



JBoss Enterprise BRMS

OPEN SOURCE BUSINESS RULES MANAGEMENT SYSTEM ENABLES ACTIVE DECISIONS

WHAT IS IT?

JBoss Enterprise BRMS provides an open source business rules management system that enables active decisions with easy business policy and rules development, access, and change management. A business rules management system helps an organization capture and manage business knowledge and policies. These business rules form the basis of decision making in an organization.

WHAT DOES IT DO?

JBoss Enterprise BRMS includes a fast and highly efficient rule engine and easy-to-use rules development, management system, and repository. JBoss Enterprise BRMS makes it easy for a business analyst or auditor to view and manage your business rules as encoded in your IT application infrastructure. Business analysts as well as SOA (service-oriented architecture) and rules developers can verify that the encoded rules indeed implement the documented business policies ensuring compliance with regulations. JBoss Enterprise BRMS also supports an open choice of authoring and management consoles and language and decision table inputs, making it easy to quickly modify your business policies to respond to opportunities and competitive threats.

WHY SHOULD I CARE?

JBoss Enterprise BRMS allows businesses to reduce development time to update applications, SOA deployments, and business processes with the latest business rules and policies. This enables enterprises to make active decisions driven by business strategies and environment changes.

By rapidly updating IT applications to feature new products and specials and providing current and relevant upsell offerings, an enterprise can anticipate and respond rapidly to competitive and business challenges. Something as simple as implementing a new pricing scheme can be rolled into production in a matter of hours with little to no impact to the current application infrastructure. Additionally, JBoss Enterprise BRMS allows IT and business analysts to ensure that the application, SOA, and/or BPM deployment implements the business policies correctly, reducing costs and ensuring compliance with regulations.

OVERVIEW

IT organizations search for greater flexibility to improve business process agility. An agile application and business services portfolio has become one of the top focus items for businesses of all sizes. A more stringent regulatory environment drives IT to better manage critical business logic and rules, enabling superior business process automation, as well as application and business process audit readiness. Achieving greater agility and transparency leads organizations to improve the modularity and accessibility of their business policies and rules by separating these business policies and rules from business process and presentation logic into a business rules management system (BRMS).

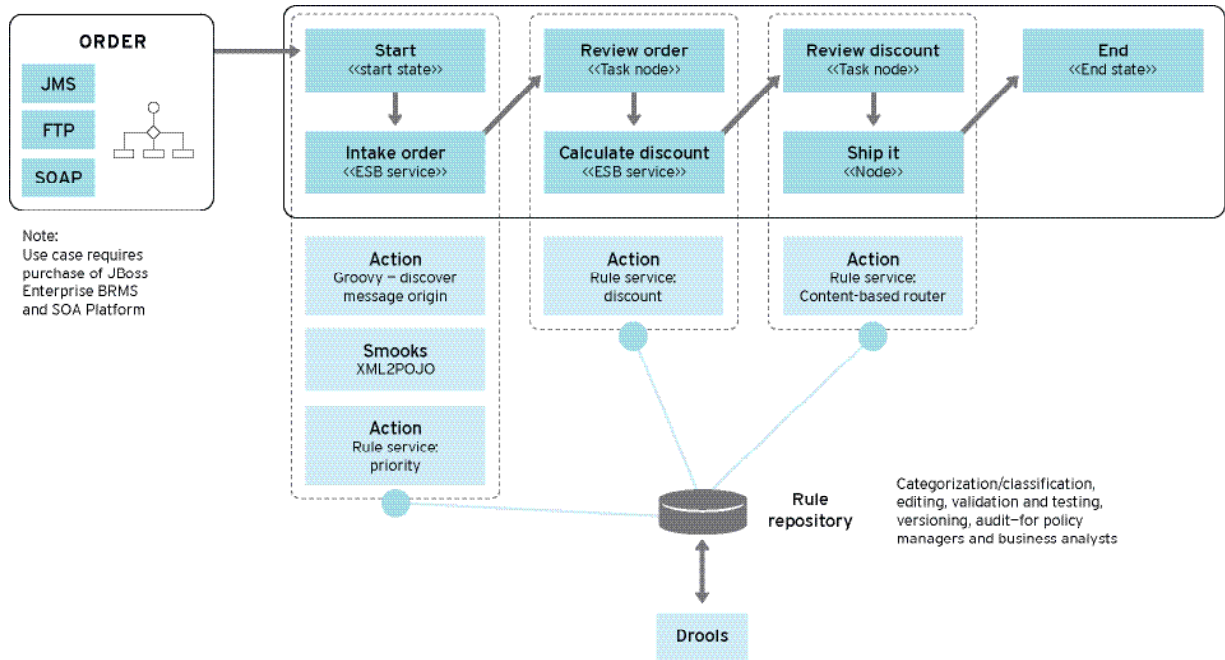
Choose JBoss Enterprise BRMS whether you require an embedded rules engine in a specific application or an enterprise-wide business rules infrastructure to support application development and deployment, automated business processes and services-oriented architecture (SOA) deployments. With JBoss Enterprise BRMS, enterprises can enable much more agile applications with rapid and easily modified business rules. JBoss Enterprise BRMS supports multiple rules development paradigms targeting business analysts, SOA developers, and Java application developers, enabling an open choice of tools. JBoss Enterprise BRMS adds flexibility to Java application deployments and SOA implementations.

Examples where JBoss Enterprise BRMS adds significant value to enterprises and government agencies include:

- Resource allocation and prioritization
- Product configuration - Handles complex product feature interdependencies
- Pricing and electronic trading - Applying algorithms to live pricing information
- Insurance - Assessing the premium level for new and customers with changed circumstances
- Network security and monitoring - Intelligent assessment of traffic for malicious intent; smart alerts, and control actions
- Authorization - E.g., determining user permissions



FIGURE 1



JBoss Enterprise BRMS in action in an SOA deployment automating order processing

- Control systems - E.g., air conditioning, heating, manufacturing
- Healthcare - Assessing drug interactions; prescription assistance
- Government - Evaluating and approving benefits such as social security, unemployment, and welfare; fraud detection

APPLICATION SIMPLIFICATION AND AGILITY

Business rules management systems simplify applications by separating business policy or rules logic from process, infrastructure, and presentation logic. This modularity enables business analysts, rules developers, and auditors to develop, deploy, modify, and manage the rules of a business process with much greater ease and speed.

For example, when a company wants to run a one week special, all one needs to do is modify the pricing or offering rules associated with a particular product and service,

deploy it to JBoss Enterprise BRMS, and voila - the special offering is up and running. There is no need to modify code or rebuild the application - it is that simple.

