WebSphere MQ for HP NonStop Server

Quick Beginnings

Version 5.3

GC34-6626-00

WebSphere MQ for HP NonStop Server

Quick Beginnings

Version 5.3

GC34-6626-00

Note!
Before using this information and the product it supports, be sure to read the general information under "Notices," on page 49.

First edition (April 2006)

This edition applies to WebSphere MQ for HP NonStop Server, Version 5 Release 3 and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Figures

Tables

Welcome to WebSphere MQ for HP NonStop Server

This book describes WebSphere® MQ for HP NonStop Server, Version 5 Release 3 and explains how to plan for the product, install it, and verify that the installation has worked.

See the:

- *WebSphere MQ Bibliography and Glossary* for an explanation of terms used in this book
- *WebSphere MQ for HP NonStop Server, V5.3 System Administration Guide* for further information about using the control commands **crtmqm**, **strmqm**, and **endmqm**

Road map

Use Table 1 to find the information that you need to get started with WebSphere MQ for HP NonStop Server.

Table 1. Getting started road map

If you want to...	Refer to...
Learn about the system requirements for WebSphere MQ for HP NonStop Server	Chapter 1, "Planning to install WebSphere MQ for HP NonStop Server," on page 1 and Chapter 2, "Preparing to install WebSphere MQ for HP NonStop Server," on page 5
Install WebSphere MQ for HP NonStop Server	Chapter 3, "Installing WebSphere MQ for HP NonStop Server," on page 11 and Chapter 4, "Verifying the installation," on page 31
Create a V5.3 queue manager from an existing V5.1 queue manager, preserving the queue manager data	Chapter 5, "Creating a Version 5.3 queue manager from an existing Version 5.1 queue manager," on page 37
Read more about WebSphere MQ	Chapter 6, "WebSphere MQ documentation," on page 39
Apply maintenance to WebSphere MQ for HP NonStop Server	Chapter 7, "Applying maintenance to WebSphere MQ for HP NonStop Server," on page 43
Uninstall WebSphere MQ for HP NonStop Server	Chapter 8, "Uninstalling WebSphere MQ for HP NonStop Server," on page 47

Conventions

Knowing the conventions used in this book will help you to use it more efficiently:

- **Boldface type** indicates the name of an item that you need to select or the name of a command.
- *Italics type* indicates new terms, book titles, or variable information that must be replaced by an actual value.
- `Monospace type` indicates an example (such as a fictitious path or file name) or text that is displayed on the screen.

Conventions

What's new in WebSphere MQ for HP NonStop Server, V5.3

WebSphere MQ for HP NonStop Server, V5.3 provides the following new and changed functions:

- WebSphere MQ for HP NonStop Server now supports channels that are protected using the industry standard Secure Sockets Layer (SSL). See *WebSphere MQ Security* for details. This support is based on the OpenSSL library; a copy of this library is included with WebSphere MQ.
- Support for Java™ is integrated within the product. This replaces the support previously provided by MQSeries® SupportPac™ MA88.
- Product documentation is now supplied on a separate CD-ROM.
- Support for local as well as global syncpoint operation, and fully thread-aware applications in OSS.
- Fault-tolerant execution controller and a configuration file for process management rules.
- It is now mandatory to export the entry point MQStart in any exits that WebSphere MQ for HP NonStop Server uses.
- WebSphere MQ for HP NonStop Server now supports generic authority administration.

Chapter 1. Planning to install WebSphere MQ for HP NonStop Server

This chapter describes the prerequisites for running WebSphere MQ for HP NonStop Server, V5.3, including:

- "Hardware requirements"
- "Prerequisite software" on page 2
- "Optional software" on page 2

The software that is supplied with the WebSphere MQ for HP NonStop Server product package is described in:

- "Delivery" on page 3
- "WebSphere MQ components" on page 4

The latest information about the product can be found in the README file (see "README file" on page 4).

Hardware requirements

WebSphere MQ for HP NonStop Server, V5.3 runs on any machine that supports the HP NonStop Server G06.25 operating system (for the MIPS processor based hardware range) or the NonStop Integrity Server H06.04 operating system (for the Itanium® processor based hardware range).

A minimum of 1 GB of physical memory is recommended for each processor in the system.

Disk storage

The storage requirements for WebSphere MQ for HP NonStop Server, V5.3 depend on how much working space you need. This, in turn, depends on the number of queues that you use, the number and size of the messages on the queues, and whether the messages are persistent. You also require archiving capacity on disk, tape, or other media.

Typical storage requirements are as follows:

- OSS files placed on WebSphere MQ for HP NonStop Server before installation: 300 MB
- For each installation:
  - OSS files: 250 MB
  - NonStop OS files: 100 MB
- For each queue manager (default objects only):
  - OSS files: 350 KB
  - NonStop OS files: 10 MB

Use the **df** command to determine the amount of free space in your OSS file systems, and the **DSAP** command to determine the amount of free space in your NonStop OS volumes.

Disk storage is also required for:

- Prerequisite software

- Your application programs

See "Preparing for installation" on page 5 for information about preparing the OSS file system and NonStop OS volumes that you need to install and run WebSphere MQ for HP NonStop Server.

Prerequisite software

This section gives the minimum supported software levels. Later levels, if any, are supported unless otherwise stated.

Note: WebSphere MQ does not support host names that contain spaces. If you install WebSphere MQ on a computer with a host name that contains spaces, you will be unable to create any queue managers.

Operating system

The operating systems supported by WebSphere MQ for HP NonStop Server, V5.3 are:

- For MIPS (S-Series) hardware: NonStop Server G06.25, with SPRs T8306G10ABG and T8994G09AAL.
- For Itanium hardware: NonStop Integrity Server H06.04, with SPRs T8306H01ABJ, T8994H01AAM, T9050H02AQG, and T0288H02AAG.

Use the TACL command **sysinfo** to confirm the base level of the operating system that you are running. Ask your system administrator to confirm that the required SPRs have been installed.

Connectivity

The network protocols supported by WebSphere MQ for HP NonStop Server, V5.3 are:

- TCP/IP
- SNA LU6.2

TCP/IP is normally installed on all systems, and WebSphere MQ works with the conventional TCP/IP, Parallel TCP/IP, and the TCP/IP v6 products. However, full use of the TCP/IP v6 protocol is not available with WebSphere MQ for HP NonStop Server, V5.3.

For SNA connectivity you need HP SNAX/APC, SNAX/CDF, or SNAX/APN to match the operating system, or InSession ICE Version 3.2.

Optional software

The following products can be used with WebSphere MQ for HP NonStop Server, V5.3 but are not required. Unless otherwise stated, these products apply only to server installations of WebSphere MQ.

Compilers

The following compilers are supported for WebSphere MQ for HP NonStop Server, V5.3 applications.

For applications written in C or C++:

- OSS or Windows® cross development in C or C++:
  - TNS/R Native C/C++ compiler (c89), non-PIC linker (nld) or PIC linker (ld), and object file tool (NOFT)

- NonStop OS applications in C:
  - TNS C compiler (C), binder (BIND), and Accelerator (AXCEL)
  - TNS/R Native C compiler (NMC), non-PIC linker (NLD) or PIC linker (LD), and object file tool (NOFT)
- NonStop OS applications in C++:
  - TNS/R Native C++ compiler (NMCPLUS), non-PIC linker (NLD) or PIC linker (LD), and object file tool (NOFT)

For applications written in COBOL:
- OSS or Windows cross-development in COBOL85:
  - TNS/R Native COBOL85 compiler (nmcobol), non-PIC linker (nld) or PIC linker (ld), and object file tool (NOFT)
- NonStop OS applications in COBOL85:
  - TNS COBOL89 compiler (COBOL), binder (BIND), and Accelerator (AXCEL)
  - TNS/R Native COBOL85 compiler (NMCOBOL), non-PIC linker (NLD) or PIC linker (LD), and object file tool (NOFT)

For applications written in TAL:
- NonStop OS applications in TAL:
  - TNS TAL compiler (TAL), binder (BIND), and Accelerator (AXCEL)

Databases

The following databases are supported:
- HP SQL/MP
- HP SQL/MX
- HP ENSCRIBE audited files

Transaction management

Any transaction manager software that is based on TMF is supported, for example, HP NonStop Tuxedo.

Disaster recovery

For disaster recovery configurations, the following products are supported:
- HP Remote Database Facility/IMP (RDF/IMP) Version 1.4
- HP NonStop AutoSYNC Version 1.1

Java

If you want to use the Java Messaging Support, you need the HP NonStop Server for Java, Version 4.0 or later.

Secure Sockets Layer (SSL)

If you want to use the SSL support, you need to install the SSL component, containing the OpenSSL library and utilities. This is supplied with WebSphere MQ.

Delivery

WebSphere MQ for HP NonStop Server, V5.3 is supplied on a number of CD-ROMs, as follows:
- WebSphere MQ V5.3 for HP NonStop Server
- WebSphere MQ Clients (two CDs)
- WebSphere MQ Documentation

WebSphere MQ for HP NonStop Server can be installed only as a server. See the *WebSphere MQ System Administration Guide* for an explanation of client and server installations of WebSphere MQ.

The Clients CD-ROMs contain the WebSphere MQ clients for AIX®, HP-UX, Linux®, Solaris, and Windows. Refer to the relevant *Quick Beginnings* book for information on how to install the client on other platforms.

The documentation CD-ROM contains the product documentation in PDF format. The WebSphere MQ family documentation is also supplied in HTML format on this CD-ROM.

WebSphere MQ components

When you install WebSphere MQ for HP NonStop Server, V5.3, you can choose which components to install.

Server

The components available on the Server CD-ROM are as follows:

Core Mandatory component. Provides support for external applications, application development, samples, and Java messaging.

SSL Optional component. Provides support for channels using SSL encryption and authentication.

Documentation

HTML and PDF versions of the WebSphere MQ for HP NonStop Server books are available on the Documentation CD-ROM package, on two CD-ROMs, in some or all of the following national languages:

- Brazilian Portuguese
- French
- German
- Italian
- Japanese
- Korean
- Spanish
- Simplified Chinese
- Traditional Chinese
- U.S. English

See “Online information” on page 40 for details of the documentation CD-ROM package.

Note: HTML and PDF versions of the WebSphere MQ books can be viewed directly from the CD-ROMs.

README file

Before starting to install WebSphere MQ for HP NonStop Server, review the `README` file for the latest information on the product. The `README` files for all supported national languages are found in the `READMES` directory on each CD-ROM.

Chapter 2. Preparing to install WebSphere MQ for HP NonStop Server

This chapter describes what to do to prepare your system for installing WebSphere MQ for HP NonStop Server (see "Preparing for installation").

If you are migrating from an earlier version of MQSeries, read "Migrating from an earlier version" on page 8.

"National language considerations" on page 9 describes how to select the national language for your WebSphere MQ installation.

