

Business Rule Management (BRM) with ILOG JRules 6

BRMS Without Compromise



Changing the rules of business™

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BRMS Without Compromise White Paper

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1. Introduction

Every business organization is under intense pressure to deal with accelerated business cycles. An organization's success depends upon its agility for responding quickly to today's complex, ever-changing markets and regulatory climate. For example, a company's ability to implement new pricing models or change product or service features to meet or beat the competition is a key differentiator in ensuring business success.

But many organizations cannot react quickly to business changes. Their key business policies and regulatory compliance information is locked inside multiple software systems, expressed in highly technical languages and generally inaccessible to the business managers responsible for implementing business policies and rules.

Businesses today need a solution that supports business changes and cycles far more effectively than traditional methods, and takes direct advantage of business expertise. They need the business rule management system (BRMS). It clearly identifies the relationship between business rules and business policies. Companies are able to deploy business rules quickly, understand the policies and objectives that give rise to the rules, and determine the impact of rule changes on their business.

With BRMS, responsibility for business policy and business rule implementation is transferred from developers back to where it should be – with the business policy managers. These are the experts responsible for specifying and validating the detailed rules by which a business policy is executed. They include product managers, customer service managers and other business professionals. For example, the business policy manager for a property and casualty insurance company could be the credit policy manager responsible for establishing the guidelines for making underwriting decisions. BRMS allows the credit policy manager to determine the impact of a change to an existing policy and then directly author the rules that implement the revised business policy.

ILOG has learned through experience that both business and technical users must be fully supported – without compromise – in order for an organization to maximize the return from its BRMS investment. ILOG JRules 6 is the BRMS without compromise. It enables organizations to accelerate the business cycle by empowering policy managers to directly implement their business policies and rules as business needs change, not on an IT schedule. In addition, ILOG JRules 6's functionality covers every phase of application development to ensure high productivity for the technical groups, and provides comprehensive management tools for administering the entire BRMS environment.

ILOG's customers do not have to compromise on performance during rule execution, number of users and number of projects.

ILOG JRules 6 delivers uncompromising BRMS through four key capabilities:

- **Rule Care**, which empowers the business team to:
 - Satisfy regulatory and business imperatives for security, traceability and auditability of policy changes
 - Learn business rule management (BRM) quickly
 - Author, maintain and deploy business rules directly, safely and confidently
- **Rule Tech**, which provides full productivity for the technical teams and enables them to:
 - Apply corporate development standards, best practices and processes in making rule applications

- Master BRM quickly by working with familiar techniques and development systems (e.g. Eclipse IDE)
- Integrate BRMS naturally and natively within current and future technical infrastructures
- **FullCircle BRM**, which provides synchronized full life-cycle business rule management that allows our customers to:
 - Work on several release cycles simultaneously
 - Share and reuse rules among rule authors
 - Ensure confidence and control over the rule management life cycle
- **Unequaled Performance**, which upholds ILOG's tradition of industry leading performance by
 - Introducing significant performance enhancements that set a new standard for business rule execution
 - Taking our customers well beyond the Rete wall for the fastest rule processing possible

2. Empowering the business user with Rule Care

Rule Care is designed to enhance productivity by bringing unsurpassed levels of usability and sophistication to business teams. Distributed business teams can collaborate through a powerful, yet easy-to-use, Web environment to create, manage, validate and deploy business rules.

With this Web-based interface and rule-editing environment, new business policy managers are able to learn BRM quickly. They can also receive assistance from “wizard-guided” editors, online help and automatic error checking. Rules can be written using templates, decision tables or decision trees.

Business policy managers write business rules using company-specific business terms – not a computer language. In addition, Rule Care allows multiple customized or localized rule vocabularies to be applied to the same rules.

Business policy managers can represent complex policies using rule overrides and hierarchies. They can take control of very large rule bases and see where rules are used across projects through “smart views” and filters that search and query the BRMS's central rule repository.

Smart views can be easily developed by business policy managers using a set of prompts. A broad range of queries can be conducted, including

- The history of all rule changes that trace back to a specific business policy on a specific date
- The rules that were changed by a specific user
- The rules that were in effect for a specific baseline
- The rules that utilize a specific business term (i.e., all the rules that use “customer credit rating”).

