

MQ Series 8.0.X for AIX

PLEASE READ AND FOLLOW ITEMS 1-5 BELOW

1. **LICENSE:** You MUST get a license for Websphere MQ. MQ is licensed by number of CPUs. The link to get a license is:
https://itstratplan.verizon.com/sites/IPM/General/software/sw_phase1/default.aspx. The person creating the task plan takes responsibility for assuring that the installation is legally licensed before the task plan is executed.
2. **AORS REQUEST:** MQ Series packages use 3 group IDs and 1 user ID. The 3 GIDs are mqm (root **MUST** be a part of this group), mqadmin and mquser. The 1 UID required is mqm. The standard mqm UID and GID is 20880, per INS security.
 - mqm GID – only mqm and root should be a part of this group.
 - mqadmin GID – typically used for application support personnel to allow them to look at queue levels and perform status checks.
 - mquser GID – typically used for application users.

Note –Authority must be granted to the above groups (mqadmin and mquser), when queues are created, to allow the proper access. During queue manager creation, the configuration script sets the proper authority for all default system queues. See step 4 below for SSI file creation details.
3. **FILESYSTEM REQUIREMENTS:** File systems should be allocated space as shown below.
 - 1.5GB - \$Anchor/opt/mqm
 - *2GB - \$Anchor/opt/var/mqm **PER QMGR. (REQUIRES A SEPARATE FILESYSTEM \$Anchor/opt/var/mqm)**
 - *Note - More space may be necessary if using persistent messaging and/or large messages. See the MQ Series Beginnings Guide for more information. Online documentation can be found at:
<http://www-306.ibm.com/software/integration/wmq/library/>
4. **KERNEL PARAM:** Make sure your systems are up to the IBM recommended system requirements. See [APPENDIX A](#) for more information.
5. **SSI FILES: (INSTALL BINARY ONLY OR SSI FILES (SEE APPENDIX B for FORMAT))**

SSI files will need to be created and are supplied by the application team. If a binary only install is desired (no configuration created at installation) in one of 3 ways:

- 1) Create a SSI file (**host.{hostname}.mqm**) and include the following 2 variables:
QMGRS=NONE
RUNMQLSR=NONE
- 2) Add the variable **MODE=PASSIVE** to the above SSI file (typically used for passive systems in an active/passive setup)
- 3) Do not install a **host.{hostname}.mqm** SSI file (not recommended)

If a configuration needs to be created during installation, then the instructions in [APPENDIX B](#) should be followed. If a configuration change is desired after the package has been installed, the **change_config.sh** script will need to be run once the SSI files have been updated with the desired changes. See [APPENDIX C](#) for command syntax information.

6. The package can now be installed. For the latest package name, contact MQ Middleware Engineering.
7. The Verizon standard for monitoring MQ Series is BMC Patrol with the latest MQ knowledge module installed. Contact the monitoring team for further information.
8. For a list of fixes in this release, go to [APPENDIX D](#).

Appendix A

System Requirements

Operating System Minimum

AIX 6.1 TL8, AIX 7.1 TL2 and AIX 7.2 base

Connectivity Requirements

Check that the system has 64-bit compatible communications hardware that supports at least one of the following:

- TCP/IP (IPv4 and IPv6, provided by the operating system)
- IBM Communications Server for AIX V6.3 (SNA)

Additional settings for installing on AIX® systems

File descriptors

When running a multi-threaded process such as the agent process, you might reach the soft limit for file descriptors. This limit gives you the WebSphere® MQ reason code `MQRC_UNEXPECTED_ERROR` (2195) and, if there are enough file descriptors, a WebSphere MQ FFST™ file.

To avoid this problem, increase the process limit for the number of file descriptors. You must alter the `nofiles` attribute in `/etc/security/limits` to 10,000 for the `mqm` user ID, or in the default stanza. To alter the number of file descriptors do these steps:

1. In a command prompt, check the maximum number of file descriptors available to a process running as `mqm`:

```
lsuser -a nofiles mqm
```

2. Set the value to at least 10240:
3.

```
chuser nofiles_hard=10240 mqm
```

```
chuser nofiles=10240 mqm
```

System Resource Limits

Set the system resource limit for data segment and stack segment to unlimited using the following commands in a command prompt:

```
ulimit -d unlimited
ulimit -s unlimited
```