Understanding multiple installations

WebSphere MQ can be installed more than once on a NonStop OS system. In addition, multiple different versions of WebSphere MQ can be installed on a single NonStop OS system and maintained independently. Also, WebSphere MQ can be independently installed on a NonStop OS system that already contains installations of the previous release, MQSeries for Compaq NonStop Kernel, Version 5.1. This type of installation will continue to operate independently and in parallel.

The complete process of installation falls into two phases:

1. File placement. The required software is placed from the delivery medium to NonStop OS.
2. Installation and configuration for first use. An installation of WebSphere MQ is created on NonStop OS from the files placed in the file placement phase.

Perform the file placement phase when you are installing a new version of WebSphere MQ. When a version of WebSphere MQ has been placed to NonStop OS, installations of that version of WebSphere MQ can be created at any time. Each installation is completely separate from all other installations of the same version, and all installations are completely independent of the placed files for that version. If necessary, you can remove or archive the placed files without affecting the installations that were created from them.

Administrators and applications must specify which installation they are currently working with using environment variables for both the TACL and OSS environments. The installation script creates an environment file for each WebSphere MQ installation. You can use the environment file as the basis for setting up user profiles for both OSS and TACL. Use user profiles to ensure the correct environment variables are set up for the installation required by that user.

Preparing for installation

Before you install WebSphere MQ for HP NonStop Server, you need to:

1. Prepare the OSS file sets used to hold WebSphere MQ and its data.
2. Set up the user ID and group for WebSphere MQ.
3. Prepare TMF to support WebSphere MQ and its applications.
4. Prepare a home terminal for use by WebSphere MQ.

Preparing the OSS file sets

The file placement phase copies files from the delivery medium to NonStop OS in the OSS file system. The location of the placed files is fixed according to the version of the WebSphere MQ software being placed. For the initial release of this product, this location is `/usr/ibm/wmq/V53GA`. Subsequent service releases or new versions are also placed to the `/usr/ibm/wmq` directory, with a different subdirectory name.

For successful file placement, ensure that:

- You have sufficient free space in the `/usr` file system to contain the placed files.
- The user who runs the file placement has write and search access to the `/usr/ibm/wmq` directory.
- You have created the `/usr/ibm/wmq` directory.

The placed files are not used at runtime by WebSphere MQ, so you do not need to consider performance requirements when configuring the OSS file set containing the `/usr/ibm/wmq` directory.

When the files are placed to NonStop OS, an installation is created using the instmqm OSS shell script. The installation script requires you to select the following locations in OSS for the WebSphere MQ files:

- The location of the `opt` directory tree for the installation. The `opt` directory tree contains product code for that installation.
- The location of the `var` directory tree for the installation. The `var` directory tree contains working data for that installation.

The `opt` and `var` directory trees do not have to be created in the same directory, but they can be and this can be a sensible way to keep your installations of WebSphere MQ organized.

For a successful installation, ensure that:

- You have sufficient free space in the file system you choose for the `opt` directory to contain the product code.
- You have sufficient free space in the file system you choose for the `var` directory to contain the working data for the queue managers you plan to create there. The storage requirement for working data for a queue manager in OSS is small compared to that in the NonStop OS file system.
- The WebSphere MQ administrator user group mqm has full access to the directories you choose for the `opt` and `var` directory trees.

The NonStop OS file system contains the majority of the performance-critical runtime files for an installation and its queue managers, so the location of the `opt` and `var` directory trees in OSS is not critical for performance and scalability.

For information about disk storage requirements, see “Disk storage” on page 1.

Setting up the user ID and group

WebSphere MQ is designed to be administered only by users that belong to the group mqm: this is not configurable. Also, users running instmqm must have mqm as their primary group. If you need other administrators, they must be members of the mqm group, although mqm does not have to be their primary group. Users that run applications do not need to be members of the mqm group.

The NonStop OS default security attribute for all administrator user IDs must be no more restrictive than "AGGG". Before the user IDs or aliases are used to install or perform administration of WebSphere MQ, set this attribute correctly in SAFECOM for all user IDs and aliases that will be used to administer WebSphere MQ.

Preparing TMF

WebSphere MQ is completely dependent on a functioning TMF subsystem and will not run without it. Make the following preparations before installing WebSphere MQ on NonStop OS:

- Ensure that the disk volumes you want to use as the NonStop OS locations for queue managers are audited by TMF. You can use the **INFO DATAVOLS** command in TMFCOM to verify this. You can use the **ADD DATAVOLS** command to add new volumes.
- Ensure that the TMF audit trail configured for the volumes you want to use has sufficient capacity for the volume of persistent message operations and the database update activity performed by your applications. You can use the **INFO AUDITTRAIL** command in TMFCOM to verify the current size and number of audit trail files. You can use the **ALTER AUDITTRAIL** command to change the configuration of an audit trail, or use the **ADD AUDITTRAIL** command to add a new audit trail.
- Ensure that the resource manager parameters RMOPENPERCPU and BRANCHESPERRM for TMF are sufficient for your use of TMF. Use the **INFO BEGINTRANS** command to verify the current settings. You can use the **ALTER BEGINTRANS** command to modify the settings. Stop and restart TMF to allow the new settings take effect.

See the *WebSphere MQ for HP NonStop Server, V5.3 System Administration Guide* for information about how to assess the TMF configuration requirements.

Preparing a home terminal

Every process on NonStop OS must have a valid home terminal that is always present and accessible for write operations. Home terminal devices can be physical devices or server processes but they must always be available for write operations to the processes that use them. This prevents the possibility of serious outages. For example, terminal emulator pseudo-devices are not appropriate as home terminals for critical software subsystems like WebSphere MQ because they become inaccessible when the network connection drops. Other directly-connected devices are also not usually suitable because of the limit of the number of concurrent opens they can support.

WebSphere MQ queue managers are created by default with a home terminal for all processes set to $ZHOME. $ZHOME is a fault-tolerant home terminal server that is preconfigured on NonStop OS as part of the SCF Kernel subsystem. $ZHOME logs output to the system console device ($YMIOP.#CLCI) and cannot be used as an input device.

If you do not want or cannot use $ZHOME, the best alternative is to use Virtual Hometerm Subsystem (VHS). VHS supports the configuration of multiple fault-tolerant home terminal servers, each of which can have a separate set of log files. VHS also provides a log browser for reviewing output that is sent to the home terminal. You are recommended to use VHS, but this is not a requirement.

You are not recommended to use other devices or servers as home terminals, except for temporary use. It is best to prepare your system for WebSphere MQ to use VHS or $ZHOME as the home terminal because modifying the home terminal of a queue manager requires considerable effort.

Migrating from an earlier version

When you install WebSphere MQ for HP NonStop Server, you cannot migrate an earlier installation of MQSeries. The installation of WebSphere MQ is created on the NonStop OS independently of any MQSeries installations. WebSphere MQ contains a tool to create a WebSphere MQ queue manager from an MQSeries queue manager and create copies of all the objects and messages in the WebSphere MQ queue manager. Neither the MQSeries queue manager nor the MQSeries installation are modified by this tool. When you are satisfied that the WebSphere MQ queue manager has been created correctly, you can archive or remove the MQSeries queue manager.

This section summarizes changes between WebSphere MQ and the earlier MQSeries product as they relate to preparation for installation.

For full details on how to create a Version 5.3 queue manager from an existing Version 5.1 queue manager, see Chapter 5, “Creating a Version 5.3 queue manager from an existing Version 5.1 queue manager,” on page 37.

Installation locations

You can specify where you want to install WebSphere MQ during installation. This facility was only partially available with the previous release: the NonStop OS file system locations for installation had fixed subvolume names. The OSS shell script instmqm ensures that the location you specify for the installation is empty before proceeding with the installation.

Prerequisite checking

The shell script instmqm checks all mandatory prerequisites and stops the installation if an error is detected.

Applications

You do not need to recompile applications compiled with the previous release to work with WebSphere MQ. But, you do need to relink applications with the correct WebSphere MQ libraries. See the *WebSphere MQ for HP NonStop Server, V5.3 System Administration Guide* for information about the WebSphere MQ libraries that are correct for your applications.

Creating the system default objects

When you use the **crtmqm** command to create a queue manager with WebSphere MQ for HP NonStop Server, V5.3, the system default objects are automatically created. The sample MQSC definition file, amqscoma.tst is no longer supplied.

If you used amqscoma.tst to customize your settings for MQSeries for Compaq NSK, V5.1, and you want to use the same settings with WebSphere MQ for HP NonStop Server, V5.3:

1. Save your copy of amqscoma.tst.
2. Install WebSphere MQ for HP NonStop Server, V5.3.

3. Load your copy of amqscoma.tst and use the file to recreate your default objects.

National language considerations

This section includes information on displaying messages in your national language and national language support for manuals.

Displaying messages in your national language

The instmqm shell script for WebSphere MQ asks you to select which language you want to use for each installation and installs the correct message catalog for the installation.

National language support for manuals

The documentation for WebSphere MQ is supplied in HTML and PDF formats on a separate CD-ROM. The documentation is available in any of the languages that are supported by WebSphere MQ for HP NonStop Server.

See “Online information” on page 40 for more information about hypertext linking between books in different national languages.

Chapter 3. Installing WebSphere MQ for HP NonStop Server

This chapter tells you how to install WebSphere MQ for HP NonStop Server.

It also describes some other procedures that might be needed after you have installed WebSphere MQ.

Chapter 4, "Verifying the installation," on page 31 describes how to verify that your installation of the WebSphere MQ server is working.

Installation procedure

Installation consists of two phases:

1. Placing product files from the delivery medium to NonStop OS.
2. Running instmqm to create an installation of WebSphere MQ.

File placement

The first phase of WebSphere MQ installation is the placement of files from the delivery medium to NonStop OS.

The delivery medium for the initial release of WebSphere MQ is a physical CD-ROM, or a compressed folder containing the contents of the CD-ROM downloaded from IBM®'s electronic delivery Web site. The compressed CD-ROM image is a standard Windows .zip file.

File placement using HP IPSetup from Windows

The following steps are a condensed form of the dialog that is presented to you by the IPSetup tool when placing files from the WebSphere MQ CD-ROM. The full, general dialog can be found in the *HP IPSetup User's Guide*.

If you have downloaded a compressed CD-ROM image, first use standard Windows procedures to decompress the contents of the CD-ROM image zip file to a folder on your Windows computer.

Launch the CD-ROM image: The CD-ROM autoruns when inserted in the CD-ROM drive, or you can manually run setup in the root directory of the CD-ROM, or the uncompressed CD-ROM image.

Read the README.TXT: Click **View README.TXT**. The README.TXT file opens in a Notepad window. Review the README.TXT file for the latest information. To continue with the installation, click **Run IPSetup**.

Run IPSetup: The IPSetup Welcome window appears. Click **Next**. The Software License Agreement window appears and displays a note asking you to review the appropriate license information supplied with the product before you install the WebSphere MQ product. To review the license material, complete the file placement. Hardcopy licenses are supplied with the physical media. Click **I agree to the above conditions** if you agree and want to continue with the installation.

Supply placement options: The placement options dialog appears. Select the correct platform:

- For G-Series systems, select **TNS/R**.

