



Fix Pack 01 Readme and Documentation Addendum



Fix Pack 01 Readme and Documentation Addendum

Note

Before using this information and the product it supports, read the information in Appendix E, "Notices," on page 97.

First Edition

This edition applies to version 6.0.1 Fix Pack 01 of IBM Tivoli OMEGAMON XE for Messaging and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. About this fix pack

The readme and documentation addendum file provides details about installing the fix pack and describes new product features, enhancements and changes in the IBM® Tivoli® OMEGAMON® XE for Messaging V6.0.1 fix pack 01.

New in this fix pack

This fix pack mainly resolved a few installation issues and some critical issues of IBM Tivoli OMEGAMON XE for Messaging V6.0.1 GA.

Product fix history

The following APARs and defects are addressed in this fix pack.

Table 1. APARs and defects addressed in this fix pack

APAR/defect number	Symptom
APAR IZ16902	Semaphore problems make the WebSphere® Message Broker unresponsive.
APAR IZ11551	The system CCSID being used is not the same with WebSphere MQ CCSID.
APAR IZ15507	KMQ.SQL UPDATING DESCRIPTION COLUMN/FIELD.
APAR IZ20572	MQ AGENT REQUIRES CONFIG TO HUB, NOT REMOTE.
APAR IZ22103	KRARLOFF does not work QMEVENTH TABLE on i5/OS®.
APAR IZ23181	The kqinode.cfg takes no effect on the KQI agent side.
Defect 171472	The queue manager type of the WebSphere MQ Configuration agent V3.7.1 is wrong.
Defect 184525	The WebSphere MQ Configuration agent does not work because KCFCCTII is not found.
Defect 179931	The remote Tivoli Enterprise Monitoring Server (TEMS) cannot connect to the hub TEMS after installing OMEGAMON XE for Messaging V6.0.1.
Defect 183711	Redundant files are created after Installation.
Defect 184590	The KMQ history file isn't stored separately by the instance.
Defect 185889	The gsk7bas64-7.0-3.18.s390x.rpm file is missing on Linux® for z/Series 64-bit systems.
Defect 186079	The kqipnode.lil file is not copied for WebSphere Message Broker V6.1 on Windows® operating systems.

Product compatibility

For distributed environment

- IBM Tivoli Monitoring (ITM) V6.1.0 with fix pack 4 Interim Fix 9 at the minimum; ITM V6.1 Fix pack 7 recommended.
- IBM WebSphere MQ 5.3, 6.0

- Any of the following IBM broker products:
 - IBM WebSphere MQ Integrator V2.1
 - IBM WebSphere MQ Integrator V2.1
 - IBM WebSphere MQ Integrator Broker V2.1
 - IBM WebSphere MQ Event Broker V2.1
 - IBM WebSphere Business Integration Event Broker V5
 - IBM WebSphere Business Integration Message Broker V5
 - IBM WebSphere Business Integration Message Broker with Rules and Formatter Extension V5
 - IBM WebSphere Event Broker V6
 - IBM WebSphere Message Broker V6
 - IBM WebSphere Message Broker V6 with Rules and Formatter Extension V6
- IBM WebSphere InterChange Server V4.2.2, V4.3

For the host z/OS environment

- IBM Tivoli Monitoring (ITM) V6.1.0 with fix pack 4 Interim Fix 9 at the minimum; ITM V6.1.0 Fix pack 5 recommended. v
- IBM WebSphere MQ V5.3.1 or V6.0
- Any of the following IBM Broker products:
 - IBM WebSphere MQ Integrator V2.1
 - IBM WebSphere MQ Integrator Broker V2.1
 - IBM WebSphere Business Integration Event Broker V5
 - IBM WebSphere Business Integration Message Broker V5
 - IBM WebSphere Business Integration Message Broker with Rules And Formatter Extension V5
 - IBM WebSphere Event Broker V6
 - IBM WebSphere Message Broker V6
 - IBM WebSphere Message Broker V6 with Rules and Formatter Extension

Additional compatibility information

This section explains the coexistence scenarios between IBM Tivoli Monitoring and IBM Tivoli OMEGAMON XE for Messaging since IBM Tivoli Monitoring V6.2 is released.

- IBM Tivoli OMEGAMON XE for Messaging Application Support and Tivoli Enterprise Portal (TEP), Tivoli Enterprise Portal Server (TEPS), Tivoli Enterprise Monitoring Server (TEMS)

The following table displays the compatibility between the IBM Tivoli OMEGAMON XE for Messaging Application Support and TEP, TEPS and TEMS. In Table 2 on page 3, Yes means that products of the two levels are compatible and blank means they are incompatible.

Table 2. Compatibility between IBM Tivoli OMEGAMON XE for Messaging Application Support and TEP, TEPS, and TEMS

		IBM Tivoli OMEGAMON XE for Messaging Application Support level			
		V6.0.1 IF03	V6.0.1 GA	From V6.0 FP01 to V6.0 FP01 IF03	From V6.0 GA to V6.0 IF06
Tivoli Enterprise Portal (TEP), Tivoli Enterprise Portal Server (TEPS) and Tivoli Enterprise Monitoring Server (TEMS) level	V6.2 FP01	Yes ¹			
	V6.2 GA	Yes ¹			
	V6.1 FP07	Yes ²	Yes ²	Yes ²	
	V6.1 FP06	Yes	Yes	Yes	
	V6.1 FP05	Yes	Yes	Yes	
	V6.1 FP04				Yes
	V6.1 FP03				Yes
	V6.1 FP02				Yes
V6.1 FP01				Yes	

Notes:

1. Read the technote at <http://www.ibm.com/support/docview.wss?uid=swg21304487> before installing IBM Tivoli OMEGAMON XE for Messaging V6.0.1 Application Support.
2. Formal tests have not been conducted by IBM. However, support will be provided if you run into any problems.

- IBM OMEGAMON XE for Messaging agent and IBM Tivoli Monitoring agent framework

The following table displays the compatibility between the IBM Tivoli OMEGAMON XE for Messaging agent and IBM Tivoli Monitoring agent framework. In Table 3, Yes means that products of the two levels are compatible and blank means they are incompatible.

Table 3. Compatibility between IBM Tivoli OMEGAMON XE for Messaging agent and IBM Tivoli Monitoring agent framework

		IBM Tivoli OMEGAMON XE for Messaging agent level			
		V6.0.1 IF03	V6.0.1 GA	From V6.0 FP01 to V6.0 FP01 IF03	From V6.0 GA to V6.0 IF06
IBM Tivoli Monitoring agent framework level	V6.2 FP01	Yes	Yes ¹	Yes ^{1,2}	Yes ^{1,2}
	V6.2 GA	Yes	Yes	Yes ²	Yes ²
	V6.1 FP07	Yes ²	Yes ²	Yes ²	Yes ²
	V6.1 FP06	Yes	Yes	Yes	Yes ²
	V6.1 FP05	Yes	Yes	Yes	Yes ²
	V6.1 FP04				Yes
	V6.1 FP03				Yes
	V6.1 FP02				Yes
V6.1 FP01				Yes	

Table 3. Compatibility between IBM Tivoli OMEGAMON XE for Messaging agent and IBM Tivoli Monitoring agent framework (continued)

	IBM Tivoli OMEGAMON XE for Messaging agent level			
	V6.0.1 IF03	V6.0.1 GA	From V6.0 FP01 to V6.0 FP01 IF03	From V6.0 GA to V6.0 IF06
Notes:				
1. Only compatible when you apply IBM Tivoli Monitoring V6.2 FP01 as an upgrade other than the initial installation.				
2. Formal tests have not been conducted by IBM. However, support will be provided if you run into any problems.				

- IBM Tivoli OMEGAMON XE for Messaging agent and the application support
The level of the application support must always be equal to or higher than the highest level of the agent. And the level of the application support must be consistent on the TEP, TEPS and TEMS.
- IBM Tivoli OMEGAMON XE for Messaging Application Support on the hub TEMS and on a remote TEMS
The level of the application support on the hub TEMS must be consistent with that on a remote TEMS.

Chapter 2. Installing IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1

IBM Tivoli OMEGAMON XE for Messaging V6.0.1 fix pack 01 can help you with the following tasks:

- **Fresh Install:**

If you do not have IBM Tivoli OMEGAMON XE for Messaging V6.0.1 installed, this fix pack can help you install and upgrade the IBM Tivoli OMEGAMON XE for Messaging to V6.0.1 fix pack 1 all at once.

- **Upgrade:**

If you already have WebSphere Business Integration V1.0 or WebSphere Business Integration V1.1 or IBM Tivoli OMEGAMON XE for Messaging V6.0.1 installed, this fix pack can help you upgrade to IBM Tivoli OMEGAMON XE for Messaging V6.0.1 fix pack 1. The installer will backup the configuration files for you before the installation; and reconfigure the components with the previous configuration values after the installation.

All agents require that application support files that contain agent-specific information be installed on the Tivoli Enterprise Monitoring Server (TEMS), Tivoli Enterprise Portal Server (TEPS), and Tivoli Enterprise Portal (TEP) desktop client that the agents will connect to. Add the application support accordingly before you start to install the agents of IBM Tivoli OMEGAMON XE for Messaging.

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

- “Installing application support on Tivoli Enterprise Monitoring Server” on page 15
- “Installing application support on Tivoli Enterprise Portal Server” on page 19
- “Installing application support on Tivoli Enterprise Portal desktop client” on page 21

See “Installing IBM Tivoli OMEGAMON XE for Messaging” on page 28 for instructions about how to install the agents of IBM Tivoli OMEGAMON XE for Messaging.

Before you can use a monitoring agent, the TEMS to which it reports must be added with application support; that is, initialized with application data. See “Adding application support to the Tivoli Enterprise Monitoring Server” on page 23 for instructions about how to add application support to TEMS.

Before you begin

This section explains how to prepare for installing IBM Tivoli OMEGAMON XE for Messaging.

General guidelines

Before starting to install IBM Tivoli OMEGAMON XE for Messaging, consider the following points to ensure that your environment is suitable for installation.

1. Ensure that the following IBM Tivoli Monitoring V6.1 fix pack 7 or higher components must be installed and running correctly.
 - Tivoli Enterprise Monitoring Server (TEMS)

- Tivoli Enterprise Portal Server (TEPS)
- Tivoli Enterprise Portal (TEP) 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.

If your system is running a version of IBM Tivoli Monitoring prior to V6.1 fix pack 7, you must first upgrade this to V6.1 fix pack 7 or higher. For upgrading instructions, see *IBM Tivoli Monitoring Installation and Setup Guide*.

Remember: When you are upgrading from Candle[®] 350 to ITM V6.1 fix pack 5, the TEMS cannot be started. You need to perform the following steps to ensure that TEMS can be started automatically:

- Stop all the CMS services and change the startup from **Automatic** to **Manual**.
 - Remove KCFEPRB.KCFCCTII from KBBENV.
 - Rename KCFEPRB.dll to KCFEPRB.dll.bak.
 - Restart the machine.
 - Install the ITM V6.1 fix pack 5 image.
- Identify where the systems or applications are running.
In general, you should install and configure an IBM Tivoli OMEGAMON XE for Messaging agent on every machine where the system or application you want to monitor is running.
In the case of WebSphere InterChange Server Monitoring, you only need to install one monitoring agent, which collects data from SNMP agents and its own data sources on the host of each monitored WebSphere InterChange Server instance.
 - Identify the communications protocols that are available in your environment. Use TCP/IP (IP.UDP on Windows and IP on UNIX[®] and Linux) , IP.PIPE, or SNA for communication between the monitoring agent and the IBM Tivoli Monitoring components.
 - Ensure that the operating system of the computer on which you plan to install IBM Tivoli OMEGAMON XE for Messaging is listed in Appendix C, "Supported operating systems," on page 91.
 - If your environment is protected by a firewall, read the section regarding firewalls in *IBM Tivoli Monitoring: Installation and Setup Guide*.
 - If you plan to use the agent remote deployment feature, ensure that the IBM Tivoli Monitoring OS agent is running on the target machine where you plan to deploy an agent before installing IBM Tivoli OMEGAMON XE for Messaging. See Chapter 4, "Deploying monitoring across your environment from a central location," on page 73 for information about how to deploy agent remotely.

Hardware and software prerequisites

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

- "Windows prerequisites" on page 6
- "UNIX and Linux prerequisites" on page 9
- "OS/400 prerequisites" on page 14

Windows prerequisites

This section lists the hardware and software prerequisites for installing IBM Tivoli OMEGAMON XE for Messaging on Windows.

Windows Service Packs:

- Windows 2000 Professional: Service Pack 3 or above
- Windows XP Professional: Service Pack 1 or above

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
- TCP/IP 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 PCOMM (version 4.11 or higher). Fix IC19970 is required on Windows 2000 Server or Workstation.
- 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.

Disk space: Before installing IBM Tivoli OMEGAMON XE for Messaging, ensure that the system on which you are installing meets the following disk space requirements:

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

Memory: Before installing IBM Tivoli OMEGAMON XE for Messaging, ensure that the system on which you are installing meets the following memory requirements:

- Minimum: 512 MB
- Recommended: 1 GB

CPU: Before installing IBM Tivoli OMEGAMON XE for Messaging, ensure that the system on which you are installing meets the following CPU requirements:

RISC architectures:

- Minimum: 1 GHz

Intel architectures:

- Minimum: 1 GHz
- Recommended: 2 GHz

Requirements for individual components: This table lists the individual requirements for installing each IBM Tivoli OMEGAMON XE for Messaging component.

Table 4. Windows installation requirements for each component

Component name	Windows version	Hardware	Other requirements
WebSphere Message Broker Monitoring	<ul style="list-style-type: none"> • Windows 2003 server • Windows XP Professional Edition with service pack 1 or higher • Windows 2000 Professional server or advanced server, with service pack 3 or higher 	<ul style="list-style-type: none"> • 18 MB disk space • 125 MB disk space for remote deployment support, if enabled • 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 MQ Integrator V2.1 • IBM WebSphere MQ Integrator Broker V2.1 • IBM WebSphere MQ Event Broker V2.1 • IBM WebSphere Business Integration Event Broker V5 • IBM WebSphere Business Integration Message Broker V5 • IBM WebSphere Business Integration Message Broker with Rules and Formatter Extension V5 • IBM WebSphere Event Broker V6 • IBM WebSphere Message Broker V6 • IBM WebSphere Message Broker with Rules and Formatter Extension V6 <p>Note: The monitoring agent must be installed on the same machine as the IBM broker product.</p>
WebSphere InterChange Server Monitoring	<ul style="list-style-type: none"> • Windows 2003 Server • Windows XP Professional Edition with service pack 1 or higher • Windows 2000 Professional server or advanced server, with service pack 3 or higher 	<ul style="list-style-type: none"> • 10 MB disk space for the monitoring agent • 2 MB disk space for the data source • Additional disk space for historical data storage, if historical data collection is enabled 	<ul style="list-style-type: none"> • WebSphere InterChange Server v4.2.2 or v4.3 • One of the SNMP agents that come with WebSphere Interchange Server must be installed and configured to monitor each server that you want to monitor. WebSphere InterChange Server Monitoring must be configured as the SNMP manager for the agent. The SNMP polling interval (set in the SNMP Agent Configuration Wizard) must not exceed 5 minutes. • Only one WebSphere InterChange Server Monitoring (KICAgent) can be installed, preferably on the same host as the Tivoli Enterprise Monitoring Server. • One WebSphere InterChange Server data source must be installed on the host of each monitored WebSphere InterChange Server.

Table 4. Windows installation requirements for each component (continued)

Component name	Windows version	Hardware	Other requirements
WebSphere MQ Monitoring	<ul style="list-style-type: none"> Windows 2003 server Windows XP Professional Edition with service pack 1 or higher Windows 2000 Professional server or advanced server, with service pack 3 or higher 	<ul style="list-style-type: none"> 4 MB disk space Additional 125 MB disk space for remote deployment support, if enabled Additional disk space for historical data storage, if historical data collection is enabled 	<ul style="list-style-type: none"> IBM WebSphere MQ v5.3 or v6.0 The WebSphere MQ monitoring agent must be installed on the same machine as the application that you want to monitor.
WebSphere MQ Configuration	<ul style="list-style-type: none"> Windows 2003 Server Windows XP Professional Edition with service pack 1 or higher Windows 2000 Professional server or advanced server, with service pack 3 or higher 	<ul style="list-style-type: none"> 4 MB disk space Additional 125 MB for remote deployment support, if enabled Additional disk space for historical data storage, if historical data collection is enabled 	<p>The WebSphere MQ configuration agent 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 TEMS. DB2 Universal Database (UDB) Workgroup Server Edition v8.2, which must be installed on the same machine as the hub TEMS. DB2® UDB can be installed from the Workgroup Server Edition v8.2 CD included in the product package of IBM Tivoli OMEGAMON XE for Messaging. If the TEMS is installed on z/OS® and you want to use the DB2 configuration database, DB2 v8.1 or higher is required. If DB2 is not already installed on the z/OS machine that hosts the TEMS, it must be purchased and installed separately.

UNIX and Linux prerequisites

This section lists the hardware and software prerequisites for installing IBM Tivoli OMEGAMON XE for Messaging on UNIX or Linux.

Memory: Before installing IBM Tivoli OMEGAMON XE for Messaging, ensure that the system on which you are installing meets the following memory requirements:

- Minimum: 512 MB
- Recommended: 1 GB

Communications:

- Communications between components can use the TCP/IP, SNA, or IP.PIPE protocols.

For TCP/IP communication, and TCP/IP network service can be used (such as NIS, DNS or the /etc/hosts file). These 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:

- CD-ROM drive
- Native X-Term monitor for UNIX or Hummingbird Exceed X-windows emulators for PCs only

Software requirements:

- Korn shell command interpreter
- GSKit, which is used to provide security between monitoring components. The following table lists the operating system patches required for GSKit:

Table 5. Operating system patches required for GSKit

Operating system	Patches required
Solaris V8	108434-14, 111327-05, 108991, 108993-31, 108528-29, 113648-03, 116602-01, 111317-05, 111023-03, 115827-01
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 2.1 Intel®	pdksh-5.2.14-13.i386.rpm
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

Disk space:

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

Solaris requirements: On Solaris platforms, 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

Requirements for individual components: This table lists the individual requirements for installing each IBM Tivoli OMEGAMON XE for Messaging component.

Table 6. UNIX installation requirements for each component

Component name	Operating system	Hardware	Other requirements
WebSphere Message Broker Monitoring	<ul style="list-style-type: none"> • AIX V5.2, V5.3 (32/64 bit) • Solaris V9 or V10 (32/64 bit) • HP-UX V11.i (32/64 bit) with the following Goldpacks installed: <ul style="list-style-type: none"> – GOLDBASE11i, r=B.11.11.0306.4 – GOLDAPPS11i, r=B.11.11.0306.4 • Linux on zSeries® (31/64 bit) or Intel architectures: <ul style="list-style-type: none"> – SUSE Enterprise Server 8 (2.4.x kernel level) or 9 (2.6.x kernel level) – Red Hat Enterprise Linux 3 (2.4.x kernel level), or 4 (2.6.x kernel level) • Linux on iSeries® and pSeries®: <ul style="list-style-type: none"> – SUSE Enterprise Server 8, 9 or 10 – Red Hat Enterprise Linux 4 	<ul style="list-style-type: none"> • 10 MB disk space • Additional 125 MB for remote deployment support, if enabled • 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 MQ Integrator V2.1 • IBM WebSphere MQ Integrator Broker V2.1 • IBM WebSphere MQ Event Broker V2.1 • IBM WebSphere Business Integration Event Broker V5 • IBM WebSphere Business Integration Message Broker V5 • IBM WebSphere Business Integration Message Broker with Rules and Formatter Extension V5 • IBM WebSphere Event Broker V6 • IBM WebSphere Message Broker V6 • IBM WebSphere Message Broker with Rules and Formatter Extension V6 <p>The monitoring agent must be installed on the same machine as the IBM broker product. For Intel architectures running Linux, only IBM WebSphere MQ version 5.3, CSD05 and above are supported.</p>

Table 6. UNIX installation requirements for each component (continued)

Component name	Operating system	Hardware	Other requirements
WebSphere InterChange Server Monitoring	<ul style="list-style-type: none"> • AIX V5.2, V5.3 (32/64 bit) • Solaris V9 or V10 (32/64 bit) • HP-UX V11.i (32/64 bit) with the following Goldpacks installed: <ul style="list-style-type: none"> – GOLDBASE11i, r=B.11.11.0306.4 – GOLDAPPS11i, r=B.11.11.0306.4 • Linux on Intel architectures: <ul style="list-style-type: none"> – SUSE Enterprise Server 8 (2.4.x kernel level) or 9 (2.6.x kernel level) – Red Hat Enterprise Linux 3 (2.4.x kernel level) or 4 (2.6.x kernel level) 	<ul style="list-style-type: none"> • Monitoring agent: 10 MB disk space • Data source: 2 MB disk space • Additional disk space for historical data storage, if historical data collection is enabled. 	<ul style="list-style-type: none"> • WebSphere InterChange Server V4.2.2 or V4.3 • One of the IBM SNMP agents that come with WebSphere Interchange Server must be installed and configured to monitor each server that you want to monitor. The WebSphere InterChange Server Monitoring agent must be configured as the SNMP manager for the agent. The SNMP Polling Interval (set using the SNMP Agent Configuration Wizard) should not exceed 5 minutes. • Only one WebSphere InterChange Server Monitoring (KICAgent) should be installed, preferably on the same host as the Tivoli Enterprise Portal Server. • One WebSphere InterChange Server data source should be installed on the host of each monitored WebSphere InterChange Server. • If you're using AIX 5.3 and the pack level is 5300-05, you need to install 5300-05-02 service pack or later.

