

ORACLE ENTERPRISE MANAGER 10^g SYSTEM MONITORING PLUG-IN FOR JBoss APPLICATION SERVER

ORACLE SYSTEM MONITORING PLUG-IN FOR JBOSS APPLICATION SERVER FEATURES AND KEY BENEFITS

Application Performance Management

Features

- End-user performance monitoring

Benefits

- Actively monitor end-user performance
- Quantify the scope and impact of performance problems

JBoss Application Server Management

Features

- Aggregated metrics for JBoss partition
- J2EE application “top” reports
- J2EE performance and usage metrics for partition
- Out-of-box thresholds
- Monitoring templates
- Automated corrective actions
- Event filtering
- Customizable notification methods
- Real-time and historical performance monitoring
- Metrics snapshots
- System dashboards
- Integration of application instrumentation

Benefits

- Greater administrator productivity
- “Manage many as one” approach
- Easy to scale monitoring architecture in response to user needs
- Lower cost of management
- Unified management with Oracle products
- Faster resolution of problems
- Improved performance and

The System Monitoring Plug-In for JBoss Application Server enables customers to leverage their investment in Oracle Enterprise Manager to manage JBoss Application Servers. This plug-in allows customers to seamlessly monitor and manage JBoss with the similar, rich management functionality available for other Oracle products. Customers obtain the full benefit of the service dashboard, system dashboard, and topology views for environments that include JBoss Application Server. This plug-in offers a complete, cost-effective, and easy-to-use solution for application performance management, JBoss infrastructure management, and configuration management by providing unique functionality such as early and automatic identification of performance bottlenecks, aggregated metrics for JBoss Application Server Partition monitoring, and the ability to collect, compare, and track changes to the configuration of the JBoss environment.

Application Performance Management

Application Performance Management features enable application owners to quickly pinpoint and resolve performance problems. Real end-user performance monitoring and diagnostics of performance problems is enabled by a workflow driven approach by first enabling administrators to actively monitor their application’s real end-user experience; then to quantify the scope and impact of performance problems to specific application components and specific domains, regions, visitors or Web servers, and lastly to correlate performance problems to performance metrics exposed by JBoss Application Servers, aggregated metrics at the cluster level, or J2EE application metrics at the cluster level.

End-User Performance Monitoring

The End-User Performance Monitoring feature¹ allows application owners to monitor the actual performance that all real end users are experiencing for every action performed within the application. End-user tracking ensures that key customers are receiving adequate response times. It allows application owners and IT organizations to:

- Understand the performance of applications from the end-user perspective.
- Analyze the scope and impact of performance problems by URL, domain, region, end user, Web Server or a combination of these.

¹ This feature works when JBoss Application Servers are front-ended by Apache HTTP Server release 2.0 and when the Oracle Application Server Diagnostic Pack has been enabled for the Web Application.

- availability
- Better agility and predictability through automation - eliminate human errors

Configuration Management

Features

- Automated discovery of configuration data
- Powerful ad-hoc search and compare features
- Historical change tracking

Benefits

- Manage complex JBoss configurations
- Facilitate compliance to ITIL processes
- Faster problem resolution and root cause analysis
- Provides demonstrable control for IT governance and compliance

- Prioritize repairs for system problems based on scope and impact analysis by URL, domain, region, end-user or Web server.

