

# Full Stack Monitoring of JBoss Application Infrastructures



## Key Benefits

- ✓ **Improve uptime and performance** of Java applications and services
- ✓ **Detect and resolve application slowdowns** before end-users are affected
- ✓ **Troubleshoot faster** by gaining deep performance insights and KPIs about JBoss performance
- ✓ **Eliminate finger-pointing** between IT Ops, DevOps and developers by automatically pinpointing the root cause of performance issues
- ✓ **Single monitor for everything Java:** Monitor JVMs, containers, web front ends, databases, underlying physical and virtual infrastructure from a single console

The JBoss application server is widely used for building, deploying, and hosting highly-transactional Java-based applications. To ensure business continuity and performance, it is essential to monitor the JBoss application server, the application components it hosts and the tiers supporting it.

## Continuous and Comprehensive JBoss Monitoring

eG Enterprise provides a single-pane-of-glass view of the entire JBoss infrastructure. From a centralized web console, application owners, developers and administrators can monitor the full Java stack including the JVM, web and EJB containers, problematic application code, database connections, slow queries, external web service calls, and more.

Out of the box, eG Enterprise provides purpose-built monitoring models for JBoss Enterprise Application Platform (EAP) and WildFly (formerly JBoss AS). You can get deep diagnostics on all aspects of JBoss performance including components such as Java transactions, EJB, JSP, Servlets, DataSource, Connectors, JMS Message Queues, JPA, and more.



JBoss AS/EAP Address-Validation-Service1:7001		Last Measurement Time: Jan 20, 2017 16:02:52	
<b>Application Transactions</b>			
<b>JBoss Container</b>			
JBoss EJBs			
JBoss Datasources			
JBoss Connectors			
JBoss JPA			
JBoss MQ Queues			
JBoss MQ Topics			
JBoss Servlet			
JBoss Transactions			
<b>JVM</b>			
<b>JBoss Datasources - deployment:ExampleDS</b>			
Active count (Number)	2		
Available count (Number)	20		
Average blocking time (Seconds)	0		
Average creation time (Seconds)	1.544		
Created count (Number)	0		
Destroyed count (Number)	0		
Max creation time (Seconds)	2.013		
Max used count (Number)	2		
Max wait time (Seconds)	0		
Timed out (Minutes)	0		
Total blocking time (Seconds)	0		
Total creation time (Seconds)	0		

*In-Depth JBoss application server monitoring using eG Enterprise*

eG Enterprise automates performance correlation and root cause analysis, providing contextual visibility of JBoss performance with that of other infrastructure tiers (web server, database, virtualization, storage, operating system, etc.) and isolating the exact cause of problems.

## Get Answers to Key Performance Questions

- Which of the Java business transactions are slow, stalled or having errors?
- Is the EJB thread pool sized correctly?
- Are Java servlets executing within acceptable processing thresholds?
- How many transactions are handled by each JBoss engine? Are they equally load balanced? Are more JBoss servers needed to handle the load?
- Is a backlog accumulating on a specific JMS queue or topic?

*eG Enterprise gives us performance insight into our business-critical applications. It provides real-time and detailed visibility of every key component. With its prediction and analysis reports, we can be proactive instead of reactive.*

**Thomas de Hoog**  
Travel Information GVB

## Key Capabilities of eG Enterprise for Monitoring JBoss Application Server

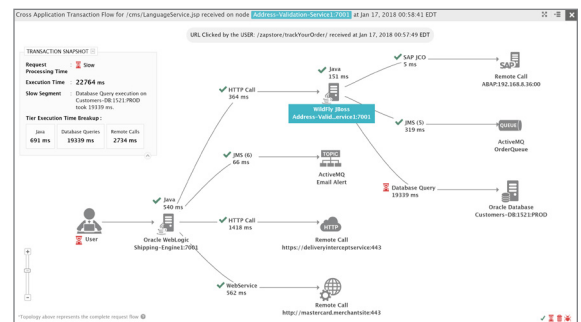
eG Enterprise provides in-depth performance metrics to detect and resolve complex problems in your JBoss infrastructure:

<b>Business Transactions</b>	<ul style="list-style-type: none"> <li>Slow transactions</li> <li>Stalled transactions</li> </ul>	<ul style="list-style-type: none"> <li>Transactions with errors</li> <li>Slow SQL statements</li> </ul>
<b>Enterprise Java Beans (EJB)</b>	<ul style="list-style-type: none"> <li>Number of invocations</li> <li>Average execution time</li> <li>Pool creation and removal count</li> <li>Pool utilization %</li> </ul>	<ul style="list-style-type: none"> <li>Stateless session beans</li> <li>Stateful session beans</li> <li>Message driven beans</li> <li>Entity beans</li> </ul>
<b>Servlets</b>	<ul style="list-style-type: none"> <li>Requests processed</li> <li>Load time</li> </ul>	<ul style="list-style-type: none"> <li>Processing time</li> <li>Request processing rate</li> </ul>
<b>DataSource and XA DataSource</b>	<ul style="list-style-type: none"> <li>Active and available count</li> <li>Created and destroyed count</li> <li>Creation time, wait time, blocking time</li> </ul>	<ul style="list-style-type: none"> <li>Cache access count</li> <li>Add count and delete count</li> <li>Hit count and miss count</li> </ul>
<b>Connectors</b>	<ul style="list-style-type: none"> <li>Requests handled</li> <li>Processing time</li> </ul>	<ul style="list-style-type: none"> <li>Errors seen</li> <li>Data transmitted and received</li> </ul>
<b>MQ Queues and MQ Topics</b>	<ul style="list-style-type: none"> <li>Messages delivered, scheduled, added</li> <li>Message processing rate</li> </ul>	<ul style="list-style-type: none"> <li>Durable and non-durable messages</li> <li>Durable and non-durable subjects</li> </ul>
<b>JPA</b>	<ul style="list-style-type: none"> <li>Load count, insert count, fetch count</li> </ul>	<ul style="list-style-type: none"> <li>Update count, delete count, failure count</li> </ul>

## Going Beyond JBoss Monitoring

eG Enterprise delivers total performance assurance for web applications powered by Java technology:

- User experience monitoring:** Using real user monitoring and synthetic transaction monitoring, you can identify user experience issues and slow transactions. Find out if the issue is with the browser, network, or server.
- Business transaction tracing:** Trace slow transactions across the Java application architecture and isolate server-side issues that are causing transaction slowdowns.
- Application code-level visibility:** In a single click, drill down to inefficient application code and poorly-written database queries, and pinpoint the exact line of code that is causing slowness.
- In-depth JVM monitoring:** Comprehensively monitor every aspect of JVM performance, including CPU, heap and non-heap memory, threads, classes, garbage collection, and more.



In addition to JBoss, eG Enterprise provides out-of-the-box monitoring for other application servers including Oracle WebLogic, IBM WebSphere, Apache Tomcat, and more. Licensed by the number of operating systems, not by the number of JVMs, eG Enterprise offers maximum licensing and deployment flexibility, and is truly cost-efficient.

## About eG Innovations

eG Innovations is dedicated to helping businesses across the globe transform IT service delivery into a competitive advantage and a center for productivity, growth and profit. Many of the world's largest businesses use eG Enterprise to enhance IT service performance, increase operational efficiency, ensure IT effectiveness and deliver on the ROI promise of transformational IT investments across physical, virtual and cloud environments.