Table 6. UNIX installation requirements for each component (continued)

Component name	Operating system	Hardware	Other requirements
WebSphere MQ Monitoring	<ul style="list-style-type: none"> • AIX V5.2, V5.3 (32/64 bit) • Solaris V9 or V10 (32/64 bit) • HP-UX V11.i (32/64 bit) with the following Goldpacks installed: <ul style="list-style-type: none"> – GOLDBASE11i, r=B.11.11.0306.4 or a later version – GOLDAPPS11i, r=B.11.11.0306.4 or a later version Note: For HP-UX V11.11, you must make sure that the PHSS_30970 patch is installed. • Linux on zSeries (31/64 bit) or Intel architectures: <ul style="list-style-type: none"> – SUSE Enterprise Server 8 (2.4.x kernel level) or 9 (2.6.x kernel level) – Red Hat Enterprise Linux 3 (2.4.x kernel level), or 4 (2.6.x kernel level) • Linux on iSeries and pSeries: <ul style="list-style-type: none"> – SUSE Enterprise Server 8, 9 or 10 – Red Hat Enterprise Linux 4 	<ul style="list-style-type: none"> • 35 MB disk space • Additional 125 MB for remote deployment support, if enabled • Additional disk space for historical data storage, if historical data collection is enabled. 	<ul style="list-style-type: none"> • IBM WebSphere MQ V5.3, V6.0 <p>The WebSphere MQ monitoring agent must be installed on the same machine as the application being monitored.</p>

Table 6. UNIX installation requirements for each component (continued)

Component name	Operating system	Hardware	Other requirements
WebSphere MQ Configuration	<ul style="list-style-type: none"> • AIX V5.2, V5.3 (32/64 bit) • Solaris V9 or V10 (32/64 bit) • HP-UX V11.i (32/64 bit) with the following Goldpacks installed: <ul style="list-style-type: none"> – GOLDBASE11i, r=B.11.11.0306.4 – GOLDAPPS11i, r=B.11.11.0306.4 • Linux on zSeries (31/64 bit) and Intel architectures: <ul style="list-style-type: none"> – SUSE Enterprise Server 8 (2.4.x kernel level) or 9 (2.6.x kernel level) – Red Hat Enterprise Linux 3 (2.4.x kernel level), or 4 (2.6.x kernel level) • Linux on iSeries and pSeries: <ul style="list-style-type: none"> – SUSE Enterprise Server 8, 9 or 10 – Red Hat Enterprise Linux 4 	<ul style="list-style-type: none"> • 35 MB disk space • Additional 125 MB for remote deployment support, if enabled • Additional disk space for historical data storage, if historical data collection is enabled. 	<p>The WebSphere MQ configuration agent 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 TEMS. • DB2 Universal Database (UDB) Workgroup Server Edition v8.2, which must be installed on the same machine as the hub TEMS. DB2 UDB can be installed from the Workgroup Server Edition v8.2 CD included in the product package of IBM Tivoli OMEGAMON XE for Messaging. If the TEMS is installed on z/OS and you want to use the DB2 configuration database, DB2 v8.1 or higher is required. If DB2 is not already installed on the z/OS machine that hosts the TEMS, it must be purchased and installed separately.

OS/400 prerequisites

This section lists the hardware and software prerequisites for installing IBM Tivoli OMEGAMON XE for Messaging on OS/400® systems.

Hardware requirements:

- RISC system
- 5250 non-programmable workstation or any workstation running 5250 emulation connected to an AS/400® system
- 150 MB free disk space for program files
- 50 MB temporary free disk space for running the software

Software requirements:

- WebSphere MQ Monitoring and WebSphere MQ Configuration agents (6.0.1 or higher) running on OS/400 platform (versions 5.2, 5.3 or 5.4)
- If you are using OS/400 5.2, make sure that PTF SI17787 is installed on your system.
- TCP/IP Communication Utilities

Note: See *Compiling information about your AS/400 system* section in the *IBM Tivoli OMEGAMON XE for Messaging: Installation Guide* for information about how to check if TCP/IP Communications Utilities are installed.

Installing application support on Tivoli Enterprise Monitoring Server

Depending on the operating system on which Tivoli Enterprise Monitoring Server is installed, use instructions in the following sections to install application support on each Tivoli Enterprise Monitoring Server (hub and remote) in your environment:

- “Installing application support on a Windows Tivoli Enterprise Monitoring Server”
- “Installing application support on a UNIX or Linux Tivoli Enterprise Monitoring Server” on page 17

Installing application support on a Windows Tivoli Enterprise Monitoring Server

Use the following steps to install required application support on a Windows TEMS:

Note: The TEMS is stopped during the process.

1. Log on to Windows using a user ID with Administrator authority.
2. Close any running applications.
3. Insert the IBM Tivoli OMEGAMON XE for Messaging CD-ROM for Windows into your CD-ROM drive.
4. In the /WINDOWS subdirectory on the installation media, double-click setup.exe to launch the installation.
5. Click **Next** on the Welcome window.
6. The Prerequisites window, containing information about prerequisite software that should be installed before continuing with the OMEGAMON XE for Messaging installation is displayed. The prerequisites tested for are the IBM Global Security Toolkit and IBM Java™ Virtual Machine (JVM). The version number of each of these products already installed on the host machine is displayed, along with the number of the version required by IBM Tivoli OMEGAMON XE for Messaging. If the Current® Version field is empty, then either the version number of the installed product could not be obtained, or the product was not detected on the host machine. If the version number of either of the installed products is less than stated in the Required Version field, ensure that the check box next to the name of the product is selected to have the prerequisite software installed automatically. In the Choose common installation drive for both field enter the drive on which to install the software, then click Next to proceed with the installation process.
7. If you chose to install prerequisite software mentioned in the previous step, follow the on screen prompts to complete the installation procedures. Once installation is complete, you will be automatically returned to the OMEGAMON XE for Messaging InstallShield Wizard.
8. Click **Accept** on the software license.
9. The Select Features window is displayed. Select **Tivoli Enterprise Monitoring Server** and click **Next**.

Note: 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. The Agent Deployment window is displayed. If you want to add one or more agents to the deployment depot, select them and click **Next**.
11. Review the installation summary details. Click **Next** to start the installation.

After installation is complete, a configuration window is displayed. By default, all the components you just installed are selected for configuration. Clear any components that you have already installed on this computer, such as the TEMS.

12. Click **Next** on the configuration window.
13. Specify the default values for any monitoring agents to use when they communicate with the TEMS and click **OK**.

Table 7. Communications protocol for TEMS

Option or field	Description
TEMS Type	Specify the type of the TEMS - hub or remote.
Configure auditing	Select if you want auditing to be configured.
Security: Validate user	Select if you want users to be required to enter their user name and password when logging onto the system.
Address translation	Select this option if the firewall shielding the TEMS uses address translation.
TEC Event Integration Facility	Select this option if you want to forward situation events to IBM Tivoli Enterprise Console®.
TEMS name	Enter the name of the TEMS.
Protocol for this TEMS	You can enter up to three protocols to be used when connecting to the TEMS. The protocol specified in the Protocol 1 field will be used by default. If connection to TEMS using this protocol fails, the protocol specified in the Protocol 2 field will be 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.
Configure Hot Standby TEMS	Select this option to specify a back-up TEMS to be used in the event of the default TEMS failing. Use the options in this section to select the protocols to use when connecting to the standby TEMS, as with the Protocol for TEMS options mentioned previously.

Once you have finished configuring the TEMS click **OK** to accept the settings.

14. Specify the host name (or IP address) and port number of the TEMS. Click **OK** to continue.

The next configuration step is to add application support to the TEMS, such as the workspaces and situations for agents.

15. If the WebSphere MQ Configurator Data Source Parameters window is displayed, perform the following steps to configure the database used by OMEGAMON XE for Messaging.
 - a. Enter the database configuration parameters as show in Table 8:

Table 8. Database configuration parameters

Option	Description
Database	Select whether to use OMEGAMON XE for Messaging's internal database or an external DB2 database, accessed using UDBC. 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.

Table 8. Database configuration parameters (continued)

Option	Description
WebSphere MQ Configurator Database User ID	Enter the ID and password of the WebSphere MQ Configurator database.

- b. Click **OK** to accept the settings entered or cancel to complete configuration at a later time.
 - c. If a message is displayed stating that configuration was completed successfully, click **OK**, otherwise, if configuration failed, you will be given the option to return to the configuration window and re-enter the database settings.
16. Specify the location of the TEMS to which to add application support. Select **This computer** and click **OK**.
 17. Select which components you want to add application support for. By default, all available application support is selected. Click **OK**.
 18. Click **Next** on the message that provides information about the process of adding application support.
 19. Click **Finish** to close the installation wizard.

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

Use the following steps to install application support on a UNIX or Linux TEMS:

1. Stop the TEMS by running the following commands:

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

where *install_dir* is the directory where the TEMS is installed. The default is /opt/IBM/ITM.

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

```
mkdir dir_name
```

3. Mount the installation CD for UNIX or Linux to the temporary directory you just created.

4. Run the following commands:

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

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

5. 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 you used.

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) Exit install.
Please enter a valid number:
```

Type 1 to start the installation and press **Enter**.

7. Type the number that corresponds to the language in which you want to display the software license agreement in and press **Enter**.

8. Press **Enter** to display the agreement.
9. Type 1 to accept the agreement and press **Enter**.
10. You are prompted to install the IBM Tivoli Monitoring shared libraries. The shared libraries vary depending on your operating system. Type **y** and press **Enter** to install them.
11. Type a 32-character encryption key and press **Enter**. This key should be the same as the key that was used during the installation of the TEMS.

Note: If you have already installed another IBM Tivoli Monitoring component on this computer or you are installing support for an agent from an agent installation image, this step does not occur.

12. A numbered list of available operating systems and installation components is displayed. Type the number that corresponds to Tivoli Enterprise Monitoring Server support and press **Enter**.
13. Type **y** to confirm and press **Enter**. A list of the components to install is displayed.
14. Type the number that corresponds to all of the above and press **Enter**.
15. Type **y** to confirm the installation. The installation begins.
16. After all of the components are installed, you are asked whether you want to install components for a different operating system. Type **n** and press **Enter**.
17. Start the TEMS by running the following commands:

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

where *install_dir* is the directory where the TEMS is installed.

18. Run the following command to activate the application support on the TEMS:

```
./itmcmd support -t tems_name pc
```

where *tems_name* is the name of the TEMS and *pc* is the product code of the agent. See Appendix A, "Product codes," on page 87 for a list of product codes.

Note: If you are installing the application support for Tivoli Enterprise Monitoring Server Configuration on a remote TEMS, skip this step.

19. Stop the TEMS by running the following command:

```
./itmcmd server stop tems_name
```

20. Run the following command to restart the TEMS:

```
./itmcmd server start tems_name
```

Note: If you are installing the application support on a remote TEMS, delete KCFEPRB.KCFCCTII from the line KDS_RUN in the file KBBENV to disable WebSphere MQ Configuration support which should only be enabled on the hub TEMS. The KBBENV file can be found in the following locations:

- On Windows operating systems: <ITMHOME>/cms/KBBENV
- On UNIX and Linux operation systems: <ITMHOME>/tables/<TEMS>/KBBENV

where <ITMHOME> is your IBM Tivoli Monitoring installation directory and <TEMS> is the subdirectory to which the TEMS is installed.

Installing application support on Tivoli Enterprise Portal Server

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

- “Installing application support on a Windows Tivoli Enterprise Portal Server”
- “Installing application support on a UNIX or Linux Tivoli Enterprise Portal Server” on page 20

Installing application support on a Windows Tivoli Enterprise Portal Server

Use the following steps to install application support on a Windows TEPS:

1. Log on to Windows using a user ID with Administrator authority.
2. Close any running applications.
3. Select **Start > Programs > IBM Tivoli Monitoring > Manage Tivoli Monitoring Services** to open the Manage Tivoli Enterprise Monitoring Services window.
4. Stop the TEPS by right-clicking it and selecting **Stop**.
5. Insert the IBM Tivoli OMEGAMON XE for Messaging CD-ROM for Windows into your CD-ROM drive.
6. In the /WINDOWS subdirectory on the installation media, double-click setup.exe to launch the installation.
7. Click **Next** on the Welcome window.
8. The Prerequisites window, containing information about prerequisite software that should be installed before continuing with the OMEGAMON XE for Messaging installation is displayed. The prerequisites tested for are the IBM Global Security Toolkit and IBM Java Virtual Machine (JVM). The version number of each of these products already installed on the host machine is displayed, along with the number of the version required by IBM Tivoli OMEGAMON XE for Messaging. If the Current Version field is empty, then either the version number of the installed product could not be obtained, or the product was not detected on the host machine. If the version number of either of the installed products is less than stated in the Required Version field, ensure that the check box next to the name of the product is selected to have the prerequisite software installed automatically. In the Choose common installation drive for both field enter the drive on which to install the software, then click Next to proceed with the installation process.
9. Click **Accept** on the software license agreement.
10. Select **Tivoli Enterprise Portal Server** and click **Next**.

Note: If you have other components installed on the same computer, such as the desktop client, also select those components to install the component-specific application support.
11. Ensure that no agents are selected in the Agent Deployment window and click **Next**.
12. Review the installation summary details. Click **Next** to start the installation. After installation is complete, a configuration window is displayed. By default, all the components that you just installed are selected for configuration. Clear any components that you have already installed and configured on this computer by clicking them.

13. Click **Next** on the configuration window.
14. Type the host name of the TEPS and click **Next**.
15. Click **Finish** to complete the installation.
16. Restart the TEPS by right-clicking it in the **Manage Tivoli Enterprise Monitoring Services** window and selecting **Start**.

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

Use the following steps to install application support on a UNIX or Linux TEPS:

Note: Stop the TEPS before performing this procedure.

1. Run the following command to create a temporary directory on the computer where the TEPS is installed. 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 to the temporary directory you just created.
3. Run the following commands:

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

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

4. 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 you used.
5. 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) Exit install. Please enter a valid number:

Type 1 to start the installation and press **Enter**.

6. Type the number that corresponds to the language in which you want to display the software license agreement in and press **Enter**.
7. Press **Enter** to display the agreement.
8. Type 1 to accept the agreement and press **Enter**.
9. You are prompted to install the IBM Tivoli Monitoring shared libraries. The shared libraries vary depending on your operating system. Type **y** and press **Enter** to install them.
10. Type a 32-character encryption key and press **Enter**. This key should be the same as the key that was used during the installation of the TEPS.

Note: If you have already installed another IBM Tivoli Monitoring component on this computer or you are installing support for an agent from an agent installation image, this step does not occur.

11. A numbered list of available operating systems and installation components is displayed. Type the number that corresponds to Tivoli Enterprise Portal Browser Client support and press **Enter**.
12. Type **y** to confirm and press **Enter**. A list of the components to install is displayed.
13. Type the number that corresponds to all of the above and press **Enter**.

14. Type **y** to confirm the installation. The installation begins.
15. When you are asked whether you want to install components for a different operating system, type **y** and press **Enter**.
16. Type the number that corresponds to Tivoli Enterprise Portal Server support and press **Enter**.
17. Type **y** to confirm and press **Enter**. A list of the components to install is displayed.
18. Type the number that corresponds to all of the above and press **Enter**.
19. Type **y** to confirm the installation. The installation begins.
20. After all of the components are installed, you are asked whether you want to install components for a different operating system. Type **n** and press **Enter**.

Application support for TEPS is installed. Next step is configuring the Tivoli Enterprise Portal Server on UNIX or Linux.

See *IBM Tivoli OMEGAMON XE for Messaging: Installation Guide* for more information.

Installing application support on Tivoli Enterprise Portal desktop client

Depending on the operating system on which Tivoli Enterprise Portal desktop client is installed, use 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 Windows TEP desktop client”
- “Installing application support on a Linux TEP desktop client” on page 22

Installing application support on a Windows TEP desktop client

Use the following steps to install application support on a Windows TEP desktop client:

Note: Stop the desktop client before performing this procedure.

1. Insert the IBM Tivoli OMEGAMON XE for Messaging CD-ROM for Windows into your CD-ROM drive.
2. In the /WINDOWS subdirectory on the installation media, double-click the setup.exe file to launch the installation.
3. Click **Next** on the Welcome window.
4. Click **Accept** on the software license.
5. If you see a message regarding installed versions being newer than the agent installation, click **OK** to ignore this message.
6. Select Tivoli Enterprise Portal Desktop Client and click **Next**.
7. Make sure that no agent is selected. Click **Next**.
8. Review the installation summary details. Click **Next** to start the installation. After installation is complete, a configuration window is displayed. By default, all the components you just installed are selected for configuration. Clear any components that you have already installed and configured on this computer.
9. Click **Next** on the configuration window.
10. Type the host name of the TEPS and click **Next**.
11. Click **Finish** to complete the installation wizard.

Installing application support on a Linux TEP desktop client

Use the following steps to install application support on a Linux desktop client:

Note: Stop the desktop client before performing this procedure.

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

```
mkdir dir_name
```

2. Mount the installation CD for Linux to the temporary directory you just created.
3. Run the following commands:

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

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

4. 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 you used.

5. 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) Exit install.  
Please enter a valid number:
```

Type 1 to start the installation and press **Enter**.

6. Type the number that corresponds to the language in which you want to display the software license agreement in and press **Enter**.
7. Press **Enter** to display the agreement.
8. Type 1 to accept the agreement and press **Enter**.
9. You are prompted to install the IBM Tivoli Monitoring shared libraries. The shared libraries vary depending on your operating system. Type **y** and press **Enter** to install them.
10. Type a 32-character encryption key and press **Enter**. This key should be the same as the key that was used during the installation of the TEMS.

Note: If you have already installed another IBM Tivoli Monitoring component on this computer or you are installing support for an agent from an agent installation image, this step does not occur.

11. A numbered list of available operating systems and installation components is displayed. Type the number that corresponds to Tivoli Enterprise Portal Desktop Client support and press **Enter**.
12. Type **y** to confirm and press **Enter**. A list of the components to install is displayed.
13. Type the number that corresponds to all of the above and press **Enter**.
14. Type **y** to confirm the installation. The installation begins.
15. After all of the components are installed, you are asked whether you want to install components for a different operating system. Type **n** and press **Enter**.
16. Run the following command to configure the portal client with the new agent information:

```
cd install_dir/bin  
./itmcmd config -A cj
```

where *install_dir* is the directory where the TEP is installed. The default is /opt/IBM/ITM. Complete the configuration as prompted.

Application support for Tivoli Enterprise Portal desktop client is installed. The next step is configuring the Tivoli Enterprise Portal desktop client.

See *IBM Tivoli OMEGAMON XE for Messaging: Installation Guide* for more information.

Adding application support to the Tivoli Enterprise Monitoring Server

Before you can use a monitoring agent, the TEMS to which it reports must be added with application support; that is, initialized with application data. Application support adds product-provided situations, templates, and other sample data to the TEMS.

Use the procedures in this section to add application support to the TEMS (hub and remote). Adding application support adds required support files, such as situations, to the TEMS. Use Table 9 as a guideline to add application support to the TEMS.

Note: If the application support is for an agent that reports to a remote TEMS, complete this process for both the hub and the remote TEMS. The hub TEMS should be running before proceeding to install the application support on the remote TEMS.

Table 9. Adding application support to a local TEMS

Operating system	Procedure
On Windows	“Using Manage Tivoli Enterprise Monitoring Services to add application support to a Windows Tivoli Enterprise Monitoring Server on a local computer”
On UNIX or Linux	“Using Manage Tivoli Enterprise Monitoring Services to add application support to a Windows Tivoli Enterprise Monitoring Server on a local computer” or “Using the itmcmd support command to add application support to a local Linux or UNIX Tivoli Enterprise Monitoring Server” on page 25
On z/OS	If the TEMS is running on z/OS, you must install application support remotely from a Windows, UNIX or Linux system that hosts either a TEPS or a TEMS. See “Adding application support to a TEMS on z/OS” on page 26 Note: The TEMS running on z/OS must be started when you add application support to it.

Using Manage Tivoli Enterprise Monitoring Services to add application support to a Windows Tivoli Enterprise Monitoring Server on a local computer

You can use the Manage Tivoli Enterprise Monitoring Services window to add application support to a Windows TEMS located on the local computer:

1. Open **Manage Tivoli Enterprise Monitoring Services** window by selecting **Start > Programs > IBM Tivoli Monitoring > Manage Tivoli Monitoring Services**.

2. In the **Manage Tivoli Enterprise Monitoring Services** window, right-click the Tivoli Enterprise Monitoring Server and select **Advanced > Add TEMS application support**. The **Add application support to the TEMS** window is displayed.
3. Select **On this computer** and click **OK**.
4. In the **Select the Application Support to Add to the TEMS** window, select the agents for which you want to add application support and then click **OK**.

Note: Alternative versions of the following 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 OMEGAMON XE for Messaging, select the `_upg` versions of application support files. If you are not upgrading from an earlier version, select the standard versions of the files.

Available options are:

- WebSphere MQ Configuration: Configuration Management Support (`kcf.sql`)
 - WebSphere MQ Monitoring: WebSphere MQ Monitoring Agent Support (`kmq.sql`)
 - WebSphere Message Broker Monitoring: WebSphere Message Broker Support (`kqi.sql`)
 - WebSphere InterChange Server Monitoring: WebSphere InterChange Server support (`kic.sql`)
5. Application support addition is complete. To implement the application support data changes, the Tivoli Enterprise Monitoring Server must be recycled. Click **Yes** to recycle the TEMS.