Checking optional software

| Group | Product | Notes |
|--------------------------------------------------------------|------------------------------------------|----------------------------------------------------|
| Application Servers | Oracle/BEA WebLogic Server 11g Release 1 | Supported with WMQ used as a generic JMS provider. |
| Where a WebSphere MQ client application is running in one of | | Oracle WebLogic Server |

| Group | Product | Notes |
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| <p>the listed transaction manager environments, it is recommended that you contact the transaction manager vendor in the first instance for support.</p> <p>For more detailed information on the use of the resource adapter with application servers, see the Application Server section above, and the WebSphere MQ resource adapter statement of support document.</p> <p>The use of the WebSphere MQ classes for JMS in enterprise JavaBeans, Servlets and message-driven beans is fully supported. The WebSphere MQ base classes for Java are supported with restrictions - for more details see Using WebSphere MQ Java Interfaces in J2EE/JEE Environments</p> | | 11gR1 equals all versions 10.3.1 up to and including 10.3.6 |
| | Oracle WebLogic Server 12cR1 (12.1.1) | Supported with WMQ used as a generic JMS provider. |
| | WebSphere Application Server 6.1 and future fix packs (overview) (support) | See this document for more information. |
| | WebSphere Application Server 7.0 and future fix packs (overview) (support) | See this document for more information. |
| | WebSphere Application Server 8.0 and future mod levels and fix packs (overview) (support) | See this document for more information. |
| | WebSphere Application Server 8.5 and future mod levels and fix packs (overview) (support) | |
| | WebSphere Application Server Liberty Profile 8.5.5 and future mod levels and fix packs | APAR IC92914 is a prerequisite, See This Document for more information |
| Application Servers for the WebSphere MQ Bridge for HTTP | WebSphere Application Server 7.0.0.5 and future fix packs (overview) (support) | |
| | WebSphere Application Server 8.0 and future fix packs (overview) (support) | |
| | WebSphere Application Server 8.5 and future fix packs (overview) (support) | |
| | WebSphere Application Server Community Edition 2.1 and future fix packs (overview) (support) | |
| Compiler | COBOL for AIX 3.1 and | |

| Group | Product | Notes |
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| | future fix packs (overview) (support) | |
| | COBOL for AIX 4.1 and future fix packs (overview) (support) | |
| | COBOL for AIX 4.1.1 and future fix packs (overview) (support) | |
| | Micro Focus Server Express 5.1 and future fix packs | Cobol. |
| | XL C/C++ Enterprise Edition for AIX 8.0 and future fix packs (overview) (support) | |
| | XL C/C++ Enterprise Edition for AIX 9.0 and future fix packs (overview) (support) | The minimum level of IBM XL C/C++ Enterprise Edition for AIX v9.0 is 9.0.0.3. |
| | XL C/C++ for AIX 10.1 and future fix packs (overview) (support) | |
| | XL C/C++ for AIX 11.1 and future fix packs (overview) (support) | |
| | XL C/C++ for AIX 12.x and future fix packs (overview) (support) | |
| | XL C Enterprise Edition for AIX 8.0 and future fix packs (overview) (support) | |
| | XL C Enterprise Edition for AIX 9.0 and future fix packs (overview) (support) | The minimum level of IBM XL C/C++ Enterprise Edition for AIX v9.0 is 9.0.0.3. |
| | XL C for AIX 10.1 and future fix packs (overview) (support) | |
| | XL C for AIX 11.1 and future fix packs (overview) (support) | |
| | XL C for AIX 12.1 and future fix packs | |

| Group | Product | Notes |
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| | (overview) (support) | |
| Databases | DB2 Advanced Enterprise Server Edition 10.5 (overview) (support) | |
| Databases for use with WebSphere MQ Managed File Transfer component. | DB2 Advanced Enterprise Server Edition 10.1 (overview) (support) | |
| When using a database with the Java EE 5 database logger or WebSphere MQ Managed File Transfer web gateway, you should ensure that the Java EE 5 runtime also supports this database product and level. | DB2 Advanced Enterprise Server Edition 9.7 (overview) (support) | |
| | DB2 Enterprise Server Edition 9.5 (overview) (support) | |
| | Oracle Database 11g Standard/Enterprise Editions Release 1 | If using an Oracle version 11 JDBC driver with the Managed File Transfer logger, in database mode, the Oracle JDBC driver level is required to be 11.2.0.3. |
| | Oracle Database 11g Standard/Enterprise Editions Release 2 | If using an Oracle version 11 JDBC driver with the Managed File Transfer logger, in database mode, the Oracle JDBC driver level is required to be 11.2.0.3. |
| Java Technology | IBM Runtime Environment, Java Technology Edition 5.0 and future fix packs | FIPS 140-2 compliance is only supported on IBM JREs. |
| For Java applications using the WebSphere MQ classes for Java or JMS. The MQ Java/JMS clients need to run in a full Java Runtime Environment, with all the function of a Java SE Environment. WebSphere MQ Advanced Message Security component policies are supported for Java applications using bindings on any supported Java runtime. Support for Java applications using client connections are limited to those running under a | | AMS support for applications using client connections is only supported on IBM JRE. 32-bit and 64-bit are supported. Transport for SOAP support on 32-bit only (Apache Axis 1.4) - commonly known as Axis 1 |
| | IBM Runtime Environment, Java Technology Edition 6.0 and future fix packs | FIPS 140-2 compliance is only supported on IBM JREs. AMS support for applications using client connections is |

