AgentOWL – Agents with OWL ontology models using JADE agent system and Jena
Michal Laclavik, laclavik.ui@savba.sk, http://agentowl.sf.net/
Institute of Informatics, Slovak Academy of Science, Dubravska cesta 9, 845 07 Bratislava, Slovakia

Agent Technology Roadmap: Current MAS – lack of Internal Agent Knowledge Model, lack of interconnection with semantic web results (knowledge model representations) and commercial standards

MAS Standards: FIPA, MASIF
• Agent communication, agent platforms
• No standards for internal agent knowledge model with available implementations

JADE Agent System
• Support for ontologies based on FIPA-SL
• No Query engine, No Storage, No Inference

Ontologies in Semantic Web
• Knowledge Representation
• OWL-DL - Description Logic compatible
• Query and Storage Engines available
  • RDF, OWL, SPARQL based

Used Technology
• RDF, OWL, SPARQL
• XML, XML-RPC
• Java, MAS

Agent Library
• Support for OWL based Agent Knowledge Model
• Support for XML-RPC connection to receive event and send plain XML
• Support for Presentation of Ontological Knowledge (RDF/OWL => plain XML + XSL => HTML)
• Support for agent communication using FIPA ACL with OWL and SPARQL as content languages
• JADE and Jena Integration
• Available on JADE official website to MAS community (years 2005 - 2006: 735 downloads)