MQ Series 8.0.X for HP-IA

1. You MUST get a license for Websphere MQ. MQ is licensed by number of CPUs. If this is for Wireline please place an order on VSHOP. Either way select that it is an upgrade and they will provide you with the download. Be sure to indicate the version you need.

   VSHOP
   https://vzsam.shi.com
2. 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. 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. Make sure your systems are up to the IBM recommended system requirements. See APPENDIX A for more information.
5. 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

Operating System	Notes
HP-UX 11i v3 IA64 and future OS fix packs	
Before installing on HP-UX 11i v3 (11.31) see technote 1270591 WebSphere MQ Telemetry is not supported on this platform.	**HP-UX PA-RISC is NOT supported**

Kernel configuration

It is possible that the default kernel configuration is not adequate because IBM MQ uses semaphores and shared memory.
Before installation, review the configuration of the machine and increase the values if necessary. Consider using the values of the tunable kernel parameters given in Table 1. These values might need to be increased if you obtain any First Failure Support Technology™ (FFST™) records.

Note

1. Semaphore and swap usage do not vary significantly with message rate or message persistence.
2. IBM MQ queue managers are independent of each other. Therefore system tunable kernel parameters, for example `shmmni`, `semmni`, `semmns`, and `semmnu` need to allow for the number of queue managers in the system. See the HP-UX documentation for information about changing these values.

Name	Value	Increase	Description
`shmmax`	268435456	No	Maximum size of a shared-memory segment (bytes)
`shmseg`	1024	No	Maximum number of shared memory segments per process
`shmmni`	1024	Yes	Maximum number of shared memory segments
`semaem`	128	No	Maximum undo value for a semaphore for a single process
`semvmx`	32767	No	Maximum value of a semaphore
`semmns`	4096	Yes	Maximum number of semaphores
`semmni`	128	Yes	Maximum number of semaphore sets

Name	Value	Increase	Description
semmnu	16384	Yes	Maximum number of process having semaphore operations that can be undone
semume	32	No	Maximum number of semaphore undo operations per process
max_thread_proc	66	No	Maximum number of threads in a process
maxfiles	10000	No	Maximum number of file handles per process (soft limit)
maxfiles_lim	10000	No	Maximum number of file handles per process (hard limit)

Table 1. Minimum tunable kernel parameters values

Notes

- These values are sufficient to run two moderate sized queue managers on the system. If you intend to run more than two queue managers, or the queue managers are to process a significant workload, you might need to increase the values displayed as *Yes* in the *Increase* column.
- You must restart the system after you change any of the tunable kernel parameters.

System resource limits

You can set global limits for the size of process data segments and the size of process stack segments for the whole system. These limits are set by altering the tunable kernel parameters.
The tunable kernel parameters are:

Parameter	What it controls	Consider minimum value
maxdsiz	Maximum size of the data segment for 32-bit processes	1073741824
maxdsiz_64bit	Maximum size of the data segment for 64-bit processes	1073741824
maxssiz	Maximum size of the stack segment for 32-bit processes	8388608
maxssiz_64bit	Maximum size of the stack segment for 64-bit processes	8388608

If other software on the same machine needs higher values, then the operation of IBM MQ is not adversely affected if those higher values are used.
For the full documentation for these parameters see the HP-UX product documentation.
To apply the settings to an HP-UX 11i system which has the System Administration Manager (SAM) utility, you can use SAM to achieve the following steps:

- Select and alter the parameters
- Process the new kernel
- Apply the changes and restart the system

Other releases of HP-UX might provide different facilities to set the tunable kernel parameters. Consult your HP-UX product documentation for the relevant information.

The `ulimit` shell command

On a per-shell basis, the available limits can be tuned down from the values stored for the System resource limits preceding parameters. Use the **`ulimit`** shell command to tune the values of the parameters with a combination of the following switches:

Switch	Meaning
-H	The hard limit
-S	The soft limit
-d	The data segments size
-s	The stack segment size

Verifying that the kernel settings are applied

You can verify that the resource limits have not been lowered by a **`ulimit`** command and that the queue manager has the correct limits. To verify the limits, go to the shell from which the queue manager is started and enter the following command:

```
ulimit -Ha
ulimit -Sa
```

Among the console output you see:

```
data(kbytes)  1048576
stack(kbytes) 8192
```

If the lowered numbers are returned, then a **`ulimit`** command has been issued in the current shell to reduce the limits. Consult with your system administrator to resolve the issue.

You can check your system configuration using the mqconfig command or by using the MQ menu /apps/opt/mqm/adm/menu and select to check kernel parameters.

For more information on configuring your system, see How to configure UNIX and Linux systems for WebSphere MQ.

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		

Group	Product	Notes
application is running in one of the listed transaction manager environments, it is recommended that you contact the transaction manager vendor in the first instance for support. 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. 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		Oracle WebLogic Server 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)	

Group	Product	Notes
Databases Databases for use with WebSphere MQ Managed File Transfer component. 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 10.5 (overview) (support)	
	DB2 Advanced Enterprise Server Edition 10.1 (overview) (support)	
	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 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	IBM Runtime Environment, Java Technology Edition 5.0 and future fix packs	FIPS 140-2 compliance is only supported on IBM JREs. AMS support for applications using client connections is only supported on IBM JRE. 32-bit and 64-bit are supported. Transport for SOAP support

Group	Product	Notes
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 supported Java runtime. 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.		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 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 7.0 and future fix packs	FIPS 140-2 compliance is only supported on IBM JREs. 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
Resource Managers (when MQ is the Transaction Manager) 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	DB2 Advanced Enterprise Server Edition 10.5 and future fix packs (overview) (support)	Only 64-bit DB2 instances can be used with 64-bit 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	Only 64-bit DB2 instances can be used with 64-bit

Group	Product	Notes
through the Java EE Connector Architecture (JCA) resource adapter, which can only be used with a suitable application server environment. Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Co-ordinator. However it is not possible to participate in a JTA style transaction.	future fix packs (overview) (support)	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 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

Group	Product	Notes
		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 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.	Sterling Connect:Direct for UNIX 4.1 and future fix packs (overview) (support)	
4690 From WebSphere MQ V7.5.0.2 onwards Manager File Transfer supports IBM 4690 as a client platform.	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
	IBM 4690 Operating System Release Version 6 Release 3	Supported version of Java: IBM Runtime Environment, Java Technology Edition 6.0 and future fix packs
Transaction Manager 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. For more detailed information on	Oracle Tuxedo 10.3 and future fix packs	
	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

Group	Product	Notes
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. Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Co-ordinator. However it is not possible to participate in a JTA style transaction. COM+/MTS provided with Microsoft Windows may also be used as a Transaction Manager.		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 Requirements for WebSphere MQ V7.5 Telemetry document for further information.
Virtualization Supported virtualization products, in addition to the virtualization notes at the top of the page.	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
	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	Installing WebSphere MQ in AIX Workload Partitions

Group	Product	Notes
	and fix packs	
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.	WebSphere MQ 7.0.1.6 and future fix packs (overview) (support)	

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**)
RUNMQLSR=(***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:KEEPALIVE=**(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 than1 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.

***SSLSTANZA OCSPAuthentication=OPTIONAL** (used for SHA2 certs)

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 bring 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          **

**  R) Run RUNMQSC COMMANDS                                    **
**                                                               **
 ***************************************************************

 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.