IBM WebSphere MQ for z/OS V7.0.1 delivers storage and memory improvements and increased availability for queue-sharing groups

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At a glance

IBM® WebSphere® MQ for z/OS® V7.0.1 further enhances IBM SOA™ Messaging for z/OS on IBM System z®. Enhancements include:

- Extended use of 64-bit storage
- Log compression
- Group units of recovery
- Enhanced IMS™ Adapter usage

Overview

WebSphere MQ for z/OS delivers SOA Messaging for z/OS on System z with a robust transport that enables flexible and reliable messaging for applications, applications including Web services and Web 2.0. It delivers market-leading Java™ Message Service (JMS) and publish and subscribe capabilities.

WebSphere MQ for z/OS is the market-leading family of message-oriented middleware products that is relied on as a proven messaging backbone for almost 10,000 organizations of different sizes, spanning many industries around the world.

In June 2008, WebSphere MQ for z/OS V7.0 delivered significant enhancements to SOA Messaging, including JMS ease-of-use and performance, new publish-subscribe support, new message queue interface (MQI) capabilities, and HTTP bridging for Web 2.0 applications.

WebSphere MQ for z/OS V7.0.1 further enhances the V7 version with additional features that can help relieve resource constraints, reduce total cost of ownership, and enable better use of existing investments.

You can obtain the enhancements in this modification as follows:

- If you are currently using WebSphere MQ for z/OS V6.0, you can migrate directly to WebSphere MQ for z/OS V7.0.1 without migrating to V7.0 first.
- If you order WebSphere MQ for z/OS V7.0, you will receive V7.0.1-level product media following general availability.
WebSphere MQ for z/OS V7.0.1 queue managers and clients interoperate with queue managers and clients from any previous level of WebSphere MQ and MQSeries® products. You may need to upgrade previous queue managers, clients, or both to take advantage of new features in WebSphere MQ for z/OS V7.0.1.

Key prerequisites

For a comprehensive list of prerequisites, visit


Planned availability date

September 25, 2009

Description

WebSphere MQ for z/OS delivers SOA Messaging for z/OS on System z. This V7.0.1 modification of the product further enhances V7 with new features that can help relieve resource constraints, reduce total cost of ownership, and enable better use of existing investments.

Extended use of 64-bit storage

WebSphere MQ for z/OS V7.0.1 extends the use of 64-bit storage first introduced in V7 where 64-bit storage was exploited for storing artefacts such as the topic tree that is related to the new publish-and-subscribe messaging support. WebSphere MQ for z/OS V7.0.1 now also exploits 64-bit storage to provide additional constraint relief. This eliminates the need to store even more artefacts within the 2-gigabyte address space of the z/OS queue manager, relieving the virtual storage available.

WebSphere MQ for z/OS V7.0.1 uses 64-bit storage for storing:

- Locks used in transactions (units of recovery)
- Indexes created to access messages within queues
- Caches of user ID security authorizations to queue managers

To take advantage of 64-bit storage constraint relief in these areas, users should adjust the MEMLIMIT in their queue manager procedure (PROC) to be above 2 gigabytes.

Log compression

WebSphere MQ for z/OS V7.0.1 can help increased performance and log bandwidth with a new log compression feature. This can reduce the size of message logs that are produced when used by persistent messages, which in turn can increase persistent messaging throughput and reduce storage requirements. The new log compression feature uses run-length encoding (RLE) and can help reduce the size of structured data. Enabling log compression is optional. Log compression does not compress shared queue log records.

Group units of recovery

WebSphere MQ for z/OS V7.0.1 can help increase the resilience of SOA messaging. This update also enables queue sharing groups (QSGs) to collectively own transactional client units of recovery rather than only being owned by an individual queue manager in that group. When shared across a queue sharing group, these are referred to as group units of recovery. This can help increase the availability and resilience of a solution, because any queue manager in the queue sharing group can resolve "in-doubt" units of recovery produced by transactional clients. This feature
enables WebSphere MQ Extended Transactional Clients to connect to other queue managers in a queue sharing group to continue processing their unit of recovery. (The Client Attachment Feature is required to connect Extended Transactional Clients.)

