W3C Workshop on Rule Languages for Interoperability

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Business Rules and Product Rules

- Business rules are highly specific and structured statements that constrain some aspect of a business process or activity, and that control or influence its behavior.
- Business rules execute some actions that enforce underlying business policy.
- Production rules are a convenient representation for most business rules.

Driver must be 21 or older

If the driver in a car rental request is less then 21 years old
Then reject the car rental request
Requirements for a Standard Rule Language

- Execution of Rules
- Expressiveness of the Language
- Usability and Adoptability of the Standard
- Compatibility with Other Standards
Execution

- A standard rule language must be able to represent rules in a way that is unambiguous with respect to execution.
- Rules applied on the same data in two different environments must produce identical results.
- 25 commercial products and 18 open source products in the Java rule engine space.
- Forward-chaining RETE engines, decision tables, decision trees, procedural engines...
Expressiveness

• A standard rule language must be expressive enough to represent most (if not all) of the rules allowed by the main business rule engines.
• Rule authors should not be required to write rules using the standard rule language
• Condition part of rules must include: typed first order queries, with variable definition and binding, and standard logical, arithmetical, and set theoretical operators
• Action part of rules must include: assert, retract, modify and execution of application specific functions
Mainstream business rule engines must implement the standard
Translation from/to internal languages used by main rule engines must be reasonably simple
XML-based format
Compatibility

- OMG PRR – Modeling of business rules and exchange of business rules between modeling tools and engines
- JCP JSR-94 – standard API for acquiring and using a rule engine
- Compatible and convergent standards for modeling, executing, and exchanging rules
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Rule Language Interoperability

A Layered Architecture

Application-specific information models
- application-specific languages

Unambiguous composition semantics
- languages specific to classes of rule/inference engines

Uniform way of representing assertions
- one common language