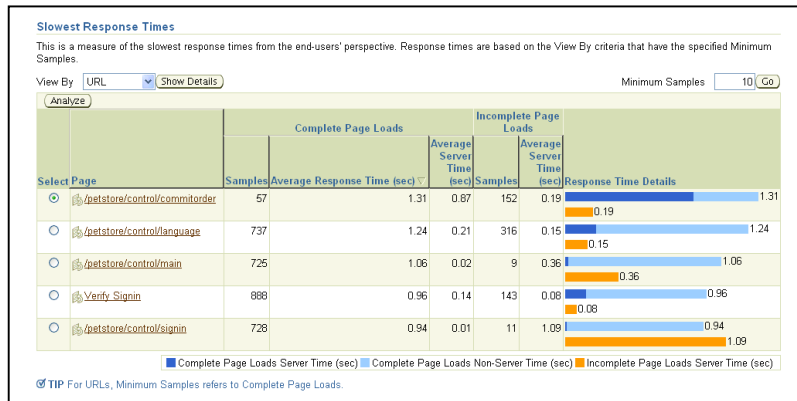


Figure 1. Real end-user page performance

JBoss Application Server Management

The System Monitoring Plug-In for JBoss Application Server allows administrators to scalably, comprehensively, and cost-effectively manage JBoss partitions and application servers. The costs are further reduced for Oracle Database customers as they can manage both Oracle Database and JBoss from a single, unified management offering. System dashboard views, service dashboard summaries, and topology drill-down views are fully enabled. This not only reduces administrative costs, but also significantly shortens the learning curve when Oracle Database Administrators take on additional responsibility to manage JBoss environments. The scalability of Oracle Enterprise Manager’s solution can be attributed to the following features: JMX based aggregated monitoring of JBoss Application Servers, extensible monitoring using JMX or Web Services, a robust event management system and J2EE application monitoring.

JMX Based Aggregated Monitoring

Historically the cost of managing large sets of systems has increased linearly – or faster – with the addition of each new system. It’s simply not possible to maintain management costs in the constantly growing environment with traditional management solutions that do not scale. Oracle Enterprise Manager’s features maintain management costs at a flat or near flat rate as the number of managed systems increases. The lower cost of management comes from a “manage multiple as one” approach of Enterprise Manager. Administrators can monitor multiple instances at the JBoss Application Server Partition level. Using these features, administrator can perform the following functions:

- Monitor JBoss Application Servers in a partition as one entity rather than individual JBoss Application Server silos.
- Analyze performance and workload distribution for J2EE applications deployed to JBoss instances that are members of a partition.

- View System Dashboards for JBoss Application Server Partitions.
- Manage JBoss Application Server Partitions and JBoss Application Servers.
- Configure monitoring settings across multiple JBoss Application Servers using Monitoring Templates.

Extensible Monitoring using JMX and Web Services

The System Monitoring Plug-In for JBoss Application Server includes integration of application instrumentation in Enterprise Manager's event monitoring infrastructure. If application developers expose application instrumentation using standards like JMX or Web Services operations, then administrators can build monitoring plug-ins for the instrumentation using easy-to-use command line tools that analyze mBean interfaces for JMX and WSDL for Web Services. They can then leverage Enterprise Manager's event monitoring system, which includes monitoring templates, corrective actions, historical and real-time metric views, alerts, customization of notification rules and methods on events generated from application instrumentation metrics, to monitor it. Administrators don't have to edit any XML files or write any complex code to integrate such instrumentation in Enterprise Manager.

Robust Event Monitoring System

Availability and performance problems in an application are often rooted in problems in the underlying technology stack. Continuous proactive monitoring of an application's underlying IT infrastructure thus becomes equally critical to ensuring application availability and performance. The System Monitoring Plug-In for JBoss Application Server provides out-of-the-box event monitoring for JBoss Application Servers.

- Oracle Enterprise Manager offers corrective actions as a way to automate responses to alerts or events, eliminating the need for operator intervention and minimizing human error, while increasing the speed of resolution.
- Oracle Enterprise Manager offers Monitoring Templates as a way to facilitate implementation of best practice monitoring standards across managed groups and systems. Administrators can create a customized set of monitoring settings - metrics, thresholds, corrective actions - that are appropriate for their environment, save these in a monitoring template, and propagate the template settings across managed groups and systems.
- Administrators can further customize notification rules and notification methods for the alerts to filter out alerts of interest.
- Historical performance metric data is stored in a management repository and can be used for trend analysis, component correlation and performance tuning.

