



horizons

Sun's SOA & Composite
Application Summit **2006**

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Integrating Business Rules In Your Java CAPS Implementations

May 18, 2006



Agenda

- Introduction to YASU QuickRules Business Rule Engine (BRE) and Java CAPS
 - Benefits of QuickRules BRE in a Java CAPS application
 - How QuickRules Business Rules are executed from Java CAPS
- In depth review of YASU and Business Rules
- Product Demonstration

Overview – Java CAPS and YASU

- Java CAPS can invoke QuickRules business rules from an eInsight business process
- The interface between eInsight and QuickRules is based on Web services
- Supports the XML driven business rules of YASU (versus the Java based rules)

Business Process Management

- Prominent analyst definition:
 - "a management practice that provides for governance of a business's process environment toward the goal of improving agility and operational performance."
- Focus on:
 - Orchestration of services
 - Process integrity
 - Exception handling
 - Operational management

Business Rules Management

- Key characteristics:
 - Externalization-separate business rules to form manageable external components.
 - Agile –handle changes in the decision criteria and the rules themselves
 - Re-use – change one set of rules
- Business rules can be part of the overall business process management system

YASU Benefits to Java CAPS

- Fulfills inference engine business rules needs for Java CAPS users
 - Create and manage rules that do not need to be procedurally tied to each other
- YASU provides a friendly interface for creating business rules
 - Provides a business analyst view for creating the flow of how rules are evaluated
 - Friendly aliases built on technical methods can be exposed to business analysts
 - Importing the XSD automatically creates methods

Benefits – Simulation

- Simulation allows users to analyze and tune the effect of the rules at design time
- The user can validate assumptions before putting rules into production
- YASU can generate data or the user can leverage historical data

Benefits – Runtime Rule Modification

- Web based GUI allows the user to change the parameters within the business rules
 - Allows for operational management of rules at runtime
 - Users can easily change and hot deploy updates to rules without re-deploying the Java CAPS application
- Expands Java CAPS business processes support by allowing changes in-flight within processes

YASU technologies

- YASU provides business rules management systems and solutions
- Over 130 companies across major industries use QuickRules Business Rules Engine
- Key differentiators:
 - Strong middleware support
 - Ease of use for testing
 - Powerful tools for analysis and simulation of business rules

Combined Insurance

- Subsidiary of Aon Insurance
 - One of the largest Insurance brokerages in the world
- Usage across the insurance product lifecycle.
- Benefits
 - Improved automation from 20% to 80%
 - Reduced training timeframes for Claims adjusters from a year to a month.
 - Localization of regulations facilitating global deployment.

International Truck

- International Truck (NYSE: NAV) is a manufacturer of diesel engines
- Problem: Warranty Claims
- Benefits
 - Turnaround times reduced from week to few hours.
 - Significantly less involvement of IT staff in business rules maintenance.
 - Knowledge loss prevention.

Lufthansa Technik Logistik

- Logistic solutions for aviation industry to over 450 customers
- Key Problem: Customs regulations implementations for aircraft parts maintenance
- Benefits
 - 70000 parts per month at 3-5 minutes reduced to seconds with reduced resource requirements.
 - 85% of the parts do not require manual intervention.

Volubill

- Leading provider of mobile data charging solutions.
- Problem: one off complex revenue sharing contracts between telecom operators and content providers
- Benefits
 - Plan administrators manage pricing within solution.
 - Faster rollouts of new service plans.
 - Lower ongoing maintenance costs.

Home Loan Center

- Subsidiary of Lending Tree
- Problem: Prequalification and eligibility of sub-prime loan products
- Benefits
 - 95% automation in Underwriting and Pricing
 - 100% visibility into historical pricing (invoke as of date)
 - 75% reduction in TCO for the Enterprise Decisioning System

What are Business Rules?

- A decision that constrains the way a business operates
- Usually in the form of a set of conditions that govern the resulting actions
- Examples:
 - Settlement rules
 - Workflow rules
 - Validation rules
 - Authorization rules

Examples

- Loans in Alaska with LTV greater than 80% shouldn't be approved
- If it's a soft market area, a 5% reduction in LTV is mandatory except in Alaska where a 10% reduction is required

Examples (Cont.)

