



# **BUYER'S GUIDE TO JBoss MIDDLEWARE MANAGEMENT**

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## OVERVIEW

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Middleware is the glue that holds your enterprise applications together. As the collection of frameworks, technologies, and services that enables you to build and deploy integrated systems and applications across a distributed network, middleware is an increasingly critical part of your enterprise application platform. Whatever middleware stack you are using—proprietary or open source—you need to be aware of the management issues you are likely to encounter throughout the application lifecycle, from development through production. And because the applications your middleware supports are increasingly mission-critical, you require an efficient and effective way to manage and monitor the middleware environment to ensure rapid deployment, maximum availability, and optimal performance.

You face three distinct business challenges with managing your enterprise application environment. First, increasing application complexity and fast rate of change is increasing the cost of managing application environments. Second, there are the increased risks arising from a failure to understand the business impact of incidents and how changes affect the entire application lifecycle. Finally, there's the inconsistent quality of service that arises from a lack of a consistent set of tools and practices and from siloed management practices.

JBoss Enterprise Middleware is a broad portfolio of enterprise-class open source middleware, delivered by Red Hat, the leader in open source solutions. This comprehensive portfolio of stable, supported, enterprise-class platforms, along with development and management tools, supports the entire application lifecycle. Enterprises of all sizes in virtually all industries depend on it to build and run their mission-critical Java applications, integrate services and data, and manage business rules.

As with any middleware platform, you need tools to manage and monitor your JBoss Enterprise Middleware environments. Enter JBoss Operations Network™. This integrated tool delivers centralized systems management that lets you:

- coordinate the stages of the application lifecycle
- expose a cohesive view of your middleware components through even the most complex environments
- improve operational efficiency and reliability through thorough visibility into production availability and performance
- effectively manage configuration and rollout of new applications

Whether you're already implementing JBoss or evaluating it for your enterprise middleware needs, JBoss Operations Network is an essential part of making sure development, testing, and deployment of your enterprise Java applications goes smoothly.

## ENTERPRISE APPLICATION MANAGEMENT: THE BUSINESS REQUIREMENTS

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As Java-based enterprise applications become increasingly mission-critical, operations managers bear increasing responsibility for ensuring they are built, tested, and deployed in a way that supports the business. Mean time to resolution (MTTR) of any issues or problems that impact your Java applications is a critical metric for determining if your application environment is up to standards.

From development through production, application management issues generally fall into four areas:

**Ensuring application availability.** First, there's the very basic issue of whether your applications are indeed up and running and available when your users need them to be. Are you meeting your all-important service level agreements (SLAs)? How quickly are you alerted when an application goes down so you can fix the problem?

**Proactively monitoring and fine-tuning performance.** Are you able to identify potential problems and resolve them before they actually occur? Do you have a way to proactively monitor applications so that you can take action whenever you see performance degradation that will impact users?

**Deploying and updating application content.** Do you have a means of deploying and configuring new content across your entire network quickly, consistently and securely, with minimal disruption of application performance?

**Reducing MTTR.** Does the support team have the information and tools to address problems quickly and minimize downtime?

These issues can have an immediate bottom-line impact. For instance, if a shopping cart is down or reservation engine is underperforming, and you don't know it, you are losing business every minute until the problem is found and fixed. Your goal, therefore, is to minimize the mean time to resolution. Even better would be preventing such problems from happening in the first place.

To get the most out of your Java applications environment, you need a robust tool that gives you total visibility into your applications and a means of effecting changes seamlessly. And because every business is trying to keep a lid on headcount and technology infrastructure, you need a system that can allow administrators and developers to monitor, deploy, and configure all applications through a single, central interface.

## THE CHALLENGES OF A SILOED APPLICATIONS DEVELOPMENT AND DEPLOYMENT MODEL

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In many organizations, application developers and operations administrators tend to work in their own silos. In the absence of ongoing communication, three main problems arise:

**Lack of visibility.** Administrators should be able to “see” into their application infrastructures. They need an easy way of taking inventory of application resources to ensure consistency across the environment. They need to be able to keep track of versions and to authorize access to designated users. And they need a consistent way to perform diagnostics and application performance tuning. Without such visibility, it's impossible to understand the business impact of incidents and changes.

**Slow response times.** Today's application environments are complex, and the rate of change is frequent. You need an efficient means of addressing environmental changes quickly throughout your IT operations – updating applications, deploying new ones, and resolving problems. You also need a way to manage outages and faults, whether they involve existing applications or arise when rolling out new ones.