**Platform interoperability**

With the introduction of multi-instance queue managers and the client reconnection facility in WebSphere MQ V7.0.1 on distributed platforms, z/OS queue managers can connect to such a queue manager by providing multiple connection names on a channel. In addition, z/OS queue managers support the use of reconnectable clients into them.

**Enhanced IMS Adapter support**

WebSphere MQ for z/OS V7.0.1 allows you to change IMS applications to use the WebSphere MQ message property APIs so that IMS applications can communicate with JMS applications.

**Eclipse tooling for z/OS users**

WebSphere MQ on distributed platforms provides graphical configuration tooling, WebSphere MQ Explorer. This Eclipse-based environment enables configuration of all MQ objects and resources, including Java Message Service (JMS), and publish-and-subscribe messaging.

MQ Explorer runs on Microsoft® Windows® or Linux® on x86 machines and can remotely configure MQ networks across the supported platforms. It can be used to remotely configure WebSphere MQ for z/OS, provided this is running V6.0 or later, because it requires the added support for the Programmable Command Format (PCF) administration messages.

MQ Explorer is packaged with WebSphere MQ on distributed platforms. To provide users of WebSphere MQ for z/OS with easy access to this tooling, MQ Explorer is now available for download as a supported (Category 3) SupportPac™.

The MQ Explorer SupportPac (MS0T) is available for download from:

http://www.ibm.com/support/docview.wss?rs=171&uid=swg24021041

**Accessibility by people with disabilities**

A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at


**For software offerings**

The following features support use by people with disabilities:

- Operation by keyboard alone
- Optional font enlargement and high-contrast display settings
- Screen readers and screen magnifiers tested for use by people with visual impairment
- Speech recognition products tested for use by people with mobility impairment
- Optional display of audio alerts for people with hearing impairment

**Product positioning**

The WebSphere MQ family offers the universal messaging backbone for SOA connectivity. It connects new and existing applications, as well as Web services, with reliable messaging and acts as a first step to SOA as a transport layer to underpin
an enterprise service bus (ESB). It delivers assured, reliable messaging -- as well as other qualities of service -- offering choice in the class of delivery.

WebSphere MQ for z/OS supports industry-standard JMS messaging. It enables simple, RESTful access from Web 2.0 to core back-end applications and integrates z/OS applications with virtually any other commercial IT system across more than 80 platform configurations. It also integrates Java Enterprise Edition (JEE) applications, .NET applications, CICS®, IMS, DB2®, and packaged applications.

- WebSphere MQ for z/OS exploits the capabilities of the IBM System z platform to deliver a messaging powerhouse.
- WebSphere MQ extends the reliable, proven messaging backbone to virtually any commercial IT system, spanning more than 80 platform configurations.
- WebSphere MQ for HP OpenVMS, WebSphere MQ for HP NonStop Server, and MQSeries for z/VSE™ all extend the reach of WebSphere MQ to these specific computing platforms.
- WebSphere MQ File Transfer Edition adds file-specific features to the proven WebSphere MQ transport. It delivers a managed file transfer solution that enables the movement of files between IT systems with reliability and without the need for programming.
- WebSphere MQ Extended Security Edition expands the industry-standard security offered by WebSphere MQ for z/OS with end-to-end data protection for your applications. It enables enterprise-wide, remote management of security polices on your MQ network and can be deployed to existing production environments without changes to existing WebSphere MQ applications.
- WebSphere MQ Low Latency Messaging (on Linux, Microsoft Windows, and Solaris platforms) extends the WebSphere MQ product family with low-latency, high-throughput delivery. It is optimized for the high-volume, low-latency requirements typical of financial markets firms and other industries where speed of data delivery is paramount.

The WebSphere portfolio provides additional Connectivity capabilities that can build on, and take advantage of, the SOA Messaging provided by WebSphere MQ:

- WebSphere Service Registry and Repository provides an SOA Repository that can help publish, find, enrich, manage and govern services and policies in your SOA. Using the MQ Service Definition, WebSphere Service Registry and Repository can now be used to govern the lifecycle of MQ applications and messaging services in the same way as for other SOA services.
- WebSphere Message Broker is an ESB built for universal connectivity and transformation in heterogeneous IT environments. It builds on the WebSphere MQ messaging layers with ESB capabilities that add transformation, intelligent routing, and information flow modelling.
  - WebSphere Message Broker Starter Edition is an entry-level starting point to deploy an ESB with the ability to grow as your business needs increase.
  - WebSphere Message Broker for Remote Adapter Deployment enables deployment of adapters with a compact and efficient runtime at an affordable price.
- WebSphere ESB leverages Web services standards and builds on the embedded messaging in WebSphere Application Server. WebSphere MQ extends the reach of this ESB to non-JEE environments and a broader range of platforms.
- WebSphere DataPower® Integration Appliance XI50 offers an ESB in an appliance form factor. It is a 1U (1.75-in thin) rack-mountable network device capable of transforming between disparate message formats, including binary, legacy, and XML, and providing message routing and security. XI50 delivers client connectivity into the WebSphere MQ backbone.
- WebSphere Partner Gateway enables trading partner B2B integration. It provides centralized and consolidated B2B trading partner and transaction management to enable and manage process and data integration with trading partners. It supports standards-based transport protocols such as EDIINT AS1, AS2 or AS3, RosettaNet RNIF 1.1 and 2.0, cXML, CIDX Chem eStandards 4.0, ebXML Messaging Service (ebMS) 2.0 to support the connectivity needs of various trading partners, and FIPS 140-2 enablement to be compliant with the FIPS standard.
• WebSphere DataPower B2B Appliance XB60 provides purpose-built B2B hardware that supports AS2 and AS3 messaging and trading partner profile management in a high-performance demilitarized zone (DMZ)-ready appliance.
• WebSphere DataPower Low Latency Appliance XM70 is a purpose-built Low Latency Messaging hub for simplified deployment, content-based routing and extreme performance.
• WebSphere Transformation Extender is a universal data transformation and validation engine. It helps tackle the challenges of integrating enterprise systems and information with a codeless, graphical approach to development.
• WebSphere Adapters deliver generic technology and business application adapters with wizards that quickly and easily service enable legacy applications, ERP, HR, CRM, and supply chain systems.

In addition, the IBM Tivoli® portfolio offers systems management for large-scale WebSphere MQ solutions. IBM Tivoli OMEGAMON® XE for Messaging can help improve the availability and performance of WebSphere MQ solutions. It can identify common problems and automate corrective actions using predefined industry best-practice situations, while monitoring key WebSphere MQ metrics. IBM Tivoli OMEGAMON XE for Messaging can help improve management of Service Level Agreements (SLAs) by monitoring availability and capacity using real-time and historical data analysis. Out-of-the-box capabilities, such as auto-discovery and monitoring of complex WebSphere MQ environments, can improve IT staff productivity and reduce administration costs.

In addition, SupportPac product extensions offer additional function available as a download from the Internet. Visit http://www.ibm.com/webservemq

A messaging backbone based on WebSphere MQ can help organizations:
• Quickly and economically connect IT systems
• Improve the reliability and accuracy of business data being exchanged
• Become more agile so that IT can be flexible enough to meet changing business demands
• Stay flexible so that IT and organizational changes can be absorbed
• Be better prepared for regulatory compliance and industry initiatives
• Connect the new with the now, leveraging Web 2.0 and Web services while connecting these with the core back-end system messaging

Universal messaging backbone

In an SOA, an ESB delivers an integration layer that mediates, transforms, and enriches data as it is transporting between service components. The transport layer that underpins an ESB layer is a messaging backbone that enables it to move data between those service assets. As a key member of the WebSphere software portfolio, WebSphere MQ delivers a universal messaging backbone that can help you take the first step to SOA.

WebSphere MQ for z/OS enables SOAP interactions to flow over its messaging backbone between Web service requesters and providers. Legacy and batch applications that are Web services-enabled can also benefit from using WebSphere MQ for z/OS in its asynchronous mode as a buffering mechanism to regulate the flow of requests made to these systems. WebSphere MQ for z/OS is the ideal transport for adding reliability and traceability to service interactions, delivering a scalable, reliable, resilient backbone that enables a business-critical SOA.
Hardware and software support services

SmoothStart/installation services

IBM SmoothStart™ and Installation Services are not provided.

