
Ontology Repository Research Issues

Joint Ontolog-OOR Panel Discussion

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Purpose and Organization of Session

- Discuss longer term ontology repository issues
 - Identify
 - Prioritize
 - Propose milestones
- Both tool and content development
- Panelists will present their issues/positions
- Review of issues raised in Ontology Summit 2008
- Open for discussion

Panelists

- Michael Gruninger: Common Logic support
- Elisa Kendall: OOR for Public Sector Use
- Bart Gajderowicz: Uncertainty for mapping
- Mathieu d'Aquin: Ontology Repositories
- Katherine Goodier: Socio-cultural awareness
- Todd Schneider: Research questions

Granularity Issues

- Logical granularity
 - Unit for import
 - Context for mapping
- Storage granularity
 - Same as logical granularity?
 - Unit for mirroring?
 - Unit for versioning?
- Other issues dependent on granularity
 - Language dependence
 - Effect of updates to part of a unit
 - Query and retrieval across single and multiple units

Language Issues

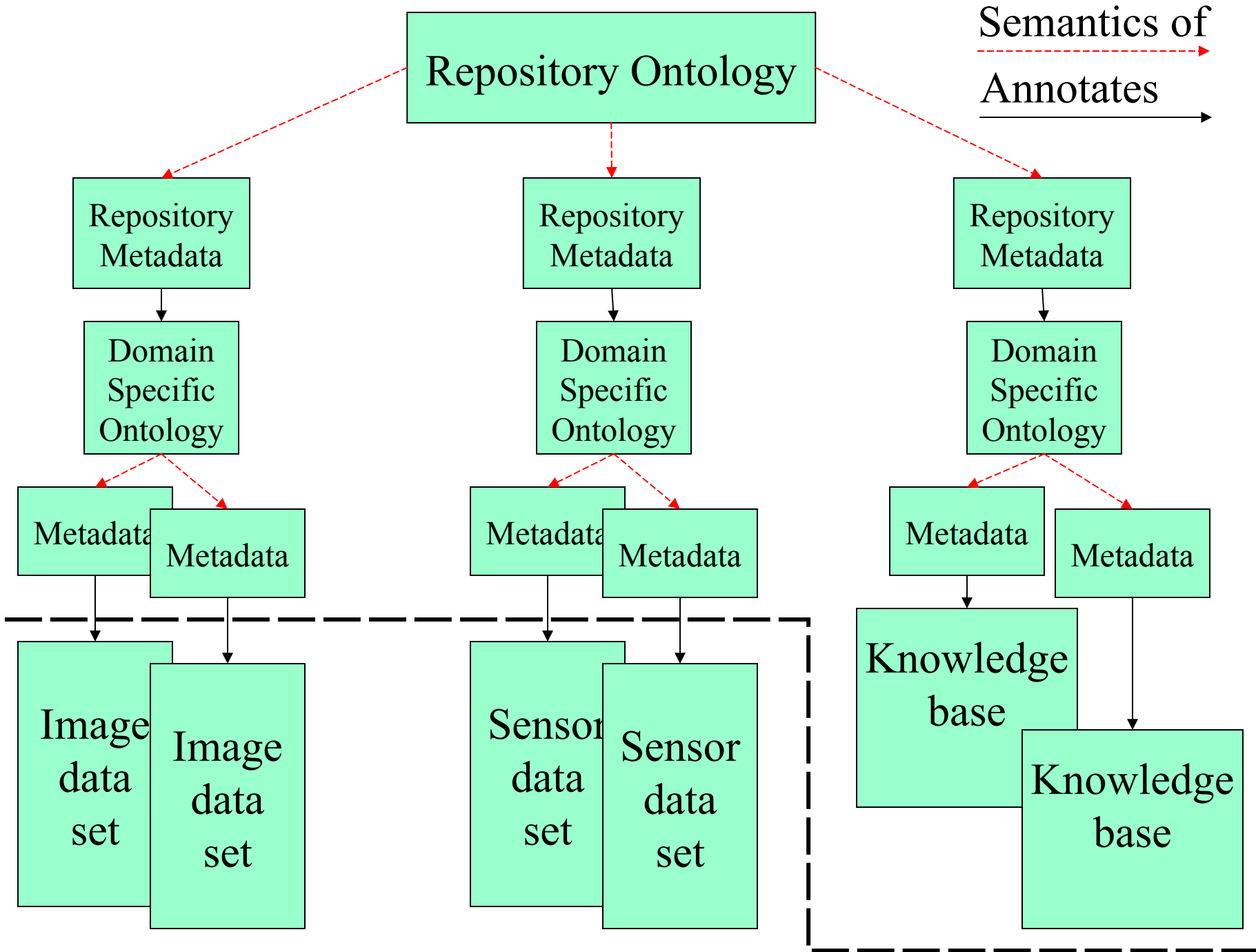
- Representation languages: text, XML, frames, graphs, DL, CL, HOL, UML, SQL
 - When and how will they be supported?
- Search languages: text, faceted, SPARQL, ...
 - When and how will they be supported?
- Inter-ontology mapping representation
 - Initially just sameAs support
 - When should more complex mappings be supported?

Internal Storage

- Storage strategies: triple stores, quad stores
 - What is the API for the storage component?
 - Language dependence
- Single or multiple internal representations
 - Can one storage unit have multiple internal representations?
 - Could this be lossy?

Management Issues

- Version management
- Configuration management
- Provenance and other metadata
 - See next slide
- Metadata validation/authentication
 - Related to policy issues
- Ontology ownership and access control



Modularization and Mapping

- Inter-ontology mapping consistency
 - Formal definition?
 - Weaker notions of consistency
- Ontology modularization support
 - Convenience or meaningful
 - If meaningful what is the semantics?

Architecture Issues

- Web service (API) ontologies (including the repository itself as a Web service)
 - Potential new source of ontologies
 - Ontology repository as web service registry
 - Ontology based software engineering
- Repository architecture: components and internal APIs
 - Ontologies for the repository development itself

Tool Support Issues

- Inference support
 - When and how should it be supported?
- Ontology editors, pretty printers, visualization tools, differencing tools, explanation tools, summarization tools
 - Should these be prioritized?
 - Should it be up to repository instances?

Administration and Policy Issues

- Gatekeeping policies and enforcement
 - Overall policies or left to individual repositories
- Policy-making body
 - When should it be constituted?

Scalability Issues

- Scalability goals
 - Size milestones
 - Concurrent access milestones
- Instance data
 - See slide 8

Outreach and Education

- Integration with other semantic tools
 - Semantic wikis
 - Others?
- Education
 - Documentation is not enough
- Community outreach
 - Meet with representatives of the community
 - Assist in transition to ontology repositories