**Lack of administrative efficiency.** Failure to manage your applications environment efficiently translates directly into higher operational costs. You need to be able to optimize staff productivity and redirect people's efforts from time-consuming manual tasks to more strategic issues.

## ENTERPRISE APPLICATION PLATFORM MANAGEMENT SOLUTIONS: WHAT TO LOOK FOR

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There's no question you need a management and monitoring tool for your enterprise application environment. You have two choices when it comes to acquiring one: build or buy. Building your own solution is risky. Not only is it a time- and resource-intensive process, but you're reinventing the wheel because of the existence of other, sophisticated management tools already on the market that take advantage of industry best practices honed over time. These third-party alternatives, however, vary widely in quality, capabilities, and ease of use, and there are significant cost/benefit tradeoffs.

The tool you choose should be sufficiently robust to address all of your application management needs without unduly straining the IT budget. There are three main areas such a tool should address: infrastructure awareness, performance management, and operations control.

- **Infrastructure awareness.** Where are my application components? How is my application performance? Where are my application updates, what platforms are they on, and what dependencies do my applications have?
- **Performance management.** Can I be alerted before a resource is about to fail? Can I set dampening/recovery alerts? Can I set my alert to adjust dynamically to resource performance? How long has a resource been down or poorly performing?
- **Operations control.** What control operations can I perform on a resource? Can I deploy applications and content to target machines? Can I start/stop/restart applications, servers, and platforms? Can I get patches and updates and automatically apply them? Can I automate/schedule alerts and recovery? Can I execute custom actions?



Based upon these three criteria, the capabilities that constitute best practices in enterprise application management include the following:

**A common platform for application development and management.** The problem of development silos and lack of communication with operations administrators is eliminated when all parties share a common interface and an open environment. Continuity of the interface from development through production improves productivity. A single platform also eliminates the need for multiple tools to address monitoring, deployment, and configuration.

**Visibility into application availability and performance.** The solution should have the ability to automate the monitoring of applications and notify administrators not only which are up and running, but also whether they are running at required performance levels. It should also be able to alert administrators when there's any degradation in performance levels that indicates a potential or pending problem.

**Virtually unlimited scalability.** As business requirements call for more and increasingly complex applications, your application management solution should give you the capacity to manage distributed environments that cross operating systems and hardware platforms.

**Flexibility to implement configuration changes quickly.** With business demands changing constantly, you need to be able to respond to change quickly while mini-mizing the impact and risk of change on application performance.

**Ease of integration.** You'll want a solution that is easy to integrate with your operations infrastructure and other third-party tools.

Mission-critical applications require the highest levels of availability and performance. The right solution will enable managers to monitor their entire application environments proactively to keep all systems – and the business – up and running.



## ABOUT JBOSS OPERATIONS NETWORK

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Among the solutions available for managing an enterprise application environment, only one is purpose-built to support the JBoss application platform: JBoss Operations Network.

JBoss Operations Network is an integrated, centralized management platform that simplifies the development, testing, deployment, and monitoring of your JBoss enterprise middleware from a single console. Through this console, you can inventory resources from the operating system to applications. You can control the historical auditing capabilities of your application configurations. Know who made what changes, when, and why. Manage, monitor, and tune your applications for improved visibility, performance, and availability.

JBoss Operations Network also offers the advantages of open source technology, giving you greater development flexibility at a lower price compared to proprietary pricing. A cost/benefit analysis against leading proprietary software providers shows that JBoss Operations Network delivers comprehensive capabilities for 65-80% of the cost of the top brand name competitors. And because it was designed as part of the JBoss suite, it requires virtually no custom integration.

Whether you're committed to JBoss or considering it as your enterprise middleware platform, you'll need a comprehensive, robust, and easy-to-use management and monitoring tool for consistent development, deployment, and maintenance across your applications. If you are interested in applying best practices in enterprise application management and getting the most value from your JBoss investment, JBoss Operations network – the solution designed specifically for JBoss – is your optimal solution.

## ABOUT RED HAT

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Red Hat, the world's leading open source solutions provider, is headquartered in Raleigh, NC with over 65 offices spanning the globe. CIOs ranked Red Hat as one of the top vendors delivering value in enterprise software for five consecutive years in the CIO Insight Vendor Value survey. Red Hat provides high-quality, affordable technology with its operating system platform, Red Hat Enterprise Linux, together with applications, management, and service-oriented architecture (SOA) solutions, including JBoss Enterprise Middleware. Red Hat also offers support, training, and consulting services to its customers worldwide.

Learn more: [www.redhat.com](http://www.redhat.com).

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