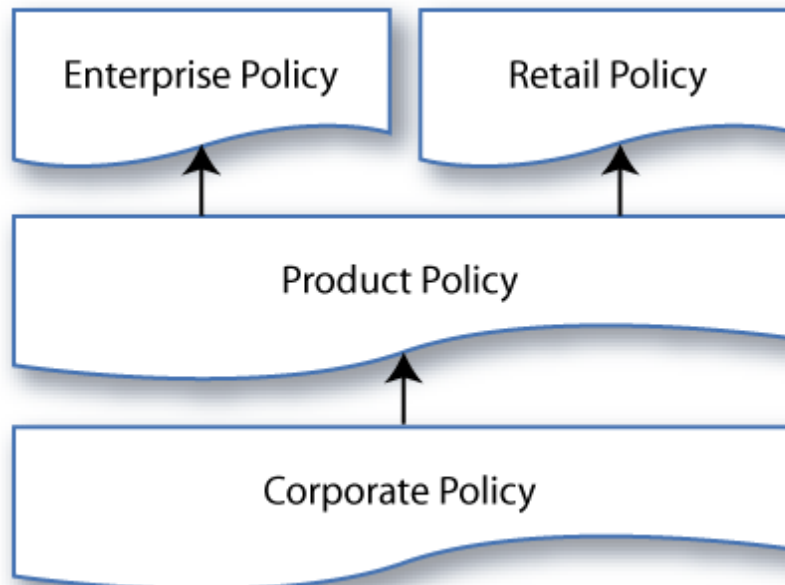
Location ▶	48 States	Alaska and Hawaii
Property Type ▼	Maximum Loan Amount	Maximum Loan Amount
1-Unit SFRs/ Condos/ PUDs	\$300,000	\$400,000
2-Units	\$384,000	\$579,000
3-Units	\$465,000	\$690,000
4-Units	\$570,000	\$860,000

IT Applications Without a BRE

- Business rules are embedded and scattered in:
 - Source code
 - Stored procedures
 - Data
 - Manuals and procedure books
 - Heads of business users

Implications ...

