IBM MQSeries Family Overview

Overview

Elements of the MQSeries® Family

- MQSeries
- MQSeries Integrator
- MQSeries Workflow

New for the MQSeries Family

Visual integration with GUI means you define connections for your business.

- Substitutes middleware for programming, minimizing the need for programming and skill levels
- Introduces two new high-level application program interfaces (API):
  - Common Message Interface (CMI) for logical message construction in eXtensible Markup Language (XML), record or other format
  - Application Messaging Interface (AMI) that moves application message handling logic into the middleware layer providing programmer off-load services for message delivery and enterprise policy handling
- Uses a rich range of tools, GUI, message dictionaries, and enables third-party plug-ins
- Maintains consistent information within and between enterprises, spanning the divide between business processes
- Uses familiar SQL mechanisms to define integration logic and message flow
- Offers non-programmers a graphical palette and sequence/decision connections

Customer investment is protected, for example:

- MQSeries Integrator V1 is included in V2, which is an evolutionary step forward
- The existing MQSeries publish/subscribe offering is compatible with the MQSeries Integrator V2 publish/subscribe function
- New APIs, the AMI, and CMI to simplify handling information and messages
- Support for Java™ Message Service (JMS) and XML
- Version 2 of MQSeries Integrator on AIX®, and Windows NT® reacts to business events and will become available on OS/390®, HP-UX and Sun Solaris
- New platforms
  - MQSeries messaging extends to Solaris on Intel and IBM intends to extend it to Tru64 UNIX®, Linux, and mobile users
  - MQSeries Integrator extends to AS/400® and OS/390
  - MQSeries Workflow supports HP-UX and Sun Solaris
- Version 5.1 function introduced on AS/400
- Version 3.2 of MQSeries Workflow offers Java APIs to drive e-business workflows
- Improved ease-of-use and efficiency

At a Glance

IBM takes the next step in business integration.

Significant new additions to the MQSeries family:

- Provide consistent information within and between enterprises
- Span the divide between business processes
- Simplify business integration
- Offer protection from complexity
- Improve business partner opportunity
- Lead to more effective customer solutions

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Application Messaging Interface (AMI), V1.0 will be available from the Web by September 30, 1999, for Windows NT, AIX, Sun Solaris and HP-UX. Support of OS/390 is the subject of an IBM statement of direction. The AMI simplifies programming by moving many functions normally performed by messaging applications into the middleware layer, where a set of policies defined by the enterprise is applied on the application’s behalf. Policies hold details of how messages are to be handled, for example:

- Priority
- Confirmation of delivery
- How retries are to be dealt with
- Expiry

IBM provides a suite of common policies, and an open policy handler framework that allows additional policies to be created by third-party software vendors or by the enterprise.

Using the AMI and its policy handler framework, the programmer generally deals with just three concepts:

1. **Message**, a definition of what is being exchanged and can be structured or free form.
2. **Service name**, to whom the message is addressed. This could represent an MQSeries queue, but is a more general concept that the underlying middleware could represent in a different way.
3. **Policy name**, the name of the policy that specifies how the message is to be handled. Any number of applications can use the same policy.

Common Message Interface (CMI), V1.0 is the subject of an IBM statement of direction. It is a message construction API, used in conjunction with a message delivery API such as the Message Queuing Interface (MQI), AMI, or JMS. It dynamically constructs and parses messages, interrogating, and modifying them as appropriate. It provides comprehensive support for XML messages, and it can use a message dictionary (supplied with the product) to validate message formats or substitute default field values.

**Standard Interfaces**

Java Message Service (JMS) is the Java-standard API for Enterprise Messaging Services.

JMS implementation for MQSeries V5.1 will be available from the Web by September 30, 1999, and allows applications to be written to the JMS API. These applications can then communicate with:

- Other MQSeries JMS applications
- Applications written to the MQI
- AMI

eXtensible Markup Language (XML) is an industry-wide standard for self-defining messages, now used by the MQSeries Family. Using XML, MQSeries messages can start MQSeries Integrator or MQSeries Workflow activities. XML enables for diverse systems and databases to understand each others’ data (for example, to identify the fields). XML defines both content and an indication of role of that data (for example, street name).

**MQSeries Integrator**

MQSeries Integrator V2.0 for AIX and Windows NT, a second generation message broker:

- Is compatible with, and a major advancement from, MQSeries Integrator V1
- Has evolved into an open framework of brokering componentry that can combine built-in processing components with those from third-party software vendors or the enterprise
- Can merge information from relational databases

MQSeries Integrator V2.0 graphical tools helps you construct how critical data or business events are handled, by

- Wiring together a sequence of processing function to dynamically manipulate and route messages
- Combining messages with data from corporate databases
- Warehousing in-flight message data for auditing or subsequent analysis
- Distributing information efficiently to subscribing applications

It exploits and complies with industry standards such as SQL and XML.