Using Manage Tivoli Enterprise Monitoring Services to add application support to a UNIX or Linux Tivoli Enterprise Monitoring Server on a local computer

You can use the Manage Tivoli Enterprise Monitoring Services window to add application support to a UNIX or Linux TEMS located on the local computer:

1. Go to the `install_dir/bin` directory, where `install_dir` is the directory where IBM Tivoli Monitoring is installed. The default is `/opt/IBM/ITM`.
2. Open the **Manage Tivoli Enterprise Monitoring Services** window by running the following command:
`./itmcmd manage`

The **Manage Tivoli Enterprise Monitoring Services** window is displayed.

3. In the **Manage Tivoli Enterprise Monitoring Services** window, select the Tivoli Enterprise Monitoring Server, right-click it, and select **Advanced > Add TEMS application support**. The **Add application support to the TEMS** window is displayed.
4. Select **On this computer** and click **OK**.
5. In the **Select the Application Support to Add to the TEMS** window, select the agents for which you want to add application support and then click **OK**.

Note: Alternative versions of the following 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 OMEGAMON XE for Messaging, select the `_upg` versions of application support files. If you are not

upgrading from an earlier version, select the standard versions of the files.

Available options are:

- WebSphere MQ Configuration: Configuration Management Support (kcf.sql)
 - WebSphere MQ Monitoring: WebSphere MQ Monitoring Agent Support (kmq.sql)
 - WebSphere Message Broker Monitoring: WebSphere Message Broker Support (kqi.sql)
 - WebSphere InterChange Server Monitoring: WebSphere InterChange Server support (kic.sql)
6. Application support addition is complete. To implement the application support data changes, the Tivoli Enterprise Monitoring Server must be recycled. Click **Yes** to recycle the TEMS.

Using the `itmcmd support` command to add application support to a local Linux or UNIX Tivoli Enterprise Monitoring Server

To add application support to a local UNIX or Linux TEMS from command line, perform the following steps:

1. If the TEMS is not running, run the following command to start it:

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

where *install_dir* is the directory where the TEMS is installed and *tems_name* is the name of the TEMS.

2. Run the following command to add application support:

```
./itmcmd support [-h install_dir] [-s] -t tems_name pc pc pc ...
```

where:

Table 10. Parameter descriptions

Parameter	Description
-h	(optional) Parameter to specify the installation directory if it is not the one in which the script is located. Usually not necessary.
install_dir	the installation directory of IBM Tivoli Monitoring
-s	(optional) Option to specify safe mode operation. Safe mode invokes the JRE with the -nojit option (no just-in-time compiler). If you encounter a Java failure error, try running the command as before, but also specifying the -s option. This might solve some Java exceptions that occur on a small number of computers.
-t	Use this option to specify the TEMS name. It is a required option.
tems_name	Specifies the name of the TEMS to add application support to. This argument is required. Note: The TEMS must be specified within the structure of <i>install_dir</i>
pc	The product code of the component that will connect to the TEMS. You can specify one or more components for which to add application support. If you specify multiple components, separate the product codes with either a space or a comma. See Appendix A, "Product codes," on page 87 for a list of product codes.

3. Run the following command to stop the TEMS:

```
./itmcmd server stop tems_name
```
4. Restart the TEMS by running the following command:

```
./itmcmd server start tems_name
```

Adding application support to a TEMS on z/OS

If your TEMS is running on z/OS, you must install application support remotely from a Windows, UNIX, or Linux system that hosts either a TEPS or a TEMS.

Note: The TEMS running on z/OS must be started when you add application support to it.

Using Windows

If the TEPS is running on a Windows computer, use Manage Tivoli Enterprise Monitoring Services to add application support to the TEMS on z/OS:

1. On the system where the TEPS is installed, open Manage Tivoli Enterprise Monitoring Services by selecting **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. From the menu, select **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 z/OS must be started is displayed.
4. If the Tivoli Enterprise Monitoring Server is not started, start it, then click **OK** to continue. The **Non-resident TEMS Connection** window is displayed.
5. Enter the name of the TEMS and select the communications protocol.

Notes:

- a. The TEMS name is the value of the CMS_NODEID parameter in the KDSENV member in &rhilev.&rtename.RKANPARU on the z/OS system where the TEMS is installed.
 - b. The communications protocol you select must be the protocol that your TEMS is configured to use.
6. The **Non-resident TEMS Connection settings** window is displayed. 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 TEMS is running.
 - **Port # and/or Port Pools:** The port number that the TEPS uses to communicate with the TEMS on z/OS. The default is 1918.
 - **Entry Options:** Select **Convert to upper case** (the TEMS servers require 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**.

Note: Alternative versions of the following 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 OMEGAMON XE for Messaging, select the `_upg` versions of application support files. If you are not upgrading from an earlier version, select the standard versions of the files.

Available options are:

- WebSphere MQ Configuration: Configuration Management Support (kcf.sql)
 - WebSphere MQ Monitoring: WebSphere MQ Monitoring Agent Support (kmq.sql)
 - WebSphere Message Broker Monitoring: WebSphere Message Broker Support (kqi.sql)
 - WebSphere InterChange Server Monitoring: WebSphere InterChange Server Support (kic.sql)
8. Recycle the TEMS to implement the application support data changes.

Using UNIX or Linux

If the TEMS is installed on a UNIX or Linux system, use the `kdstsns` utility to add application support to the TEMS running on z/OS.

Notes:

1. As a prerequisite, you must install a TEMS on the local Linux or UNIX computer. This step is necessary to make the application support utility available on the local computer. This means that there are two monitoring servers involved: the local TEMS and the TEMS on z/OS to which you are adding application support.
2. Gather the following information about the TEMS on the remote computer:
 - The host name or IP address
 - The protocol and port number that was specified when the TEMS was configured. The TEMS on the remote computer must be configured to use the IP.UDP, IP.PIPE, or IP.SPIPE communications protocol. This procedure does not support a TEMS that was configured to use SNA.
3. Verify that the TEMS on the remote computer is running.
4. In these instructions, *install_dir* specifies the IBM Tivoli Monitoring installation directory. You can enter either `$CANDLEHOME` or the name of the directory. The default installation directory on Linux and UNIX is `opt/IBM/ITM`.

Perform the following procedure from a Linux or UNIX system to add application support to a TEMS that is installed on a z/OS system:

1. Log on to the local Linux or UNIX system from which you will be adding application support to the TEMS on z/OS.
2. Ensure that the support files (SQL files) are available for the agents for which you are adding application support:
 - a. Enter the following commands:


```
cd install_dir/tables/cicatrsq/SQLLIB
ls
```
 - b. Check the list of SQL files. The SQL file names have the following format:


```
kpc.sql
```

where *pc* is the product code for the agent. See Appendix A, "Product codes," on page 87 for a list of product codes.
 - c. Make note of the *case* (upper or lower) of the SQL file names that you will be using. (On Linux and UNIX, file names are case-sensitive.) You will need this information when you are prompted for the file names in a later step.
3. Set system variables that are required by the application support utility:
 - a. Enter the following command to set the path to the location of the SQL files:


```
export SQLLIB=install_dir/tables/cicatrsq/SQLLIB
```

- b. Enter the following command only if the TEMS on the remote computer was configured using the protocol IP.PIPE or IP.SPIPE. If IP.UDP was used, skip this step.

```
export KDC_FAMILIES=PORT;port_number
```

where *port_number* is the listening port number of the TEMS on the remote computer. The port number was specified when the TEMS was installed and configured. The default value for IP.PIPE is 1918. The default value for IP.SPIPE is 3660.

4. Enter the following commands to start the application support utility:

```
cd install_dir/arch/ms/bin  
./kdstsns
```

where *arch* specifies the architecture code of the operating system of this computer. See Appendix B, "Architecture codes," on page 89 for a list of architecture codes.

5. When prompted, enter the following information about the TEMS on the remote computer. This information is needed to establish a connection between the application support utility and the TEMS.
 - The communications protocol: IP.UDP, IP.PIPE, or IP.SPIPE
 - The host name or IP address
 - The port number
6. At the next prompt, enter the SQL file name for one of the agents for which you are adding application support. The file extension is optional.
 - For the WebSphere MQ Configuration agent, enter *kcf.sql* or *kcf*.
 - For WebSphere MQ Monitoring agent, enter *kmq.sql* or *kmq*.
 - For WebSphere InterChange Server Monitoring agent, enter *kic.sql* or *kic*.
 - For WebSphere Message Broker Monitoring agent, enter *kqi.sql* or *kqi*.

Note: The file name is case-sensitive.

7. Repeat the preceding step for additional agents. When finished, enter end to exit from the application support utility.
8. Restart the TEMS on the remote computer.

Installing IBM Tivoli OMEGAMON XE for Messaging

Installing IBM Tivoli OMEGAMON XE for Messaging on Windows

There are two methods of installing agents of OMEGAMON XE for Messaging on Windows. Installation can be performed interactively using the InstallShield Wizard to guide you through the process, or using a silent installation where all installation parameters are specified in a response file before the process begins. For detailed instructions on using either of these methods, see the following sections:

- "InstallShield Wizard installation"
- "Silent Installation" on page 30

InstallShield Wizard installation

Use the following steps to install and initialize agents of OMEGAMON XE for Messaging with the InstallShield Wizard.

1. Log on to Windows using a user ID with Administrator authority.

2. Close any running applications.
3. Insert the IBM Tivoli OMEGAMON XE for Messaging CD-ROM into your CD-ROM drive. Installation begins automatically. If the InstallShield Wizard does not start automatically, use My Computer to open your CD-ROM drive and run setup.exe. If setup.exe still fails to run, you do not have enough disk space to decompress the setup files. Clear some disk space before starting the installation process again.

The InstallShield 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 CD.

Note: If you are running Windows 2003 or Windows XP 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. The Prerequisites window, containing information about prerequisite software that should be installed before continuing with the OMEGAMON XE for Messaging installation is displayed. The prerequisites tested for are the IBM Global Security Toolkit and IBM Java Virtual Machine (JVM). The version number of each of these products already installed on the host machine is displayed, along with the number of the version required by IBM Tivoli OMEGAMON XE for Messaging. If the Current Version field is empty, then either the version number of the installed product could not be obtained, or the product was not detected on the host machine. If the version number of either of the installed products is less than stated in the Required Version field, ensure that the check box next to the name of the product is selected to have the prerequisite software installed automatically. In the Choose common installation drive for both field enter the drive on which to install the software, then click **Next** to proceed with the installation process.
5. If you chose to install prerequisite software mentioned in the previous step, follow the on screen prompts to complete the installation procedures. Once installation is complete you will be automatically returned to the OMEGAMON XE for Messaging InstallShield Wizard.
6. License agreement information is displayed. If you accept the terms of the license agreement, click **Accept** to continue, otherwise click **Reject** to terminate the installation process. You must accept the terms of the license agreement to install OMEGAMON XE for Messaging.
7. The Select Features window is displayed. Select the features that you want to install from the list provided by clicking the check box next to the features' name. To view more detailed information about a particular feature, click the feature's name. Information about the feature is displayed in the Description panel next to the list of features. When you have selected all the features that you want to install, click **Next** to continue.
8. 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.
9. The Start Copying Files window, summarizing the components you have selected to install, is displayed. Click **Next** to begin installing the listed components or back to return to the previous steps and select different components. Files will now be copied to your computer. This may take several minutes.

10. If the Configure WebSphere InterChange Server Monitoring Agent window is displayed, enter information about SNMP monitoring agents monitoring WebSphere InterChange Servers as follows:
 - a. In the Poll Interval (seconds) field, enter the interval at which the agents should be polled.
 - b. Click add to add a monitored WebSphere InterChange Server to OMEGAMON XE for Messaging, then enter the details as shown in Table 11:

Table 11. WebSphere InterChange Server monitoring options

Field	Description
Name or IP Address	The name or IP address of the WebSphere InterChange Server being monitored.
Port	The number of the port on which to connect to the WebSphere InterChange Server.
Community	The name that is used to contact the SNMP agent.
Server Version	The version number of the WebSphere InterChange Server being monitored.

- c. Once you have finished adding WebSphere InterChange Servers, click **OK** to continue.
- d. On the Configure WebSphere InterChange Server Host window, enter the following information:

Table 12. WebSphere InterChange Server Host options

Field	Description
Agent Host	The name or IP address of the host system on which the WebSphere InterChange Server agent runs.
Data Port	The number of the port which the WebSphere InterChange agent listens for data.
Console Port	The number of the port which the WebSphere InterChange agent listens for console commands.
WebSphere InterChange Server Data	If you want to monitor log messages, click Add to add information about which log files to monitor.

- e. If you have not added any servers, you may be asked to confirm whether you want to stop monitoring all WebSphere Interchange Servers. Click **Yes**.
11. The Install Wizard Complete window is displayed. Select the Display the README file option if you want to review the readme file after installation is complete and click **Finish** to exit the installation wizard. Installation is now complete.

Silent Installation

Use the silent installation feature to install OMEGAMON XE for Messaging 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 OMEGAMON XE for Messaging on a large number of computers with similar configurations, as the administrator is required to specify installation parameters only once, in the response file, instead of entering them repeatedly for every machine on which installation is performed.

To perform silent installation, you must first create a response file and then start the installation process.

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 OMEGAMON XE for Messaging CD 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 semi-colon (;), which must be placed in the first column of the commented line.
 - Blank lines are ignored.
 - Parameter lines are of the form PARAMETER=value. Do not add a space before the word PARAMETER; spaces before or after the equals sign are acceptable.
 - 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 you are agreeing to the terms of the licence agreement.

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

- b. Uncomment the **Install Directory** parameter and specify the directory in which you want to install OMEGAMON XE for Messaging. To simplify the management of Tivoli Monitoring products on Windows systems, install Tivoli Monitoring products to the same directory on each machine in your environment. If you install to different directories on each machine, you will not be able to use the remote features provided by several product configuration dialogs.

If you are installing OMEGAMON XE for Messaging on a machine where IBM Tivoli Monitoring is already installed, OMEGAMON XE for Messaging will be installed to the installation directory of IBM Tivoli Monitoring, regardless of this parameter.

- c. If you do not want the OMEGAMON XE for Messaging 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 will be padded with 9s.
- 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 = part of the parameter, with the component to which the feature belongs displayed in brackets. The component code is displayed before the = sign. For example:

```
KICWICMS=WebSphere Interchange Server Support ( TEMS )
```

Uncommenting the line shown in the example will cause the WebSphere Interchange Server Support feature of the TEMS component to be installed.
- f. In the **[DEPLOY FEATURES]** section, uncomment the parameters representing the features that you want to be configured for remote deployment later.

3. Save the file and close the editor.

Note: 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 will result in a failed installation.

Installing OMEGAMON XE for Messaging Locally: To directly install OMEGAMON XE for Messaging using a silent installation, perform the following steps:

1. Open a DOS Command prompt window
2. Navigate to the directory that contains the OMEGAMON XE for Messaging installation files (where the setup.exe file resides).
3. Run the following command, you must specify the parameters in the same order as listed below:

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

Where the parameters delimited in square brackets are defined as follows:

response_file_name

The name and path of the silent installation response file containing the parameters of the installation (by default this file is named silent.txt). This parameter cannot be omitted.

/s Indicates that a silent install is being install and that parameters should be read from the response file, not entered interactively by the user during the installation process.

installation_log_file_name

The name and path of the file to which log information will be written during the installation process. This file will be 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 will be used to write log information.

For example:

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

Installing IBM Tivoli OMEGAMON XE for Messaging on UNIX and Linux

You have the following two options to install IBM Tivoli OMEGAMON XE for Messaging on a UNIX or Linux computer:

- “Installing with command line”
- “Performing a silent installation on a UNIX or Linux computer” on page 34

Installing with command line

Instructions for installing IBM Tivoli OMEGAMON XE for Messaging on a UNIX or Linux computer are as follows:

1. Log on to the UNIX or Linux computer using the root user ID.
2. Run the following command to create a temporary directory on the computer on which you plan to install IBM Tivoli OMEGAMON XE for Messaging. Make sure that the full path of the directory does not contain any spaces:

```
mkdir dir_name
```
3. Mount the installation CD for UNIX or Linux to the temporary directory you just created.

4. Run the following commands:

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

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

5. When prompted for the IBM Tivoli Monitoring (ITM) home directory, press **Enter** to accept the default which is /opt/IBM/ITM. If you have installed ITM in a different directory (or if you want to use a different installation directory), type the full path to that directory and press **Enter**.
6. If the directory that you specified already exists, you are asked whether to use it. Type **y** to use the directory. Otherwise, you are asked whether to create it. Type **y** to create this directory.
7. If you have other agents currently running on this computer, they will be restarted during the installation. Press **Enter** to continue with the installation.

8. 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) Exit install.  
Please enter a valid number:
```

Type **1** and press **Enter** to start the installation.

9. Type the number that corresponds to the language in which you want to display the software license agreement and press **Enter**.
10. Press **Enter** to display the agreement.
11. Type **1** and press **Enter** to accept the agreement.
12. You are prompted to install the IBM Tivoli Monitoring shared libraries. The shared libraries vary depending on your operating system. Type **y** and press **Enter** to install them.
13. Enter a 32-character encryption key, or just press **Enter** to use the default.

Note: This step does not occur if an IBM Tivoli Monitoring component has been installed on this computer.

14. A numbered list of available operating systems is displayed. Type the number for the operating system that you are installing on and press **Enter**. The default value is your current operating system.

Note: If you are installing IBM Tivoli OMEGAMON XE for Messaging on an EMT64 or AMD64 computer that is running SUSE Linux Enterprise Server or Red Hat Enterprise Linux, you need to select the first item in the list, which is **1) Linux AMD64 R2.6 (64 bit)**.

15. Type **y** to confirm the operating system and press **Enter**.
16. A numbered list of available components is displayed. Type the number that corresponds to the component that you want to install on this computer. If you want to install more than one component, use a comma (,) or space to separate the numbers for each component, then press **Enter**.

Note: To install WebSphere InterChange Server Monitoring, you need to install WebSphere InterChange Server data sources and WebSphere InterChange Server Monitoring agent.

17. A list of the components to install is displayed. Type **y** to confirm and start the installation. The installation begins.

18. After all of the components are installed, you are asked whether you want to install additional products or product support packages. Type **n** and press **Enter**.

Note: All the installed agents of IBM Tivoli OMEGAMON XE for Messaging are 32-bit regardless of whether your operating system is 32-bit or 64-bit.

Installation is complete. The next step is to configuring to connect to an agent to the TEMS.

Performing a silent installation on a UNIX or Linux computer

Silent installation uses a response file to define what components you want to install. A sample response file is shipped with IBM Tivoli OMEGAMON XE for Messaging. 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 (|)

See *Installing components with a response file* for information about how to perform a silent installation.

Installing components with a response file: The `silent_install.txt` file defines the installation parameters of IBM Tivoli OMEGAMON XE for Messaging. Perform the following steps to run a silent installation:

1. Log on to the UNIX or Linux computer using the root user ID.
2. Run the following command to create a temporary directory on the computer on which you plan to install IBM Tivoli OMEGAMON XE for Messaging. Make sure that the full path of the directory does not contain any spaces:


```
mkdir dir_name
```
3. Mount the installation CD for UNIX or Linux to the temporary directory you just created.
4. Run the following command:


```
cd dir_name
```
5. Edit the `silent_install.txt` file to set the parameters described in Table 13 to appropriate values for your environment and save the changes:

Table 13. 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 13. 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 application support for:</p> <ul style="list-style-type: none"> To install an agent: INSTALL_FOR_PLATFORM=<architecture code>, where <architecture code> 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 89. To install application support for TEMS: INSTALL_FOR_PLATFORM=tms. To install application support for TEPS: INSTALL_FOR_PLATFORM=tps. To install application support for TEP desktop client: INSTALL_FOR_PLATFORM=tpd (This applies to Linux only because desktop client is not supported on UNIX.) To install application support for TEP 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 all the components of IBM Tivoli OMEGAMON XE for Messaging. To install multiple components but not all, repeat this parameter for each component that you want to install. For example, if you want to install two components whose product codes are pc1 and pc2, use:</p> <pre>INSTALL_PRODUCT=pc1 INSTALL_PRODUCT=pc2</pre>

6. Run the following command to start silent installation:

```
install.sh -q -h install_dir -p silent_response_file
```

where

- install_dir* is the IBM Tivoli OMEGAMON XE for Messaging home directory. The default location is /opt/IBM/ITM.
- silent_response_file* is the response file that you use to specify the installation parameters. Indicate the full path to the file.

Installation is complete. The next step is to configuring to connect an agent to the TEMS

Installing IBM Tivoli OMEGAMON XE for Messaging on OS/400

Purpose of this step:

This step loads the software for WebSphere MQ Monitoring and Configuration agents from the *IBM Tivoli OMEGAMON XE for Messaging Product CD* and uses the Restore Licensed Program to complete its installation.

Two procedures are provided:

- Install from a PC CD-ROM

- Install from an AS/400 CD-ROM

Use one of the two procedures, whichever is most convenient for you or your site.

Installing from a PC CD-ROM

1. Access an OS/400 command line.
2. Check that the system value QALWOBJRST is set to `"*ALL"`.
 - a. Enter this command:
WRKSYSVAL QALWOBJRST
 - b. Select `"5"` (Display), and verify that the value is set to `"*ALL"`. If it is set to any other value(s), record those value(s) below:
QALWOBJRST _____
3. Press `"Enter"` to continue.
4. If QALWOBJRST was set to `"*ALL"`, continue with the next step below; otherwise, do the following:
 - a. On the Work with System Values dialog, enter
2
to change the values.
 - b. On the Change System Value dialog, change the existing values to `*ALL`.
 - c. Press `"Enter"` to save your change.
 - d. Press `"F3"` to return.
5. At the OS/400 command line, create an AS/400 library for installation:
CRTLIB KMQ_TMPLIB TEXT('MQ INSTALL LIBRARY')
6. Create two save file in the KMQ_TMPLIB library:
CRTSAVF KMQ_TMPLIB/MQ601CMA TEXT('KMQ INSTALL PRODUCT')
CRTSAVF KMQ_TMPLIB/MC601CMA TEXT('KMC INSTALL PRODUCT')
7. Insert the *IBM Tivoli OMEGAMON XE for Messaging Product CD* into the CD-ROM drive.
8. From a DOS prompt, start an FTP session:
FTP machinename
where *machinename* is the name of the target OS/400 machine.
9. When prompted, enter your OS/400 user ID and password.
10. Change the FTP type to binary:
BINARY
11. Transfer the software for WebSphere MQ Monitoring and Configuration agents from the CD-ROM to the OS/400 machine:
PUT E:\OS400\MQ601CMA KMQ_TMPLIB/MQ601CMA
PUT E:\OS400\MC601CMA KMQ_TMPLIB/MC601CMA
where *e* is your PC CD-ROM drive.
12. End your ftp session:
QUIT
13. Install the software for WebSphere MQ Monitoring and Configuration agents (do one of the following):
 - If you are installing IBM Tivoli OMEGAMON XE for Messaging on a system that is English upper and lower case (language ID 2924), do one of the following:
 - a. If you want to install WebSphere MQ Monitoring, enter the following command:

```
RSTLICPGM LICPGM(0KMQ450) DEV(*SAVF) SAVF(KMQ_TMPLIB/MQ601CMA)
```

and proceed to step 14 on page 37 below.

- b. If you want to install WebSphere MQ Configuration, enter the following command:

```
RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) SAVF(KMQ_TMPLIB/MC601CMA)
```

and proceed to step 14 on page 37 below.

- If you are installing on a non-language ID 2924 system, do one of the following:

- a. If you want to install WebSphere MQ Monitoring:

- 1) Check for the existence of the KMQLNG work library.

- If the library exists, you can clear it by entering the following command. Otherwise, you need to confirm that the existing library can be overwritten during the installation process.