J2EE Application Monitoring

Enterprise Manager provides the administrator with easy access to flexible diagnostic reports, such as top applications, top servlets, or top EJBs that can be

based on current or historical data. These “Top Reports” are helpful in understanding the relations of performance metrics of applications to the performance metrics of underlying middle-tier components. In a large environment, these reports may also help administrators redistribute the resources to various J2EE applications for optimal performance of all J2EE applications.

The J2EE application view at the JBoss Application Server Cluster level provides an instant view of the performance of a J2EE application across all JBoss Application Servers on which it is deployed.

Configuration Management

Configuration management features offered as part of the System Monitoring Plug-In for JBoss Application Server reduce manual labor, especially tedious and error prone tasks, in order to free up the administrators for pro-active maintenance activities that will ultimately lead to a more stable and more efficient environment. The configuration management features available with this plug-in achieve these objectives by first discovering the JBoss environment and then managing it through comparison and change tracking.

Automated Inventory and Configuration Baselineing

Enterprise Manager collects detailed configuration information about JBoss Application Server. This information includes:

- Ports and protocols
- Resource usage settings
- Deployed Web applications and their associated document root, path and working directory
- Datasources and connection pool settings

The configuration is automatically collected at regular intervals and stored in the Enterprise Manager repository. Ad-hoc collections are also supported.

Configuration Comparison

Enterprise Manager also enables administrators to compare distributed JBoss Application Servers at great detail – providing a quick and easy means to pinpointing any potential differences. This helps to keep middle-tiers synchronized and reduces "configuration drift". It also simplifies investigations into why instances that are presumed to be identical may behave differently.

Administrators often need to create new J2EE servers that are equivalent in performance to existing servers. One way to do this is to capture point-in-time information for an existing J2EE server. This information can then be used as a blueprint for creation of servers. Enterprise Manager allows users to easily capture, store and view such information for JBoss Application Server.

The ad hoc or scheduled comparison between selected multiple (1-n) targets and gold configuration can be against reference configuration, a saved configuration

baseline or a live configuration.

Configuration History and Tracking

Administrators are often faced with situations where a JBoss Application Server that once worked well is suddenly not performing at an acceptable level. Did someone make a change to a configuration parameter? Deploy a new application? Modify datasource settings? Trying to determine the exact change responsible for the decrease in performance could take hours if the administrator had to go through each of the possible scenarios by hand. Enterprise Manager makes it simple by automatically tracking changes to the JBoss configuration. This makes it quick and easy for the administrator to view changes that have been made since the last time the J2EE server was functioning appropriately, and apply the appropriate solution to get the server back up to an acceptable level. This feature is critical in managing compliance, since it accurately captures “what changed, when and why.”

RELATED PRODUCTS

The Oracle System Monitoring Plug-In for JBoss Application Server is integrated with the following Oracle Management applications:

- Management Packs for Database
 - Tuning Pack
 - Diagnostics Pack
 - Configuration Pack
 - Change Management Pack
 - Provisioning Pack
- Management Packs for Application Server
 - Diagnostics Pack
 - Configuration Pack
 - Provisioning Pack
 - SOA Management Pack
 - Identity and Access Management Pack
- Application Management Pack for Oracle E-Business Suite
- Application Management Pack for PeopleSoft
- Application Management Pack for Siebel
- Stand Alone Management Packs
 - Service Level Management Pack
 - Configuration Management Pack for Non-Oracle Systems
 - Provisioning Pack for Non-Oracle Systems
- Management Plug-ins
 - System Monitoring Plug-in for Hosts
 - System Monitoring Plug-in for Non-Oracle Databases
 - System Monitoring Plug-in for Non-Oracle Middleware
 - System Monitoring Plug-in for Network Devices
 - System Monitoring Plug-in for Storage
- Management Connectors

Detailed information on these products can be located at http://www.oracle.com/enterprise_manager

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