JBoss a division of Red Hat

# RED HAT RE-DEFINES SOA FOR GOVERNMENT AGENCIES

## Simple. Open. Affordable.

IT budget constraints challenge government agencies to do more with less. At the same time agencies face application and process complexity, inefficiency, and security concerns. All these factors slow down productivity. Agencies require technology that is agile and can facilitate mission requirements in an environment of constant change. Red Hat can alleviate infrastructure problems associated with siloed data and legacy applications by moving agencies toward Service-Oriented Architecture (SOA). SOA is an approach for building distributed systems that deliver application functionality as loosely-coupled services. Red Hat's high quality, low cost open source-based solutions allow government agencies to do more with existing budget, simplify processes, and integrate data. As a result, agencies are able to deliver better citizen services, protect the war-fighter and secure the homeland.

Red Hat delivers IT infrastructure solutions which include an operating system and middleware with rich, dynamic user interfaces. With the lowest total cost of acquisition and ownership in the industry, Red Hat provides government customers with an open source platform for SOA that allows agencies to make the business process changes they need to make a difference.

Red Hat redefines SOA to mean:

» Simple - It's easy to develop and to deploy open source platforms for SOA.

» Open - With the greatest transparency: open source and open standards.

» Affordable - Subscriptions deliver greater value by eliminating expensive license fees and delivering a high quality experience with superior customer support and satisfaction.

### CASE IN POINT: MILITARY SURFACE DEPLOYMENT AND DISTRIBUTION COMMAND

With a mission to "provide global surface deployment command and control and distribution operation to meet National Security objectives in peace and war," the Military Surface Deployment and Distribution Command (SDDC) partnered with Red Hat and Unisys to migrate their critical Global Freight Management (GFS) system to a new application server platform using JBoss. Because JBoss is an open source platform, it provides the information needed to monitor the system and continually improve service to end users. Load balancing is much easier than before, offering the opportunity to improve performance and reliability. And the lack of licensing fees makes JBoss much less costly than the previous environment. Dianne Constable, GFM Program Manager and Chief, Surface Cargo Systems Branch, states "We now have the flexibility to do things more quickly. We put out a software release every other week, and with JBoss it's much easier to add that new functionality and make business process changes."

### IMPROVING SERVICES FOR TODAY AND TOMORROW

Web services and a service-oriented architecture represent the design blueprint for the IT infrastructure agencies need, now and in the future. Together, they offer a standards-based approach to making IT dynamically interoperable, dramatically improving efficiency and response times, and providing real-time information for better decision making. The question is no longer whether to implement SOA. The question is how to implement SOA to maximize the benefits within an organization.

Because of the popularity and availability of the Internet, citizens prefer to conduct their government related business on-line, rather than having to travel to a government office and stand in line. Who wouldn't rather spend ten minutes to renew their driver's license

from their office desk than take three hours off work to do the same task? Many agencies have developed on-line services and processes for conducting government business and defending the nation.

The Red Hat SOA strategy allows agencies to accelerate their mission execution while driving higher quality employee and citizen satisfaction.

Service-Oriented Architecture:

» Focuses on improving organization agility
» Provides a standard way to represent and interact with application functionality
» Enables reuse of services
» Leverages open standards
» Focuses on application assembly and creating new applications from existing components
» Leverages organization services inside and outside the agency

SOA provides:

» Easier integration
» Faster time to production of new applications
» Reduced development costs
» Rapid component reuse

## 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 DEVELOPMENT COMPLEXITY

Red Hat eliminates programming model complexity with a standards-based programming model and development environment. This allows the assembly 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

Government IT executives struggle to increase the utilization of their dispersed IT assets. Most IT environments require the purchase of additional hardware for new applications, while installed hardware runs at only 5% to 10% utilization. This low utilization adds hardware costs, team management costs, and complexity to IT operations. SOA is the design blueprint for the IT architecture of the future. Built on open standards, SOA provides the strategic IT direction agencies need to become more agile and responsive.

## 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. Red Hat integrated virtualization helps IT assets better respond to peak workloads and peak demand for specific services and business processes.

## CHALLENGE: SECURITY

Security management and data protection are critical to government agencies. SOA helps government agencies integrate security tools into their SOA architecture. The integration of formerly separate technology systems must consider proper management and protection of shared information and content across all applications and platforms.

## RED HAT ALLEVIATES SECURITY ISSUES

An agency's most sensitive information is frequently stored in the business systems that are now being accessed by the Web services employed within an SOA. As such, security concerns have become part of the enterprise decision-making process relating to the adoption of a SOA. Red Hat provides the most simplified, scalable, and complete solution in the market today. Our base architecture has been built around industry standards and is backed by the open-source community for providing choice and industry leading value to our customers at an overall lower cost of ownership.

