Co-located with:

THE 10TH INTERNATIONAL BUSINESS RULES FORUM
October 21-25, 2007
BUENA VISTA PALACE
Orlando, Florida

International RuleML Symposium on Rule Interchange and Applications (RuleML-2007)

October 25-26, 2007 – Orlando, Florida

URL: http://2007.ruleml.org

Objectives

In recent years rule based technologies have enjoyed remarkable adoption in two areas: (1) Business Rules Processing and (2) Web-Centred Reasoning. The first trend is caused by the software development life cycle which needs to be accelerated at reduced cost. The second trend is related to the Semantic Web and Service-oriented technologies which aim to turn the Web into a huge repository of cross-referenced, machine-understandable data and processes. For both trends, rules can be used to extract, derive, transform, and integrate information in a platform-independent manner. While early rule engines and environments were complex, expensive to maintain, and not very user friendly, the current generation of rule technology provides enhanced usability, scalability and performance, and is less costly. A general advantage of using rules is that they are usually represented in a platform independent manner, often using XML. This fits well into today's distributed, heterogeneous Web-based system environments. Rules represented in standardized Web formats can be discovered, interchanged and invoked at runtime within and across Web systems, and can be interpreted and executed on any platform.

Co-located with the 10th International Business Rules Forum, the **International Symposium on Rule Interchange and Applications** (**RuleML-2007)** is the first symposium devoted to work on practical distributed rule technologies and rule-based applications which need language standards for rules operating in the context of, e.g., the Semantic Web, Intelligent Multi-Agent Systems, Event-Driven Architectures and Service-Oriented Computing Applications. After a series of successful RuleML workshops and then conferences (e.g. http://2006.ruleml.org), this is a new kind of event where the Web Logic community joins the established, practically oriented Forum of the Business Rules community (http://www.businessrulesforum.com) to help cross-fertilizing between Web and Business Logic technology. The goal of RuleML-2007 is to bring together rule system providers, representatives of, and participants in, rule standardization efforts (e.g., RuleML, RIF, PRR, CL, SBVR) and open source rules communities (e.g., jBoss Rules , Jess, Prova, OO jDrew, Mandarax, XSB, XQuery), practitioners and technical experts, developers, users, and researchers. They will be offered an exciting venue to exchange new ideas, practical developments and experiences on issues related to the engineering, management, integration, interoperation and interchange of rules in open distributed environments such as the Web. A particular focus will be on practical issues such as technical contributions and show case demonstrations of effective, practical, deployable rule-based technologies, rule interchange formats and applications as well as discussions of lessons learned that have to be taken into account when employing rule-based technologies in distributed, (partially) open, heterogeneous environments. We also welcome theoretical contributions that help to build an effective, practical, and deployable rule standard, improve rule technology, provide better understanding of the integration and interchange of rules, and make the current generation of rule engines and rule technology more usable for advanced Web and Service Oriented Architectures.

Topics of Interest

We invite to share their ideas, results, and experiences: industry practitioners, rule system providers, technical experts and developers, rule users, and researchers who are exploring foundations (especially in the area of system interoperability and rule interchange), are developing systems and applications, or are using rule-based systems. We invite submissions related (but not limited to) to one or more of the following topics:

- Representation and meta-annotation of rules and rule sets (modules) for publication and interchange
- Applications of rules in the Semantic Web and Pragmatic Web (e.g. negotiation of ontology

