



# JBoss OPERATIONS NETWORK (JBoss ON) MONITORING

JBoss ON Monitoring is an agent-based monitoring platform that provides an integrated view of your JEMS infrastructure, JEMS-based applications, and other key IT dependencies including operating system and web tiers. Agents continually capture and share operating and performance metrics with the JBoss ON Monitoring server. Key statistics are provided for each resource, allowing you to keep a close tab on their status.

JBoss Enterprise Middleware Suite (JEMS) products have grown in popularity among developers and executives thanks to a combination of innovative technology and cost savings.

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## **CHALLENGE: OPERATIONS ORGANIZATIONS REQUIRE MORE MANAGEMENT AND MONITORING TOOLS.**

The solution? JBoss Operations Network (ON) Monitoring. JBoss ON provides a comprehensive monitoring solution and advanced monitoring capabilities for the complete line of JEMS products, related operating system, and web-tier resources.

Available only to JBoss subscribers, the JBoss ON Monitoring module allows you to improve the operational efficiency of your JEMS infrastructure. You can identify issues before your customers tell you about them, predict potential issues before they even occur, and pinpoint the exact cause for the issue more quickly and accurately. All in all, you can minimize downtime and the costs associated with downtime like lost revenue and unsatisfied customers. And because it's fully integrated with JBoss Operations Network, you can perform control actions such as starting, stopping, or re-starting applications or servers--all through the same console.

# JBoss ON MONITORING SERVER

The monitoring server is fully integrated within the larger JBoss ON platform, and is constantly building and updating a model of behavior for each and every measurement collected by the agents. This allows you to define alerts relevant to the actual behavior of your infrastructure. Baselines detect out-of-band problems, allowing you to quickly identify resources that require attention. In addition, this provides a historical view of what was happening at the time of the fault.

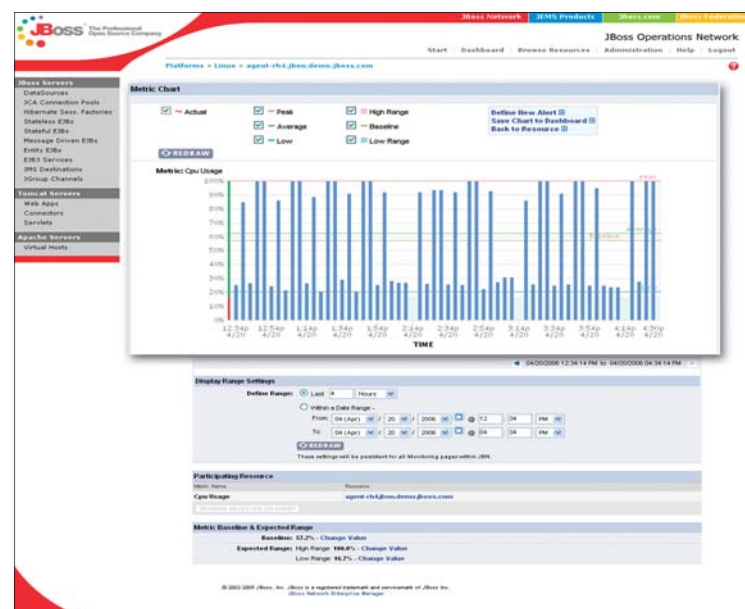
JBoss ON Monitoring allows you to define alerts based upon pre-defined thresholds and, if desired, automate control actions to correct faults. Graphing and charting capabilities like trend analysis are also included. A full audit trail of alerts is maintained for compliance purposes.

