



## The W3C RIF (Rule Interchange Format) Working Group

Michael Sintek

*Workshop on DFKI W3C Activities*

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## Duration

- <http://www.w3.org/2005/rules/wg>
- Duration:
  - Two phases
  - First phase up to two years  
(started end of 2005)
  - Second phase will be decided upon after  
finishing the first phase



## Participants

- 76 participants from 34 organizations
- 4 invited experts
- From three communities:
  - Business rules
  - Description logics
  - Logic programming
- Have completely different ideas/goals!



## Relationship to Other Efforts

- RuleML (initiated at DFKI!)
- JSR 94 (Java Rule Engine API)
- OMG Production Rule Representation
- OMG Semantics of Business Vocabulary and Business Rules
- ISO Common Logic
- W3C RDF Data Access WG
- W3C XML Activity



## Charter

- <http://www.w3.org/2005/rules/wg/charter>
- “This Working Group is chartered to produce a *core rule language* plus *extensions* which together allow rules to be translated between rule languages and thus *transferred between rule systems*. The Working Group will have to balance the needs of a diverse community — including Business Rules and Semantic Web users — specifying extensions for which it can articulate a consensus design and which are sufficiently motivated by use cases.”



## What is the Scope of “RIF”

- Obvious goal: “Rule Interchange Format”, i.e., a format for interchanging rules
- But: many people in WG interested in creating a new “Semantic Web Rule Language” (which is not directly covered by the charter!)
  - Solution: since an interchange format must have a formal semantics (and not just syntax), it *is* also a rule language (in a way); and: RIF must also be compatible with RDF and OWL



## Scope *cnt'd*

- specify a format for rules, so they can be used across diverse systems = interlingua
- allow rules written for one application to be published, shared, and re-used in other applications and other rule engines
- common format = core language plus standard and non-standard extensions
- extensions need *not* all be combinable into a single unified language



## Phase 1 Scope

- Extensibility: construct an extensible format for rules
- Conformance: “what are conformant rule engines”
- Load-andQuery Rule Engine: must *not* specify an engine control or query interface (language, protocol, or API)
- XML Syntax: primary normative syntax
- Horn Logic
- Datatype Support



## Phase 2 Scope

- Extensions to the Logic (classical negation, fragments of OWL, FOL, negation as failure, ...)
- Syntactic extensions (Lloyd-Topor ...)
- More datatypes
- Data sources
- Actions (production rule systems)
- KB Access (updates, aggregation)



## Compatibility

- XML: rules make use of XML data (phase 2)
- RDF: use RDF semantics as a starting point
- SPARQL:
  - query of the dataset
  - protocol for fetching additional dataset
  - use of XML datatypes, functions and operators
- OWL: allow knowledge expressed in OWL and in rules to be easily used together



## Phase 1 Deliverables

- "Use Cases and Requirements" document, containing description and analysis of the rule use cases of interest to Working Group members
- W3C Recommendation providing technical specifications of the interchange format, suitable for implementers of rule engines and rule language translation software
- W3C Recommendation on using this rule interchange format in combination with OWL
- Set of Test Cases which reflect issue resolution and which aid in conformance evaluation



## Problems

- Major problem:  
Industry vs. Research =  
Business Rules vs. Logic;  
syntax vs. formal semantics
- Minor problem: DL vs. Logic Programming (solved in phase 1 by restricting ourselves to pure Horn Logic which has the same semantics in both cases); will come up again in phase 2



## Telcos and F2F Meetings

- Weekly Telco (about 90 minutes)
- About 3-4 F2F meetings per year (usually colocated with WWW, ISWC, ESWC, ...):
  - [F2F1](#) 8-9 December 2005, Burlingame, California, USA
  - [F2F2](#) 27-28 February 2006, Cannes-Mandelieu, France
  - [F2F3](#) 8-9 June 2006, Budva, Montenegro
  - [F2F4](#) 4-5 November 2006, Athens, Georgia, USA