

# Semantic Web and Big Data Meets Applied Ontology

## Thoughts on Summit 2014

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Synthesis II

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# Some Outstanding Questions

## The Role of Ontologies

- How are Semantic Web and Big Data applications using ontologies?
- Which ontologies are being used?
- What ontologies are required by SWBD applications?
- If ontologies meeting these requirements exist but are not being used, what are the reasons?
- If ontologies meeting these requirements do not exist, how can they be designed?

# Some Outstanding Questions

## Using Ontologies

- Is scalability the fundamental challenge for using ontologies on the Web?
- Is the design and application of ontologies on the Web fundamentally different than existing techniques?
- Are we encountering new ontology engineering bottlenecks in Semantic Web and Big Data applications?

# Some Outstanding Questions

## Semantic Integration

- Can the variety problem in Big Data applications be addressed using existing techniques for semantic integration, such as ontology mappings?
- What challenge problems can be used to guide future work in the integration of ontologies?

# Agenda: Track Summaries

- Track A: Common Reusable Semantic Content
  - ▶ Mike Bennett, Andrea Westerinen, Gary Berg Cross
- Track B: Making use of Ontologies: Tools, Services, and Techniques
  - ▶ Christoph Lange, Alan Rector
- Track C: Overcoming Ontology Engineering Bottlenecks
  - ▶ Krzysztof Janowicz, Pascal Hitzler, Matthew West
- Track D: Tackling the Variety Problem in Big Data
  - ▶ Ken Baclawski, Anne Thessen
- Discussion about Communique
  - ▶ Michael Gruninger, Leo Obrst, Francesca Quattri, Todd Schneider

# Communique Outline

- 1 Introduction, Scope, Motivation
- 2 Sharable and Reusable Ontologies
  - 1 What is the range of semantic content that is being used on the Web?  
e.g. from vocabularies to formally axiomatized ontologies
  - 2 What ontologies available/being used/required?
  - 3 Where can we find this content? e.g. LOV, ontology repositories
- 3 Using Ontologies in Big Data and the Semantic Web
  - 1 How is the semantic content being used/shared/reused?
  - 2 What is the role of ontologies in these applications?
- 4 Barriers and Bottlenecks
  - 1 What are the barriers to use/sharing/reuse of existing semantic content?
  - 2 What are the barriers to developing the semantic content that is required?
- 5 Conclusions and Recommendations