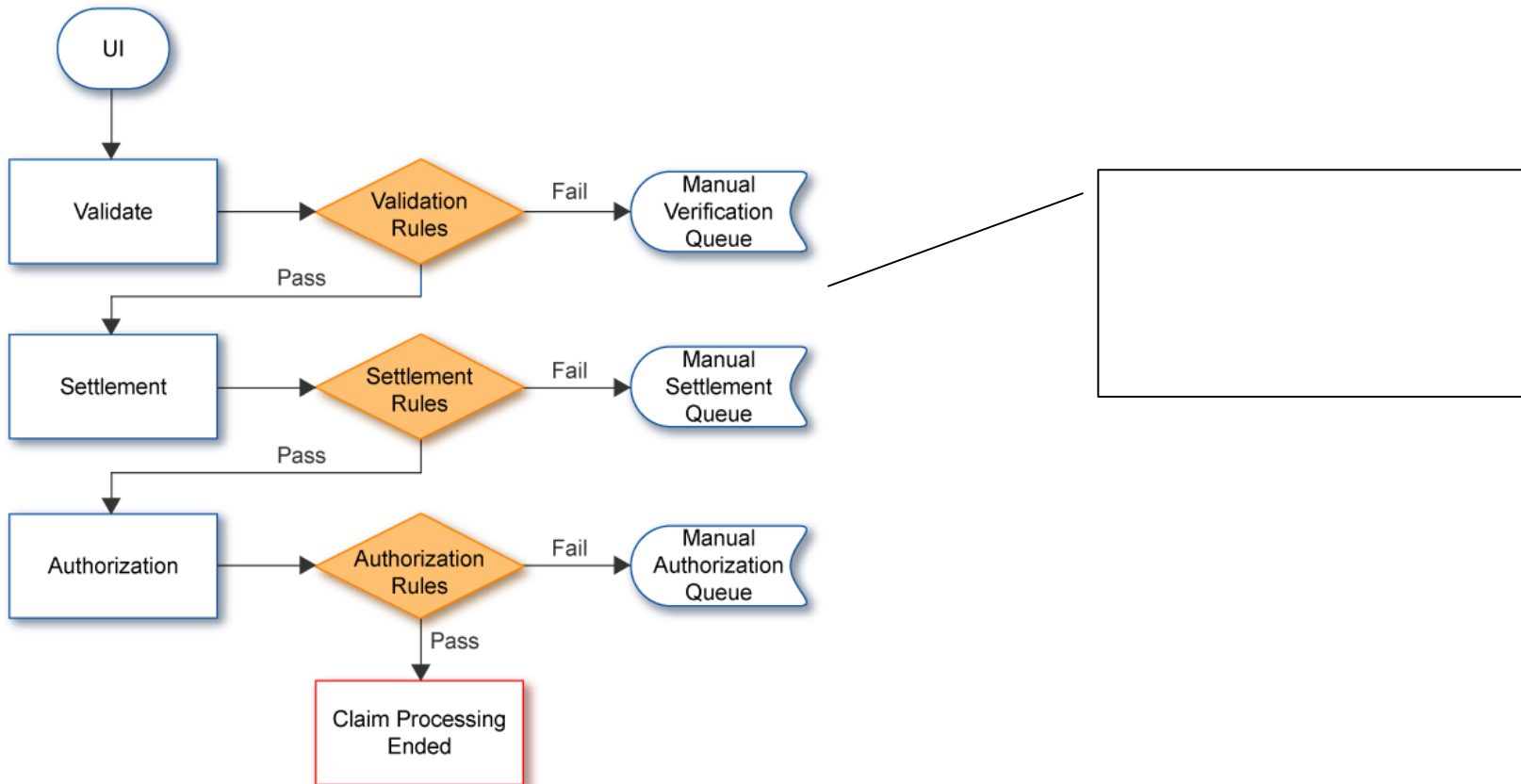
- Business rules are often a “stack”
- Exceptions are encountered as often as the “rule”
- Knowledge is lost due to attrition



Implications ... (Cont.)

- Lexicon of IT and business is different
- Leads to a lot of requirement roundtrips
- Code review for the source code – who does the business rules review in the source code anyway?

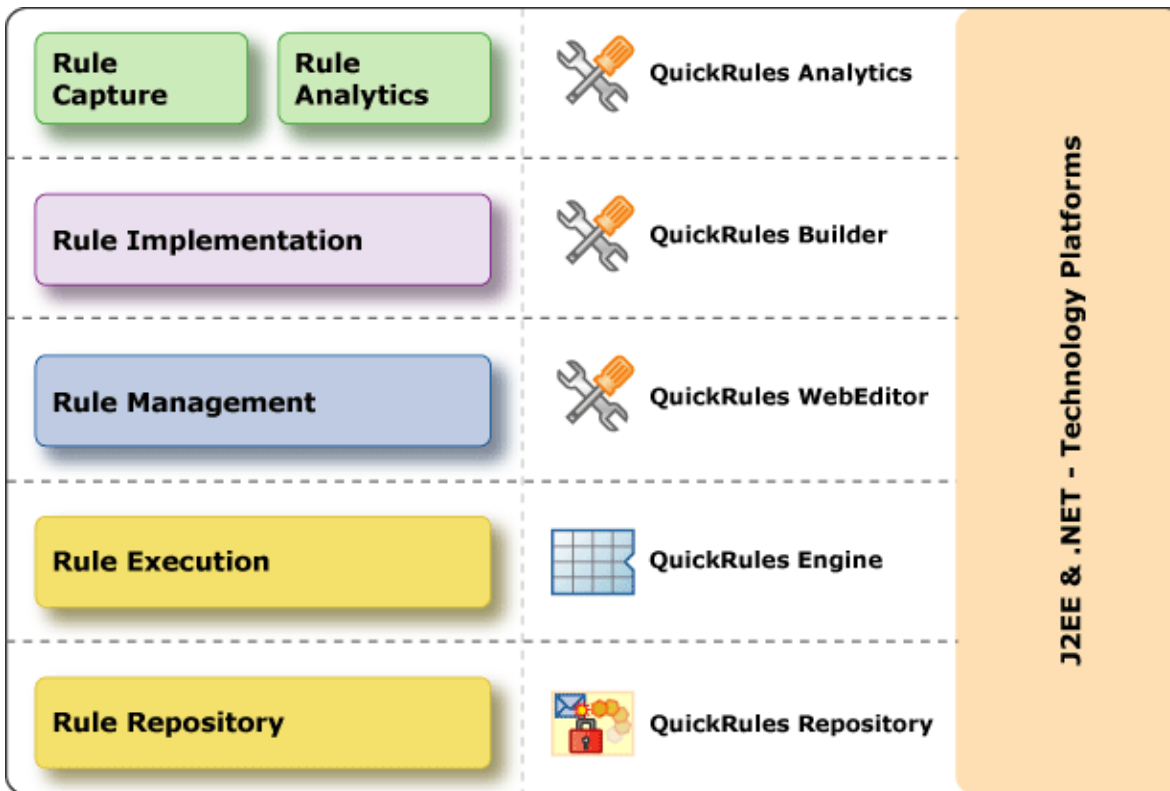
Implications ... (Cont.)



