebSphere MQ	<ul style="list-style-type: none"> • AIX V5.2, V5.3, V6.1, or V7.1 (32/64 bit) • Solaris V9 or V10 (32/64 bit) • Linux on zSeries and Intel architectures: <ul style="list-style-type: none"> – SUSE Enterprise Server 8 (2.4.x kernel level), 9 (2.6.x kernel level), 10, or 11 – Red Hat Enterprise Linux 3 (2.4.x kernel level), 4 (2.6.x kernel level), 5, or 6 • Linux on iSeries and pSeries: <ul style="list-style-type: none"> – SUSE Enterprise Server 9, 10, or 11 – Red Hat Enterprise Linux 4 or 5 • Linux on AMD64/EM64T 64-bit: <ul style="list-style-type: none"> – SUSE Enterprise Server 9, 10, or 11 – Red Hat Enterprise Linux 4, 5, or 6 	<ul style="list-style-type: none"> • 35 MB disk space • Additional 210 MB for remote deployment support, if enabled • Additional 230 MB for Tivoli Enterprise Monitoring Agent Framework, Global Security Toolkit, and IBM Java Virtual Machine. • Additional disk space is required for storing the WebSphere MQ configuration database on the system where the hub Tivoli Enterprise Monitoring Server is installed. 	<ul style="list-style-type: none"> • IBM WebSphere MQ 6.0 • IBM WebSphere MQ 7.0 • IBM WebSphere MQ 7.0.1 <p>The ITCAM configuration agent for WebSphere MQ requires one of the following databases to store configuration information:</p> <ul style="list-style-type: none"> • The WebSphere MQ configuration internal configuration database, which is installed automatically as part of Tivoli Enterprise Monitoring Server. • DB2 Universal Database (UDB) Workgroup Server Edition v8.1 or later, which must be installed on the same server as the hub Tivoli Enterprise Monitoring Server. If the Tivoli Enterprise Monitoring Server is installed on a z/OS system and you want to use the DB2 configuration database, DB2 v8.1 or later is required. If DB2 is not already installed on the z/OS system that hosts the Tivoli Enterprise Monitoring Server, it must be purchased and installed separately.

i5/OS system prerequisites

This section lists the hardware and software prerequisites for installing ITCAM configuration agent for WebSphere MQ and ITCAM agent for WebSphere MQ on i5/OS® systems. The ITCAM agent for WebSphere Message Broker is not supported on i5/OS system.

Software requirements:

- i5/OS version 5.3, 5.4, or 6.1.
- WebSphere MQ 6.0, 7.0, or 7.0.1.
- If you are using i5/OS version 5.3, ensure that PTF SI12116 - OSP-UNPRED System agent support for i5/OS systems is installed on your system.
- TCP/IP Communication Utilities.

Hardware requirements:

- RISC system
- 5250 non-programmable workstation or any workstation running 5250 emulation connected to an i5/OS system
- 150 MB free disk space for program files

- 50 MB temporary free disk space for running the software

Chapter 2. Installing this fix pack

You can install the ITCAM for WebSphere Messaging 7.0.1 fix pack 1 in one of the following ways:

- **Fresh install**

If you do not have ITCAM for WebSphere Messaging installed, use this fix pack to install and upgrade ITCAM for WebSphere Messaging to version 7.0.1 fix pack 1 all at once.

- **Upgrade**

If you already have any of the following products installed, you can use this fix pack to upgrade to ITCAM for WebSphere Messaging 7.0.1 fix pack 1. The installation process restores the configuration files before the installation begins, and reconfigure the agents with the previous configuration values after the installation is complete.

- Tivoli OMEGAMON XE for Messaging V6.0.1
- Tivoli OMEGAMON XE for Messaging V6.0.1 fix pack 1
- Tivoli OMEGAMON XE for Messaging V6.0.1 fix pack 2
- Tivoli OMEGAMON XE for Messaging V7.0 fix pack 1
- Tivoli OMEGAMON XE for Messaging V7.0 fix pack 2
- Tivoli OMEGAMON XE for Messaging V7.0 fix pack 3
- ITCAM for WebSphere Messaging V7.0.1

All agents require that application support files that contain agent-specific information be installed on Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, and Tivoli Enterprise Portal client that the agents will connect to.

Use the instructions in the following sections to install application support:

- “Installing application support on the Tivoli Enterprise Monitoring Server” on page 18
- “Installing application support on the Tivoli Enterprise Portal Server” on page 24
- “Installing application support on the Tivoli Enterprise Portal desktop client” on page 31

For instructions about how to install the agents on different operating systems, see the following sections depending on the operating systems:

- “Installing an agent on Windows systems” on page 33
- “Installing an agent on UNIX or Linux systems” on page 38
- “Installing an agent on i5/OS systems” on page 44

Installing application support

The application support files that contain agent-specific information must be installed for all agents on the Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, and Tivoli Enterprise Portal desktop client that the agents connect to. Install application support before starting to install the agent.

Follow the instructions in the following sections to install application support:

- “Installing application support on the Tivoli Enterprise Monitoring Server”
- “Installing application support on the Tivoli Enterprise Portal Server” on page 24
- “Installing application support on the Tivoli Enterprise Portal desktop client” on page 31

Installing application support on the Tivoli Enterprise Monitoring Server

Depending on the operating system on which the Tivoli Enterprise Monitoring Server is installed, follow the instructions in the following sections to install application support on each Tivoli Enterprise Monitoring Server in your environment:

- “Installing application support on a Tivoli Enterprise Monitoring Server on a Windows system”
- “Installing application support on a Tivoli Enterprise Monitoring Server on a UNIX or Linux system” on page 20
- “Installing application support on a Tivoli Enterprise Monitoring Server on a z/OS system” on page 22

Installing application support on a Tivoli Enterprise Monitoring Server on a Windows system

Use the following steps to install required application support on a Tivoli Enterprise Monitoring Server on a Windows system.

Remember: The monitoring server is stopped during the process.

1. Log on to the Windows system using a user ID with Administrator authority.
2. Close any running applications.
3. Insert the product DVD-ROM for Windows into your DVD-ROM drive. Installation begins automatically.

If the installation program wizard does not start automatically, use My Computer to open your DVD-ROM drive and run the setup.exe file. If the setup.exe file still fails to run, you do not have enough disk space to extract the setup files. Clear some disk space before starting the installation process again.

The installation program wizard window displays a message welcoming you to the setup process. This window also contains information about what IBM Tivoli products you currently have installed and the name and version of the product contained on the installation DVD.

Important: If you are running Windows 2003 or Windows XP system and have security set to check the software publisher of applications, you might receive an error stating that the setup.exe file is from an unknown publisher. Click **Run** to disregard this error message and continue with the installation process.

4. In the Welcome window, click **Next**. The Software License Agreement window is displayed.
5. To accept the software license, select **I accept the terms in the license agreement** and click **Next**. The Select Features window is displayed.
6. Select the agent support that you want to add to the Tivoli Enterprise Monitoring Server and click **Next**.

- Select **WebSphere MQ Monitoring Agent** for ITCAM agent for WebSphere MQ.
- Select **WebSphere MQ Configuration Agent** for ITCAM configuration agent for WebSphere MQ.
- Select **WebSphere Message Broker Monitoring Agent** for ITCAM agent for WebSphere MQ.

Tip: If you have other components installed on the same computer, such as Tivoli Enterprise Portal desktop client, you can also select these components to install the component-specific application support.

7. The Agent Deployment window is displayed. Select the agents that you want to configure for remote deployment and click **Next** to continue. An agent can only be deployed on a remote host if it has been configured for remote deployment during installation.

Tip: If you do not want to use the remote deployment function, click **Next** directly.

8. In the Start Copying Files window, review the installation summary details. Click **Next** to start the installation. A message is displayed stating that you will not be able to cancel the installation or upgrade after this point.
9. Click **Yes** to continue. The file-copying process might take several minutes. After the process is complete, the Setup Type window is displayed.
10. Select **Install application support files for a Local/Remote Tivoli Enterprise Monitoring Server** and click **Next**.
11. If DB2 is installed on the system on which the Tivoli Enterprise Monitoring Server is installed, the WMQ Configurator Data Source Parameters window is displayed. Perform the following steps to configure the database used by the agent:
 - a. Click the **Data Source Parameters** tab, and enter the database configuration parameters as shown in Table 8.

Table 8. Database configuration parameters

Option	Description
Database Type	Select whether to use the product-provided internal database or an external DB2 database, accessed using ODBC. The other options listed in this table are only applicable to DB2 so if you select the internal database they cannot be modified.
Data source name	Enter the name of the DB2 data source.
Database Administrator ID	Enter the ID and password of the DB2 database administrator.
WebSphere MQ Configurator Database User ID	Enter the ID and password of the WebSphere MQ Configurator database.

- b. Click the **LDAP Parameters** tab and make sure that the **Security Disabled** check box is not selected.
- c. Click **OK** to accept the settings that you just entered.
- d. If a message is displayed stating that configuration was completed successfully, click **OK**, otherwise, if configuration failed, you are given the option to return to the configuration window and enter the database settings again.

12. In the Add application support to the TEMS window, specify the location of the Tivoli Enterprise Monitoring Server on which you want to add application support. Select **On this computer** and click **OK**.
13. In the Select the application support to add to the TEMS window, select which components for which you want to add application support by clicking the component name directly. Press Ctrl while you click to make multiple selection. By default, all available application support is selected.
14. In the **Default distribution list settings** section, choose how you want to add or update the situation distribution definition to include the default managed system groups, and click **OK**.
15. After the installation is complete, click **Finish** to close the installation wizard.

You have now finished installing application support to the Tivoli Enterprise Monitoring Server. If you have other monitoring servers in your environment, install application support on them as well. After all monitoring servers have been installed with application support, go to “Installing application support on the Tivoli Enterprise Portal Server” on page 24 to continue with the installation process.

Installing application support on a Tivoli Enterprise Monitoring Server on a UNIX or Linux system

Use the following steps to install application support on a UNIX or Linux Tivoli Enterprise Monitoring Server:

1. Log on to the computer where the Tivoli Enterprise Monitoring Server is installed.
2. Stop the monitoring server by running the following commands:

```
cd install_dir/bin
./itmcmd server stop tems_name
```

where *install_dir* is the directory where IBM Tivoli Monitoring is installed (The default is /opt/IBM/ITM) and *tems_name* is the name of the monitoring server.

Tip: If you do not know the name of the Tivoli Enterprise Monitoring Server, view the contents of the *install_dir*/tables directory. The monitoring server name is listed here.

3. Run the following command to create a temporary directory on the computer where the monitoring server is installed. Make sure that the full path of the directory does not contain any spaces:

```
mkdir dir_name
```

4. Mount the product installation DVD for UNIX or Linux systems to the temporary directory you created.

5. Run the following commands:

```
cd dir_name
./install.sh
```

where *dir_name* is the temporary directory that you created.

6. When prompted for the IBM Tivoli Monitoring directory, press Enter to accept the default (/opt/IBM/ITM) or type the full path of the IBM Tivoli Monitoring directory and press Enter.
7. If a message is displayed stating that the directory already exists and asking whether to use it, type 1 and press Enter.
8. The following prompt is displayed. Type 1 and press Enter.

Select one of the following:

- 1) Install products to the local host.
- 2) Install products to depot for remote deployment (requires TEMS).
- 3) Install TEMS support for remote seeding.
- 4) Exit install.

Please enter a valid number:

9. The first part of the software license agreement is displayed. Press Enter to view latter parts of the agreement. After you have finished viewing the agreement, type 1 to accept it or 2 to reject it and press Enter.

Remember: You must accept the agreement to continue with the installation process.

10. A numbered list of installation components is displayed. Type 5 to select Tivoli Enterprise Monitoring Server support and press Enter.

Product packages are available for this operating system and component support categories:

- 1) IBM Tivoli Monitoring components for this operating system
- 2) Tivoli Enterprise Portal Browser Client support
- 3) Tivoli Enterprise Portal Desktop Client support
- 4) Tivoli Enterprise Portal Server support
- 5) Tivoli Enterprise Monitoring Server support
- 6) Other operating systems

Type the number or type "q" to quit selection

11. To confirm the selection, type 1 and press Enter.
12. A list of the components for which you can install application support is displayed. Type the number that corresponds to the component for which you want to install application support on this computer. If you want to install more than one component, use a comma (,) or space to separate the numbers for each component. And press Enter.
13. To confirm that your selection is correct, type 1 and press Enter. The installation process begins.
14. After all the components are installed, you are asked whether you want to install additional products or produce support packages. To exit the installation program, type 2 and press Enter. After the installation is complete, a list of the product support that are installed is displayed.
15. When you are asked whether you want to seed product support on the Tivoli Enterprise Monitoring Server, type 1 and press Enter.
16. A list of the product support packages that you can seed on the Tivoli Enterprise Monitoring Server is displayed. Select how you want to add or update the situation distribution definition to include the default managed system groups, and press Enter. You have the following options:

- New

This option adds the default managed system groups to all applicable situations from the product support packages that are being seeded for the first time. Note that not all situations have the default managed group setting. For some, you might need to manually define the distribution in the Tivoli Enterprise Portal due to the specific content of the agent support package. Modifications are not made to managed system groups in upgraded product support packages.

- All

This option adds the default managed system groups to all the applicable situations. Note that not all situations have the default managed group

setting. For some, you might need to manually define the distribution in the Tivoli Enterprise Portal due to the specific content of the agent support package.

- None

The default managed system group is not added to any situation.

You have now finished installing application support to a UNIX or Linux Tivoli Enterprise Monitoring Server. If you have other UNIX or Linux Tivoli Enterprise Monitoring Servers in your environment, repeat this process to install application support on them as well. After that, go to “Installing application support on the Tivoli Enterprise Portal Server” on page 24 to continue with the installation process.

Installing application support on a Tivoli Enterprise Monitoring Server on a z/OS system

If your Tivoli Enterprise Monitoring Server is running on a z/OS system, you must install application support remotely from a Windows, UNIX, or Linux system that hosts either a Tivoli Enterprise Portal Server or a Tivoli Enterprise Monitoring Server.

Remember:

1. The Tivoli Enterprise Monitoring Server running on the z/OS system must be started when you add application support to it.
2. Before you install the application support, make sure that you have registered the agents to the Tivoli Enterprise Monitoring Server. For more information about registering the monitoring agents with the Tivoli Enterprise Monitoring Server, see the *IBM Tivoli OMEGAMON XE for Messaging on z/OS: Configuration Guide, SC23-7951*.

Using Windows systems:

If the Tivoli Enterprise Portal Server is running on a Windows system, perform the following procedure to use the Manage Tivoli Enterprise Monitoring Services window to install application support on the Tivoli Enterprise Monitoring Server on the z/OS system:

1. On the system where the Tivoli Enterprise Portal Server is installed, open the Manage Tivoli Enterprise Monitoring Services window by clicking **Start > Programs > IBM Tivoli Monitoring > Manage Tivoli Monitoring Services**.
2. In the Manage Tivoli Enterprise Monitoring Services window, right-click the name of the Tivoli Enterprise Portal Server and then click **Advanced > Add TEMS application support**. The Add Application Support to the TEMS window is displayed.
3. Select **On a different computer** and click **OK**. A reminder that the Tivoli Enterprise Monitoring Server running on the z/OS system must be started is displayed.
4. If the Tivoli Enterprise Monitoring Server is not started, start it and then click **OK** to continue. The Non-resident TEMS Connection window is displayed.
5. Enter the name of the Tivoli Enterprise Monitoring Server and select the communications protocol.

The Tivoli Enterprise Monitoring Server name must be the same as the CMS_NODEID parameter in the KDSENV member in &rhilev.

&rtename.RKANPARU on the z/OS system where the Tivoli Enterprise Monitoring Server is installed.

Remember: The communications protocol that you select must be the protocol that your Tivoli Enterprise Monitoring Server is configured to use.

6. Enter the following information and click **OK** to proceed:
 - **Hostname or IP Address:** The fully qualified host name or IP address of the system on which your Tivoli Enterprise Monitoring Server is running.
 - **Port # and/or Port Pools:** The port number that the Tivoli Enterprise Portal Server uses to communicate with the Tivoli Enterprise Monitoring Server on the z/OS system. The default is 1918.
 - **Entry Options:** Select **Convert to upper case** (Tivoli Enterprise Monitoring Server requires all information to be in upper case).
7. In the Select the Application Support to Add to the TEMS window, select the agents for which you want to install application support and then click **OK**.

Remember: Alternative versions of these files with file names ending in `_upg` can also be selected. For example, `kqi_upg.sql`. If you are upgrading from an earlier version of the agent, select the `_upg` versions of application support files. If you are not upgrading from an earlier version, select the standard versions of the files.

8. Recycle the Tivoli Enterprise Monitoring Server. Changes to application support do not take effect until the Tivoli Enterprise Monitoring Server is restarted.

You have now finished installing application support to the Tivoli Enterprise Monitoring Server. If you have other monitoring servers in your environment, install application support on them as well. After all the monitoring servers have been installed with application support files, go to “Installing application support on the Tivoli Enterprise Portal Server” on page 24 to continue with the installation process.

Using UNIX or Linux systems:

As a prerequisite, you must install a Tivoli Enterprise Monitoring Server, a Tivoli Enterprise Portal Server, or a monitoring agent on the local Linux or UNIX computer. This step is necessary to make the Manage Tivoli Monitoring Services available on the local computer. Gather the following information about the Tivoli Enterprise Monitoring Server on the remote z/OS system:

- The host name or IP address.
- The protocol and port number that was specified when the Tivoli Enterprise Monitoring Server on the remote z/OS system was configured.

Important: The Tivoli Enterprise Monitoring Server on the remote z/OS system must be configured to use the IP.UDP, IP.PIPE, or IP.SPIPE communications protocol. The following procedure does not support a Tivoli Enterprise Monitoring server that was configured to use SNA.

Perform the following steps to add application support files from a Linux or UNIX computer to a Tivoli Enterprise Monitoring Server on a z/OS system:

1. Enable the GUI interface. Your Linux or UNIX system must have a GUI interface. Otherwise, perform the following steps to enable it:
 - a. Enable X11.
 - b. Make sure that you have access to a native X-term monitor or an X Window System emulator.
 - c. If using an X Window System emulator, enable X11 access to the X Window System server (command example: `xhost +`).

- d. If using an X Window System emulator, set the display environment variable to point to the X Window System server:

```
export DISPLAY=pc_ip_address:0
```
2. Ensure that the Tivoli Enterprise Monitoring Server on the z/OS system is running.
3. To start Manage Tivoli Monitoring Services, go to the *install_dir/bin* directory, where *install_dir* is the installation directory of IBM Tivoli Monitoring (the default installation directory of IBM Tivoli Monitoring is /opt/IBM/ITM/) and run the following command:

```
./itmcmd manage &
```

A GUI window opens for Manage Tivoli Monitoring Services.

4. Select **Actions > Install product support**.
5. On the Add Application Support to the TEMS window, select **On a different computer** and click **OK**.
6. When you are prompted to ensure that the Tivoli Enterprise Monitoring Server is configured and running, click **OK**.
7. On the Non-Resident TEMS Connection window, provide the name of the Tivoli Enterprise Monitoring Server on the remote z/OS system.
8. Select the communications protocol to use for sending the application support files to the Tivoli Enterprise Monitoring Server and click **OK**.
9. On the next window, supply any values required by the selected communication protocol and click **OK**.
10. On the Install Product Support window, select the monitoring agents for which you want to add application support to the Tivoli Enterprise Monitoring Server, and click **Install**.
11. In Manage Tivoli Monitoring Services, look for this message:
Remote seeding complete!
12. Stop and restart the Tivoli Enterprise Monitoring Server on the remote z/OS system.

You have now finished installing application support to the Tivoli Enterprise Monitoring Server. If you have other monitoring servers in your environment, install application support on them as well. After all the monitoring servers are installed with application support files, go to “Installing application support on the Tivoli Enterprise Portal Server” to continue with the installation process.

Installing application support on the Tivoli Enterprise Portal Server

Depending on the operating system on which Tivoli Enterprise Portal Server is installed, follow the instructions in the following sections to install application support on your Tivoli Enterprise Portal Server:

- “Installing application support on a Tivoli Enterprise Portal Server on a Windows system” on page 25
- “Installing application support on a Tivoli Enterprise Portal Server on a UNIX or Linux system” on page 26

Installing application support on a Tivoli Enterprise Portal Server on a Windows system

Perform the following steps to install application support on a Tivoli Enterprise Portal Server on Windows system:

1. Log on to the Windows system using a user ID with Administrator authority.
 2. Close any running applications.
 3. Click **Start > Programs > IBM Tivoli Monitoring > Manage Tivoli Monitoring Services** to open the Manage Tivoli Enterprise Monitoring Services window.
 4. Stop the portal server by right-clicking it and clicking **Stop**.
 5. Insert the product DVD-ROM for Windows into your DVD-ROM drive.
 6. In the /WINDOWS subdirectory on the installation media, double-click the setup.exe file to start the installation program.
 7. In the Welcome window, click **Next**. The Software License Agreement window is displayed.
 8. To accept the software license, select **I accept the terms in the license agreement** and click **Next**. The Select Features window is displayed.
 9. Select the agent support that you want to add to the portal server and click **Next**.
 - Select **WebSphere MQ Monitoring Agent** for ITCAM agent for WebSphere MQ.
 - Select **WebSphere MQ Configuration Agent** for ITCAM configuration agent for WebSphere MQ.
 - Select **WebSphere Message Broker Monitoring Agent** for ITCAM agent for WebSphere MQ.
- Tip:** If you have other components installed on the same computer, such as Tivoli Enterprise Portal desktop client, you can also select these components to install the component-specific application support.
10. In the Agent Deployment window, ensure that no agents are selected and click **Next**. The Start Copying Files window is displayed.
 11. In the Start Copying Files window, review the installation summary details. Click **Next** to start the installation. A message is displayed stating that you will not be able to cancel the installation or upgrade after this point.
 12. Click **Yes** to continue. The file-copying process might take several minutes. After the process is complete, the Setup Type window is displayed.
 13. Select **Configure Tivoli Enterprise Portal** and click **Next**.
 14. In the TEPS Hostname window, type the host name of the system where the Tivoli Enterprise Portal Server is located and click **Next**.
 15. Click **Finish** to complete the installation.
 16. Restart the Tivoli Enterprise Portal Server by right-clicking it in the Manage Tivoli Enterprise Monitoring Services window and clicking **Start**.