Program number

5655-R36

Education support

WebSphere MQ courses will be available, as described at

http://www.ibm.com/services/learning

IBM Global Services, IT Education Services, provides education to support many IBM offerings. Descriptions of courses for IT professionals and managers are on the IBM IT Education Services Web site

http://www.ibm.com/services/learning

Refer to the IBM IT Education Services Web site for information on course locations and availability dates.

Contact your IBM representative for course information.

Technical information

Specified operating environment

Hardware requirements

Any IBM System z processor, capable of running the required level of operating system, that has enough storage to meet the combined requirements of the programming prerequisites, WebSphere MQ for z/OS, the access methods, and the application programs.

Software requirements

- Operating systems
  
  z/OS V1.8 or later 2

  2WebSphere MQ V7.0.1 has a hard prerequisite on z/OS V1.8, so prior versions of z/OS are not supported.

- For C/C++ applications
  
  Any C/C++ compiler that generates calls to WebSphere MQ using the standard linkage convention 3

  3To take advantage of the new Version 7 functionality from a C application, you must use a compiler that supports the long integer type.

- For PL/1 applications
  
  Any PL/1 compiler that generates calls to WebSphere MQ using the standard linkage convention.

- For COBOL applications
  
  Any COBOL compiler that generates calls to WebSphere MQ using the standard linkage convention.
• For Java applications using the WebSphere MQ classes for Java or JMS
  31-bit:
  – IBM SDK for z/OS, Java 2 Technology Edition, Version 1.4.2
  – IBM SDK for z/OS, Java 2 Technology Edition, Version 5.0

4 The ASF adapter is supported on the following 64-bit JREs, when it is loaded into
IBM WebSphere Application Server
  – IBM 64-bit SDK for z/OS, Java 2 Technology Edition, Version 1.4.2
  – IBM 64-bit SDK for z/OS, Java 2 Technology Edition, Version 5.0
  – IBM 64-bit SDK for z/OS, Java 2 Technology Edition, Version 6.0

• Transactions Managers
  IBM CICS
  – CICS Transaction Server (CTS) (5697-E93) V2.3

IBM IMS
  – IMS V8.1 (5655-C56)
  – IMS V9.1 (5655-J38)
  – IMS V10.1 (5635-A01)

• Application Servers
  – WebSphere Application Server, including the WebSphere Application Server
    client container, V6.0.2
  – WebSphere Application Server, including the WebSphere Application Server
    client container, V6.1
  – WebSphere Application Server, including the WebSphere Application Server
    client container, V7.0

• Connectivity
  – TCP/IP: z/OS TCP/IP or any TCP product that supports the z/OS Unix Sockets
    API
  – VTAM®: Included with z/OS

5 Only TCP/IP is supported with the JMS Client and the WebSphere MQ Java Classes.

• Versions of products or components shipped with the product
  JDK: Not applicable
  GSKit: Not applicable

• Other platform specifics
  For shared queues:
  – z/OS V1.8 with Resource Recovery Services (RRS) activated and Coupling
    Facility Level 9
  – IBM DB2 (5625-DB2) V8.1

For Secure Sockets Layer (SSL): z/OS Cryptographic Services Security Level 3
(FMID JCPT381)

Topic security: Users wanting to implement TOPIC security or exploit mixed case
profiles for other MQ objects additionally require either
  – RACF® APAR OA23043 for z/OS 1.8, or
  – z/OS 1.9 or later

• Supported application servers for the WebSphere MQ Bridge for HTTP
  – WebSphere Application Server V6.0.2.1 or later
- WebSphere Application Server V7 or later

The Program Directory shipped with the product contains the latest level of information, including APAR or PTF levels of supported products.

For information on software requirements, visit


**Compatibility**

WebSphere MQ for z/OS V7.0.1 is upwardly compatible with programs written for MQSeries for MVS/ESA™ V1.2, MQSeries for OS/390® V2.1, MQSeries for OS/390 V5.2, WebSphere MQ for z/OS V5.3.1, WebSphere MQ for z/OS V6.0, and WebSphere MQ for z/OS V7.0. Regression testing is performed to ensure compatibility.

**WebSphere MQ platforms**

WebSphere MQ supports more than 80 IBM and non-IBM platform configurations. Some platforms do not support all of the functions available in this product.

