Dial-in: 888.283.3946 or +1.210.795.4773
passcode: bpel
Press *1 at end to ask verbal questions
During conf, use chat feature to ask questions

The Oracle BPEL Process Manager

BPEL + Business Rules
Feature Preview Webinar Series

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Agenda

• New feature preview webinar series

• Request for detailed use-cases

• Overview of Business Rules

• Rules support in BPEL
  • Usage scenarios
  • Decision service in BPEL 10.1.3

• Building a BPEL Process with Rules
  • End to end demo
  • Design experience
Upcoming Feature Preview Webinars


- BPEL and Rules Integration
- Workflow 10.1.3 Deep Dive
- BPEL 10.1.3 Preview
- Performance Tuning
- Administering BPEL Servers

What others do you want?

Requesting Detailed SOA Use-Cases

- Ideally full SOA platform requirements (orchestration, security, monitoring, etc)
- To be used in SOA QA group
- Your requirements baked into our QA and certification processes
- Everybody wins!

Please email your use-cases to david.shaffer@oracle.com with “SOA use-case” in the subject line.
Or send us a chat message with your email address and we will follow-up.
Business Rules

• Best practice for SOA applications
  • IT independence
  • Agility
  • Transparency
• Applications requiring agility
  • Frequently changing (legal) regulations
  • Frequent policy changes to reflect market changes
  • Requirements for high levels of customization
• Key Industries
  • Finance & insurance
  • Health care & government

Oracle Business Rules

For more info, download, etc see: http://otn.oracle.com/products/ias/business_rules
Oracle BPEL PM with Business rules

*BPEL Process Manager and Rules together enable agile and adaptive business processes*

Key benefits:
- Complementary technologies
  - BPEL for orchestration of services, systems, people & partners
  - Rules focus on decision making and policies
- Declarative specification of constantly changing business policies and regulations
- Enables business users to participate in business processes
- Modify and apply new rules without redeploying processes
- Centralized policy management across the organization

BPM & Rules - Usage Scenarios

*Rules engines can be invoked as a Decision Service from a BPEL process.*

Dynamic processing
- Intelligent routing
- Validation of policies within process
- Constraint checks

Ad-hoc Workflow
- Policy based task assignment
- Various escalation policies
- Load balancing of tasks

Business Activity Monitoring
- Alerts based on certain policies
- Dynamic processing based KPI reasoning
Rules Author Terminology

Rules are simple in concept

- **Facts** - Data or objects on which expressions are to be evaluated. Example: Loan Application, Customer Credit History, Income Data. These can be XML or Java objects.

- **Rules** - Expressions on the facts - if (<condition involving Facts>) then <actions>
  
  Example:
  - If (<retired before age 65>) then Pay 90% of standard pension
  - If (<retired at or after age 65>) then Pay 100% of standard pension

- **RuleSets** - groups of rules that are generally executed as one unit

- **Actions** - Business actions or new Facts creation based on rule evaluation
Decision Service - Concepts

*Enables users to easily wire any Rules engine with a BPEL process*

Key ideas:
- Abstracts proprietary rule engine APIs via a standard web service interface.
- Provides access to rules repository at design time (JDev) to enable user to browse rule sets.
- Supports both stateless and stateful interaction patterns.
  - Example: ExecuteFunction, AssertFacts, WatchFacts etc.
- Implementation Details
  - Generates specific WSDL based on rule set being invoked.
  - Metadata about rule engine and repository captured in .decs XML file in BPEL project.
  - Supports both SOAP and WSIF bindings.

Decision Service - Usage

1. Create Decision Service
   - Select Rule Connection
   - Create service based on interaction pattern.
   - Select input and output facts.

2. Invoke rules from Process
   - Use “Decide” activity in process to wire Decision Service.
   - Map BPEL variables to input and output facts (results).

3. Most common patterns include
   - Execute function (stateless)
   - Assert-Execute-Watch (stateless)
   - Assert, Assert .... Execute, Watch (stateful)
Modified Loan Flow Demo – BPEL + Rules

Design experience – Overview

- Create a rule repository using RuleAuthor
  - Create a rule dictionary
  - Import XML fact types (data model of rules)
  - Create new ruleset and add rules
- Create a new Decision Service Partnerlink
  - Choose a rule connection
  - Choose an interaction pattern and parameter bindings
- Add a Decide Activity
  - Bind BPEL variables to parameters of partnerlink
Design experience – Create rule repository

- Login to Rule Author and connect to empty repository

A default user bpeladmin exists as part of BPEL PM 10.1.3

From the 'Repository' panel, select a file and connect to the repository
Design experience – Create and load Rule Dictionary

• Create and load rule dictionary(s)

New dictionaries can be created using the 'Create' panel in RA

Load a specific dictionary into RA. Dictionaries might be versioned.

Design experience – Create data model

• Import XML fact types from XSD’s

Specify the XML schema for import and select the types that should be imported

Provide some meaningful aliases for the imported fact types
Design experience – Create rulesets and rules

- Create or choose ruleset, add rules to a ruleset

Create new rules by specifying the condition and action part of the rule.

Create new ruleset or choose an existing one

Design experience – Create Rules contd.

- Model Condition and Action part of a Rule

Actions can be selected from a list of action types (retract, call function, etc.).

Best practice: Create a RL function to perform the action part of the rule.

Conditions are expressed as test patterns on the data model (fact types, variables, constraints and functions).
Design experience – calling rules in BPEL

- Create a Rule Engine connection

Choose a backend rule engine and then provide rule engine specific credentials

Design experience – calling rules in BPEL

1. Add a new Decision Service Partnerlink (Execute function)

Choose an interaction pattern and proceed with the wizard. Here: Choose function from Function Explorer

Rule Engine Connection might be created from here

Drag and Drop „Decision Service“ to the partnerlink section of the process model. This will launch the Decision Service Wizard
Design experience – calling rules in BPEL

2. Finish create partner link for execute function

No further information is required for this interaction pattern. The parameter(s) and return values are displayed only.

Design experience – calling Rules in BPEL

1. Add a new Decision Service Partnerlink (Assert pattern)

Choose an interaction pattern and proceed with the wizard. Here: Choose ruleset from Rule Explorer
Design experience – calling rules in BPEL

2. Decision Service Partnerlink contd.

- Choose a decision service partnerlink
- Choose an operation
- Bind the input and output facts

For patterns Assert, Assert&Execute, Watch, Assert&Execute&Retrieve Result choose the input and output fact types.

Check this button to add more interaction patterns for the same partnerlink.

Design experience – calling rules in BPEL

1. Create a new Decide Activity

Drag and Drop ‘Decide’ to the process model. This will launch the Decide dialog.

- Choose a decision service partnerlink
- Choose an operation
- Bind the input and output facts

Drag and Drop ‘Decide’ to the process model. This will launch the Decision Service Wizard.
Design experience – calling rules in BPEL

2. Assign input facts for Decide activity

Bind the input facts using a copy rule:
- Select the from part (BPEL variable)
- Select the to part (Auto created BPEL variable that corresponds to fact type)

Design experience – calling rules in BPEL

3. Assign output facts for Decide activity

Bind the output facts using a copy rule:
- Select the from part (Auto created BPEL variable that corresponds to output fact type)
- Select the to part (BPEL variable)
4. Complete Decide Activity

That's it. After confirming, a new 'Decide' activity will be added to the BPEL process model.