Installation of application support on the Tivoli Enterprise Portal Server is now complete. If you have other portal servers on Windows systems, repeat this procedure to install application support on them as well. Go to “Installing application support on the Tivoli Enterprise Portal desktop client” on page 31 to continue with the installation process.

Installing application support on a Tivoli Enterprise Portal Server on a UNIX or Linux system

Use the following steps to install application support on a Tivoli Enterprise Portal Server on a UNIX or Linux system:

1. Log on to the computer where the Tivoli Enterprise Portal Server is installed.
2. Use the following commands to stop the portal server if it is running:

```
cd install_dir/bin
./itmcmd agent stop cq
```

where *install_dir* is the installation directory of IBM Tivoli Monitoring.

3. Run the following command to create a temporary directory on the computer where the portal server is installed. Make sure that the full path of the directory does not contain any spaces:

```
mkdir dir_name
```

4. Mount the product installation DVD for UNIX or Linux systems to the temporary directory you created.

5. Run the following commands:

```
cd dir_name
./install.sh
```

where *dir_name* is the temporary directory that you created.

6. When prompted for the IBM Tivoli Monitoring directory, press Enter to accept the default (/opt/IBM/ITM) or type the full path to the IBM Tivoli Monitoring directory and press Enter. If a message is displayed stating that the directory already exists and asking whether to use it, type 1 and press Enter.

7. The following prompt is displayed. Type 1 to start the installation and press Enter.

Select one of the following:

- 1) Install products to the local host.
- 2) Install products to depot for remote deployment (requires TEMS).
- 3) Install TEMS support for remote seeding.
- 4) Exit install.

Please enter a valid number:

The first part of the software license agreement is displayed.

8. Press Enter to view latter parts of the agreement. After you have finished viewing the agreement, enter 1 to accept it or 2 to reject it and press Enter.

Remember: You must accept the agreement to continue with the installation process.

9. A numbered list of installation components is displayed. Type 4 to select Tivoli Enterprise Portal Server support and press Enter.

Product packages are available for this operating system and component support categories:

- 1) IBM Tivoli Monitoring components for this operating system
- 2) Tivoli Enterprise Portal Browser Client support
- 3) Tivoli Enterprise Portal Desktop Client support
- 4) Tivoli Enterprise Portal Server support
- 5) Tivoli Enterprise Monitoring Server support
- 6) Other operating systems

Type the number or type "q" to quit selection

10. To confirm the selection, type 1 and press Enter.

11. A list of the agents for which you can install application support is displayed. Type the number that corresponds to the agent for which you want to install

application support on this Tivoli Enterprise Portal Server. If you want to install more than one component, use a comma (,) or space to separate the numbers for each component. And press Enter.

12. Type 1 to confirm the installation. The installation begins.
13. After all the components are installed, you are asked whether you want to install additional products or product support packages. Type 2 and press Enter to exit the installation program.

Application support for the Tivoli Enterprise Portal Server is installed. If you have other portal servers on Linux or UNIX systems in your environment, repeat this process to install application support on them as well. Next step is “Configuring the Tivoli Enterprise Portal Server on a UNIX or Linux system.”

Configuring the Tivoli Enterprise Portal Server on a UNIX or Linux system

You have two options to configure the Tivoli Enterprise Portal Server on a UNIX or Linux system:

- “Configuring the Tivoli Enterprise Portal Server on a UNIX or Linux system using the GUI”
- “Configuring the Tivoli Enterprise Portal Server using the command line” on page 29

Configuring the Tivoli Enterprise Portal Server on a UNIX or Linux system using the GUI:

This following configuration procedure includes steps for configuring the connection between the Tivoli Enterprise Portal Server and the following components:

- The hub Tivoli Enterprise Monitoring Server
- The Tivoli Enterprise Portal Server database
- The Tivoli Data Warehouse database

Important: If you have not set up the Tivoli Data Warehouse, complete this procedure but accept the defaults at the prompts for configuring the connection to the data warehouse. You can reconfigure the connection after you set up the warehouse.

Perform the following steps to configure the Tivoli Enterprise Portal Server using the GUI on a UNIX or Linux system:

1. Log on to the computer where the Tivoli Enterprise Portal Server is installed.
2. Navigate to the *install_dir/bin* directory, where *install_dir* is the installation directory of IBM Tivoli Monitoring. The default is */opt/IBM/ITM*.
3. Open the Manage Tivoli Enterprise Monitoring Services window by running the following command:

```
./itmcmd manage
```

The Manage Tivoli Enterprise Monitoring Services window is displayed.
4. Click **Tivoli Enterprise Portal Server**, right-click, and click **Configure**.
5. In the Common Event Console Configuration window, click **OK**. The Configure Tivoli Enterprise Portal Server window is displayed.
6. On the **TEMS Connection** tab, perform the following steps:

- a. In the **TEMS Hostname** field, enter the host name of the hub Tivoli Enterprise Monitoring Server.
- b. In the **Protocol 1** tab, select the protocol that you want to use to communicate with the hub monitoring server. You have four choices: TCP/IP, SNA, IP.PIPE, and IP.SPIPE. Depending on the protocol that you select, provide the following information.

Table 9. Tivoli Enterprise Monitoring Server protocols and values on UNIX and Linux systems

Protocol	Value	Definition
TCP/IP	IP port number	The port number of the Tivoli Enterprise Monitoring Server. The default is 1918.
SNA	Net name	The SNA network identifier for your location.
	LU name	The LU name of the Tivoli Enterprise Monitoring Server. This LU name corresponds to the Local LU Alias in your SNA communications software.
	Log mode	The name of the LU6.2 LOGMODE. The default value is CANCTDCS.
IP.PIPE	IP.PIPE port number	The port number for the Tivoli Enterprise Monitoring Server. The default is 1918.
	KDC Partition	The KDC partition. The default value is null.
IP.SPIPE	IP.SPIPE port number	The port number for the Tivoli Enterprise Monitoring Server. The default is 3660.

- c. If you want to set up a backup protocol, select the protocol in the **Protocol 2** tab. See Table 9 for information about how to fill in the fields. You can specify a second backup protocol in the **Protocol 3** tab.
7. On the **Agent Parameters** tab, perform the following steps:
 - a. Enter the DB2 instance name. The default value is db2inst1.
 - b. Enter the DB2 administrator ID. The default is db2inst1.
 - c. Enter the password for the DB2 administrator ID.
 - d. Confirm the password for the DB2 administrator ID by typing it again.
 - e. Enter the name of the DB2 database for the Tivoli Enterprise Portal Server. The default is TEPS.
 - f. Enter the name of the database user ID that the Tivoli Enterprise Portal Server uses to access the database. The default is itmuser.
 - g. Enter the password for the database user.
 - h. Confirm the password for the database user by entering it again.
 - i. Select **Create Tivoli Enterprise Portal Server DB user ID if not found**.
 - j. Select the type of the database that you use to warehouse data, **DB2** or **Oracle (JDBC)**.
 - k. Enter the name of the database that the Tivoli Data Warehouse uses. The default is WAREHOUS.

- l. Enter the name of the database user that the Tivoli Data Warehouse uses. The default is `itmuser`.
 - m. Enter the password for the Warehouse user ID.
 - n. Confirm the password for the Warehouse user by typing it again.
 - o. Click **Save** to save your changes.
8. In the Manage Tivoli Enterprise Monitoring Services window, stop the Tivoli Enterprise Portal Server, if it is started, by right-clicking **Tivoli Enterprise Portal Server** and clicking **Stop Service**.
 9. In the Manage Tivoli Enterprise Monitoring Services window, restart the Tivoli Enterprise Portal Server by right-clicking **Tivoli Enterprise Portal Server** and clicking **Start Service**.

You have now finished adding application support for the agents on the Tivoli Enterprise Portal Server. If you have other Linux or UNIX portal servers in your environment, repeat this procedure to add application support for the agents to them as well. After that, go to “Installing application support on the Tivoli Enterprise Portal desktop client” on page 31 to continue with the installation process.

Configuring the Tivoli Enterprise Portal Server using the command line:

This following configuration procedure includes steps for configuring the connection between the Tivoli Enterprise Portal Server and the following components:

- The hub Tivoli Enterprise Monitoring Server
- The Tivoli Enterprise Portal Server database
- The Tivoli Data Warehouse database

Important: If you have not set up the Tivoli Data Warehouse, complete this procedure but accept the defaults at the prompts for configuring the connection to the data warehouse. You can reconfigure the connection after you set up the warehouse.

Perform the following steps to configure the Tivoli Enterprise Portal Server on a UNIX or Linux system using the command line:

1. Log on to the computer where the Tivoli Enterprise Portal Server is installed.
2. Navigate to the `install_dir/bin` directory, where `install_dir` is the installation directory of IBM Tivoli Monitoring. The default is `/opt/IBM/ITM`.
3. Run the following command:


```
./itmcmd config -A cq
```
4. When asked if you want to edit common event console for IBM Tivoli Monitoring settings, type 2 and press Enter.
5. Enter 1 when you are asked if the agent connects to a Tivoli Enterprise Monitoring Server.
6. Enter the host name of the hub Tivoli Enterprise Monitoring Server and press Enter.
7. Enter the protocol that you want to use to communicate with your hub monitoring server and press Enter. You have four choices: IP, SNA, IP.PIPE, or IP.SPIPE.
8. If you want to set up a backup protocol, enter the name of the protocol and press Enter. If you do not want to use a backup protocol type 0 and press Enter.

9. Depending on the protocols you specified, provide the information in Table 9 on page 28 when prompted.
10. Press Enter to accept the default value (none) for the Optional Primary Network Name.
11. Press Enter to accept the default setting for SSL between the portal server and clients (N). By default, SSL is disabled. To enable SSL, type 1 and press Enter.
12. Choose the database that you want to use for Tivoli Enterprise Portal Server (1 for embedded, 2 for DB2). The default is 1.
13. If you choose DB2 database in the previous step, provide the following information for the database:
 - The DB2 instance name. The default value is db2inst1.
 - The DB2 administrator ID. The default is db2inst1.
 - The password for the DB2 administrator ID.
14. Enter the name of the database used by the Tivoli Enterprise Portal Server. The default is TEPS. Press Enter.
15. Enter the name of the database user that the portal server uses to access the database. The default is itmuser. Press Enter.
16. Enter the password for the database user and press Enter.
17. Confirm the password for the database user by typing it again. Press Enter.
18. You are asked if it is OK to create the Tivoli Enterprise Portal Server login user if it does not exist. Type 1 to confirm and press Enter.
19. You are asked whether you are using DB2 or Oracle (JDBC) for data warehousing. Enter the number corresponding to the database you want to use and press Enter.
20. Type the name of the database that the Tivoli Data Warehouse uses. The default is WAREH0US. If you selected the DB2 database, this database must be cataloged locally if the warehouse database is on a remote computer. Press Enter.
21. Type the name of the database user ID that the Tivoli Data Warehouse uses. The default is itmuser. Press Enter.
22. Type the password for the Warehouse user ID and press Enter.
23. Confirm the password for the Warehouse user by typing it again. Press Enter.
24. If you selected the Oracle database in step 19, enter the following information when prompted:
 - a. JDBC driver class path
 - b. JDBC driver name
 - c. JDBC driver URL
 - d. User-defined attributes
25. You are asked whether you want to validate user with LDAP. Press Enter to accept the default value for the LDAP security.

You have now completed adding application support to the Linux or UNIX Tivoli Enterprise Portal Server. If you have other Linux or UNIX portal servers in your environment, repeat this procedure to add application support to them as well. After that, go to “Installing application support on the Tivoli Enterprise Portal desktop client” on page 31 to continue with the installation process.

Installing application support on the Tivoli Enterprise Portal desktop client

Depending on the operating system on which Tivoli Enterprise Portal desktop client is installed, follow the instructions in the following sections to install application support on each computer where you are running the Tivoli Enterprise Portal desktop client:

- “Installing application support on a Tivoli Enterprise Portal desktop client on Windows systems”
- “Installing application support on a Tivoli Enterprise Portal desktop client on a Linux system” on page 32

Installing application support on a Tivoli Enterprise Portal desktop client on Windows systems

Use the following steps to install application support on a Tivoli Enterprise Portal desktop client on a Windows system:

Remember: Stop the Tivoli Enterprise Portal desktop client before performing this procedure.

1. Insert the produce DVD-ROM for Windows into your DVD-ROM drive.
2. In the /WINDOWS subdirectory on the installation media, double-click the setup.exe file to start the installation process.
3. In the Welcome window, click **Next**. The Software License Agreement window is displayed.
4. To accept the software license, select **I accept the terms in the license agreement** and click **Next**. The Select Features window is displayed.
5. Select the agent support that you want to add to the Tivoli Enterprise Portal desktop client and click **Next**.
 - Select **WebSphere MQ Monitoring Agent** for ITCAM agent for WebSphere MQ.
 - Select **WebSphere MQ Configuration Agent** for ITCAM configuration agent for WebSphere MQ.
 - Select **WebSphere Message Broker Monitoring Agent** for ITCAM agent for WebSphere MQ.

Tip: If you have other components installed on the same computer, such as Tivoli Enterprise Portal Server, you can also select these components to install the component-specific application support.

6. The Agent Deployment window is displayed. Make sure that no agent is selected. Click **Next**.
7. In the Start Copying Files window, review the installation summary details. Click **Next** to start the installation. A message is displayed stating that you will not be able to cancel the installation or upgrade after this point.
8. Click **Yes** to continue. The file-copying process might take several minutes. After the process is complete, the Setup Type window is displayed.
9. Select **Configure Tivoli Enterprise Portal** and click **Next**.
10. The TEPS Hostname window is displayed. Type the host name of the system where the Tivoli Enterprise Portal Server is and click **Next**. The host name must be the name of the portal server that this portal client connects to.
11. Click **Finish** to complete the installation wizard.

Installing application support on the Tivoli Enterprise Portal desktop client is complete.

Installing application support on a Tivoli Enterprise Portal desktop client on a Linux system

Perform the following steps to install application support on a Tivoli Enterprise Portal desktop client on a Linux computer:

1. Log on to the computer where the Tivoli Enterprise Portal desktop client is installed.
2. If the portal desktop client is running, run the following commands to stop it:

```
cd install_dir/bin
./itmcmd agent stop cj
```

where *install_dir* is the IBM Tivoli Monitoring installation directory. By default, it is /opt/IBM/ITM.

3. Run the following command to create a temporary directory on the computer where the Tivoli Enterprise Portal desktop client is installed. Make sure that the full path of the directory does not contain any spaces:

```
mkdir dir_name
```

4. Mount the product installation DVD for Linux systems to the temporary directory you just created.

5. Run the following commands:

```
cd dir_name
./install.sh
```

where *dir_name* is the temporary directory you created.

6. When prompted for the IBM Tivoli Monitoring home directory, press Enter to accept the default (/opt/IBM/ITM) or type the full path to the installation directory and press Enter. If a message is displayed stating that the directory exists and asking whether to use it, enter 1 and press Enter.

7. The following prompt is displayed. Type 1 to start the installation and press Enter.

Select one of the following:

- 1) Install products to the local host.
- 2) Install products to depot for remote deployment (requires TEMS).
- 3) Install TEMS support for remote seeding.
- 4) Exit install.

Please enter a valid number:

The first part of the software license agreement is displayed.

8. Press Enter to view latter parts of the agreement. After you have finished viewing the agreement, enter 1 to accept it or 2 to reject it and press Enter.

Remember: You must accept the agreement to continue with the installation process.

9. A numbered list of installation components is displayed. Type 3 to select Tivoli Enterprise Monitoring Server support and press Enter.

Product packages are available for this operating system and component support categories:

- 1) IBM Tivoli Monitoring components for this operating system
- 2) Tivoli Enterprise Portal Browser Client support
- 3) Tivoli Enterprise Portal Desktop Client support
- 4) Tivoli Enterprise Portal Server support
- 5) Tivoli Enterprise Monitoring Server support

6) Other operating systems

Type the number or type "q" to quit selection

10. To confirm the selection, type 1 and press Enter.
11. A list of the agents for which you can install application support is displayed. Type the number that corresponds to the agent for which you want to install application support on this computer. If you want to install more than one component, use a comma (,) or space to separate the numbers for each component. And press Enter.
 - Select **WebSphere MQ Monitoring Agent** for ITCAM agent for WebSphere MQ.
 - Select **WebSphere MQ Configuration Agent** for ITCAM configuration agent for WebSphere MQ.
 - Select **WebSphere Message Broker Monitoring Agent** for ITCAM agent for WebSphere MQ.
12. To confirm that your selection is correct, type 1 and press Enter. The installation process begins.
13. After all the components are installed, you are asked whether you want to install additional products or product support packages. Type 2 and press Enter.

You have now installed application support on the Tivoli Enterprise Portal desktop client on a Linux system. If you have other Linux desktop clients in your environment, repeat this procedure to install application support on them as well. After that, go to "Configuring the Tivoli Enterprise Portal desktop client on a Linux system" to configure the Tivoli Enterprise Portal desktop client.

Configuring the Tivoli Enterprise Portal desktop client on a Linux system

Perform the following steps to configure the Tivoli Enterprise Portal desktop client on a Linux system:

1. Go to the *install_dir*/bin directory, where *install_dir* is the installation directory of IBM Tivoli Monitoring. The default is /opt/IBM/ITM.
2. Run the following command:

```
./itmcmd config -A cj
```
3. Press Enter to accept the default instance name when prompted, or enter an instance name and press Enter.
4. Type the host name of the Tivoli Enterprise Portal Server and press Enter.
5. Type the path of your Web browser when prompted and press Enter.
6. Press Enter when you are asked if you want to use HTTP Proxy support. The default value is no.

You have now configured the Tivoli Enterprise Portal desktop client.

Installing an agent on Windows systems

This chapter contains step-by-step instructions for installing ITCAM for WebSphere Messaging on an Intel PC workstation running the Windows operating system. The following procedure is for users installing agents on a system with no previous version of the agent installed.

Preinstallation tasks

The following tasks must be performed before proceeding with the installation of any agents.

1. Ensure that your Windows user ID has Administrator authority.
Your Windows user ID must be a member of the Administrators user group for you to be able to install the agent. If you do not have administrator access, contact your system administrator.
2. Stop the Lotus Notes® server.
If a Lotus Notes server is running on the operating system on which you are installing the agent, stop the Lotus Notes server before proceeding with the installation. Individual Lotus® Notes® applications can continue to run.
3. Check the hosts file.
ITCAM for WebSphere Messaging does not require a DNS server. If your Windows system is running without a DNS, make sure that the hosts file of the local server is up to date.

Installing and initializing agents

There are two methods of installing an agent on Windows systems. Installation can be performed interactively using the installation program wizard to guide you through the process, or you can perform a silent installation where all installation parameters are specified in a response file before the installation begins. For detailed instructions about how to use either of these methods, see the following sections:

- “Installation program wizard installation”
- “Silent installation” on page 36

Installation program wizard installation

Use the following steps to install and initialize ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker with the installation program wizard.

1. Log on to the Windows system using a user ID with Administrator authority.
2. Close any running applications.
3. Insert the product DVD-ROM for Windows into your DVD-ROM drive.
Installation begins automatically.

If the installation program wizard does not start automatically, use My Computer to open your DVD-ROM drive and run the setup.exe file. If the setup.exe file still fails to run, you do not have enough disk space to extract the setup files. Clear some disk space before starting the installation process again.

The installation program wizard window displays a message welcoming you to the setup process. This window also contains information about what IBM Tivoli products you currently have installed and the name and version of the product contained on the installation DVD.

Important: If you are running Windows 2003 or Windows XP system and have security set to check the software publisher of applications, you might receive an error stating that the setup.exe file is from an unknown publisher. Click **Run** to disregard this error message and continue with the installation process.

4. In the Welcome window, click **Next**. The Software License Agreement window is displayed.
5. To accept the software license, select **I accept the terms in the license agreement** and click **Next**. The Select Features window is displayed.
6. Select the agents that you want to install from the list by selecting the check box next to the agent name. When you have selected all the agents that you want to install, click **Next** to continue.
 - Select **WebSphere MQ Monitoring Agent** for ITCAM agent for WebSphere MQ.
 - Select **WebSphere MQ Configuration Agent** for ITCAM configuration agent for WebSphere MQ.
 - Select **WebSphere Message Broker Monitoring Agent** for ITCAM agent for WebSphere MQ.

