

The Java Community and Rule Standards

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This presentation

- **What is JSR-94?**
- **Requirements for a Rule Language for Java**
- **Compatibility**
- **Ideas for JSR-94 evolution**
- **Q&A**

JSR-94 - "Java Rule Engine API"

- **A standard within the Java Community Process**
- **Started work 2001, officially complete 2004**
- **A lightweight API to enable**
 - **Stateful rule engine use**
 - **Adding and removing objects to/from engine**
 - **Retrieving the results of execution**
 - **Stateless rule engine use**
 - **Passing input objects and retrieving results**
 - **Deploying rulesets from a variety of sources (including XML documents)**
 - **Undeploying rulesets**

JSR-94 - Implementations

- **Sample implementations:**

- *ILOG JRules*
- *Fair Isaac Blaze Advisor*
- *Yasutech QuickRules*
- *Jess*
- *Drools*
- *Computer Associates*
- *OpenRules*

- *40+ Open Source and commercial Java rule engines are listed at <http://www.javarules.org>*

- **Integration with the Java Open Source Spring framework**

JSR-94 - Issues

- **Specification does not define the behavior of the engine!**
 - **Explicitly ruled out of scope**
 - **Contentious**
- **Merely ensures code portability**
- **Engine semantics are not defined, so the API and specification are very high level (JDBC API ... without SQL)**
- **No underlying rule language, hence no API to introspect rules, create rulesets, provide pluggable parsers etc.**

Requirements

- **Complete “Virtual Rule Engine Specification” that defines the behavior of the engine**
 - **Java only or cross-platform?**
- **Language rich enough to cover an interesting subset of the capabilities of the 40+ rule engines:**
 - **Forward-chaining?**
 - **RETE or sequential mode?**
- **Define the binding between the engine internal object model and the Java object model (classes)**

Compatibility

- **An unambiguous “Virtual Rule Engine Specification” document is required:**
 - **JVM specification: ~500 pages**
 - **SQL92: ~600 pages**
 - **C standard: ~500 pages**
- **JCP Reference Implementation and Test Compatibility Kit for all JSRs**
 - **Sandia Jess was used as the RI for JSR-94 1.0**
- **Enforcing compliance of execution behavior of rule engines will be a considerable effort:**
 - **Perhaps something similar to (the original) NIST testing for SQL compliance will be required?**

Standard Rule Language

Outside the JCP

JMX MBeans

*Administration
Monitoring
Deployment*

Deployment Archive

*Standardize a deployment archive
that allows rulesets to be
deployed into a running server.*

Ruleset APIs

*Factory APIs for
Rules and Expression
Metadata APIs*

Persistence Service

*Provide a mechanism to store
rulesets in a pluggable
runtime persistent store.*

J2EE Execution API

*JCA CCI,
Stateful and Stateless EJBs?*

J2SE Execution API

*Evolve the current API
to add detail based
on the semantics of the VRES.*

Virtual Rule Engine Specification

*Standardize the execution flow,
semantics and components of the rule engine,
rules and rulesets.*



www.javarules.org