

Ontology Summit 2012
Ontology for Big Systems
Session 2:
What's in Scope?
Thursday, January 19, 2012

General Chairs:
Nicola Guarino, Leo Obrst

Recap: Theme of Ontology Summit 2012

- **Ontology for Big Systems**

- The term "big system" is intended to cover a large scope that includes many of the terms encountered in the media such as:
 - Big data analytics
 - Complex techno-socio-economic systems
 - Large net-centric distributed systems
 - Collective intelligence
 - Large scale infrastructures

- **Key questions:**

- What can ontology provide to support and understand Big Systems?
- How does ontology provide that?
- How does the science and engineering of Big Systems impact ontology?

Ontology Summit Program Structure: Ontology for Big Systems Tracks

- Large-scale systems engineering
 - Systems engineering: an interdisciplinary field that focuses how complex engineering projects should be designed and managed over their life cycles, which includes requirements gathering and analysis, architecture and design, the actual system production process and its integration with the overall business process, including testing and evaluation
- Large-scale engineered systems
 - Focus on the actual structure of complex systems, including the nature, function and behaviour of their various components (physical, technical, social) and their mutual relationships, including integration and interoperability issues. It also involves the study of the global behavior of such systems as resulting from their interactions with the users and the external environment
- Challenge: Ontology and big data
 - Large-scale data and data mining and knowledge discovery, and the ability of ontology to provide support
- Large-scale domain applications
 - Includes Smart Grid, biomedicine, pharmaceutical, astronomical and physical science, collective intelligence, social networking, net-centricity/large scale knowledge management, complex socio-technical systems, cloud infrastructure

Vision for Ontology Summit 2012

- We will aim towards producing a series of recommendations describing how ontologies can create an impact on Big Systems
- We will try to provide illustrations where these techniques have been, or could be, applied in domains such as:
 - Bioinformatics
 - Electronic health records
 - Collective intelligence
 - The smart electrical grid
 - Manufacturing and supply chains
 - Earth and environmental applications
 - E-science
 - Cyber-physical systems
 - E-government
- We will engage the systems community so that the ontology community also learns from them

Ontology Summit 2012

Track Champions

- **Track-1: Large-scale systems engineering**
 - Co-Champions: HensonGraves, CoryCasanave
- **Track-2: Large-scale engineered systems**
 - Co-Champions: MatthewWest, HensonGraves
- **Track-3: Challenge: ontology and big data**
 - Co-Champions: ErnieLucier, MaryBrady
- **Track-4: Large-scale domain applications**
 - Co-Champions: SteveRay, TrishWhetzel, CoryCasanave
- **X-Track: Evaluation-Metrics-Quality**
 - Co-Champions: AmandaVizedom
- **Ontology Summit Communiqué**
 - Co-Lead Editors: ToddSchneider, AliHashemi
 - All other co-champions are co-editors of the Communiqué
- **Public Relations**
 - Champion: AliHashemi
- **Workshop and Symposium, NIST, April 2012**
 - Co-Chairs: MichaelGruninger, RamSriram

Ontology Summit 2012

Track Workspaces

- **Track-1: Large-scale systems engineering**
 - [OntologySummit2012_SystemEngineering_CommunityInput](#) (open)
 - [OntologySummit2012_SystemEngineering_Synthesis](#) (maintained by [HensonGraves](#), [CoryCasanave](#))
- **Track-2: Large-scale engineered systems**
 - [OntologySummit2012_EngineeredSystems_CommunityInput](#) (open)
 - [OntologySummit2012_EngineeredSystems_Synthesis](#) (maintained by [MatthewWest](#), [HensonGraves](#))
- **Track-3: Challenge: ontology and big data**
 - [OntologySummit2012_BigData_CommunityInput](#) (open)
 - [OntologySummit2012_BigData_Synthesis](#) (maintained by [ErnieLucier](#), [MaryBrady](#))
- **Track-4: Large-scale domain applications**
 - [OntologySummit2012_Applications_CommunityInput](#) (open)
 - [OntologySummit2012_Applications_Synthesis](#) (maintained by [SteveRay](#), [TrishWhetzel](#), [CoryCasanave](#))
- **X-Track: Evaluation-Metrics-Quality**
 - [OntologySummit2012_MetricsQuality_CommunityInput](#) (open)
 - [OntologySummit2012_MetricsQuality_Synthesis](#) (maintained by [AmandaVizedom](#), ???)
- **Ontology Summit Communiqué:**
 - [OntologySummit2012_Communique/Draft](#) (maintained by the communiqué co-lead editors [ToddSchneider](#), [AliHashemi](#))
 - [OntologySummit2012_Communique](#) (maintained by the co-editors)

Virtual Sessions and Discussions

- Main Ontology Summit page:
 - <http://ontolog.cim3.net/cgi-bin/wiki.pl?OntologySummit2012>
- We will have a virtual session every Thursday, focused on some Track
- Discussions will take place on [ontology-summit] mailing list
- Members can add to Track open wikis; Track Champions will synthesize
- Communiqué Co-Lead Editors will work closely with Track Champions (who are co-editors) on the Communiqué
- Ontology Summit 2012 will culminate at the Workshop and Symposium, NIST, Gaithersburg, MD, USA, April 2012

- **Let the discussions begin!**