TRANSPARENCY

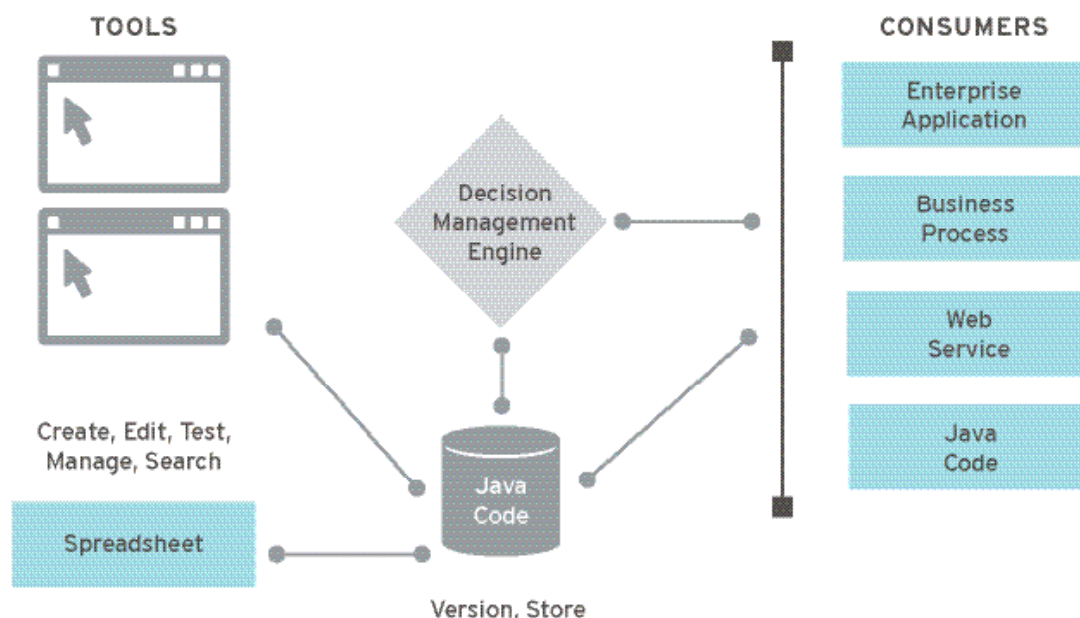
With the business rules separated from business and presentation logic, it becomes far easier for business analysts and auditors to ensure that the encoded business rules indeed implement the business policies precisely. This helps businesses meet the newer, more stringent regulatory environment as driven by Sarbanes-Oxley, Basel, and HIPAA, for example.

EFFICIENT AND SCALABLE

JBoss Enterprise BRMS is a great means to collect complex decision-making logic and work with data sets too large for employees to effectively use. The rules engine included with JBoss Enterprise BRMS can make active decisions based on hundreds of thousands of facts quickly, reliably, and consistently. It works by decomposing large sets of rules into a very efficient network of nodes that can process and react to facts far



FIGURE 2



JBoss Enterprise BRMS enables active decision making with an open choice of development, business analyst, auditing, and management tools.

more efficiently than what can be programmed manually. JBoss Enterprise BRMS scales extremely well with increases in the number of rules and facts.

KNOWLEDGE BASE AND TRANSFER

Rule engines facilitate knowledge-transfer to centralized repositories and help combat issues due to the loss of key decision makers, managers, executives, and specialists due to "normal" turnover rates and aging populations. This loss of knowledge can cripple small businesses and organizations, and seriously hamper the efforts of medium-sized companies and divisions of large companies. JBoss Enterprise BRMS mitigates these risks by centralizing key knowledge in the rules repository.

REUSABILITY ACROSS APPLICATIONS AND SOA - BUSINESS RULES SERVICES

Once your business rules are separated from other logic, they can be more easily reused across many applications and in SOA environments. This provides added benefits of business agility, accuracy and enables the same answers to be given for the same inputs to all

applications and users. JBoss Enterprise BRMS is a key component of JBoss Enterprise Middleware and delivers business process agility and accuracy to businesses.

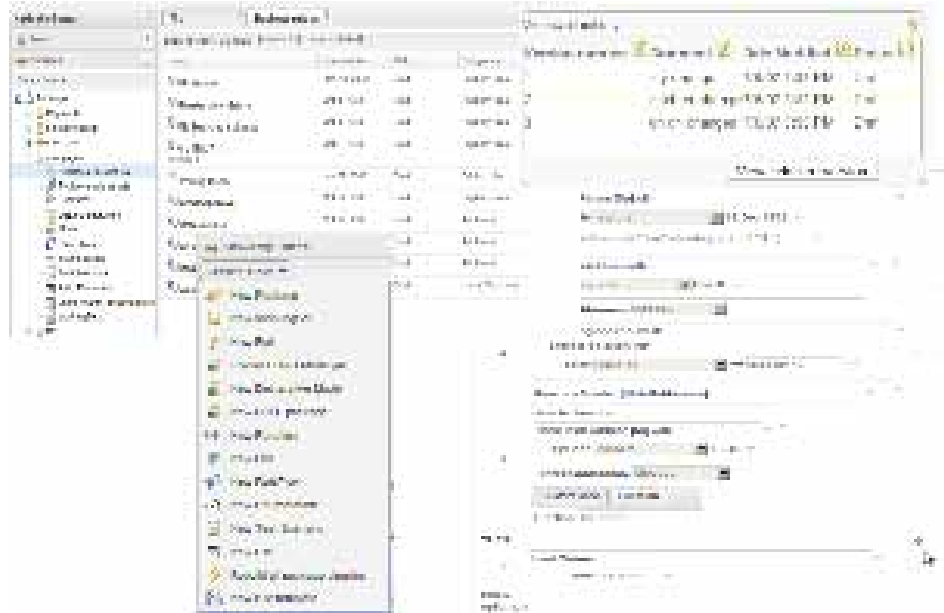
JBoss ENTERPRISE BRMS FEATURES

Business Rules and Active Decision Engine - The JBoss Enterprise BRMS engine implements the full Rete algorithm with high performance indexing and optimization. The run time supports the dynamic addition and removal of rules. JBoss Enterprise BRMS supports temporal rules that are fired within specified time periods or constraints. A complete event model provides execution audit logging for regulatory compliance support and business event tracking and management.

Authoring - The new Web 2.0-based authoring interface of JBoss Enterprise BRMS enables fast and easy rules development, change, and management for process owners, administrators, and business analysts.

For Java developers, the Drools Rule Language (DRL) supports all the previously mentioned features and uses Java to express field constraints, functions, and

FIGURE 3



JBoss Enterprise BRMS Web 2.0 authoring and management tools

consequences. The DRL is extendable and provides, via a mapping properties file, support for natural language. Both the standard DRL and natural language (domain-specific language) extensions are supported by JBoss Enterprise BRMS Workbench. Users may also author decision tables using Microsoft Excel or Open Office Calc.

The JBoss Enterprise BRMS Workbench IDE, part of JBoss Developer Studio, features include syntax coloring, code completion, an outline view, and basic rule validation, error reporting, and debugging. The RETE viewer and audit viewer exposes all the internals of the runtime engine.

Management - JBoss Enterprise BRMS includes a business rules management repository and web-based administration console to help business analysts, developers, administrators, and other users of JBoss Enterprise BRMS manage their rules within the application and SOA deployments. The business rules repository provides the basis for storing and managing business rules with the BRMS. The BRMS includes support for categories of rules to help organize business rules. Assets are rules, groups of rules, or a decision table that are to be managed as one entity. Multiple versions of assets

can be managed. Packages are like a folder of rules and offer a simple way to manage smaller groups of rules. Status management of rules allows administrators to flag rules as drafts or deployment ready both at the asset and package level.

Complex Event Processing (CEP) Technology Preview - Complex event processing (also known as event stream processing) enables JBoss Enterprise BRMS to search for certain event patterns as they occur and execute business rules to make an active decision as event patterns occur within specified time windows. CEP deals with identifying the meaningful events within an event group. CEP employs techniques such as detection of complex patterns of many events, event correlation and abstraction, event hierarchies, and relationships between events. It builds on EDA by bringing the power of a rules engine with complex event processing extensions to process events.

CEP uses include making active decisions concerning complex financial transactions, such as securities trades, and making active decisions with supply chain deliveries in a rapidly changing geopolitical environment. CEP may be implemented more easily and with greater agility



in an SOA, giving the enterprise competitive advantage. JBoss Enterprise BRMS is designed to support CEP in the future with capabilities featured in a technology preview of JBoss Enterprise BRMS 5.1. With the addition of new temporal features provided with these CEP capabilities, JBoss Enterprise BRMS will enable these type of advanced integration and event processing scenarios, adding even greater value to the value chain.

JBoss Enterprise BRMS supports CEP in development and exploratory test environments. A future release of JBoss Enterprise BRMS will fully support CEP in production.