Message formats can be defined through a dictionary, either the one supplied with the product, the MQSeries Integrator V1 compatible dictionary, or a third-party dictionary enabled by a vendor.

MQSeries Integrator V2.0 has a publish/subscribe service compatible with the MQSeries base publish/subscribe function and includes significant enhancements such as:

- Routing a message to interested subscribers on both the message topic and content
- Authorization based on multiple levels of the topic name
- Support for more flexible topologies of publish/subscribe brokers
- A graphical tool for defining publish/subscribe broker topology

Messages using any code page can flow through the system.

MQSeries Integrator V1.1 is a no-charge refresh to the existing Windows NT, AIX, Sun Solaris and HP-UX supported platforms. It also extends to two new platforms, OS/390 and AS/400. V1.1 benefits:

- Improved GUI enables the user to be more selective when viewing the components that make up a format
- New find, browse, and improved import/export functions
- New usability for working with rules and formats, enhancements to serviceability, performance, and scalability, and information about message type and encrypted passwords
- Visual tester included

MQSeries Integrator for AS/400 and DB2®, V1.1 and MQSeries Integrator for OS/390 and DB2, V1R1 are message brokers that join the other key platforms on which MQSeries Integrator runs. MQSeries users can implement powerful, real-time application-to-application message transformation and intelligent routing capabilities quickly and easily.
MQSeries (Messaging and Queuing)

MQSeries for AS/400, V5.1 joins the other MQSeries V5.1 products and benefits from:

- Dynamic workload distribution
- Simplified administration across queue clusters or groups
- Larger queue and message sizes
- The most advanced commercial messaging function available today
- The AS/400 hallmarks of:
  - Ease-of-use
  - Reliability
  - Scalability
- MQSeries base publish/subscribe function that enables people and applications to receive information on their chosen topics. This function will be available from the Web by March 31, 2000. Without this function, publish/subscribe is possible provided it is part of an MQSeries network containing a publish/subscribe broker function

Functional parity offers even tighter business integration for your IT systems. You are better positioned to incorporate future enhancements in MQSeries.

MQSeries for Solaris on Intel, V5.0 is added to the extensive list of platforms supported by MQSeries. It is available as a fully supported PRPQ 7J0413, with some restrictions. Publish/subscribe is possible provided it is part of an MQSeries network containing a publish/subscribe broker function.

MQSeries for Linux, V5.1 and MQSeries for Tru64 UNIX, V5.1 illustrate the MQSeries commitment to consistent support across numerous platforms and are the subjects of IBM statements of direction.

MQSeries Workflow

MQSeries Workflow for Sun Solaris, HP-UX, V3.2 further enhances the IBM Business Integration strategy and expands the platform support and includes workflow server, database, and client support for Windows NT, OS/2®, AIX, HP-UX, and Sun Solaris.

MQSeries Workflow for OS/390, V3R2 is a new release level which includes workflow server, database, and client support for OS/390, and plug-in application support for CICS® and IMS™.

The V3.2 products support the workflow Buildtime environment, and workflow client and application connectivity on Windows™ 95, Windows 98, Lotus Notes®, Java, and MQSeries. New function includes:

- Support of e-business via Java enables you to expand business processes into the intranet and Internet. End users can start processes and access worklists from the Internet. This new customer relationship management (CRM) means that the external end user can become part of an internal overall business process flow.
- A process monitor GUI displays the status of running processes. The status of processes, activities, and work assignments can help to improve customer response.
- Buildtime enhancements provide multi-user access, enterprise modelling capabilities, printing of process models, and general performance improvements.

- Advanced server configuration support through access of multiple server systems to a common DB2 database. Customers with high performance requirements can scale via hardware.
- RAS enhancements can increase flexibility for configuration via GUI functions and HACMP support.
- Greater integration with other MQSeries family products with message-based access to workflow function via an XML interface allows customers to send MQSeries messages to start MQSeries Workflow processes. In addition, MQSeries Workflow can send MQSeries messages to MQSeries Integrator or other MQSeries based applications enabling workflow to be used to control enterprise application integration.

Usability Enhancements to MQSeries

New APIs, tools, graphical interfaces, simple installation and configuration, and greater platform consistency join to make your programmers more productive.

Performance of Existing MQSeries Products

Dynamic workload distribution, known as queue manager clusters, supported by MQSeries V5.1 on AIX, Windows NT, OS/2, Sun Solaris, HP-UX, and AS/400, and MQSeries for OS/390, V2R1, provides efficient use of available resources on parallel and clustered processors. An MQSeries SupportPac™ (MP73) entitled — MQSeries for Windows NT, V5.1 — Queue Manager clusters performance report — demonstrates the very high scalability with up to 100 nodes. A parallel processing efficiency of at least 80% has been seen.

Original Equipment Manufacturer (OEM)

MQSeries technology is available to qualified OEMs for product integration via the IBM OEM organization. Prospective OEMs can discuss details of the arrangement by contacting the IBM OEM Worldwide Software Sales team via the following e-mail address:

ibmoemsw@austin.ibm.com

Year 2000

These products are Year 2000 ready. Refer to related Software Announcements.