| Group | Product | Notes |
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| <p>supported Java runtime.</p> <p>WebSphere MQ Managed File Transfer capabilities are only supported when used in conjunction with the Java environment supplied as part of the WebSphere MQ product.</p> | | <p>only supported on IBM JRE.</p> <p>32-bit and 64-bit are supported.</p> <p>Transport for SOAP support on 32-bit only (Apache Axis 1.4) - commonly known as Axis 1</p> |
| | IBM Runtime Environment, Java Technology Edition 7.0 and future fix packs | <p>FIPS 140-2 compliance is only supported on IBM JREs.</p> <p>AMS support for applications using client connections is only supported on IBM JRE.</p> <p>32-bit and 64-bit are supported.</p> <p>Transport for SOAP support on 32-bit only (Apache Axis 1.4) - commonly known as Axis 1</p> |
| Network Communication | Communications Server for AIX 6.3 and future fix packs (overview) (support) | SNA LU6.2 Services for AIX. |
| <p>TCP/IP: IPv4 and IPv6 provided by the operating system.</p> <p>SNA LU6.2: As specified opposite.</p> <p>NetBIOS: Provided with the operating system on Windows.</p> <p>SPX: Sequence Package Exchange provided with Windows XP and 2003 operating systems.</p> <p>FTP/FTPS/SFTP standards compliant server (UNIX or Windows style file format): Required to run the WebSphere MQ Managed File Transfer protocol bridge agent.</p> | Communications Server for AIX V6.4 and future fix packs (overview) (support) | SNA LU6.2 Services for AIX. |
| Resource Managers (when MQ is the Transaction Manager) | DB2 Advanced Enterprise Server Edition | Only 64-bit DB2 instances can be used with 64-bit |

| Group | Product | Notes |
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| <p>Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. The WebSphere MQ classes for JMS can only participate in global transactions when accessed through the Java EE Connector Architecture (JCA) resource adapter, which can only be used with a suitable application server environment.</p> <p>Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However it is not possible to participate in a JTA style transaction.</p> | 10.5 and future fix packs (overview) (support) | WebSphere MQ. |
| | DB2 Advanced Enterprise Server Edition 10.1 and future fix packs (overview) (support) | Only 64-bit DB2 instances can be used with 64-bit WebSphere MQ. |
| | DB2 Advanced Enterprise Server Edition 9.7 and future fix packs (overview) (support) | Only 64-bit DB2 instances can be used with 64-bit WebSphere MQ. |
| | DB2 Enterprise Server Edition 9.5 and future fix packs (overview) (support) | Only 64-bit DB2 instances can be used with 64-bit WebSphere MQ. |
| | Informix Client Software Development Kit 3.50 and future fix packs (overview) (support) | Fix pack 6 or later is required. |
| | Informix Client Software Development Kit 3.70.xC1 and future fix packs (overview) (support) | |
| | Informix Client Software Development Kit 4.10 and future fix packs | |
| | Informix Dynamic Server Enterprise Edition 11.10 and future fix packs (overview) (support) | Informix Dynamic Server (IDS) is NOT supported by the WebSphere MQ classes for Java. |
| | Informix Dynamic Server Enterprise Edition 11.50 and future fix packs (overview) (support) | Fix pack 3 or later is required. Informix Dynamic Server (IDS) is NOT supported by the WebSphere MQ classes for Java. |
| | Informix Dynamic Server Enterprise Edition 11.70 and future fix packs (overview) (support) | Informix Dynamic Server (IDS) is NOT supported by the WebSphere MQ classes for Java. |
| | Informix Dynamic Server 12.10 and future fix packs | Informix Dynamic Server (IDS) is NOT supported by the WebSphere MQ classes |