purposes

- Collaborative authoring, modeling and engineering of rule specifications and rule repositories
- Heterogeneous and homogenous information integration of external data and domain knowledge into rules including object-oriented data representations, databases, Web resources, meta-data repositories and Semantic Web ontologies
- Homogeneous and heterogeneous integration of rules and ontologies
- Hybrid rule systems combining, e.g. declarative rules and object-oriented programming or forward-reasoning production rules and backward-reasoning derivation rules
- Management and maintenance of distributed rule bases and rule repositories during their lifecycle
- Interchange and refactoring of rule bases in heterogeneous execution environments
- Verification and validation of interchanged rule bases in heterogeneous execution environments
- Contributions on effective, practical, and deployable Web standards on rules as well as special purpose, vertical domain rule languages
- Communication between rule based systems using interchange formats and processing / communication middleware such as Event Processing Networks (EPN), and Enterprise Service Bus (ESB) and Event Driven Architectures (EDA)
- Applications, products, research, and development in rule-based, distributed complex event processing (CEP), event communication and reaction rules (e.g., ECA rules, production rules, trigger rules)
- Event-driven/action rule languages and models
- Practical solutions tackling the real-world Software Engineering requirements of rule-based systems in open, distributed environments such as the Web
- Modeling of executable rule specifications and tool support (e.g. development environments, editors, compilers, interpreters, translators/transformations, rule code generators)
- Execution models, rule engines, and environments
- Compilation vs. interpretation approaches of rules
- Rules interchange standards and related industry interchange formats, e.g. SBVR, PRR, XBRL,FIX/FPL, FpML, MISMO, ACORD, RuleML, RIF, SWRL, etc.
- Applications and integration of rules in web standards, e.g., semantic web services (SWS), WS-standards, BPEL, security (e.g. XRML), meta data processing (e.g. personal information management DC, vCard, FOAF, vCalendar etc.)
- Rule-based software agents and (web) services

meaning or communication within a pragmatic context)

- Comparing and advancing the state of current business rules engines (BRE) and business rules management system (BRMS) tools
- Practical interoperation between different rule formats such as business rules, decision tables, decision trees, reactive rules, derivation rules, logical formulas, constraints, association rules, transformation rules and ontological domain conceptualization including meaning negotiation and practical use of agreed rules and vocabularies
- Applications based on (Semantic) Web rule standardization or standards-proposing efforts
- Translation of interchangeable and domain-independent rule formats and rule models into executable technical rule specifications
- Extraction and reengineering of platform-independent, interchangeable rules and rule models from existing platform-specific resources and information
- Natural-language processing of rules
- Graphical processing, modelling and rendering of rules
- Incorporation of rules technology into distributed enterprise application architectures such as such as Real-Time Enterprise (RTE), Business Activity Management (BAM), Business Performance Management (BPM), Business Process Management, Enterprise Workflow Systems, Database Management Systems or Supply Chain Management Solutions and related areas such as Service-based Architectures (Service Oriented Architectures (SOA) / Service Oriented Computing (SOC) / Service Component Architectures (SCA)), Semantic Web Services (SWS), IT Service Management (ITSM) and IT Service Level Management (IT SLM) , and Policy solutions
- Rule-based policies and electronic contracts: their specification, execution, and management
- Languages for exchanging and processing information through the web, e.g. common base event, WS-standards, ebXML etc.
- E-contracting and automated negotiations with rule-based declarative strategies
- Applications of rules in e.g. legal reasoning, compliance rules, security, IT government, security, risk management, trust and proof reasoning, etc.
- Rule-based (multi-valued) reasoning with and representing uncertain and fuzzy information
- Rule-based reasoning with non-monotonic negation, modalities, deontic, temporal, priority, scoped or other rule qualifications

RuleML-2007 Challenge

To place emphasis on the practical use of rule technologies in distributed Web-based environments there will be a RuleML-2007 Challenge with a focus on rule interoperation and interchange. The challenge offers participants the chance to demonstrate their commercial and open source tools, use cases, and applications. Prizes will be awarded to the two best applications. All accepted demos will be presented in a highly publicized Challenge Session, first sequentially for the RuleML-2007 plenary, and then in more detail on demand. The two award-winning ones will be presented in special time slots.

