

# RTI Message Service

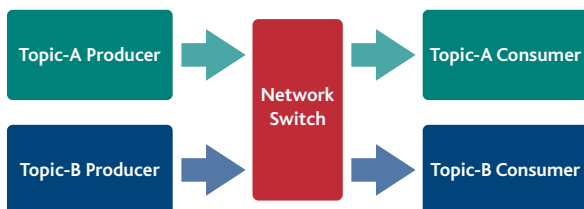
## Extreme performance JMS messaging

### BENEFITS

- Ultra low latency
- High throughput and capacity
- Extremely scalable
- Significantly reduces server costs
- Fully fault tolerant
- Easily embedded

### FEATURES

- True peer-to-peer messaging
- No message brokers or servers
- Reliable multicast
- Real-time Quality of Service
- No system administration required
- Also supports wireless, satellite and non-IPv4 networks
- Java Message Service 1.1 compliant



*With RTI's peer-to-peer architecture, latency is minimized because messages are not routed through any intermediate brokers or servers. The network switch is the only point through which all messages pass. As a result, system-wide capacity is limited only by the switching fabric.*

RTI Message Service is the highest-performance Java Message Service (JMS) publish/subscribe messaging solution. It makes it easy to develop, deploy, scale and maintain mission-critical real-time Java applications.

### Industry-leading Performance

RTI Message Service provides unprecedented levels of responsiveness and throughput for event-driven and high-performance computing applications. Performance is at least 10x higher than other JMS and enterprise messaging implementations. Over Gigabit Ethernet, latency is as low as 75 microseconds and individual producers and consumers can sustain over 300,000 messages per second.

This level of performance is enabled by RTI's streamlined architecture. Producers send messages directly to consumers in a true peer-to-peer manner. They are not routed through any intermediate message brokers, servers or daemon processes.

### Extremely Scalable with a Low Cost of Ownership

Eliminating intermediaries significantly improves scalability. Brokers are the bane of traditional messaging deployments, since they devour server resources and act as choke points that constrain throughput and delay message delivery. With no brokers, capacity is unleashed and low latency is maintained even as the number of clients, topics and messages increase. There are also no servers required to host brokers, dramatically reducing cost of ownership, power and space requirements.

### Fully Fault-tolerant

RTI Message Service satisfies the stringent availability requirements of mission-critical systems. With no brokers, servers or daemon processes, there is no single point of failure at either the network or node level. Messages

can be sent simultaneously over multiple networks and transports for redundancy and partitioning. RTI also supports automatic failover between primary and backup producers.

The core technology in RTI Message Service is mature and field proven. It has been used for over 12 years in hundreds of the world's most demanding systems, including military combat systems, financial trading applications, medical equipment and industrial control systems.

### Flexible Deployment

As a library-only solution that does not require external processes, RTI Message Service is easily embedded in other applications. It can also be used without system administration; applications can spontaneously discover each other without pre-configuration. This makes it well-suited to deployment in dynamic, ad-hoc environments, which are inherently peer-to-peer. RTI also supports communication over non-enterprise networks such as WAN, wireless and satellite links

### Heterogeneous Interoperability

For heterogeneous applications, RTI Message service is interoperable with RTI Data Distribution Service, RTI's DDS and RTPS compliant messaging, data distribution and caching solution for C, C++, Java, .NET, Ada, embedded computer and high-assurance applications. With RTI Data Distribution Service, non-Java clients do not require a Java Virtual Machine (JVM).

### RTI: Bringing Standards and Expertise to Demanding Applications

Because of its industry-leading performance and deployment flexibility, RTI Message Service provides developers of demanding applications with a commercial, standards-compliant alternative to the development of custom messaging middleware. It also allows Java to be used for distributed applications previously thought to have more stringent performance requirements than Java could support.



## RTI Message Service product information

To further help ensure your success, RTI Message Service is backed by RTI's professional services organization. RTI's services engineers have extensive experience designing, developing and deploying high performance, large scale and mission-critical applications.

The quality of RTI's products, support and services has led to RTI's superior customer satisfaction rating, with 98% of RTI customers saying that they would recommend RTI to others.