| Group | Product | Notes |
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| | | for Java. |
| | Oracle Database 11g Standard/Enterprise Editions Release 1 | |
| | Oracle Database 11g Standard/Enterprise Editions Release 2 | |
| | Sybase Adaptive Server Enterprise 15.0 and future fix packs | Sybase Adapter Server Enterprise (ASE) is NOT supported by the WebSphere MQ classes for Java. |
| | Sybase Adaptive Server Enterprise 15.5 | Sybase Adapter Server Enterprise (ASE) is NOT supported by the WebSphere MQ classes for Java. |
| Software Integration | Sterling Connect:Direct for UNIX 4.1 and future fix packs (overview) (support) | <p>You may run a Sterling Connect:Direct bridge agent on the following operating systems:</p> <ul style="list-style-type: none"> • AIX 6.1 TL5 POWER System and future OS fix packs • AIX 7.1 POWER System and future OS fix packs (Requires Connect:Direct 4.1.0.3 or above) <p>The Sterling Connect:Direct bridge can transfer files to and from Sterling Connect:Direct nodes running on the following operating systems:</p> <ul style="list-style-type: none"> • Windows • Unix • z/OS |
| Prerequisite to transfer files to a Sterling Connect:Direct node as the source or destination of a transfer through the WebSphere Managed File Transfer Sterling Connect:Direct bridge component. | | |
| This capability is only available on operating systems where WebSphere MQ Managed File Transfer component is supported. | | |
| 4690 | IBM 4690 Operating System Release Version 6 Release 2 | Supported version of Java: IBM Runtime Environment, Java Technology Edition 6.0 and future fix packs |
| From WebSphere MQ V7.5.0.2 onwards Manager File Transfer supports IBM 4690 as a client platform. | IBM 4690 Operating System Release Version | Supported version of Java: IBM Runtime Environment, |

| Group | Product | Notes |
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| | 6 Release 3 | Java Technology Edition 6.0 and future fix packs |
| Transaction Manager | Oracle Tuxedo 10.3 and future fix packs | |
| <p>Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. The WebSphere MQ classes for JMS can only participate in global transactions when accessed through the Java EE Connector Architecture (JCA) resource adapter, which can only be used with a suitable application server environment.</p> <p>For more detailed information on the use of the resource adapter with application servers, see the Application Server section above, and the WebSphere MQ resource adapter statement of support document.</p> <p>Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However it is not possible to participate in a JTA style transaction.</p> <p>COM+/MTS provided with Microsoft Windows may also be used as a Transaction Manager.</p> | Oracle Tuxedo 11g R1 | |
| | Oracle Tuxedo 12c R1 | |
| | TXSeries for Multiplatforms V6.2 and future fix packs (overview) (support) | The resiliency feature of TXSeries is not supported. For more details, please refer to XA Resiliency feature of TXSeries doesn't work with WMQ as RM. |
| | TXSeries for Multiplatforms V7.1.0.0 and future fix packs (overview) (support) | The resiliency feature of TXSeries is not supported. For more details, please refer to XA Resiliency feature of TXSeries doesn't work with WMQ as RM. |
| | TXSeries for Multiplatforms V8.1.0.0 and future fix packs | WMQ 7.5.0.3 is required The resiliency feature of TXSeries is not supported. For more details, please refer to XA Resiliency feature of TXSeries doesn't work with WMQ as RM. |
| | WebSphere Application Server 6.1 and future releases, mod levels and fix packs (overview) (support) | |
| Versions of products / components shipped with the product | IBM Global Security Kit (GSKit) 8.0.0.n and future mod levels and fix packs | Refer to MQ 7.5 cryptographic hardware support for further information. |
| | WebSphere MQ Telemetry 7.5 (overview) (support) | The WebSphere MQ V7.5 Telemetry feature operates on a subset of the WebSphere MQ supported environments. Please see the System |

| Group | Product | Notes |
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| | | Requirements for WebSphere MQ V7.5 Telemetry document for further information. |
| Virtualization | Live Application Mobility (LAM) for Workload Partition (WPAR) AIX 6.1 and future releases, mod levels and fix packs | Installing WebSphere MQ in AIX Workload Partitions |
| Supported virtualization products, in addition to the virtualization notes at the top of the page. | WPAR: Product installed in Global AIX Instance, executed in System Workload Partition AIX 6.1 and future releases, mod levels and fix packs | Installing WebSphere MQ in AIX Workload Partitions |
| | WPAR: Product installed in System Workload Partition AIX 6.1 and future releases, mod levels and fix packs | Installing WebSphere MQ in AIX Workload Partitions |
| | WebSphere MQ 7.0.1.6 and future fix packs (overview) (support) | |
| WebSphere MQ | | |
| For multiple installations of WebSphere MQ to coexist they must be at a specific level, or above. In a coexistence environment there may be multiple installations of V7.1, or above, but only one may be at V7.0.1. | | |

APPENDIX A (cont.)