Product Positioning

The MQSeries family is a key technology for e-business, and the key-stone technology for business integration. There are three members of the family:

MQSeries (Messaging and Queuing) is IBM’s industry-leading, messaging-oriented middleware:

- Enables diverse applications to communicate reliably, with enterprise-level performance, over more than 35 platforms
- Leads the market with over 65 percent market share

MQSeries Integrator (Message Brokering) is IBM’s leading, message broker middleware:

- Full compatibility with MQSeries Integrator V1
- Major enhancements in breadth of integration coverage and new visual tool support
- Open architecture for customer and partner plug-ins
MQSeries Workflow is IBM’s industry-leading, message-based workflow middleware:

- Application-to-application and application-to-people workflow
- Enterprise scale, transactional operation leveraging DB2 Universal Database®
- Build time, run time, and administrative facilities, compatible with workflow coalition model

The MQSeries family stays ahead of your business integration needs. Smarter products help the thorough and dynamic exploitation of enterprise information to give employees, applications, business partners, suppliers, and customers timely, tailored information.

For programmers, MQSeries simplifies the connection between applications on different computing platforms. Applications need not know each other. Your business need determines the coupling between applications.

The MQSeries family takes the hard work and risk out of business integration. Capture your working methods and apply them, ensuring business processes continue to run with maximum efficiency.

Statement of Direction

IBM will further extend the business integration capabilities and platforms supported by the MQSeries family with the announcement of its intention to deliver the following:

1. MQSeries CMI to provide message construction and parsing capabilities
2. MQSeries AMI on OS/390
3. MQSeries Integrator for OS/390, V2
4. MQSeries Integrator for Sun Solaris, V2.0
5. MQSeries Integrator for HP-UX, V2.0
6. MQSeries for Linux, V5.1
7. MQSeries for Compaq Tru64 UNIX, V5.1
8. MQSeries lite for Windows and pervasive computing:
   IBM is working with both hardware and software vendors to bring the benefits of the MQSeries family to lightweight devices for mobile users as part of its Pervasive Computing Initiative.

9. IBM will further extend the Business Integration Tooling (initially introduced with MQSeries Integrator V2.0) to allow customers to have a common set of tools to define Business Integration assets such as messages, dataflows, and control flows. These will be managed and run in the following environments:
   - MQSeries Workflow
   - Corepoint Host Connection for OS/390

All information being released represents IBM’s current intention, is subject to change or withdrawal, and represents goals and objectives.

Reference Information

Refer to the following Software Announcements, dated June 15, 1999, for details:

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Education Support

Education will be delivered internationally under the IBM Training Partner Program. For details refer to:

http://www.training.ibm.com

Refer to the MQSeries Web page for MQSeries family courses and follow the links to Education to access MQSeries family education, professional certification, and computer-based training (CBT).

Cross-platform courses are available from IBM Learning Services. To determine course availability, refer to:

http://www.training.ibm.com/ibmedu/

Under — Learning Worldwide — choose a country then on the country-specific page follow instructions to select — MQSeries.

Consulting and Services

Installation Services: The IBM Installation Services for MQSeries Integrator provides customers with planning and installation services for the MQSeries Integrator software to help ensure that your MQSeries Integrator environment is quickly up and running. A Services specialist will work with your technical and programming staff to accelerate implementation of the MQSeries Integrator software into your business environment focusing on:

- Installation, customization, and configuration
- Assistance with data format definition
- Project management
- Rules determination for message routing
- Message application testing

SmoothStart Services: SmoothStart Service for MQSeries provides customers with planning and installation services for MQSeries Solutions to ensure that their MQSeries Commercial Messaging environment is quickly up and running. An IBM specialist spends a week, or longer — depending on customer requirements, working with the customer’s technical and programming staff to increase productivity and accelerate implementation of MQSeries licensed software in the customer business environment.

Planning Services for MQSeries Solutions: IBM Planning Services for MQSeries Solutions is a customizable service designed to help you with a plan to implement an MQSeries Solution within your organization. With this service, you can customize how the plan is created; we can create the plan for you by collecting the necessary business requirements and infrastructure information, or we can work with your staff to create the MQSeries plan. In addition, IBM Planning Services MQSeries Solutions offers you assistance in designing your system network architecture, developing deployment and application migration plans, and recovery planning of MQSeries objects and data.

Design Services for MQSeries Applications: IBM Design Services for MQSeries Applications helps you produce high and low-level designs for your MQSeries applications including assistance in modifying or writing applications to take full advantage of your MQSeries environment. This offering is customizable and may include assistance in evaluating your test plans and making sure your applications perform effectively.

For additional information on these offerings and IBM’s service capabilities, contact an IBM Global Services representative.

For further information, refer to:

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

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