## JBoss ON MONITORING FEATURES:

- » Pre-selected, configurable, and custom statistics
- » Alerts (currently SMTP/email alerts)
- » Initiate control actions on alerts
- » Dampening (cap alert maximum)
- » Baseline measurements and problem detection
- » Graphing and charting
- » Trend analysis
- » Full alert audit trail
- » Agents for all JEMS products
- » Agents for all major operating systems
- » Agents for Apache web server
- » Agents for Apache Tomcat
- » Port monitoring
- » File system and directory monitoring
- » Nagios/scripting plug-in
- » Plug-in developer's kit

## 6 Reasons to Choose JBoss ON Monitoring:

1. Operational dependability and manageability combined with the reduced operating costs of open source
2. Reduce downtime and improve efficiency by identifying faults and pinpointing the root causes more quickly
3. Provide administrators with visibility and control over the entire JEMS Middleware environment via a single console
4. Maintain a comprehensive history of alerts and corrective actions for compliance purposes
5. Use charting and historical data to identify trends useful for capacity planning, cost analysis, and other operation decisions
6. Integrate alerts with leading network management systems via SNMP



Metric charts provide a graphical representation of the metric data collected for each resource. Metrics can be charted using peak, low, average, and high value data.

# JBOSS ON MONITORING DETAILS

Supported Systems	Alerting
<ul style="list-style-type: none"> <li>» JBoss AS (3.2.X, 4.X)</li> <li>» Apache Tomcat (4.0, 4.1, 5.0, 5.5 (Embedded only))</li> <li>» Apache Web Server (1.3, 2.0, ERS 2.3, ERS 2.4)</li> <li>» Hibernate (3.2)</li> <li>» JGroups (2.2.9)</li> <li>» Novell / SuSe Enterprise 8.1</li> <li>» Red Hat Linux 6.2 - 9.0</li> <li>» Fedora Core 2, Core 3</li> <li>» Gentoo Linux</li> <li>» Windows NT 4.0</li> <li>» Windows 2000</li> <li>» Windows XP</li> <li>» Windows 2003 Server / Advanced Server / Terminal Server</li> <li>» Sparc Solaris 2.4 - 10</li> <li>» X86 Solaris 2.4 - 10</li> <li>» HP/UX 11.X</li> <li>» IBM AIX (4.3, 5.1, 5.2)</li> </ul>	<ul style="list-style-type: none"> <li>» Driven from metrics or administration actions</li> <li>» Condition type</li> <li>» Greater, less, equal</li> <li>» Compared against baseline</li> <li>» Value changes</li> <li>» Multiple conditions supported (and/or)</li> <li>» Message filtering to reduce alert overload</li> <li>» Recovery alerts</li> <li>» Each time conditions are exceeded or met</li> <li>» When alerts exceed limit over defined time period</li> <li>» Action filter</li> <li>» Disable alert until re-enabled manually or by recovery alert</li> <li>» Disregard control actions that are defined for related alerts</li> <li>» Filter notification actions that are defined for related alerts</li> <li>» Notification to groups, users and SMTP</li> <li>» SNMP trap notification</li> </ul>
Metric Types	Baselines
<ul style="list-style-type: none"> <li>» Availability - ready to service requests</li> <li>» Usage - resource usage counters</li> <li>» Performance - response time</li> <li>» Utilization - rates of usage</li> </ul>	<ul style="list-style-type: none"> <li>» Tracking normal resource behavior</li> <li>» Dynamic rolling baselines</li> <li>» Static overrides</li> </ul>
Metric Portal View	Metric Charting
<ul style="list-style-type: none"> <li>» Current health portlet</li> <li>» Child resources health portlet</li> <li>» Host resource health portlet</li> <li>» Problem metrics portlet</li> <li>» Group metric views</li> </ul>	<ul style="list-style-type: none"> <li>» Metric range specification</li> <li>» Single metric single resource</li> <li>» Multiple metrics single resource</li> <li>» Single metric multiple resources</li> <li>» Chart Legend includes - actual, peak, average, low, low range, high range and baseline</li> </ul>
Problem Resources	Miscellaneous
<ul style="list-style-type: none"> <li>» Tracking resources that fall outside the baseline range</li> <li>» Alert based on variation of baseline values</li> </ul>	<ul style="list-style-type: none"> <li>» Audit trail</li> <li>» Agent plug-in developer's kit</li> <li>» HTTP/HTTPS port monitoring</li> <li>» Nagios/scripting plug-in</li> </ul>

