

Ontology Summit 2012: Track 1 & 2

Track 1: **Large-scale systems engineering, with special focus on Federated Systems and Conceptual Modelling**

Track 2: **Large-scale engineered systems**

Common To Tracks 1 and 2

- Both will discuss what Ontologists need to know about system engineering and vice-versa.
- Objective: come up with a benchmark of problems that arise in practice (problem patterns) and show how ontological theories can offer interesting solutions for these problems.

Track 1: Systems Engineering

- How can data integrity be achieved through the system engineering lifecycle
 - Data stored in different systems in different languages, not always under single control (federation problem)
- How can engineering effort know what data is needed, when needed and if it exists
 - Conceptual or ontological modelling of the engineering lifecycle process and its artifacts
- How to achieve semantic interoperability engineering modeling languages
 - Given each has different levels of semantic precision

Track 2: Large-scale engineered systems

- Describing systems
 - Ontological concepts for structure consists of part-whole relations, interconnections, and behavioral constructions.
- Large system lifecycle
 - difference between requirements and the delivered system, systems of systems vs systems, the nature of system components and the difference between these and the parts installed, and the connections between system components and what they carry.
- How to construct good quality reusable models
 - Ontological principles should apply
- Use of hierarchies of domain ontologies
 - management of ontologies and the challenges in developing and maintaining them.

Making it happen

- Approach
 - We will use the first session for each track to introduce the area and identify the problems we want to work on, (probably mostly be email on the summit list). We will base the session on two questions
 - What can ontologists learn from engineers?
 - what engineers can learn from ontologists?
- What contributions do we want from the wider Community?
 - Identifying the ontological issues around large systems and those that can contribute to (or identify) solutions.
- Aspirations?
 - A map of the territory including a setting out of known solutions to problems and unsolved problems.
- What do we bring?
 - The Co-champions of both tracks bring a lot of practical experience and battle scars, and enthusiasm to make progress.