Tip: To view more detailed information about a particular feature, click the feature name. Information about the feature is displayed in the Description panel next to the list of features. When you select one or more agents, **Tivoli Enterprise Monitoring Agent Framework** is selected automatically.

7. The Agent Deployment window is displayed. Ensure that no agents are selected and click **Next** to continue. The Start Copying Files window, summarizing the components that you have selected to install, is displayed.
8. In the Start Copying Files window, review the installation summary details. Click **Next** to start the installation. A message is displayed stating that you will not be able to cancel the installation or upgrade after this point.
9. Click **Yes** to continue. The file-copying process might take several minutes. After the process is complete, the Setup Type window is displayed.
10. Select **Configure Tivoli Enterprise Portal** and **Configure agents default connection to TEMS** and click **Next**.
11. In the TEPS Hostname window, type the host name of the server where the Tivoli Enterprise Portal Server is installed and click **Next**.
12. In the Configuration Defaults for Connecting to a TEMS window, perform the following things:
 - a. If the agent must cross a firewall to access the Tivoli Enterprise Monitoring Server, select **Connection must pass through firewall**.
 - b. If the firewall shielding the Tivoli Enterprise Monitoring Server uses address translation, select **Address Translation Used**.
 - c. Select one or more protocols to be used when connecting to the Tivoli Enterprise Monitoring Server and click **Next**. You can select up to three protocols. The protocol specified in the **Protocol 1** field is used by default. If connection to the Tivoli Enterprise Monitoring Server using this protocol fails, the protocol specified in the **Protocol 2** field is used, and if connection still fails, the protocol specified in the **Protocol 3** field is used. Available protocols are IP.PIPE, IP.SPIPE, SNA, and IP.UDP.
 - d. Refer to the fields in Table 11 on page 44 to define the communications between the agents and the Tivoli Enterprise Monitoring Server.
13. When the InstallShield Wizard Complete window is displayed, specify whether you want to restart the computer now and click **Finish** to exit the installation program wizard. Installation is now complete.

Installing the agent is now completed.

Silent installation

Use the silent installation feature to install ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker using installation parameters specified in a response file, instead of entering parameters interactively during the installation process. This feature is particularly useful if you want to install an agent on a large number of computers with similar configurations, because the administrator is required to specify installation parameters only once, in the response file, instead of entering them repeatedly for every operating system on which installation is performed.

To perform silent installation, complete the steps in the following procedures:

1. "Creating the response file"
2. "Installing an agent" on page 37
3. "Configuring the default connection of the agents to Tivoli Enterprise Monitoring Server" on page 38

Creating the response file:

To create a response file specifying installation parameters for your environment, perform the following steps:

1. Copy the `silent.txt` file from the product DVD to a temporary directory (for example, `C:\temp`).
2. Edit the `silent.txt` file as follows. Note that the following rules apply to this file:
 - Comment lines begin with a semicolon (;), which must be placed in the first column of the commented line.
 - Blank lines are ignored.
 - Parameter lines are indicated by `PARAMETER=value`. Do not use a space before the parameter; you can use a space before or after an equal sign (=).
 - Do not use any of the following characters in any parameter value:
 - Dollar sign (\$)
 - Equals sign (=)
 - Pipe sign (|)

Modify the following parameters as appropriate for your environment:

- a. Uncomment the line containing the **License Agreement** parameter. By doing this step, you agree to the terms of the license agreement.

Remember: You must agree to the license agreement and uncomment this parameter to be able to proceed with the installation procedure.

- b. Uncomment the line containing the **Install Directory** parameter and specify the directory in which you want to install the agent. To simplify the management of Tivoli Monitoring products on Windows systems, install Tivoli Monitoring products to the same directory in your environment. If you install to different directories, you cannot use the remote features provided by several product configuration dialog windows.

Attention: If you are installing an agent on a system where IBM Tivoli Monitoring is already installed, the agent is installed to the installation directory of IBM Tivoli Monitoring, regardless of this parameter.

- c. If you do not want the agent program group to be given the default name specified by the **Install Folder** parameter, uncomment the parameter and enter a new name.

- d. Uncomment the **EncryptionKey** parameter and enter a key with which to encrypt your local passwords and user IDs. The encryption key must be 32 characters in length. If the key specified by this parameter is less than 32 characters, it is padded with nine s's.
- e. In the **[FEATURES]** section, uncomment the parameters representing the features that you want to install. The names of features are displayed directly after the equal sign (=) of the parameter, with the component that the feature belongs to displayed in brackets. The component code is displayed before the equals sign.

Remember: If you want to install one or more agents on this system, make sure that you uncomment the following line in addition to the lines that represent the agents that you want to install:

```
KGLWICMA=Tivoli Enterprise Monitoring Agent Framework
```

For example, uncomment the following lines if you want to install the ITCAM agent for WebSphere MQ:

```
KGLWICMA=Tivoli Enterprise Monitoring Agent Framework
KMQWICMA=ITCAM agent for WebSphere MQ
```

Uncomment the following line if you want to install the ITCAM agent for WebSphere MQ application support on the Tivoli Enterprise Monitoring Server:

```
KMQWICMS=ITCAM agent for WebSphere MQ Support (TEMS)
```

Uncomment the following line if you want to install the ITCAM agent for WebSphere MQ application support on the Tivoli Enterprise Portal Server:

```
KMQWICNS=ITCAM agent for WebSphere MQ Support (TEPS)
```

Uncomment the following line if you want to install the ITCAM agent for WebSphere MQ application support on the Tivoli Enterprise Portal client:

```
KMQWIXEW=ITCAM agent for WebSphere MQ Support (TEP Workstation)
```

- f. In the **[DEPLOY FEATURES]** section, uncomment the parameters representing the agents that you want to be configured for remote deployment later. For example, uncomment the following line if you want the ITCAM agent for WebSphere MQ to be configured for remote deployment later:


```
KMQWICMA=ITCAM agent for WebSphere MQ
```
3. Save the file and close the editor.

Remember: Do not use a long file name if you want to rename the response file. Make sure that the length of the response file name is no longer than eight and its file extension is no longer than three. Use of a long file name might result in a failed installation.

Installing an agent:

To install an agent using a silent installation, perform the following steps:

1. Open a DOS command prompt.
2. Navigate to the directory that contains the product installation files (where the setup.exe file is).
3. Run the following command. You must specify the parameters in the following order:

```
start /wait setup /z"/sfresponse_file_name" /s /f2"installation_log_file_name"
```

where:

response_file_name

Specifies the full path of the response file containing the parameters of the installation (by default this file is named `silent.txt`). This parameter cannot be omitted.

/s Specifies that it is a silent installation. This causes no responses to be displayed during installation on the installed target workstation.

installation_log_file_name

The full path of the file to which log information is written during the installation process. This file is created during installation, and any existing file with the same name is overwritten. If this parameter is not specified, the `Setup.log` file in the same directory as `setup.iss` is used to write log information.

For example, if the response file is located in the `C:\temp\SILENT.TXT` directory and you want the installation program log to be written to the `C:\temp\silent_setup.log` file, enter the following command to start the silent installation:

```
start /wait setup /z"/sfC:\temp\SILENT.TXT"  
/s /f2"C:\temp\silent_setup.log"
```

Configuring the default connection of the agents to Tivoli Enterprise Monitoring Server:

1. Open the Manage Tivoli Enterprise Monitoring Services window by clicking **Start > Programs > IBM Tivoli Monitoring > Manage Tivoli Monitoring Services**.
2. Click **Actions** on the menu bar, and then click **Set Defaults for All Agents** from the Actions menu.
3. In the Configuration Defaults for Connecting to a TEMS window:
 - If the agent must cross a firewall to access the Tivoli Enterprise Monitoring Server, select **Connection must pass through firewall**.
 - Identify the type of protocol that the agent uses to communicate with the monitoring server.
 - Refer to the fields in Table 11 on page 44 to define the communications between the agents and the monitoring server.

Installation of the agents is now complete.

Installing an agent on UNIX or Linux systems

This section contains step-by-step instructions for installing the ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker on UNIX or Linux systems, using the command line or the silent installation mode.

Remember: If a previous version of an agent exists in your environment, see the *Upgrade and Migration Guide for WebSphere MQ Monitoring Agent 7.0.1*, *WebSphere MQ Configuration Agent 7.0.1*, and *WebSphere Message Broker Monitoring Agent 7.0.1*, SC23-8815 before proceeding.

You have the following two options to install an agent on UNIX or Linux systems:

- “Installing from the command line” on page 39
- “Performing a silent installation” on page 40

Installing from the command line

Instructions for installing an agent on a UNIX or Linux system are as follows:

Important: If you are upgrading the ITCAM configuration agent for WebSphere MQ from a previous version, the existing `mc.cfg` and `mc.ini` configuration files are overwritten. If you want to keep your existing configuration files, create a backup before proceeding.

1. Log on to the system where you want to install an agent.

Remember:

- If you used a non-root user ID to install an IBM Tivoli Monitoring component on this computer and you want to install the agent in the directory where the IBM Tivoli Monitoring component is installed, you must use the same user ID to install the agent.
 - You can install the agent as the root user, but you do not have to. If you do not install as a root user, you must change the file permissions of the agent files after you install any monitoring agents to ensure that the non-root user can run the agents successfully. For more information about how to change the file permissions of the agent files, see *Installation and Setup Guide for ITCAM agent for WebSphere MQ, ITCAM configuration agent for WebSphere MQ, and ITCAM agent for WebSphere Message Broker, GI11-8074* of version 7.0.1 GA.
2. Run the following command to create a temporary directory on the computer on which you plan to install an agent. Make sure that the full path of the directory does not contain any spaces:

```
mkdir dir_name
```

3. Mount the product installation DVD for UNIX or Linux systems to the temporary directory you created.
4. Run the following commands:

```
cd dir_name  
./install.sh
```

where *dir_name* is the temporary directory that you created.

5. When prompted for the IBM Tivoli Monitoring directory, press Enter to accept the default (`/opt/IBM/ITM`) or type the full path to the installation directory and press Enter.
6. If a message is displayed stating that the directory already exists and asking whether to use it, type 1 and press Enter.
7. If a message containing a list of running processes and warning you that running products will be restarted during installation is displayed, to continue with installation, type 1 and press Enter.
8. The following prompt is displayed. Type 1 to start the installation and press Enter.

Select one of the following:

- 1) Install products to the local host.
- 2) Install products to depot for remote deployment (requires TEMS).
- 3) Install TEMS support for remote seeding.
- 4) Exit install.

Please enter a valid number:

The first part of the software license agreement is displayed.

9. Press Enter to view latter parts of the agreement. After you have finished viewing the agreement, enter 1 to accept it or 2 to reject it and press Enter.

Remember: You must accept the agreement to continue with the installation process.

10. The following prompt is displayed. Type 1 to select IBM Tivoli Monitoring components and press Enter.

Product packages are available for this operating system and component support categories:

- 1) IBM Tivoli Monitoring components for this operating system
- 2) Tivoli Enterprise Portal Browser Client support
- 3) Tivoli Enterprise Portal Desktop Client support
- 4) Tivoli Enterprise Portal Server support
- 5) Tivoli Enterprise Monitoring Server support
- 6) Other operating systems

Type the number or type "q" to quit selection

11. To confirm the selection, type 1 and press Enter. A numbered list of available components is displayed as follows:

- 1) Tivoli Enterprise Services User Interface Extensions V06.22.00.00
- 2) WebSphere MQ Configuration Agent V07.01.00.00
- 3) WebSphere MQ Monitoring Agent V07.01.00.00
- 4) Websphere Message Broker Monitoring Agent V07.01.00.00
- 5) all of the above

12. Type the number that corresponds to the agent that you want to install on this computer and press Enter. If you want to install more than one component, use a comma (,) or space to separate the numbers for each component.

- Select WebSphere MQ Monitoring Agent if you want to install the ITCAM agent for WebSphere MQ.
- Select WebSphere MQ Configuration Agent if you want to install the ITCAM configuration agent for WebSphere MQ.
- Select WebSphere Message Broker Monitoring Agent if you want to install the ITCAM agent for WebSphere Message Broker.

13. A list of the components to be installed is displayed. Type 1 and press Enter to confirm the selection and start the installation process.

14. After all the components are installed, you are asked whether you want to install additional products or product support packages. Type 2 and press Enter to exit the installation process.

Important: ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, and ITCAM agent for WebSphere Message Broker are 32-bit systems regardless of whether your operating system is 32-bit or 64-bit.

You have finished installing the agents. The next step is to “Configuring to connect an agent to the Tivoli Enterprise Monitoring Server” on page 43.

Performing a silent installation

Silent installation uses a response file to define what components you want to install. A sample response file is shipped with the product. The file name is `silent_install.txt`.

Before editing any of the response files, note the following syntax rules:

- Comment lines begin with a pound sign (#).

- Blank lines are ignored.
- Parameter lines are PARAMETER=value. Do not use a space before the parameter; you can use a space before or after an equal sign (=).
- Do not use any of the following characters in any parameter value:
 - Dollar sign (\$)
 - Equal sign (=)
 - Pipe sign (|)

The `silent_install.txt` file defines the installation parameters of the ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, and ITCAM agent for WebSphere Message Broker.

Important: If you are upgrading the ITCAM configuration agent for WebSphere MQ from version 6.0 or 6.0.1, the existing `mc.cfg` and `mc.ini` configuration files are overwritten. If you want to keep your existing configuration files, create a backup before proceeding.

Perform the following steps to run a silent installation:

1. Log on to the system where you want to install an agent.

Remember: You can install an agent as the root user, but you do not have to. If you do not install as a root user, you must change the file permissions of the agent files after you install any monitoring agents to ensure that the non-root user can run the agents successfully. For more information about how to change the file permissions of the agent files, see *Installation and Setup Guide for ITCAM agent for WebSphere MQ, ITCAM configuration agent for WebSphere MQ, and ITCAM agent for WebSphere Message Broker, GI11-8074* of version 7.0.1 GA.

2. Run the following command to create a temporary directory on the computer on which you plan to install an agent. Make sure that the full path of the directory does not contain any spaces:

```
mkdir dir_name
```

3. Mount the product installation DVD for UNIX or Linux systems to the temporary directory that you created.

4. Run the following command:

```
cd dir_name
```

Where `dir_name` is the directory where the installation DVD is mounted.

5. Edit the `silent_install.txt` file to set the parameters described in Table 10 to appropriate values for your environment and save the changes.

Table 10. Parameters in a response file

Parameter	Description
INSTALL_ENCRYPTION_KEY	The data encryption key used to encrypt data sent between systems. This key must be the same as the key that is entered during the installation of IBM Tivoli Monitoring.

Table 10. Parameters in a response file (continued)

Parameter	Description
INSTALL_FOR_PLATFORM	<p>Use this parameter to install different agents and application support for different components silently. Specify the INSTALL_FOR_PLATFORM parameter as follows, depending on which component you want to install:</p> <ul style="list-style-type: none"> • To install an agent: INSTALL_FOR_PLATFORM=<i>architecture code</i>, where <i>architecture code</i> is the code for the platform on which you are installing the agent. For example, aix513 or sol283. For a complete list of architecture codes, see Appendix B, “Architecture codes,” on page 93. • To install application support for Tivoli Enterprise Monitoring Server: INSTALL_FOR_PLATFORM=tms. • To install application support for Tivoli Enterprise Portal Server: INSTALL_FOR_PLATFORM=tps. • To install application support for Tivoli Enterprise Portal desktop client: INSTALL_FOR_PLATFORM=tpd (This applies to Linux systems only because desktop client is not supported on UNIX systems.) • To install application support for Tivoli Enterprise Portal browser client: INSTALL_FOR_PLATFORM=tpw.
INSTALL_PRODUCT	<p>The product code of the component that you want to install. You can specify all to install ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, and ITCAM agent for WebSphere Message Broker at the same time. To install multiple agents but not all, repeat this parameter for each agent that you want to install. For example, if you want to install two agents whose product codes are pc1 and pc2, use:</p> <pre>INSTALL_PRODUCT=pc1 INSTALL_PRODUCT=pc2</pre>
SEED_TEMS_SUPPORTS	<p>Use this parameter to activate the application support for Tivoli Enterprise Monitoring Server. If Tivoli Enterprise Monitoring Server is installed and during this installation installing application support for Tivoli Enterprise Portal Server is selected (INSTALL_FOR_PLATFORM=tms), the application support for the server is activated when the value of this parameter is set as true or the parameter is not defined.</p>

Remember: The `INSTALL_FOR_PLATFORM` parameter can be specified only once in the response file. If it is specified many times in the response file, only the last value is valid.

6. Run the following command to start silent installation:

```
./install.sh -q -h install_dir -p silent_response_file_path
```

where

- *install_dir* is the installation directory of IBM Tivoli Monitoring. The default location is `/opt/IBM/ITM`.
- *silent_response_file_path* is the path of the response file that you use to specify the installation parameters.

Important: You must specify the full path of the response file, not just the file name.

You have now completed installing the agents.

7. If you used a non-root user ID to perform the previous installation process, you must change the file permissions of the agent files after you install any monitoring agents to ensure that the non-root user can run the agents successfully. For more information about how to change the file permissions of the agent files, see *Installation and Setup Guide for ITCAM agent for WebSphere MQ, ITCAM configuration agent for WebSphere MQ, and ITCAM agent for WebSphere Message Broker, GI11-8074* of version 7.0.1 GA.

The next step is to “Configuring to connect an agent to the Tivoli Enterprise Monitoring Server.”

Configuring to connect an agent to the Tivoli Enterprise Monitoring Server

Use the following procedure to connect an agent to the Tivoli Enterprise Monitoring Server:

1. Log on to the computer where the agent is installed.
2. Go to the *install_dir/bin* directory, where *install_dir* is the installation directory of IBM Tivoli Monitoring. The default is `/opt/IBM/ITM`.
3. Run the following command from the directory:

```
./itmcmd config -A pc
```

where *pc* is a two-character product code. See Appendix C, “Product codes,” on page 95. For example, if you are configuring the ITCAM agent for WebSphere MQ, use the following command:

```
./itmcmd config -A mq
```
4. Press Enter when you are asked if the agent connects to a Tivoli Enterprise Monitoring Server.
5. Type the name of the host system on which the Tivoli Enterprise Monitoring Server that you want the agent to connect to is installed and press Enter.
6. Type the protocol that you want to use to communicate with the Tivoli Enterprise Monitoring Server. You have four choices: IP, SNA, IP.PIPE, or IP.SPIPE and press Enter.
7. If you want to set up a backup protocol, enter that protocol and press Enter. If you do not want to use a backup protocol, press Enter without specifying a protocol.
8. Depending on the type of protocol you specified, provide the following information when prompted.

Table 11. Communication protocol settings

Field	Description
IP settings	
Port number	The listening port number of the Tivoli Enterprise Monitoring Server. The default value is 1918.
IP.PIPE settings	
Port number	The listening port number of the Tivoli Enterprise Monitoring Server. The default value is 1918.
KDC Partition	The KDC partition. The default value is null.
IP.SPIPE settings	
Port number	The listening port number of the Tivoli Enterprise Monitoring Server. The default value is 3660.
SNA settings	
Network Name	The SNA network identifier of your location.
LU Name	The LU name of the Tivoli Enterprise Monitoring Server. This LU name corresponds to the Local LU Alias in your SNA communications software.
Log Mode	The name of the LU6.2 LOGMODE. The default value is CANCTDCS.

9. When asked if you want to configure a secondary Tivoli Enterprise Monitoring Server, type 2 and press Enter.
10. When asked to enter an optional primary network name, type 0 and press Enter.
11. Restart the agent by running the following command from the *install_dir/bin* directory:


```
./itmcmd agent start pc
```

 where *pc* is a two-character product code and *install_dir* is the installation directory of IBM Tivoli Monitoring.

You have now completed configuring the agent to connect to a Tivoli Enterprise Monitoring Server.

Installing an agent on i5/OS systems

Only the ITCAM configuration agent for WebSphere MQ and the ITCAM agent for WebSphere MQ are currently supported on i5/OS systems. This chapter contains instructions for installing these two agents.

Before you begin, verify that your site is in compliance with the agent hardware and software prerequisites listed in “i5/OS system prerequisites” on page 15.

Important: Be sure that QMQMADM authority is given to the KMQ user profile as the default setting.

Preinstallation tasks

Perform the following tasks before you install the ITCAM configuration agent for WebSphere MQ and ITCAM agent for WebSphere MQ on an i5/OS system.

Verifying TCP/IP configuration

This step ensures that your Internet Protocol network services are configured to return the fully qualified host name of the Tivoli Enterprise Monitoring Server and the agents (for example: #HostName.ibm.com). This configuration is necessary to minimize the risk of inconsistent values being returned for the host name.

If your site uses SNA for network communications, you do not need to complete this step; skip to “Deleting old versions of agents.”

