IBM Solutions for Enhancing Business Process Management (BPM)
(An Introduction to Business Rules Management)

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Agenda

1. Setting the scene
2. The case for a Business Rule Management Systems
3. WebSphere ILOG BRMS
4. BPM & Business Rules working together
Business leaders confirm process improvement priority

- CIOs expect process improvement demands to **increase**

  ![Survey Chart]

  **Demand for IT to improve processes during the recession**

  *2009 InformationWeek Survey*

  Process improvement is the **#1** business priority

  *2009 Gartner CIO Survey*
We face the challenge of accelerating market shifts

- Rising consumer expectations compel improvements in speed and personalization
- Rapid swings in economic and commodity markets highlight lack of adaptability
- Lower barriers to entry in a digital, flat world, enable fast and easy access by new competitors

To optimize business performance, organizations must learn to dynamically adapt and respond with agility-enabled technology

Silos inhibit agility and performance

How do businesses build agility to adapt and respond dynamically?
Achieve greater business agility through embedding flexibility and intelligence

Be aware of changes in marketplace

Improve decision making through a better understanding of business conditions

React quickly using greater flexibility to enhance processes and business services

Change Requirements for Processes

Process designed to handle change in process flow, but not variability

- Variability in channels
  - Add new channel with some unique requirements for services, decisions

- Variability on decisions & rules
  - New Validation / Eligibility Rules
  - New Pricing / Quoting Rules / Model
  - New regulations

- Variability on service selection
  - Different Services chosen by SLA
  - Change Service Providers

- Variability on Human tasks
  - Which person in role is assigned task based on skills, current work queue, availability
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Business Decisions are Everywhere…

We need to add an eligibility check to meet the requirements of the new regulation.

Let’s create a special promotion for our best customers.

And Changing Frequently

Commissions / Royalties
Underwriting
Billing
Eligibility
Benefit calculation
Fraud assessment
Configuration
Pricing
Tax calculation

Up-sell/Cross-sell offer
Compliance Screening
Documentation Requirements
Accounting Disposition
Product Selection

Can we automate approvals for this type of order?
Traditional Approach for Managing Decision Change

The traditional (ad hoc) approach of dealing with rule changes leads to...

- Reduced organizational agility
- Reduced employee productivity
- Increased load on IT

Issues

- Rules are hidden in code or isolated within the organization
- Changes are hard to track and maintain over time
- Rules used by systems have to be programmed and require IT resources
- Duplication and multiple versions of the same rules
- Lack of auditability, traceability
- Decision changes cannot be easily tested or simulated

Where Business Rules Typically Exist

- Applications
- Documents
- People
- Processes

A More Agile Approach with BRMS

- Adapt faster to ongoing change requirements
  - Respond to customer and industry demands by deploying rule changes independently from potentially lengthy maintenance cycles
- Reduce load on IT development
  - Express decision logic in business language terms to enable your business experts to participate in rule changes
  - Validate rules execution without the need to retest the whole process
A Business Rule Management System

A technology for creating, maintaining and deploying rule based business decision

- Reduces the time to deploy changes
- Improves the understanding of how decisions are made
- Increases opportunities for logic automation
- Favors the reuse of business logic

Separate Application Development and Rule Lifecycles

Functional Requirements

Functional Enhancements / Platform Upgrades

Process changes

In-Production Application

Synchronization

Business policies

Business policy and rule changes

Business policy and rule changes

Business policy and rule changes

Business policy and rule changes

Decision / Policy Changes in Days / Weeks
Comprehensive Rule Governance

Rule Repository

Governance
- Rule meta-data
- Lifecycle management
- Versioning and History
- Role-based permissions
- Consistency checking
- Testing and Simulation

Who can change what?

When will this rule take effect?

How do I undo a change?

What has changed?

Does this change pass the test case scenarios?

What is the impact of changing this rule?

What rules do I need to deploy?

Which rules were in effect when this transaction occurred?

Traditional Software Lifecycle

Business Analyst IT Dev / QA Support

Inception Elaboration Construction Transition Production

I1 E1 E2 C1 C2 C3 T1 Application Maintenance

Build-Time Run-Time
Precise, Automated Process Decisions

Horizontal: best/appropriate price, cross-sell/ up-sell recommendations, loyalty promotions, exception identification, risk/fraud assessment, straight-through processing approvals

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Manage Rule-based Decisions

WebSphere ILOG BRMS is *the IBM technology* for creating, maintaining and implementing decision services...