In addition, Rule Care provides security permissions to comply with business security and auditing needs. Users, for example, can be authorized to maintain certain rule sets, view certain rules or deploy rules to the central repository under specific conditions.

Among Rule Care's important functionality is scenario-based testing. It ensures rules execute exactly the way you want them to. It also provides the indispensable what-if analysis which results in far better solutions. Policy managers are not only able to test rules before deployment, but also refine them to fully achieve target objectives

3. IT productivity with Rule Tech

Rule Tech provides a single environment for modeling, coding, debugging and deploying rule applications. It is fully integrated with the Eclipse family of IDE products to enable developers and architects to benefit from the short learning curve and best-of-class power and efficiency of rule application development in the Eclipse IDE. Code and rules can be managed through the same interface and source control repository already used by IT staff.

IT personnel quickly become comfortable authoring rules with ILOG's free-text rule editor and IntelliRule technology. ILOG JRules 6 supports automatic refactoring of the XOM and BOM elements, and can propagate model changes automatically for impacted rules. Developers and architects can evolve the object model, and then simply and efficiently propagate the rule changes to both business and technical environments.

ILOG JRules 6's debugger integrates with Eclipse's Java debugger, and uses the same interface and concepts. Developers can set breakpoints in Java code and rules, and transparently step from one to the other, as well as view the contents in working memory.

Then, the IT staff can deploy rules to testing, staging or production environments using the same deployment wizards. The IT staff still has the ability to organize rules into tasks and orchestrate task execution with rule-flow functions, as well as perform static rule analysis to detect conflicts and redundancies.

System administrators and operations managers deploy, monitor and manage business rule executions through the ILOG JRules 6 administration Web console or via standards-based connectivity to enterprise system management tools such as IBM's Tivoli and HP's Open View.

ILOG JRules 6 supports the functional areas of the service-oriented architecture (SOA), the most important of which is implementation of a decision service. Using ILOG JRules to implement a decision service ensures that business users maintain control and visibility, and that the business policies used by the service can be quickly updated.

Other uses of ILOG JRules within an SOA are more technical in nature, leveraging ILOG JRules features to provide a more agile SOA implementation (e.g., using rules to define service routing or orchestration).

Any company committed to enterprisewide business process management (BPM) can use ILOG JRules as a decision engine by using SOA techniques to integrate rule-based services into BPM decision nodes. The BPM integration can be realized with Web services through a J2Ee container, direct invocation of J2SE services or via customer BPM connectors.

4. Full BRM life cycle made simple

FullCircle BRM is ILOG's effective and efficient way to deliver full life-cycle management of business rules. The focus of BRM throughout the rule life cycle is not solely on rule authoring, performance analysis and deployment. More important is the return on investment from implementing changes through rules that have already been deployed. FullCircle BRM provides critical business functionality that simulates changes in business rules and performs what-if analysis to determine the potential impact of rule changes on business operations.

FullCircle BRM also enables business policy managers to work on several release cycles simultaneously while maintaining the release in production and preparing for the next minor and

major releases. This unique functionality enables business policy managers to continue designing their strategic business policy strategies while continuing to work on their tactical business policy implementations. This is an extremely important differentiator provided by ILOG JRules 6.

