Workshop on Workflows in Support of Large-Scale Science

In conjunction with HPDC 2006, June 19-23, Paris, France

www.isi.edu/works06

Call for Papers

In recent years workflows have emerged as a key technology that enables large-scale computations on distributed resources. Workflows enable scientists to design complex applications 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 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
- Data-driven workflow processing
- Adaptive workflows
- Workflow monitoring
- Workflow optimizations
- Performance analysis of workflows
- Workflow debugging
- Workflow provenance
- Interleaving workflow creation and execution
- Interactive workflows

Papers submitted to this workshop should be in IEEE format (ftp://pubftp.computer.org/Press/Outgoing/proceedings/) and no longer than 10 pages. 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 HPDC 2006 proceedings CD (*pending final decision by HPDC*). To submit the papers, please email a PDF or Postscript to deelman@isi.edu by February 10, 2006.

Selected authors will be invited to submit an extended version of the paper to a special issue of the Scientific Programming Journal.

Important dates:
Paper submission: **February 10, 2006**
Acceptance notification: March 17, 2006
Final papers due: April 7, 2006

Program Committee

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