The 3Rd Workshop on Workflows in Support of Large-Scale Science

in conjunction with SC'08

Austin, TX

November 17, 2008

http://www.isi.edu/works08

In recent years workflows have emerged as a key technology that enables large-scale computations on distributed resources. Workflows enable scientists to design complex analysis that are composed of individual application components or services. Often times these components and services are designed, developed, and tested collaboratively. Because of the size of the data and the complexity of the analysis, large amounts of shared resources such as clusters and storage systems are being used to store the data sets and execute the workflows. The process of workflow design and execution in a distributed environment can be very complex and involve mapping high-level workflow descriptions onto the available resources, as well as monitoring and debugging of the subsequent execution. Because computations and data access operations are performed on shared resources, there is an increased interest in managing the fair allocation and management of those resources at the workflow level.

Adequate workflow descriptions are needed to support the complex workflow management process which includes workflow creation, workflow reuse, and modifications made to the workflow over time—for example modifications to the individual workflow components. Additional workflow annotations may provide guidelines and requirements for resource mapping and execution.

Large-scale scientific applications pose several requirements on the workflow systems. Besides the magnitude of data processed by the workflow components, the resulting and intermediate data need to be annotated with provenance information and any other information needed to evaluate the quality of the data and support the repeatability of the analysis.

The Third Workshop on Workflows in Support of Large-Scale Science focuses on the entire workflow lifecycle including the workflow composition, mapping, and robust execution. The workshop also welcomes contributions in the applications area, where the requirements on the workflow management systems can be derived. The topics of the workshop include but are not limited to:

- Workflow applications and their requirements.
- Workflow representations, including semantic workflow descriptions.
- Applying business workflows to the scientific domain.
- Workflow composition, tools and languages.
- Workflow user environments, including portals.
- Workflow refinement tools that can manage the workflow mapping process.
- Workflow execution in distributed environments.

- Workflow fault-tolerance and recovery techniques.
- Interleaving workflow creation and execution.
- Data-driven workflow processing.
- Adaptive workflows.
- Workflow monitoring.
- Workflow optimizations.
- Performance analysis of Workflows
- Workflow debugging.
- Workflow provenance.
- Interactive Workflows.
- Workflow debugging
- Workflow provenance
- Interactive Workflows
- Relevance of Business Workflow Standards
- Workflow interoperability and sharing

Important dates:

Paper submission: September 12, 2008
Acceptance notification: October 7, 2008
Final papers due: October 31, 2008

Papers submitted to this workshop should be in IEEE format (ftp://pubftp.computer.org/Press/Outgoing/proceedings/) and no longer than 10 pages. Short papers of up to 6 pages can also be submitted. The papers should be original and not previously published. Papers will be refereed and accepted on the basis of their scientific merit and relevance to the workshop topics. Papers presented at the workshop will be included in the workshop proceedings as part of the IEEE digital library.

To submit the papers, please email works08@isi.edu

Program Committee Chairs:

Ewa Deelman, USC Information Sciences Institute
Ian Taylor, Cardiff University and the LSU Center for Computation and Technology

Program Committee Members:

Adam Belloum	University of Amsterdam
Marian Bubak	AGH Krakow / Universiteit van Amsterdam, PL/NL
David De Roure	Southampton University
Thomas Fahringer	University of Innsbruck
Geoffrey Fox	Indiana University
Dennis Gannon	Indiana University
Yolanda Gil	USC Information Sciences Institute
Carole Goble	University of Manchester
Andrew Harrison	Cardiff University

Peter Kacsuk	MTA Sztaki Research Institute
Daniel Katz	Louisiana State University
Tevfik Kosar	Louisiana State University
Miron Livny	University of Wisconsin, Madison
Bertram Ludaescher	UC Davis
Steven McGough	Imperial College London
Johan Montagnat	Inria Sophia-Napolis
Jarek Nabrzyski	Poznan Supercomputing and Networking Center
Cesare Pautasso	ETH Zurich
Rizos Sakellariou	University of Manchester
David Walker	Cardiff University
Edward Walker	University of Texas Austin