- For H-Series systems, select **TNS/E**.

Do not check the **Use DSM/SCM to complete installation on the host** check box. Click **Next**.

Select the products to place on the NSS system: The Product Selection dialog appears, listing the products that can be installed from the CD-ROM. There are two choices:

- WebSphere MQ V5.3 for HP NonStop Server – core components
- WebSphere MQ V5.3 for HP NonStop Server – SSL component

If you do not want SSL function for the queue managers you create in the installations, select the core components only. If you want to include the ability to use SSL channels in installations, select both the core and SSL components.

Make your selections using the **Add** and **Remove** buttons. You can review certain properties of the component using the **Properties** button. The properties displayed are basic attributes, for example the files and installed locations.

Click **Next** when you are satisfied with the component selections.

Collect information about the NSS system: The Host Information dialog appears. Fill in the information required to connect and log on to NonStop OS where WebSphere MQ is to be installed. You need to supply:

- The host name or network address.
- A user ID. This user ID must have the authority to create directories and files in the OSS locations `/usr/ibm` and `/usr/ibm/wmq`. The user must also have the authority to create files and subvolumes on the $SYSTEM disk or other disks selected for file placement.
- The password for the user ID.
- Telnet port number (default 23). Accept the default.
- FTP port number (default 21). Accept the default.
- Logon service (default TACL). Accept the default.

Click **Next** to log on to NonStop OS.

Host target settings: The Host Target Settings dialog appears. Specify a volume and subvolume where temporary, working files can be created on the NSS system. Optionally, specify a volume and subvolume where files that were in the work location will be backed up before using the work subvolume.

Select the **Extract files from ustar archives to OSS file system** check box. Click **Next** when you are satisfied with the settings.

Host file placement: The Host File Placement dialog appears, showing a tree of selected products and the names of ISVs and DSVs in the NonStop OS file system for each.

You can select an installation disk volume for each component. Select the same volume for all components. You can select the defaults, or override any of the settings for the NonStop OS files. The NonStop OS locations selected in IPSetup are only temporary because all of the actual NonStop OS files are present in the OSS archive only. The instmqm shell script extracts these files to the NonStop OS file system.

Click **Next** when you are satisfied with the file placement options.

Placement Manifest: The Placement Manifest dialog displays a summary of the file placement and the options selected during the previous dialogs. At this point you can select the **Back**, **Cancel**, or **Help** options. Selecting **Next** begins the actual file placement.

Placement complete: A status dialog is displayed during IPSetup and displays progress as follows:

- Back up any existing files in the working subvolume (if selected).
- Place the installation packages to the working subvolume.
- Create ISVs and DSVs.
- Unpack the ustar archive to the OSS file system.

The Placement Complete dialog is displayed when these activities are complete.

Select the **View Release Documentation** check box to view the README.TXT file again. Ensure that the **Launch DSM/SCM planner interface** check box is unchecked. Click **Finish** to complete the file placement using IPSetup.

Running instmqm to create an installation

The second phase of WebSphere MQ installation is to run the instmqm shell script at an OSS shell command prompt. Running instmqm creates an operational installation using the product files placed to NonStop OS during the file placement phase.

It is critical that the user ID that runs the instmqm shell script has the correct attributes. Review the requirements in "Setting up the user ID and group" on page 6.

If any of the mandatory hardware or software prerequisites are detected as not being suitable for WebSphere MQ, the instmqm shell script fails to install. Be sure to review these requirements in Chapter 1, "Planning to install WebSphere MQ for HP NonStop Server," on page 1.

Preparing to run instmqm

Use the directory containing the placed product files (under the `/usr/ibm/wmq` directory) to hold the important files related to the installations created from this version of the product.

Follow these instructions to prepare to run instmqm:

1. Copy the instmqm shell script from its location in the placed file tree to the directory from which you want to run the installation. Use the OSS **cp** command, as in the following example. The example assumes that you run the command from the directory containing the placed product files:

   ```
   cp opt/wmq/bin/instmqm.
   ```

2. Modify the permissions of the copy of the instmqm shell script to allow execution, for example:

   ```
   chmod +x instmqm
   ```

The instmqm shell script is now ready to be run.

Understanding instmqm

The instmqm shell script runs from the OSS shell and performs the following:

- Collects information about your desired configuration and options for default values of various parameters for this installation.
- Based on this information and the configuration of your NonStop OS verifies that the selections you have made are consistent and likely to result in a usable installation. If there are problems with the selections or configuration of your NonStop OS, the installation ends.
- Verifies that the mandatory software prerequisites for WebSphere MQ are satisfied. If any problems are detected with mandatory software prerequisites, the installation ends before any changes are made.
- Attempts to detect any potential problems with optional software prerequisites and warn you if any are detected, but the installation does not end.
- Makes the modifications to NonStop OS to create an installation. The modifications include copying files from the placed file directory tree to an OSS installation directory tree, creating directories and files for working data, and creating files in the NonStop OS file system.
- Optionally, performs a simple procedure to verify the installation is usable.

The configuration selections are recorded in and supplied to instmqm in a *response file*. A response file is a configuration file that can be edited and consists of stanzas to describe the configuration selections for a particular installation. A response file can help by recording the configuration of an installation so that it can be repeated at a later date, or used as a template for the configuration of other installations. A response file also reduces the likelihood of errors in data entry when preparing an installation. A response file can be created by instmqm in interactive mode. Supply a response file to instmqm when run in any other mode.

The instmqm shell script logs extensive output to the terminal it is run from, and also records all actions and the results of these actions in a log file. Retain the installation log file in case diagnostic information about the installation is required at a later date.

The instmqm shell script is designed to detect any problem that might cause an installation attempt to fail before any changes are made to NonStop OS. However, it is not possible to guarantee that all problems will be detected before changes are made. In the event that a problem is detected after changes have been made to NonStop OS, the installation attempt stops at this point with diagnostics that identify the problem. The instmqm shell script does not attempt to undo any of the changes made up to the point of failure because this might compromise the ability to analyze and repair the problem. After you have repaired the problem, follow manual procedures to clean up an aborted installation before reattempting the installation.

At any user prompt, you can choose to end the installation by entering `!quit!` The instmqm shell script terminates immediately without making changes to NonStop OS.

Modes of installation

The instmqm shell script supports several modes of installation:

Interactive

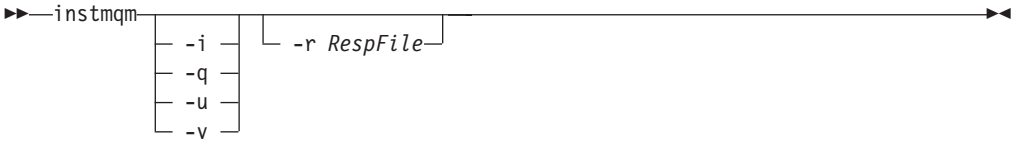
A user dialog is used to collect and verify the configuration information. You can supply a response file to **instmqm**, which sets up the default responses to each question. A response file is created by **instmqm** based on the configuration that is actually selected.

Quick A response file is supplied to **instmqm** in quick mode. The user is asked to confirm the configuration read from the response file before the installation proceeds.

Unattended
A response file is supplied to **instmqm** in unattended mode. No input is expected from the user. The response file is processed, and if all validation is successful, the installation proceeds. This mode makes it possible to automate installations.

Verification
A response file must be specified to **instmqm** in verification mode. No input is expected from the user. The response file is processed and all validation is performed, but no changes are made to NonStop OS. Use this mode to validate a response file that you are preparing and that your NonStop OS meets the mandatory prerequisites before the installation is attempted.

The mode of installation and the name of the response file are supplied as arguments to **instmqm** on the command line. The syntax of the **instmqm** command is:



where:

-i Selects interactive mode (the default if no mode parameter is supplied).

-q Selects quick mode.

-u Selects unattended mode.

-v Selects verification mode.

-r *RespFile*
Specifies the name of the response file (required for unattended, quick, and verification modes). The default file name is WMQresponsefile in the current directory.

Response file contents

Here are the contents of an example response file:

```
#
# (C) COPYRIGHT International Business Machines Corp. 2002, 2006
# All Rights Reserved
# Licensed Material - Property of IBM
#
# US Government Users Restricted Rights - Use, duplication or
# disclosure restricted by GSA ADP Schedule Contract with IBM Corp.
#
# This is an installation response file for IBM WebSphere MQ V5.3 for HP NonStop
 Server
#

[Install]
InstalledFileTree=/usr/ibm/wmq/V53GA
NonStopServerForJava=/usr/tandem/java
InstallLogFile=/usr/ibm/wmq/V53GA/prod_install.log
OverwriteLogFile=YES
VarPath=/home/mqinstall
OptPath=/home/mqinstall
GuardBin=$DATA01.ZWMQE
GuardSamp=$DATA01.ZWMQS
GuardInc=$DATA01.ZWMQI
NationalLanguage=En_US
InstallComponent=ALL

[QmgrDefaults]
GuardianVol=$DATA01
SnaProviderName=$APC
TcpProviderName=$ZTC0
HomeTerminal=$VHS1

[Verification]
VerifyInstall=YES
VerifyQMName=SAMPLE_QMGR
VerifyQMend=YES
VerifyQMdelete=YES
```

Figure 1. Example of a response file

The Install stanza contains information about the whole installation. The QmgrDefaults stanza contains information that sets defaults for the queue managers that are created in the installation. The Verification stanza contains selections for the optional installation verification procedure that can be performed by **instmqm**.

The individual stanzas and their fields are described in more detail in the following sections.

Install stanza:

InstalledFileTree
The full OSS path to the directory containing the placed file tree to be used in this installation.

The default is `/usr/ibm/wmq/V53GA`.

NonStopServerForJava
The full OSS path to the installation of HP NonStop Server for Java that is used with the Java Messaging features of WebSphere MQ.

The default is `/usr/tandem/java`.

InstallLogFile
The OSS path to the log file to be used to record actions taken by **instmqm** for this installation.

The default is `wmqinstall.log` in the current directory.

OverwriteLogFile
Specifies whether the installation log file is overwritten if it exists. Values are YES or NO.

The default is YES.

VarPath
The full OSS path to the directory that contains the `var` directory tree for the working data for the installation.

The default is / (the OSS root directory).

OptPath
The full OSS path to the directory that contains the `opt` directory tree for the product files for the installation.

The default is / (the OSS root directory).

GuardBin
The local volume and subvolume used for the NonStop OS object code (executables, DLLs, and libraries) for the installation.

The default is $SYSTEM.ZWMQBIN.

GuardSamp
The local volume and subvolume to be used for the NonStop OS sample code (executables, source code, and build scripts) for the installation.

The default is $SYSTEM.ZWMQSAMP.

GuardInc
The local volume and subvolume to be used for the header and include files used for application development in the NonStop OS environment for the installation.

The default is $SYSTEM.ZWMQINC.

NationalLanguage
The language used to display and log operator messages.

The default is En_US (US English).