Problems!!

- The faster you run, the more the world moves with you and the less you make progress (Courtesy of Lewis Carol, “Through the Looking Glass”)
- Companies spend more on maintenance of IT applications than on new functionality!
- Structured management of rules can reduce IT maintenance costs

How Does YASU Solve This?



Solving the business rules problem,

1. Platform that provides enhanced visibility for business analysts.
2. Tools and artifacts to capture and externalize business rules.
3. Powerful repository features for enterprise rules management
4. Allow forward planning using what-if analysis.
5. Easy to integrate into Java CAPS platform.

QuickRules Builder

- Tool for IT architects and developers
- Import Java classes or XML schema
- Helps create structure for rule definition
- Powerful tools:
 - Reporting
 - Debugging
 - Rule implementation

QuickRules Analytics

- Used for modelling rules
- Used by non-technical users
- Provides user friendly interfaces to capture test cases
- Provides ways for regression testing
- Provides tools for simulating scenarios for what-if analysis
- Users can hone into a goal using historical or simulated data

QuickRules Engine

- Multiple engines provide multiple ways of invoking business rules
 - Decision tables
 - If ... Then (Non-procedural rules)-Forward chaining
 - Rete Rules
 - Sequential decision rules or Flows
- Can be deployed as a Web Service
- Provides API to collect execution and trace details
- Business rules can have date and time effectivity
- Invoke As of Date

QuickRules Web Editor

- Web based interface to change rules
- Best suited for changing rules and adding new rules
- Built on a public Java API – enabling new editors to be built
- Can be integrated into enterprise security architectures

QuickRules Rule Repository

- Allows version control and audit trail
- Access control
 - Read only
 - Read/write
 - No access
- Access Control can be at finely granular levels.

Adding Business Rules to an eInsight Business Process

- The user generates XSDs
 - These represent the input and output values for the Business Rules Engine (and specific business rules)
- Build, test, and finalize the business rules in QuickRules Builder
 - Test = simulate executions of the rules at design time

Adding Business Rules to an eInsight Business Process

- Deploy the YASU business rules
 - WSDL describes the service interface
 - Includes the project and name of the rules to be invoked
- Import the YASU WSDL into Enterprise Designer
 - Inputs identify the project, rules, inputs, and output XML

Adding Business Rules to an eInsight Business Process

- Use the imported WSDL object to create an activity that invokes the YASU business rules in an eInsight business process
- Build and deploy the Java CAPS application
- At runtime, the Web Service will be invoked and will reply using the appropriate inputs and output values

