

# RED HAT SERVICE-ORIENTED ARCHITECTURE STRATEGY

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In light of IT budget constraints, enterprise executives are challenged to do more with less. They face application and business process development complexity, inefficiency, business process friction, and IT user experiences that sap energy from the business and the bottom line. Red Hat can alleviate these infrastructure problems by moving organizations toward Service-Oriented Architecture (SOA). These Red Hat and JBoss high-quality, low-cost solutions allow customers to focus their resources on the SOA-enabled applications and business processes that differentiate their business and give them a competitive advantage.

CIOs can't address other problems unless they have a flexible, scalable, and affordable SOA infrastructure in place. That's what Red Hat delivers - from the operating system through multiple middleware products to rich, dynamic user interfaces, all with the lowest total cost of acquisition and ownership in the industry.

## CHALLENGE: DEVELOPMENT COMPLEXITY

Developers face many differing and complex development frameworks that often require new code to bridge the programming models. This complexity slows application development and business process automation, resulting in increased costs and lost opportunities.

## RED HAT REDUCES DEVELOPER COMPLEXITY

Red Hat eliminates programming model complexity with a standards-based programming model and development environment with JBoss Developer Studio. JBoss Developer Studio allows building of SOA components and Web 2.0 applications with dramatically less coding, increasing productivity, accelerating time to market, and reducing development and run-time errors. Bottom line: Lower costs and expended business opportunities.

## CHALLENGE: INEFFICIENCY AND RESPONSIVENESS

IT executives struggle to increase the utilization of their dispersed IT assets. Most IT environments require purchasing additional hardware for new applications, while

installed hardware runs at 5% to 10% utilization. Low utilization adds hardware costs, team management costs, and complexity to IT operations.

## RED HAT INCREASES ASSET UTILIZATION EFFICIENCY AND RESPONSIVENESS

Virtualization optimizes hardware utilization, letting services and multiple business processes use the same resources in an optimal fashion. The Red Hat® Advanced Platform takes advantage of advances in operating system virtualization, helping customers reduce costs and allowing the refocusing of resources to the application and business process automations that differentiate their business. And Red Hat integrated virtualization helps IT assets better respond to peak workloads and peak demand for specific services and business processes.

## CHALLENGE: DATA ACCESS

A business's data is one of its most valuable assets and typically is underutilized to serve customers and improve efficiency of business execution. Many times, inflexible, hard-coded interfaces deliver data to a set of applications, but these interfaces are difficult to impossible to share with new applications, partners, customers and processes. Data challenges creating this pain include differing data semantics, structure and data federation challenges.

## RED HAT IMPROVES DATA USE THROUGHOUT THE ENTERPRISE AND VALUE CHAIN

The MetaMatrix Enterprise Data Services Platform relieves this pain by enabling data to be federated into views required by existing and new business processes and applications simply and swiftly. Data sources may be presented to an SOA for use by many business actors as standards-based services. MetaMatrix shields applications and SOA deployments from data changes making it simpler and more affordable to leverage data in all business processes where needed driving up reuse and ROI on existing data deployments.



## CHALLENGE: BUSINESS PROCESS FRICTION

Business processes often run much less efficiently than they should, thanks to the friction of unnecessary manual steps, awkward inter-system communication, and the inability to manage rapid change. Business process friction saps a business' ability to differentiate and compete in their market space.

## RED HAT RELIEVES BUSINESS PROCESS FRICTION

SOA integrates flexible and reusable services that can be rapidly deployed and modified to relieve business process friction, improve business agility, and accelerate time-to-deliver on business requirements. But despite the potential benefits, moving to SOA can be an expensive and complex transition. Organizations have been forced to either "roll their own" SOA or integration platform, or struggle with heavyweight, complex, and expensive commercial SOA platforms. Red Hat removes the complexity and expense with integrated, modular, open source offerings that deliver significantly lower total cost of acquisition and ownership than traditional alternatives.

## CHALLENGE: INADEQUATE USER EXPERIENCE

Users, whether internal or external customers and partners, deal with presentation of information and response options that are out of context in their everyday work interactions. The lack of context and the absence of personalization drives lower user productivity and increases error and cost.

## RED HAT IMPROVES USER PRODUCTIVITY

Rich Web 2.0 interfaces, coupled with personalization technology, improve productivity for users of SOA-based, automated business processes. Businesses that provide the best user experience will have a competitive advantage. The JBoss Enterprise Application Platform and JBoss Enterprise Portal Platform include tools and frameworks to easily develop rich interfaces that maximize the user experience.