**Performance considerations**

Performance information is made available via the WebSphere MQ SupportPac library at

http://www.ibm.com/software/integration/support/supportpacs

**Planning information**

**Customer responsibilities**

In future releases of WebSphere MQ, it is not expected that further enhancements to the programming interfaces to WebSphere MQ will be applied to the C++ API.

SupportPac MAOF -- WebSphere MQ Application Messaging Interface (AMI) -- is planned for withdrawal.

**Packaging**

The following are supplied:

- WebSphere MQ for z/OS V7.0.1 base product on 3480 1/2-inch tape cartridge
- Optionally, if ordered, the Client Attachment feature on 3480 1/2-inch tape cartridge
- One copy of the WebSphere MQ Clients CD-ROMs (LK4T-2618) if the Client Attachment Feature is ordered.
- For WebSphere MQ for z/OS V7.0.1 base product, one copy of each of the following:

<table>
<thead>
<tr>
<th>Title</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebSphere MQ for z/OS Program Directory</td>
<td>GI13-0529</td>
</tr>
<tr>
<td>WebSphere MQ for z/OS License Program Specifications</td>
<td>GC34-6958</td>
</tr>
<tr>
<td>WebSphere MQ Documentation for Windows CD-ROM</td>
<td>SK4T-2617</td>
</tr>
<tr>
<td>WebSphere MQ Documentation for Linux CD-ROM</td>
<td>SK4T-2616</td>
</tr>
</tbody>
</table>

The WebSphere MQ Documentation for Windows CD-ROM (SK4T-2617) and the WebSphere MQ Documentation for Linux CD-ROM (SK4T-2616) are also available as separately orderable items.
Security, auditability, and control

The announced program uses the security and auditability features of the operating system software. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering information

Ordering z/OS through the Internet

ShopzSeries provides an easy way to plan and order your z/OS ServerPac or CBPDO. It will analyze your current installation, determine the correct product migration, and present your new configuration based on z/OS. Additional products can also be added to your order (including determination of whether all product requisites are satisfied). ShopzSeries is available in the U.S., Canada, and several countries in Europe. In countries where ShopzSeries is not available yet, contact your IBM representative (or IBM Business Partner) to handle your order via the traditional IBM ordering process. For more details and availability, visit the ShopzSeries Web site at http://www14.software.ibm.com/webapp/ShopzSeries/ShopzSeries.jsp

Current licensees

Current licensees of WebSphere MQ for z/OS V7.0 will receive this update from IBM Software Delivery and Fulfillment (SDF) automatically. This shipment of release 7.0.1 is scheduled to be completed by October 9, 2009.

New licensees

Shipment will not occur before the availability date.

Parallel Sysplex license charge (PSLC) basic license

To order a basic license, specify the program number and quantity of MSU.

If there is more than one program copy in a Parallel Sysplex®, the charge for all copies is associated to one license by specifying the applicable PSLC license options and quantity represented by the sum of the Service Units in Millions (MSUs) in your Parallel Sysplex. For all other program copies, specify the System Usage Registration no-charge (SYSUSGREG NC) Identifier on the licenses.

<table>
<thead>
<tr>
<th>Entitlement identifier</th>
<th>Description</th>
<th>License option/Pricing metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>S014V9Z</td>
<td>webSphere MQ for z/OS V7.0.1 base product</td>
<td>Basic MLC, PSLC below 3 MSU, Basic MLC, PSLC AD, SYSUSGREG NC, PSLC AD</td>
</tr>
<tr>
<td>S014VB0</td>
<td>webSphere MQ for z/OS V7.0.1 Client Attachment</td>
<td>Basic MLC, PSLC below 3 MSU, Basic MLC, PSLC AD, SYSUSGREG NC, PSLC AD</td>
</tr>
</tbody>
</table>

To order a basic license, specify the program number. Specify the PSLC Base license. If applicable, specify the PSLC Level A and PSLC Level B, and PSLC Level C, and PSLC Level D and quantity.

If there is more than one program copy in a Parallel Sysplex, the charge for all copies is associated to one license by specifying the applicable PSLC feature numbers and quantity represented by the sum of the Service Units in Millions (MSUs) in your Parallel Sysplex. For all other program copies, specify the PSLC no-charge (NC) Identifier on the licenses.
Also, specify the feature number of the desired distribution medium.