InstallComponent
Selects which components to install. Values are CORE, SSL, or ALL.

The default is ALL.

QmgrDefaults stanza:

GuardianVol
Sets the volume that will be used to hold the NonStop OS files for a queue manager, if not specified on the command line of **crtmqm**.

The default is $SYSTEM.

SnaProviderName
Sets the default SNA transport provider name to be used by queue managers created in this installation.

The default is $APC.

TcpProviderName
Sets the default TCP/IP transport provider name to be used by queue managers created in this installation.

The default is $ZTC0.

HomeTerminal
Sets the default home terminal to be used by queue managers created in this installation.

The default is $ZHOME.

Verification stanza:

VerifyInstall
Selects whether **instmqm** attempts to verify that the installation is usable by creating, starting, and using a queue manager. Values are YES and NO.

The default is YES.

VerifyQMName
Selects the name of the queue manager to be created and used to verify the installation.

The default is SAMPLE_QMGR.

VerifyQMend
Selects whether **instmqm** ends the queue manager after validation has been performed. Values are YES and NO.

The default is YES.

VerifyQMdelete
Selects whether **instmqm** removes the queue manager after validation has been performed. Values are YES and NO.

The default is YES.

Installation example

Perform the first installation on a NonStop Server using interactive mode because some data validation is performed as you enter data. Using **instmqm** in interactive mode also creates a response file based on the data you enter and subsequently confirm. After the first installation, you can use quick mode to reattempt the installation based on the response file that was created.

Another good alternative approach is to create or customize a response file using a text editor and then use the verification mode to verify the contents before using quick or unattended mode to perform the actual installation.

The following example uses the interactive mode and shows the output from the **instmqm** shell script as the installation proceeds. User input is shown in bold font. Places where the user accepts the default by pressing Enter, are shown as **<Enter>**.

```
/usr/ibm/wmq/V53GA: instmqm -i -r new_install.resp

  IBM WebSphere MQ for HP NonStop Server, Version 5.3
  ===================================================

Installation script for TNS/R and TNS/E (Integrity) servers.

(C) COPYRIGHT International Business Machines Corp. 1996, 2006

This script must be run after the files have been placed in the OSS file
system from the distribution media using the IPSetup installation tool.

This script is interactive, and asks important questions about your
configuration.

Please ensure that you have read the guidance supplied with this
release, and the README file, which may contain information that
was not available at the time that the user documentation was produced.

Please review the documented pre-requisites carefully and ensure
that all are installed and available.

The purpose of this script is to prepare the product for first use.
The following operations are performed by this script.

+ collecting  information
+ validation of mandatory pre-requisites
+ validation of optional pre-requisites
+ configuring the installed files
+ verifying the installation

When presented with a question, please supply the value requested, or you
may press enter (with no characters typed before) to select the default.
You may enter "!quit!" and the installation will abort with no changes made
to your system.  Please note that almost all data requested is case-sensitive.

*************************************************************************
*                                                                       *
*     You have selected interactive mode.                               *
*     Current date and time: "2006-03-01 12:48:27"                      *
*                                                                       *
*************************************************************************

Please enter the name of the file where you would like to record
the results of this installation
[default: wmqinstall.log] newinstall.log

Please enter the location of the WebSphere MQ software to be installed
as the OSS directory path to the root of the installation files that
were created by the file-placement phase of installation.
Enter an absolute path, for example: /usr/ibm/wmq/V53GA.
[default: /usr/ibm/wmq/V53GA]

...you selected "/usr/ibm/wmq/V53GA" as the location of the software to be installed.

Please enter the home terminal name to use as a default for
queue managers created in this installation.  The home terminal
name must be specified as a local device, of the format $DDDDD
for example, $VHS1
[default: $ZHOME] $VHS1

...you selected "$VHS1" as the default home terminal for
   queue managers created in this installation.

Please enter the root directory of your HP NonStop Java product.
[default: /usr/tandem/java]

...you selected "/usr/tandem/java" as the location of the
   Java product to be used with this installation.

Please enter which components of WebSphere MQ you wish to install (CORE/SSL/ALL).
[default: ALL]

...you selected "ALL" as the component to install.
```

Figure 2. An installation in interactive mode (Part 1 of 9)

```
Please enter the default TCP/IP transport provider process name
for queue managers in this installation.
[default: $ZTC0]

...you selected "$ZTC0" as the default TCP/IP
   transport provider process name for this installation.

Please enter the default SNA LU6.2 transport provider process name
for queue managers in this installation.
[default: $APC]

...you selected "$APC" as the default SNA
   LU6.2 transport provider process name for this installation.

Please enter the name of the directory that will contain the var tree
for this installation
[default: /]

...you selected "/" as the directory that will contain
   the var tree for this installation.

Please enter the name of the directory that will contain the opt tree
for this installation
[default: /]

...you selected "/" as the directory that will contain
   the opt tree for this installation.

Please enter the National Language for this installation from this list:
[ En_US, De_DE, Es_ES, Fr_FR, It_IT, Ja_JP, Ko_KR, Pt_BR, Zh_CN, Zh_TW ]
[default: En_US]

...you selected "En_US" as the national language for this installation.

Please enter the subvolume where you would like to store Guardian executables
for this installation.  The value you enter must be a fully qualified local
subvolume (for example, $DATA01.ZWMQE).  The subvolume must be empty.
[default: $SYSTEM.ZWMQBIN]

...you selected "$SYSTEM.ZWMQBIN" as the Guardian subvolume for executables.

Please enter the subvolume where you would like to store Guardian samples
for this installation.  The value you enter must be a fully qualified local
subvolume (for example, $DATA01.ZWMQS).  The subvolume must be empty.
[default: $SYSTEM.ZWMQSAMP]

...you selected "$SYSTEM.ZWMQSAMP" as the Guardian subvolume for samples.

Please enter the subvolume where you would like to store Guardian headers
for this installation.  The value you enter must be a fully qualified local
subvolume (for example, $DATA01.ZWMQI).  The subvolume must be empty.
[default: $SYSTEM.ZWMQINC]

...you selected "$SYSTEM.ZWMQINC" as the Guardian subvolume for headers.

Please enter the default Guardian volume for queue managers created
in this installation.  Specify a local volume name, in the form $VVVVVVV,
for example, $DATA01.  The volume must be TMF audited.
[default: $SYSTEM] $DATA01

...you selected "$DATA01" as the default Guardian volume for queue managers.
```

Figure 2. An installation in interactive mode (Part 2 of 9)

```
Do you want to verify the installation?
[default: YES]

Please enter the name of the queue manager to be used for verification.
[default: SAMPLE_QMGR]

Do you want to end the queue manager after verification?
[default: YES]

Do you want to delete the queue manager after verification?
[default: YES] NO

The response file "new_install.resp" has been successfully (re)created

The following selections have been recorded by the installation script:

*** Configuration of your WebSphere MQ installation ***

OSS installed files directory root          - "/usr/ibm/wmq/V53GA"
Installation log file                       - "/usr/ibm/wmq/V53GA/newinstall.log"
WebSphere MQ installation var location      - "/"
WebSphere MQ installation opt location      - "/"
OSS root directory for Java                 - "/usr/tandem/java"
WebSphere MQ Guardian executable location   - "$SYSTEM.ZWMQBIN"
WebSphere MQ Guardian samples location      - "$SYSTEM.ZWMQSAMP"
WebSphere MQ Guardian headers location      - "$SYSTEM.ZWMQINC"
National language                           - "En_US"
Selected component to install               - "ALL"

*** Defaults for queue managers in WebSphere MQ installation ***

WebSphere MQ Guardian volume name           - "$DATA01"
TCP/IP transport provider name              - "$ZTC0"
SNA transport provider name                 - "$APC"
Home terminal device name                   - "$VHS1"

*** Validation of your WebSphere MQ installation  ***

Verification needed                         - "YES"
Queue manager name                          - "SAMPLE_QMGR"
End queue manager after verification        - "YES"
Delete queue manager after verification     - "NO"
```

Figure 2. An installation in interactive mode (Part 3 of 9)

```
Would you like to proceed with the validation of pre-requisites?
If you enter "no", you will have the opportunity to correct any
configuration information.
[YES or NO] YES


*******************************************
*     Validating mandatory pre-requisites  *
*******************************************

Validating that the OSS environment is suitable for installation
...the required OSS utilities exist and are valid
Validating the OSS version
...OSS version "G06.25" is suitable for installation.
Validating the Guardian version
You are installing for a G-Series HP NonStop Server
...Guardian version "G06.25.00" is suitable for installation
Validating that OSS sockets are installed and available
...creating program source
...compiling program source
...linking program
...running program
...OSS sockets are installed and accessible
...tidying up
Validating that you are logged on as a user with the
Primary (administrative) group name of "MQM"
...you are running as a user with a Primary group of "MQM"
Validating that the specified default home terminal is available
...creating program source
...compiling program source
...linking program
...running program
...able to access home terminal
...tidying up

*******************************************
*     Validating optional pre-requisites   *
*******************************************

Validating HP NonStop Server for Java version
...the version of NonStop Server for Java "1.4.2_04" is
   compatible with WebSphere MQ

Validating that one or more TCP/IP transport providers is available
...at least one TCP/IP transport provider is available
```

