ISO 15926 - RDF/OWL

- Language/Domain
- ISO 15926
- RDF/OWL
- Implementation of ISO 15926 in RDF/OWL

Language/Domain

Language (first order)

- Vocabulary
  - Names, Variables, Predicates
  - Logical symbols: and, or, not, all, exists, ..
- Definition of syntax
- Definition of the rules of deduction
- Axioms "fixing" the meaning (scope) of the logical symbols
- Ontology
- Interpretation

Ontology

The ontology consists of
- axioms
- terminological definitions

The axioms are implicit definitions of the primary terms (they express true statements about the domain)

The terminological definitions introduces secondary terms that simplify the discourse

Interpretation

- Domain
  - Individuals
  - Sets of individuals
  - Sets of ordered tuples of individuals
- Tarski semantics
  - The meaning of a name is the individual it refers to
  - The meaning of a one-place predicate is the set of individuals referred to by the predicate
  - The meaning of a n-ary predicate is the set of ordered n-tuples that make the predicate true

ISO 15926 as a language

- Structure
  - "Ontology" (terminological definitions)
    - Part 2: upper "ontology"
    - Part 4: domain terminologies
  - Third order language
- Interpretation
  - Tarski semantics

RDF/OWL

Metalanguage

- Domain: a language, the domain of the language, the set of individuals, the set of sets of individuals, the set of sets of ordered pairs of individuals

- RDF/OWL
  - Vocabulary
    - Namespaces: rdf:, owl:, namespaces for the vocabulary of the language
  - Syntax
    - Triples: subject/predicate/object

RDF/OWL

- RDF/OWL
  - Relates terms of the language it implements to the kind of objects determining their interpretation
  - Provides a set theoretic interpretation of the language
- Example: (S-2003 is a Car) and (S-2003 is Black)
  - vh:Car rdf:Type owl:Class
  - co:Black rdf:Type owl:Class
  - vh:S-2003 rdf:Type owl:Individual
  - vh:S-2003 rdf:Type vh:Car
  - vh:S-2003 rdf:Type co:Black

Implementation of ISO 15926 in RDF/OWL

Proposed tasks

- Specify namespaces for the terminologies
- Model the business areas
- Supplement part 2 (Federal Enterprise Architecture: http://www.whitehouse.gov/omb/egov/a-2-EAModelsNEW2.html)