Implications of a 64-bit queue manager (Note for programmers)

When using the 64-bit queue manager, the use of the LIBPATH and LD_LIBRARY_PATH environment variable is not advised. Setting these environment variables might result in you not being able to run any WebSphere MQ commands. By default, the installation will operate as in previous versions of WebSphere MQ, with symbolic links being created from /usr/lib, /usr/bin and /usr/include to the appropriate files within the WebSphere MQ tree structure. In the case of /usr/lib the symbolic links will be to the 32-bit WebSphere MQ libraries provided for customer 32-bit applications.

Note: No symbolic links are required for the 64-bit WebSphere MQ libraries

required by WebSphere MQ commands.

All WebSphere MQ commands are 64-bit and have a built in path to the WebSphere MQ 64-bit libraries, however, this can be overridden by the use of LIBPATH and thus can cause WebSphere MQ commands to fail to run. The recommended way of using WebSphere MQ commands and your applications is as follows:

- Unset LIBPATH and LD_LIBRARY_PATH and build your applications with a built in path to the appropriate WebSphere MQ libraries, this is detailed in the appropriate WebSphere MQ book for your type of WebSphere MQ application.

- If you need to set LIBPATH or LD_LIBRARY_PATH, consider not including /usr/lib in the path you specify in the variable. If you need to include /usr/lib in your LIBPATH or LD_LIBRARY_PATH then in order to avoid errors running 64-bit WebSphere MQ applications or WebSphere MQ commands, consider removing the symbolic links from /usr/lib to the 32-bit WebSphere MQ libraries using the **dltmqlnk** command. The symbolic links can be restored with the **crtmqlnk** command. You also need to build your applications with a built in path to the appropriate WebSphere MQ libraries.

Note that both the **dltmqlnk** command and the **crtmqlnk** command are scripts, and take no parameters.

- If you cannot use either of the first two options, run your applications in a different environment to the one which issues any WebSphere MQ commands.

Note: WebSphere MQ libraries are in the following locations: /usr/mqm/lib (32-bit libraries) and /usr/mqm/lib64 (64-bit libraries).

|

APPENDIX B

MQ Series SSI File Creation

Below are the SSI file names with the available variables.

***NOTE: Do not include the () or spaces in the SSI file (ex: *QMGRS=Q.MNGR1,Q.MNGR2...*). Only mandatory variables need to be included. If default values on non-mandatory variables are sufficient, those variables can be left out of the SSI file entirely.**

host.{HOSTNAME}.mqm (mandatory SSI file)

QMGRS=(***MANDATORY VARIABLE**. List all qmgrs here (Ex: **QM1,QM2**) If binary only install is desired, enter **NONE**)

RUNQLSR=(***MANDATORY VARIABLE**. List qmgrs and ports you require. (Ex: **QM1:1414,QM2:1415**) If no listeners are required, set this to **NONE**)

DEFAULT_QMGR=(If a default qmgr is desired, it must be set here and has to be listed in QMGRS=. Delete this entry if no default qmgr is required)

RC_SCRIPTS=(Set to **NO** if /etc/rc scripts are not required, otherwise delete this entry)

MODE=PASSIVE (Set this variable on a backup (passive) system so change_config.sh cannot be run.

IPCCBASEADDRESS=(only available on AIX installations)

host.{HOSTNAME}.{QMGR} - required for each QMGR listed above in **QMGRS=** (unless a binary only installation is desired). For default values, do not include the variable in the file.

