Track C Synthesis
Building Ontologies to Meet Evaluation Criteria

Synthesis II

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Desirable Characteristics of Ontologies

- Track C noted that for integrating ontologies, consistency was a critical property. Achieving consistency across large and potentially geographically and culturally diverse development and maintenance teams is a particular challenge in methodology development.

Best Practices

- The development process for an ontology needs to have a number of stages, just like a data model
  - Conceptual
  - Logical
  - Physical
- Requirements need to be identified in levels too,
  - Systems Capabilities for system ontology a part of,
  - Ontology capabilites
  - Ontology requirements to support capabilities
  - Property values for key properties to support capabilities.
- Architectural approach
  - ontological commitments the ontology needs to make and does make.
  - ontology language and
  - implementation environment.

Tool Support

- There is little or no integrated tool support for multilevel/multistage ontology development beyond some tools to directly support the development of ontologies at the physical level.

Future Steps

- A better understanding of the relationships between requirements at different levels and how low level requirements support higher level requirements.

- Ontology development methodologies that align with and recognize similar stages to information systems development with distinct conceptual, logical, and physical stages, so that ontology development does not start at the physical level with the choice of an implementation language.

- A clearer understanding of the architecture of ontology development and the different aspects of architecture that are relevant, from ontological commitments to language choices.