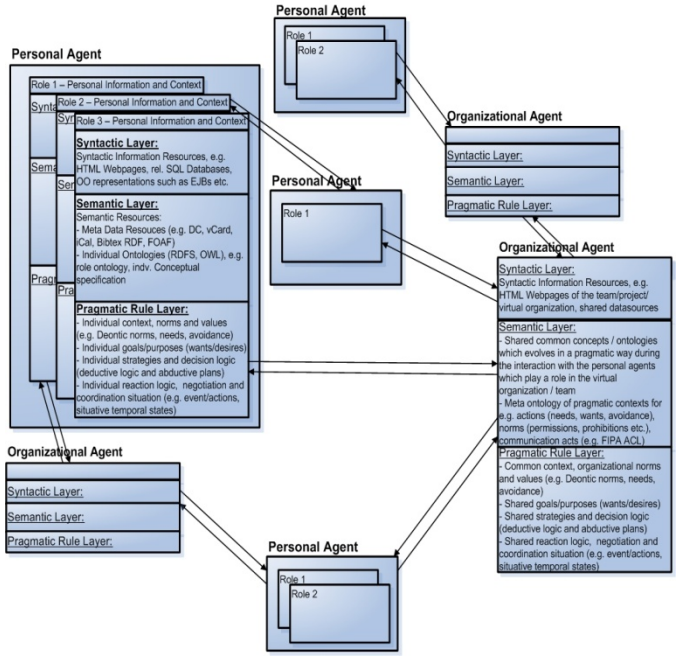
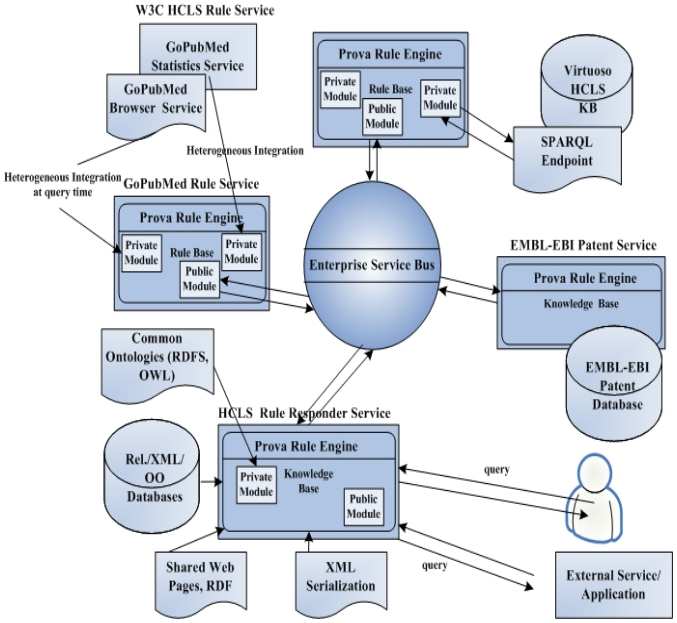
Rule Responder: A Rule-Based Semantic eScience Service Infrastructure

Model for Rule-based Semantic eScience Agent Infrastructures

A virtual eScience infrastructure consists of independent and often distributed organizations which are typically represented by an organizational agent and a set of associated individual agents. The organizational agent might act as a single agent towards other internal and external individual or organizational agents.

The syntactic level controls the appearance and access of syntactic information resources. **The semantic level** makes Web-based resources more readable to computers to infer new knowledge. **The pragmatic level** defines the rules that how information is used and describes the actions in terms of its pragmatic aspects.





Rule Responder Use Case

⇒ **facilitates heterogeneous systems integration and provides computation, database access, communication, web services, etc.**

⇒ **preserves local anonymity of local agent nodes including modularity and information hiding.**

⇒ **provides much more control to users with respect to the relatively easy declarative rule-based programming techniques.**

⇒ **transforms the general information available from existing data sources into personally relevant information.**

⇒ **expressive declarative knowledge representation.**

⇒ **...**

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The goal of the project is a Rule-Based Semantic eScience Service Infrastructure which providing information consumers with rule-based agents to transform existing information into relevant information of practical consequences, hence providing control to the end-users to express in a declarative rule-based way how to turn existing information into personally relevant information and how to react or make automated decisions on top of it.

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