Event Report

Report author: David Walker
Event organiser(s): David Walker
Title of event: Workflow Optimisation in Distributed Environments
Date of event: 19th – 20th October, 2006 (2 days)

Target Audience:
- Researchers working in the field of workflow for distributed service-oriented applications, in particular those interested in optimising scientific workflows.
- Distributed application developers who are interested in being early adopters of the techniques and software presented at the workshop.
- Companies that might seek to exploit the intellectual property through appropriate partnerships

Objectives:
The aim of this workshop was to bring together researchers and practitioners interested in the area of workflow optimisation for scientific applications. The workshop covered the following topics:

- Predictive scheduling
- Performance-based middleware
- Semantic support for service selection
- Web service discovery and optimisation
- Workflow optimisation
- Workflow restructuring

Chronology of Event:
The workshop programme is given in the table below (the abstracts, talks, and related discussions for most of the presentations can be viewed by clicking on the embedded hyperlinks). The slides for all the talks can also be accessed online at the workshop web site: http://www.nesc.ac.uk/action/esi/contribution.cfm?Title=702.

<table>
<thead>
<tr>
<th>Thursday, 19 October</th>
<th>View all abstracts</th>
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</thead>
<tbody>
<tr>
<td>Session 1: Chaired by David W. Walker, Cardiff University</td>
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<tr>
<td>10:30 – 10:40</td>
<td>Welcome</td>
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<tr>
<td>10:40 – 11:20</td>
<td>Time and space optimizations for executing scientific workflows in distributed environments (Abstract: Talk: Discussion)</td>
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<tr>
<td>11:20 – 12:00</td>
<td>Workflow management within DIET applied to multi-application scheduling (Abstract: Talk)</td>
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<td>12:00 – 13:30</td>
<td>Lunch</td>
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<td>Session 2: Chaired by Stephen McGough, Imperial College</td>
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<tr>
<td>13:30 – 14:10</td>
<td>Performance linked workflow composition for video processing - an ecological inspiration (Abstract: Talk: Discussion)</td>
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**Event Achievements:**

The workshop presentations resulted in several useful discussions between participants, which have been captured in the above chronology. In the final workshop session several options for follow-on activities were discussed:

1. Should we set up a community Wiki?
2. Should we expand the scope of the community to cover other workflow topics, such as execution and composition, rather than just optimisation?
3. Should we seek to establish an eSI Theme?
4. Should we organise a special issue of a journal based on the talks presented at this workshop?
5. Should we discuss possible future collaborations (perhaps for an FP7 proposal)?

It was decided that a proposal should be made to establish an eSI Theme in the area of computational workflows. This Theme would be broader than the focus of the workshop, and would aim to cover all aspects of the use and theory of computational workflows used in the context of the Grid. A
community Wiki could be established as one aim of the Theme. There is currently a call for eSI Theme proposal out (http://www.nesc.ac.uk/esi/themes/call-for-themes-Dec-06.htm) and it is intended to submit to this.

It was also decided to organise a special issue of the journal Scientific Programming and to invite workshop presenters to submit papers to it. Ewa Deelman and David Walker are the guest co-editors of the special issue, which is entitled “Dynamic Computational Workflows: Discovery, Optimisation and Scheduling”. A call for papers has been disseminated and is available at http://users.cs.cf.ac.uk/David.W.Walker/WOSE/CFP.pdf.

No specific plans were made to develop research proposals, other than to the eSI Theme call, but several links were made between the workshop participants that may lead to collaborations in the future.

**Any Other Observations:**

The number of participants was less than originally anticipated, but the workshop was successful in providing a good forum for discussion and interaction, and resulted in two important future activities (a planned proposal for an eSI Theme and a journal special issue).