1. If your site uses DNS, verify that it is configured to return the fully qualified host name of the Tivoli Enterprise Monitoring Server and the agents (for example: #hostName.ibm.com).
2. Confirm that you have configured TCP/IP with the correct parameters, as follows:
 - a. From an i5/OS console, enter the following command:
CFGTCP
 - b. Select **Work with TCP/IP host tables entries**
 - c. Confirm that the first entry in the Host Name column is the fully qualified host name associated with the IP address of the i5/OS system where you want to install the Tivoli Enterprise Monitoring Server or agent (for example: #hostName.ibm.com). If it is not, change it now to the fully qualified host name.
 - d. Return to the Configure TCP/IP menu and select **Change TCP/IP domain information**.
 - e. Confirm that a host name and domain name are provided and that they match the entry you just confirmed in the TCP/IP Host Table.
 - f. Confirm that the first entry for **Host name search priority** is *LOCAL.

Deleting old versions of agents

You must complete this step if you are currently running any agents and want to replace them with the version supplied at this release. For example, if you are currently running a previous version of the ITCAM agent for WebSphere MQ, you must delete it before you install the monitoring agent. Or, if you are currently running a previous version of the ITCAM configuration agent for WebSphere MQ, you must delete it before you install the configuration agent.

If you are a new customer and are not running any agents, skip to “Preparing your WebSphere MQ environment” on page 46.

This step deletes from your system any versions of agents before the version supplied with this release. This step is necessary due to architectural changes in the new agents.

1. Verify that the earlier version of the agent is not running. From an i5/OS console, enter the following command:
ENDOMA
 - a. If any ITCAM agent for WebSphere MQ is running, from an i5/OS console, enter the following command:

WRKOMAMQ

Press F15 to stop the ITCAM agent for WebSphere MQ.

- b. If any ITCAM configuration agent for WebSphere MQ is running, from an i5/OS console, enter the following command:

```
GO OMAMC
```

Select 3 from the menu to stop the ITCAM configuration agent for WebSphere MQ.

2. Delete the agent. From an i5/OS console, enter the following command:

```
DLTLICPGM LICPGM(0Kppvvv)
```

where:

pp is:

- MQ for the ITCAM agent for WebSphere MQ.
- MC for the ITCAM configuration agent for WebSphere MQ.

vvv is:

the earlier version (for example: 430).

Preparing your WebSphere MQ environment

This step ensures that your site has a correctly configured WebSphere MQ environment before proceeding with the installation of ITCAM configuration agent for WebSphere MQ and ITCAM agent for WebSphere MQ.

Verify that you are in compliance with the following prerequisites:

- The instructions in this guide assume that WebSphere MQ default objects, such as SYSTEM.DEFAULT.MODEL.QUEUE, exist. If they do not currently exist in your environment, you must create them before attempting to start the agent.
- If you want to monitor WebSphere MQ events, ensure that the following WebSphere MQ parameters are enabled (refer to your WebSphere MQ documentation if necessary):
 - INHIBTEV
 - LOCALEV
 - PERFMEEV
 - REMOTEEV
 - STRSTPEV

Checking the authority level of the user ID

This step ensures that the user that will install and configure the ITCAM configuration agent for WebSphere MQ and the ITCAM agent for WebSphere MQ has the proper authority. There are two internal user profiles, KMQ and KMC. By default, these internal user profiles have all the required authorities.

Remember: Only the minimum authority requirements are described in this section.

- To install an agent, verify that the following requirement is fulfilled:
 - The user has the Security Officer (*SECOFR) authority on the i5/OS system where the installation will take place.
- To configure, start, or stop the ITCAM configuration agent for WebSphere MQ, verify the following requirements are fulfilled:
 - The user has the Job Control (*JOBCTL) authority to the user.
 - The user has the *USE authority for the KMC user profile.

- The user has the *ALL authority for the KMCLIB and KMCTMP libraries.
- The KMC user profile has the Job Control (*JOBCTL) authority.
- The KMC user profile has the *ALL authority for the KMCLIB and KMCTMP libraries.
- To configure, start, or stop the ITCAM agent for WebSphere MQ, verify that the following requirements are fulfilled:
 - The user has the Job Control (*JOBCTL) authority to the user.
 - The user has the *USE authority for the KMQ user profile.
 - The user has the *ALL authority for the KMQLIB and KMQTMP libraries.
 - The KMQ user profile has the Job Control (*JOBCTL) authority.
 - The KMQ user profile has the *ALL authority for the KMQLIB and KMQTMP libraries.
 - If the user wants to issue the Take Action command on Tivoli Enterprise Portal, the KMQ user profile must have the *SPLCTL, *AUDIT, *SAVSYS, and *SERVICE authorities.

Tip: The same user ID must be used when you install the ITCAM agent for WebSphere MQ and the ITCAM configuration agent for WebSphere MQ as that you used to install WebSphere MQ. Otherwise, there might be potential errors existing. For example, the error log file of WebSphere MQ cannot be read.

Compiling information about your i5/OS systems

This step provides information that is needed before or during the installation and configuration of ITCAM agent for WebSphere MQ and ITCAM configuration agent for WebSphere MQ.

Review each of the following sections and complete the steps to obtain the information.

Verifying that the IBM OMEGAMON/400 agent is not installed:

The ITCAM configuration agent for WebSphere MQ and the ITCAM agent for WebSphere MQ cannot be installed on the same system with the IBM OMEGAMON/400 agent.

Before installing the ITCAM configuration agent for WebSphere MQ and the ITCAM agent for WebSphere MQ, you must check for the existence of the OMEGAMON/400 agent and delete it if it is present using the following steps.

1. Access an i5/OS console and enter the following command:
GO LICPGM
2. At the Work with Licensed Programs, enter 12 (Delete licensed programs).
3. Check in the Licensed Program column for the 57xxES1 entry (the OMEGAMON/400 agent).
4. If the entry exists, enter 4 in the Option column next to it to delete.

Verifying which version of i5/OS operating system you are running:

1. Access an i5/OS console and enter the following command:
DSPSFWRSC
2. Press F11 to display software resources.
3. In the Resource ID column, look for 57xx999.

4. Check the corresponding Release column for the version number; for example, V5R3M0.

Verifying that the TCP/IP Utilities is installed, if necessary:

If the installation requires the TCP/IP Utilities, check for its presence as follows:

1. Access an i5/OS console, and enter the following command:
GO LICPGM
2. At the Work with Licensed Programs enter 10 (Display installed licensed programs).
3. Look for the following entry: *COMPATIBLE TCP/IP Connectivity Utilities for i5/OS system.
4. If the TCP/IP Utilities is not installed, you must install it. It is supplied as part of the operating system.

Verifying the primary language of your i5/OS systems:

During installation you are required to know whether the primary language of your i5/OS operating system is English. To determine the primary language, complete the following steps:

1. Access an i5/OS console and enter the following command:
GO LICPGM
2. Enter 20 (Display installed secondary languages).
The Display Installed Secondary Languages dialog window is displayed.
3. Note the primary language and description displayed in the upper left corner.
An English system is primary language **2924**, description **English**.
4. Press Enter to continue.

Agent configuration across a firewall

This section provides an overview of IBM implementation of firewall support. It explains basic concepts and gives sample scenarios of various configurations. This section does not include specific steps for configuring an agent across a firewall; those steps can be found either in the installation chapters of this guide or in the other platform-specific installation guides, depending upon which operating systems you are configuring on.

Basic implementation: The ITCAM configuration agent for WebSphere MQ and the ITCAM agent for WebSphere MQ support most common firewall configurations, including configurations that use address translation (application proxy firewall is a notable exception). To enable this support, IBM uses the IP.PIPE socket address family, a TCP-based protocol that opens a single port on the firewall for communication by the agent. If your target agent environment includes a firewall between any components, you must specify IP.PIPE as your communication protocol during configuration. No other special configuration is needed unless your firewall also uses address translation.

Implementation with address translation: Address translation is an enhanced security feature of some firewall configurations. With this feature, components that must be reached across the firewall have two unique, but corresponding addresses: the external address (valid for components outside the firewall) and the internal address (valid for components inside the firewall).

In IBM Tivoli Monitoring, the component that typically must be reached for connection is the Tivoli Enterprise Monitoring Server. However, the Warehouse

Proxy, which runs on a Windows system as a server-type application, must also be accessible to clients and would also require an external and internal address. A component on either side of the firewall only knows about the address that is valid for its side (its "partition").

To accommodate sites with address translation, IBM uses a partition-naming strategy. This strategy requires two steps:

- The creation of a text file called a partition file as part of the configuration of a hub or remote Tivoli Enterprise Monitoring Server (or Warehouse Proxy). The partition file contains an entry that defines that component address in the other partition.
- The specification of a partition name (any alphanumeric string up to 32 characters), as part of the configuration of any agent, a hub or remote Tivoli Enterprise Monitoring Server, or Warehouse Proxy. A partition name must be specified for each component regardless of which side of the firewall it is in.

Sample scenarios:

Assuming that your site has one firewall, there are two partitions: one outside the firewall and one inside the firewall. In the sample scenarios in this section, OUTSIDE and INSIDE are used as partition names. (If your site's configuration includes more than one firewall, contact IBM Software Support for assistance in configuring an agent.)

Remember: Whatever the operating system, the command-line examples in the following scenarios adhere to the UNIX and Windows systems text formatting conventions for literals and variables.

Scenario 1: hub Tivoli Enterprise Monitoring Server INSIDE, agents OUTSIDE

As part of the configuration of the hub Tivoli Enterprise Monitoring Server, INSIDE is specified as the name of the partition that is inside the firewall. A partition file named parthub.txt contains the following entry:

```
OUTSIDE ip.pipe:hub's_external_address
```

where *OUTSIDE* is the partition name outside the firewall and *hub's_external_address* is the address of the hub monitoring server that is valid for the agents.

As part of the configuration of each agent, OUTSIDE is specified as the name of the partition that it is outside the firewall.

When an agent starts, the parthub.txt file is searched for an entry that matches the *OUTSIDE* partition name and sees the monitoring server address that is valid for the agents (the external address).

Scenario 2: hub and remote Tivoli Enterprise Monitoring Servers INSIDE, agents OUTSIDE

Remember: In Scenarios 2 and 3, that all agents are assumed report to the remote Tivoli Enterprise Monitoring Server.

As part of the configuration of the hub monitoring server, *INSIDE* is specified as the name of the partition that is inside the firewall. No partition file is needed because the only component that reports to the remote monitoring server is also inside the firewall.

As part of the configuration of the remote monitoring server, *INSIDE* is specified as the name of the partition that is inside the firewall. A partition file named *partremote.txt* must also be created at the remote Tivoli Enterprise Monitoring Server. It contains the following entries:

```
OUTSIDE ip.pipe:remote's_external_address
```

When configuring the agents (all which are outside the firewall, reporting to the remote Tivoli Enterprise Monitoring Server), *OUTSIDE* is specified as the name of the partition that is outside the firewall. When the agents start, the *partremote.txt* file is searched for an entry that matches the *OUTSIDE* partition name and sees the remote monitoring server address that is valid for them (the external address).

Scenario 3: hub Tivoli Enterprise Monitoring Server *INSIDE*, remote Tivoli Enterprise Monitoring Server and agents *OUTSIDE*

As part of the configuration of the hub Tivoli Enterprise Monitoring Server, *INSIDE* is specified as the name of the partition that is inside the firewall. A partition file named *parthub.txt* is created, containing the following entry:

```
OUTSIDE ip.pipe:hub's_external_address
```

OUTSIDE is the partition name outside the firewall and *hub's_external_address* is the address of the hub Tivoli Enterprise Monitoring Server that is valid for the remote monitoring server.

As part of the configuration of both the agents and the remote monitoring server, *OUTSIDE* is specified as the name of the partition that is inside the firewall.

A partition file named *partremote.txt* also must be created at the remote Tivoli Enterprise Monitoring Server. It contains the following entry:

```
INSIDE ip.pipe:remote's_internal_address
```

If the hub Tivoli Enterprise Monitoring Server needs to communicate with the remote monitoring server (for example, to issue a report request from an agent that is connected to the remote monitoring server), the *partremote.txt* file is searched for an entry that matches the *INSIDE* partition name and sees the remote monitoring server address that is valid for it (the internal address).

Installing an agent

This step loads the software for the ITCAM configuration agent for WebSphere MQ and the ITCAM agent for WebSphere MQ from the product DVD and uses the Restore Licensed Program *RSTLICPGM* command to complete its installation.

Two procedures are provided:

- “Installing from a PC DVD-ROM” on page 51
- “Installing from an i5/OS system DVD-ROM (command line)” on page 53

Use one of the two procedures, whichever is most convenient for you or your site. These procedures assume that you have completed the steps in “Preinstallation tasks” on page 45.

Remember: The same user ID must be used when you install the ITCAM configuration agent for WebSphere MQ and the ITCAM agent for WebSphere MQ as that you used to install WebSphere MQ. Otherwise, there might be potential errors existing. For example, the attribute file cannot be read.

Installing from a PC DVD-ROM

1. Access an i5/OS console.
2. Check that the system value QALWOBJRST is set to *ALL.
 - a. Enter the following command:

```
WRKSYSVAL QALWOBJRST
```
 - b. Select 5 (Display), and verify that the value is set to *ALL. If it is set to any other value, record the following value:

```
QALWOBJRST _____
```
3. Press Enter to continue.
4. If QALWOBJRST is set to *ALL, continue with step 5; otherwise, perform the following steps:
 - a. In the Work with System Values window, enter 2 to change the values.
 - b. In the Change System Value window, change the existing values to *ALL.
 - c. Press Enter to save your change.
 - d. Press F3 to return.
5. At the i5/OS console, create an i5/OS library for installation:

```
CRTLIB KMQ_TMPLIB TEXT('MQ INSTALL LIBRARY')
```
6. Create two save files in the KMQ_TMPLIB library:

```
CRTSAVF KMQ_TMPLIB/MQ7011CMA TEXT('KMQ INSTALL PRODUCT')  
CRTSAVF KMQ_TMPLIB/MC7011CMA TEXT('KMC INSTALL PRODUCT')
```
7. Insert the product DVD into the DVD-ROM drive.
8. From a DOS prompt, start an FTP session:

```
FTP machinename
```

where *machinename* is the name of the target i5/OS system.
9. When prompted, enter your i5/OS system user ID and password.
10. Change the FTP type to binary:

```
BINARY
```
11. Transfer the software for the ITCAM configuration agent for WebSphere MQ and the ITCAM agent for WebSphere MQ from the DVD-ROM to the i5/OS system:

```
PUT e:\AS400\MQ7011CMA KMQ_TMPLIB/MQ7011CMA  
PUT e:\AS400\MC7011CMA KMQ_TMPLIB/MC7011CMA
```

where *e* is your PC DVD-ROM drive.
12. End your FTP session:

```
QUIT
```
13. Install the software for the ITCAM configuration agent for WebSphere MQ and the ITCAM agent for WebSphere MQ.
14. If you are installing an agent on a system that is English upper and lower case (language ID 2924), do one of the following steps; if not, skip to 15 on page 52
 - If you want to install the ITCAM agent for WebSphere MQ, enter the following command:

```
RSTLICPGM LICPGM(0KMQ450) DEV(*SAVF) SAVF(KMQ_TMPLIB/MQ7011CMA)
```

and proceed to step 16 on page 52.

- If you want to install the ITCAM configuration agent for WebSphere MQ, enter the following command:

```
RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) SAVF(KMQ_TMPLIB/MC7011CMA)
```

and proceed to step 16.
15. If you are installing on a non-language ID 2924 system, do one of the following steps:
 - If you want to install the ITCAM agent for WebSphere MQ, check for the existence of the KMQLNG work library.
 - a. If the library does not exist, create it with the following command:

```
CRTLIB KMQLNG
```
 - b. Enter the following commands:

```
RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) RSTOBJ(*PGM) LNG(2924)
- SAVF(KMQ_TMPLIB/MQ7011CMA)
```

```
RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) RSTOBJ(*LNG) LNG(2924)
- SAVF(KMQ_TMPLIB/MQ7011CMA) LNGLIB(KMQLNG)
```

These commands create or re-create a library named KMQLIB containing all the file transfer utilities components and definitions required to run the software for the ITCAM agent for WebSphere MQ.
 - If you want to install the ITCAM configuration agent for WebSphere MQ, check for the existence of the KMCLNG work libraries.
 - a. If the library exists, clear it using the following command:

```
CLRLIB KMCLNG
```
 - b. If the library does not exist, create it using the following command:

```
CRTLIB KMCLNG
```
 - c. Enter the following commands:

```
RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) RSTOBJ(*PGM) LNG(2924)
- SAVF(KMQ_TMPLIB/MC7011CMA)
```

```
RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) RSTOBJ(*LNG) LNG(2924)
- SAVF(KMQ_TMPLIB/MC7011CMA) LNGLIB(KMCLNG)
```

These commands create or re-create a library named KMCLIB containing all the file transfer utilities components and definitions required to run the software for ITCAM configuration agent for WebSphere MQ.
 16. If you intend to install another agent, leave the QALWOBJRST value set to *ALL until you are finished; otherwise, change it back to the value you recorded earlier.
 17. If you want to install the agent on another i5/OS system, use FTP or another file transfer program to copy the save file to it.
 18. Delete the installation library, which is no longer needed:

```
DLTLIB KMQ_TMPLIB
```

Installation of the software for the ITCAM configuration agent for WebSphere MQ and the ITCAM agent for WebSphere MQ is complete.
 19. If you are installing the ITCAM agent for WebSphere MQ, perform the following procedure:
 - a. From an i5/OS console, enter this command:

```
QSH
```
 - b. Run the following command:

```
mkdir /home/kmq
```

Agent installation is now complete.

Installing from an i5/OS system DVD-ROM (command line)

Use the following procedure to install agents from an i5/OS system DVD-ROM:

1. Access an i5/OS console.
2. Check that the system value QALWOBJRST is set to *ALL.
3. Enter this command:
WRKSYSVAL QALWOBJRST
4. Select 5 (Display), and verify that the value is set to *ALL. If it is set to any other value, record the following value:
QALWOBJRST _____
5. Press Enter to continue.
6. If QALWOBJRST was set to *ALL, continue with the next step; otherwise, perform the following steps:
 - a. In the Work with System Values window, enter 2 to change the values.
 - b. In the Change System Value window, change the existing values to *ALL.
 - c. Press Enter to save your change.
 - d. Press F3 to return.

7. Create an i5/OS library for installation:
CRTLIB KMQ_TMPLIB TEXT('MQ INSTALL LIBRARY')

8. Insert the product DVD into the DVD-ROM drive and enter the following line:

```
WRKLNK QOPT
```

The Work with Object Links screen displays the qopt object link.

9. Select 5 (Next Level) at the qopt object link to select the next object link, the volume ID (*valid*) of the DVD-ROM.

Record this value for use during installation:

```
VOL ID _____
```

10. Continue to select 5 for each link level until the following path is displayed:

```
/QOPT/valid/AS400
```

where *valid* is the volume ID of the DVD-ROM.

11. Look for the MC7011CMA.SAVF and MQ7011CMA.SAVF files.

12. Enter the following commands:

```
CPYFRMSTMF FROMSTMF('/QOPT/valid/AS400/MC7011CMA.SAVF')  
- TOMBR('/qsys.lib/kmq_tmplib.lib/MC7011CMA.file')
```

```
CPYFRMSTMF FROMSTMF('/QOPT/valid/AS400/MQ7011CMA.SAVF')  
- TOMBR('/qsys.lib/kmq_tmplib.lib/MQ7011CMA.file')
```

13. Install the software for the ITCAM configuration agent for WebSphere MQ and the ITCAM agent for WebSphere MQ.

14. If you are installing an agent on a system that is English upper and lower case (language ID 2924), do one of the following steps; if not, skip to 15 on page 54

- If you want to install the ITCAM agent for WebSphere MQ, enter the following command:

```
RSTLICPGM LICPGM(0KMQ450) DEV(*SAVF) SAVF(KMQ_TMPLIB/MQ7011CMA)
```

and proceed to step 16 on page 54.

- If you want to install the ITCAM configuration agent for WebSphere MQ, enter the following command:

```
RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) SAVF(KMQ_TMPLIB/MC7011CMA)
```

and proceed to step 16 on page 54.

15. If you are installing on a non-language ID 2924 system, do one of the following procedures:
 - If you want to install the ITCAM agent for WebSphere MQ, check for the existence of the KMQLNG work library.
 - a. If the library does not exist, create it using the following command:


```
CRTLIB KMQLNG
```
 - b. Enter the following commands:


```
RSTLICPGM LICPGM(0KMQ450) DEV(*SAVF) RSTOBJ(*PGM) LNG(2924)
- SAVF(KMQ_TMPLIB/MQ7011CMA)

RSTLICPGM LICPGM(0KMQ450) DEV(*SAVF) RSTOBJ(*LNG) LNG(2924)
- SAVF(KMQ_TMPLIB/MQ7011CMA) LNGLIB(KMQLNG)
```

These commands create or re-create a library named KMQLIB containing all the file transfer utilities components and definitions required to run the software for the ITCAM agent for WebSphere MQ.
 - If you want to install the ITCAM configuration agent for WebSphere MQ, check for the existence of the KMCLNG work library.
 - a. If the library exists, clear it using the following command:


```
CLRLIB KMCLNG
```
 - b. If the library does not exist, create it using the following command:


```
CRTLIB KMCLNG
```
 - c. Enter the following commands:


```
RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) RSTOBJ(*PGM) LNG(2924)
- SAVF(KMQ_TMPLIB/MC7011CMA)

RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) RSTOBJ(*LNG) LNG(2924)
- SAVF(KMQ_TMPLIB/MC7011CMA) LNGLIB(KMCLNG)
```

These commands create or re-create a library named KMCLIB containing all the file transfer utilities components and definitions required to run the software for the ITCAM configuration agent for WebSphere MQ.
16. If you intend to install another agent, leave the QALWOBJRST value set to *ALL until you are finished; otherwise, change it back to the values you recorded earlier.
17. Delete the installation objects that are no longer needed
 - a. Enter this command:


```
DLTLIB KMQ_TMPLIB
```
 - b. Press F3 to return to the console.