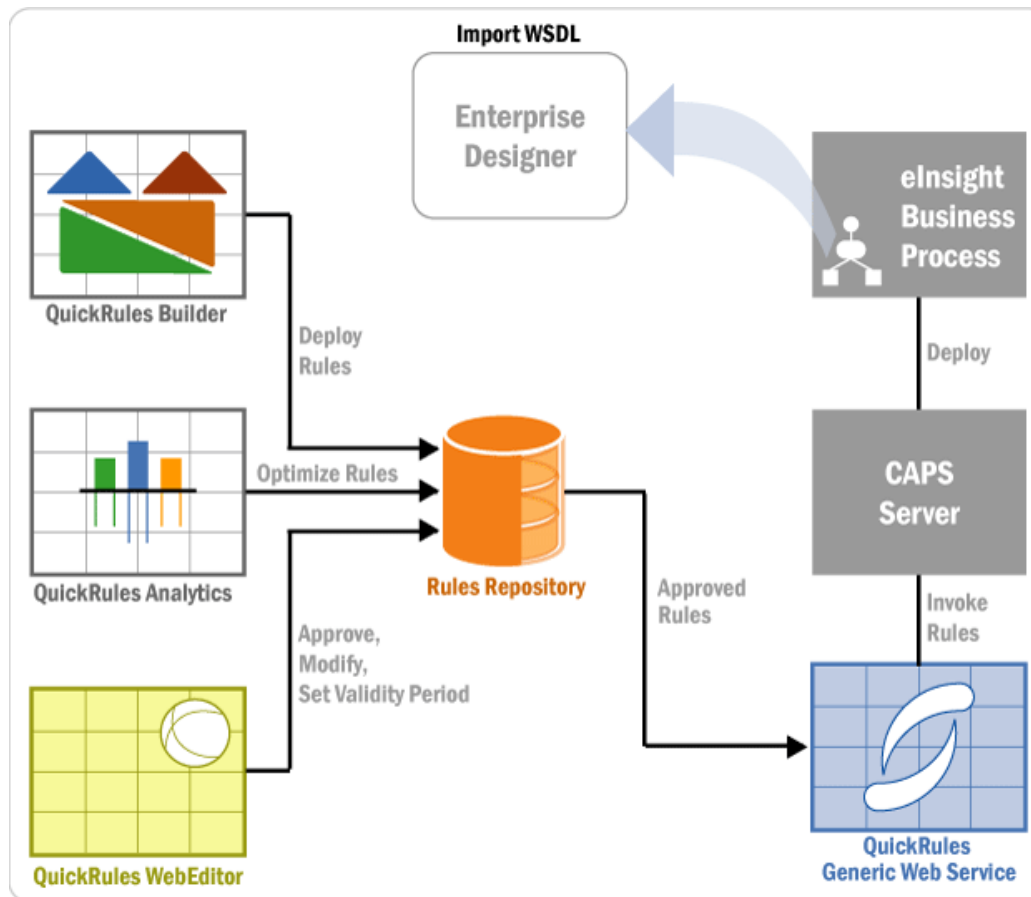
Adding Business Rules As A Web Service

The screenshot displays the Sun SeeBeyond Enterprise Designer interface for a business process named 'bpProcessLoanApplication'. The main workspace shows a flowchart with several activities: 'Flow end', 'SetYasuWebServiceInputs', 'Package Data', 'Open Account Data', 'Call YASU Business Rules' (circled in red), and 'Package Rules Update'. A decision diamond labeled 'Home or Car Loan' branches the flow into 'Home Loan' and 'Car Loan' paths. The 'Home Loan' path includes 'Prepare Loan Application for Processing' and 'Appraisal' activities. The 'Car Loan' path includes 'Prepare Blue Book Query' and 'Get Bluebook Value' activities.

The Enterprise Explorer on the left shows a project tree for 'RepoRulesDemo (HEAD)'. Under 'Sun SeeBeyond', there is a folder 'QuickRules3' which contains 'XMLRuleEngineService' and 'Messages'. The 'Messages' folder contains 'invokeSeeBeyondRulesRequest' and 'invokeSeeBeyondRulesResponse', all of which are circled in red.

The Business Rule Designer at the bottom shows the configuration for the 'LoanFlowRuleset'. It includes a 'string literal' with the value 'LoanFlowRuleset' and another 'string literal' with the value 'JavaCAPSRule'. The 'Input' section shows parameters for 'projectName', 'rulesetName', 'inputXML', and 'outputXML'.

Putting It All Together



Next Steps

- Visit YASU at the Solutions Pavilion!

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