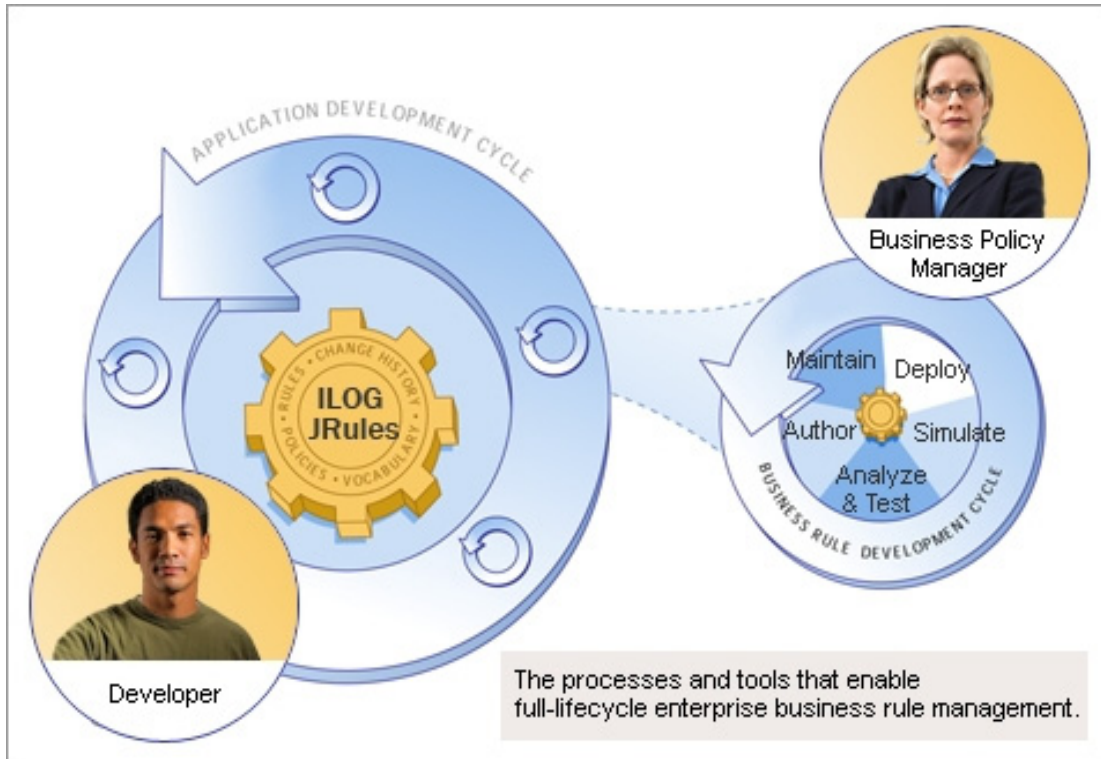


Figure 1: FullCircle BRM

The business and technical teams are free to work independently through separate environments, but can be kept in sync on demand across multiple projects and project phases. This key functionality – provided by ILOG JRules 6's Rule Sync – is able to synchronize the business vocabulary and business rules used by the different teams.

Another key benefit of FullCircle BRM is the ability to reference, share and reuse rules among rule authors with different professional backgrounds and languages. ILOG has achieved this by decoupling the business models and technical execution models, while still providing the ability to share and reuse information between the two models. ILOG's Business Action Language (BAL) maps a set of verbs and nouns used by business policy managers to write rules to the classes, methods and fields in the business object model.

Gated deployment processes across the business and technical environments provide both teams with the control mechanism and confidence to know that the right rules are being deployed. Improvements in change management with an audit capability is provided with the use of baselines to document all the rules that are in effect at a given point in time, as well as a rollback capability to return to a prior set of rules.

FullCircle BRM can efficiently manage hundreds of thousands of rules across multiple projects from a single repository, and support hundreds of concurrent users on a single repository.

