

ORACLE MESSAGEQ

KEY FEATURES AND BENEFITS

With Oracle MessageQ, you can translate your inventory of diverse applications into a strategic advantage.

FEATURES

- Interoperability with IBM platforms via TCP/IP (Oracle Tuxedo Mainframe Adapters), LU6.2
- Ability to send one message to multiple servers simultaneously
- Large message size of up to 4MB
- Self-describing messages for automatic data conversion between heterogeneous platforms
- Connectivity to IBM WebSphere MQ, Oracle Tuxedo, and other legacy applications

BENEFITS

- Unmatched performance—up to tens of thousands of messages per second
- Flexibility—synchronous as well as asynchronous message delivery
- Reliability—message recovery on all Oracle MessageQ clients and servers
- Open standards—broadest platform support: UNIX, Linux, Windows, OpenVMS
- Ease of use—common API, FML support

Getting all the parts of your business to work together across a mixed platform environment can be a difficult and time-consuming task. Linking and integrating systems requires the accurate transformation and movement of data between multiple applications and databases. Oracle MessageQ provides customers with robust, cost-effective messaging functionality built upon ultra high-volume data distribution capabilities.

Mission-Critical Messaging Across Heterogeneous Environments

A proven and widely deployed middleware solution for distributed enterprise applications, Oracle MessageQ ensures the reliable exchange of application messages across heterogeneous platforms. Applications communicate rapidly through industry-leading queued message bus technology. The robust application architecture provides powerful development and integration capabilities to create high-performance message-based applications using multimode communications.

Comprehensive Application Integration

Oracle MessageQ enables applications in different locations and on different platforms to exchange messages asynchronously, so they can operate as a single mission-critical operation—whether in batch, real time, or a mix. All communications use a store-and-forward methodology, so the messages are guaranteed; the receiving computer program need not be ready to receive or even be connected when the message is sent. Based upon message delivery, this method of application integration works with all systems on OpenVMS, UNIX, Windows, SAP R/3, Unisys, IBM mainframe legacy systems, and IBM WebSphere MQ (formerly MQSeries).

Seamless Portability

Oracle MessageQ uses a common API for all environments, enabling applications to move easily among systems from different vendors, as well as homegrown applications. For example, if you develop Oracle MessageQ applications for Intel PCs running Windows, those same applications will run on all major UNIX systems by recompiling and relinking the applications in their target environment.

The Oracle MessageQ API forms a layer between the application, the operating system, and the network environment to keep applications portable and shield them from any changes in underlying software. This frees development teams from time-consuming, low-level details associated with a multivendor environment, and allows them to focus on activities that add business value.

Guaranteed Message Delivery

Oracle MessageQ guarantees the delivery of each and every critical message using a suite of distributed communication features, including publish and subscribe, priority selection, recovery, and guaranteed delivery. Distributed communications are achieved based on a peer-to-peer mechanism called the message queuing bus. This message bus, rather than the application, is responsible for message delivery and serves as a “data highway” transport mechanism to transfer messages between processes. Messages can be a request for service across the network or a request for information needed by a distributed application.

When the message recovery service is used, messages are placed in a journal on local or remote disks before their delivery. If a communications line is down or if the process or node “crashes,” the message is automatically resent later. If the message has reached a remote disk and the target system goes down, the message is preserved for delivery after the system reboots.

Investment Protection

Existing IT assets that use Oracle Tuxedo and other technologies can be seamlessly reused with Oracle MessageQ without costly code enhancements or rewrites. Application developers can link the two messaging systems without formatting or sending additional control messages to set up runtime sessions or connections between Oracle MessageQ and Oracle Tuxedo. All mapping of Oracle MessageQ queues and Oracle Tuxedo resources will be done automatically, making it transparent to users.

The following interactions are supported between Oracle MessageQ and Oracle Tuxedo. Each can be achieved without any changes to verb/function behavior and their associated responses and return codes:

- Oracle Tuxedo applications can send messages to Oracle MessageQ queues using standard Oracle MessageQ verbs, and have those messages automatically and transparently redirected to Oracle Tuxedo queues and services.
- Oracle Tuxedo programs can send messages to their standard queues and services using standard Oracle Tuxedo functions, and have those messages automatically and transparently redirected to Oracle MessageQ queues for processing.
- Oracle MessageQ applications that receive messages originating in Oracle Tuxedo can respond to these messages and have the response find its way back to the response queue specified by the original Oracle Tuxedo application, and vice versa.

Message queuing systems do not inherently allow applications to send messages directly to queues owned and managed by different message queuing systems. However, with a special interface, described in the next section, Oracle MessageQ applications can place messages on WebSphere MQ queues, and vice versa.