***QM_OPT:MAXCHANNELS=**(default = 100)

***QM_OPT:MAXACTIVECHANNELS=**(default = same as MAXCHANNELS)

***QM_OPT:MQIBINDTYPE=**(default = STANDARD. Optional value = FASTPATH)

***QM_OPT:LogPrimaryFiles=**(default = 3. Option values = 2-62, ***Case is important**)

***QM_OPT:LogSecondaryFiles=**(default = 2. Optional values = 1-6, ***Case is important**)

***Note: LogPrimaryFiles and LogSecondaryFiles total cannot exceed 63.**

***QM_OPT:LOGFILEPAGES=**(Can only be set at QMGR creation. Default = 1024. Optional values = 64-16384)

***QM_OPT:LOGTYPE=**(Can only be set at QMGR creation. Default value = CIRCULAR. Optional value = LINEAR)

***QM_OPT:MQSNOAUT=**(Set to **YES** if you want the QMGR created with security disabled. Can only be set at QMGR creation)

***QM_OPT:KEEPLIVE=**(YES or NO. The default is **YES**)

***QM_OPT:LISTENERBACKLOG=**(The default is **100**)

***APIEXITLOCAL:APIEXITLOCAL:** (This line **MUST** precede each APIEXITLOCAL entry grouping (grouping = the 4 lines below))

***APIEXITLOCAL:Sequence=**200 (Example)

***APIEXITLOCAL:Function=**EntryPoint (Example)

***APIEXITLOCAL:Module=**/opt/mqm/samp/bin/amqsaxe (Example)

***APIEXITLOCAL:Name=**SampleApiExit (Example)

***ENV_VAR:**(environment variable=setting)(more than 1 can be used)

Then any commands used to configure the qmgr and create the queues and channels (any that normally get executed via the **runmqsc** command.

APPENDIX B (cont.)

Last, any setmqaut commands used to set authority. The setmqaut command must be preceded by an * (ex: ***setmqaut** ...). There should be no space between the * and setmqaut. Authority to access system queues is automatically granted for anyone in mquser (+allmqi) and mqadmin (+allmqi +dsp) groups. You should add all IDs that will need to access any queues created in the **host.{hostname}.{qmgr}** file to the mquser group, support personnel to the mqadmin group, and grant authority for these queues in your **host.{hostname}.{qmgr}** using the following 2 lines:

```
*setmqaut -m { QMGR_NAME } -t queue -n { QUEUE_NAME } -g mquser +allmqi
*setmqaut -m { QMGR_NAME } -t queue -n { QUEUE_NAME } -g mqadmin +allmqi +dsp
```

Substitute **{QMGR_NAME}** and **{QUEUE_NAME}** with the appropriate information.

All comments should be started with a * followed by a space.

APPENDIX C

Command Syntax

All control and configuration scripts are under the **\$Anchor/opt/mqm/adm** directory.

All commands should be run as root in production. On development servers, any ID in the group *mqm* can also execute the commands.

Command syntax for `change_config.sh`, `MQcntrl.sh`, `menu` and `MQmonitor` scripts is as follows:

change_config.sh {qmgr} {nobounce} - If no {qmgr} is specified, then all qmgrs on the server will be updated. The script will shutdown and restart any {qmgr} that is being updated unless the *nobounce* option is used. *Note: The *nobounce* option will stop any changes from being made to the `qm.ini` file (manual edits) but will allow `runmqsc` commands to process..

MQcntrl.sh [start/stop] {qmgr} - If no {qmgr} is specified, then all will be affected.

*** If no qmgr is specified in the shutdown (all qmgr shutdown), then shared memory and semaphores will be cleared of MQ entries.**

menu – Will give you access to the following MQ Utility Menu:

```
***** MQSeries Utilities Menu *****
**
** A) Start/Stop one or all qmgrs                **
** B) Update/create the configuration for one or all qmgrs **
** C) Quick status of one or all qmgrs           **
** D) Extensive status check of MQ (channels, queues, etc) **
** E) Check kernel settings and OS patch levels  **
** F) Collect data for opening PMRs and IBM review **
** G) Clear mqm owned memory and semaphores (MQ must be down) **
** H) Test MQ messaging using default Qs (Java based) **
** I) Test MQ messaging using default Qs (C based)  **
** J) Check authority settings for a qmgr, queue, or channel **
** K) Check the SSL configuration on a qmgr (Solaris, AIX) **
** L) Run SSL Configuration Wizard                **
** M) Save the current configuration for a qmgr     **
** N) Check a qmgr SSI (config) file for syntax errors **
**
*****
```

Enter your choice or Q to quit

MQmonitor {qmgr} — If no {qmgr} is specified, then all qmgrs will be checked. This script can be used by VSC (or any HA product) to check the health of a qmgr. If there is more than 1 qmgr on a system, and all are checked, the script will report a problem if 1 or more qmgrs have a problem. That means ALL qmgrs would be failed over to a backup server.

APPENDIX D

FIXES FOR MQ 7.5.x

| APAR | Description |
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