ENTERPRISE-CLASS RELIABILITY AND SCALABILITY

Along with supporting business rules in Java applications and SOA deployments running in a lightweight configuration, JBoss Enterprise BRMS may be deployed with either JBoss Enterprise Application Platform or JBoss Enterprise SOA Platform. Therefore, JBoss Enterprise BRMS benefits from these products' proven foundations for applications and integrations, which deliver superior performance and scalability. The high-availability services of JBoss Enterprise Application Platform and JBoss Enterprise SOA Platform provide the clustering, caching, fail-over, load balancing, and distributed deployment features expected in a best-of-breed BRMS platform.

Additionally, the business rule engine (BRE) included with JBoss Enterprise BRMS may be deployed in stand-alone mode (J2SE) or with other application server deployments such as WebLogic Server or WebSphere Application Server in a distributed application or SOA environment. The BRMS can manage the entire rules execution distributed deployment.

SUBSCRIPTION BENEFITS

Red Hat provides software subscriptions to JBoss Enterprise Middleware products that provides users with ongoing value throughout the entire subscription term. Features and benefits of the JBoss Enterprise Middleware subscription include:

- **Predictability:** subscriptions are offered on an annual basis and include access to new versions at no additional cost; there are no large upfront license fees or hidden costs.
- **Integrated & certified enterprise platforms:** access to enterprise open source middleware platforms, in source and binary form, along with enterprise product documentation specific to each product release.
- **Upgrades and updates:** regular product updates that provide enhancements, new features, new platform certifications, and access to the latest defect and security fixes.
- **Security Response:** subscriptions come with Red Hat's industry recognized security response process to help customers proactively address potential security issues in their environment.
- **Long-term Stability:** each JBoss Enterprise Middleware product has a defined multi-year product life cycle with strict update policies that maintain application stability and compatibility for the long-term.
- **World-class technical support:** unlimited incident support by the experts in open source middleware with coverage up to 24x7 with 1 hour response for critical issues.
- **Red Hat Customer Portal Access:** a single portal for accessing all of the benefits of a Red Hat subscription such as enterprise software delivery, product updates & critical issue notifications, knowledgebase access, and case management.
- **Partner Certifications:** deploy solutions with confidence that your enterprise middleware is fully certified by leading Red Hat ISV partners.
- **Legal Assurance:** the Red Hat Open Source Assurance program safeguards customers who are developing and deploying open source solutions from legal harm.

SUBSCRIPTION SIZING

Subscriptions to JBoss Enterprise Middleware products are provided in a virtualization friendly model, consumed in increments of 16 and/or 64 Processor Core Bands, and backed by a choice of enterprise service levels that support any type of mission critical deployment. Key features of the JBoss consumption model include:

- Processor Cores can be virtual or physical, making them ideally suited for the growing trend toward virtualizing middleware workloads.
- Customers are free to choose the types of processor cores that make sense for their environment; different types of processor cores are treated the same.



- Technical support covers issues across the entire application life-cycle, from development to deployment management, across any supported environment.
- A subscription for any individual JBoss product includes development use for all of the products in the JBoss Enterprise Middleware portfolio.
- To learn more about sizing your JBoss Enterprise Middleware environment, read the Red Hat Subscription Guide For JBoss Enterprise Middleware.

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<http://www.jboss.com/pdf/JBossSubscriptionGuide.pdf>.

PLATFORM AND STANDARDS SUPPORT MINIMUM SYSTEM REQUIREMENTS

For rules engine deployments:

- JDK 1.5 or higher
- 512 MB RAM
- 50 MB hard disk space
- 400 MHz CPU

For the full BRMS:

- JDK 1.5 or higher
- 1.0 GB RAM
- 200 MB hard disk space
- 400 Mhz CPU

For more details on deployment requirements, visit: www.jboss.com/products/platforms/brms/supportedconfigurations.

SUPPORTED OPERATING SYSTEMS

JBoss Enterprise BRMS is 100 percent pure Java and therefore interoperable with most operating systems capable of running a Java Virtual Machine (JVM); including Windows, UNIX, and Linux.

SUPPORTED STANDARDS

- Java Rule Engine API (JSR-94)
- Java 5 compliance

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