```
CLRLIB KMQLNG
```

- If the library does not exist, proceed to the following procedure.

Suggestion: There is no KMQLIB library existing before the installation process begins.

- 2) Enter the following commands:

```
RSTLICPGM LICPGM(0KMQ450) DEV(*SAVF) RSTOBJ(*PGM) LNG(2924)
- SAVF(KMQ_TMPLIB/MQ601CMA)
```

```
RSTLICPGM LICPGM(0KMQ450) DEV(*SAVF) RSTOBJ(*LNG) LNG(2924)
- SAVF(KMQ_TMPLIB/MQ601CMA) LNGLIB(KMQLNG)
```

This creates or recreates a library named KMQLIB containing all the file transfer utilities components and definitions required to run the software for WebSphere MQ Monitoring.

- b. If you want to install WebSphere MQ Configuration, check for the existence of the KMCLNG work libraries.

- 1) If the library exists, clear it:

```
CLRLIB KMCLNG
```

- 2) If the library does not exist, create it:

```
CRTLIB KMCLNG
```

- 3) Enter the following commands:

```
RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) RSTOBJ(*PGM) LNG(2924)
- SAVF(KMQ_TMPLIB/MC601CMA)
```

```
RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) RSTOBJ(*LNG) LNG(2924)
- SAVF(KMQ_TMPLIB/MC601CMA) LNGLIB(KMCLNG)
```

This creates or recreates a library named KMCLIB containing all the file transfer utilities components and definitions required to run the software for WebSphere MQ Configuration.

14. 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(s) you recorded earlier.

15. If you will be installing the agent on another AS/400 machine, use ftp or another file transfer program to copy the save file to it.

16. Delete the installation library, which is no longer needed:

```
DLTLIB KMQ_TMPLIB
```

Installation of the software for WebSphere MQ Monitoring and Configuration Agents is complete.

17. Proceed to configuring WebSphere MQ Configuration or configuring WebSphere MQ Monitoring.

Installing from an AS/400 CD-ROM (command line):

1. Access an OS/400 command line.
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(s), record those value(s) below:
QALWOBJRST _____
5. Press `"Enter"` to continue.
6. If QALWOBJRST was set to `"*ALL"`, continue with the next step; otherwise, do the following:
 - a. On the Work with System Values dialog, enter
2
to change the values.
 - b. On the Change System Value dialog, change the existing values to
`*ALL`.
 - c. Press `"Enter"` to save your change.
 - d. Press `"F3"` to return.
7. Create an AS/400 library for installation:
`CRTLIB KMQ_TMPLIB TEXT('MQ INSTALL LIBRARY')`
8. Create a save file in the KMQ_TMPLIB library:
`CRTSAVF KMQ_TMPLIB/MQ601CMA TEXT('KMQ INSTALL PRODUCT')`
`CRTSAVF KMQ_TMPLIB/MC601CMA TEXT('KMC INSTALL PRODUCT')`
9. Create a work folder.
 - a. Enroll your user ID to system distribution directory with the following command:
`ADDIRE USRID(USER WBIUSER) USRD('WBI USER') USER(USER)`
 - b. Enter this command:
`WRKFLR`
 - c. Select `"1"` (Create Folder), then specify
MQFLR
for the folder name.
10. Insert the *IBM Tivoli OMEGAMON XE for Messaging Product CD* into the CD-ROM drive and enter:
`WRKLNK QOPT`
The Work with Object Links screen displays the qopt object link.
11. Select `"5"` (Next Level) at the qopt object link to select the next object link, the volume ID (*valid*) of the CD-ROM.
Record this value for use during installation:
VOL ID _____
12. Continue to select `"5"` for each link level until the following path is displayed:
`/QOPT/valid/OS400`
where *valid* is the volume ID of the CD-ROM.
13. Look for file MC601CMA.SAVF and MQ601CMA.SAVF.
14. Copy this .SAV file to QDLS:

```
CPY OBJ('/QOPT/volid/OS400/MQ601CMA.SAVF') TODIR('/QDLS/MQFLR')
CPY OBJ('/QOPT/volid/OS400/MC601CMA.SAVF') TODIR('/QDLS/MQFLR')
```

where *volid* is the volume ID of the CD-ROM.

15. From an OS/400 command line, start an ftp session:

```
FTP machinename
```

where *machinename* is the name of the target OS/400 machine.

16. Enter your user ID and password.

17. Change the file type to binary:

```
BINARY
```

18. Enter

```
NAMEFMT 1
```

19. On the command line, enter

```
PUT /QDLS/MQFLR/MQ601CMA.SAVF /QSYS.LIB/KMQ_TMPLIB.LIB/MQ601CMA
PUT /QDLS/MQFLR/MC601CMA.SAVF /QSYS.LIB/KMQ_TMPLIB.LIB/MC601CMA
```

20. End your ftp session:

```
QUIT
```

21. Install the software for WebSphere MQ Monitoring and WebSphere MQ Configuration (do one of the following):

- If you are installing IBM Tivoli OMEGAMON XE for Messaging on a system that is English upper and lower case (language ID 2924), do one of the following:

- a. If you want to install WebSphere MQ Monitoring, enter the following command:

```
RSTLICPGM LICPGM(0KMQ450) DEV(*SAVF) SAVF(KMQ_TMPLIB/MQ601CMA)
```

and proceed to step 22 on page 40 below.

- b. If you want to install WebSphere MQ Configuration, enter the following command:

```
RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) SAVF(KMQ_TMPLIB/MC601CMA)
```

and proceed to step 22 on page 40 below.

- If you are installing on a non-language ID 2924 system, do one of the following:

- a. If you want to install WebSphere MQ Monitoring:

- 1) Check for the existence of the KMQLNG work library.

- If the library exists, you can clear it by entering the following command. Otherwise, you need to confirm that the existing library can be overwritten during the installation process.

```
CLRLIB KMQLNG
```

- If the library does not exist, proceed to the following procedure.

Suggestion:: There is no KMQLIB library existing before the installation process begins.

- 2) Enter the following commands:

```
RSTLICPGM LICPGM(0KMQ450) DEV(*SAVF) RSTOBJ(*PGM) LNG(2924)
- SAVF(KMQ_TMPLIB/MQ601CMA)
```

```
RSTLICPGM LICPGM(0KMQ450) DEV(*SAVF) RSTOBJ(*LNG) LNG(2924)
- SAVF(KMQ_TMPLIB/MQ601CMA) LNGLIB(KMQLNG)
```

This creates or recreates a library named KMQLIB containing all the file transfer utilities components and definitions required to run the software for WebSphere MQ Monitoring.

- b. If you want to install WebSphere MQ Configuration, check for the existence of the KMCLNG work library.
 - 1) If the library exists, clear it:
CLRLIB KMCLNG
 - 2) If the library does not exist, create it:
CRTLIB KMCLNG
 - 3) Enter the following commands:
RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) RSTOBJ(*PGM) LNG(2924)
- SAVF(KMQ_TMPLIB/MC601CMA)

RSTLICPGM LICPGM(0KMC450) DEV(*SAVF) RSTOBJ(*LNG) LNG(2924)
- SAVF(KMQ_TMPLIB/MC601CMA) LNGLIB(KMCLNG)

This creates or recreates a library named KMCLIB containing all the file transfer utilities components and definitions required to run the software for WebSphere MQ Configuration.
22. 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.
23. Delete the installation objects that are no longer needed
 - a. Enter this command:
DLTLIB KMQ_TMPLIB
 - b. Delete MC601CMA.SAVF and MQ601CMA.SAVF from your folder:
 - Enter this command:
WRKDOC FLR(MQFLR)
 - Select 4 for MC601CMA.SAVF and MQ601CMA.SAVF.
 - Press **Enter** to delete.
 - c. Press **F3** to return to the command line.
 - d. Delete the installation folder:
 - 1) Enter this command:
WRKFLR
 - 2) Select 4 for MQFLR.
 - 3) Press **Enter** to delete.
 - e. Press **F3** to return to the command line.
Installation of the software for WebSphere MQ Monitoring and Configuration agents is complete.
24. Proceed to configuring WebSphere MQ Configuration or configuring WebSphere MQ Monitoring.

See *IBM Tivoli OMEGAMON XE for Messaging: Installation Guide* for more information.

Installing the language packs

By default, IBM Tivoli OMEGAMON XE for Messaging is 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 TEP and TEPS are installed. The language packs are available on the IBM Tivoli OMEGAMON XE for Messaging Language Pack CD.

IBM Tivoli OMEGAMON XE for Messaging provides language packs in the following languages:

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

Note: Before you can install a language pack, you must install IBM Tivoli OMEGAMON XE for Messaging in English.

Installing a language pack on Windows

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

1. Double-click `setupwin32.exe` in the language pack CD to launch the installation program
2. Click **Next** on the Welcome window.
3. Select **I accept both the IBM and the non-IBM terms** and click **Next**.
4. Click **Next** to install the language pack to the directory displayed in the Directory name field. To select a different directory, click **Browse**.

Note: You must install the language pack to the same directory where the TEPS or TEP is installed. The Directory name field displays the default installation directory.

5. Click **Next** to examine the installation summary information.
6. Click **Next** to start the installation of the language pack.
7. When the installation completes, click **Finish** to exit the installer.
8. Restart the TEP (if on the TEP machine) or restart the TEPS (if on the TEPS machine).

Installing a language pack on UNIX or Linux

To install a language pack on UNIX or Linux, first make sure that you have already installed IBM Tivoli OMEGAMON XE for Messaging in English, then perform the following steps:

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 CD to the temporary directory you just created.
3. Run the following command to start the installation program:
`cd dir_name`
`java -jar setup.jar`

where `dir_name` is the directory you just created.

4. Click **Next** on the Welcome window.
5. Read the software license agreement, and click the appropriate radio button to accept the terms of the agreement. Click **Next**.

6. Click **Next** to install the language pack to the directory displayed in the Directory name field. To select a different directory, click **Browse**.

Note: You must install the language pack to the same directory where the TEPs or TEP is installed. The Directory name field displays the default installation directory.

7. Click **Next** to examine the installation summary information.
8. Click **Next** to start installation of the language packs.
9. When the installation completes, click **Finish** to exit the installer.
10. Restart the TEP (if on the TEP machine) or restart the TEPs (if on the TEPs machine).

Configuration notes

- On UNIX or Linux platform, if you changed the advanced settings of the TEMS, you need to redo the adding TEMS Configurator application support procedure to ensure the Configuration Manager working properly. Following are the steps to add TEMS Configurator application support:
 1. Launch `./itmcmd manage` from `install_dir/bin`.
 2. Right click **TEMS**.
 3. Select **Advanced** from **Install Product Support**.
 4. Highlight **TEMS Configurator** on the product list.
 5. Click the **Install** button
- When performing WebSphere MQ Monitoring configuration on AS/400 for monitoring WebSphere MQ V6, the account used to login to the TEP should be created on AS/400. Appropriate authority such as BROWSE should also be assigned to the dead letter queue object. For example, you need to assign SYSADMIN with BROWSE authority if you want SYSADMIN to have right to browse DLQ messages. To check whether you have authority to access the DLQ object, enter following command from an AS/400 command line:

```
QSYS/DSPMQMAUT OBJ(DLQ_Name) OBJTYPE(*Q) USER(SYSADMIN) MQMNAME(QM_Name)
```

where *DLQ_Name* is the DLQ name; *SYSADMIN* is your account used to login to the TEP; *QM_Name* is the Queue Manager name.

For more information, see Chapter 9, "Configuring IBM Tivoli OMEGAMON XE for Messaging on Windows", Chapter 10, "Configuring IBM Tivoli OMEGAMON XE for Messaging on UNIX and Linux" and Chapter 11, "Configuring IBM Tivoli OMEGAMON XE for Messaging on OS/400" in the *IBM Tivoli OMEGAMON XE for Messaging: Installation Guide*.

Chapter 3. Upgrading to IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1

Before you begin

This chapter explains how to upgrade or migrate to IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 from previous product versions. Upgrading refers to installing IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 directly in the same location as an existing version of the product. Migration refers to installing IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 to a new environment and then importing the data from your old environment. This document includes separate sections about Upgrading and Migration.

If you are upgrading some components and migrating others, follow the instructions in “Upgrading from WebSphere Business Integration 1.1” on page 46 or “Upgrading from OMEGAMON XE for Messaging 6.0” on page 53, depending on which version you are upgrading from, and refer to “Migration” on page 59 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 “Pre-installation tasks” on page 45.

IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 supports a staged upgrade procedure. This means that as you are migrating to IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1, you can have both version 6.0.1 fix pack 1 monitoring agents and previous agent versions running in your environment simultaneously. For example, you might have IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 monitoring agents on one z/OS system (or LPAR) and older versions of monitoring agents running on another system. You might even have IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 monitoring agents and older agent versions running on the same z/OS system.

This document is not meant to replace the extensive product installation and configuration guides; instead, it provides a high level overview of the tasks required to successfully migrate from earlier versions of OMEGAMON XE for Messaging to version 6.0.1 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.

OMEGAMON XE for Messaging version history

The following list shows all the different versions of OMEGAMON XE for Messaging, and the components they include.

- IBM Tivoli OMEGAMON XE for Messaging, Version 6.0.1 fix pack 1. This is the latest version of OMEGAMON XE for Messaging and includes the following components:
 - IBM Tivoli OMEGAMON XE for Messaging: WebSphere MQ Monitoring agent 6.0.1 fix pack 1
 - IBM Tivoli OMEGAMON XE for Messaging: WebSphere MQ Configuration agent 6.0.1 fix pack 1

- IBM Tivoli OMEGAMON XE for Messaging: WebSphere Message Broker Monitoring agent 6.0.1 fix pack 1
- IBM Tivoli OMEGAMON XE for Messaging: WebSphere InterChange Server Monitoring agent 6.0.1 fix pack 1 (distributed systems only)
- IBM Tivoli OMEGAMON XE for Messaging, Version 6.0.1. This is the GA version of OMEGAMON XE for Messaging and includes the following components:
 - IBM Tivoli OMEGAMON XE for Messaging: WebSphere MQ Monitoring agent 6.0.1
 - IBM Tivoli OMEGAMON XE for Messaging: WebSphere MQ Configuration agent 6.0.1
 - IBM Tivoli OMEGAMON XE for Messaging: WebSphere Message Broker Monitoring agent 6.0.1
 - IBM Tivoli OMEGAMON XE for Messaging: WebSphere InterChange Server Monitoring agent 6.0.1 (distributed systems only)
- IBM Tivoli OMEGAMON XE for Messaging, Version 6.0, which includes the following components:
 - IBM Tivoli OMEGAMON XE for Messaging: WebSphere MQ Monitoring agent 6.0
 - IBM Tivoli OMEGAMON XE for Messaging: WebSphere MQ Configuration agent 6.0
 - IBM Tivoli OMEGAMON XE for Messaging: WebSphere Message Broker Monitoring agent 6.0
 - IBM Tivoli OMEGAMON XE for Messaging: WebSphere InterChange Server Monitoring agent 6.0 (distributed systems only)
- IBM Tivoli OMEGAMON XE for WebSphere Business Integration, Version 1.1, which includes the following components:
 - IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring agent 3.7
 - IBM Tivoli OMEGAMON XE for WebSphere MQ Configuration agent 3.7
 - IBM Tivoli OMEGAMON XE for WebSphere Integration Brokers agent 1.3
 - IBM Tivoli OMEGAMON XE for WebSphere InterChange Server agent 1.1 (distributed systems only)

Tivoli Management Services

If you are upgrading from IBM Tivoli OMEGAMON XE for Messaging 6.0 or 6.0.1, you do not need to read this section.

IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 is based on the common infrastructure known as Tivoli Management Services. The Tivoli Management Services infrastructure, previously known as the OMEGAMON platform, comprises a set of components shared by monitoring agents in the IBM Tivoli Monitoring and IBM Tivoli OMEGAMON XE product suites.

Tivoli Management Services consists of Tivoli Enterprise Portal, Tivoli Enterprise Portal Server, Tivoli Enterprise Monitoring Server, and Tivoli Data Warehouse components. The Tivoli Management Services components are included on your IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 installation CDs. Different versions of these components have been distributed under different brand names as shown in the following table, which lists the names of past and current versions of each component and other terminology that has changed. Use it to identify what products each component in your system should be upgraded to.

Table 14. Previous and current IBM Tivoli OMEGAMON XE terminology

Previous Candle names	Current Tivoli names
Candle Management Server (CMS)	Tivoli Enterprise Monitoring Server (TEMS)
CandleNet Portal (CNP)	Tivoli Enterprise Portal (TEP)
CandleNet Portal Server (CNPS)	Tivoli Enterprise Portal Server (TEPS)
Intelligent Remote Agent (IRA)	Tivoli Enterprise Monitoring Agent
Manage Candle Services	Manage Tivoli Monitoring Services
CT/Engine	ITMS: Engine
Agent	TEMA
Seeding (CMS)	Adding application support (TEMS)
Candle Data Warehouse	Tivoli Data Warehouse
OMEGAMON Platform	Tivoli Management Services (TMS)

Upgrade requirements

You must upgrade the hub Tivoli Enterprise Monitoring Server (formerly Candle Management Server), Tivoli Enterprise Portal Server (formally CandleNet Portal Server), and Tivoli Enterprise Portal desktop client (formerly CandleNet Portal), if any, to IBM Tivoli Monitoring 6.1 fix pack 7, before you upgrade the monitoring agents. You must also upgrade all remote monitoring servers that IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 monitoring agents connect to.

For a detailed list of software and hardware requirements for installing IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1, see *IBM Tivoli OMEGAMON XE for Messaging: Installation and Setup Guide* for distributed platforms and *Program Directory for IBM Tivoli OMEGAMON XE for Messaging on z/OS* for z/OS.

Pre-installation tasks

The following list the steps required before proceeding with the installation process.

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

1. If you have components running on z/OS and you are performing a staged upgrade (upgrading different components over a period of time), prepare your z/OS environment using the SMP/E tool. See “Preparing your z/OS environment for upgrading” on page 67 for instructions.
2. For all components running on Windows, if the component is set to start automatically, change it to start manually.
3. If you are upgrading WebSphere MQ Configuration, back up your configuration database using TEP. See “Backing up the Configuration Database” on page 64 for instructions.

Note: To back up the configuration database, both the TEMS and TEPS must be running.

4. If you have a previous version of WebSphere Message Broker Monitoring 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 install correctly.

Upgrading from WebSphere Business Integration 1.1

Upgrade roadmap

Figure 1 shows the procedure for upgrading from OMEGAMON XE for WebSphere Business Integration 1.1 to IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1.

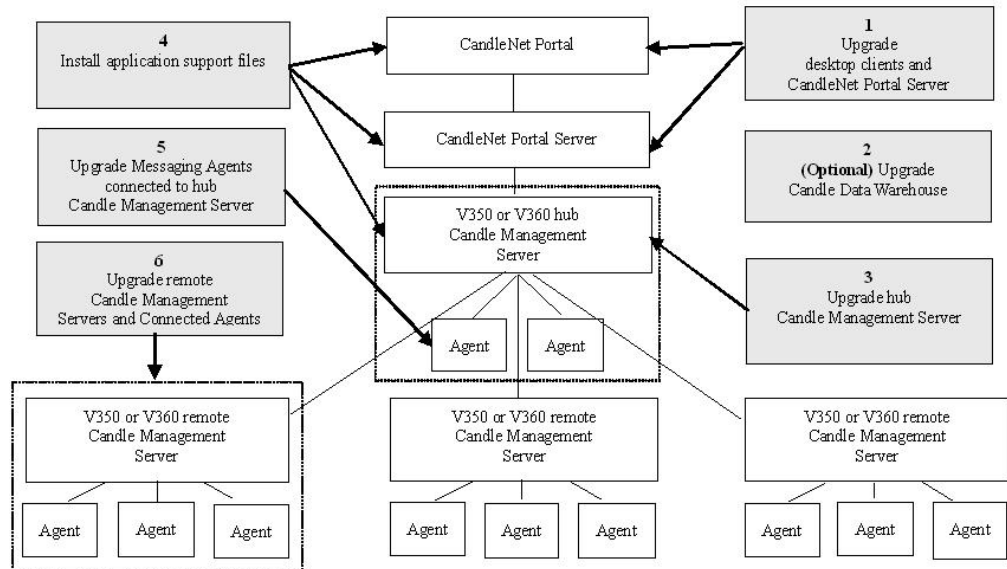


Figure 1. Upgrading Tivoli OMEGAMON XE for Messaging

Perform the following procedure to upgrade from OMEGAMON XE for WebSphere Business Integration:

1. Stop all the components that you want to upgrade.
2. Upgrade CandleNet Portal to Tivoli Enterprise Portal and CandleNet Portal Server to Tivoli Enterprise Portal Server using the IBM Tivoli Monitoring Services CDs provided with your IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 package. See “Upgrading TEPS and TEP on Windows” on page 48 for instructions.
3. Optional: Upgrade Candle Data Warehouse to Tivoli Data Warehouse.

See the *IBM Tivoli Monitoring Installation and Setup Guide* and *IBM Tivoli Monitoring Administrator’s Guide* for details on installing and configuring the Tivoli Data Warehouse. These documents can be downloaded from the IBM Tivoli Monitoring Information Center, at: <http://publib.boulder.ibm.com/tividd/td/Monitoring6.1.html>.

Note: You can delay upgrading the Candle Data Warehouse until a later time. However, you must upgrade to the Tivoli Data Warehouse to use the warehousing features of Tivoli Management Services 6.0.1.

4. Upgrade the hub monitoring server:
 - If you are running the hub Tivoli Enterprise Monitoring Server on a distributed system, see “Upgrading TEMS on distributed platforms” on page 48 for instructions.

- If you are running the hub Tivoli Enterprise Monitoring Server on a z/OS system, see “Upgrading TEMS and agents on z/OS” on page 51 for instructions.
5. Install the IBM Tivoli OMEGAMON XE for Messaging application support files. Install application support for IBM Tivoli OMEGAMON XE for Messaging on all systems where the hub Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, or Tivoli Enterprise Portal desktop clients are installed. See Chapter 2, “Installing IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1,” on page 5 for instructions (including instructions for TEMS running on z/OS systems).

Notes:

- a. If multiple Tivoli Management Services components are installed on the same host machine (for example, the Tivoli Enterprise Portal Server and Tivoli Enterprise Monitoring Server have all been installed on the same host), you must install application support for all the components running on that host at the same time.
 - b. If IBM Tivoli OMEGAMON XE for Messaging agents have been installed on the host machine on which a Manage Tivoli Monitoring Services component (Tivoli Enterprise Portal, Tivoli Enterprise Portal Server or Tivoli Enterprise Monitoring Server) is installed, you must use the CDs included with the distributed systems version of IBM Tivoli OMEGAMON XE for Messaging to upgrade the agent and install application support at the same time.
6. Upgrade the monitoring agents that connect to the hub TEMS. You don’t need to upgrade all the agents connected to the hub monitoring server, but new features will only be available for those agents that you have upgraded. Agents of different versions can connect to the hub monitoring server simultaneously (on z/OS, this feature is only available if the IBM Tivoli OMEGAMON XE for Messaging agents are not sharing the same CSIs). Perform the following procedure:
 - If you are upgrading agents running on distributed platforms, see “Upgrading agents on Windows, UNIX and Linux” on page 49 for instructions for upgrading on Window, UNIX and Linux, and “Upgrading agents on AS/400” on page 50 for instructions for upgrading agents running on AS/400.
 - If you are upgrading agents running on z/OS, see “Upgrading TEMS and agents on z/OS” on page 51 for instructions.
 7. Upgrade any remote TEMS servers and connected IBM Tivoli OMEGAMON XE for Messaging agents. Any remote TEMS servers to which IBM Tivoli OMEGAMON XE for Messaging agents connect that are not upgraded now must have their attribute and catalog files overwritten with the equivalent files from the hub TEMS. Remote TEMS servers to which IBM Tivoli OMEGAMON XE for Messaging agents do not connect can be upgraded at a later time.

IBM Tivoli OMEGAMON XE for Messaging agents can also be upgraded at a later time unless they are configured using the same CSI as a remote TEMS that you are upgrading and to which they connect.

For each remote TEMS in your environment, perform one of the following operations:

- If you want to upgrade the remote TEMS now:
 - a. Upgrade the remote TEMS:

- If the remote TEMS is running on a distributed system, see “Upgrading TEMS on distributed platforms” for instructions.
 - If the remote TEMS is running on a z/OS system, see “Upgrading TEMS and agents on z/OS” on page 51 for instructions.
- b. Upgrade agents connected to the remote TEMS, if required:
 - If the agents you are upgrading are running on a distributed system, see “Upgrading agents on Windows, UNIX and Linux” on page 49 for instructions.
 - If the agents you are upgrading are running on z/OS, see “Upgrading TEMS and agents on z/OS” on page 51 for instructions.
 - If you do not want to upgrade the remote TEMS now, you must copy attribute and catalog files from the hub TEMS to the remote TEMS before the two can connect. See “Upgrading attribute and catalog files at the remote TEMS” on page 63 for instructions.
8. Verify the installation. Check that the hub Tivoli Enterprise Monitoring Server, the Tivoli Enterprise Portal Server and Tivoli Enterprise Portal desktop clients deployed in your environment are all running the same versions of fix packs and equivalent PTFs for both IBM Tivoli Monitoring and IBM Tivoli OMEGAMON XE for Messaging.
 9. If you want to use a language other than English, install the required language packs on TEP and TEPS. See Chapter 8, "Installing the language packs" in *IBM Tivoli OMEGAMON XE for Messaging: Installation and Setup Guide* for instructions.
 10. Restart all upgraded or newly installed components.

Upgrading TEPS and TEP on Windows

The following instructions assume that components are located on different systems. If any or all of the TEPS, TEP Desktop client and TEMS components reside on the same system, you must combine the steps to upgrade them, because the installer updates all components on the given system. Perform the following procedure:

1. On the system where OMEGAMON platform version 350 or 360 is installed, delete the following files from the [candle_home]\CNPS\SQLLIB directory, where [candle_home] is the directory in which OMEGAMON platform version 350 or 360 is installed:
 - kic_kcj.sql
 - kic_kcj_del.sql
2. Follow the instructions in the *IBM Tivoli Monitoring user's guide* to upgrade OMEGAMON platform version 350 or 360 to IBM Tivoli Monitoring to version 6.1 fix pack 7 on each system where you are upgrading either TEPS or TEP. For information about downloading and installing fix pack 7, see <http://www-1.ibm.com/support/docview.wss?uid=swg24018493>.
3. Optional: back up SQL query data by running the command <ITM_HOME>\cnps\migrate-export.bat to generate file saveexport.sql in <ITM_HOME>\cnps\SQLLIB, which contains all the Tivoli Enterprise Portal Server data. <ITM_HOME> is the ITM installation directory.

Upgrading TEMS on distributed platforms

To upgrade either a remote or hub TEMS on distributed platforms, perform the following procedure:

1. If the TEMS is running on Windows, perform the following steps, which are essential for the WebSphere MQ Configuration agent to run on the upgraded TEMS:
 - a. Navigate to the <itm_home>\cms directory, where <itm_home> is the directory in which IBM Tivoli Monitoring is installed.
 - b. Open the file KBBENV in a text editor.
 - c. Delete KCFEPRB.KCFCTII.
 - d. Save and close the file
 - e. Rename KCFEPRB.dll, in the same directory as KBBENV, to KCFEPRB.dll.bak.
 - f. Restart the TEMS.
2. Upgrade OMEGAMON platform version 350 or 360 to IBM Tivoli Monitoring 6.1. fix pack 7. See Chapter 6, Installing IBM Tivoli Monitoring in the *IBM Tivoli Monitoring Installation and Setup Guide* for further information about upgrading the Tivoli Enterprise Portal and Tivoli Enterprise Portal Server. This document can be downloaded from the IBM Tivoli Monitoring Information Center, at: http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/topic/com.ibm.itm.doc_6.1/itm_install.pdf. ITM fix pack 7 is available from <http://www-1.ibm.com/support/docview.wss?uid=swg24018493>.

Note: If you are upgrading ITM on UNIX or Linux platforms, when prompted to enter an installation directory, you must use the directory where the old version of the TEMS is installed. When prompted to specify the TEMS name, you must also use the same name as the previous TEMS.

3. If you are running TEMS on UNIX or Linux, reconfigure the TEMS, ensuring that all settings are correct. Even if you do not change any settings, you must reconfigure, otherwise the TEMS may fail to start.
4. If you are upgrading a remote TEMS, delete KCFEPRB.KCFCTII from the line KDS_RUN in the file KBBENV to disable MQ Configuration support, which should only be enabled on the Hub TEMS. The KBBENV file can be found in the following locations:
 - On Windows: <ITMHOME>/cms/KBBENV
 - On UNIX and Linux platforms: <ITMHOME>/tables/<TEMS>/KBBENV

Where <ITMHOME> is your IBM Tivoli Monitoring installation directory and <TEMS> is the subdirectory to which the TEMS is installed.

Upgrading agents on Windows, UNIX and Linux

To upgrade IBM Tivoli OMEGAMON XE for Messaging agents on distributed platforms, perform the following procedure:

1. Follow the instructions in your IBM Tivoli Monitoring user's guide to upgrade the Candle Technologies Framework to IBM Tivoli Monitoring to version 6.1 fix pack 7.
2. Install IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 agents. See "Installing IBM Tivoli OMEGAMON XE for Messaging" on page 28 for instructions.
3. Delete the old agent version files and folders:
 - a. Locate and delete the old agents folder in the IBM Tivoli Monitoring installation directory.

For example, if your new WebSphere MQ Monitoring agent is in the aix513/mq subdirectory, then the old version should be stored in a folder called aix433/mq.

- b. Delete the agent's registry entry, which has the same name as the folder deleted in step 3a on page 49.
For example, if the agent was stored the aix433/mq folder, the agent's registry entry is mqaix433.ver.
4. Linux only (not UNIX): if you are upgrading the WebSphere Message Broker Monitoring agent, create the soft links to resolve library names.

Note: Although these links were created by the previous version of the agent, you must create them again.

Perform the following steps:

- a. Log in to the system as root, if you have not already done so.
- b. Run the following commands to create the required links:


```
ln -sf /opt/mqm/lib/3.2/libimqb23gl_r.so /opt/mqm/lib/libimqb23gl_r.so
ln -sf /opt/mqm/lib/3.2/libimqs23gl_r.so /opt/mqm/lib/libimqs23gl_r.so
```
- c. If neither libstdc++-libc6.1-2.so.3 or libstdc++-3-libc6.2-2-2.10.0.so exist in this location, create another link by running the following command:


```
ln -s /usr/lib/libstdc++-3-libc6.2-2-2.10.0.so /usr/lib/libstdc++-libc6.1-2.so.3
```
5. If you are upgrading the WebSphere MQ Configuration agent, WebSphere InterChange Server Monitoring agent or WebSphere InterChange Server data sources, reconfigure them, ensuring that all settings are correct. Even if you do not change any settings, you must reconfigure, otherwise the component may not operate correctly.

Note: If you do not upgrade the OS agents when upgrading to IBM Tivoli Monitoring 6.1 fix pack 7, or you are using 64-bit OS agents, you must also install the 32-bit Tivoli Enterprise Service User Interface included with IBM Tivoli Monitoring 6.1 fix pack 7. See IBM Tivoli Monitoring documentation for more information and installation instructions.

Upgrading agents on AS/400

Perform the following procedure to upgrade all IBM Tivoli OMEGAMON XE for Messaging agents:

1. Back up the configuration files used by the components you want to upgrade:
 - For WebSphere MQ Monitoring agents, back up:
 - 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.
 - For the WebSphere MQ Configuration agent, please back up:
 - Connection Information: /QSYS.LIB/KMCTMP.LIB/KMSPARM.KBBENV

Note: These files are obsolete and cannot be use with IBM Tivoli OMEGAMON XE for Messaging 6.0.1 agents. However, you can use them for reference when configuring new versions of agents or if you want to restore your OMEGAMON XE for WebSphere Business Integration 1.0 or 1.1 environment.

2. Delete old versions of agents if any are installed. See Chapter 7 Installing IBM Tivoli OMEGAMON XE for Messaging on OS/400: Pre-installation tasks in *IBM Tivoli OMEGAMON XE for Messaging: Installation and Setup Guide* for instructions.
3. Install IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 agents. See Chapter 7 Installing IBM Tivoli OMEGAMON XE for Messaging on OS/400: Installing IBM Tivoli OMEGAMON XE for Messaging on OS/400 in *IBM Tivoli OMEGAMON XE for Messaging: Installation and Setup Guide* for instructions.
4. Configure the newly installed agents. See Chapter 11 Configuring IBM Tivoli OMEGAMON XE for Messaging on OS/400 in *IBM Tivoli OMEGAMON XE for Messaging: Installation and Setup Guide* for instructions. If you want to configure the agents using the same parameters as the previous versions, you can refer to the configuration files backed up in step 1 on page 50 for configuration details.

Upgrading TEMS and agents on z/OS

Upgrading a TEMS does not necessarily imply 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. Where a step is specific to upgrading a particular component, this is mentioned in the step. Do not perform any steps that are not required for the component that you are upgrading.

To upgrade a TEMS or IBM Tivoli OMEGAMON XE for Messaging agents running on z/OS to IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1, 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 environment as described in “Preparing your z/OS environment for upgrading” on page 67.
2. Review the current Preventative Service Planning (PSP) upgrade information for IBM Tivoli Monitoring and IBM Tivoli OMEGAMON XE for Messaging. You can review the current PSP information at the following Web site: <http://www14.software.ibm.com/webapp/set2/psp/srchBroker>. 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* in the **Enter search terms** field.
3. Perform the following SMP/E jobs to upgrade the CSI environment where the TEMS, IBM Tivoli OMEGAMON XE for Messaging agents, or both are configured:

Note: If you have already upgraded the IBM Tivoli Management Services components (HKCI310, HKDS610 and HKLV610) in the CSI to ITM 6.1 or higher, remove these FMIDs from the following SMP/E jobs.

- KQIJ1REC: Perform SMP/E RECEIVE
- KQIJ1APP: Perform SMP/E APPLY
- KQIJ1ACC: Perform SMP/E ACCEPT

See *Program Directory for Tivoli OMEGAMON XE for Messaging* for further information about performing SMP/E procedures.

4. Install the recommended maintenance (PTFs) for IBM Tivoli OMEGAMON XE for Messaging 6.0.1, IBM Tivoli Monitoring.

See “ITM and IBM Tivoli OMEGAMON XE for Messaging maintenance (z/OS only)” on page 70 for a complete list of available maintenance levels for IBM Tivoli OMEGAMON XE for Messaging 6.0.1 and IBM Tivoli Monitoring 6.1.

5. Set up the Configuration Tool. See Setting up your configuration environment in Chapter 4 Configuring your product in *IBM Tivoli Monitoring: Configuring IBM Tivoli Enterprise Monitoring Server on z/OS* for instructions.
6. Start the Configuration Tool and perform the B (Build) action on the RTE where the TEMS, IBM Tivoli OMEGAMON XE for Messaging 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.

Note: When you perform a B (Build), C (Configure), or L (Load) operation on a RTE that has a previous version of the Tivoli Enterprise Monitoring Server installed, the Configuration Tool prompts you to confirm that you want to migrate to a newer version. The upgrade is completed by a batch migration job and all previously configured values for the configuration tool are retained.

7. If no agents are configured in the RTE built in step 6, you must re-register the IBM Tivoli OMEGAMON XE for Messaging agents with the TEMS. Follow the procedure in “Registering agents with the TEMS on z/OS” on page 69 and proceed to step 9 on page 53.
8. If the RTE contains previous versions of IBM Tivoli OMEGAMON XE for Messaging agents, reconfigure all agents now. Follow the procedures in *IBM Tivoli OMEGAMON XE for Messaging on z/OS: Configuration Guide for z/OS*.

Notes:

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

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

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

- b. When reconfiguring the WebSphere MQ Configuration agent, you must change the value of **MC agent nodename** to the name of the host system on which the agent is running, as shown in Figure 2.

```

----- SPECIFY CONFIGURATION PARAMETERS -----
--
OPTION ==>

Complete the items on this panel.

IBM-supplied WebSphere MQ authorized load library:
  Dataset name      ==> CSQ.V6ROM0.SCSQAUTH
IBM-supplied WebSphere MQ language library:
  Dataset name      ==> CSQ.V6ROM0.SCSQANLE

Configuration auditing ==> Y          (Y,N)
MC agent nodename     ==> KMC_DEFAULT      (Case sensitive)

  ● Change KMC DEFAULT to the hostname of the system on which
    the agent is running