### Features and Benefits

#### Real time, event driven and high-performance computing (HPC) applications

- Ultra low latency and jitter—as low as 75 microseconds over Gigabit Ethernet
- Exceptionally high capacity and throughput
  - RTI's broker-less architecture means there are no choke-points constraining system-wide throughput—capacity is limited only by the switching fabric
  - Individual producers and consumers can sustain over 300,000 messages per second
- Extremely efficient one-to-many and many-to-many messaging using reliable multicast—enabling low-latency parallel processing of streaming data and events
- Automatic and flexible mitigation of slow consumers
- Integrated Complex Event Processing

#### Applications sensitive to deployment cost, space, weight or power

- Significantly reduces the number of required servers
  - Eliminates message brokers and the servers required to host them
  - Reliable multicast offloads message routing and filtering to the network switch, further reducing CPU overhead and the number of required computers
- By significantly reducing latency and increasing capacity, RTI eliminates or defers the need to adopt higher-performance networking technology or specialized messaging appliances

#### Mission-critical applications

- No single point of failure
- Automatic failover between primary and backup producers
- Messages can be simultaneously sent over multiple transports and networks for redundancy and partitioning
- Core technology proven over 12 years in hundred of the world's most demanding and mission-critical applications

#### Applications that require embedded messaging or will be deployed in ad hoc environments

- Only run-time libraries required for redistribution or deployment
  - No dependence on external broker, server or daemon processes
  - Includes embedded naming service and JNDI implementation
- No system administration required
  - No administrative privileges required to install or run
  - Configuration can be fully file-based
  - Entities can be automatically discovered without any pre-configuration of hostnames or addresses

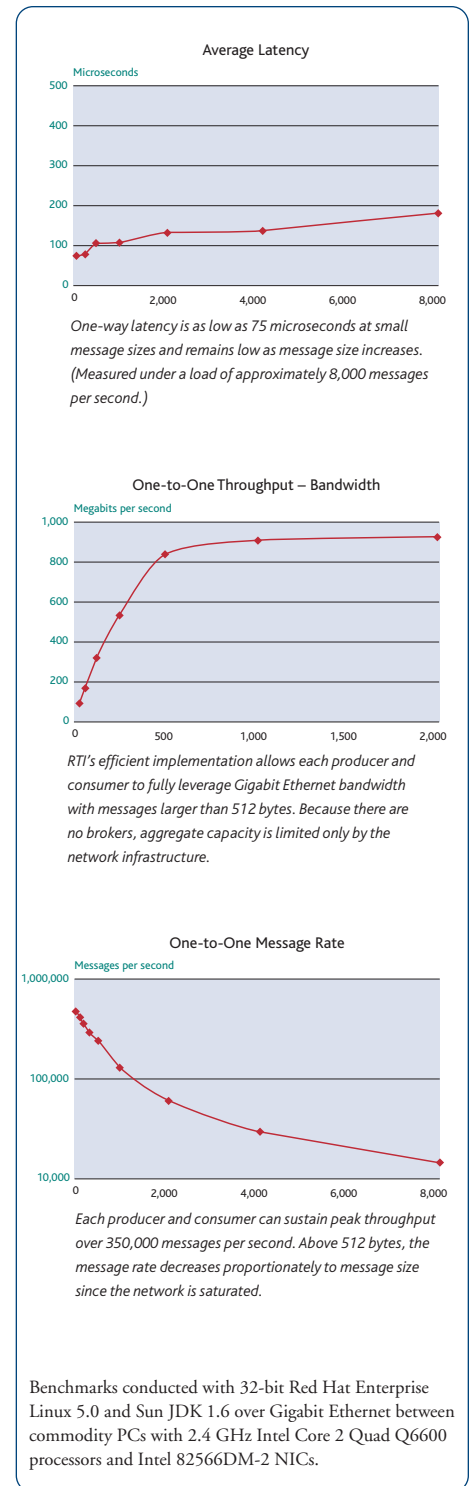
#### Applications that run over non-enterprise or non-IPv4 networks, including wireless and satellite links

- Default UDP-based reliability protocol is highly tunable for efficient support of high-delay and lossy networks
- Out-of-the box support for communication over IPv4, IPv6, DTLS (OpenSSL), WAN (NAT traversal) and shared memory
- Interface for integration with other transports, including backplanes and switched fabrics—even those without IP support

#### Heterogeneous applications

Interoperates with RTI Data Distribution Service for seamless communication with:

- components written in C, C++, .NET and Ada—with no Java Virtual Machine (JVM) required for non-Java clients
- DDS and RTPS based applications
- net-centric applications
- embedded systems running real-time operating systems (RTOS)
- high-assurance applications—including those requiring safety certification to standards such as RTCA/DO-178B (EUROCAE ED-12B)



#### US HEADQUARTERS

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