Installation of the software for the ITCAM configuration agent for WebSphere MQ and the ITCAM agent for WebSphere MQ is complete.
18. If you are installing the ITCAM agent for WebSphere MQ, perform the following procedure:
 - a. From an i5/OS console, enter this command:


```
QSH
```
 - b. Run the following command:


```
mkdir /home/kmq
```

Agent installation is now complete.

Installing the language packs

By default, ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, and ITCAM agent for WebSphere Message Broker are enabled for the English language. If you want to use it in another supported language, you must install the translated language pack on the computers where the Tivoli Enterprise Portal and Tivoli Enterprise Portal Server are installed. The language packs are available on the product language pack DVD.

Language packs are provided in the following languages:

- French
- German
- Italian
- Japanese
- Korean
- Portuguese (Brazilian)
- Simplified Chinese
- Spanish
- Traditional Chinese

Important: Before you can install a language pack, you must install an agent in English.

Installing language packs on Windows systems

To install a language pack, first make sure that you have already installed the agent in English, and then perform the following steps:

Important: You must install the language pack on the computers where the Tivoli Enterprise Portal and Tivoli Enterprise Portal Server are installed.

1. Double-click the `lpinstaller.exe` file in the language pack DVD to start the installation program.
2. Select the installation program language that you prefer and click **OK**.
3. Click **Next** on the Introduction panel.
4. Click **Add/Update** and then click **Next**.
5. Select the directory where the globalization package (NLSPackgae) files are stored.

Tip: The NLSPackage files are typically in the same directory as the installation executable file.

6. Select the language support of the agent and click **Next**.

Tip: You can use the Ctrl key for multiple selection.

7. Select the language (or languages) for which you want to install and click **Next** to examine the installation summary.
8. Click **Next** to start the installation of the language pack.
9. When the installation completes, click **Finish** to exit the installation program.

10. If you are installing the language pack on the computer where the Tivoli Enterprise Portal is installed, restart the portal; if you are installing the language pack on the computer where the Tivoli Enterprise Portal Server is installed, restart the portal server.

The language packs are now installed.

Installing language packs on UNIX or Linux systems

To install a language pack on UNIX or Linux systems, first make sure that you have already installed the agent in English, and then perform the following steps:

Important: You must install the language pack on the computers where the Tivoli Enterprise Portal and Tivoli Enterprise Portal Server are installed.

1. Run the following command to create a temporary directory on the computer. Make sure that the full path of the directory does not contain any spaces:

```
mkdir dir_name
```

2. Mount the language pack DVD to the temporary directory that you created.
3. Run the following command to start the installation program:

```
cd dir_name  
lpinstaller.bin
```

where *dir_name* is the directory that you created.

4. Select the installation program language that you prefer and click **OK**.
5. Click **Next** on the Introduction panel.
6. Click **Add/Update** and then click **Next**.
7. Select the directory where the globalization package (NLSPackgae) files are located.

Tip: The NLSPackage files are typically located in the same directory as the installation executable file.

8. Select the language support of the agent and click **Next**.

Tip: You can use the Ctrl key for multiple selection.

9. Select the language (or languages) for which you want to install and click **Next** to examine the installation summary.
10. Click **Next** to start the installation of the language pack.
11. When the installation completes, click **Finish** to exit the installation process.
12. If you are installing the language pack on the computer where the Tivoli Enterprise Portal is installed, restart the portal; if you are installing the language pack on the computer where the Tivoli Enterprise Portal Server is installed, restart the portal server.

The language packs are now installed.

Chapter 3. Upgrading or migrating to version 7.0.1 fix pack 1

This part explains how to upgrade or migrate to ITCAM for WebSphere Messaging 7.0.1 fix pack 1 from previous product versions. Upgrading refers to installing ITCAM for WebSphere Messaging 7.0.1 fix pack 1 directly in the same location as an existing version of the product. Migrating refers to installing ITCAM for WebSphere Messaging 7.0.1 fix pack 1 to a new environment and then importing the data from your old environment.

This part includes separate sections about upgrading and migrating. If you are upgrading some components and migrating others, follow the instructions in “Upgrading from Tivoli OMEGAMON XE for Messaging 6.0.1, 7.0, or 7.0.1” on page 59, depending on which version you are upgrading from, and refer to “Migration” on page 66 for those components that you are migrating instead of upgrading. Regardless of whether you are upgrading or migrating, you must first follow the instructions in “Preinstallation tasks” on page 59.

Before you begin

ITCAM for WebSphere Messaging 7.0.1 fix pack 1 supports a staged migrate procedure. This means that when you are migrating to version 7.0.1 fix pack 1, you can have both version 7.0.1 fix pack 1 and previous versions of agents running in your environment simultaneously. For example, you might have 7.0.1 monitoring agents on one z/OS system (or LPAR) and older versions of monitoring agents running on another system. You might even have 7.0.1 monitoring agents and older agent versions running on the same z/OS system.

This document does not replace the product installation and configuration guides; instead, it provides a high-level overview of the tasks that are required to successfully upgrade or migrate from earlier versions to version 7.0.1 fix pack 1. It includes upgrade requirements, instructions for performing a staged upgrade, and lists the steps that must be performed to complete a staged upgrade. In addition, references to other documentation that provide detailed instructions for performing each step in the upgrade process are also provided.

Version history

The following list shows all the different versions of ITCAM for WebSphere Messaging, and the components that they include.

- Version 7.0.1, which includes the following components on different operating systems:
 - (z/OS systems) Tivoli OMEGAMON[®] XE for Messaging on z/OS, Version 7.0.1, which includes the following components:
 - WebSphere MQ Configuration agent 7.0.1
 - WebSphere MQ Monitoring agent 7.0.1
 - WebSphere Message Broker Monitoring agent 7.0.1
 - (distributed systems) ITCAM for WebSphere Messaging, Version 7.0.1, which includes the following components:
 - ITCAM configuration agent for WebSphere MQ 7.0.1
 - ITCAM agent for WebSphere MQ 7.0.1

- ITCAM agent for WebSphere Message Broker 7.0.1
- Version 7.0, which includes the following components:
 - Tivoli OMEGAMON XE for Messaging: WebSphere MQ Monitoring agent 7.0
 - Tivoli OMEGAMON XE for Messaging: WebSphere MQ Configuration agent 7.0
 - Tivoli OMEGAMON XE for Messaging: WebSphere Message Broker Monitoring agent 7.0
- Version 6.0.1, which includes the following components:
 - Tivoli OMEGAMON XE for Messaging: WebSphere MQ Monitoring agent 6.0.1
 - Tivoli OMEGAMON XE for Messaging: WebSphere MQ Configuration agent 6.0.1
 - Tivoli OMEGAMON XE for Messaging: WebSphere Message Broker Monitoring agent 6.0.1
 - Tivoli OMEGAMON XE for Messaging: WebSphere InterChange Server Monitoring agent 6.0.1 (distributed systems only)
- Version 6.0, which includes the following components:
 - Tivoli OMEGAMON XE for Messaging: WebSphere MQ Monitoring agent 6.0
 - Tivoli OMEGAMON XE for Messaging: WebSphere MQ Configuration agent 6.0
 - Tivoli OMEGAMON XE for Messaging: WebSphere Message Broker Monitoring agent 6.0
 - Tivoli OMEGAMON XE for Messaging: WebSphere InterChange Server Monitoring agent 6.0 (distributed systems only)
- Tivoli OMEGAMON XE for WebSphere Business Integration, Version 1.1, which includes the following components:
 - Tivoli OMEGAMON XE for WebSphere MQ Monitoring agent 3.7
 - Tivoli OMEGAMON XE for WebSphere MQ Configuration agent 3.7
 - Tivoli OMEGAMON XE for WebSphere Integration Brokers agent 1.3
 - Tivoli OMEGAMON XE for WebSphere InterChange Server agent 1.1 (distributed systems only)
- Tivoli OMEGAMON XE for WebSphere Business Integration, Version 1.0, which includes the following components:
 - Candle OMEGAMON XE for WebSphere MQ Monitoring agent 3.6
 - Candle OMEGAMON XE for WebSphere MQ Configuration agent 3.6
 - Candle OMEGAMON XE for WebSphere Integration Brokers agent 1.2
 - Candle OMEGAMON XE for WebSphere InterChange Server agent 1.0 (distributed systems only)

Important: Tivoli OMEGAMON XE for WebSphere InterChange Server agent is no longer included in Tivoli OMEGAMON XE for Messaging since version 7.0. When upgrading existing agents, previously installed versions of the WebSphere InterChange Server Monitoring agent are not affected.

Upgrade requirements

If any are installed, you must upgrade the hub Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, and Tivoli Enterprise Portal desktop clients, to IBM Tivoli Monitoring 6.2.2, before you upgrade the monitoring agents. You must also

upgrade all remote monitoring servers that monitoring agents of Tivoli OMEGAMON XE for Messaging on z/OS and ITCAM for WebSphere Messaging connect to.

For a detailed list of software and hardware requirements for installation on distributed systems, see “Preparing for installation” on page 7.

For a detailed list of software and hardware requirements for installation on z/OS systems, see *Program Directory for IBM Tivoli OMEGAMON XE for Messaging on z/OS*.

Preinstallation tasks

Before proceeding with the installation process, you must perform the following procedures.

If you are migrating instead of upgrading, do not delete your existing environment until the migration process is complete and you are sure that your new environment is functioning correctly.

If you have a previous version of ITCAM agent for WebSphere Message Broker installed on a Windows system where you are planning to install the current version, stop all the brokers on that system. Otherwise, the CandleMonitor Node plug-in module will not be installed correctly.

Upgrading from Tivoli OMEGAMON XE for Messaging 6.0.1, 7.0, or 7.0.1

To upgrade from Tivoli OMEGAMON XE for Messaging 6.0.1, 7.0, or 7.0.1, follow the instructions in the following sections.

Upgrade roadmap

Figure 1 on page 60 shows the procedure for upgrading from Tivoli OMEGAMON XE for Messaging 6.0, 6.0.1, and 7.0 to version 7.0.1 fix pack 1.

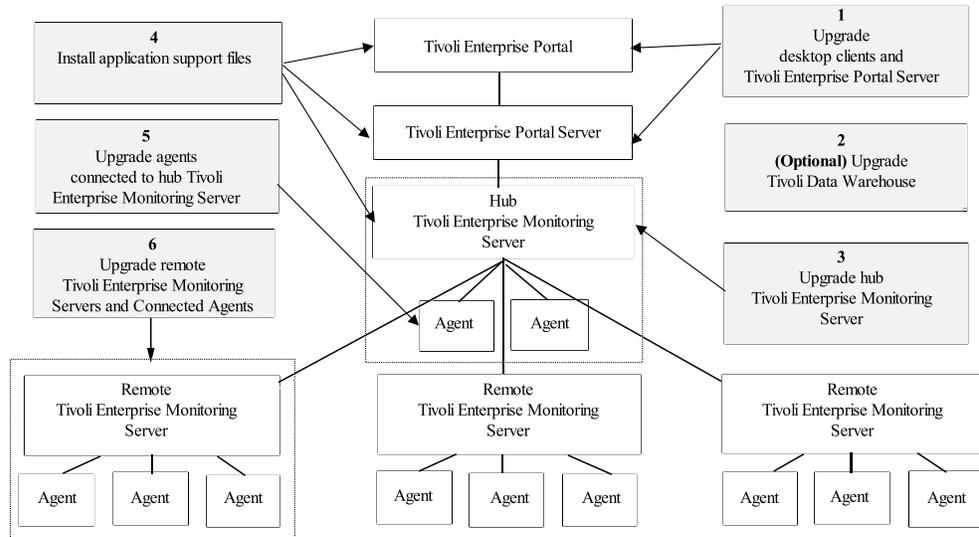


Figure 1. Upgrade roadmap

Perform the following procedure to upgrade IBM Tivoli OMEGAMON XE for Messaging 6.0.1, 7.0, or 7.0.1:

1. Stop all the components that you want to upgrade.
2. If you have not already done so, upgrade Tivoli Enterprise Portal and Tivoli Enterprise Portal Server to IBM Tivoli Monitoring 6.2.2. For instructions, see “Upgrading Tivoli Enterprise Portal Server and Tivoli Enterprise Portal on distributed systems” on page 62.
3. *Optional:* If you are not already running the latest version, upgrade the Tivoli Data Warehouse.

For detail information about installing and configuring the Tivoli Data Warehouse, see the *IBM Tivoli Monitoring Installation and Setup Guide* and *IBM Tivoli Monitoring Administrator’s Guide*. These documents can be downloaded from the IBM Tivoli Monitoring Information Center, at <http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/index.jsp?topic=/com.ibm.itm.doc/welcome.htm>.

Important:

- If you want to upgrade the ITCAM agent for WebSphere Message Broker, delete the following table that exists in the Tivoli Data Warehouse database for the agent before proceeding. Related tables that are generated by using summarization and pruning functions should also be deleted:
 - Node Accounting (kqitasnd)
 - If you want to upgrade the ITCAM agent for WebSphere MQ from version 6.0.1, delete the following tables that exist in the Tivoli Data Warehouse database for the agent before proceeding. Related tables that are generated by using summarization and pruning functions should also be deleted:
 - Application Connections (QMCONNAPP)
 - Channel Status (QMCHAN_ST)
 - Connection Objects (QMCONNOBJ)
 - Queue Definitions (QMQUEUE)
 - Queue Data (QMQ_DATA)
4. Upgrade the hub monitoring server:

- If you are running the hub Tivoli Enterprise Monitoring Server on a distributed system, see “Upgrading Tivoli Enterprise Monitoring Server on distributed systems” on page 63.
 - If you are running the hub Tivoli Enterprise Monitoring Server on a z/OS system, see “Upgrading Tivoli Enterprise Monitoring Server and agents on z/OS systems” on page 65.
5. Install the application support files. Install application support for ITCAM for WebSphere Messaging on all systems where the hub Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, or Tivoli Enterprise Portal desktop clients are installed. For instructions, see “Installing application support” on page 17 (including instructions for Tivoli Enterprise Monitoring Server running on z/OS systems).

Remember:

- a. If multiple Tivoli Management Services components are installed on the same host system (for example, the Tivoli Enterprise Portal Server and Tivoli Enterprise Monitoring Server are installed on the same host), you must install application support for all the components running on that host system at the same time.
 - b. If ITCAM for WebSphere Messaging agents are installed on the host system on which a Tivoli Management Services component (Tivoli Enterprise Portal, Tivoli Enterprise Portal Server or Tivoli Enterprise Monitoring Server) is installed, you must use the installation DVDs to upgrade the agent and to install application support at the same time.
6. Upgrade the monitoring agents that connect to the hub Tivoli Enterprise Monitoring Server. You do not need to upgrade all the agents that are connected to the hub monitoring server, but new functions are available only for those agents that you upgrade. Agents of different versions can connect to the hub monitoring server simultaneously (on z/OS systems, this function is available only if the agents are not sharing the same CSIs). Perform the following procedure:
 - If you are upgrading agents that are running on distributed systems, see “Upgrading agents on Windows, UNIX, and Linux systems” on page 63 for instructions for upgrading agents on a Windows, UNIX, or Linux system, and “Upgrading agents on i5/OS systems” on page 64 for instructions for upgrading agents running on i5/OS systems.
 - If you are upgrading agents running on z/OS systems, see “Upgrading Tivoli Enterprise Monitoring Server and agents on z/OS systems” on page 65 for instructions.
 7. Upgrade any remote Tivoli Enterprise Monitoring Server and connected monitoring agents. Any remote Tivoli Enterprise Monitoring Server to which monitoring agents connect that are not upgraded now must have their attribute and catalog files overwritten with the equivalent files from the hub Tivoli Enterprise Monitoring Server. Remote Tivoli Enterprise Monitoring Server that no agents of ITCAM for WebSphere Messaging and of Tivoli OMEGAMON XE for Messaging on z/OS connect can be upgraded at a later time.

Monitoring agents can also be upgraded at a later time unless they are configured using the same CSI as a remote Tivoli Enterprise Monitoring Server that you are upgrading and to which they connect.

For each remote Tivoli Enterprise Monitoring Server in your environment, perform one of the following operations:

- If you want to upgrade the remote Tivoli Enterprise Monitoring Server now, perform the following steps:
 - a. Upgrade the remote Tivoli Enterprise Monitoring Server:
 - If the remote Tivoli Enterprise Monitoring Server is running on a distributed system, for instructions, see “Upgrading Tivoli Enterprise Monitoring Server on distributed systems” on page 63.
 - If the remote Tivoli Enterprise Monitoring Server is running on a z/OS system, for instructions, see “Upgrading Tivoli Enterprise Monitoring Server and agents on z/OS systems” on page 65.
 - b. Upgrade agents that are connected to the remote Tivoli Enterprise Monitoring Server, if required:
 - If the agents that you are upgrading are running on a distributed system, see “Upgrading agents on Windows, UNIX, and Linux systems” on page 63.
 - If the agents that you are upgrading are running on a z/OS system, see “Upgrading Tivoli Enterprise Monitoring Server and agents on z/OS systems” on page 65.
- (IBM Tivoli Monitoring 6.2.1 and later versions only) If you do not want to upgrade the remote Tivoli Enterprise Monitoring Server now, you must copy attribute and catalog files from the hub Tivoli Enterprise Monitoring Server to the remote Tivoli Enterprise Monitoring Server before the two can connect. For instructions, see “Upgrading attribute and catalog files at the remote Tivoli Enterprise Monitoring Server” on page 70.
- 8. Verify the installation. Check that the hub Tivoli Enterprise Monitoring Server, the Tivoli Enterprise Portal Server and Tivoli Enterprise Portal desktop clients that are deployed in your environment are all running the same versions of fix packs and equivalent PTFs for IBM Tivoli Monitoring and ITCAM for WebSphere Messaging.
- 9. If you want to use a language other than English, install the required language packs on Tivoli Enterprise Portal Server and Tivoli Enterprise Portal. For instructions, see Installing the language packs, in *Installation and Setup Guide*.
- 10. Restart all upgraded or newly installed components.

Upgrading Tivoli Enterprise Portal Server and Tivoli Enterprise Portal on distributed systems

The following instructions assume that components are located on different systems. If any or all of the Tivoli Enterprise Portal Server, Tivoli Enterprise Portal Desktop client and Tivoli Enterprise Monitoring Server components are on the same system, you must combine the steps to upgrade them, because the installation program updates all components on the given system. Perform the following procedure:

1. If you are upgrading Tivoli OMEGAMON XE for Messaging 6.0.1, on the system where Tivoli Enterprise Portal Server is installed, delete the following files from the *candle_home*\CNPS\SQLLIB directory, where *candle_home* is the directory in which Tivoli Enterprise Portal Server is installed:
 - kic_kcj.sql
 - kic_kcj_del.sql
2. If you have not done so, on each system where Tivoli Enterprise Portal Server or Tivoli Enterprise Portal is installed, upgrade to IBM Tivoli Monitoring 6.2.2. Follow the instructions in the *IBM Tivoli Monitoring Installation and Setup Guide*,

SC32–9407. This document can be downloaded from the IBM Tivoli Monitoring information center, at <http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/index.jsp?topic=/com.ibm.itm.doc/welcome.htm>.

3. Optional: Back up SQL query data by running the migrate-export command from the *ITM_HOME*\cnps\ directory to generate the saveexport.sql file in the *ITM_HOME*\cnps\SQLLIB directory, which contains all the Tivoli Enterprise Portal Server data. *ITM_HOME* is the IBM Tivoli Monitoring installation directory.

Upgrading Tivoli Enterprise Monitoring Server on distributed systems

To upgrade either a remote or hub Tivoli Enterprise Monitoring Server on distributed systems, perform the following procedure:

1. Run the tacmd removeBundles command to remove remote deployment files from the previous release. There is no need to back up these files because they can be restored using the tacmd addBundles command. These files are not required for the Tivoli Enterprise Monitoring Server to run, but are necessary if you want to use remote deployment.
2. If you have not done so, upgrade to IBM Tivoli Monitoring 6.2.2. See Installing IBM Tivoli Monitoring in the *IBM Tivoli Monitoring Installation and Setup Guide*, SC32–9407 for further information about upgrading the Tivoli Enterprise Monitoring Server. This document can be downloaded from the IBM Tivoli Monitoring information center, at <http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/index.jsp?topic=/com.ibm.itm.doc/welcome.htm>.

Important: If you are upgrading IBM Tivoli Monitoring on a UNIX or Linux system, when prompted to enter an installation directory, you must use the directory where the old version of the Tivoli Enterprise Monitoring Server is installed. When prompted to specify the Tivoli Enterprise Monitoring Server name, you must also use the same name as the previous Tivoli Enterprise Monitoring Server.