**Workload License Charge (WLC) Basic License**

If there is more than one program copy in a Parallel Sysplex, the charge for all copies is associated to one license by specifying the applicable WLC license options and quantity represented by the sum of the Service Units in Millions (MSUs) in your Parallel Sysplex. For all other program copies, specify the Workload Registration Variable WLC Identifier on the licenses.

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<thead>
<tr>
<th>Entitlement identifier</th>
<th>Description</th>
<th>License option/Pricing metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>S014V9Z</td>
<td>WebSphereMQ for z/OS V7.0.1 base product</td>
<td>Basic MLC, Variable WLC Workload Registration, Variable WLC</td>
</tr>
<tr>
<td>S014VB0</td>
<td>WebSphereMQ for z/OS V7.0.1 Client Attachment</td>
<td>Basic MLC, Variable WLC Workload Registration, Variable WLC</td>
</tr>
</tbody>
</table>

**Workload License Charge (WLC) Basic License**

To order a basic license, specify the program number and the quantity of MSUs.

**Entry Workload License Charge (EWLC) Basic License**

To order a basic license, specify the program number and the quantity of MSUs.

To order EWLC software, specify the program number and the EWLC monthly charge license from the following table. Also, specify the orderable supply ID for the desired distribution medium.

<table>
<thead>
<tr>
<th>Entitlement identifier</th>
<th>Description</th>
<th>License option/Pricing metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>S014V9Z</td>
<td>WebSphereMQ for z/OS V7.0.1 base product</td>
<td>Basic MLC, Entry WLC</td>
</tr>
<tr>
<td>S014VB0</td>
<td>WebSphereMQ for z/OS V7.0.1 Client Attachment</td>
<td>Basic MLC, Entry WLC</td>
</tr>
</tbody>
</table>

**S/390 and System z Usage License Charge, basic license**

Specify the applicable S/390® and System z Usage License Charge option.

Charges will be based upon the Peak MSUs. Usage reported between thresholds of features 1, 2, or 3, will be rounded up to the next MSU level. Above 1.0 MSU, usage will be rounded to the nearest whole MSU. For example, 2.4 MSUs would round to 2.0 MSUs for pricing, and 2.5 MSUs would round to 3.0 MSUs for pricing.

The customer pricing will be determined by selecting either:

<table>
<thead>
<tr>
<th>Entitlement identifier</th>
<th>Description</th>
<th>License option/Pricing metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>S014V9Z</td>
<td>WebSphereMQ for z/OS V7.0.1 base product</td>
<td>0 to 0.25 MSU Base 0.26 to 0.5 MSU Base 0.51 to 1.0 MSU Base</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Level A Chg/MSU (2 to 11 MSUs) Level B Chg/MSU (12 to 44 MSUs) Level C Chg/MSU (45 to 78 MSUs) Level D Chg/MSU (Above 78 MSUs) per 50 MSUs</td>
</tr>
<tr>
<td>Entitlement Identifier</td>
<td>Description</td>
<td>License Option/Pricing Metric</td>
</tr>
<tr>
<td>------------------------</td>
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<td>-------------------------------------------</td>
</tr>
<tr>
<td>S014V80</td>
<td>WebSphere MQ for z/OS V7.0.1 Client Attachment</td>
<td>0 to 0.25 MSU Base</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.26 to 0.5 MSU Base</td>
</tr>
<tr>
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<td></td>
<td>Level C Chg/MSU (45 to 78 MSUs)</td>
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<tr>
<td></td>
<td>Level D Chg/MSU (Above 78 MSUs)</td>
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<tr>
<td></td>
<td>per 50 MSUs</td>
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</tbody>
</table>

Examples for ordering:

A customer with a measured usage (from the IBM Measured Usage report) of 0.3 MSU would:

Order quantity 1 of the 0.26 to 0.5 MSU base feature

A customer with 6.6 MSUs (from the IBM Usage report) would:

Be rounded up to 7.0 MSUs

Order quantity 1 of the "0.51 to 1.0 MSU" base feature

Order quantity 6 of the Level A 1 MSU feature

A customer with 15 MSUs (from the IBM Usage report) would:

Order quantity 1 of the "0.51 to 1.0 MSU" base feature

Order quantity 10 of the Level A 1 MSU feature

Order quantity 4 of the Level B 1 MSU feature

A customer with 50 MSUs (from the IBM Usage report) would:

Order quantity 1 of the "0.51 to 1.0 MSU" base feature

Order quantity 10 of the Level A 1 MSU feature

Order quantity 33 of the Level B 1 MSU feature

Order quantity 6 of the Level C 1 MSU feature

A customer with 85 MSUs (from the IBM Usage report) would:

Order quantity 1 of the "0.51 to 1.0 MSU" base feature

Order quantity 10 of the Level A 1 MSU feature

Order quantity 33 of the Level B 1 MSU feature

Order quantity 34 of the Level C 1 MSU feature

Order quantity 7 of the Level D 1 MSU feature
**Growth opportunity license charge (GOLC)**
To order a basic license, specify the program number and the correct level.
Specify the GOLC monthly license option.

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>S014V9Z</td>
<td>WebSphere MQ for z/OS V7.0.1 base product</td>
<td>Basic MLC, GOLC</td>
</tr>
<tr>
<td>S014V80</td>
<td>WebSphere MQ for z/OS V7.0.1 Client Attachment</td>
<td>Basic MLC, GOLC</td>
</tr>
</tbody>
</table>

Also, specify the orderable supply ID for the desired distribution medium.

**System z entry license charge (zELC)**
To order zELC software, specify the program number and z800 model.
Specify the zELC monthly license option.

<table>
<thead>
<tr>
<th>Entitlement identifier</th>
<th>Description</th>
<th>License option/Pricing metric</th>
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<tr>
<td>S014V9Z</td>
<td>WebSphere MQ for z/OS V7.0.1 base product</td>
<td>Basic MLC, zELC</td>
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<tr>
<td>S014V80</td>
<td>WebSphere MQ for z/OS V7.0.1 Client Attachment</td>
<td>Basic MLC, zELC</td>
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</table>

Also, specify the orderable supply ID for the desired distribution medium.

**Basic machine-readable material**

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<th>Orderable Supply ID:</th>
<th>Language</th>
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<td>S014T15</td>
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**Note:** Additional media type selections (3480 compressed, 3490E, 3590, and 3592) are offered during Custom Build Offering ordering.
**Selected Application License Charge (SALC) license**

To order a license, specify the program number and quantity of MSU.

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</table>

**Publications**

No publications are shipped with the announced product.

A Program Directory and Licensed Program Specifications document are supplied automatically with the basic machine-readable material.

**Displayable softcopy publications**

WebSphere MQ manuals are offered in displayable softcopy form. All unlicensed manuals are included. The displayable manuals are available at no charge.

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<td>WebSphere MQ for z/OS V7.0.1 Documentation for Linux on x86</td>
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<td>S014T18</td>
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Terms and conditions for use of the machine-readable files are shipped with the files.

The WebSphere MQ publications are available in the WebSphere MQ Information Center.

Refer to the IBM Publications Center Web site for more information about publication ordering.


Subsequent updates (technical newsletters or revisions between releases) to the publications shipped with the product will be distributed to the user of record for as long as a license for this software remains in effect. A separate publication order or subscription is not needed.

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Product deliverables are shipped only via Customized Offerings (for example, CBPDO, ServerPac, SystemPac®).
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http://www.software.ibm.com/ShopzSeries

Media type for this software product is chosen during the customized offerings ordering process. Based on your customer environment, it is recommended that the highest possible density tape media is selected. Currently offered media types are:

- CBPDOs - 3480, 3480 Compressed, 3490E, 3590, and 3592*
- ServerPacs - 3480, 3480 Compressed, 3490E, 3590, and 3592*
- SystemPacs - 3480, 3480 Compressed, 3490E, 3590, and 3592*

*3592 is highest density media. Selecting 3592 will ship the fewest number of media.

Once a product becomes generally available, it will be included in the next ServerPac and SystemPac monthly update.

Production of software product orders will begin on the planned general availability date.

- CBPDO shipments will begin one week after general availability.
- ServerPac shipments will begin two weeks after inclusion in ServerPac.
- SystemPac shipments will begin four weeks after inclusion in SystemPac due to additional customization, and data input verification.

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