



JoramMQ Entreprise

tools and services for the JORAM user

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Plan

☞ JORAM

☞ JoramMQ Entreprise

☞ Benefits for the project actors

- UC : redesign of a WebSphereMQ application with JoramMQ
- prior to the decision
- early design phase
- development phase
- operation phase

☞ Conclusion



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Open-source & 100% Java MOM

- *portable and light (jars < 1Mo), classical & embedded configurations*
- *certified JMS 1.1 standalone & J2EE (with JOnAS)*
- *compliant AMQP 0.9.1, AMQP 1.0 in progress*
- *published by OW2 under LGPL licence since 2000*

Efficient and reliable

- *7.000 to 216.000 msgs/s depending on QoS, on this laptop*
- *hundreds of operational usages all over the world*
- *supported by ScalAgent DT*

Configurable and extensible

- *configurable deployment architecture, from centralised to peer to peer*
- *internal OSGi architecture*
- *open and extensible architecture*

A mature open-source project

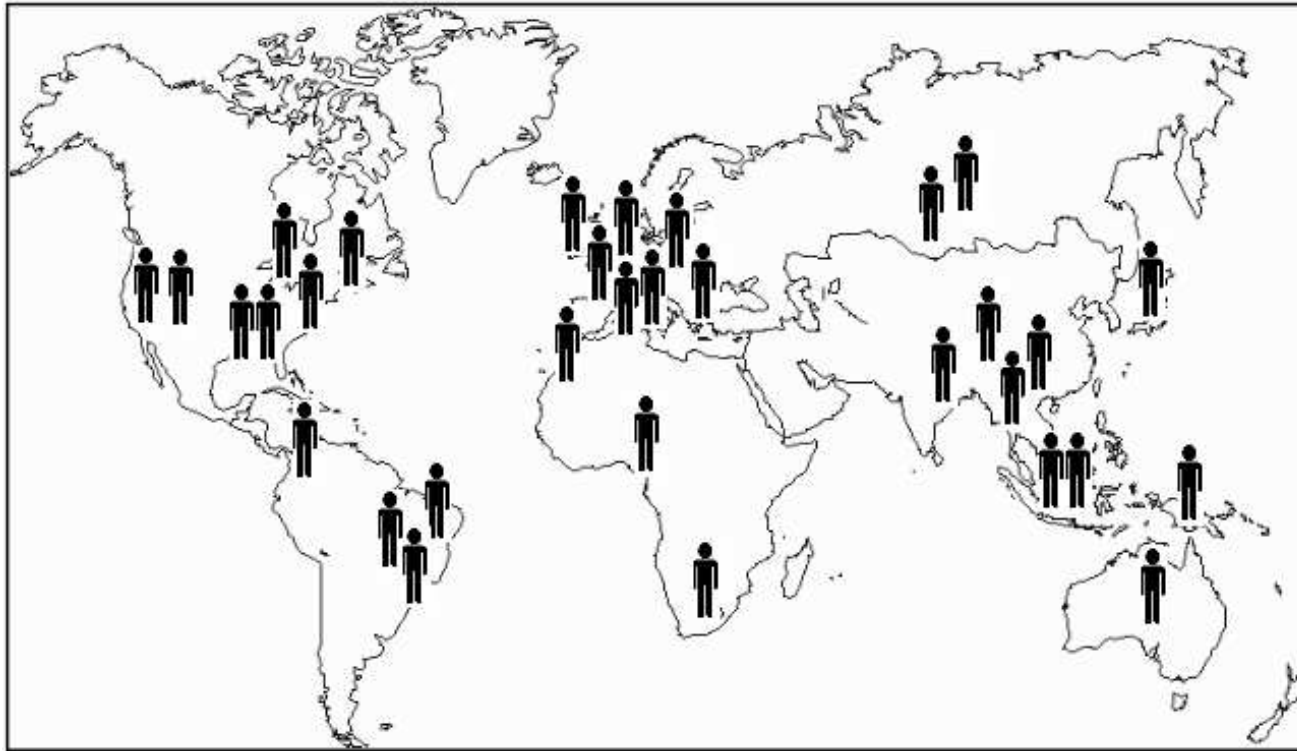
- *2 to 3 versions a year*
 - follows the standards, useful additional functions
 - internal architecture regularly updated
- *ready for future needs*
 - basically distributed architecture

Chosen in various operational contexts

- *France Télécom*
 - MOM in the Information System, besides WebSphereMQ
- *French Home Office*
 - managing the car certificates between manufacturers, vendors & Home Office
- *CNES – CS / Thales*
 - reference implementation of the international standard CCSDS/MAL
 - Phoebus product line, monitoring
- *French Air Force – CSSI*
 - military communication system with strong geographical distribution
- *RFID middleware*

Strong and international users community

- 800 identified users, 62 countries, 5 continents



Professional support

- *with guaranteed response time*
- *for development and operational phases*
- *JORAM extensions and expertise*

Additional tools and services

- *integration to other environments*
 - software, configuration & documentation for J2EE, Spring, Talend
- *developer's console*
 - makes the developer's life easier
- *operational console*
 - provides meaningful indicators to the operator
- *MQPerf (SaaS)*
 - helps the project leader managing performance related issues