3. If you are running Tivoli Enterprise Monitoring Server on a UNIX or Linux system, reconfigure the Tivoli Enterprise Monitoring Server, ensuring that all settings are correct. Even if you do not change any settings, you must reconfigure, otherwise, the Tivoli Enterprise Monitoring Server might fail to start.
4. If you are upgrading a remote Tivoli Enterprise Monitoring Server, delete KCFEPRB.KFCCTII from the KDS_RUN line in the KBBENV file to disable support for the ITCAM configuration agent for WebSphere MQ, which must be enabled only on the hub Tivoli Enterprise Monitoring Server. The KBBENV file can be found in the following locations:

- On Windows systems: <ITM_HOME>/cms/KBBENV
- On UNIX and Linux systems: <ITM_HOME>/tables/TEMS/KBBENV

where <ITM_HOME> is the IBM Tivoli Monitoring installation directory and TEMS is the subdirectory in which the Tivoli Enterprise Monitoring Server is installed.

Upgrading agents on Windows, UNIX, and Linux systems

To upgrade agents on distributed systems, perform the following steps:

Important: If you are upgrading the ITCAM configuration agent for WebSphere MQ on a UNIX or Linux system, the existing `mc.cfg` and `mc.ini` configuration files are overwritten. If you want to keep your existing configuration files, create a backup before proceeding.

1. Install ITCAM for WebSphere Messaging agents. See the following chapters, depending on which operating system you are installing the agents on, for instructions:
 - “Installing an agent on Windows systems” on page 33
 - “Installing an agent on UNIX or Linux systems” on page 38
2. If you are upgrading the ITCAM configuration agent for WebSphere MQ, reconfigure it, ensuring that all settings are correct. Even if you do not change any settings, you must reconfigure, otherwise the agent might not work correctly.

Important: If you do not upgrade the OS agents when upgrading to IBM Tivoli Monitoring 6.2.2, or you are using 64-bit OS agents, you must also install the 32-bit Tivoli Enterprise Service User Interface that is included with IBM Tivoli Monitoring 6.2.2. For more information, see IBM Tivoli Monitoring documentation and installation instructions.

Upgrading agents on i5/OS systems

To upgrade all agents, perform the following procedure:

1. Back up the configuration files that are used by the components that you want to upgrade:
 - For the ITCAM agent for WebSphere MQ, restore the following files:
 - Connection information: `/QSYS.LIB/KMQTMP.LIB/kmspa[num].KBBENV`
 - Queue manager information: `/QSYS.LIB/KMQLIB.LIB/MQ[num].MQSHELL`where `[num]` is a number such as 00001, 00002, depending on the number of agents installed.

Important: These files are obsolete and cannot be used with the agents of ITCAM for WebSphere Messaging. However, you can use them for reference when configuring new versions of agents or if you want to restore the environment of the previous version.

 - For the ITCAM configuration agent for WebSphere MQ, restore the following file:
 - Connection Information: `/QSYS.LIB/KMCTMP.LIB/KMSPARM.KBBENV`
2. Delete old versions of agents if any are installed. For instructions, see “Deleting old versions of agents” on page 45.
3. Install the agents. For instructions, see “Installing an agent” on page 50.
4. Configure the newly installed agents. For instructions, see *Configuring an agent on i5/OS systems in Installation and Setup Guide for ITCAM agent for WebSphere MQ, ITCAM configuration agent for WebSphere MQ, and ITCAM agent for WebSphere Message Broker, GI11-8074.*

If you want to configure ITCAM configuration agent for WebSphere MQ with the same parameters that are in your previous environment, you can replace the newly installed configuration files of agents with the files that are backed up in step 1. However, old versions of ITCAM agent for WebSphere MQ configuration files are not compatible with version 7.0.1 fix pack 1 and so the

ITCAM agent for WebSphere MQ must be configured manually, although you can use the files that are backed up in step 1 on page 64 as a reference during the configuration process.

Upgrading Tivoli Enterprise Monitoring Server and agents on z/OS systems

Upgrading a Tivoli Enterprise Monitoring Server does not mean that you must upgrade the agents at the same time, unless they are configured in the same RTE. The instructions for upgrading these components are combined because many steps can be performed for both at the same time if you are upgrading them together. If a step is specific to upgrading a particular component, this is indicated in the step. Do not perform any steps that are not required for the component that you are upgrading.

To upgrade a Tivoli Enterprise Monitoring Server or agents running on a z/OS system, perform the following procedure:

1. If you are performing a staged upgrade, make sure that you have cloned the existing SMP/E and Installation and Configuration Assistance Tool (ICAT) environment.
2. Review the current Preventative Service Planning (PSP) upgrade information for IBM Tivoli Monitoring and agents. You can review the current PSP information at <http://www14.software.ibm.com/webapp/set2/psp/srchBroker>. In the **Enter search terms** field, enter your PSP upgrade name, as documented in *Program Directory for IBM Tivoli Monitoring* and *Program Directory for IBM Tivoli OMEGAMON XE for Messaging on z/OS*.
3. If you have already upgraded the Tivoli Management Services components in the CSI to IBM Tivoli Monitoring 6.2.2 (HKCI310, HKDS622, HKLV622, and HKT1710) or higher, remove these FMIDs from the following SMP/E jobs:
 - KQIJ0REC: Perform SMP/E RECEIVE
 - KQIJ0APP: Perform SMP/E APPLY
 - KQIJ0ACC: Perform SMP/E ACCEPTFor further information about performing SMP/E procedures, see *Program Directory for IBM Tivoli OMEGAMON XE for Messaging on z/OS*.
4. Install the maintenance (PTFs) for agents and IBM Tivoli Monitoring 6.2.2.
5. Set up the Configuration Tool. For instructions, see *Setting up your configuration environment* in Chapter 4 *Configuring your product* in *IBM Tivoli Monitoring: Configuring Tivoli Enterprise Monitoring Server on z/OS*.
6. Start the Configuration Tool and perform the B (Build) action on the RTE where the Tivoli Enterprise Monitoring Server, agents, or both that you are upgrading are configured. This action generates a batch job that allocates the runtime libraries. Review and submit the generated job.
7. If no agents are configured in the RTE built in step 6, you must re-register the agents with the Tivoli Enterprise Monitoring Server. After that, proceed to step 9 on page 66.
8. If the RTE contains previous versions of agents, reconfigure all agents now. Follow the procedures in *IBM Tivoli OMEGAMON XE for Messaging on z/OS: Configuration Guide, SC23-7951*

Remember:

- a. Before configuring the persistent datastore for WebSphere MQ Monitoring agent and WebSphere Message Broker Monitoring agent, you must delete the following old PDS files:

- WebSphere MQ Monitoring agent: &rhilev.&rtename.RKMQPDSn
- WebSphere Message Broker Monitoring agent: &rhilev.&rtename.RKQIPDSn

The &rhilev.&rtename variable is the runtime high-level qualifier and n is the number of PDS files that were previously allocated in this RTE.

- b. The historical data collection is disabled by default in Tivoli OMEGAMON XE for Messaging 6.0.1 and above after upgrading from Tivoli OMEGAMON XE for Messaging 6.0.0. If you want to use the historical data collection, you must enable it by specifying Y for the **Historical Data** field in the **Specify Configuration Parameters** panel.

For more information about specifying parameters in ICAT, see *IBM Tivoli OMEGAMON XE for Messaging on z/OS: Configuration Guide, SC23-7951*.

9. Perform the L (Load) operation on the RTE. This action generates a batch job that loads the runtime environment libraries from the SMP/E target libraries. Review and submit the generated job.

Remember: If you are sharing runtime environments, both the master runtime environment and the sharing runtime environment must be loaded.

10. If you are upgrading a hub Tivoli Enterprise Monitoring Server and you want to keep your existing configuration data, restore the old configuration database of WebSphere MQ Configuration agent. For instructions, see “Restoring the configuration database” on page 72.
11. You might need to update the started task procedures for the Tivoli Enterprise Monitoring Server and the agents that you are upgrading in your procedure library (PROCLIB). Review the new started task procedures created in the RKANSAMU library and those in the system procedure library to see if updating is necessary.

Migration

If you upgrade Tivoli Management Services components (Tivoli Enterprise Portal, Tivoli Enterprise Portal Server and Tivoli Enterprise Monitoring Server) directly from your old environment, all user-defined objects, such as customized workspaces and situations, are available after you complete the upgrade. However, during the upgrade process, you might want to move some components to different host systems. This is known as migration.

For example, you might want to deploy the current Tivoli Enterprise Portal Server to a new host system, instead of upgrading the existing Tivoli Enterprise Portal Server in your old environment. To do this, you must install the existing Tivoli Enterprise Portal Server on the new host and copy all customized workspaces and other information from the old host system. You can transfer this information using the migrate-export and migrate-import tools that are provided with IBM Tivoli Monitoring to first export the data from your old environment and then import it into the new environment.

This section contains instructions for migrating old data to the new environment for each of the Tivoli Management Services components. These instructions include installing ITCAM for WebSphere Messaging in a new environment and additional tasks that are specific to migration.

Remember: Do not delete your old environment until all data is successfully migrated and you are sure that your new environment is working correctly.

Installing Tivoli Enterprise Portal Server and migrating data

With the exception of situations, policies and managed system lists, Tivoli Enterprise Portal Server customizations are stored at the Tivoli Enterprise Portal Server in the Tivoli Enterprise Portal Server database. Information that is stored in this database includes user IDs, Navigator views, custom workspaces, and custom queries.

Because different versions of Tivoli Enterprise Portal Server use different data storage formats, data can only be transferred if the Tivoli Enterprise Portal Server in each environment is the same version. For example, data exported from CandleNet Portal Server 197 cannot be imported into Tivoli Enterprise Portal Server 6.2. Data might also be incompatible between different IBM Tivoli Monitoring 6.2 fix packs.

Perform the following steps to install a new Tivoli Enterprise Portal Server and migrate data from the Tivoli Enterprise Portal Server in your old environment:

1. Upgrade the old Tivoli Enterprise Portal Server to IBM Tivoli Monitoring 6.2.2. For information about installation instructions, see <http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/index.jsp?topic=/com.ibm.itm.doc/welcome.htm>.
2. Install IBM Tivoli Monitoring 6.2.2 on the host system on which you want to deploy the Tivoli Enterprise Portal Server in your new environment.
3. Install the agents of ITCAM for WebSphere Messaging 7.0.1 fix pack 1 on the host system on which you have deployed the Tivoli Enterprise Portal Server in your new environment. For instructions, see Chapter 2, “Installing this fix pack,” on page 17.
4. Follow the procedure documented in the Replicating the Tivoli Enterprise Portal Server Environment section in the *IBM Tivoli Monitoring: Administrator's Guide* to export customized workspaces and queries from the Tivoli Enterprise Portal Server in your old environment and import them to the Tivoli Enterprise Portal Server in your new environment.
5. Copy the following files from your old Tivoli Enterprise Portal Server installation directory to the Tivoli Enterprise Portal Server <ITMHOME>\CNB directory, where <ITMHOME> is the directory where IBM Tivoli Monitoring is installed:
 - Tivoli OMEGAMON XE for Messaging 6.0.1
 - <ITMHOME>\CNB\classes\candle\kmq\resources\config\mq_dd_060100000.xml
 - <ITMHOME>\CNB\classes\candle\kqi\resources\config\qi_dd_060100000.xml
 - Tivoli OMEGAMON XE for Messaging 7.0
 - <ITMHOME>\CNB\classes\candle\kmq\resources\config\mq_dd_070000000.xml
 - <ITMHOME>\CNB\classes\candle\kqi\resources\config\qi_dd_070000000.xml

Installing the hub Tivoli Enterprise Monitoring Server and migrating data

Situations, policies, template and managed system lists that have been customized by the user are stored in the hub Tivoli Enterprise Monitoring Server database. The configuration database of ITCAM configuration agent for WebSphere MQ is also stored at the hub Tivoli Enterprise Monitoring Server.

Important: With the exception of the configuration database, user-customized objects, such as situations, policies and templates, can only be migrated to another monitoring server running on the same platform.

Migration procedure on distributed systems

1. If you configured the ITCAM configuration agent for WebSphere MQ support on the hub Tivoli Enterprise Monitoring Server in your old environment, back up the configuration database as described in “Backing up the configuration database” on page 71.
2. Upgrade the hub Tivoli Enterprise Monitoring Server in your old environment to IBM Tivoli Monitoring 6.2.2. For installation instructions, see <http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/index.jsp?topic=/com.ibm.itm.doc/welcome.htm>.
3. Install IBM Tivoli Monitoring 6.2.2 on the host system in your new environment where you will deploy the hub monitoring server. You must configure the hub Tivoli Enterprise Monitoring Server in the new environment with the same settings as the hub Tivoli Enterprise Monitoring Server in the old environment.
4. Install and configure the agents:
 - a. Install the agents on the system where you deployed the new hub Tivoli Enterprise Monitoring Server.
 - b. Start the new hub Tivoli Enterprise Monitoring Server.
 - c. Add application support for the agents to the hub Tivoli Enterprise Monitoring Server locally. For instructions, see “Installing application support on the Tivoli Enterprise Monitoring Server” on page 18.
5. Copy the EIB files from the system on which the old hub Tivoli Enterprise Monitoring Server is installed to the system on which the new hub Tivoli Enterprise Monitoring Server is installed, overwriting any existing files. The EIB files have .DB and .IDX file extensions and are stored in the following locations:
 - Windows systems: `<install_dir>\CMS`
 - UNIX and Linux systems: `<install_dir>/tables/<cms_name>`

where `<install_dir>` is the directory in which IBM Tivoli Monitoring is installed, and `<cms_name>` is the name of the monitoring server.

Important: After you complete migration, you must redistribute migrated user-defined situations before use.

6. If you backed up the configuration database in step 1, restore it to the new Tivoli Enterprise Monitoring Server. For instructions, see “Restoring the configuration database” on page 72.
7. Recycle the hub Tivoli Enterprise Monitoring Server.

Migrating remote Tivoli Enterprise Monitoring Server, agents, and Tivoli Enterprise Portal desktop

The remote Tivoli Enterprise Monitoring Server, the agents and Tivoli Enterprise Portal desktop can be installed in a new environment with no need to import data from the old environment. Install IBM Tivoli Monitoring 6.2.2 and then install the agents.

Additional instructions

This section presents some additional instructions to help you upgrade ITCAM for WebSphere Messaging.

Backup files

If you are upgrading your system, some files are restored automatically when ITCAM for WebSphere Messaging agents are upgraded. The files can be viewed by using a text editor and might be useful when you configure your newly installed environment. The files are stored in the `<ITM_HOME>\backup\<datetime>` directory, where `<ITM_HOME>` is the directory in which IBM Tivoli Monitoring is installed and `<datetime>` is a directory name that has the date and time that the backup was performed.

Backed up files include `mq.cfg`, `kqi.xml`, `mq.cfg`, `kmqcm.ini`, `kmqenv`, which are backed up on the systems where the agents are installed, `KMQWICMS.lvl`, `KMCWICMS.lvl` on the Tivoli Enterprise Monitoring Server and `KFWCMA.INI` on the Tivoli Enterprise Portal Server.

The `mq.cfg` and `kqi.xml` files

When you upgrade ITCAM agent for WebSphere MQ and ITCAM agent for WebSphere Message Broker to version 7.0.1 fix pack 1, the `mq.cfg` and `kqi.xml` files that are used to configure the agents are not overwritten. The new files are renamed as follows:

- `mq.cfg` is renamed to `mqbkup.cfg`
- `kqi.xml` is renamed to `kqibkup.xml`

These files are provided for reference purposes; it is not necessary to replace your existing configuration files. If you want to use options specified by the new parameters that are available in the agents of version 7.0.1, you can add these as necessary to your existing files, thus preserving your original configuration parameters. If you do not specify new parameters, the agents use the pre-configured default settings.

Tivoli OMEGAMON XE for Messaging 6.0.1 historical data files on UNIX and Linux systems

On UNIX and Linux systems, historical data that is collected by WebSphere MQ Monitoring agent and WebSphere Message Broker Monitoring agent 6.0.1 before upgrading to version 7.0.1 fix pack 1 is usually restored during the upgrade process. Although the data contained within these files are not available in Tivoli Enterprise Portal workspaces after upgrade, the data can still be viewed by using a text editor.

If the architecture codes of the operating system you are using are different between version 7.0.1 fix pack 1 and the version you are upgrading from, historical data is not backed up. In all other cases historical data is restored. For a list of architecture codes, see Appendix B, "Architecture codes," on page 93. You can compare these codes with the architecture codes of the version that you are upgrading from to determine whether historical data is backed up.

Historical data files are stored at the agent or the Tivoli Enterprise Monitoring Server, depending on where historical data is collected in your environment. For more information about configuring where historical data is collected, see *WebSphere MQ Monitoring Agent User's Guide, SC23-7952*.

Historical data files are backed up to the following locations during the upgrade process:

- WebSphere MQ Monitoring agent: <ITM_HOME>/BACKUP/messaging/vnnn/<arch_code>/mq/hist
- WebSphere Message Broker Monitoring agent: <ITM_HOME>/BACKUP/messaging/vnnn/<arch_code>/qi/hist

where <ITM_HOME> is the directory in which IBM Tivoli Monitoring is installed, *nnn* is the 3-digit version number of the agent (such as 700 and 701), and <arch_code> is the architecture code of the operating system. For a list of architecture codes, see Appendix B, "Architecture codes," on page 93.

Upgrading attribute and catalog files at the remote Tivoli Enterprise Monitoring Server

If you do not want to upgrade the remote Tivoli Enterprise Monitoring Server at the same time as the hub Tivoli Enterprise Monitoring Server, CAT and ATR files must be copied from the upgraded hub Tivoli Enterprise Monitoring Server system to the remote Tivoli Enterprise Monitoring Server system. These files are stored in the following locations, where <itm_home> is the directory in which IBM Tivoli Monitoring is installed and <TEMS> is the sub directory where the Tivoli Enterprise Monitoring Server is installed:

- Windows systems:
 - ATR files: <ITM_home>/cms/ATTRLIB
 - CAT files: <ITM_home>/cms/RKDSCATL
- UNIX and Linux systems:
 - ATR files: <ITM_home>/tables/<TEMS>/ATTRLIB
 - CAT files: <ITM_home>/tables/<TEMS>/RKDSCATL
- z/OS libraries:
 - ATR and CAT files: RKANDATV library

The file names on different systems are shown in Table 12.

Table 12. ATR and CAT file names

Agent	ATR file names		CAT file names	
	Distributed Systems	z/OS systems	Distributed Systems	z/OS systems
ITCAM configuration agent for WebSphere MQ	kcf.atr	kcfatr	kcf.cat	kcfcat
	kmc.atr	kmcatr	kmc.cat	kmccat

Table 12. ATR and CAT file names (continued)

Agent	ATR file names		CAT file names	
	Distributed Systems	z/OS systems	Distributed Systems	z/OS systems
ITCAM agent for WebSphere MQ	kmq.atr	kmqatr	kmq.cat	kmqcat
ITCAM agent for WebSphere Message Broker	kqi.atr	kqiatr	kqi.cat	kqicat

Perform one of the following procedures, depending on the systems on which the hub and remote Tivoli Enterprise Monitoring Server are running:

- If both the hub and remote Tivoli Enterprise Monitoring Server are running on distributed systems, copy the appropriate files that are listed in Table 12 on page 70 from the hub Tivoli Enterprise Monitoring Server to the remote Tivoli Enterprise Monitoring Server.
- If both the hub and remote Tivoli Enterprise Monitoring Server are running on a z/OS system, use FTP to copy the appropriate files that are listed in Table 12 on page 70 from the RKANDATV library on the hub Tivoli Enterprise Monitoring Server to the RKANDATV library on the remote Tivoli Enterprise Monitoring Server.
- If the hub Tivoli Enterprise Monitoring Server is running on a z/OS systems and the remote Tivoli Enterprise Monitoring Server is running on a distributed system, use FTP to copy the appropriate files listed in Table 12 on page 70 from the RKANDATV library of the hub Tivoli Enterprise Monitoring Server to the appropriate directory on the distributed system. Rename each file with the its equivalent file name on distributed systems, as shown in Table 12 on page 70. For example, kmqatr becomes kmq.atr.
- If the hub Tivoli Enterprise Monitoring Server is running on a distributed system and the remote Tivoli Enterprise Monitoring Server is running on a z/OS system, copy the appropriate files listed in Table 12 on page 70 to a temporary directory. Rename each files with the its equivalent file name on the z/OS system, as shown in Table 12 on page 70. For example, kmq.atr becomes kmqatr. Use FTP to copy all files from the temporary directory on the distributed system to the RKANDATV library of the hub Tivoli Enterprise Monitoring Server.

The configuration database

The section describes how to back up and restore the configuration database when upgrading to ITCAM configuration agent for WebSphere MQ 7.0.1 fix pack 1.

Backing up the configuration database

You perform a backup using a Tivoli Enterprise Portal client. The backup process does not interfere with the functioning of the configuration manager, nor does the Tivoli Enterprise Monitoring Server need to be disabled in order to run the backup process.

The backup begins only when there are no outstanding deferred database updates pending; the backup also waits until all database commits have completed. While the backup is running, it is possible to get records from the database as required

by other transactions; however, any deferred database updates that are created while the backup is running remain queued until the backup completes; other update transactions continue to run.

