The Java Community and Rule Standards

Daniel Selman
Product Manager
ILOG, JRules
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?