Enter=Next  F1=Help  F3=Back

```

Figure 2. Upgrading Tivoli OMEGAMON XE for Messaging

- c. Historical data collection is disabled by default after upgrading to IBM Tivoli OMEGAMON XE for Messaging 6.0.1. If you want to use historical data collection, you must enable it by editing the HISTORY parameter in the configuration file in ICAT. Changed this parameter to:

HISTORY(YES)

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

- 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.

Note: 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 TEMS and you want to keep your existing configuration data, restore the old WebSphere MQ configuration database. See “Restoring the configuration database” on page 65 for more information.
- 11. You might need to update the started task procedures for the TEMS 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.

Upgrading from OMEGAMON XE for Messaging 6.0

Upgrade roadmap

Figure 3 shows the procedure for upgrading from IBM Tivoli OMEGAMON XE for Messaging 6.0 to IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1.

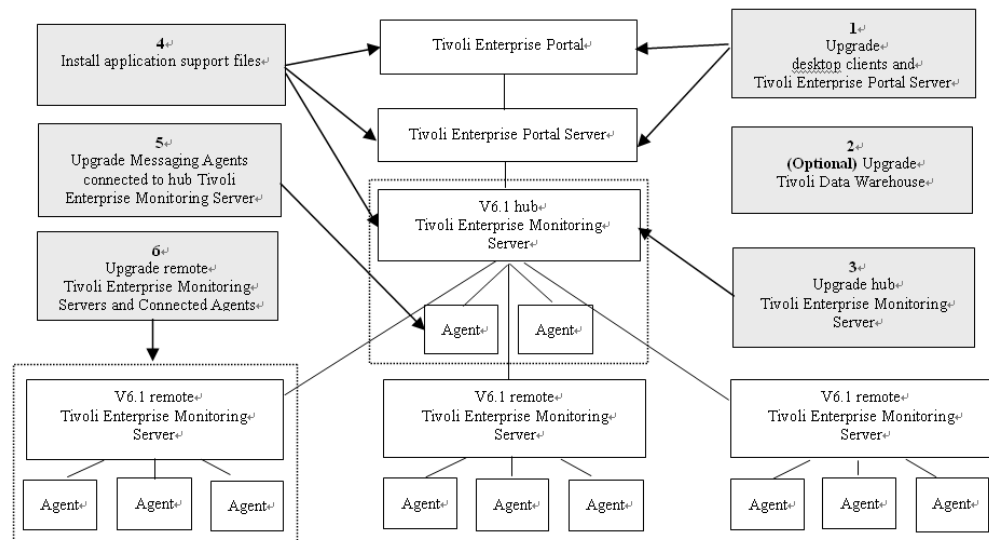


Figure 3. Upgrading Tivoli OMEGAMON XE for Messaging

Perform the following procedure to upgrade from OMEGAMON XE for WebSphere Business Integration:

- 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 6.1 fix pack 7. See “Upgrading TEPS and TEP on distributed systems” on page 55 for instructions.
3. Optional: If you are not already running the latest version, upgrade the Tivoli Data Warehouse.
See the *IBM Tivoli Monitoring Installation and Setup Guide* and *IBM Tivoli Monitoring Administrator’s Guide* for details on installing and configuring the Tivoli Data Warehouse. These documents can be downloaded from the IBM Tivoli Monitoring Information Center, at: http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/topic/com.ibm.itm.doc_6.1/itm_install.pdf and http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/topic/com.ibm.itm.doc_6.1/itm_admin_62.pdf.
4. Upgrade the hub monitoring server:
 - If you are running the hub Tivoli Enterprise Monitoring Server on a distributed system, see “Upgrading TEMS on distributed platforms” on page 56 for instructions.
 - If you are running the hub Tivoli Enterprise Monitoring Server on a z/OS system, see “Upgrading TEMS and agents on z/OS” on page 58 for instructions.
5. Install the IBM Tivoli OMEGAMON XE for Messaging application support files. Install application support for IBM Tivoli OMEGAMON XE for Messaging on all systems where the hub Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, or Tivoli Enterprise Portal desktop clients are installed. See Chapter 2, “Installing IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1,” on page 5 for instructions (including instructions for TEMS running on z/OS systems).

Notes:

- a. If multiple Tivoli Management Services components are installed on the same host machine (for example, the Tivoli Enterprise Portal Server and Tivoli Enterprise Monitoring Server have all been installed on the same host), you must install application support for all the components running on that host at the same time.
 - b. If IBM Tivoli OMEGAMON XE for Messaging agents have been installed on the host machine on which a Manage Tivoli Monitoring Services component (Tivoli Enterprise Portal, Tivoli Enterprise Portal Server or Tivoli Enterprise Monitoring Server) is installed, you must use the CDs included with the distributed systems version of IBM Tivoli OMEGAMON XE for Messaging to upgrade the agent and install application support at the same time.
6. Upgrade the monitoring agents that connect to the hub TEMS. You don’t need to upgrade all the agents connected to the hub monitoring server, but new features will only be available for those agents that you have upgraded. Agents of different versions can connect to the hub monitoring server simultaneously (on z/OS, this feature is only available if the IBM Tivoli OMEGAMON XE for Messaging agents are not sharing the same CSIs). Perform the following procedure:
 - If you are upgrading agents running on distributed platforms, see “Upgrading agents on Windows, UNIX and Linux” on page 56 for instructions for upgrading on Window, UNIX and Linux, and “Upgrading agents on AS/400” on page 57 for instructions for upgrading agents running on AS/400.

- If you are upgrading agents running on z/OS, see “Upgrading TEMS and agents on z/OS” on page 58 for instructions.
7. Upgrade any remote TEMS servers and connected IBM Tivoli OMEGAMON XE for Messaging agents. Any remote TEMS servers to which IBM Tivoli OMEGAMON XE for Messaging agents connect that are not upgraded now must have their attribute and catalog files overwritten with the equivalent files from the hub TEMS. Remote TEMS servers to which IBM Tivoli OMEGAMON XE for Messaging agents do not connect can be upgraded at a later time.
 IBM Tivoli OMEGAMON XE for Messaging agents can also be upgraded at a later time unless they are configured using the same CSI as a remote TEMS that you are upgrading and to which they connect.
 For each remote TEMS in your environment, perform one of the following operations:
 - If you want to upgrade the remote TEMS now:
 - a. Upgrade the remote TEMS:
 - If the remote TEMS is running on a distributed system, see “Upgrading TEMS on distributed platforms” on page 56 for instructions.
 - If the remote TEMS is running on a z/OS system, see “Upgrading TEMS and agents on z/OS” on page 58 for instructions.
 - b. Upgrade agents connected to the remote TEMS, if required:
 - If the agents you are upgrading are running on a distributed system, see “Upgrading agents on Windows, UNIX and Linux” on page 56 for instructions.
 - If the agents you are upgrading are running on z/OS, see “Upgrading TEMS and agents on z/OS” on page 58 for instructions.
 - If you do not want to upgrade the remote TEMS now, you must copy attribute and catalog files from the hub TEMS to the remote TEMS before the two can connect. See “Upgrading attribute and catalog files at the remote TEMS” on page 63 for instructions.
 8. Verify the installation. Check that the hub Tivoli Enterprise Monitoring Server, the Tivoli Enterprise Portal Server and Tivoli Enterprise Portal desktop clients deployed in your environment are all running the same versions of fix packs and equivalent PTFs for both IBM Tivoli Monitoring and IBM Tivoli OMEGAMON XE for Messaging.
 9. If you want to use a language other than English, install the required language packs on TEP and TEPS. See Chapter 7, *Installing the Language Packs*, in *IBM Tivoli OMEGAMON XE for Messaging: Installation and Setup Guide* for instructions.
 10. Restart all upgraded or newly installed components.

Upgrading TEPS and TEP on distributed systems

The following instructions assume that components are located on different systems. If any or all of the TEPS, TEP Desktop client and TEMS components reside on the same system, you must combine the steps to upgrade them, because the installer updates all components on the given system. Perform the following procedure:

1. On the system where TEPS 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 already done so, on each system where TEPS or TEP is installed, upgrade to IBM Tivoli Monitoring 6.1 fix pack 7. Follow the instructions in the *IBM Tivoli Monitoring user's guide*. For information about downloading and installing fix pack 7, see <http://www-1.ibm.com/support/docview.wss?uid=swg24018493>.
 3. Optional: back up SQL query data by running the migrate-export command from the <ITM_HOME>\cnps\ directory to generate file saveexport.sql in <ITM_HOME>\cnps\SQLLIB, which contains all the Tivoli Enterprise Portal Server data. <ITM_HOME> is the ITM installation directory.

Upgrading TEMS on distributed platforms

To upgrade either a remote or hub TEMS on distributed platforms, perform the following procedure:

1. Run the command `tacmd removeBundles` 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 command `tacmd addBundles`. These files are not required for the TEMS to run, but are necessary if you want to use remote deployment.
2. If you have not done so already, upgrade to IBM Tivoli Monitoring 6.1. fix pack 7. See Chapter 6, *Installing IBM Tivoli Monitoring* in the *IBM Tivoli Monitoring Installation and Setup Guide* for further information about upgrading the Tivoli Enterprise Portal and Tivoli Enterprise Portal Server. This document can be downloaded from the IBM Tivoli Monitoring Information Center, at: http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/topic/com.ibm.itm.doc_6.1/itm_install.pdf. ITM fix pack 7 is available from <http://www-1.ibm.com/support/docview.wss?uid=swg24018493>.

Note: If you are upgrading ITM on UNIX or Linux platforms, when prompted to enter an installation directory, you must use the directory where the old version of the TEMS is installed. When prompted to specify the TEMS name, you must also use the same name as the previous TEMS.

3. If you are running TEMS on UNIX or Linux, reconfigure the TEMS, ensuring that all settings are correct. Even if you do not change any settings, you must reconfigure, otherwise the TEMS may fail to start.
4. If you are upgrading a remote TEMS, delete `KCFEPRB.KCFCCTII` from the line `KDS_RUN` in the file `KBBENV` to disable MQ Configuration support, which should only be enabled on the Hub TEMS. The `KBBENV` file can be found in the following locations:
 - On Windows: <ITMHOME>/cms/KBBENV
 - On UNIX and Linux platforms: <ITMHOME>/tables/<TEMS>/KBBENV

Where <ITMHOME> is your IBM Tivoli Monitoring installation directory and <TEMS> is the subdirectory to which the TEMS is installed.

Upgrading agents on Windows, UNIX and Linux

To upgrade IBM Tivoli OMEGAMON XE for Messaging agents on distributed platforms, perform the following procedure:

1. Follow the instructions in your IBM Tivoli Monitoring user's guide to upgrade the Candle Technologies Framework to IBM Tivoli Monitoring to version 6.1 fix pack 7.

2. Install IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 agents. See “Installing IBM Tivoli OMEGAMON XE for Messaging” on page 28 for instructions.
3. If you are upgrading the WebSphere MQ Monitoring agent, WebSphere InterChange Server Monitoring agent or WebSphere InterChange Server data sources, reconfigure them, ensuring that all settings are correct. Even if you do not change any settings, you must reconfigure, otherwise the component may not operate correctly.

Important: If you do not upgrade the OS agents when upgrading to IBM Tivoli Monitoring 6.1 fix pack 7, or you are using 64-bit OS agents, you must also install the 32-bit Tivoli Enterprise Service User Interface included with IBM Tivoli Monitoring 6.1 fix pack 7. See IBM Tivoli Monitoring documentation for more information and installation instructions.

Limitation:

- If you are upgrading the WebSphere MQ Monitoring agent from OMEGAMON XE for Messaging 6.0.0 fix pack 1, the WebSphere MQ Configuration agent is installed automatically during the process. If you don't need the WebSphere MQ Configuration agent, you have to remove it after the installation.
- On some UNIX or Linux systems, the application support module for WebSphere MQ Configuration at the level of version 6.0 fix pack 1 is installed during the installation process because of an installer defect of version 6.0. The extra module does not affect the product performance.
- On some UNIX or Linux systems, the architecture code is different after the upgrading process from the original one. In this situation, the old historical backup files are not copied into the backup directory, and you can find them in the original directory.

Upgrading agents on AS/400

Perform the following procedure to upgrade all IBM Tivoli OMEGAMON XE for Messaging agents:

1. Back up the configuration files used by the components you want to upgrade:

- For WebSphere MQ Monitoring agents, back up:
 - 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.

Note: These files are obsolete and cannot be use with IBM Tivoli OMEGAMON XE for Messaging 6.0.1 agents. However, you can use them for reference when configuring new versions of agents or if you want to restore your OMEGAMON XE for WebSphere Business Integration 1.0 or 1.1 environment.

- For the WebSphere MQ Configuration agent, please back up:
Connection Information: /QSYS.LIB/KMCTMP.LIB/KMSPARM.KBBENV
2. Delete old versions of agents if any are installed. See Chapter 7 Installing IBM Tivoli OMEGAMON XE for Messaging on OS/400: Pre-installation tasks in *IBM Tivoli OMEGAMON XE for Messaging: Installation and Setup Guide* for instructions.

3. Install IBM Tivoli OMEGAMON XE for Messaging 6.0.1 agents. See Chapter 7 Installing IBM Tivoli OMEGAMON XE for Messaging on OS/400: Installing IBM Tivoli OMEGAMON XE for Messaging on OS/400 in *IBM Tivoli OMEGAMON XE for Messaging: Installation and Setup Guide* for instructions.
4. Configure the newly installed agents. See Chapter 11 Configuring IBM Tivoli OMEGAMON XE for Messaging on OS/400 in *IBM Tivoli OMEGAMON XE for Messaging: Installation and Setup Guide* for instructions.

If you want to configure WebSphere MQ Configuration agents with the same parameters as in your previous environment, you can replace the newly installed agents' configuration files with the files backed up in step 1 on page 57. However, old versions of WebSphere MQ Monitoring configuration files are not compatible with version 6.0.1 and so WebSphere MQ Monitoring agents must be configured manually, although you can use the files backed up in step 1 on page 57 as a reference during the configuration process.

Upgrading TEMS and agents on z/OS

Upgrading a TEMS does not necessarily imply 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. Where a step is specific to upgrading a particular component, this is mentioned in the step. Do not perform any steps that are not required for the component that you are upgrading.

To upgrade a TEMS or IBM Tivoli OMEGAMON XE for Messaging agents running on z/OS to IBM Tivoli OMEGAMON XE for Messaging 6.0.1, 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 environment as described in “Preparing your z/OS environment for upgrading” on page 67.
2. Review the current Preventative Service Planning (PSP) upgrade information for IBM Tivoli Monitoring and IBM Tivoli OMEGAMON XE for Messaging. You can review the current PSP information at the following Web site: <http://www14.software.ibm.com/webapp/set2/psp/srchBroker>. 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* in the **Enter search terms** field.
3. Perform the following SMP/E jobs to upgrade the CSI environment where the TEMS, IBM Tivoli OMEGAMON XE for Messaging agents, or both are configured.

Remove HKCI310, HKDS610 and HKLV610 from and run the following SMP/E jobs:

- KQIJ1REC: Perform SMP/E RECEIVE
- KQIJ1APP: Perform SMP/E APPLY
- KQIJ1ACC: Perform SMP/E ACCEPT

See *Program Directory for Tivoli OMEGAMON XE for Messaging* for further information about performing SMP/E procedures.

4. Install the recommended maintenance (PTFs) for IBM Tivoli OMEGAMON XE for Messaging 6.0.1, IBM Tivoli Monitoring.

See “ITM and IBM Tivoli OMEGAMON XE for Messaging maintenance (z/OS only)” on page 70 for a complete list of available maintenance levels for IBM Tivoli OMEGAMON XE for Messaging 6.0.1 and IBM Tivoli Monitoring 6.1.

5. Set up the Configuration Tool. See Setting up your configuration environment in Chapter 4 Configuring your product in *IBM Tivoli Monitoring: Configuring IBM Tivoli Enterprise Monitoring Server on z/OS* for instructions.
6. Start the Configuration Tool and perform the B (Build) action on the RTE where the TEMS, IBM Tivoli OMEGAMON XE for Messaging 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 IBM Tivoli OMEGAMON XE for Messaging agents with the TEMS. Follow the procedure in “Registering agents with the TEMS on z/OS” on page 69 and proceed to step 9.
8. If the RTE contains previous versions of IBM Tivoli OMEGAMON XE for Messaging agents, reconfigure all agents now. Follow the procedures in *IBM Tivoli OMEGAMON XE for Messaging on z/OS: Configuration Guide for z/OS*.

Notes:

- a. Before configuring the persistent datastore for WebSphere MQ Monitoring and WebSphere Message Broker Monitoring components, you must delete the following old PDS files:
 - WebSphere MQ Monitoring: &rhilev.&rtename.RKMQPDSn
 - WebSphere Message Broker Monitoring: &rhilev.&rtename.RKQIPDSn
 where the variable &rhilev.&rtename is the runtime high-level qualifier and n is the number of PDS files that were previously allocated in this RTE
- b. Historical data collection is disabled by default after upgrading to IBM Tivoli OMEGAMON XE for Messaging 6.0.1. If you want to use historical data collection, you must enable it by editing the HISTORY parameter in the configuration file in ICAT. Changed this parameter to:
 HISTORY(YES)
 For more information about specifying parameters in ICAT, see *IBM Tivoli OMEGAMON XE for Messaging on z/OS: Configuration Guide for z/OS*.
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.

Note: 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 TEMS and you want to keep your existing configuration data, restore the old WebSphere MQ configuration database. See “Restoring the configuration database” on page 65 for more information.
11. You might need to update the started task procedures for the TEMS 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 are upgrading Tivoli Management Services components (TEP, TEPS and TEMS) directly from your old environment, all user-defined objects, such as customized workspaces and situations, will be available after you have completed 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 may want to deploy the TEPS to a new host system, instead of upgrading the existing TEPS in your old environment. To do this, you must install TEPS 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 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 IBM Tivoli Management services components. These instructions comprise installing IBM Tivoli OMEGAMON XE for Messaging in a new environment and additional tasks specific to migration.

Notes:

1. Do not delete your old environment until all data has been successfully migrated and you are sure that your new environment is working correctly.
2. At some points you will be instructed to perform tasks involving the CNPS (CandleNet Portal Server) or TEPS (Tivoli Enterprise Monitoring Server) and CMS (Candle Management Server) or TEMS (Tivoli Enterprise Monitoring Server). Which of these components you have installed depends on whether you are migrating OMEGAMON XE for WebSphere Business Integration 1.0/1.1 or IBM Tivoli OMEGAMON XE for Messaging 6.0.

Installing TEPS and migrating data

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

Because different version of TEPS use different data storage formats, data can only be transferred if the TEPS in each environment is the same version. For example, data exported from CandleNet Portal Server 197 cannot be imported into TEPS 6.1. Data may also be incompatible between different IBM Tivoli Monitoring 6.1 fix packs.

Perform the following steps to install a new TEPS and migrate data from the TEPS in your old environment:

1. Upgrade the old CNPS or TEPS server to IBM Tivoli Monitoring 6.1 fix pack 7. See <http://www-1.ibm.com/support/docview.wss?uid=swg24018493> for information about how to obtain IBM Tivoli Monitoring fix pack 7 and installation instructions.
2. Install IBM Tivoli Monitoring 6.1 and fix pack 7 on the host system on which you want to deploy the TEPS in your new environment.
3. Follow the procedure documented in the Replicating the Tivoli Enterprise Portal Server Environment section in Chapter 8 of the *Tivoli Enterprise Portal migration of the IBM Tivoli Monitoring: Administrator's Guide* to export customized workspaces and queries from the TEPS in your old environment and import them to the TEPS in your new environment.
4. Install IBM Tivoli OMEGAMON XE for Messaging 6.0.1 on the host system on which you have deployed the TEPS in your new environment. See *IBM Tivoli OMEGAMON XE for Messaging: Installation and Setup Guide* for information instructions.

5. Copy the following file from your old OMEGAMON XE for Messaging 6.0 TEPS installation to the OMEGAMON XE for Messaging 6.0.1 TEPS <ITM_HOME>\CNB directory, where <ITM_HOME> is the directory in which ITM is installed:
 <ITM_HOME>\CNB\classes\candle\kmq\resources\config\mq_dd_060000000.xml
 <ITM_HOME>\CNB\classes\candle\kqi\resources\config\qi_dd_060000000.xml

Installing the hub TEMS and migrating data

Situations, policies, template and managed system lists that have been customized by the user are stored in the hub TEMS database. The WebSphere Configuration database is also stored at the hub TEMS.

Note: With the exception of the OMEGAMON WebSphere 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 platforms

1. If you have configured WebSphere MQ Configuration support on the hub CMS or TEMS in your old environment, back up the configuration database as described in “Backing up the Configuration Database” on page 64.
2. Upgrade the hub CNPS or TEMS in your old environment to IBM Tivoli Monitoring 6.1 fix pack 7. See <http://www-1.ibm.com/support/docview.wss?uid=swg24018493> for information about how to obtain IBM Tivoli Monitoring fix pack 7 and installation instructions.
3. Install IBM Tivoli Monitoring 6.1 and fix pack 7 on the host system in your new environment where you will deploy the hub monitoring. You must configure the hub TEMS in the new environment with the same settings as the hub TEMS in the old environment.
4. Copy the EIB files from the system on which the old hub CMS or TEMS is installed to the system on which the new hub TEMS is installed, overwriting any existing files. The EIB files have .DB and .IDX file extensions and are stored in the following locations:

Windows: <install_dir>\CMS

UNIX: <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 instance.

Note: Once migration is complete, you must redistribute migrated user-defined situations before use.

5. Install and configure IBM Tivoli OMEGAMON XE for Messaging 6.0.1:
 - a. Install IBM Tivoli OMEGAMON XE for Messaging 6.0.1 on the system where you have deployed the new hub TEMS.
 - b. Start the new hub TEMS.
 - c. Add application support for OMEGAMON XE for Messaging to the hub TEMS locally. See “Adding application support to the Tivoli Enterprise Monitoring Server” on page 23 for instructions.
6. If you backed up the configuration database in step 1, restore it to the new TEMS. See “Restoring the configuration database” on page 65 for instructions.
7. Recycle the hub TEMS.

Migration procedure on z/OS

1. If you have configured WebSphere MQ Configuration support on the hub CMS or TEMS in your old environment, back up the configuration database as described in “Backing up the Configuration Database” on page 64.
2. Follow the SMP/E procedures documented in *Program Directory for OMEGAMON XE for Messaging on z/OS to install OMGEAMON XE for Messaging on z/OS* in a new CSI environment.
3. Upgrade the new CSI environment with any available maintenance for IBM Tivoli Monitoring and IBM Tivoli OMEGAMON XE for Messaging 6.0.1, as listed in “ITM and IBM Tivoli OMEGAMON XE for Messaging maintenance (z/OS only)” on page 70.
4. Configure the hub TEMS in a new RTE and register the IBM Tivoli OMEGAMON XE for Messaging agents with it.
5. See the following sections in Chapter 7, *Completing the customization, of IBM Tivoli Monitoring: Configuring Tivoli Enterprise Monitoring Server on z/OS* to migrate and restore user-customized objects.
 - Migration: Reviewing migration requirements
 - Migration: Grooming user-customized objects
 - Migration: Migrating and restoring user-customized objects
6. If you backed up the configuration database in step 1, restore it to the new TEMS. See “Restoring the configuration database” on page 65 for instructions.
7. Start the new hub TEMS.
8. Add application support for IBM Tivoli OMEGAMON XE for Messaging to the hub monitoring server remotely using Manage Tivoli Enterprise Monitoring Services or the kdstsns utility on a distributed platform. See “Adding application support to the Tivoli Enterprise Monitoring Server” on page 23 for instructions.
9. Recycle the hub TEMS.

Migrating remote TEMS, agents and Desktop TEP

The remote TEMS, IBM Tivoli OMEGAMON XE for Messaging agents and desktop TEP can be installed in a new environment with no need to import data from the old environment. Install IBM Tivoli Monitoring 6.1 and fix pack 5 followed by IBM Tivoli OMEGAMON XE for Messaging 6.0.1.

Additional instructions

Upgrade Notes[®]

Backup files

If you are upgrading your system, some files will be backed up automatically when OMEGAMON XE for Messaging components are upgraded. The files can be viewed using a text editor and might be useful when you configure your newly installed environment. The files are stored in the following directory:

- Windows systems: <ITM_HOME>\backup\<datetime>
- UNIX/Linux systems: <ITM_HOME>\BACKUP\messaging\<version_level>

where <ITM_HOME> is the directly in which ITM is installed, <datetime> is a directory name comprised of the date and time that the backup was performed, and <version_level> is v601FP1 for OMEGAMON XE for Messaging 6.0.1 fix pack 1.

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 TEMS system and KFWCMA.INI on the TEPS system.

mq.cfg and kqi.xml: When you upgrade IBM Tivoli OMEGAMON XE for Messaging agents to IBM Tivoli OMEGAMON XE for Messaging 6.0.1, the mq.cfg and kqi.xml files used to configure the agents are not overwritten. The new files included with IBM Tivoli OMEGAMON XE for Messaging 6.0.1 are renamed as follows:

- mq.cfg: mqbkup.cfg
- kqi.xml: 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 available in IBM Tivoli OMEGAMON XE for Messaging 6.0.1, 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 will use the pre-configured default settings.

Upgrading attribute and catalog files at the remote TEMS

If you do not want to upgrade the remote TEMS at the same time as the hub TEMS, cat and atr files must be copied from the upgraded hub TEMS system to the remote TEMS 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 TEMS is installed:

- Windows:
 - Atr files: <itm_home>/cms/ATTRLIB
 - Cat files: <itm_home>/cms/RKDSCATL
- UNIX/Linux:
 - 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 platforms are shown in Table 15.

Table 15. IBM Tivoli OMEGAMON XE for Messaging 6.0.1 Atr and cat file names

Agent	Atr File Names		Cat File Names	
	Distributed Platforms	z/OS	Distributed Platforms	z/OS
WebSphere InterChange Server Monitoring	kicatr00	N/A	kiccat00	N/A
WebSphere MQ Configuration	kcf.atr	kcfatr	kcf.cat	kcfcat
	kmc.atr	kmcatr	kmc.cat	kmccat
WebSphere MQ Monitoring	kmq.atr	kmqatr	kmq.cat	kmqcat
WebSphere Message Broker Monitoring	kqi.atr	kqiatr	kqi.cat	kqicat

Perform the following procedure, depending on the platforms on which the hub and remote TEMS are running:

- If both the hub and remote TEMS are running on distributed platforms, copy the appropriate files listed in Table 15 on page 63 from the hub TEMS to the remote TEMS.
- If both the hub and remote TEMS are running on z/OS, use FTP to copy the appropriate files listed in Table 15 on page 63 from the RKANDATV library on the hub TEMS to the RKANDATV library on the remote TEMS.
- If the hub TEMS is running on z/OS and the remote TEMS is running on a distributed platform, use FTP to copy the appropriate files listed in Table 15 on page 63 from the RKANDATV library of the hub TEMS to the appropriate folder on the distributed platform. Rename each files with the its equivalent file name on distributed platforms, as shown in Table 15 on page 63. For example, kmqatr becomes kmq.atr.
- If the hub TEMS is running on a distributed platform and the remote TEMS is running on z/OS, copy the appropriate files listed in Table 15 on page 63 to a temporary directory. Rename each files with the its equivalent file name on z/OS, as shown in Table 15 on page 63. For example, kmq.atr becomes kmqatr. Use FTP to copy all files from the temporary folder on the distributed platform to the RKANDATV library of the hub TEMS.

The Configuration Database

The section describes how to back up and restore the configuration database when upgrading to IBM Tivoli OMEGAMON XE for Messaging 6.0.1.

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 fetch 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, the LRECL of the receiving data should 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:

1. Ensure that you are in update mode.
The Configuration View is displayed.
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 TEMS machine, where you want the configuration database backed up. The format of the file name is dependant upon the operating system on which the TEMS runs:
 - If the TEMS is running on UNIX or Linux, 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 TEMS is running on Windows, this name identifies a file in the current TEMS 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 TEMS is running on z/OS, this name references a predefined sequential data set. Do *not* enclose the name in quotes. The dataset must be allocated manually. The DCB information required for this dataset is:


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

 After you have entered the name of the file, click **OK**.
4. 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 to restore the contents of the configuration database from the backup file, then use one of the restore utilities described in the following sections. Use the restore utility that is appropriate for the type of configuration database that is used by your hub TEMS.

Restoring the Product-provided Internal configuration database: Use the following utilities to restore the configuration database, depending on which platform it is running on:

- If the TEMS is running on UNIX or Linux, use the `kcfcrstr` utility located in the current TEMS working directory (the default 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 89 for a list of architecture codes).
- If the TEMS is running on Windows, use the `KCFRCSTR` utility located in the current TEMS working directory (the default is `c:\IBM\ITM\CMS`).
- If the TEMS is running on z/OS, 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 (TEMS) if it is running.
2. If the TEMS is running on Windows, Linux or UNIX, perform the following steps:
 - a. Go to the directory where the `kcfcrstr` utility is located. If the TEMS is running on UNIX or Linux, by default the `kcfcrstr` utility is located in `/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 89 for a list of architecture codes. If the TEMS is running on Windows, by default the `kcfcrstr` utility is located in `c:\IBM\ITM\CMS`.

- b. Run the following command:

```
kcfcstr -i input_file -o database_name
```

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

```
kcfcstr -i opt/IBM/ITM/tables/tems1/RKCFbackup.txt  
-o opt/IBM/ITM/tables/tems1/RKCFAPLD
```

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

If the TEMS is running on z/OS, see the member named `KCFRCDBJ` 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 `KCFARSM` utility.

Restoring the DB2 Universal Database configuration database: Use the following utilities to restore the configuration database, depending on which platform it is running on:

- If the TEMS is running on UNIX or Linux, use the `kcfcstr2` utility located in the current TEMS working directory (the default 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 89 for a list of architecture codes.)
- If the TEMS is running on Windows, use the `KCFCRST2` utility located in the current TEMS working directory (for example, `c:\IBM\ITM\CMS`).
- If the TEMS is running on z/OS, 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.

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

Note:

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

1. Stop the Tivoli Enterprise Monitoring Server (TEMS) if it is running.
2. Source the DB2 environment.
3. If the TEMS is running on UNIX or Linux:
 - a. You must have permission to use the configuration database; if you are going to stop then restart the TEMS on UNIX or Linux, you must have appropriate permissions to successfully work with the configuration database. The TEMS stops if the user starting the TEMS 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 used 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 UNIX or Linux.

- b. Go to the current TEMS 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 TEMS. It must have write access to the DB2 database
- The *password* value is the password of the user ID that is used to administer DB2

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

4. If the TEMS is running on Windows, issue the following command at a command prompt when you are in the current TEMS 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 to TEMS. It must have write access to the DB2 database
- The *password* value is the password that is used to administer DB2

Note: 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 `rkcfaflt`, your user ID is `db2admin`, and your password is `db2`, issue the following command.

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

5. If the TEMS is running on z/OS, 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.

Preparing your z/OS environment for upgrading

If you plan to perform a staged upgrade or migration, you must clone your common software inventory (CSI) and corresponding Installation and Configuration Assistance Tool INST* files before you begin your upgrade. Otherwise, your existing agents will not function correctly with the components you have upgraded. The libraries are:

- `&shilev.INSTDATA`
- `&shilev.INSTDATW`
- `&shilev.INSTJOBS`
- `&shilev.INSTLIB`
- `&shilev.INSTLIBW`
- `&shilev.INSTQLCK`
- `&shilev.INSTSTAT`

where &shilev is the installation high-level qualifier

The System Modification Program/Extended (SMP/E) Modification Control Statements included with product FMIDs deletes previous versions of the components being upgraded. Cloning your CSI and Configuration Tool INST* files ensures that if you need to perform maintenance or modify the configuration of your existing components before they are upgraded, you can do so.

After cloning your Configuration Tool INST* files, you must start the Configuration Tool in the environment where the CSI name has changed, unlock your SMP/E high level qualifiers, and point to the high-level qualifier of the modified CSI. This method provides you with two CSIs and two Configuration Tool environments. One represents the new IBM Tivoli OMEGAMON XE for Messaging 6.0.1 release and the other represents the earlier release.

If you choose not to clone your CSI environment and the corresponding Configuration Tool INST* files, you cannot apply maintenance or modify configurations for older systems until they are upgraded. If you intend to stage the deployment of the new release, you can clone the SMP/E environment to keep your SMP/E environments intact for upgraded and non-upgraded RTEs.

Perform the following procedure to clone and update the cloned SMP/E CSI DDDEFs to point to your SMP/E data set names:

1. Run the following job, where: <oHilev> is your old high level qualifier and <nHilev> is your new high level qualifier:

```
//COPY EXEC PGM=ADDRSSU,REGION=0M
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
COPY ALLDATA(*) &endash;
CATALOG &endash;
DS(INCLUDE(<oHilev>.**)) &endash;
OUTDYNAM(volser) - or STORCLAS(storage class) or nothing if ACS routines will
take care of placement
RENUNC(<oHilev>.**,<nHilev>.**)
/*
//ZEDIT EXEC PGM=GIMSMP,REGION=6M,DYNAMNBR=120,PARM=&csqg;PROCESS=WAIT&csqg;
//SYSPRINT DD SYSOUT=*
//SMPOUT DD SYSOUT=*
//SMPRPT DD SYSOUT=*
//SMPLOGA DD SYSOUT=*
//SMPSNAP DD DUMMY
//SMPCSI DD DISP=SHR,DSN=<nHilev>.CSI
//SMPLOG DD SYSOUT=*
//SMPCNTL DD *
SET BDY(GLOBAL).
UCLIN.
REP GLOBALZONE ZONEINDEX(
(CANTZ1,<nHilev>.CSI,TARGET)
(CANDZ1,<nHilev>.CSI,DLIB) ).
REP DDDEF(SMPTLIB)
VOLUME(volser) UNIT(3390). /* change volser if needed */
REP OPTIONS(CANOPT1)
DSPREFIX(<nHilev>).
ENDUCL.
ZONEEDIT DDDEF.
CHANGE DATASET(<oHilev>.*,<nHilev>.*).
ENDZONEEDIT.
SET BDY(CANTZ1).
ZONEEDIT DDDEF.
CHANGE DATASET(<oHilev>.*,<nHilev>.*).
ENDZONEEDIT.
SET BDY(CANDZ1).
```

```

ZONEEDIT DDDEF.
  CHANGE DATASET(<oHilev>.*,<nHilev>.*).
ENDZONEEDIT.
/*

```

2. Start the Configuration Tool in the new environment by selecting options S, 1 and then entering Y when prompted.
3. Change all instances of the old High Level Qualifier to the new High Level Qualifier. You are now ready to apply maintenance to new and upgraded components.

Registering agents with the TEMS on z/OS

Perform the following procedure to register IBM Tivoli OMEGAMON XE for Messaging agents with a hub or remote Tivoli Enterprise Monitoring Server on z/OS.

Note: Before performing this procedure, IBM Tivoli OMEGAMON XE for Messaging 6.0.1 on z/OS must be installed in the SMP/E CSI environment where the z/OS Tivoli Enterprise Monitoring Server is installed.

1. Start the Configuration Tool in the CSI environment where the Tivoli Enterprise Monitoring Server is installed, and navigate to the Runtime Environments (RTE) panel.
2. On the **PRODUCT SELECTION** menu, select **IBM Tivoli OMEGAMON XE for Messaging on z/OS**.
3. Enter C (Configure) to select the runtime environment on which the Tivoli Enterprise Monitoring Server is located.
4. Select **OMEGAMON XE for WebSphere MQ Configuration** on the **PRODUCT COMPONENT SELECTION** if you want the Tivoli Enterprise Monitoring Server to support the WebSphere MQ Configuration agent.
 - a. On the **WEBSHERE MQ CONFIGURATION** menu, select **Register with local TEMS**.
 - b. Enter the appropriate values when prompted in the **SPECIFY CONFIGURATION PARAMETERS** window and press Enter.
 - c. Review the JCL and submit the job. Press F3 to return to the **WEBSHERE MQ CONFIGURATION** menu.
 - d. Select **Configure Persistent Datastore (in TEMS)** and complete the fields in the displayed window. Press F3 to return to the **WEBSHERE MQ CONFIGURATION** menu.
5. Select **OMEGAMON XE for WebSphere MQ Monitoring** on the **PRODUCT COMPONENT SELECTION** menu if you want the Tivoli Enterprise Monitoring Server to support the WebSphere MQ Monitoring agent.
 - a. On the **CONFIGURE WEBSHERE MQ MONITORING** menu, select **Register with local TEMS**.
 - b. Review the JCL and submit the job. Press F3 to return to the **CONFIGURE WEBSHERE MQ MONITORING** menu.
 - c. Press F3 to return to the **PRODUCT COMPONENT SELECTION** menu.
6. Select **OMEGAMON XE for WebSphere Message Broker Monitoring** on the **PRODUCT COMPONENT SELECTION** menu if you want the Tivoli Enterprise Monitoring Server to support the WebSphere Message Broker Monitoring agent.
 - a. On the **CONFIGURE WEBSHERE MESSAGE BROKER MONITORING** menu, select **Register with local TEMS**.

- b. Review the JCL and submit the job. Press F3 to return to the **CONFIGURE WEBSHERE MQ MONITORING** menu.
- c. Press F3 to return to the **PRODUCT COMPONENT SELECTION MENU**.
7. Press F3 to return to the **Runtime Environments (RTEs)** window.
8. Enter L to load the target libraries to the runtime libraries for the runtime environment.
9. To exit the Configuration Tool, press F3 (End) repeatedly until you see the TSO Command Processor.

Note: If the agent's primary TEMS is a remote TEMS and is connected to a hub TEMS running on z/OS, you must also register the agent in the runtime environment where the z/OS hub Tivoli Enterprise Monitoring Server is configured.

ITM and IBM Tivoli OMEGAMON XE for Messaging maintenance (z/OS only)

The following table lists available updates for IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 and IBM Tivoli Monitoring 6.1 Fix Pack 7 Maintenance running on z/OS.

Table 16. Table of IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 and IBM Tivoli Monitoring 6.1 Fix Pack 7 Maintenance (z/OS only)

FMID	COMPID	Maintenance level	Support Website
HKCF600	5608A3301	APAR OA24265 (PTF UA39918)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA24265
		APAR OA24347 (PTF UA40075)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA24347
		APAR OA24612 (PTF UA40378)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA24612
		APAR OA24791 (PTF UA40562)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA24791
HKMC600	5608A3300	APAR OA24794 (PTF UA40563)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA24794

Table 16. Table of IBM Tivoli OMEGAMON XE for Messaging 6.0.1 fix pack 1 and IBM Tivoli Monitoring 6.1 Fix Pack 7 Maintenance (z/OS only) (continued)

FMID	COMPID	Maintenance level	Support Website
HKMQ600	5608A1100	APAR OA23022 (PTF UA37776)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA23022
		APAR OA23023 (PTF UA37777)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA23023
		APAR OA23024 (PTF UA37778)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA23024
		APAR OA23025 (PTF UA37779)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA23025
		APAR OA23026 (PTF UA37780)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA23026
		APAR OA23027 (PTF UA37781)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA23027
		APAR OA23709 (PTF UA40106)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA23709
		APAR OA24795 (PTF UA40564)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA24795
		APAR OA24268 (PTF UA40599)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA24268
		APAR OA25103 (PTF UA41494)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA25103
HKDS610	5608A2800	APAR OA24661 (PTF UA40688)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA24661
		APAR OA24664 (PTF UA40659)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA24664
HKLV610	5608A41CE	APAR OA24665 (PTF UA40660)	http://www-1.ibm.com/support/docview.wss?uid=swg1OA24665

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

With IBM Tivoli OMEGAMON XE for Messaging, you can deploy monitoring agents remotely from a central location, the TEMS. Table 17 describes the steps that are required to set up and manage remote agent deployment.

Table 17. Remote agent deployment tasks

Goal	Where to find information
Create and populate the agent depot with installable agent images	"Populating your agent depot"
Use one agent depot for all the Tivoli Enterprise Monitoring Servers in your monitoring environment	"Sharing an agent depot across your environment" on page 76
Deploy agents	"Deploying agents" on page 77

You can also use the remote agent deployment function to configure deployed agent and install maintenance packages on them. See *IBM Tivoli Monitoring Administrator's Guide* for detailed instructions.

Populating your agent depot

The agent depot is an installation directory on the TEMS from which you deploy agents and maintenance packages across your environment. Before you can deploy any agents from a TEMS, 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 need to add the bundle that supports the operating system to which you want to deploy the bundle. Because IBM Tivoli OMEGAMON XE for Messaging provides different CDs for each platform type (for example, Windows, AIX and Solaris, HP-UX, Linux), you need to add the bundle from the specific platform CD. For example, if you want to deploy a WebSphere MQ Monitoring agent to a computer running HP-UX, add the HP-UX-specific agent bundle to the depot. If your depot directory is on Windows and you want to deploy a WebSphere MQ Monitoring agent to HP-UX, load the HP-UX bundle from installation CD for HP-UX.

You can have an agent depot on each TEMS in your environment or share an agent depot, as described in "Sharing an agent depot across your environment" on page 76. If you choose to have an agent depot for each TEMS, you can customize the agent depot based on the types of agents that you want to deploy and manage from that TEMS. For example, if you have a TEMS that is dedicated to monitoring the WebSphere MQ Monitoring agents in your environment, populate the agent depot with bundles for WebSphere MQ Monitoring agents.

Note: Agent depots cannot reside on a z/OS TEMS.

There are two ways to populate the agent depot:

- "Populating the agent depot from the installation image" on page 74
- "Populating the agent depot with the tacmd addBundles command" on page 75

Populating the agent depot from the installation image

Use the following instructions to populate your agent depot from the installation image:

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

You can use the installation image to populate your agent depot only when you are populating your agent depot with bundles for the same operating system as the TEMS. For example, you can use installation image to add the bundle for a Windows agent to a TEMS running on Windows, but you cannot use the Linux installation image to add the bundle for a Linux agent to a TEMS running on Windows. If you want to add agent bundles for an operating system that is different from the one on which the TEMS is running, use the **tacmd addBundles**, as described in “Populating the agent depot with the tacmd addBundles command” on page 75.

Windows: 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.
2. Click **Next** on the Welcome window.
3. Click **Next** on the Select Features window without making any changes.
4. On the Agent Deployment window, select the agents whose bundles you want to add to the depot and click **Next**.
5. Review the installation summary and Click **Next** to begin the installation.
After the bundles of the agents are added to the agent depot, a configuration window called the Setup Type window is displayed.
6. Clear all selected components. You have already configured all components on this computer and do not need to reconfigure any now. Click **Next**.
7. Click **Finish** to complete the installation.

Linux and UNIX: Populating the agent depot during installation

Perform the following steps to populate the agent depot from the Linux or UNIX 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 to the temporary directory you just created.
3. Run the following commands:

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

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

4. When prompted for 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. If the directory you specified does not exist, you are asked whether to create it. Type **y** 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) Exit install.

Type 2 and press **Enter** to start installation.

7. Type the number that corresponds to the language in which you want to display the software license agreement and press **Enter**.
8. Press **Enter** to display the agreement.
9. Type 1 to accept the agreement and press **Enter**.
10. Type the number that corresponds to the agent or agents whose bundles you want to add to the agent depot and press **Enter**. If you want to add more than one agent, use a comma (,) 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 of the agents between 8 and 12, type 8-12.
11. After specifying all the agents whose bundles you want to add to the agent depot, type E and press **Enter** to exit.

Populating the agent depot with the `tacmd addBundles` command

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

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

For the full syntax, including parameter descriptions, see *IBM Tivoli Monitoring: Installation and Setup Guide*.

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

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

The following example copies all agent bundles for the WebSphere MQ Monitoring agent into the agent depot on a UNIX computer from the installation media (cd image) located at `/mnt/cdrom/`:

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

The following example copies all agent bundles for the WebSphere MQ Monitoring agent into the agent depot on a Windows computer from the installation media (cd image) located at `D:\WINDOWS\Deploy`:

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

The following example copies the agent bundle for the WebSphere MQ Monitoring agent that runs on the AIX version 5.1.3 operating system into the agent depot on a UNIX computer from the installation media (cd image) located at `/mnt/cdrom/`:

```
tacmd addbundles -i /mnt/cdrom/unix -t or -p aix513
```

By default, the **tacmd addBundles** command puts the agent bundle in the location defined in the TEMS configuration file for DEPOTHOME. If you want to change this location, do the following before you run the **tacmd addBundles** command:

1. Open the KBBENV TEMS configuration file located in the *install_dir*\CMS directory on Windows and the *install_dir/tables/tems_name* directory on Linux and UNIX.
2. Locate the DEPOTHOME variable. By default, the agent depot is located in the *install_dir*/CMS/depot directory on Windows and *install_dir/tables/tems_name/depot* directory on UNIX.
3. Type the path to the directory that you want to use for the agent depot.
4. Save and close the file.

Sharing an agent depot across your environment

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

After populating your agent depot with either of the methods described in “Populating your agent depot” on page 73, perform the following steps to share the agent depot:

1. Open the KBBENV TEMS configuration file located in the *install_dir*\CMS directory on Windows and the *install_dir/tables/tems_name* directory on Linux and UNIX.
2. Locate the DEPOTHOME variable. By default, the agent depot is located in the *install_dir*/CMS/depot directory on Windows and *install_dir/tables/tems_name/depot* directory on UNIX.
3. Type the path to the shared agent depot for the DEPOTHOME variable.
4. Save and close the file.

If you are using a Windows TEMS connecting to a depot on another Windows computer, you must set the service ID for the Windows TEMS 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 Services** and select **Properties** from the pop-up 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**.

Note: 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. Before you attempt to deploy the agents of IBM Tivoli OMEGAMON XE for Messaging on a computer, you must have already installed or deployed an OS agent on that computer.

Notes:

1. The deployment and configuration of agents varies depending on the specific agent. The following procedures provide generic deployment information. For the exact values required for your agent, see the configuration information in the user's guide for the agent.
2. Ensure that you have populated your agent depot before attempting to deploy any agents.

Deploying through Tivoli Enterprise Portal

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

1. Open 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**.
4. Select the agent that you want to deploy and click **OK**.
5. Complete the configuration fields required for the agent.
6. Click **Finish**.
7. If the computer where you are deploying the agent already has a version of that agent installed, you can stop the deployment, add a new instance of the agent, if possible, or reconfigure the existing agent.

After the agent has been deployed, it connects to the TEMS and then displayed in the TEP.

Note: If you deployed the WebSphere Message Broker Monitoring agent on UNIX or Linux and want to use the CandleMonitor node, you must create the required links manually. See *IBM Tivoli OMEGAMON XE for Messaging: Installation Guide* for instructions.

Deploying with the tacmd addSystem command

Run the following command to deploy an agent from the command line:

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

See *IBM Tivoli Monitoring: Installation and Setup Guide* for the full syntax of this command, including parameter descriptions. See Appendix A, "Product codes," on page 87 for a list of product codes for agents.

The following example deploys the WebSphere MQ Monitoring agent on Windows operating systems.