Mainframe Connectivity

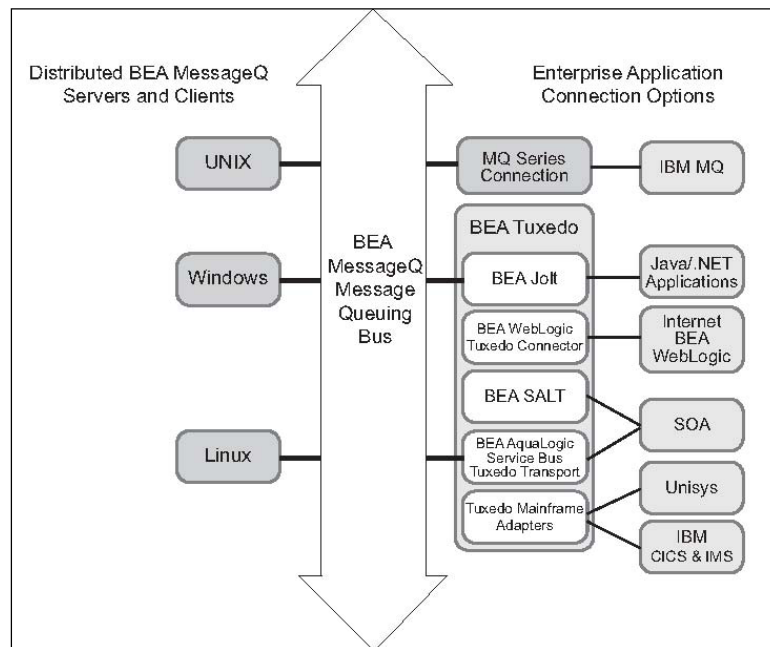
The connector between Oracle MessageQ and WebSphere MQ provides a seamless message exchange between the applications. The interface ensures that message and header information is properly formatted for the target application, allowing application developers to write applications using either message queuing system.

Oracle MessageQ offers queuing functions as services to IBM and Unisys mainframe applications through IBM's Systems Network Architecture, and the TCP/IP and OSI TP protocols, using the Oracle Tuxedo bridge (offered in Oracle MessageQ) and Oracle Tuxedo Mainframe Adapters. Oracle MessageQ applications can also access mainframe application services through direct access to queues in the Oracle MessageQ domain.

Oracle MessageQ LU6.2 services allow Oracle MessageQ applications running on an OpenVMS platform to exchange messages with cooperating applications on an IBM host via an appropriate gateway system running TCP/IP.

Simplified Application Development

In addition to its advanced communications capabilities, Oracle MessageQ also provides application development tools including testing and debugging facilities. Distributed client/server applications based on OracleMessageQ can also benefit from its built-in system management utilities. The Oracle MessageQ monitor helps developers and system managers optimize their system configurations, while its error logging utility helps troubleshoot system problems.



Oracle MessageQ uses a powerful message queue development environment to integrate distributed applications across different platforms and operating systems.

Additional Features and Benefits

As discussed in earlier sections, Oracle MessageQ delivers application integration, portability, message delivery, mainframe connectivity, simplified development, and investment protection. In addition to these benefits, Oracle MessageQ offers

- **Synchronous and asynchronous messaging.** Select the messaging style that best serves the application. Although one-way asynchronous messaging is typical for Oracle MessageQ, it also supports a synchronous request/response paradigm when needed.
- **Publish and subscribe.** Send one message to several receivers simultaneously. As basic as it sounds, this simplifies coding, improves performance, and increases the return on investment for a distributed application. It also reduces network traffic because messages can be proactively generated to eliminate the subscriber's need to constantly "query" the publisher for relevant information.
- **Self-describing messages.** Automatic data marshaling between platforms is enabled using different data formats. Receiver programs can "decode" the message because it contains the information needed to decipher the contents.
- **Global naming.** Networkwide queue visibility facilitates systems configuration and other operations. Programs can send and retrieve information without concern for a queue's network location or identifier.
- **Message selection.** Increase efficiency and performance through selection filters that enable applications to only process messages that meet selection criteria. Filters can be based on message type, class, sending application, and data contents.
- **Message recovery services.** Message recovery is a facility that prevents loss of message data. Queues are housed on disk rather than in the more-volatile main memory. If a failure occurs, data in transit is written to disk for delivery after system recovery.
- **Large message size.** Message support for sizes up to 4MB eliminates any message partitioning.
- **Queue monitoring.** A native monitoring utility helps developers and system managers oversee the entire Oracle MessageQ environment. This error-logging utility displays and captures all informational, warning, and error messages during processing.

RELATED PRODUCTS AND SERVICES

Oracle MessageQ provides organizations with comprehensive capabilities to unite applications and business processes in a heterogeneous environment. The software is fast, easy-to-use, and highly reliable.

RELATED PRODUCTS:

- Oracle Tuxedo
- Oracle Tuxedo Mainframe Adapter for SNA
- Oracle Tuxedo Mainframe Adapter for TCP
- Oracle Tuxedo Mainframe Adapter for OSI-TP
- Oracle Service Architecture Leveraging Tuxedo (SALT)
- Oracle Tuxedo System and Applications Monitor (TSAM)

- **Correlation IDs.** Compatible with Oracle Tuxedo and Oracle Tuxedo Mainframe Adapters, these user-defined tags are associated with requests and responses to allow applications to match multiple outstanding requests against a single incoming response.
- **FML support.** Oracle MessageQ is Field Manipulation Language (FML) aware, so it can properly exchange FML messages and enforce appropriate FML semantics. Applications using self-describing messages will be converted to FML. The provision of libraries and files enables developers to use a standard format to build applications.

Contact Us

For more information about Oracle MessageQ, please visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

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