

Semantic Infrastructure for Grid Computing Applications Workshop

<http://www.csm.ornl.gov/~7lp/workshop/SIGAW.html>

at IEEE/ACM International Symposium on Cluster Computing and the Grid
CCGrid 2005

May 9-12, 2005, Cardiff, UK

in conjunction with the GGF Semantic Grid Research Group

DEADLINE EXTENDED TO JANUARY 20, 2005

Chair: [Line Pouchard](#), Oak Ridge National Laboratory, US
Co-Chair: [Luc Moreau](#), University of Southampton, UK,
Co-chair: [Valentina Tamma](#), University of Liverpool, UK
Contact: sigaw@ornl.gov

About the Field

Pressing needs have emerged in grid computing applications (domain sciences) for adequate description of the large volumes of data produced by data-intensive simulations and experiments on scientific instruments. The data produced by scientific applications such as climate modeling, high throughput biology and proteomics, high energy physics and others and the knowledge derived from it will lose value in the future if the mechanisms for inventory, cataloging, searching, viewing, retrieving, and presenting this data are not quickly improved. For example, at the end of 2002, the volume of climate modeling data available to the climate research community produced in the US was 75 Terabytes (1.2 million files) distributed across 5 storage facilities, and as much as 3 Petabytes (3000 TBs) are expected for the end of 2007. Other sciences such as biomedical science and bioinformatics produce smaller but numerous, diverse, and widely distributed files stored on individual desktops and databases. Faced with an impending data crisis, scientists and data managers are turning to computer scientists for proposing and developing adequate solutions: a crucial part of these solutions are semantic-based data descriptions, models, services, and systems.

Scope

This workshop is designed to take a snapshot of promising research on semantic systems in the context of Grid computing and track emerging do-able solutions for developing a semantic infrastructure. Languages, tools and technologies are already available, in particular those borrowed from the Semantic Web community, the Digital Library community, and the Semantic Grid. However, much remains to be done. For instance, a semantic infrastructure leveraging common denominators between grid applications and architectures is needed. Additionally, semantic

systems must easily adapt to tailor customized solutions for individual applications. Some lightweight versions must be available to facilitate customization and integration in existing environments (for instance problem-solving environments). Other systems need to scale to the volumes and diversity of the data. As successful prototypes move towards deployment provisions for maintenance will have to be made. The workshop is seeking papers presenting innovative research, design, and lessons learned with an emphasis on scientific applications.

Topics of interest include:

- Integration of rich semantics in grid architectures
- Ontologies and semantic services for grid applications
- Automatic capture and annotation tools for semantic-based data description
- Semantic-based searching tools
- Scalable, flexible, lightweight systems and technologies
- Ontology repositories and maintenance
- Virtual data stores
- Instantiable architectures for semantic systems
- Convergence and/or interoperability of Grid and W3C standards
- Semantic-based improved interoperability
- Federations of semantic systems for cross-linking data files between independent data grids.
- Data grid semantic issues related to control mechanisms and state information
- Preservation semantic issues related to authenticity and technology evolution

Program Committee

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Submissions

Papers should not exceed 6 pages total. Position papers will be accepted based on available space. Authors should refer to [conference requirements for formats](#) (double-column, single space, 10 point size, IEEE 8.5 x 11 manuscript guidelines). To ensure anonymous review, please put authors' names and contacts on a separate page.

Submit papers in pdf format with a filename containing your last name and no space (ex: yourlastname.pdf) to <ftp://ftp.csm.ornl.gov/incoming.sigaw> (drag and drop) AND send an email containing your name and the title of your paper to sigaw@ornl.gov.

NEW SUBMISSION DATE: January 20, 2005

Notification of Acceptance: **February, 2005**

Camera-ready copy: **March 1, 2005**

Workshop date: TBD

Workshop Proceedings will be published separately.

Per conference policies:

- (1) submissions of material that has already been published, and
- (2) submissions of the same (or very similar) material to multiple workshops -- or to a workshop and the main track of CCGrid 2005 will not be permitted.
- (3) All Submissions will peer-reviewed anonymously.