Figure 2. An installation in interactive mode (Part 4 of 9)

```
Would you like to proceed with the installation?
If you enter "no" the installation will abort without making any changes.
[YES or NO] YES

Proceeding with installation...


Creating opt tree...
......executing command "mkdir /opt/mqm"...
......executing command "mkdir /opt/mqm/lib"...
......executing command "mkdir /opt/mqm/lib/iconv"...
......executing command "mkdir /opt/mqm/inc"...
......executing command "mkdir /opt/mqm/bin"...
......executing command "mkdir /opt/mqm/G"...
......executing command "mkdir /opt/mqm/msg"...
......executing command "mkdir /opt/mqm/samp"...
......executing command "mkdir /opt/mqm/java"...
......executing command "mkdir /opt/mqm/licenses"...
......executing command "mkdir /opt/mqm/README5"...
Copying files into the opt tree...
Please be patient, this operation takes several minutes...
...opt/mqm/lib (libraries and DLLs)
......executing command "cp -pR /usr/ibm/wmq/V53GA/opt/mqm/lib/* /opt/mqm/lib"...
...opt/mqm/bin (executable programs)
......executing command "cp -p /usr/ibm/wmq/V53GA/opt/mqm/bin/*  /opt/mqm/bin"...
...opt/mqm/inc (include files)
......executing command "cp -p /usr/ibm/wmq/V53GA/opt/mqm/inc/*  /opt/mqm/inc"...
...opt/mqm/msg (National Language message files)
......executing command "cp -pR /usr/ibm/wmq/V53GA/opt/mqm/msg/*  /opt/mqm/msg"...
...opt/mqm/samp (samples)
......executing command "cp -pR /usr/ibm/wmq/V53GA/opt/mqm/samp/* /opt/mqm/samp"...
...opt/mqm/licenses (license files)
......executing command "cp -p /usr/ibm/wmq/V53GA/opt/mqm/licenses/* /opt/mqm/licenses"...
...opt/mqm/README5 (product README files)
......executing command "cp -pR /usr/ibm/wmq/V53GA/opt/mqm/README5/* /opt/mqm/README5"...
...opt/mqm/ssl (SSL files)
......executing command "mkdir /opt/mqm/ssl"...
......executing command "cp -p /usr/ibm/wmq/V53GA/opt/mqm/ssl/*  /opt/mqm/ssl"...

Setting permissions on the opt tree...
......executing command "find /opt/mqm -type d | xargs chmod 775"...
......executing command "find /opt/mqm -type f | xargs chmod 664"...
Setting up SSL files...
......executing command "chmod ugo+x /opt/mqm/ssl/amq*"...
......executing command "cp -p /opt/mqm/ssl/openssl /opt/mqm/bin"...
......executing command "cp -p /opt/mqm/ssl/amqjkdm0 /opt/mqm/bin"...
......executing command "mv /opt/mqm/lib/amqcctca /opt/mqm/lib/amqcctca_nossl"...
......executing command "mv /opt/mqm/lib/amqcctca_r /opt/mqm/lib/amqcctca_r_nossl"...
......executing command "cp -p /opt/mqm/ssl/amqccssl /opt/mqm/lib/amqcctca"...
......executing command "cp -p /opt/mqm/ssl/amqccssl_r /opt/mqm/lib/amqcctca_r"...
......executing command "chmod ugo+x /opt/mqm/lib/amq*"...
......executing command "chmod ugo+x /opt/mqm/lib/*.so"...
......executing command "chmod ug+xs /opt/mqm/bin/*"...
......executing command "chmod ugo+x /opt/mqm/samp/bin/*"...
......executing command "chmod ug-s,a+x /opt/mqm/bin/crtmqcvx"...
......executing command "chmod ug-s,a+x /opt/mqm/bin/dspmqtrc"...
......executing command "chmod ug-s,a+x /opt/mqm/bin/amqjkdm0"...

Setting up the Guardian executables subvolume...
......setting up monitoring (SCOBOL) panels...
......setting up altmqfls.tacl...
......setting up altmqusr.tacl...
......setting up amqcrs...
......setting up amqoamd.tacl...
......setting up amqrdbgm.tacl...
......setting up amqrfdm.tacl...
......setting up amqzfu...
......setting up amqzfu0...
......setting up amqzif...
......setting up clrmqbrk.tacl...
......setting up crtmqcvx.tacl...
......setting up crtmqm.tacl...
......setting up dltmqbrk.tacl...
......setting up dltmqm.tacl...
......setting up dmpmqaut.tacl...
```

Figure 2. An installation in interactive mode (Part 5 of 9)

```
......setting up dspmq.tacl...
......setting up dspmqaut.tacl...
......setting up dspmqbrk.tacl...
......setting up dspmqcsv.tacl...
......setting up dspmqtrc.tacl...
......setting up dspmqusr.tacl...
......setting up dspmqver.tacl...
......setting up endmqbrk.tacl...
......setting up endmqcsv.tacl...
......setting up endmqlsr.tacl...
......setting up endmqm.tacl...
......setting up endmqtrc.tacl...
......setting up im2lib...
......setting up im2rlib...
......setting up im2tlib...
......setting up im2trlib...
......setting up im3lib...
......setting up im3rlib...
......setting up im3tlib...
......setting up im3trlib...
......setting up migmqbrk.tacl...
......setting up mqchsvr...
......setting up mqecsvr...
......setting up mqm...
......setting up mqma...
......setting up mqmcb...
......setting up mqmcs...
......setting up mqmeca...
......setting up mqmfa...
......setting up mqmflib...
......setting up mqmfra...
......setting up mqmfrlib...
......setting up mqmfrsrl...
......setting up mqmfsrl...
......setting up mqml...
......setting up mqmlib...
......setting up mqmnsscr...
......setting up mqmnssp...
......setting up mqmnssqa...
......setting up mqmnssr...
......setting up mqmr...
......setting up mqmra...
......setting up mqmrlib...
......setting up mqmrsrl...
......setting up mqmsrl...
......setting up mqmsrlm...
......setting up mqmtns...
......setting up mqmz0...
......setting up mqmz1...
......setting up mqmzf...
......setting up mqmzse...
......setting up mqqssvr...
......setting up mqutl...
......setting up mqver.tacl...
......setting up mqz...
......setting up runmqchi.tacl...
......setting up runmqchl.tacl...
......setting up runmqdlq.tacl...
......setting up runmqlsr.tacl...
......setting up runmqsc.tacl...
......setting up runmqtrm.tacl...
......setting up setmqaut.tacl...
......setting up strmqbrk.tacl...
......setting up strmqcsv.tacl...
......setting up strmqm.tacl...
......setting up strmqtrc.tacl...
```

Figure 2. An installation in interactive mode (Part 6 of 9)

```
......executing command "gtacl -p fup secure $SYSTEM.ZWMQBIN.MQCHSVR, NCCC, progid"...
......executing command "gtacl -p fup secure $SYSTEM.ZWMQBIN.MQECSVR, NCCC, progid"...
......executing command "gtacl -p fup secure $SYSTEM.ZWMQBIN.MQQSSVR, NCCC, progid"...
......executing command "rm -f /G/SYSTEM/ZWMQBIN/temp*"...
......executing command "ln -s /G/SYSTEM/ZWMQBIN /opt/mqm/G/bin"...
......executing command "ln -s /G/SYSTEM/ZWMQBIN /opt/mqm/G/lib"...

Copying the Guardian samples...
......executing command "ln -s /G/SYSTEM/ZWMQSAMP /opt/mqm/G/samp"...
......setting up EMS templates...
......setting up bcobsamp...
......setting up bsamp...
......setting up btalsamp...
......setting up cobsamp...
......setting up csamp...
......setting up imqdputp...
......setting up imqsgetp...
......setting up imqsputp...
......setting up imqwrldp...
......setting up mqsaicqc...
......setting up mqsaiemc...
......setting up mqsailqc...
......setting up mqsaxe0c...
......setting up mqsbcg0c...
......setting up mqsblstc...
......setting up mqsechac...
......setting up mqsgbr0c...
......setting up mqsgbr0l...
......setting up mqsget0c...
......setting up mqsget0l...
......setting up mqsgrmac...
......setting up mqsinqac...
......setting up mqsprmac...
......setting up mqsptl0c...
......setting up mqsptl0l...
......setting up mqsput0c...
......setting up mqsput0l...
......setting up mqsqrmac...
......setting up mqsreq0c...
......setting up mqsreq0l...
......setting up mqssetac...
......setting up mqstrg0c...
......setting up mqsvfc0c...
......setting up mqswlm0c...
......setting up mqsxrmac...
......setting up nmccpp...
......setting up nmcobsmp...
......setting up nmcsamp...
......setting up nmldcob...
......setting up nmldcpps...
......setting up nmldsamp...
......setting up talsamp...
......setting up zmqreadt...
......setting up zmqwritt...

Copying the Guardian headers...
......executing command "ln -s /G/SYSTEM/ZWMQINC /opt/mqm/G/inc"...
......setting up cmqbch...
......setting up cmqcfch...
......setting up cmqch...
......setting up cmqcobol...
......setting up cmqpsch...
......setting up cmqtal...
......setting up cmqxcdh...
......setting up cmqxch...
......setting up cmqzch...
```

Figure 2. An installation in interactive mode (Part 7 of 9)

```
......setting up imqair...
......setting up imqbin...
......setting up imqcac...
......setting up imqchl...
......setting up imqcih...
......setting up imqdlh...
......setting up imqdst...
......setting up imqerr...
......setting up imqgmo...
......setting up imqhdr...
......setting up imqi...
......setting up imqiih...
......setting up imqitm...
......setting up imqmgr...
......setting up imqmsg...
......setting up imqmtr...
......setting up imqnml...
......setting up imqobj...
......setting up imqpmo...
......setting up imqpro...
......setting up imqque...
......setting up imqrfh...
......setting up imqstr...
......setting up imqtrg...
......setting up imqtypeh...
......setting up imqwih...
......setting up mqsvmhah...

Creating the var tree...
......executing command "mkdir /var/mqm"...
......executing command "mkdir /var/mqm/exits"...
......executing command "mkdir /var/mqm/qmgrs"...
......executing command "mkdir /var/mqm/qmgrs/@SYSTEM"...
......executing command "mkdir /var/mqm/errors"...
......executing command "mkdir /var/mqm/trace"...
......executing command "mkdir /var/mqm/conv"...
......executing command "mkdir /var/mqm/conv/table"...
......executing command "mkdir /var/mqm/tmp"...
......executing command "chmod -R 775 /var/mqm"...
......executing command "chmod 777 /var/mqm/errors"...
......executing command "ln -s /G/SYSTEM/ZWMQBIN /var/mqm/G"...
......executing command "ln -s /G/SYSTEM/ZWMQBIN /var/mqm/qmgrs/@SYSTEM/G"...
......executing command "cp -p /opt/mqm/samp/ccsid.tbl /var/mqm/conv/table"...
......executing command "cp -p /opt/mqm/msg/En_US/amq.msg /opt/mqm/msg"...
......executing command "gencat /opt/mqm/msg/amq.cat /opt/mqm/msg/amq.msg"...
Creating the initial mqs.ini file...
Creating the initial proc.ini file...
Creating OSS environment variable file "/var/mqm/wmqprofile"...
......executing command "chmod 664 /var/mqm/wmqprofile"...
......executing command ". /var/mqm/wmqprofile"...
Creating TACL environment file "$SYSTEM.ZWMQSAMP.WMQCSTM"...
......executing command "gtacl -term /G/ZHOME -p /G/system/system/ctoedit $SYSTEM.ZWMQSAMP.owmqcstm, $SYSTEM.ZWMQSAMP.wmqcstm"...

Creating Queue Manager...
......executing command "/opt/mqm/bin/crtmqm -nh \$VHS1 SAMPLE_QMGR"...
Command succeeded:
WebSphere MQ queue manager created.
Creating or replacing default objects for SAMPLE_QMGR.
Default objects statistics : 31 created. 0 replaced. 0 failed.
Completing setup.
Setup completed.

Starting Queue Manager...
......executing command "/opt/mqm/bin/strmqm SAMPLE_QMGR"...
Command succeeded:
WebSphere MQ queue manager 'SAMPLE_QMGR' started.

Enter local queue to be created.
[default: SAMPQUEUE]
```