Intentionally, this year's challenge does not define a specific task, data set, application domain, or technology to be used because the potential applicability of rules is very broad. Instead, a number of minimal criteria and 'soft' desiderata have been defined which allow people to submit a broad range of applications:

A) A Rule-Based Application has to meet the following minimal requirements:

- First, declarative rules have to play a central role in the application
    - Rules are represented in a declarative format, decoupled from the application or at least capable of being exported
    - Rules are used in interesting and practically relevant ways to, e.g., derive useful information, transform knowledge, provide decision support, provide automated rule-based monitoring, enforcement, validation or manage the behavioural logic of the application
- Second, the demo should preferably be embedded in a Web-based environment so that there will be a need for features such as:
    - interoperation with various heterogeneous distributed data sources
    - serialization and metadata annotation of rules for persistent, possibly distributed management and/or publication in common machine-processable formats
    - integration of external domain vocabularies/ontologies
    - communication of rule based data between system components
    - support of different user roles involved during the rules life cycle from the design to the execution and redesign phase including also, e.g., verification and validation of rule sets
    - interchange of rules and rule-based data between system and domain boundaries using interchange formats
    - modularization and encapsulation of rule sets and data including common principles such as abstraction, information hiding and prioritization in order to support, e.g., complex rule components to be built from other rule sets
    - etc.

B) Besides the minimal criteria, a number of desiderata are formulated. The more desiderata are met, the higher an application will score. The desiderata are:

- Usability of the rule technology in the application domain should be addressed
- The rules functionality is different from, or goes beyond pure information retrieval and procedural programming
- The application has practical and commercial relevance
- Beside static information there is some kind of dynamic data or state (e.g., active Web sites as data, actions, workflows, event notifications, reactions)
- The application should be scalable (in terms of the amount of data and rules used and in terms of distributed components working together) and fulfil other typical SE criteria.
- Evaluations have taken place that demonstrate the benefits of rule-based technologies, or validate the results obtained

Important Dates

Abstract Submission due	June 15, 2007
Paper Submissions due	June 29, 2007
Notification of acceptance	July 23, 2007
Final submissions due	August 17, 2007
Symposium date	October 25-26, 2007
RuleML Challenge	October 25, 2007

Location

Buena Vista Palace, Orlando Florida, USA

Submission Guidelines

Authors are invited to submit original contributions of practical relevance and technical rigor in the field, experience reports and show case / use case demonstrations of effective, practical, deployable rule-based technologies or applications in distributed environments. Papers must be in English and may be submitted at http://www.easychair.org/RuleML2007/ as:

- Full Papers (15 pages in the proceedings)
- Short Papers (8 pages in the proceedings)
- RuleML-2007 Challenge Demo Show Cases (1-5 pages in the proceedings)

Please upload all submissions as PDF files in LNCS format (http://www.springer.de/comp/lncs/authors.html). To ensure high quality, submitted papers will be carefully peer-reviewed by 3 PC members based on originality, significance, technical soundness, and clarity of exposition. Authors are requested to upload the abstracts of their papers by June 15, 2007 and to upload their complete papers by June 29, 2007. The selected papers will be published as symposium proceedings to be produced in book form available for the event along with a CD with demo software and documents. The best paper from all submissions will be determined by the PC and a Best Paper Award will be handed over at the Symposium by a Sponsor. All submissions must be done electronically via http://www.easychair.org/RuleML2007/. Accepted papers will be published in the Springer Lecture Notes in Computer Science (LNCS) series. A selection of revised papers will be resubmitted to a special issue of a journal.

Submissions to the **RuleML Challenge 2007** consist of a paper of 3-5 pages and a link to a demonstration or download site for a demonstration. In case of product demos, the link can be password-protected: please submit a password for anonymous login from any Web browser, giving us the permission to pass the password on to 3 PC members. The submissions should at least satisfy the minimal requirements defined in the topic of interest and preferably exhibit some of the additional desiderata. The more desiderata are met by an application, the higher the score will be. The demos will be evaluated by the RuleML-2007 Program Committee and prizes will be awarded to the first two best applications, sponsored by the RuleML Inc. non-profit organization.

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