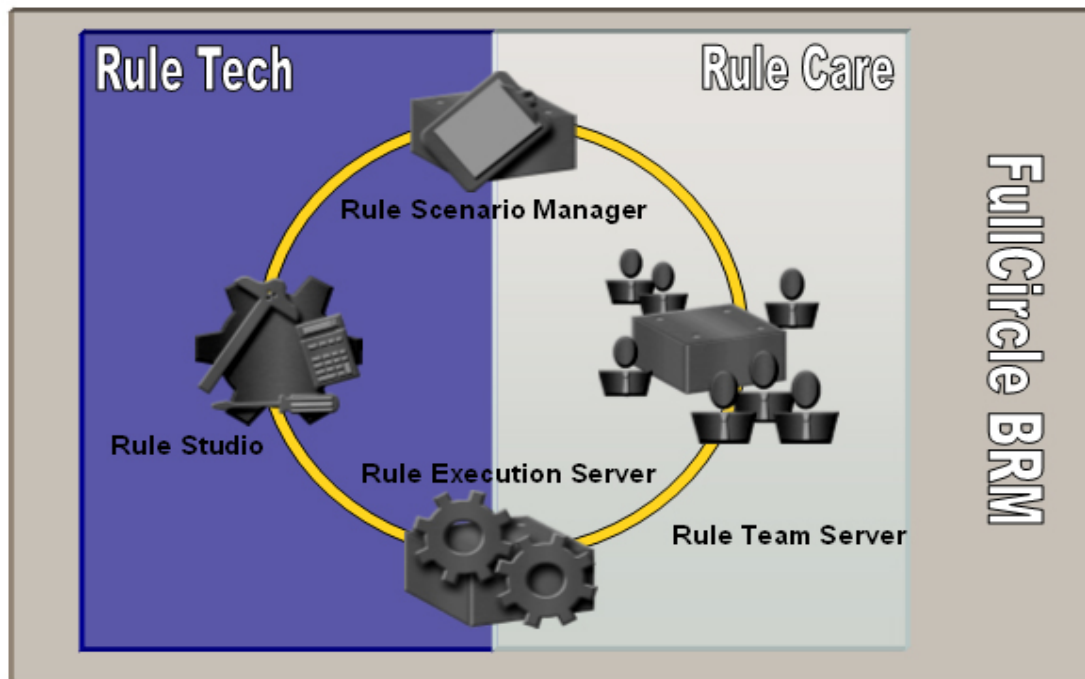
5. Leading performance through ILOG's superior engine performance and scalability

ILOG JRules 6 upholds the ILOG tradition of industry leading performance by introducing significant performance enhancements that set a new standard for business rule execution. ILOG JRules' RetePlus goes beyond the Rete wall to process large, complex rule sets and large amounts of data far faster than any other rule engine on the market.

In addition, ILOG has designed FastPath as a better solution for sequential execution mode. FastPath addresses problems that do not require inference. FastPath is a huge advancement over sequential mode, which is commonly offered by other rule engine vendors.

6. ILOG JRules 6 modular architecture

ILOG JRules 6 delivers a coherent, highly integrated BRMS in four modules. This new modular architecture enables a BRM cycle that is independent of application development cycles, yet supports seamless synchronization between business rule management and application development. ILOG JRules 6 applications can be deployed as everything from standalone desktop applications to midtier services within an SOA or Web services.



Figures 2: ILOG JRules 6 concepts related to the modular architecture

- The **new** ILOG JRules 6 **Rule Team Server** is a business-centric environment. It is a highly scalable rule management server and repository with a collaborative Web environment for authoring, managing, validating and deploying business rules. Rule

Team Server provides enterprise-class content management for rules.

- The **new ILOG JRules 6 Rule Studio** is the tech-centric environment for coding, debugging and deploying rule-based applications. It is fully integrated into the familiar Eclipse-based IDEs. Rule Studio supports deploying rule sets to the Rule Execution Server and enables collaboration with business rule authors through integration with Rule Team Server.
- The ILOG JRules 6 **Rule Execution Server** is a robust, J2SE- and J2EE-compliant execution environment for deploying business rule SOA services to the leading Web and application servers from IBM, BEA, JBoss, Oracle and Apache. The Rule Execution Server includes components for synchronous, asynchronous and Web service-based invocation of business rules, and includes a Web administration console. The ILOG JRules 6 Rule Execution Server is fully integrated with the Rule Studio and Rule Team Server to support business rule deployment for both developers and policy managers.
- The ILOG JRules 6 **Rule Scenario Manager** enhances ILOG JRules 6 with powerful rule-set testing and business simulation capabilities. It provides an integrated environment to verify the correctness of rules to ensure they execute as expected by their authors. In addition, users can use Rule Scenario Manager to simulate changes to business policies. This can be accomplished by:
 - Comparing the outcome of two different rule sets (e.g. production rule set versus proposed rule-set changes) with one data source to understand what the business impact will be from the proposed changes or comparing one rule set.
 - Running one rule set with two different data sources to understand the outcome of two different business situations (e.g. location or time).