## JBoss ENTERPRISE MIDDLEWARE— THE OPEN SOURCE PLATFORM FOR SOA

Beyond the Red Hat Application Stack, JBoss Enterprise Middleware is a suite of cross-platform middleware products that enable the development, deployment, and management of SOA-automated business processes and services. In addition to being optimized for Red Hat Enterprise Linux, JBoss Enterprise Middleware supports Microsoft® Windows®, Sun® Solaris®, HP-UX, IBM® AIX, and Novell® SUSE® Linux.

JBoss Enterprise Middleware includes four platforms certified for enterprise deployment:

1. **JBoss Enterprise Application Platform**— host services, JEE, and web applications
2. **JBoss Enterprise Portal Platform**— highly productive end user interaction with SOA services and business processes
3. **JBoss Enterprise SOA Platform**— integrate services and applications into automated business processes
4. **MetaMatrix Enterprise Data Services Platform**— a future open source JBoss Enterprise Middleware Platform to enable easy access to federated data for SOA deployments.

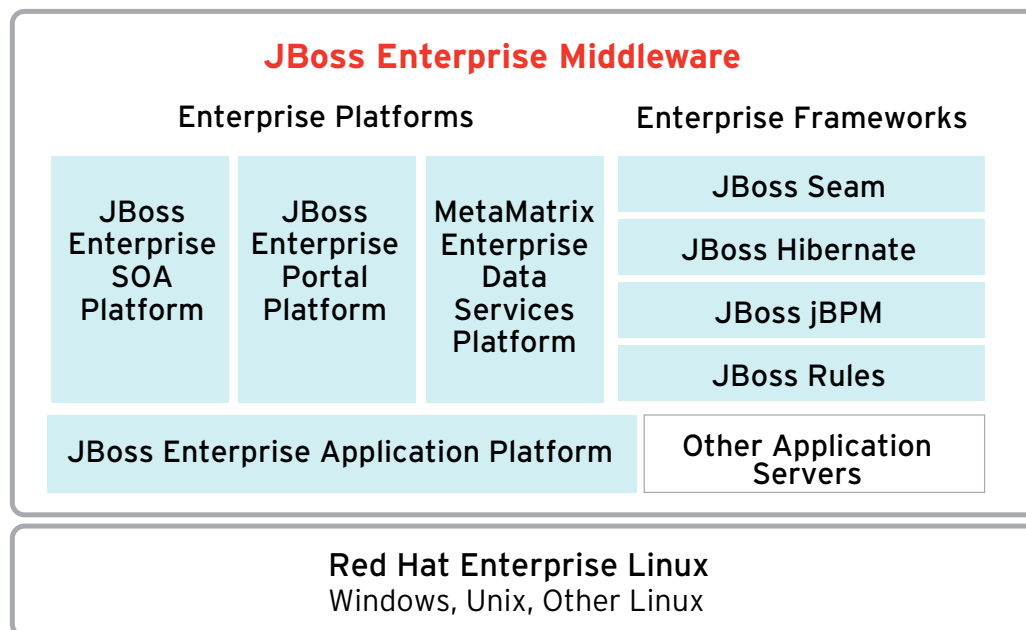
These JBoss Enterprise Platforms integrate category-leading open source project from JBoss.org open such as JBoss.org Application Server project, JBoss.org Hibernate project, JBoss.org Portal project and JBoss.org ESB project into stable, certified, supported platform distributions for mission critical enterprise use.

In addition, JBoss Enterprise Frameworks are certified, enterprise-ready products designed to be embedded in and used to build SOA applications and business processes. These frameworks include:

1. **JBoss Hibernate**— relational database persistence for Java and SOA applications
2. **JBoss Seam**— next generation Web 2.0 enterprise applications



FIGURE 1



3. **JBoss jBPM**– business processes that coordinate people, applications, and services
4. **JBoss Rules**– easy business rules policy access and management

Together, these JBoss Enterprise Middleware Platforms and Frameworks offer the foundation for SOA and a path to greater business agility. JBoss Enterprise Middleware modularity lets enterprises standardize on JBoss Enterprise Middleware at their own pace. Many companies include JBoss Enterprise Middleware Frameworks such as Hibernate, JBoss jBPM, and JBoss Rules to enhance existing application and SOA deployments. As companies discover the benefits of open source middleware, they can add other JBoss Enterprise Middleware products for new workloads or migrate existing work as they choose.

