IBM

Licensed Program
Specifications

MQSeries® for OS/390®
Version 5 Release 2
Program Number 5655-F10

IBM® MQSeries for OS/390 Version 5 Release 2 implements the level of the Message Queue Interface (MQI) defined by IBM in the *MQSeries Application Programming Reference* manual, SC33-1673.

MQSeries for OS/390 provides:

- An OS/390 subsystem that supports the transfer of messages across OS/390 address spaces and to other MQSeries products on both IBM and non-IBM platforms. Those platforms include AIX®, AS/400®, OS/2®, VSE/ESA™, HP-UX, Sun Solaris, Windows NT®, Tandem NonStop Kernel, Compaq Tru64 UNIX, Compaq OpenVMS (VAX and AXP), and Linux, using the SNA LU 6.2 or TCP/IP communications protocols. Code-page conversion of message data is supported.

- A means of delivering messages safely across points in an MQSeries network. If a message cannot be delivered, it is not discarded; it is placed on a *dead-letter queue* on nonvolatile storage.

- Communication between programs that operate under CICS® for MVS/ESA™, CICS Transaction Server for OS/390, IMS™, batch (including RRS and OpenEdition®), and TSO, and to programs on other platforms.

- A base for the message-driven processing style of programming, which allows for the rapid design, development, and deployment of business applications.

- A reduced dependency on communication protocols programming skills, allowing businesses to focus on developing the applications they really need.

- Time-independent processing, where applications that request other applications to do work for them do not have to wait for the reply.

- A way of allowing different processes within the same application to run in parallel, with the results brought together at completion.

- A way of connecting MQSeries queue managers to form a *cluster* of queue managers. Within a cluster, queue managers can make the queues they host available to every other queue manager. Any queue manager can send a message to any other queue manager in the same cluster without the need for explicit channel definitions, remote queue definitions, or transmission queues for each destination.

- Support for the OS/390 Automatic Restart Manager (ARM), which can restart automatically any MQSeries queue manager or channel initiator that fails on the same OS/390 image. By removing the need for operator intervention, OS/390 ARM improves the availability of your MQSeries subsystems.

- Support for OS/390 Resource Recovery Services (RRS), so that MQSeries batch and TSO applications can participate in two-phase commit protocols with other RRS-enabled products, such as DB2®, coordinated by the OS/390 RRS facility.

- An MQSeries-CICS bridge, which enables MQSeries applications not running in a CICS environment to run a program or transaction on CICS and receive a response.

- An MQSeries-IMS bridge, which allows direct access from MQSeries applications to applications on an IMS system. The MQSeries-IMS bridge is an IMS Open Transaction Manager Access (OTMA) client.

- An Internet Gateway which, together with Web server software, provides an Internet-connected Web browser with access to MQSeries applications.

- An optional Client Attachment feature, which supports attachment of MQSeries client systems to MQSeries for OS/390 server systems.

MQSeries for OS/390 V5.2 is a new version for the OS/390 platform. It offers the following functional enhancements over MQSeries for OS/390 V2.1:

- Queue-sharing groups

  If your queue managers are on the same parallel sysplex, you can group them together into a queue-sharing group. This allows you to define an MQSeries object once on one queue manager, and use that object definition on other queue managers that are members of the queue-sharing group. The object definition is stored in a shared DB2 database. The queue managers in the group can share queues, which are stored in the OS/390 coupling facility. You can send messages quickly between queue managers in a queue-sharing group without setting up transmission queues and channels.

- Shared channels

  You can define channels as being shared; this provides workload balancing with high availability. An outbound shared channel can be started on any channel initiator within a queue-sharing group, so MQSeries can select the channel initiator that has the lowest workload. Each channel initiator in the queue-sharing group can listen on a generic port as well as on a specific port. This means that an inbound request can be dispatched to any of the channel initiators that are listening to the generic port.

- Security profiles

  You can use one set of security profiles to control security for all the queue managers in a queue-sharing group.

- Improved statistics gathering

  You can now gather performance statistics for the new Coupling Facility manager and the DB2 manager. You can now gather accounting data at the queue and the thread level.

- Dead-letter queue processing

  There is a new utility to process messages on the dead-letter queue.

- Application programming

  MQSeries messages on OS/390 can now be up to 100 MB long.

  There is a new, simple Application Messaging Interface (AMI) that application programmers can use to write MQSeries applications. This allows them to write applications without having to learn all the features provided by the full Message Queue Interface (MQI).

- New commands

  There are new commands that you can use to find out which applications are using a queue.