The Red Hat SOA platform provides capabilities agencies require for their security implementations. These capabilities include the authentication and authorization of a user to ensure that only the right people get the right access according to their user profile and status. Integrity of information requirements are also included because of the importance to ensure that an external user can not access or change the information, Lastly, Red Hat security components include the ability to record or document all user access to monitor and track who, what, where, and when updates or changes are made. That is the Red Hat difference.

## 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 platform, or struggle with heavyweight, complex, and expensive commercial SOA platforms. Red Hat removes the complexity and expense with an integrated, modular, open source SOA platform at a significantly lower total cost of acquisition and ownership than commercial 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 Red Hat SOA platform includes tools and frameworks to easily develop rich interfaces that maximize the user experience.

## RED HAT APPLICATION STACK – THE IDEAL SOA SERVICES HOSTING PLATFORM

The Red Hat Application Stack is the first fully integrated open source application platform stack simplified, delivered, and supported by the open source leader. It includes everything you need to run standards-based Web and enterprise applications and host web services and Java-based SOA services.

As shown in Figure 1, the Red Hat Application Stack features Red Hat Enterprise Linux, JBoss Enterprise Application Platform with JBoss Application Server, JBoss Seam, Tomcat, Apache™ Web Server, Hibernate, and a choice of open source databases: MySQL or PostgreSQL.

Red Hat Enterprise Linux brings virtualization to SOA deployments, allowing IT to maximize utilization of assets. Virtualization provides the capability to redirect hardware and operating system resources to highdemand SOA services and business process workloads. The JBoss Enterprise Application Platform provides the run-time environment for hosting services.

## 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 three platforms certified for enterprise deployment:

1. JBoss Application Platform: host services, JEE, and web applications
2. JBoss Enterprise Portal Platform: highly productive end user interaction with SOA services and business processes

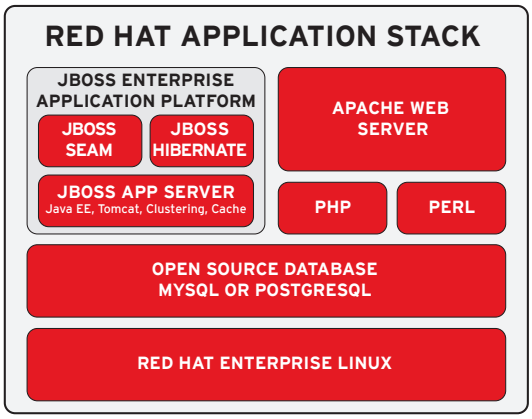


**Figure 1:** Red Hat Enterprise Linux brings virtualization to SOA deployments, allowing IT to maximize utilization of assets. Virtualization provides the capability to redirect hardware and operating system resources to high-demand SOA services and business process workloads. The JBoss Enterprise Application Platform provides the run-time environment for hosting services.

3. JBoss SOA Platform: integrate services and applications into automated business processes

These JBoss Enterprise Platforms include category eading open source projects such as JBoss Application Server, Hibernate, JBoss Portal, and JBoss ESB packaged and certified for enterprise deployments of all sizes.

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. Hibernate: relational database persistence for Java and SOA applications
2. JBoss Seam: next generation Web 2.0 enterprise applications
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 agencies 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.

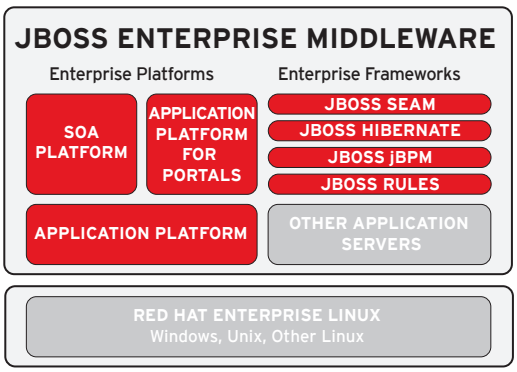


**Figure 2:** This illustrates JBoss Enterprise Middleware, the open source platform for SOA, and its Platforms and Frameworks. Together these products--along with our large ecosystem of partner offerings-- help enterprises build, certify, deploy, and manage SOA installations.

## RED HAT MAKES SOA AFFORDABLE AND EASY TO CONSUME

The challenge for government agencies to do more with less is a constant battle. Most agency's see SOA as a strategic decision to better align IT with their missions and continue to provide improved citizen services. The value of SOA really relates to an agencies' ability to change, and support a culture of change, to allow for improvements in information sharing across organizations. Government agencies can no longer justify unnecessary duplication of infrastructure or disparate systems that don't communicate with each other. Service-oriented architecture is creating a tremendous shift in agency processes by re-defining architecture strategy and requiring significant changes in resource allocation. Its mandate to build an enterprise architecture that reshapes applications as services is a leading priority for federal agencies. Red Hat accepts the challenge to help government agencies optimize service oriented architectures, allow for services consolidation, and extract higher performance without increasing budget requirements.

## RED HAT SALES AND GOVERNMENT INQUIRIES

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