# JBOSS APPLICATION SERVER METRICS

General Server Matrix	JCA Connection Pool Metrics
<ul style="list-style-type: none"> <li>» Active Thread Count</li> <li>» Active Thread Group Count</li> <li>» JVM Free Memory</li> <li>» JVM Total Memory</li> <li>» JVM Max Memory</li> <li>» JMS Message Cache Size</li> <li>» JMS Message Cache Hits</li> <li>» JMS Message Cache Hits per Minute</li> <li>» JMS Message Cache Misses</li> <li>» JMS Message Cache Misses per Minute</li> <li>» Availability</li> <li>» Transactions Active</li> <li>» Transactions Committed</li> <li>» Transactions Committed per Minute</li> <li>» Transactions Rolled back</li> <li>» Transactions Rolled back per Minute</li> <li>» JMS Message Cache Current Memory Usage</li> <li>» JMS Message Cache High Memory Mark</li> <li>» JMS Message Cache Max Memory Mark</li> </ul>	<ul style="list-style-type: none"> <li>» Min Connections</li> <li>» Max Connections</li> <li>» Total Connections</li> <li>» Available Connections</li> <li>» Connections Created</li> <li>» Connections Destroyed</li> <li>» Availability</li> </ul>
	Stateful Session EJB Metrics
	<ul style="list-style-type: none"> <li>» Create Calls</li> <li>» Remove Calls</li> <li>» Method-Ready Beans</li> <li>» Passive Beans</li> <li>» Availability</li> </ul>
Entity EJB Metrics	JMS Destination Metrics
<ul style="list-style-type: none"> <li>» Create Calls</li> <li>» Create Calls per Minute</li> <li>» Remove Calls</li> <li>» Remove Calls per Minute</li> <li>» Ready Beans</li> <li>» Pooled Beans</li> <li>» CacheSize</li> <li>» PassivatedCount</li> <li>» PassivatedCount per Minute</li> <li>» PoolSize</li> <li>» MaxPoolSize</li> <li>» Availability</li> </ul>	<ul style="list-style-type: none"> <li>» Messages in Queue</li> <li>» Availability</li> <li>» Receivers Count</li> </ul>
	Message Driven EJB Metrics
	<ul style="list-style-type: none"> <li>» Create Calls</li> <li>» Create Calls per Minute</li> <li>» Remove Calls</li> <li>» Remove Calls per Minute</li> <li>» Messages Received</li> <li>» Messages Received per Minute</li> <li>» Availability</li> </ul>

# TOMCAT MONITORING METRICS

## Reliability Metrics

- » Uptime
- » Availability

## General Server Metrics

- » Number of Requests Served
- » Number of Requests Served per Minute
- » Total Processing Time
- » Total Processing Time per Minute

## Resource Utilization Metrics

- » JVM Active Thread Count
- » JVM Active Thread Group Count
- » JVM Free Memory
- » JVM Total Memory
- » Process CPU System Time
- » Process CPU User Time
- » Process Memory Size
- » Process Shared Memory Size
- » Process Open File Descriptors

## Tomcat 4.1 and 5.0 Connector Metrics

- » Availability
- » Bytes Received
- » Bytes Received per Minute
- » Bytes Sent
- » Bytes Sent per Minute
- » Error Count
- » Error Count per Minute
- » Request Count
- » Request Count per Minute
- » Maximum Request Time
- » Processing Request Time
- » Processing Request Time per Minute
- » Threads Allocated
- » Threads Active

## Tomcat 4.0 Webapp Metrics

- » Number of Requests Served
- » Number of Requests Served per Minute
- » Number of errors
- » Number of errors per Minute
- » Sessions Created
- » Sessions Created per Minute
- » Sessions Destroyed
- » Sessions Destroyed per Minute
- » Minimum Response Time of a Servlet
- » Maximum Response Time of a Servlet
- » Average Response Time
- » Total Processing Time for the webapp
- » Total Processing Time for the webapp per Minute
- » Availability