Specified operating environment

Year 2000 readiness

This IBM Program, when used in accordance with its associated documentation, is capable of correctly processing, providing, and/or receiving date data within and between the twentieth and twenty-first centuries, provided that all products (for example, hardware, software, and firmware) used with this IBM Program properly exchange accurate date data with it.

Machine requirements

MQSeries for OS/390 runs on any IBM System/390® or IBM eServer zSeries 900 (z900) processor that is capable of running the required level of operating system and that has enough storage to meet the combined requirements of the programming prerequisites, MQSeries for OS/390, the access methods, and the application programs.

To use variable-workload license charging, you need:

- IBM eServer zSeries 900 (z900)

Programming requirements

Software release levels included here are *minimum* requirements only. Later releases, if any, may be used, unless otherwise stated. Refer to the MQSeries for OS/390 V5.2 *Program Directory* for an up-to-date list of prerequisite APARs for these program products.

MQSeries for OS/390 Version 5 Release 2 requires:

- OS/390 Version 2.6 (5647-A01)

For MQSeries applications using CICS, you need either CICS for MVS/ESA Version 4.1 (5655-018) or CICS Transaction Server for OS/390 (5655-147).

For MQSeries applications using IMS, you need IMS (5695-176), Version 5 Release 1 or later.

MQSeries for OS/390 uses the SNA LU 6.2 and TCP/IP communications protocols. Instead of the TCP/IP function provided with OS/390 Version 2.4 and later, you can use SOLVE:TCPaccess Version 4.1 or later from Computer Associates, Inc.

Requirements when using queue-sharing groups: To use queue-sharing groups, you need:

- Coupling Facility, Level 9
- DB2, Version 5.1
- OS/390, Version 2.9 or later

Workload Manager requirements: To use the OS/390 Workload Manager, you need:

- MQSeries Workflow (5655-A96), Version 3.1 or later

CICS bridge (3270 transactions) requirements: To use the CICS bridge, you need:

- CICS Transaction Server, Release 2 or later

Internet Gateway requirements: To use the Internet Gateway, you need:

- Internet Connection Secure Server, Version 2.2
- Java, Version 1.1.1
- A Web browser that supports HTML, Version 3.2 or later

Programming languages and compilers:
MQSeries for OS/390 functions can be invoked by application programs that use standard OS/390 call interfaces. The following programming languages and compilers are supported:

- IBM High Level Assembler (5696-234), Version 1.2 or later
- IBM OS/390 C/C++ (5647-A01)
- COBOL:
  - IBM COBOL for OS/390 and VM (5688-197)

  or
  - IBM SAA AD/Cycle® COBOL/370™ (5688-197)

  or
  - IBM COBOL for MVS™ and VM (5688-197)

  or
  - VS COBOL 2, Version 4
- PL/I:
  - IBM SAA AD/Cycle PL/I for MVS and VM (5688-235)

Optional features

CICS mover feature: The optional CICS mover feature (also known as the 'distributed queuing with CICS' feature) supports the use of CICS intersystem communication (ISC) for distributed queuing. You can use this in place of the distributed queuing facility (the channel initiator) supplied with the base MQSeries for OS/390 product. However, the CICS mover feature is retained only for compatibility with previous releases, and there will be no enhancements to it. For distributed queuing, you are recommended to use the channel initiator.

Client support: MQSeries for OS/390 Version 5 Release 2 systems that implement distributed queuing without CICS can attach MQSeries clients using the optional Client Attachment feature. Customers must install the Client Attachment feature separately.

Licensed program materials availability

Restricted materials

Yes. This licensed program is available with source licensed program materials for some modules designated as "RESTRICTED MATERIALS OF IBM". In addition, some modules are available without source licensed program materials. These modules are available in object code.

Supplemental terms

Designated machine identification

Designated Machine Identification Required: Yes

Testing period

Yes

   Basic License: Two months
   DSLO License: Not applicable

Installation/location license

Not applicable. A separate license is required for each machine on which the licensed program will be used.

Usage restriction

Not applicable.

Type/duration of program services

Central service, until discontinued by IBM with a minimum of twelve months written notice.

Warranty

This program is warranted as specified in the IBM license.

Licensed Program Specifications may be updated from time to time and such updates may constitute a change in specifications.

For Distributed Systems License Option (DSLO) Licenses, warranty service, if any, will be provided only through the Basic License location.

Following the discontinuance of all program services, this program will be provided "As Is" as specified in the IBM license.

GC34-5893-00