The format of the backup file is platform independent; therefore, you can use the backup process to migrate the configuration data from one platform to another. If you use FTP, you must specify ASCII format. Also, if you transfer a backup file to z/OS systems, the LRECL of the receiving data must be defined as follows:

```
RECFM=FB,LRECL=440,BLKSIZE=<some multiple of 440>
```

There is only one procedure to back up the configuration database file, regardless of the type of database (the product-provided Internal type or the DB2 Universal Database type) that your site uses for the configuration database.

To back up the configuration database to a file, do the following procedure:

1. Ensure that you are in update mode.
2. In the Configuration View, click **Backup configuration database**. You are prompted to supply a file name.
3. Enter the name of the file, on the hub Tivoli Enterprise Monitoring Server, where you want the configuration database backed up. The format of the file name is dependant upon the operating system on which the Tivoli Enterprise Monitoring Server runs:
 - If the Tivoli Enterprise Monitoring Server is running on a UNIX or Linux system, this name identifies a file in the \$install_dir/tables/TEMS_Name directory, where install_dir is the directory into which you installed this Tivoli Monitoring product package and TEMS_Name is the name of your Tivoli Enterprise Monitoring Server. If the file does not exist, it is created; if it does exist, its current contents are overwritten.
 - If the Tivoli Enterprise Monitoring Server is running on a Windows system, this name identifies a file in the current Tivoli Enterprise Monitoring Server working directory (for example, c:\IBM\ITM\CMS). If the file does not exist, it is created; if it does exist, its current contents are overwritten.
 - If the Tivoli Enterprise Monitoring Server is running on a z/OS system, this name references a predefined sequential data set. Do not enclose the name in quotation marks. The dataset must be allocated manually. The DCB information required for this dataset is as follows:

```
RECFM=FB,LRECL=440,BLKSIZE=<some multiple of 440>
```
4. After you enter the name of the file, click **OK**.
5. Wait for the message that indicates that the configuration database was successfully backed up, and click **OK**.

Restoring the configuration database

Restoring the configuration database is performed at the hub Tivoli Enterprise Monitoring Server.

If you want to restore the contents of the configuration database from the backup file, use one of the restore utilities that is described in the following sections. Use the restore utility that is appropriate for the type of configuration database that is used by your hub Tivoli Enterprise Monitoring Server.

Restoring the product-provided internal configuration database:

Use the following utilities to restore the configuration database, depending on which system it is running on:

- If the Tivoli Enterprise Monitoring Server is running on a UNIX or Linux system, use the KCFRSTR utility located in the current Tivoli Enterprise Monitoring Server working directory (the default directory is `/opt/IBM/ITM/arch_code/ms/bin/`, where *arch_code* is the architecture code of the operating system. See Appendix B, “Architecture codes,” on page 93 for a list of architecture codes).
- If the Tivoli Enterprise Monitoring Server is running on a Windows system, use the KCFRSTR utility located in the current Tivoli Enterprise Monitoring Server working directory (the default directory is `c:\IBM\ITM\CMS`).
- If the Tivoli Enterprise Monitoring Server is running on a z/OS system, use the KCFARSM utility. For sample JCL to run the KCFARSM utility, see the member named KCFRCDBJ that is located in the &RHILEV.TKANSAM library.

To restore the product-provided internal type of configuration database from a backup file that you previously created, perform the following steps:

1. Stop the Tivoli Enterprise Monitoring Server if it is running.
2. If the Tivoli Enterprise Monitoring Server is running on a Windows, Linux, or UNIX system, perform the following steps:
 - a. Go to the directory where the KCFRSTR utility is located. If the Tivoli Enterprise Monitoring Server is running on a UNIX or Linux system, by default the KCFRSTR utility is located in the `/opt/IBM/ITM/arch_code/ms/bin/` directory, where *arch_code* is the architecture code of the operating system. See Appendix B, “Architecture codes,” on page 93 for a list of architecture codes. If the Tivoli Enterprise Monitoring Server is running on a Windows system, by default the KCFRSTR utility is located in the `C:\IBM\ITM\CMS` directory.
 - b. Run the following command:

```
KCFRSTR -i input_file -o database_name
```

input_file is the full path of the configuration database backup file and *database_name* is the full path of the configuration database file, for example:

```
KCFRSTR -i opt/IBM/ITM/tables/tems1/RKCFbackup.txt -o opt/IBM/ITM/tables/tems1/RKCFAPLD
```
3. If the Tivoli Enterprise Monitoring Server is running on a z/OS system, see the member named KCFRCDBJ that is located in the &RHILEV.TKANSAM library. Modify the sample JCL found in this member that is appropriate for your environment, then submit it to run the KCFARSM utility.

Restoring the DB2 Universal Database configuration database:

Use the following utilities to restore the configuration database, depending on which system it is running on:

- If the Tivoli Enterprise Monitoring Server is running on a UNIX or Linux system, use the `kfcfst2` utility located in the current Tivoli Enterprise Monitoring Server working directory (the default directory is `/opt/IBM/ITM/arch_code/ms/bin/`, where *arch_code* is the architecture code of the operating system. See Appendix B, “Architecture codes,” on page 93 for a list of architecture codes.)

- If the Tivoli Enterprise Monitoring Server is running on a Windows system, use the KCFCRST2 utility located in the current Tivoli Enterprise Monitoring Server working directory (for example, C:\IBM\ITM\CMS).
- If the Tivoli Enterprise Monitoring Server is running on a z/OS system, use the KCFCRST2 utility. For sample JCL to run the KCFCRST2 utility, see the sample member named KCFRSDB2 that is located in the &RHILEV..TKANSAM library.

Important:

The current contents of the configuration database will be completely replaced by the contents of the backup file.

To restore the DB2 UDB type of configuration database from a backup file that you previously created, perform the following steps:

1. Stop the Tivoli Enterprise Monitoring Server if it is running.
2. Source the DB2 environment.
3. If the Tivoli Enterprise Monitoring Server is running on a UNIX or Linux system, perform the following steps:
 - a. You must have permission to use the configuration database. If you are going to stop then restart the Tivoli Enterprise Monitoring Server on a UNIX or Linux system, you must have appropriate permissions to successfully work with the configuration database. The Tivoli Enterprise Monitoring Server stops if the user starting the Tivoli Enterprise Monitoring Server does not have permissions to the configuration database schema (KCFT) and tables (KCFT.KCFATTRIBUTES, and KCFT.KCFOBJECT). A restored database has to be granted permissions for users or groups. The DB2 GRANT commands must be run to give users permission to work with the database. For a user named *usr2*, these commands are as follows:

```
GRANT CREATEIN, ALTERIN ON SCHEMA KCFT TO USER usr2
GRANT ALL ON KCFT.KCFATTRIBUTES TO USER usr2
GRANT ALL ON KCFT.KCFOBJECT TO USER usr2
```

These DB2 GRANT commands are different from the commands used to install and set up the DB2 UDB configuration database on a UNIX or Linux system.

- b. Go to the current Tivoli Enterprise Monitoring Server working directory and run the following command:

```
kcfcrst2 -i input_file -d database_name -u userid -p password
```

- The *input_file* value is the full name and path of the configuration database backup file.
- The *database_name* value is the name of the DB2 configuration database into which the data in the file specified by the *input_file* value is to be restored.
- The *userid* value is the user ID that was used to start to Tivoli Enterprise Monitoring Server. It must have write access to the DB2 database.
- The *password* value is the password of the user ID that is used to administer the DB2 database.

Important: At the command line, you can enter *kcfcrst2* with no operands to display usage information for this utility.

4. If the Tivoli Enterprise Monitoring Server is running on a Windows system, issue the following command at a command prompt when you are in the current Tivoli Enterprise Monitoring Server working directory (for example, C:\IBM\ITM\CMS):

```
kcfcrst2 -i input_file -d database_name -u userid -p password
```

- The *input_file* value is the full name and path of the configuration database backup file.
- The *database_name* value is the name of the DB2 configuration database into which the data in the file specified by the *input_file* value is to be restored.
- The *userid* value is the user ID that was used to start the Tivoli Enterprise Monitoring Server. It must have write access to the DB2 database.
- The *password* value is the password that is used to administer the DB2 database.

Important: At the command prompt, you can enter KCFCRST2 with no operands to display usage information for this utility.

For example, if your configuration database backup file is named C:\IBM\ITM\CMS\RKCFbackup, your DB2 configuration database is named rkcfaplt, your user ID is db2admin, and your password is db2, issue the following command.

```
kcfcrst2 -i c:\IBM\ITM\CMS\RKCFbackup -d rkcfaplt -u db2admin -p db2
```

5. If the Tivoli Enterprise Monitoring Server is running on a z/OS system, see the sample member named KCFRSDB2 that is located in the &RHILEV..TKANSAM library. Modify the sample JCL found in this member to suit your environment, then submit it to run the KCFCRST2 utility.

Chapter 4. Deploying monitoring across your environment from a central location

You can deploy the following agents remotely from a central location such as the Tivoli Enterprise Monitoring Server:

- ITCAM configuration agent for WebSphere MQ
- ITCAM agent for WebSphere MQ
- ITCAM agent for WebSphere Message Broker

Before you can remotely deploy the agent, identify the operating system where you want to deploy the agents and ensure that the following requirements are filled in your monitoring environment:

- An OS agent is installed or deployed on the computer where you want to remotely deploy the agents. For example, if you want to deploy the agents on the computer where the Windows operating system is running, you must have the monitoring agent for Windows OS installed on that computer. For information about how to install the OS agent, see the *IBM Tivoli Monitoring Installation and Setup Guide, SC32-9407*.
- The agent depot is populated on the Tivoli Enterprise Monitoring Server from which you deploy agents and maintenance packages across your environment. For example, if you want to deploy the ITCAM configuration agent for WebSphere MQ, you must have the agent depot for ITCAM configuration agent for WebSphere MQ populated on the Tivoli Enterprise Monitoring Server. For detailed information about how to populate the agent depot, see “Populating your agent depot.”

Tip: If your monitoring environment includes multiple Tivoli Enterprise Monitoring Servers (a hub monitoring server and multiple remote monitoring servers), you can put your agent depot in a central location, such as a shared file system, and access the depot from all the monitoring servers. For information about how to use one agent depot for all the Tivoli Enterprise Monitoring Servers in your monitoring environment, see “Sharing an agent depot across your environment” on page 81.

Populating your agent depot

The agent depot is an installation directory on the Tivoli Enterprise Monitoring Server from which you deploy agents and maintenance packages across your environment. Before you can deploy any agents from a monitoring server, you must first populate the agent depot with bundles. A bundle is the agent installation image and any prerequisites.

When you add a bundle to the agent depot, you must add the bundle that supports the operating system to which you want to deploy the bundle. Because different files are provided for each operating system type (for example, Windows systems, AIX and Solaris systems, HP-UX systems, and Linux systems), you must add the bundle from the operating system-specific files. For example, if you want to deploy ITCAM agent for WebSphere MQ to a computer running HP-UX system, add the HP-UX specific agent bundle to the depot. If your depot directory is on

the Windows system and you want to deploy ITCAM agent for WebSphere MQ to the HP-UX system, load the HP-UX bundle from the installation DVD for HP-UX systems.

You can have an agent depot on each monitoring server in your environment or share an agent depot, as described in “Sharing an agent depot across your environment” on page 81. If you choose to have an agent depot for each monitoring server, you can customize the agent depot based on the types of agents that you want to deploy and manage from that monitoring server. For example, if you have a Tivoli Enterprise Monitoring Server that is dedicated to monitoring the ITCAM agent for WebSphere MQ in your environment, populate the agent depot with bundles for ITCAM agent for WebSphere MQ.

Restriction: Agent depots cannot be populated on the Tivoli Enterprise Monitoring Server that is running on z/OS or i5/OS systems.

Exception: If you want to deploy the agent to a 64-bit Windows system, and you are using IBM Tivoli Monitoring 6.2.2 fix pack 1 or fix pack 2, populate the agent depot in the following order:

1. Populate the agent depot with bundles for the 32/64 bit Agent Compatibility Package. The 32/64 bit Agent Compatibility Package is a component that is included in IBM Tivoli Monitoring 6.2.2 fix pack 1 and fix pack 2.
2. Depending on which agent you want to deploy, populate the agent depot for ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker.

You can use the following two ways to populate the agent depot:

- If you are populating your agent depot with bundles for the same operating system as the Tivoli Enterprise Monitoring Server, you can use the installation image to populate your agent depot. For example, you can use an installation image to add the bundle for a Windows agent to a monitoring server that is running on the Windows system, but you cannot use the Linux installation image to add the bundle for a Linux agent to a monitoring server that is running on a Windows system. For instructions about how to use the installation image to populate the agent depot, see “Populating the agent depot from the installation image.”
- If you want to add agent bundles for an operating system that is different from the one on which the Tivoli Enterprise Monitoring Server is running, use the `tacmd addBundles` command. For instructions about how to use the `tacmd addBundles` command to populate the agent depot, see “Populating the agent depot with the `tacmd addBundles` command” on page 80.

By default, the agent depot is located in the `install_dir/CMS/depot` directory on Windows systems and in the `install_dir/tables/tems_name/depot` directory on UNIX systems, where `install_dir` is the installation directory for IBM Tivoli Monitoring, and `tems_name` is the name of the Tivoli Enterprise Monitoring Server. The `tacmd addBundles` command puts the agent bundle in that location unless another location is defined in the monitoring server configuration file for the `DEPOTHOME` variable. You can also change this location before population the agent depot, see “Changing the agent depot location” on page 81 for instructions.

Populating the agent depot from the installation image

Use the following instructions to populate your agent depot from the installation image on the computer where the Tivoli Enterprise Monitoring Server is running :

- “Windows systems: Populating the agent depot during installation”
- “UNIX and Linux systems: Populating the agent depot during installation”

Windows systems: Populating the agent depot during installation

Perform the following steps to populate the agent depot from the Windows installation image:

1. Double-click the `setup.exe` file in the `\WINDOWS` subdirectory of the installation image. In the installation program wizard window, a message is displayed that welcomes you to the setup process.
2. Click **Next** in the Welcome window. The Install Prerequisites window is displayed.
3. In the **Choose installation drive for both** field in the Install Prerequisites window, enter the drive on which to install the software, and then click **Next** to proceed with the installation process. The license agreement information is displayed.
4. In the Software License Agreement window, if you accept the terms of the license agreement, click **Accept** to continue; otherwise click **Decline** to terminate the installation process. You must accept the terms of the license agreement to install the product. After you accept the terms of the license agreement, the Select Features window is displayed.
5. Click **Next** in the Select Features window. The Agent Deployment window is displayed.
6. In the Agent Deployment window, select the agents whose bundles you want to add to the depot and click **Next**. The Start Copying Files window is displayed, summarizing the components that you have selected to install.
7. Review the installation summary in the Start Copying Files window, and then click **Next**. A message is displayed stating that you will not be able to cancel the installation or upgrade after this point.
8. Click **Yes** to continue. The file-copying process might take several minutes. After the bundles of the agents are added to the agent depot, the Setup Type window is displayed.
9. Clear the selected configuration items except the mandatory item (preceded by an asterisk), and then click **Next**.
10. Provide the required configuration information in the following screens.
11. When the installation is complete, click **Finish** to complete the installation.

UNIX and Linux systems: Populating the agent depot during installation

Perform the following steps to populate the agent depot from the UNIX or Linux installation image:

1. Run the following command to create a temporary directory on the computer. Make sure that the full path of the directory does not contain any spaces:


```
mkdir dir_name
```
2. Mount the installation CD for UNIX or Linux systems to the temporary directory you created.
3. Run the following commands:


```
cd dir_name
./install.sh
```

where *dir_name* is the temporary directory you created.

4. When you are prompted for the installation directory, specify the name of the IBM Tivoli Monitoring installation directory.
 - Press Enter to accept the default (/opt/IBM/ITM)
 - If you want to use a different installation directory, type the full path to that directory and press Enter.
5. Confirm the installation directory that you specified in the previous step.
 - If the directory exists, you are asked whether to use it. Type 1 to use the directory or type 2 to specify another directory, and then press Enter
 - If the directory does not exist, you are asked whether to create it. Type 1, and then press Enter to create this directory.
6. The following prompt is displayed:


```
Select one of the following:
1) Install products to the local host.
2) Install products to depot for remote deployment (requires TEMS).
3) Install TEMS support for remote seeding.
4) Exit install.
```

Please enter a valid number:

Type 2, and then press Enter to start installation. The user license agreement is displayed.
7. Press Enter to read through the agreement.
8. Type 1 to accept the agreement or 2 to reject it, and then press Enter. You must accept the agreement to continue with the installation process.
9. Type the number that corresponds to the agent or agents whose bundles you want to add to the agent depot and press Enter.

Tip: If you want to add more than one agent, use the comma or the space to separate the numbers. To select all available agents, type all. You can select multiple agents with consecutive corresponding numbers by typing the first and last numbers for the agents, separated by a hyphen (-). For example, to add all the agents between 8 and 12, type 8-12.
10. After specifying all the agents whose bundles you want to add to the agent depot, type E and press Enter.

Populating the agent depot with the tacmd addBundles command

To populate the agent depot by using the tacmd addBundles command, run the following command:

```
tacmd addBundles [-i IMAGE_PATH]
                 [-t PRODUCT_CODE]
                 [-p OPERATING_SYSTEM]
                 [-v VERSION]
                 [-n]
                 [-f]
```

Remember: Before you issue the tacmd addBundles command, you must log on to the Tivoli Enterprise Monitoring Server where you want to populate the agent depot with the tacmd login command. The following command logs on to the monitoring server of which the host name is *L3D8296* with the *administrator* user ID, the *mypassword* password, and a login expiration time of 1440 minutes.

```
tacmd login -s L3D8296 -u administrator -p mypassword -t 1440
```

For further information about the tacmd CLI commands, including parameter descriptions, see the *IBM Tivoli Monitoring Installation and Setup Guide, SC32–9407* and the *IBM Tivoli Monitoring Command Reference, SC23–6045*.

The following example copies every agent bundle, including its prerequisites into the agent depot on a UNIX system from the installation media (CD image) located in the `/mnt/cdrom/` directory:

```
tacmd addbundles -i /mnt/cdrom/unix
```

The following example copies all agent bundles for the ITCAM agent for WebSphere MQ into the agent depot on a UNIX system from the installation media (CD image) located in the `/mnt/cdrom/` directory:

```
tacmd addbundles -i /mnt/cdrom/unix -t mq
```

The following example copies all agent bundles for the ITCAM agent for WebSphere MQ into the agent depot on a Windows system from the installation media (CD image) located in the `D:\WINDOWS\Deploy` directory:

```
tacmd addbundles -i D:\WINDOWS\Deploy -t mq
```

The following example copies the agent bundle for the ITCAM agent for WebSphere MQ that runs on the AIX V5.3 operating system into the agent depot on a UNIX system from the installation media (CD image) located in the `/mnt/cdrom/` directory:

```
tacmd addbundles -i /mnt/cdrom/unix -t mq -p aix523
```

Changing the agent depot location

To change the location of the agent depot, perform the following steps before you run the tacmd addBundles command:

1. Open the KBBENV monitoring server configuration file located in the `install_dir\CMS` directory on Windows systems or in the `install_dir/tables/tems_name` directory on UNIX and Linux systems.
2. Locate the **DEPOTHOME** variable. If it does not exist, add it to the file.
3. Type the path to the directory that you want to use for the agent depot.
4. Save and close the file.
5. (UNIX and Linux systems only): Add the same variable and location to the `kbbenv.ini` file located in `install_dir/config` directory.

Remember: If you do not add the variable to the `kbbenv.ini` file, it is deleted from the KBBENV file the next time the monitoring server is reconfigured.

Sharing an agent depot across your environment

If your monitoring environment includes multiple Tivoli Enterprise Monitoring Servers (a hub monitoring server and remote monitoring servers), you can put your agent depot in a central location, such as a shared file system, and access the depot from all the monitoring servers.

After populating your agent depot with either of the methods described in “Populating your agent depot” on page 77, perform the following steps to share the agent depot:

1. Open the KBBENV monitoring server configuration file located in the *install_dir*/CMS directory on Windows systems or in the *install_dir*/tables/*tems_name* directory on UNIX and Linux systems.
2. Locate the **DEPOTHOME** variable. If it does not exist, add it to the file.
3. Type the path to the directory that you want to use for the agent depot.
4. Save and close the file.
5. (UNIX and Linux systems only): Add the same variable and location to the *kbbenv.ini* file located in *install_dir*/config/ directory.

Remember: If you do not add the variable to the *kbbenv.ini* file, it is deleted from the KBBENV file the next time the Tivoli Enterprise Monitoring Server is reconfigured.

If you are using a Windows monitoring server connecting to a depot on another Windows system computer, you must set the service ID for the Windows monitoring server to **Administrator**. Also, instead of specifying a mapped drive letter for the path to the depot directory, use the UNC path (such as \\server\share).

Perform the following steps to change the service ID:

1. From the Control Panel, double-click **Administrative Tools**.
2. Double-click **Services**.
3. Right-click **Tivoli Enterprise Monitoring Svcs** and select **Properties** from the menu.
4. On the **Log On** tab, select **This Account**.
5. Type Administrator in the **This Account** field.
6. Type the password for the administrator in the **Password** field. Confirm the password by typing it again in the **Confirm password** field.
7. Click **Enable**.

Remember: If the Administrator user does not have logon as a service right, you are prompted to add it.

Deploying agents

You can deploy agents through the Tivoli Enterprise Portal or from the command line.