## Tomcat 4.1, 5.0 and 5.5 Webapp Metrics

- » Number of Requests Served
- » Number of Requests Served per Minute
- » Number of errors
- » Number of errors per Minute
- » Sessions Created
- » Sessions Created per Minute
- » Sessions Destroyed
- » Sessions Destroyed per Minute
- » Minimum Response Time of a Servlet
- » Maximum Response Time of a Servlet
- » Average Response Time
- » Total Processing Time for the webapp
- » Total Processing Time for the webapp per Minute
- » Availability
- » Expired Sessions
- » Expired Sessions per Minute
- » Rejected Sessions
- » Rejected Sessions per Minute
- » Max Active Sessions

## Tomcat 4.0, 4.1, 5.0 and 5.5 Servlet Metrics

- » Availability
- » Request Count
- » Request Count per Minute
- » Error Count
- » Error Count per Minute
- » Maximum Response Time
- » Average Response Time
- » Min Response Time
- » Processing Request Time
- » Processing Request Time per Minute

# JBoss SUBSCRIPTION



JBoss ON Monitoring is available as an optional add-on to JBoss Subscriptions. A JBoss Subscription consists of the following components:

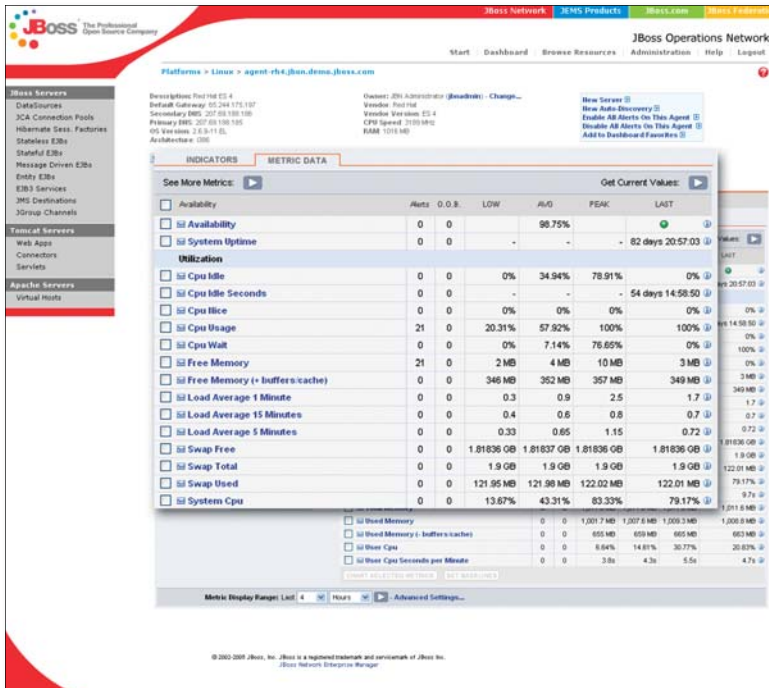
- » Enterprise Technical Support - Expert support services from the industry's highest-rated support team.
  - Customer support portal - Connect directly to the expert support team at JBoss. Includes access to registration module, certified answers, and case management.
  - Technical Support - Talk with J2EE experts from the start. Different SLAs available--up to 24x7 with two-hour response times. Production support and Developer Assist provides you with the right knowledge at the right time for your development and deployment needs.

» JBoss Operations Network (JBoss ON) - Comprehensive management platform that monitors your entire JEMS environment. Three integrated modules (in addition to the Monitoring Module):

- Inventory - Features an advanced auto-discovery mechanism that spans platforms, servers, and applications.
- Administration - Provides a single location for performing key control functions including start, stop, and re-start. Works for a single application or across an enterprise cluster.
- Update (Available Q2 2006) - Middleware update functionality that allows you to apply updates to individual components, instances, or clusters, or to selected environments (QA, test, production). Updates can be rolled out all at once or in phases, and can be rolled back if needed, Complete audit trail also provided.

» Certified software:

- Certified JEMS releases - Production-ready versions only--guaranteed to be worm- and virus-free. Legal indemnification is also provided for Certified JEMS releases for gold and platinum JBoss subscribers.
- Certified upgrades and patches - Provides forward-compatible upgrades and binary patches, eliminating the need to recompile.



## RED HAT SALES AND GENERAL INQUIRIES

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Monitoring is a fully integrated module within the JBoss Operations Network, a key component of the JBoss Subscription.