RED HAT ENTERPRISE MRG MESSAGING

INTRODUCTION

Red Hat® Enterprise MRG Messaging is an open, flexible, and powerful platform that combines the industry-standard Advanced Message Queuing Protocol (AMQP) initiative with the powerful Red Hat Enterprise Linux platform to deliver enterprise-caliber messaging at a fraction of the cost of traditional messaging offerings. Red Hat Enterprise MRG Messaging gives organizations a robust, scalable, open source messaging alternative to expensive, proprietary platforms. In addition, it is a key infrastructure component for Red Hat's cloud offerings, providing an open transport for data transfer in the cloud.

NEW DEMANDS FOR MESSAGING

While distributed applications have long required messaging software to distribute data and connect services across a wide variety of internal systems, there is growing demand for deployments to reach outside traditional enterprise IT domains. With Red Hat Enterprise MRG Messaging, organizations gain a messaging platform that will address both existing requirements, as well as the prospective demands of new initiatives for cloud computing, mobility, machine-to-machine communications, trading partner integration, smart grid, and a host of other emerging integration requirements. These initiatives are spawning new messaging patterns, increased message volumes and volatility, and a range of other factors that will make yet-to-be-defined demands upon the messaging environment. The prospective scope and uncertainty of those demands call for an open and flexible messaging platform, such as is offered through Red Hat Enterprise MRG Messaging.

Based upon Apache Qpid™, an open source community messaging project, Red Hat Enterprise MRG Messaging marries the vibrant development model of open source with the standards-based AMQP messaging model. Offered by Red Hat, Red Hat Enterprise MRG Messaging meets the enterprise requirements for a reliable, supportable platform for mission-critical infrastructure deployments. With Red Hat Enterprise MRG Messaging, organizations get support for a broad range of messaging paradigms including request/response, store-and-forward, transaction distribution, publish-subscribe, content-based routing, point-to-point, and market-data distribution. Red Hat Enterprise MRG Messaging can also incorporate unique, industry-specific, or customer-specific patterns, leveraging the platform's native support for XML and Xquery.

"We decided to implement Red Hat Enterprise MRG Messaging with AMQP because we favour open standards and we want to make it as easy as possible for our client banks to access the relevant risk data."

Gerhard Lessmann
Member of the Executive Board, Deutsche Börse Systems

FEATURES INCLUDE

- **AMQP Support** - Red Hat is one of the founding members of the messaging standard's working group and is an active contributor. Red Hat Enterprise MRG Messaging is compliant with the standard and Red Hat is playing a key role in shepherding this important initiative forward.
- **Multiple Messaging Paradigms** - Red Hat Enterprise MRG Messaging can mix and match paradigms to flexibly support the application requirements and the deployment environment. Content-based routing of messages, as well as support for all the AMQP exchange types is available, together with support for custom XML exchanges.
- **Flexible Clients** - The client APIs provide an interface between native application languages and the AMQP encoding for seamless interoperability between applications written in different environments, running on different platforms.
- **High Performance** - Red Hat Enterprise MRG Messaging takes advantage of the latest advances in hardware technologies. Performance testing has shown

messaging throughput rates that have reached 1.5M messages per second, governed by message size and the specifics of the hardware configuration.

- **Virtual Machine Support** - Supports virtualization configurations with minimal impact on throughput or latency, delivering performance comparable to bare metal execution.
- **Durable AIO Journal** - Red Hat Enterprise MRG Messaging supports high throughput, reliable messaging with persistence via an asynchronous input/output journal that is specifically optimized for the underlying Red Hat Enterprise Linux platform.
- **Native RDMA Infiniband and 10Gig E Support** - Delivers sub-millisecond response for reliable messaging performance in latency-sensitive deployments.
- **Unlimited Message Size** - Red Hat Enterprise MRG Messaging supports messages of any size and can accommodate emerging requirements for video and other media traffic without needing to split the messages or perform other kinds of application contortions.
- **Durability** - Red Hat Enterprise MRG Messaging deployment and performance considerations can guide configuration decisions as to whether messages and queues persist in cases of hardware/software crashes or are transient.
- **Clustering and Failover** - Red Hat Enterprise MRG Messaging offers messaging resilience via clustering/recovery capabilities defined according to the OpenAIS/Corosync Cluster Framework, working in concert with the underlying Red Hat Enterprise Linux clustering services.
- **Broker Federation** - Federated broker deployments can be configured to support a variety of business requirements in which messages are routed to brokers based on geographic, QoS, network connectivity, or a range of other considerations, including fault tolerance and disaster recovery configurations.
- **Transaction Support** - Both local and distributed transaction support is available for both the enqueue and dequeue operations to ensure all messages in a defined group are accepted - or the operations are rolled back, with follow-up action determined by the appropriate API.
- **Queue Operation Semantics** - Red Hat Enterprise MRG Messaging supports a variety of definable queue types including exclusive, auto-deleted, durable, last-value and ring queue.
- **Message Security** - The SASL (Simple Authentication and Security Layer) framework governs access control with a variety of available access methods (including GSSAPI), with access control available at both individual or group levels. Encryption and signing are supported via Mozilla's Network Security Services Library (SSL.)
- **Management** - A management console, scripting tool, and management APIs in multiple languages provide management and diagnostic tools for configuring and monitoring brokers, queues, broker clusters, and messaging routing.

SUPPORTED PLATFORMS

Red Hat Enterprise MRG Messaging is supported on a variety of hardware platforms. Access **www.redhat.com/mrg/hardware** for the the latest listing.

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