```
./tacmd addSystem -t mq -n tivm44.cn.ibm.com:LZ
-p INSTANCE=BK_QM1 STARTMON.HISTORY=YES STARTMON.SAMPINT=120
```

Note: If you deployed the WebSphere Message Broker Monitoring agent on UNIX or Linux and want to use the CandleMonitor node, you must create the required links manually. See *IBM Tivoli OMEGAMON XE for Messaging: Installation Guide* for instructions.

Chapter 5. Uninstalling IBM Tivoli OMEGAMON XE for Messaging

Follow the instructions in the following sections to uninstall the components of IBM Tivoli OMEGAMON XE for Messaging:

- “Uninstalling components on Windows”
- “Uninstalling components on UNIX or Linux” on page 80
- “Uninstalling components on OS/400” on page 80
- “Uninstalling remote deployment files (all platforms)” on page 81

Uninstalling components on Windows

If you want to uninstall a component from a Windows machine, follow these steps.

1. Select **Start > Settings > Control Panel > Add or Remove Programs**.
2. Select **IBM Tivoli OMEGAMON XE for Messaging**.
3. Click **Change/Remove**.
4. The welcome dialog is displayed to let you modify, repair, or remove the program. If you want to completely remove IBM Tivoli OMEGAMON XE for Messaging and all of its features, select **Remove**. If you want to remove some of its features, select **Modify**. Click **Next**.
5. If you selected **Remove** in step 4, you will be asked if you want to completely remove the selected application and all of its features. Click **OK**. The uninstallation process will start and remove IBM Tivoli OMEGAMON XE for Messaging and all of its features. You do not need to perform the following steps.
6. If you selected **Modify** in step 4, a message is displayed stating that on the following panel, items you have already installed are pre-selected, selecting a new item installs that item, and deselecting an item uninstalls that item. Click **OK** to proceed.
7. On the Add or Remove Features dialog, click the + sign next to each main feature to expand the tree.
8. Clear the check boxes next to the names of components that you want to uninstall, and click **Next**.
9. On the Start Copying Files dialog, 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 uninstall.
10. On the Setup Type dialog, select the configuration tasks (if any) that you want to redo for the remaining components.
11. After you make all the configuration changes, click **Finish**.

Note: If you are using DB2 as the WebSphere MQ configuration database, then when you uninstall WebSphere MQ Configuration agent support at the TEMS, 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 components on UNIX or Linux

Perform the following steps to uninstall a component from a UNIX or Linux computer:

1. If TEMS, TEPS, TEP desktop client or any monitoring agents are running on the computer where the component you want to uninstall is located, stop them.
2. From a command prompt, 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 OMEGAMON XE for Messaging.

3. Run the following command:

```
./uninstall.sh
```

A numbered list of product codes, architecture codes, version and release numbers, and product titles is displayed for all installed products.

4. Type the number for the agent or component that you want to uninstall. Repeat this step for each additional installed product that you want to uninstall.

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

Note: If any processes belonging to the component being uninstalled are still running during the uninstallation process, the uninstaller will exit without removing the component. However, it is possible to override this by using the `-i` option. In this case the component will be removed even while its process are still running. You should then kill these processes manually.

Uninstalling components on OS/400

This part explains how to uninstall the components from your system

Procedure:

Complete the steps below 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 OS/400 command line, enter

```
DSPSFWRSC
```
3. Scroll down until you see in the Description column the name of WebSphere MQ Monitoring/Configuration.
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 OS/400 command line, enter:

```
DLTLICPGM LICPGM(licpgm)
```

where *licpgm* is the licensed program ID that you recorded in step 5.
7. If you are uninstalling the WebSphere MQ Monitoring agent, you need to perform an additional step. From an OS/400 command line, enter:

```
QSH
```

In QSHHELL environment, run:

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

Uninstalling remote deployment files (all platforms)

Files required for using remote deployment features are installed at the TEMS when IBM Tivoli OMEGAMON XE for Messaging application support is installed. To remove these files, run the command **tacmd removeBundles**. See *IBM Tivoli Monitoring: Installation and Setup Guide* for more information.

Chapter 6. Troubleshooting

This chapter describes problem determination and resolution information for the issues associated with IBM Tivoli OMEGAMON for Message V6.0.1 fix pack 01.

Troubleshooting problems with installation

- **Problem:** On Windows operating system, the following error message occurs during the installation process of WebSphere MQ Configuration support for IBM Tivoli OMEGAMON XE for Messaging V6.0.1 on Tivoli Enterprise Monitoring Server.

KCFDataSource.exe - Unable To Locate Component -

Solution: This situation occurs because DB2 is not installed on the system and the DB2SYS.DLL file can not be found to start the application. Press **No** when the error message occurs. The TEMS will use the internal configuration database of WebSphere MQ Configuration which is installed automatically as part of the TEMS.

Troubleshooting problems with WebSphere Message Broker Monitoring

- **Problem:** Brokers on 64-bit operating systems are not started successfully by the Take Action command.

Solution: This situation occurs because the WebSphere Message Broker Monitoring agent cannot get the proper database resource. Perform the following steps before issuing the Take Action command to solve this problem:

1. Open the `qi.ini` file in `<install_dir>/config`, where `<install_dir>` is the full path of the OMEGAMON XE for Messaging installation directory.
 2. For AIX systems, append the path: `<DB2_install_dir>/lib64:<DB2_install_dir>/lib32` to the line that contains the `$LIBPATH` parameter. For HP, Solaris or Linux systems, append the path: `<DB2_install_dir>/lib64:<DB2_install_dir>/lib32` to the line that contains the `$LD_LIBRARY_PATH` parameter. Where `<DB2_install_dir>` is the DB2 installation directory.
 3. Define the two environment variables `ODBCINI` and `ODBCINI32` in the `mqsiprofile` of WebSphere Message Broker 6.1.
 4. Recycle the WebSphere Message Broker Monitoring agent.
- **Problem:** Issuing the Take Action command causes unexpected results when brokers of multiple versions coexist in the same system.

Solution: If you have brokers of multiple versions running in the same system, do not run any `mqsiprofile` command before starting the WebSphere Message Broker Monitoring agent.

- **Problem:** The error message "KDY1008E" occurred when remotely configuring the agent.

Solution: The situation occurs because the string length of the managed system name (MSN) exceeds 32 characters. Perform the following procedure to avoid this situation:

1. Navigate to the `[ITM_HOME]/config` directory. Where `[ITM_HOME]` is the ITM installation directory.

2. Open the agent configuration file qi.ini.
3. Add the following line into the Generic Settings section in the configuration file.
CTIRA_HOSTNAME=\$RUNNINGHOSTNAME\$
4. Save and close the file.
5. Recycle the WebSphere Message Broker Monitoring agent.
6. Clear the offline entry of WebSphere Message Broker Monitoring in Tivoli Enterprise Portal.

- **Problem:** On distributed systems, the managed system name (MSN) of the WebSphere Message Broker Monitoring instance changes after remote startup or deployment.

Solution: This situation occurs because the CTIRA_HOSTNAME environment variable which is set by the OS agent takes precedence of the full hostname in MSN which is set in the configuration file. Perform the following procedure to avoid this situation:

1. Navigate to the [ITM_HOME]/config directory. Where [ITM_HOME] is the ITM installation directory.
2. Open the agent configuration file qi.ini.
3. Add the following line into the Generic Settings section in the configuration file.
CTIRA_HOSTNAME=\$RUNNINGHOSTNAME\$
4. Save and close the file.
5. Recycle the WebSphere Message Broker Monitoring agent.
6. Clear the offline entry of WebSphere Message Broker Monitoring in Tivoli Enterprise Portal.

- **Problem:** The primary WebSphere Message Broker Monitoring agent instance starts up after remotely deploying the agent with the agent ID being specified.

Solution: This situation only happens in a fresh environment on the target system. Use one of the following methods to avoid this situation:

- Deploy the primary agent instance without specifying the agent ID, and then remotely deploy the instance with the agent ID being specified.
- Stop the primary agent instance, and then locally start the instance with the specified agent ID.

Troubleshooting problems with WebSphere MQ Monitoring

- **Problem:** On distributed systems, the managed system name (MSN) of the WebSphere MQ Monitoring instance changes after remote startup or deployment.

Solution: This situation occurs because the CTIRA_HOSTNAME environment variable which is set by the OS agent takes precedence of the *agentid* set by the SET AGENT statement in the configuration file during the remote startup or deployment process. The MSN which should be *monitoredqueueanagername:agentid:MQ* is changed into *monitoredqueueanagername:CTIRA_HOSTNAMEvalue:MQ* after remote startup or deployment. Use one of the following methods to avoid this situation:

- Set the *agentid* to the same value as the CTIRA_HOSTNAME environment variable which is set by the OS agent. This value is usually the hostname without domain.
- Start the instance locally.

- **Problem:** The error message "KDY1024" occurs when remotely configuring the WebSphere MQ Monitoring agent with the agent name being specified.
Solution: Ignore the error message and the agent can be locally started with the specified agent name after remote configuration.
- **Problem:** The primary WebSphere MQ Monitoring agent instance starts up after remotely deploying the agent with the agent ID being specified.
Solution: This situation only happens in a fresh environment on the target system. Use one of the following methods to avoid this situation:
 - Deploy the primary agent instance without specifying the agent ID, and then remotely deploy the instance with the agent ID being specified.
 - Stop the primary agent instance, and then locally start the instance with the specified agent ID.

Appendix A. Product codes

The following table lists product codes that identify the IBM Tivoli OMEGAMON XE for Messaging components. Use these codes when running commands

Table 18. Product codes

Product	Code	Application Support Required at TEMS?
Tivoli Enterprise Monitoring Server Configuration (Must add application support data for WebSphere MQ Configuration)	cf	Yes
WebSphere Message Broker Monitoring	qi	Yes
WebSphere InterChange Server Monitoring	ic	Yes
WebSphere InterChange Server data source	ie	No
WebSphere MQ Configuration (See product code cf)	mc	No
WebSphere MQ Monitoring	mq	Yes

Appendix B. Architecture codes

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

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

Table 19. Operating system architecture abbreviations

Abbreviation	OS Architecture
aix513	AIX v5.1 (32 bit)
aix516	AIX v5.1 (64 bit)
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
hp10	HP-UX v10.01/10.10
hp102	HP-UX v10.20
hp11	HP-UX v11
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)

Table 19. Operating system architecture abbreviations (continued)

Abbreviation	OS Architecture
ls3266	Linux S390 v2.6 (64 bit)
osf1	Digital UNIX (prior to V5.0)
os390	OS/390® or z/OS
os400	OS/400
sol24	Solaris v2.4
sol25	Solaris v2.5
sol26	Solaris v2.6
sol273	Solaris v7 (32 bit)
sol276	Solaris v7 (64 bit)
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. Supported operating systems

The following tables show which operating systems are supported for different components of IBM Tivoli OMEGAMON XE for Messaging: WebSphere MQ Monitoring, WebSphere MQ Configuration, WebSphere Message Broker Monitoring and WebSphere InterChange Server Monitoring.

Table 20 shows the support for IBM Tivoli OMEGAMON XE for Messaging components on Windows computers.

Table 20. Supported Windows operating systems

Operating System	WebSphere MQ Monitoring	WebSphere MQ Configuration	WebSphere Message Broker Monitoring	WebSphere InterChange Server Monitoring
Windows 2000 Professional	X	X	X	X
Windows 2000 Server	X	X	X	X
Windows 2000 Advanced Server	X	X	X	X
Windows XP	X	X	X	X
Windows 2003 Server SE (32 bit) with Service Pack 1	X	X	X	X
Windows 2003 Server EE (32 bit) with Service Pack 1	X	X	X	X
Windows 2003 R2 SE (32 bit)	X	X	X	X
Windows 2003 R2 EE (32 bit)	X	X	X	X
Windows 2003 Server SE (64 bit)	X	X	X	
Windows 2003 Server EE (64 bit)	X	X	X	
Windows 2003 on VMWare ESX Server V2.5.2 and V3.0	X	X	X	

Notes:

1. For the Windows 2000 Professional and Windows XP operating systems, the Microsoft End User License Agreement (EULA) does not license these operating systems to function as a server. Tivoli products that function as a server on these operating systems are supported for demonstration purposes only.
2. For Windows 2003 Server: If you do not plan to deploy Service Pack 1 in your environment at this time, you must download and install Microsoft Installer 3.1 (KB893803), which is available from the Microsoft Download Web site (www.microsoft.com/downloads).

Table 21 shows the support for IBM Tivoli OMEGAMON XE for Messaging components on UNIX (non-Linux), i5/OS, and z/OS computers.

Table 21. Supported UNIX, i5/OS and z/Os operating systems

Operating System	WebSphere MQ Monitoring	WebSphere MQ Configuration	WebSphere Message Broker Monitoring	WebSphere InterChange Server Monitoring
AIX V5.2 (32/64 bit)	X	X	X	X
AIX V5.3 (32/64 bit)	X	X	X	X
Solaris Operating Environment V8 (32/64 bit)	X	X	X	
Solaris V9 (SPARC)	X	X	X	X
Solaris V10 (SPARC)	X	X	X	X
Solaris V10 (x86-64) on AMD Opteron	X	X	X	
Solaris Zones	X	X	X	
HP-UX 11i (32/64 bit) with Patch PHSS_30970	X	X	X	X
HP-UX 11.11 (11i) with June 2003 GOLDBASE11i and June 2003 GOLDAPPS11i bundles	X	X	X	X
HP-UX 11i v1 (B.11.11) and HP-UX 11i v2 (B.11.23) (32/64) on PA-RISC	X	X	X	
HP-UX 11i v2 (B.11.23) on Integrity (IA64)	X	X	X	
HP-UX 11i on Itanium®	X	X	X	X
OS/400 5.2	X	X	X	
i5/OS 5.3	X	X	X	
i5/OS 5.4	X	X	X	
z/OS 1.5	X	X	X	
z/OS 1.6	X	X	X	
z/OS 1.7	X	X	X	
z/OS 1.8	X	X	X	

Notes:

1. If you are installing the IBM Tivoli OMEGAMON XE for Messaging agent on a 64-bit operating system, you must install the 32-bit version of the agent framework.
2. For HP-UX, patch PHSS_30970 is required.
3. For information about installing IBM Tivoli OMEGAMON XE for Messaging on z/OS, see the Program Directory that comes with it.

4. Remote deployment is not supported for HP-UX 11i v2 (B.11.23) on Integrity (IA64).

Table 22 shows support for IBM Tivoli OMEGAMON XE for Messaging components on Linux computers.

Table 22. Supported Linux operating systems

Operating System	WebSphere MQ Monitoring	WebSphere MQ Configuration	WebSphere Message Broker Monitoring	WebSphere InterChange Server Monitoring
Asianux 2.0 for Intel	X	X	X	
Red Flag 4.1 for Intel	X	X	X	
Red Flag 5.1 for Intel	X	X	X	
RedHat Enterprise Linux 2.1 on Intel	X	X	X	
RedHat Enterprise Linux 3 on Intel	X	X	X	X
RedHat Enterprise Linux 3 on zSeries 31 bit	X	X	X	
RedHat Enterprise Linux 3 on zSeries 64 bit	X	X	X	
RedHat Enterprise and Desktop Linux 4 Intel	X	X	X	X
RedHat Enterprise Linux 4 on AMD64/EM64T	X	X	X	
RedHat Enterprise Linux 4 on iSeries and pSeries	X	X	X	
RedHat Enterprise Linux 4 on zSeries 31-bit	X	X	X	
RedHat Enterprise Linux 4 on zSeries 64-bit	X	X	X	
RedHat Enterprise Linux 4 for Intel on VMWare ESX Server V2.5.2 and V3.0	X	X	X	
SUSE Linux Enterprise Server 8 Intel	X	X	X	X
SUSE Linux Enterprise Server 8 for z/Series 31-bit	X	X	X	
SUSE Linux Enterprise Server 8 for zSeries 64-bit	X	X	X	
SUSE Linux Enterprise Server 9 Intel	X	X	X	X

Table 22. Supported Linux operating systems (continued)

Operating System	WebSphere MQ Monitoring	WebSphere MQ Configuration	WebSphere Message Broker Monitoring	WebSphere InterChange Server Monitoring
SUSE Linux Enterprise Server 9 on AMD64/EM64T	X	X	X	
SUSE Linux Enterprise Server 9 for iSeries and pSeries	X	X	X	
SUSE Linux Enterprise Server 9 for zSeries 31-bit	X	X	X	
SUSE Linux Enterprise Server 9 for zSeries 64-bit	X	X	X	
SUSE Linux Enterprise Server 10 Intel	X	X	X	
SUSE Linux Enterprise Server 10 on AMD64/EM64T	X	X	X	
SUSE Linux Enterprise Server 10 for iSeries and pSeries	X	X	X	
SUSE Linux Enterprise Server 10 for zSeries 64-bit	X	X	X	

Notes:

- For RedHat Enterprise Linux 4 on AMD64/EM64T, you must install the following libraries:
 - libstdc++.so.5
 - libstdc++.so.5(CXXABI_1.2)
 - libstdc++.so.5(GLIBCXX_3.2)
 - libstdc++-3.4.3-9.EL4
 - libgcc-3.4.4-2.i386.rpm
 - libstdc++-3.4.4-2.i386.rpm
 - compat-libstdc++-33-3.2.3-47.3.i386.rpm
 - compat-libstdc++-296-2.96-132.7.2.i386.rpm
- For SUSE Linux Enterprise Server 9 on AMD64/EM64T, you must install the `compat-libstdc++-lsb-4.0.2_20050901-0.4.x86_64.rpm` library. This library is available in the SUSE Linux Enterprise Server 9 for AMD64 and Intel EM64T Service Pack 3.
- See Technote 1247529 for minor known problems and workarounds for SUSE Linux Enterprise Server 10 on 64-bit operating systems.

Appendix D. Operating systems supported for TEMS, TEPS, and TEP client

The following tables show which operating systems are supported for the IBM Tivoli Monitoring components in IBM Monitoring V6.1 FP5: Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, and Tivoli Enterprise Portal client.

Table 23 shows the support for TEMS, TEPS, and TEP client on Windows computers.

Table 23. Supported Windows operating systems

Operating system	TEMS	TEPS	TEP client ¹
Windows 2000 Professional			X
Windows 2000 Server	X	X	X
Windows 2000 Advanced Server	X	X	X
Windows XP ²			X
Windows 2003 Server SE (32 bit) with Service Pack 1 ³	X	X	X
Windows 2003 Server EE (32 bit) with Service Pack 1 ³	X	X	X
Windows 2003 on VMWare ESX Server V2.5.2 and V3.0	X	X	X
Windows Vista (32 bit) ²			X
Windows Vista (64 bit) ²			X
Notes:			
1. The Tivoli Enterprise Portal desktop client is supported on marked platforms. However, the browser client can be accessed only from Windows computers running Internet Explorer 6 or 7.			
2. For the Windows 2000 Professional, Windows XP, and Windows Vista operating systems, the Microsoft End User License Agreement (EULA) does not license these operating systems to function as a server. Tivoli products that function as a server on these operating systems are supported for demonstration purposes only.			
3. For Windows 2003 Server: If you do not plan to deploy Service Pack 1 in your environment at this time, you must download and install Microsoft Installer 3.1 (KB893803), which is available from the Microsoft Download Web site (www.microsoft.com/downloads).			

Table 24 shows the support for TEMS, TEPS, and TEP client on UNIX (non-Linux), i5/OS, and z/OS computers.

Table 24. Supported UNIX, i5/OS, and z/OS operating systems

Operating system	TEMS	TEPS	TEP Client
AIX V5.3 (32/64 bit)	X	X	
Solaris Operating Environment V8 (32/64 bit)	X		

Table 24. Supported UNIX, i5/OS, and z/OS operating systems (continued)

Operating system	TEMS	TEPS	TEP Client
Solaris V9 (SPARC)	X		
Solaris V10 (SPARC)	X		
Solaris V10 (x86-64) on AMD Opteron	X		
Solaris Zones	X		
z/OS 1.4	X		
z/OS 1.5	X		
z/OS 1.6	X		
z/OS 1.7	X		
z/OS 1.8	X		

Table 25 shows the support for TEMS, TEPS, and TEP client on Linux computers. The application support is not supported by Linux on pSeries systems.

Table 25. Supported Linux operating systems

Operating system	TEMS	TEPS	TEP Client
Asianux 2.0 for Intel	X	X	X
Red Flag 4.1 for Intel	X	X	X
Red Flag 5.1 for Intel	X	X	X
RedHat Enterprise and Desktop Linux 4 Intel	X	X	X
RedHat Enterprise Linux 4 on z/Series 31-bit	X	X	
RedHat Enterprise Linux 4 on z/Series 64-bit ¹	X	X	
RedHat Enterprise Linux 4 for Intel on VMWare ESX Server V2.5.2 and V3.0	X	X	X
SUSE Linux Enterprise Server 9 Intel	X	X	X
SUSE Linux Enterprise Server 9 for z/Series 31-bit	X	X	
SUSE Linux Enterprise Server 9 for z/Series 64-bit ¹	X	X	
SUSE Linux Enterprise Server 10 Intel	X	X	X
SUSE Linux Enterprise Server 10 for z/Series 64-bit ¹	X	X	
Notes:			
1. You should install the TEPS application support in a 31-bit mode. To enter the 31-bit mode, run <code>s390 sh</code> .			

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GI11-8112-01