Important: Before you attempt to deploy the agents on a system, you must have already installed or deployed an OS agent on that system, and the OS agent must be running when you deploy the agents.

Deploying through Tivoli Enterprise Portal

Perform the following steps to deploy an agent through the Tivoli Enterprise Portal:

1. Log on to the Tivoli Enterprise Portal.
2. In the Navigator view, navigate to the computer where you want to deploy the agent.

3. Right-click the computer and click **Add Managed System**. The Select a Monitoring Agent window is displayed. The agent, for which you have added bundles into the agent depot is listed in the window.

Tip: You can use the **Deploy Depot Package List** workspace to get the information about the agent depot that has been populated on the system. To access this workspace, right click the **Enterprise** node in the Navigator view, and then select **Workspace > Deploy Depot Package List**.

4. Select the agent that you want to deploy and click **OK**.
5. Complete the configuration fields required for the agent. If you do not specify the parameter values, the default values will be used when the agent is deployed.
6. Click **Finish**. A message stating that the new managed system configuration operation has been successfully queued is displayed.
7. Click **OK** to close the message. The agent is being deployed, and the deployment process might take a certain period of time.

After the agent has been deployed, it connects to the monitoring server and is then displayed in the Tivoli Enterprise Portal.

On Windows systems, if you configure the ITCAM agent for WebSphere Message Broker or the ITCAM agent for WebSphere MQ to monitor objects other than the default ones during the remote deployment, after the remote deployment is completed, a primary agent instance is also started up and displayed in the portal automatically. If you do not want the primary instance to run, you need to stop it manually.

Tip: During the agent deployment process, you can use the following workspaces to view the deployment status. To access the workspaces, right-click the **Enterprise** node in the Navigator view, and then click the corresponding workspace from the Workspace menu.

- Deployment Status Summary
- Deployment Status Summary by Transaction

Remember: If you deployed the ITCAM agent for WebSphere Message Broker on the UNIX or Linux system, and want to use the CandleMonitor node, you must create the required links manually. For information about how to install the CandleMonitor node, see the *WebSphere Message Broker Monitoring Agent User's Guide, SC23-7954*.

Remember: If you deployed the ITCAM agent for WebSphere MQ, and you want to use it to monitor a multi-instance queue manager or a queue manager that is not in the default directory, you must set the value of the **AMQ_MQS_INI_LOCATION** variable to the location of the `mqs.ini` file in the `mq.ini` file that is on the computer where the agent is deployed. The `mq.ini` file is located in the `ITM_HOME/config` directory, where `ITM_HOME` is the directory where the ITCAM agent for WebSphere MQ is installed.

Deploying through the command line

To deploy an agent from the command line, run the following command:

```
tacmd addSystem -t pc
                  [-n MANAGED-OS]
                  [-p NAME=VALUE]
```

The following example deploys the ITCAM agent for WebSphere MQ (product code mq) to monitor the QM1 queue manager on the monitoring system named AF66359F:

```
tacmd addSystem -t mq -n Primary:AF66359F:NT -p INSTANCE=QM1 STARTMON.SAMPINT=120
```

Remember: When you remotely deploy ITCAM agent for WebSphere MQ by using the command line, you must specify the **INSTANCE** and **STARTMON.SAMPINT** parameter after the -p option, otherwise the agent might not work properly. The **INSTANCE** parameter specifies the name of the queue manager that you want to monitor. The **STARTMON.SAMPINT** parameter specifies the interval at which you want the ITCAM agent for WebSphere MQ to sample the queue manager for performance data.

Tips:

- If you do not know the name of the managed system that you want to deploy the agent to, you can use the `tacmd listSystems` command to display a list of all the known managed systems. The following example shows the command that is used to list the systems where ITCAM agent for WebSphere MQ (product code mq) is running:

```
tacmd listSystems -t mq
```

- Each agent has its own unique configuration properties that you need to provide in the `tacmd addSystem` command (using the -p option). See the agent user's guide for the agent that you are deploying for a list of available configuration properties. You can view the configuration parameters by running the `tacmd describeSystemType` command. The following example shows the options that are available to use with the `tacmd addSystem` command for the ITCAM agent for WebSphere Message Broker (product code qi) to be deployed to a Windows system (platform WINNT):

```
tacmd describeSystemType -t qi -p WINNT
```

For further information about the `tacmd` CLI commands, including parameter descriptions, see the *IBM Tivoli Monitoring Installation and Setup Guide, SC32-9407* and *IBM Tivoli Monitoring Command Reference, SC23-6045*. For a list of product codes for agents, see Appendix C, "Product codes," on page 95.

On Windows systems, if you configure the ITCAM agent for WebSphere Message Broker or the ITCAM agent for WebSphere MQ to monitor objects other than the default ones during the remote deployment, after the remote deployment is completed, a primary agent instance is also started up and displayed in the Tivoli Enterprise Portal automatically. If you do not want the primary instance to run, stop it manually.

If you are deploying the ITCAM agent for WebSphere Message Broker to a UNIX or Linux system and want to use the CandleMonitor node, you must create the required links manually. For information about how to install the CandleMonitor node, see the *WebSphere Message Broker Monitoring Agent User's Guide, SC23-7954*

If you deployed the ITCAM agent for WebSphere MQ, and you want to use it to monitor a multi-instance queue manager or a queue manager that is not in the default directory, you must set the value of the **AMQ_MQS_INI_LOCATION** variable to the location of the `mqs.ini` file in the `mq.ini` file that is on the computer where the agent is deployed. The `mq.ini` file is located in the `ITM_HOME/config` directory, where `ITM_HOME` is the directory where the ITCAM agent for WebSphere Message Broker is installed.

Chapter 5. Uninstalling an agent

Follow the instructions in the following sections to uninstall ITCAM configuration agent for WebSphere MQ, ITCAM agent for WebSphere MQ, or ITCAM agent for WebSphere Message Broker:

- “Uninstalling an agent on Windows systems”
- “Uninstalling an agent on UNIX or Linux systems” on page 86
- “Uninstalling an agent on i5/OS systems” on page 87
- “Removing files for remote deployment (all operating systems)” on page 88

Uninstalling an agent on Windows systems

If you want to uninstall a component from a Windows system, perform the following steps:

1. Click **Start > Settings > Control Panel**.
2. Click **Add or Remove Programs**.
3. Click **IBM Tivoli Monitoring**.
4. Click **Change/Remove**.
5. The Welcome window is displayed to let you modify or remove the program. Select **Modify**, and click **Next**.

Important: If you select **Remove**, the procedure for completely removing IBM Tivoli Monitoring and all its features begins.

6. A message is displayed stating that on the following panel, items that you have already installed are preselected, selecting a new item installs that item, and clearing an item uninstalls that item. Click **OK** to proceed.
7. In the Add or Remove Features window, click the plus sign (+) next to each main feature to expand the tree. Agents are listed under **Tivoli Enterprise Monitoring Agents - TEMA**.
8. Clear the check boxes next to the names of agents that you want to uninstall, and click **Next**.
 - Select **WebSphere MQ Monitoring Agent** for ITCAM agent for WebSphere MQ.
 - Select **WebSphere MQ Configuration Agent** for ITCAM configuration agent for WebSphere MQ.
 - Select **WebSphere Message Broker Monitoring Agent** for ITCAM agent for WebSphere MQ.
9. In the Start Copying Files window, review the list of features or types of support that will be uninstalled. Click **Back** if you want to go back and change any of the selections. When you are ready, click **Next** to begin uninstallation.
10. A message is displayed stating that you will not be able to cancel the installation or upgrade after this point. Click **Yes** to continue.
11. In the Setup Type window, clear the check boxes and click **Next**.
12. In the InstallShield Wizard Complete window, click **Finish**.

13. The Maintenance Complete window is displayed stating that installation program wizard has finished performing maintenance operations on IBM Tivoli Monitoring and reboot can be done at your earliest convenience. Click **Finish**.

Now the uninstallation is complete.

Remember: If you are using DB2 Universal Database as the configuration database of ITCAM configuration agent for WebSphere MQ, when you uninstall the ITCAM configuration agent for WebSphere MQ support at the Tivoli Enterprise Monitoring Server, the database is not removed. If you want to remove it, you must delete the RKCFAPLT database manually (see your DB2 documentation for information about deleting a database).

Uninstalling an agent on UNIX or Linux systems

Perform the following steps to uninstall an agent from UNIX or Linux systems:

1. If Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, Tivoli Enterprise Portal desktop client or any monitoring agents are running on the computer where the component you want to uninstall is located, stop them.
2. Run the following command to change to the appropriate `/bin` directory:

```
cd install_dir/bin
```

where *install_dir* is the installation directory for IBM Tivoli Monitoring.
3. Run the following command to start the uninstallation:

```
./uninstall.sh
```

A numbered list of product codes, architecture codes, version and release numbers, and product titles is displayed for all installed products.
4. For each component that you want to uninstall, perform the following procedure:
 - a. Type the number that represents the agent or component that you want to uninstall and press Enter.
 - b. Type 1 when prompted to confirm your selection. The component is removed.
5. If you do not want to uninstall any more components, type 99 and press Enter to exit the uninstallation program.
6. Navigate to the `install_dir/config` directory and delete the following files, depending on which agent you are uninstalling:
 - ITCAM agent for WebSphere MQ: `*mq*.cfg` and `mq.ini`, where `*` represents any combination of alphanumeric characters.
 - ITCAM configuration agent for WebSphere MQ: `*mc*.cfg` and `mc.ini`, where `*` represents any combination of alphanumeric characters.
 - ITCAM agent for WebSphere Message Broker: `*kqi*.xml` and `kqi.ini`, where `*` represents any combination of alphanumeric characters.

When the uninstallation is complete, the results are written to the `uninstall-process.trc` file that is located in the `install_dir/logs` directory, where *install_dir* is the IBM Tivoli Monitoring installation directory.

Remember: If any processes belonging to the component that you want to uninstall are still running during the uninstallation process, the uninstallation program will exit without removing the component. However, it is possible to

override this by using the `-i` option. In this case the component is removed even when its processes are still running. You can then stop these processes manually.

Silent uninstallation

1. Run the following command to change to the appropriate `/bin` directory:

```
cd install_dir/bin
```

where *install_dir* is the installation directory of IBM Tivoli Monitoring.

2. For silent uninstallation, run the following command to remove an agent from a UNIX or Linux computer:

```
./uninstall.sh [-f] [-i] [-h candle_directory] [product] [archcode]
```

where:

- the `-f` option forces delete, suppressing confirmation messages and prompts.
- the `-i` option is used to ignore all running processes.
- *product* is a two-letter code for the product to be uninstalled.
- *archcode* is the architecture code (such as `aix513`, `sol286`, and `hp11`) for the operating system.

For example, run the following command:

```
./uninstall.sh mc li6263
```

`mc` is the product code of ITCAM configuration agent for WebSphere MQ, and `li6263` is the architecture code for the operating system.

Uninstalling an agent on i5/OS systems

The following section explains how to uninstall ITCAM agent for WebSphere MQ and ITCAM configuration agent for WebSphere MQ on i5/OS systems.

Complete the following steps for each instance of the agent that you want to uninstall:

1. Press F3 to exit from the menu to release the object lock.
2. From an i5/OS console, enter the following command:
DSPSFWRSC
3. Scroll down until you see the name of ITCAM agent for WebSphere MQ or ITCAM configuration agent for WebSphere MQ in the Description column.
4. Record the licensed program ID for the component, which is on the left under the column for Resource ID.

Licensed program ID _____

5. Press Enter to continue.
6. From an i5/OS console, enter the following command:
DLTLICPGM LICPGM(*licpgm*)
where *licpgm* is the licensed program ID that you recorded in step 4.
7. If you are uninstalling the ITCAM agent for WebSphere MQ, you need to perform the following additional steps:

- a. From an i5/OS console, enter the following command:

```
QSH
```

- b. In Qshell environment, run the following command:

```
rm -fr /home/kmq
```

Now the uninstallation is complete.

Removing files for remote deployment (all operating systems)

Files that are required for using remote deployment features are installed at the Tivoli Enterprise Monitoring Server when the agent application support is installed. To remove these files, run `tacmd removeBundles` the command. See Appendix E of the *IBM Tivoli Monitoring Installation and Setup Guide, SC32-9407* for more information.

Chapter 6. Known limitation and troubleshooting information

This chapter describes problem determination and resolution information for the issues associated with ITCAM for WebSphere Messaging 7.0.1 fix pack 1.

Limitations for the ITCAM agent for WebSphere Message Broker

Consider the following known limitations when you use the ITCAM agent for WebSphere Message Broker that is included in this fix pack.

Workspace limitations when monitoring WebSphere Message Broker 7.0

When monitoring WebSphere Message Broker V7.0, the ITCAM agent for WebSphere Message Broker cannot get data for several attributes or workspaces. Be aware of this limitation when you find there is no data in some columns or workspaces.

The following workspaces contain no data:

- ACL Entries
- Multicast Group Statistics
- Multicast Summary Statistics
- Multicast Topic Statistics
- Neighbor Broker Information
- Neighbors
- Publish-Subscribe Statistics
- Retained Publications
- Subscriptions

In the Execution Group Information workspace, n/a is displayed in the following columns:

- Trace Filter
- User Trace Filter

In the Message Flow Information workspace, n/a is displayed in the following columns:

- Statistics Archive Reset
- Trace Filter
- User Trace Filter

In the Broker Information, Broker Status, and Broker Summary workspaces, n/a is displayed in the following columns:

- Configuration Manager QMgr
- Publish Subscribe Access Control
- Trace Level
- User Name Server QMgr

Agent limitation when monitoring brokers with a large number of message flows

When there is a large number of message flows (for example, hundreds of them) in a broker that is to be monitored, it takes a long time for the data to be displayed on Tivoli Enterprise Portal when the ITCAM agent for WebSphere Message Broker is started. The monitoring agent will collect all data before display it on Tivoli Enterprise Portal.

Cannot start the agent on Linux or UNIX systems

Problem: After the `kqi.xml` file is modified, the monitoring agent cannot be started on Linux or UNIX systems. The KCIIN0198E error message is displayed, and you can find XML parser errors reported in the log file.

Solution: This problem occurs when you place the `agentId` parameter in the same line with the `<KqiAgent>` tag in the `kqi.xml` file. Place the `<KqiAgent>` tag and the `agentId` parameter in separate lines and start the agent again.

Tivoli Enterprise Portal or tacmd command cannot run in IBM Tivoli Monitoring 6.2.2 Fix Pack 3 on Windows systems

On Windows systems, after you install agent application support based on IBM Tivoli Monitoring 6.2.2 GA, 6.2.2 fix pack 1, or 6.2.2 fix pack 2 to Tivoli Enterprise Portal Server of IBM Tivoli Monitoring 6.2.2 fix pack 3, some features based on Java technology, such as Tivoli Enterprise Portal or tacmd command-line tool might fail to run.

For detailed instructions about how to fix this problem, see <http://www-01.ibm.com/support/docview.wss?uid=swg21450439>.

Appendix A. Supported operating systems

For information about the operating systems that are supported by ITCAM for WebSphere Messaging, see http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/topic/com.ibm.itcama.doc_6.2.3/prerequisites.html

Appendix B. Architecture codes

IBM Tivoli uses abbreviations to represent the various operating system architectures. The following table shows the most current listing of these abbreviations.

This information can also be found in the following file on UNIX systems:
`install_dir/registry/archdsc.tbl`.

Table 13. Operating system architecture abbreviations

Abbreviation	OS Architecture
aix523	AIX v5.2 (32 bit)
aix526	AIX v5.2 (64 bit)
aix533	AIX v5.3 (32 bit)
aix536	AIX v5.3 (64 bit)
citrix	Citrix Metaframe
hp116	HP-UX v11 (64 bit)
li622	Linux Intel v2.2
li6223	Linux Intel v2.2 (32 bit)
li624	Linux Intel v2.4
li6242	Linux Intel v2.4 GCC 2.9.5 (32 bit)
li6243	Linux Intel v2.4 (32 bit)
li6245	Linux Intel v2.4 GCC 2.9.5 (64 bit)
li6246	Linux Intel v2.4 (64 bit)
li6262	Linux Intel v2.6 GCC 2.9.5 (32 bit)
li6263	Linux Intel v2.6 (32 bit)
li6265	Linux Intel v2.6 GCC 2.9.5 (64 bit)
li6266	Linux Intel v2.6 (64 bit)
ls322	Linux zSeries, 2.2 kernel
ls3223	Linux zSeries, v2.2 (32 bit)
ls3226	Linux zSeries, v2.2 (64 bit)
ls324	Linux zSeries, v2.4
ls3243	Linux zSeries, v2.4 (32 bit)
ls3246	Linux zSeries, v2.4 (64 bit)
ls3262	Linux S390 v2.6 GCC 2.9.5 (32 bit)
ls3263	Linux S390 v2.6 (32 bit)
ls3265	Linux S390 v2.6 GCC 2.9.5 (64 bit)
ls3266	Linux S390 v2.6 (64 bit)
osf1	Digital UNIX (prior to V5.0)
os390	OS/390® or z/OS
os400	i5/OS system
sol24	Solaris v2.4

Table 13. Operating system architecture abbreviations (continued)

Abbreviation	OS Architecture
sol25	Solaris v2.5
sol26	Solaris v2.6
sol283	Solaris v8 (32 bit)
sol286	Solaris v8 (64 bit)
sol293	Solaris v9 (32 bit)
sol296	Solaris v9 (64 bit)
sol503	Solaris v10 (32 bit)
sol506	Solaris v10 (64 bit)
sol603	Solaris v10 Opteron (32 bit)
sol606	Solaris v10 Opteron (64 bit)
tsf50	Tru64 v5.0
unix	UNIX
winnt	Windows 2000 and Windows 2003 Server

Appendix C. Product codes

The following table lists product codes that identify the agents. Use these codes when running commands.

Table 14. Product codes

Product	Code
ITCAM agent for WebSphere Message Broker	qi
ITCAM configuration agent for WebSphere MQ	mc
ITCAM agent for WebSphere Message Broker	mq

Appendix D. CandleMonitor node in 64-bit broker environments on Windows systems

If the broker is 64-bit on a Windows system, perform the following steps to install the CandleMonitor node in the broker environment:

1. Verify that the `kqipnode64.lil`, `kbb.dll`, and `k1x.dll` files were copied to the `bin` directory of the broker during the installation of ITCAM agent for WebSphere Message Broker. If the files were not copied to the `bin` directory of the broker during installation, do it now by performing the following steps:
 - a. Stop the broker.
 - b. Copy the three files from the `install_dir\TMAITM6\kqipnode64` directory to the `bin` directory of the broker, where `install_dir` is the installation directory of the ITCAM agent for WebSphere Message Broker.

Tip: This is an example of a typical `bin` location: `C:\Program Files\IBM\MQSI\7.0\bin`.

2. Verify that the `kqipnode64.lil` file in the `bin` directory of the broker *exactly* matches (in size, date, and the time last modified) the one that is in the `install_dir\TMAITM6\kqipnode64` directory.

Important: A mismatch of the release-level of these files can cause a failure of the broker statistics and message flow events reporting.

3. Make sure that Microsoft .NET Framework 3.5 is installed on your system.
4. Start the broker again.
5. Repeat step 1 to step 4 for each Windows system with a broker to be monitored.

The CandleMonitor node is now installed in your broker environment.

Remember: Before you can use the ITCAM agent for WebSphere Message Broker to monitor message flows, it must also be made available in the Message Brokers Toolkit. For instructions about how to make the node available in Message Brokers Toolkit version 6 or 6.1, see *WebSphere Message Broker Monitoring Agent User's Guide, SC23-7954*, version 7.0.1 GA. For Message Brokers Toolkit version 7.0, see Appendix E, "Making the CandleMonitor node available in Message Broker Toolkit V7.0," on page 99.

Appendix E. Making the CandleMonitor node available in Message Broker Toolkit V7.0

To make the CandleMonitor node available in Message Broker Toolkit V7.0, perform the following procedure:

1. Exit the Message Broker Toolkit if it is open.
2. Find the CandleMonitor node file. The file name and location vary depending on the operating system where the ITCAM agent for WebSphere Message Broker is running:

- Windows systems: *install_dir*\TMAITM6\kqicm700.exe
- UNIX or Linux systems: *install_dir/arch/qi/bin/kqicm700.tar*

where *install_dir* is the installation directory of the ITCAM agent for WebSphere Message Broker; *arch* specifies the architecture code of the operating system of this computer.

3. Extract the CandleMonitor node file. Two subdirectories are included in this file:

- com.candle.monitor_7.0.0 (contains all the necessary plugin support files)
- com.candle.monitor.nl1_7.0.0 (contains all the native language support files)

Tip: The version number in the subdirectory name, such as 7.0.0, indicates the latest version of WebSphere Message Broker.

4. Copy the two subdirectories (com.candle.monitor_7.0.0 and com.candle.monitor.nl1_7.0.0) from the toolkit workspace folder to the following folder depending on the operating system where the toolkit is installed:

- Windows systems: *WMBT_installdir*\plugins
- UNIX or Linux systems: *WMBT_installdir*/plugins

where *WMBT_installdir* is the installation directory of WebSphere Message Broker Toolkit.

5. Restart the Message Broker Toolkit.

Now you can see the CandleMonitor node in the message flow editor palette under the IBM category in the Broker Application Development perspective.

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