JORAM open source

- *JoramMQ runtime based on JORAM latest open source unchanged*
- *JORAM keeps on evolving (conformance to standards, ...)*

JoramMQ for a fixed price annual subscription

- *for a single project*
 - not proportional to a number of CPUs
 - a single operational deployment
- *including*
 - documentation (reference manual)
 - license for the additional tools (and associated runtime), unlimited in the project
 - unlimited usage of service MQPerf for the project
 - professional support with guaranteed response time

First step of migration from WebSphere MQ

- *WebSphere MQ as a former strategic choice*
 - a number of applications with WebSphere MQ servers & clients
 - license fees for each server & client
- *refactoring of an application*
 - new functions
 - aging environment

Choose JoramMQ Enterprise

- *license gains*
 - fixed lower cost for the project, not proportional to an unknown number of CPUs
- *incremental and non revolutionary*
 - Joram – WebSphere MQ bridge keeps the link with the enterprise bus
- *France Telecom has done it*
- *JoramMQ helps*



 *can JoramMQ actually do the job ?*

- Paper study

- *Functional capabilities*

- JMS compliance → pass the TCK from Oracle

- *Performances*

- published figures are good, can they be trusted ?

- Prototyping

- *efficient, but requires time and expertise*

➔ MQPerf community

Figures you can trust

- optimal figures for an extended set of usage scenarios
- tests actually performed with a standard JORAM in your environment

Reduce the performance risk

- even before the project begins

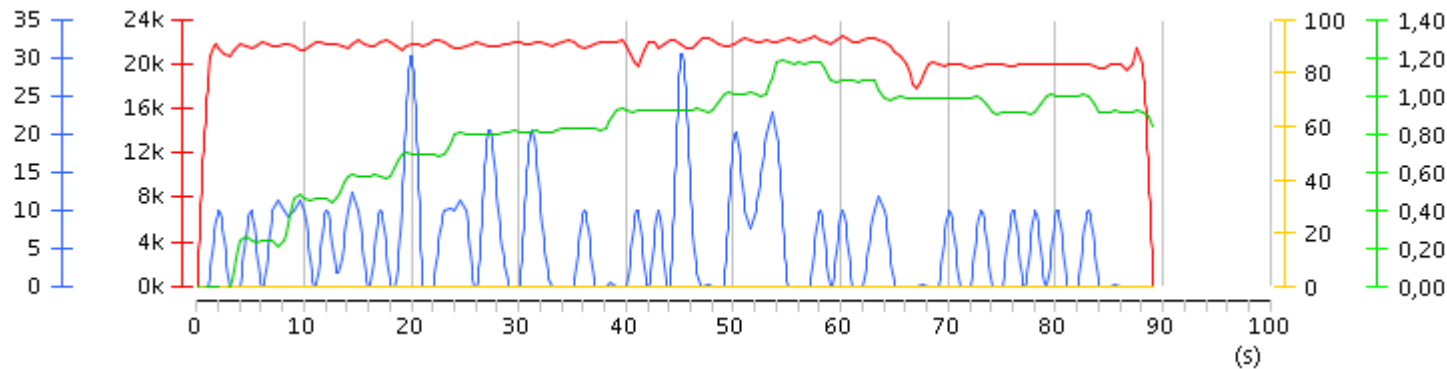
throughput (msg/s)		persistent		transient	
		100 B/msg	10 kB/msg	100 B/msg	10 kB/msg
queue	localCF	80 783	12 477	215 983	21 011
	tcpCF	41 613	6 821	70 715	9 432
topic	localCF	78 894	11 854	197 962	22 206
	tcpCF	46 204	6 769	65 381	9 230

 *how may I best use JoramMQ ?*

- JMS specifies MOM concepts and a client interface
 - *the actual definition of a deployment architecture is not in the scope of the standard*
 - *each JMS implementation is specific*
 - *MQSeries implementation comes from long ago, might be best not followed*
- Prototyping
 - *efficient, but requires time and expertise*
- Use and hope for the best

➡ MQPerf standard

- ☛ **Analyze JORAM's behaviour over time**
 - *key internal indicators over time for an extended set of usage scenarios*
 - *tests actually performed on your system, under heavy load conditions*
- ☛ **Help you choose your best configuration from start**

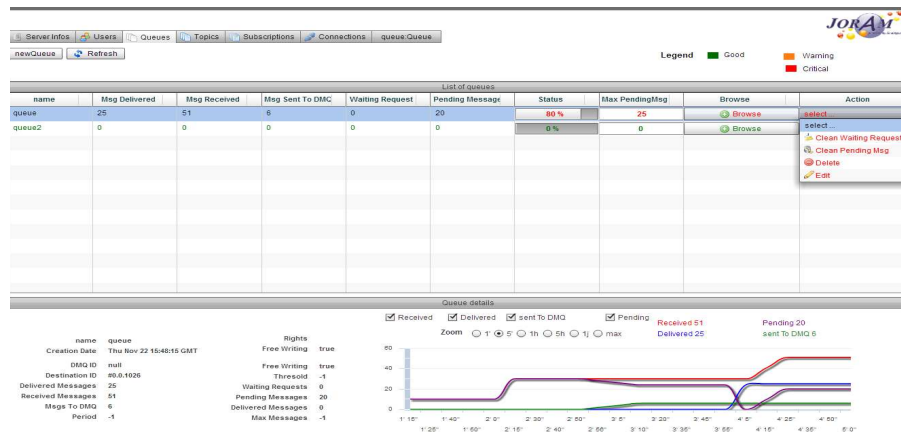


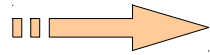
➡ how can I do a better job more quickly ?