Figure 2. An installation in interactive mode (Part 8 of 9)

```
Defining local queue...
......executing command "echo "define qlocal(SAMPQUEUE)" | /opt/mqm/bin/runmqsc SAMPLE_QMGR"...
Command succeeded:
0791003, 5724-A39 (C) Copyright IBM Corp. 1993, 2005  All Rights Reserved.
Starting MQSC for queue manager SAMPLE_QMGR.


MQSC >     1 : define qlocal(SAMPQUEUE)
AMQ8006: WebSphere MQ queue created.
MQSC >One MQSC command read.
No commands have a syntax error.
All valid MQSC commands were processed.
Putting a message on a local queue...
......executing command "echo "Hello, world" | /opt/mqm/samp/bin/amqsput SAMPQUEUE SAMPLE_QMGR"...
Command succeeded:
Sample AMQSPUT0 start
target queue is SAMPQUEUE
Sample AMQSPUT0 end
......executing command "/opt/mqm/samp/bin/amqsget SAMPQUEUE SAMPLE_QMGR"...
Command succeeded:
Sample AMQSGET0 start
message <Hello, world>
no more messages
Sample AMQSGET0 end

Ending queue manager...
......executing command "/opt/mqm/bin/endmqm SAMPLE_QMGR"...
Command succeeded:
WebSphere MQ queue manager 'SAMPLE_QMGR' ended.
Installation and setup complete

Recording version information in log...

Installation completed successfully, "2006-03-01 13:19:03"

/usr/ibm/wmq/V53GA:
```

Figure 2. An installation in interactive mode (Part 9 of 9)

This is the output as seen at the terminal of the user that runs **instmqm** in interactive mode. The response file that is created as a result of this installation example (new_install.resp) is:

```
#
# (C) COPYRIGHT International Business Machines Corp. 1996, 2006
# All Rights Reserved
# Licensed Material - Property of IBM
#
# US Government Users Restricted Rights - Use, duplication or
# disclosure restricted by GSA ADP Schedule Contract with IBM Corp.
#
# This is an installation response file for IBM WebSphere MQ V5.3 for HP NonStop
 Server
#

[Install]
InstalledFileTree=/usr/ibm/wmq/V53GA
NonStopServerForJava=/usr/tandem/java
InstallLogFile=/usr/ibm/wmq/V53GA/newinstall.log
OverwriteLogFile=YES
VarPath=/
OptPath=/
GuardBin=$SYSTEM.ZWMQBIN
GuardSamp=$SYSTEM.ZWMQSAMP
GuardInc=$SYSTEM.ZWMQINC
NationalLanguage=En_US
InstallComponent=ALL

[QmgrDefaults]
GuardianVol=$DATA01
SnaProviderName=$APC
TcpProviderName=$ZTC0
HomeTerminal=$VHS1

[verification]
VerifyInstall=YES
VerifyQMName=SAMPLE_QMGR
VerifyQMend=YES
VerifyQMdelete=NO
```

Figure 3. The response file generated by the example installation

Cleaning up after an installation attempt that failed or was ended

If an installation attempt fails or was ended, the user that attempted the installation must perform the cleanup as follows:

1. Locate the response file that was created or used by the installation attempt. Use the installation log file and the date of the file to verify that it is the correct response file.
2. If any queue managers were created as a result of the installation verification stage, or subsequently, first follow the procedures in "Removing a queue manager manually" on page 29 before you attempt to remove the installation itself.
3. Remove the `var` directory tree from the location specified by the VarPath entry of the Install stanza using the OSS `rm -r` command.
4. Remove the `opt` directory tree from the location specified by the OptPath entry of the Install stanza using the OSS `rm -r` command.
5. Purge any NonStop OS files from TACL in the subvolumes specified by the GuardBin, GuardSamp, and GuardInc entries of the Install stanza using the TACL **FUP PURGE** command.

Removing a queue manager manually

The recommended way to remove a queue manager is to use the **dltmqm** command. If you cannot use **dltmqm** because of a failed or invalid installation, follow this procedure to remove a queue manager manually, while logged on as the user that owns the installation (the user who performed the original installation, with primary group of mqm):

1. Locate the entry for the queue manager in the mqs.ini configuration file. The mqs.ini configuration file is in the `var/mqm` directory of the installation.
2. Ensure that the queue manager is no longer running and that none of the files in the NonStop OS queue manager subvolume, (specified by the HPNSSGuardianSubvol entry of the QueueManager stanza for the queue manager you want to remove) are open. Open files indicate that processes from the queue manager are still running. If there is a process still running, use the TACL **FUP LISTOPENS** command to identify the opener of the files, and then use the TACL **STOP** command to terminate the process. Repeat this until all files are closed.
3. Purge the files in the NonStop OS subvolume specified by the HPNSSGuardianSubvol entry of the QueueManager stanza for the queue manager you want to remove.
4. Remove the OSS directory tree for the queue manager specified by the concatenation of the directory names from the Prefix and Directory entries in the QueueManager stanza for the queue manager you want to remove using the OSS `rm -r` command.

   For example, the stanza:

   ```
   QueueManager:
     Name=SAMPLE_QMGR
     Prefix=/home/mqinstall/new/var/mqm
     HPNSSGuardianSubvol=$DATA06.SAMPLEXQ
     Directory=SAMPLE_QMGR
   ```

   Form the path to the OSS directory for the queue manager by concatenating `/home/mqinstall/new/var/mqm` and SAMPLE_QMGR to form `/home/mqinstall/new/var/mqm/SAMPLE_QMGR`.
5. Remove the entry for the queue manager from the mqs.ini configuration file using a text editor (for example, vi) on OSS. Ensure you delete all five lines for the stanza.

Setting the queue manager CCSID

The coded character set identifier (CCSID) is fixed when you create a queue manager. For more information on using command sets, see the *WebSphere MQ for HP NonStop Server, V5.3 System Administration Guide*.

To modify an existing queue manager CCSID, follow this procedure:

1. Start MQSC commands by typing: `runmqsc`
2. Display the existing queue manager CCSID, using the MQSC command:

   ```
   display qmgr ccsid
   ```
3. Change the CCSID to the new CCSID with the MQSC command:

   ```
   alter qmgr ccsid (new.ccsid)
   ```

   where *new.ccsid* is the number of the new CCSID.
4. Stop MQSC commands by typing: `end`
5. Stop the queue manager and then restart it and any channels that it uses.

User exits

Check that your user exits are linked with threaded libraries before using them on this version of the product.

- For information about libraries supplied with WebSphere MQ and how to use HP compilers and linkers to create user exits, see *WebSphere MQ for HP NonStop Server, V5.3 System Administration Guide*
- For further details on threaded libraries and information about data-conversion exits, see the *WebSphere MQ Application Programming Guide*.
- For information about channel exits, see the *WebSphere MQ Intercommunication* book.
- For information about cluster-workload exits, see the *WebSphere MQ Queue Manager Clusters* book.

Chapter 4. Verifying the installation

This chapter describes how to verify that WebSphere MQ for HP NonStop Server has been correctly installed and configured. You can verify a WebSphere MQ installation at different levels:

- A local (stand-alone) installation that has no communication links with other WebSphere MQ installations. This is described in "Verifying a local installation."
- A server-to-server installation that includes communication links to other WebSphere MQ installations. This is described in "Verifying a server-to-server installation" on page 32.

Also, the installation shell script, **instmqm** performs a simple local verification, if you select the appropriate option.

Verifying a local installation

To verify a local installation with a simple configuration of one queue manager and one queue, use sample programs to put a message onto the queue and to read the message from the queue.

Note: WebSphere MQ object definitions are case-sensitive. Any text entered as an MQSC command in lowercase is converted automatically to uppercase unless you enclose it in single quotation marks. Make sure that you type the examples exactly as shown.

The procedures outlined in this section describe how to configure your default queue manager from the command line.

Setting up the installation

From an OSS shell, use these steps to install a queue manager and a queue:

1. Create a default queue manager called `venus.queue.manager` by entering the following command:

   ```
   crtmqm -q venus.queue.manager
   ```

   You will see messages telling you that the queue manager has been created and that the default WebSphere MQ objects have been created.
2. To start the queue manager, type: `strmqm`

   A message tells you when the queue manager has started.
3. Enable MQSC commands by typing: `runmqsc`

   A message tells you that an MQSC session has started.
4. Define a local queue called `ORANGE.QUEUE` by entering the following command:

   ```
   define qlocal (orange.queue)
   ```

   A message tells you when the queue has been created.
5. Stop MQSC by typing: `end`

   You will see some messages, followed by the command prompt.

You have now defined:

- A default queue manager called `venus.queue.manager`
- A queue called `ORANGE.QUEUE`

Testing the installation

To test the queue manager and queue, use the **amqsput** sample program to put a message on the queue, and the **amqsget** sample program to get the message back from the queue:

1. Change into the *opt_installation_path*/opt/mqm/samp/bin directory, which contains the sample programs.
2. Put a message on the queue using the following command:

   ```
   ./amqsput ORANGE.QUEUE
   ```

   The following messages are displayed:

   ```
   Sample amqsput0 start
   target queue is ORANGE.QUEUE
   ```
3. Type some message text on one or more lines, followed by a blank line. The following message is displayed:

   ```
   Sample amqsput0 end
   ```

   Your message is now on the queue and the command prompt is displayed again.
4. To get the message from the queue, use the following command:

   ```
   ./amqsget ORANGE.QUEUE
   ```

   The sample program starts and your message is displayed. After a pause, the sample ends and the command prompt is displayed again.

You have now successfully verified the local installation.

Verifying a server-to-server installation

There are more steps involved in verifying a server-to-server installation than in a local installation because you need to check the communications link between the two machines. Before you can do this, ensure that the communications protocol has been installed and configured on both systems. WebSphere MQ for HP NonStop Server supports both TCP and SNA. This example explains how to verify your installation if you are using TCP; if you are using SNA, refer to the *WebSphere MQ Intercommunication* manual.

To test the installation, set up two workstations, networked with one as a sender and one as a receiver. Test communications between sender and receiver using sample programs, which you must install on both workstations. The verification procedure assumes that the workstation is a UNIX® machine; if this is not the case, some of the commands are different (for details, refer to the documentation for the workstation).

Note: WebSphere MQ object definitions are case-sensitive. Any text entered as an MQSC command in lowercase is converted automatically to uppercase unless you enclose it in single quotation marks. Make sure that you type the examples exactly as shown.

Setting up the sender

From an OSS shell, use these steps to set up the sender machine:

1. Create a default queue manager called saturn.queue.manager with the following command:

   ```
   crtmqm -q saturn.queue.manager
   ```

Messages tell you that the queue manager has been created and that the default WebSphere MQ objects have been created.

2. To start the queue manager, type: `strmqm`

   A message tells you when the queue manager has started.

3. Start MQSC commands by typing: `runmqsc`

   A message tells you that an MQSC session has started.

4. Define a local queue called `TRANSMIT1.QUEUE` (to be used as a transmission queue) by entering the following command:

   ```
   define qlocal (transmit1.queue) usage (xmitq)
   ```

   A message tells you when the queue has been created.

5. Define a local definition of the remote queue with the following command:

   ```
   define qremote (local.def.of.remote.queue) rname (orange.queue) +
   rqmname ('venus.queue.manager') xmitq (transmit1.queue)
   ```

   The name specified by the `RNAME` parameter must be the same as the name of the queue that you are sending the message to (`ORANGE.QUEUE` on the receiver workstation).