- Allows for easy implementation and reuse of business rules
- Provides a convenient communication channel between IT and business teams
- Improved regulatory compliance
- Consistency in applying business decisions across applications
Intuitive Rule Authoring Environments

- Decision Tables
- Decision Trees
- Scorecards

Rules Authoring Delivered to Business
Web-based Console for Rule Management

- Take control of very large rulebases with Smart Views, easy search and reporting
- See where rules are used across projects using queries
- Access rule artifacts concurrently without conflict or delay
- Represent complex policies using rule overrides and hierarchies
- Get automatic notification of potential rule conflicts, redundancies
- Hot-deploy rule changes in minutes
- Secure: integrated with enterprise security facility including single sign-on

SHARE in Boston

Business-focused Testing and Simulation Capabilities

- Decision Validation Services extends Rule Team Server with:
  - Out-of-the-box ruleset testing
  - Business impact simulation
  - Detailed scenario reports

- Scenario configuration and customization in Rule Studio

- Audit - Decision Warehouse in Rule Execution Server
Business User Testing and Simulation

Detailed Scenario Reports

Impact and What-if Analysis

SHARE in Boston
Managed Execution Environment

- High performance and scalable rule execution
- Support transactional and batch rule execution
- Inference (forward-chaining) and sequential rule engine
- Cluster enabled
- Integrate with Java, XML, WSDL
- Exposes rule services as:
  - Rule Session (POJO, EJB or MDB)
  - Transparent Decision Services (Web services)
- Rule services management & monitoring
  - Rule Persistence and Versioning
  - Rule Execution statistics & trace
  - JMX-based administration console

Business Rules as Decision Services

```
boolean checkEligibility (Customer cust)
Risk getScore (CreditRequest request)
```

Rule Execution Server makes SOA-style integrations easy by allowing you to expose any ruleset that processes XML as a Web service out-of-the-box and with no coding.
The Lustratus BRMS Maturity Model

- Rules Based Enterprise: Full enterprise operations based on cross domain shared rules, rules based compliance management, audit & governance
- Business Driven: Business units create and manage rules, optionally, IT still controls deployment
- Direct Business Interaction: IT builds rules but business units can edit them as necessary
- Development / Business Collaboration: IT shares and discusses rules with business units
- Development Efficiency: IT drives rule usage, to make maintenance quicker and easier


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DNA of the Agile Enterprise

Process Management
• Defines and orchestrates the end-to-end process
• Combines automatable and human elements
• Is fundamentally concerned with operational efficiency of the organization

Rules Management
• Defines and executes specific decision points in processes and applications
• Is focused on automating and improving decisions
• Is fundamentally concerned with the operational intelligence of the organization

Engage and support separate life cycles

- BPM and BRMS do not typically share the same velocity of change
- BRM typically has a tighter feedback loop than a process

The main integration point between the two life cycles is during the assembly phase of a process. A deployed decision may be used as an input or a new interface may be created that can be used to create a new rule project based on the data model.
European P&C Insurance Company

- Chose the claims process as the best target for Nordic-level unification and automation
- Combination of WebSphere BPM and WebSphere ILOG BRMS to achieve:
  - Decreased the cost of claims
  - Increased of customer satisfaction through faster turnaround
  - Substantial savings of employee work
- Uses of BRMS in this solution:
  - Claims submission validation
  - Decision automation for liability and compensation
  - Payment calculation
  - Straight-through processing determination
  - Manage and automate decision variation across countries, processes and systems
  - Accelerate implementation of decision changes

3 out of 5 private claims are settled in the same day they are received!

Basic Integration Use Case
Web Service Integration (WSDL)

Integrate JRules decisions with no coding using Web Services

Import WSDL

Assemble
Decision Service Wizard (SCA)

Integrate with a wizard…
Solving business problems based on orientation

BPM orchestrates and improves business processes
- **Flow** orientation
- **Human** orientation
- **Process** oriented transparency—driving awareness and improvement of business processes to an increased set of stakeholders
- Crosses system and organization **boundaries**
- **Long** and **short running**

BRM expresses and automates business decisions
- **Data** orientation
- Encapsulates to a **single boundary** of a decision
- Promotes **reuse** for any client (BPM and otherwise)
- Increases **visibility** of decisions driving critical business applications and processes
- **Straight through** processing

Further Information

- Exploring WebSphere ILOG JRules Integration with WebSphere Process Server:

- WebSphere Process Server and ILOG JRules Technical Integration White Paper:

- JRules - WPS Integration SupportPac (LA71):

- Integrate IBM FileNet P8 BPM with IBM WebSphere ILOG JRules with Web services

- WebSphere ILOG BRMS on IBM.com: