Issues for Standardization of 20943-6:
Procedure for the Specification of Web Ontology

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The idea of this proposal has been presented in the following meetings:

**ISO/IEC JTC 1/ SC 32 Workshop (September 2008, China)**

ISO/IEC JTC 1/ SC 32 Workshop on ROR–ODMS-SMMP Study Period
※ WG2 N1177: "Extending the Metadata Registry for Semantic Web"

**ISO/IEC JTC 1/SC 32/ WG2 Interim (November 2008, Portugal)**

ISO/IEC JTC 1/SC 32/WG2 Interim Meeting
※ WG2 N1219: "Extending the Metadata Registry for Semantic Web"
Subtitle: PSO: Procedure for the Specification of Web Ontology (based on MDR)

**ISO/IEC JTC 1/SC 32 Plenary (July 2009, Korea)**

ISO/IEC JTC 1/SC 32/WG2 Plenary Meeting
※ WG2 N1283: Study Period on Extending the MDR for Semantic Web
**Project Subdivision 20943-6**: Procedure for the Specification of Web Ontology
Motivation

- **MDR**
  - Provides a good introduction to metadata concepts, including a lot of insight into certain aspects of the granularity of metadata
  - MDR contributes knowledge integrity in a large scale
    - The simplicity provides the organization of implemental adaptation
    - The representational simplicity allows for easy sharing of metadata
  - In a word, MDR contains standardized concepts for various applications fields

- **Semantic Web** promotes structured metadata representation, such as an ontology schema that data concepts are associated via relationships
- For creating ontology, concepts are firstly defined and then relationships are linked between the concepts
Motivation (cont.)

- Under such a situation, we can use the standardized concepts in MDR for building Ontology

Need to specify Ontology using standardized concepts in MDR for the Semantic Web

- However, there is no standard for specifying Ontology using concepts in a registry

- The Goal of this proposal is to provide the specification support of Ontology using the concepts in a registry
The purposes of this 20943-6 are to promote the followings:

- **Ease of definition** of Ontology schema
- **Creation of Ontology schema consisting of standardized concepts**
  - i.e., well-known concepts or generalized concepts, which are accepted by general users as well as domain experts
- **Common understanding support of concepts** across corresponding application fields
- **More formalized specification of ontology**
Scope

- The scope of 20943-6 covers procedures for the specification of Ontology based on ISO/IEC 11179
- This part of 20943-6 will use standardized concepts registered and managed in MDR to specify Ontologies.

- **This part currently consists of the following clauses:**
  - **Clause 1**: Framework for Ontology Specification
  - **Clause 2**: Mapping Model between MDR and Ontology
  - **Clause 3**: Procedure for Ontology Specification

- **This proposal does not contain**
  - A Ontology building methods by a specific ontology description language, such as RDF, RDF-S, OWL, Topic Maps, KIF, and so on
Our Proposal

utilize

Process Manager
Mapping Info. and Rulus

created (specified)

realize

Metadata Registry
(ISO/IEC 11179)

DEC
OC
CD
DE
VD
...

MDRs
(Sets of concepts)

EDR
(Environmental Data Registry)
caDSR
(US National Cancer Institute)
METeOR
(Metadata Online Registry)

Ontology

Conceptual Model
Proposal (PSO, Procedure for the Specification of Web Ontology)
Issues for Standardization of PSO

- We first need to consider the following issues
  - Defining Mapping Relation between components of MDR and Ontology
  - Definition of processes for specification
    - Class → Property → Relation

- We have Canadian Comments
  - Input date: August 13, 2009
Issues: Mapping Model

Mapping Model between MDR and Ontology
✓ Analyzes mapping relations between Ontology and MDR

MDR Level
- Conceptual Domain
- Object Class
- Data Element Concept
- Data Element
- Property
- Value Domain
- Relationship

Web Ontology Level
- Concept (Class)
- Property
- Data Type
- Relation

Study Period Meeting on ROR/ODMS/PSO & SQL/MM-8 MDR
We need to define formal specification steps

- This part contains the overall process for building ontology, and develops and defines concrete/detailed operations of each process.
Issues: Canadian Comments

- The summary of the comments is as follows
  - References
  - Scope
  - Title
  - Some minors

- Details: Original Document
  - [WG2_N1291-Canadian-Position-on-Procedure-for-specification-of-web-ontology](#)
Thank you!

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