6. Define a sender channel with the following command:

   ```
   define channel (first.channel) chltype (sdr) +
   conname ('con-name(port)') xmitq (transmit1.queue) trptype (tcp)
   ```

   The value *con-name* is the TCP address of the receiver workstation, and *port* is the port name, with 1414 as default.

7. Stop MQSC by typing: `end`

   Some messages are displayed, followed by the command prompt.

You have now defined the following objects:

- A default queue manager called `saturn.queue.manager`
- A transmission queue called `TRANSMIT1.QUEUE`
- A local definition of a remote queue called `LOCAL.DEF.OF.REMOTE.QUEUE`
- A sender channel called `FIRST.CHANNEL`

Setting up the receiver

Follow these steps to set up the receiver:

1. Create a default queue manager called `venus.queue.manager` by entering the following command:

   ```
   crtmqm -q venus.queue.manager
   ```

   Messages tell you that the queue manager has been created and that the default WebSphere MQ objects have been created.

2. To start the queue manager, type: `strmqm`

   A message tells you when the queue manager has started.

3. Start a WebSphere MQ listener as a background task by entering the following command:

   ```
   runmqlsr -t tcp &
   ```

   You can use the `-p` parameter to specify the number of a port that the listener should listen on. If you do not specify a port number, the default of `1414` is used. The port number must be the same as the one that you specify when setting up the sender.

4. Enable MQSC commands by typing: `runmqsc`
   A message tells you that an MQSC session has started.
5. Define a local queue called `ORANGE.QUEUE` by entering the following command:
   ```
   define qlocal (orange.queue)
   ```
   A message tells you when the queue has been created.
6. Define a receiver channel with the following command:
   ```
   define channel (first.channel) chltype (rcvr) trptype (tcp)
   ```
   A message tells you when the channel has been created.
7. Stop MQSC by typing: `end`
   Some messages are displayed, followed by the command prompt.

You have now defined the following objects:

- A default queue manager called `venus.queue.manager`
- A queue called `ORANGE.QUEUE`
- A receiver channel called `FIRST.CHANNEL`

Testing communication

Use the **amqsput** sample program to put a message from the sender to a queue at the receiver, and the **amqsget** sample program on the receiver to get the message from the queue:

1. If the queue managers have stopped, restart them now by typing: `strmqm`
2. On the sender, start the sender channel as a background task by entering the following command:
   ```
   runmqchl -c FIRST.CHANNEL -m saturn.queue.manager &
   ```
   The receiver channel on the receiver starts automatically when the sender channel starts.
3. On the sender, change into the samples `bin` directory, which contains the sample programs.
4. To put a message on the local definition of the remote queue (which in turn specifies the name of the remote queue), use the following command:
   ```
   ./amqsput LOCAL.DEF.OF.REMOTE.QUEUE
   ```
   You will see the following messages:
   ```
   Sample amqsput0 start
   target queue is LOCAL.DEF.OF.REMOTE.QUEUE
   ```
5. Type some message text on one or more lines, followed by a blank line. You will see the following message:
   ```
   Sample amqsput0 end
   ```
   Your message is now on the queue and the command prompt is displayed again.
6. On the receiver, change into the samples `bin` directory, which contains the sample programs.
7. To get the message from the queue at the receiver, enter the following command:
   ```
   ./amqsget ORANGE.QUEUE
   ```

The sample program starts, and your message is displayed. After a pause, the sample ends and the command prompt is displayed again.

You have now successfully verified the server-to-server installation.

Chapter 5. Creating a Version 5.3 queue manager from an existing Version 5.1 queue manager

The upgmqm utility is supplied to help you upgrade your WebSphere MQ implementation to the current version. The utility creates a V5.3 queue manager with a configuration that matches an existing V5.1 queue manager.

The V5.1 queue manager must be on the same system as the installation within which you create the new V5.3 queue manager. You must stop the V5.1 queue manager while its configuration and data are interrogated to create the V5.3 queue manager.

The V5.1 queue manager is not modified by this process and because the V5.3 installation is completely separate from the V5.1 installation, deleting the V5.3 queue manager has no effect on the V5.1 queue manager. You can perform the process as often as required, if you delete the V5.3 queue manager between attempts.

upgmqm (create V5.3 queue manager from V5.1 queue manager)

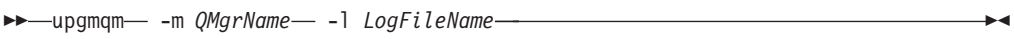
Purpose

Use the upgmqm utility to create a Version 5.3 queue manager from an existing Version 5.1 queue manager. The Version 5.3 queue manager is created in a different location in each of the OSS and NonStop OS file systems. The Version 5.1 queue manager is not overwritten and can still be used subsequently. The Version 5.1 queue manager must be stopped before you can use this utility to create a Version 5.3 queue manager.

When the utility ends, the Version 5.3 queue manager is ready for use. Attributes of WebSphere MQ objects that are new in WebSphere MQ for HP NonStop Server, V5.3 are set to their default values. You can change the values of these attributes in the usual ways.

WebSphere MQ for HP NonStop Server, V5.3 does not use status servers. Any MQS-STATUS*nn* server classes in the Pathway configuration of an existing Version 5.1 queue manager are not present in the Pathway configuration of the Version 5.3 queue manager that is created by this utility. You might therefore need to change any existing scripts that refer to status server classes before you can use the scripts with a Version 5.3 queue manager.

Syntax



Required parameters

-m *QMgrName*
The name of the Version 5.1 queue manager that is used to create a Version 5.3 queue manager. The Version 5.3 queue manager is created with the same name as the Version 5.1 queue manager.

-l *LogFileName*
The name of a file that the utility can use to record the progress in creating a Version 5.3 queue manager. IBM Service can use the contents of this file to determine the cause of any problems.

Examples

This example creates a Version 5.3 queue manager from an existing Version 5.1 queue manager called QM2. Information about the progress of the utility is written to the file /home/mqm/QM2log.

```
upgmqm -m QM2 -l /home/mqm/QM2log
```

Chapter 6. WebSphere MQ documentation

This chapter describes the documentation and other sources of information for WebSphere MQ for HP NonStop Server, V5.3. The chapter lists all the relevant books and contains the following sections:

The following books contain information that is specific to WebSphere MQ for HP NonStop Server, V5.3:

Table 2. WebSphere MQ for HP NonStop Server, V5.3 books

Order Number	Title	PDF file name
GC34-6626	*WebSphere MQ for HP NonStop Server, V5.3 Quick Beginnings*	amqpac01.pdf
SC34-6625	*WebSphere MQ for HP NonStop Server, V5.3 System Administration Guide*	amqpag01.pdf

The following books contain information about the WebSphere MQ, V5.3 family of products. If any information in a WebSphere MQ for HP NonStop Server book appears to contradict information in a WebSphere MQ family book, the information in the WebSphere MQ for HP NonStop Server book takes precedence.

Table 3. WebSphere MQ, V5.3 family books

Order Number	Title	PDF file name
SC34-6059	*WebSphere MQ Intercommunication*	csqzae09.pdf
SC34-6061	*WebSphere MQ Queue Manager Clusters*	csqzah06.pdf
GC34-6058	*WebSphere MQ Clients*	csqzaf07.pdf
SC34-6068	*WebSphere MQ System Administration Guide*	amqzag05.pdf
SC34-6055	*WebSphere MQ Script (MQSC) Command Reference*	csqzaj09.pdf
SC34-6069	*WebSphere MQ Event Monitoring*	csqzax04.pdf
SC34-6060	*WebSphere MQ Programmable Command Formats and Administration Interface*	csqzac03.pdf
GC34-6057	*WebSphere MQ Messages*	amqzao04.pdf
SC34-6064	*WebSphere MQ Application Programming Guide*	csqzal09.pdf
SC34-6062	*WebSphere MQ Application Programming Reference*	csqzak09.pdf
SC34-6067	*WebSphere MQ Using C++*	amqzan08.pdf
SC34-6066	*WebSphere MQ Using Java*	csqzaw12.pdf
SC34-6065	*WebSphere MQ Application Messaging Interface*	amtyak08.pdf
SC34-6079	*WebSphere MQ Security*	csqzas01.pdf
SC34-6113	*WebSphere MQ Bibliography and Glossary*	csqzay02.pdf

Hardcopy books

All the books listed in Table 2 and Table 3 are available for you to order or print.

Hardcopy books

You can order publications from the IBMLink™ Web site at www.ibm.com/ibmlink/.

In the United States, you can also order publications by dialing **1-800-879-2755**.

In Canada, you can order publications by dialing **1-800-IBM-4YOU (1-800-426-4968).**

For further information about ordering publications, contact your IBM authorized dealer or marketing representative.

For information about printing books, see "PDF" on page 41.

Online information

This section contains the following subsections:
- "Publications supplied with the product"
- "HTML and PDF books on the World Wide Web" on page 41

Publications supplied with the product

The WebSphere MQ documentation is supplied separately on a CD-ROM alongside the product. You can either view the documents directly from CD, or you can install them on your computer (either before or after installing the WebSphere MQ product).

The WebSphere MQ for HP NonStop Server online documentation is delivered in PDF format only on CD-ROM.

The WebSphere MQ family online documentation is delivered in HTML, Microsoft® Compiled HTML Help (.CHM), and PDF formats on CD-ROM.

HTML

You can view the WebSphere MQ online documentation in HTML format directly from the documentation CD-ROM. All books are available in U.S. English and also in some or all of the following national languages:

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

When you read the books in HTML, you can follow hypertext links from one book to another. If you are reading translated books and link to a book that is not available in your national language, the U.S. English version of the book is opened instead.

PDF

A PDF (Portable Document Format), corresponding to each hardcopy book, is available on the documentation CD-ROM. You can read PDFs using Adobe Acrobat Reader. Also, you can download them to your own file system, or you can print them on a PostScript printer.

The PDFs are available in U.S. English in the *en_US* directory, and also in some or all of the following national languages. To find out which ones are available in your language, look for the appropriate directory on the CD-ROM. The PDFs are in a subdirectory called *ll_LL*, where *ll_LL* is one of the following:

- de_DE (German)
- es_ES (Spanish)
- fr_FR (French)
- it_IT (Italian)
- ja_JP (Japanese)
- ko_KR (Korean)
- pt_BR (Brazilian Portuguese)
- zh_CN (Simplified Chinese)
- zh_TW (Traditional Chinese)

Within these directories, you can find the complete set of PDFs that are available. Table 2 on page 39 and Table 3 on page 39 show the names of the PDF files.

HTML and PDF books on the World Wide Web

The WebSphere MQ books are available on the World Wide Web as well as on the product CD-ROM. You can access the books, in PDF or HTML format, at www.ibm.com/software/integration/wmq/library/.

SupportPacs

SupportPacs contain material that complements the WebSphere MQ products. For example, there are a number of SupportPacs to help you with performance and capacity planning. Many SupportPacs are freely available for download, and others can be purchased as a fee based service. You can find the WebSphere MQ family SupportPacs at www.ibm.com/software/integration/support/supportpacs/.