7. Let ILOG Professional Services assist you in a successful migration to ILOG JRules 6

ILOG Professional Services is helping existing clients evaluate the impact of switching from ILOG JRules 5.X to ILOG JRules 6, and providing guidelines and support for a successful migration. The services provided to our clients as part of their ILOG JRules 6 migration are:

- **Comprehensive assessment of their migration effort** – includes a detailed gap analysis, risk assessment and costs/benefit analysis
- **Optimized architecture** – the best fit for ILOG JRules 6.0's advanced technical capabilities (scalability, performance and integration)
- **Concept of BRMS Operation** – the new product's advanced capabilities matched to the customer's operational patterns (authoring, testing, deploying, changing, etc.)
- **Delivery of the migration process** – includes project management, inception, elaboration, construction and testing/transition

This service ensures that the decisions made and actions taken around an application migration to ILOG JRules 6.0 are cost effective and well suited to the product's future release schedule/functionality, and soundly engineered to optimize the application. By using ILOG as the world's expert in our solution technology, clients make use of ILOG's best practices for delivering real solutions quickly and at the lowest overall cost.

8. Conclusion

ILOG leads the BRMS market. Its experience proves that a focus on both business and technical aspects is needed in order for an organization to maximize the return from its investment in BRMS. ILOG understands the different stakeholders, their different skill sets and their different needs throughout the business cycle, and responds by delivering tools and processes for both business and IT users.

ILOG JRules 6 empowers the business policy manager, while providing the necessary functionality needed to increase the productivity of IT staff. Our customers do not have to compromise when they choose the BRMS of choice: ILOG JRules.

Rule Care empowers business policy managers to manage their policy implementation as business needs change. Distributed business teams collaborate through a powerful, yet easy-to-use, Web environment to create, manage, validate and deploy business rules through the use of Rule Team Server. They also have testing and business simulation capabilities with Rule Scenario Manager to ensure the rules they write meet business objectives. And they have the ability to deploy the rules to the Rule Execution Server.

With ILOG JRules Tech, ILOG JRules 6 provides a single environment for modeling, coding, debugging and deploying rule applications. It is fully integrated into the Eclipse family of IDE products with Rule Studio. Rule Tech also provides the ability for the technical staff to develop test scenarios, and perform tests and simulations with Rule Scenario Manager. Rule Studio supports deploying and debugging rule sets to the Rule Execution Server and enables collaboration with business rule authors through integration with Rule Team Server.

ILOG JRules makes BRM practical by providing innovative tools for authoring, deploying and managing business rules across the enterprise. This is why it has become an essential part of the IT infrastructures of hundreds of businesses worldwide.

BRMS lowers application maintenance costs, enables more accurate and consistent business policy implementation across applications, and improves collaboration around policy automation between IT and business departments. Here are examples of how the BRMS value proposition is realized through ILOG JRules:

- **Harrah's** – ILOG JRules enables a continuous promotion strategy with real-time responsiveness. *(Benefits: superior business agility, increased revenue opportunities and lower application maintenance costs)*
- **CitiStreet** – ILOG JRules enables a benefits administration application for which business analysts write rules to calculate pensions. The use of ILOG JRules decreased development time and costs by 50 percent. *(Benefits: lower application maintenance costs and improved business/IT collaboration)*
- **Policy Studies Inc. (PSI)** – ILOG JRules enables an eligibility application for state-sponsored health insurance. Using ILOG JRules reduced development time by 35 percent, doubled the number of applications processed per hour, and reduced the required amount of staff training. *(Benefits: improved regulatory compliance, improved customer satisfaction and lower application maintenance costs)*
- **Thames Water** – ILOG JRules is used to process inquiries for conveyance activities, moving legal ownership of property or land from one person to another. ILOG JRules enables timely and accurate compliance with regulations. Previously, 30 employees were needed to manually process requests. Now, only five business analysts are needed to change rules. Thames expects savings of \$5.4 million and additional income of \$2.52 million in the first five years of the application's operation, and the company also processes conveyance requests for other water companies. *(Benefits: improved regulatory compliance, improved customer satisfaction and increased revenue opportunities)*

ILOG JRules 6 requires no compromises. It is able to deliver the fastest time to business value and lowest total cost of ownership of any BRMS