➡ **JoramMQ developer's console**

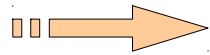
Monitor and control JoramMQ

- immediate access to middleware specific indicators
 - MOM & JoramMQ specific navigation & presentation
- operations on the running system





Does JoramMQ become a black box for the operator ?



JoramMQ operator's console

Monitor JoramMQ

- simple yet relevant middleware specific indicators
- integration in a global administration console (Nagios)

Nagios®

General

Home
Documentation

Current Status

Tactical Overview
Map
Hosts
Services

Host Groups
Summary
Grid

Service Groups
Summary
Grid

Problems
Services (Unhandled)
Hosts (Unhandled)
Network Outages

Quick Search:

Reports

Availability
Trends
Alerts
History
Summary
Histogram
Notifications
Event Log

Current Network Status
Last Updated: Thu Nov 22 15:57:59 CET 2012
Updated every 90 seconds
Nagios® Core™ 3.4.1 - www.nagios.org
Logged in as nagiosadmin

Host Status Totals

Up	Down	Unreachable	Pending
11	0	0	0
All Problems		All Types	
0		1	

Service Status Totals

Ok	Warning	Unknown	Critical	Pending
11	1	0	4	0
All Problems		All Types		
5		16		

Service Status Details For All Hosts

Limit Results: 100

Host	Service	Status	Last Check	Duration	Attempt	Status Information
localhost	Current Load	OK	11-22-2012 15:57:40	79d 2h 58m 0s	1/4	OK - load average: 0.83, 1.09, 0.98
	Current Users	OK	11-22-2012 15:53:56	175d 23h 25m 13s	1/4	USERS OK - 7 users currently logged in
	HTTP	OK	11-22-2012 15:57:43	0d 6h 25m 16s	1/4	HTTP OK: HTTP/1.1 200 OK - 454 bytes in 0.000 second response time
	Joram: Engine: number of pending messages	OK	11-22-2012 15:57:33	0d 0h 7m 26s	1/4	Nb waiting messages = 0
	Joram: Garbage ratio of the Joram transactional persistence manager	CRITICAL	11-22-2012 15:57:50	105d 0h 1m 44s	4/4	[CRITICAL] No NG Transaction found.
	Joram: General indicator	OK	11-22-2012 15:57:30	0d 0h 7m 29s	1/4	Joram is responding.
	Joram: Load of the Joram engine	WARNING	11-22-2012 15:57:41	0d 0h 1m 18s	4/4	[WARNING] Engine load = 1.2617188
	Joram: Load of the queue _queue_	OK	11-22-2012 15:56:55	0d 0h 3m 4s	1/4	Pending message count = 0
	Joram: Load of the subscription csub0	CRITICAL	11-22-2012 15:57:07	108d 2h 10m 44s	4/4	[CRITICAL] No subscription found with name 'csub0' for user 'anonymous'.
	Joram: Network: Load	CRITICAL	11-22-2012 15:57:18	105d 0h 1m 48s	4/4	[CRITICAL] No engine found.
	Joram: Network: Number of pending messages	CRITICAL	11-22-2012 15:57:26	105d 0h 1m 37s	4/4	[CRITICAL] No engine found.
	PING	OK	11-22-2012 15:57:33	147d 2h 24m 46s	1/4	PING OK - Packet loss = 0%, RTA = 0.05 ms
	Root Partition	OK	11-22-2012 15:57:44	79d 2h 10m 0s	1/4	DISK OK - free space: / 149494 MB (85% inode=95%):
	SSH	OK	11-22-2012 15:55:37	175d 23h 19m 43s	1/4	SSH OK - OpenSSH_5.8p1 Debian-7ubuntu1 (protocol 2.0)
	Swap Usage	OK	11-22-2012 15:55:07	175d 23h 22m 6s	1/4	SWAP OK - 100% free (4082 MB out of 4082 MB)
	Total Processes	OK	11-22-2012 15:55:48	175d 23h 21m 28s	1/4	PROCS OK: 83 processes with STATE = RSZDT

Results 1 - 16 of 16 Matching Services



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Conclusion

JORAM is a great middleware

- *efficient, reliable, configurable, extensible*
- *and open-source*

JoramMQ enhances it with tools and services

- *to help the project actors at all phases*
 - decision, design, development, operation
- *to provide a professional support with guaranteed response time*



to complete the project more securely and rapidly