WebSphere MQ news groups

WebSphere MQ support provides a number of news groups where members can share their knowledge and experience with others. You can find a list of the news groups at www.ibm.com/software/integration/wmq/support/.

White papers and migration documents

IBM produces a number white papers that contain other useful information about WebSphere MQ. You can find these white papers at www.ibm.com/software/integration/wmq/library/.

Service support summary (PTF readmes)

The service support summary provides a summary of the support information and end of service dates for in-service WebSphere MQ products. You can find this information at www.ibm.com/software/integration/wmq/support/.

Chapter 7. Applying maintenance to WebSphere MQ for HP NonStop Server

This chapter tells you how to apply maintenance to WebSphere MQ for HP NonStop Server. A maintenance update in the form of a Program Temporary Fix (PTF), also known as a CSD (Corrective Service Diskette), is supplied electronically. You can downloaded the PTF from:

`http://www.ibm.com/software/integration/mqfamily/`

Stop all WebSphere MQ activity on the installations that you are upgrading, before installing maintenance on WebSphere MQ for HP NonStop Server, by carrying out the following procedure:

1. Log in as the user that owns the installation (this must be a user with the primary group of MQM).
2. Use the **dspmq** command to display the state of all the queue managers on the system.
3. Issue the **endmqm** command for each running queue manager. You can find the queue managers for a WebSphere MQ install in the mqs.ini configuration file.
4. Stop any listeners associated with each queue manager, using the following command:

   ```
   endmqlsr -m QMgrName
   ```

5. To check that you have stopped all WebSphere MQ activity, enter the following command:

   ```
   ps -ef | grep mq
   ```

After you have stopped all WebSphere MQ activity:

1. Check that there are no OSS processes listed that are running command lines beginning `amq` or `runmq`.
2. Check that there are no NonStop OS processes running that use the files in any of the three NonStop OS subvolumes for the installations you are upgrading. Use the TACL command FUP LISTOPENS * in each subvolume to determine whether any files are open, and by which process.
3. Check that there are no NonStop OS processes running that use the files in any of the queue manager subvolumes for the installations you are upgrading. Use the TACL command FUP LISTOPENS * in each queue manager subvolume to determine whether any files are open, and by which process. The QueueManager stanza for each queue manager in the WebSphere MQ configuration file contains a HPNSSGuardianSubvol stanza which specifies the name of the queue manager subvolume.

Do not begin to install and upgrade the installation with the maintenance until you are sure that all WebSphere MQ processes in that installation are stopped.

Installing a PTF

You must decompress and then expand PTFs in your OSS file system before installation. Next, use a script to install the maintenance on each installation that you want to update. The OSS shell script provided for this purpose is named `installCSDxx`, where *xx* is the numeric identifier (assigned by IBM) of the PTF you want to install.

Transferring and preparing the PTF for installation

To install successfully, the WebSphere MQ PTF files must be owned by a user ID with the primary group of MQM. If it is not possible to perform this whole procedure logged in as a suitable user ID (perhaps because of local security policies) transfer, decompress, and expand the PTF using an authorized user ID. If necessary you can then modify the ownership of the files as described in step 4 of the following list.

1. Use FTP to transfer PTFs in binary mode from the IBM support Web site to your OSS file system in a suitable location to store WebSphere MQ software on your system. For example, the directory path /usr/ibm/wmq is typically used to store WebSphere MQ software distributions.
2. Decompress the PTF using the OSS `uncompress` utility. For example, the following command decompresses the PTF wmq53nsscsd01.tar.Z and replaces it with the file wmq53nsscsd01.tar:

   ```
   uncompress wmq53nsscsd01.tar.Z
   ```
3. Expand the PTF archive to a file tree using the OSS `tar` utility. The top directory of the archive is named CSDxx. For example, the following command expands the PTF archive wmq53nsscsd01.tar and creates a directory tree in the current directory called CSD01:

   ```
   tar -xof wmq53nsscsd01.tar
   ```
4. If necessary, change the ownership of the files to a user ID that can run the installation script. This user ID must have a primary user group of MQM. For example, the following command changes the user and group ownership of all files in the directory tree starting with CSD01 to the user ID mqm, with the group ID of MQM:

   ```
   chown -R mqm:MQM CSD01
   ```

Running the installation script for a PTF

First, review the latest information about running the installation script in the readme for the PTF. The readme is available on the IBM Web site, or you can find it in the PTF file tree in subdirectory opt/mqm/README*S*.

1. Create a backup of your OSS and NonStop OS files for the installation before running the installation script for a PTF. The installation script does not create a backup and overwrites files in both OSS and NonStop OS when upgrading an installation.
2. Run the installation script for a PTF. The script requires three command line parameters:

   ```
   installCSDxx <PTF directory> <opt tree location> <var tree location>
   ```

   where:

   PTF directory
   is the relative path of the top directory of the expanded PTF archive.

opt tree location
is the absolute path to the directory containing the opt tree of the installation to be upgraded with this PTF.

var tree location
is the absolute path to the directory containing the var tree of the installation to be upgraded with this PTF.

For example, the following command upgrades the installation with the opt and var trees in the directory /home/wmq with the contents of PTF CSD01:

```
installCSD01 CSD01 /home/wmq /home/wmq
```

The installation script is interactive and produces a full log file in the current directory called installCSD*xx*.log.

Restoring the previous service level

You can backout a PTF and restore your installation to the previous service or install level only if you made a backup of your installation before upgrading it.

Ensure that WebSphere MQ has completely stopped before restoring the backup.

Chapter 8. Uninstalling WebSphere MQ for HP NonStop Server

This chapter tells you how to remove WebSphere MQ for HP NonStop Server from your system.

Before starting to uninstall, end all WebSphere MQ activity on the installations that you are uninstalling.

1. Log in as the user that owns the installation (this must be a user with the primary group of MQM).
2. Use the **dspmq** command to display the state of all the queue managers on the system.
3. Use the **endmqm** command to stop all running queue managers.
4. Stop any listeners associated with the queue managers, using the command:
   `endmqlsr -m QMgrName`
5. To check that you have stopped all WebSphere MQ activity, enter the following:
   `ps -ef | grep mq`

After you have stopped all WebSphere MQ activity:

1. Check that there are no OSS processes listed that are running command lines beginning `amq` or `runmq`.
2. Check that there are no NonStop OS processes running that use the files in any of the three NonStop OS subvolumes for the installations you are upgrading. Use the TACL command FUP LISTOPENS * in each subvolume to determine whether any files are open, and by which process.
3. Check that there are no NonStop OS processes running that use the files in any of the queue manager subvolumes for the installations you are upgrading. Use the TACL command FUP LISTOPENS * in each queue manager subvolume to determine whether any files are open, and by which process. The QueueManager stanza for each queue manager in the WebSphere MQ configuration file contains a HPNSSGuardianSubvol stanza which specifies the name of the queue manager subvolume.

Do not begin to uninstall until you are sure that all WebSphere MQ processes in that installation are stopped.

Uninstallation procedure

1. Delete all the queue managers for the installation. You can obtain the names of all the queue managers from the mqs.ini configuration file for the installation. Use the **dltmqm** command to delete all of the queue managers in turn.
2. Verify that all queue managers have been deleted correctly by ensuring that the directory <*var_installation_ path*>/var/mqm/qmgrs contains the @SYSTEM directory only.
3. Determine the location of your NonStop OS files for the installation. Use the OSS command `ls -l` on the directory <*opt_installation_ path*>/opt/mqm/G to display the file links for the NonStop OS subvolumes for the installation. For example, the following command and output indicates that the subvolumes $DATA01.WMQPRODE, $DATA01.WMQPRODI and $DATA01.WMQPRODS are used for the NonStop OS files for this installation:

```
/home/mq/prod_top/opt/mqm: ls -l G
total 1
lrwxrwxrwx   1 MQM.MANAGER        MQM           17 Jan 15 16:53 bin -> /G/DATA01/WMQPRODE
lrwxrwxrwx   1 MQM.MANAGER        MQM           17 Jan 15 16:54 inc -> /G/DATA01/WMQPRODI
lrwxrwxrwx   1 MQM.MANAGER        MQM           17 Jan 15 16:53 lib -> /G/DATA01/WMQPRODE
lrwxrwxrwx   1 MQM.MANAGER        MQM           17 Jan 15 16:53 samp -> /G/DATA01/WMQPRODS
```

4. Use the NonStop OS command FUP PURGE to delete all of the files in the subvolumes used by the installation. For example, the following command deletes all of the files in any subvolume on $DATA01 beginning with WMQPROD.:

   ```
   FUP PURGE ! $DATA01.WMQPROD?.*
   ```

5. Use the OSS **rm** command to delete the opt and var directory trees for the installation. For example, the following command deletes the opt and var trees that are in the current directory. In this example, both trees were created in the same directory.

   ```
   rm -r opt var
   ```

6. Modify, if necessary:
   - Your login .profile file on OSS to remove reference to the WebSphere MQ profile file (wmqprofile) for the installation.
   - Your TACL login customization file TACLCSTM to remove reference to the WebSphere MQ environment obey file WMQCSTM.

Appendix. Notices

This information was developed for products and services offered in the United States. IBM may not offer the products, services, or features discussed in this information in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this information. The furnishing of this information does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation
Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:
INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the information. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this information at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM United Kingdom Laboratories,
Mail Point 151,
Hursley Park,
Winchester,
Hampshire,
England
SO21 2JN.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this information and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Programming License Agreement, or any equivalent agreement between us.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

Trademarks

The following terms are trademarks of International Business Machines Corporation in the United States, other countries, or both:

AIX	IBM	IBMLink
MQSeries	SupportPac	WebSphere

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both.

Itanium is a registered trademark of Intel® Corporation or its subsidiaries in the United States and other countries.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.

Index

T

U

V

W

Sending your comments to IBM

If you especially like or dislike anything about this book, please use one of the methods listed below to send your comments to IBM.

Feel free to comment on what you regard as specific errors or omissions, and on the accuracy, organization, subject matter, or completeness of this book.

Please limit your comments to the information in this book and the way in which the information is presented.

To make comments about the functions of IBM products or systems, talk to your IBM representative or to your IBM authorized remarketer.

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate, without incurring any obligation to you.

You can send your comments to IBM in any of the following ways:

- By mail, to this address:

  User Technologies Department (MP095)
  IBM United Kingdom Laboratories
  Hursley Park
  WINCHESTER,
  Hampshire
  SO21 2JN
  United Kingdom
- By fax:
  - From outside the U.K., after your international access code use 44–1962–816151
  - From within the U.K., use 01962–816151
- Electronically, use the appropriate network ID:
  - IBM Mail Exchange: GBIBM2Q9 at IBMMAIL
  - IBMLink: HURSLEY(IDRCF)
  - Internet: idrcf@hursley.ibm.com

Whichever method you use, ensure that you include:

- The publication title and order number
- The topic to which your comment applies
- Your name and address/telephone number/fax number/network ID.

GC34-6626-00