**Figure 1** illustrates JBoss Enterprise Middleware, the open source platform for SOA, and its Platforms and

Frameworks. Together these products—along with our large ecosystem of partner offerings— help enterprises build, certify, deploy, and manage SOA installations.

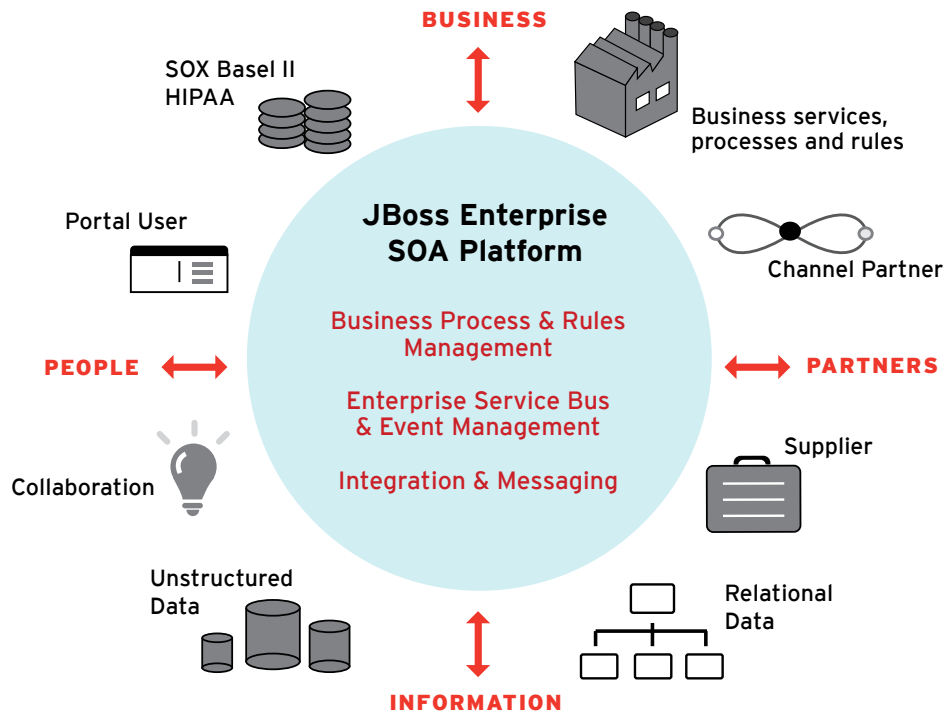
#### THE JBOSS ENTERPRISE SOA PLATFORM

Enterprises operate within value chains consisting of many stakeholders and assets, including IT assets. However, most of these assets and stakeholders are not well connected nor their operation well orchestrated in the execution of their business. This “business process friction” adds cost, error, and lost opportunities across the value chain. A value chain integrated with SOA deployments bringing these business process players and asset together can go a long way to relieving these pain points. This is where the JBoss Enterprise SOA Platform comes in. The JBoss Enterprise SOA Platform is a 2nd generation SOA platform that brings enterprise service bus, business process automation and business rules technology together to solve the integration





**FIGURE 2**



problems typically found in enterprise value chains. Figure 2 shows the JBoss Enterprise SOA Platform bringing together these value chain stakeholders and assets.

**RED HAT MAKES SOA AFFORDABLE AND EASY TO CONSUME**

As the world’s leading provider of open source solutions, Red Hat collaborates with the community to deliver enterprise-class software that puts customers in control. The Red Hat Open Source Architecture offers a modular foundation that allows enterprises to use what they need, when they need it. The JBoss Enterprise Application Platform is a great place to start. It’s a single integrated JEE platform for developing and hosting SOA services, web applications and enterprise applications. Customers can add data fed-

eration services, portal, business process and event management, SOA service integration, and other capabilities as they need them.

Whether customers leverage Red Hat for some--or all--of their SOA infrastructure needs, they’ll receive industry-leading technical support from the #1 rated software vendor in value for three years running by CIO Insight<sup>1</sup>. Automated patches, updates, and upgrades help reduce maintenance costs and complexity and ensure that customers will consistently meet service level agreements. Red Hat customers have a choice, and they choose to stay with Red Hat for its superior value.

1 <http://www.cioinsight.com/article2/0,1540,2067515,00.asp>

