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GridLab - A Grid Application Toolkit and Testbed

D13.6 Report on the Second Annual Workshop

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Abstract: In this document we present the summary of the annual GridLab workshop that was held in Olomouc, Czech Republic, in October 2004. The Workshop was one of the GridLab's integration workshops that were held last year. More open workshop oriented for the general public will take place in Edinburgh, 19-21 July 2004 as one of the GridLab dissemination and exploitation activities.

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1 Introduction

The main goal of the GridLab project is to bring both new and legacy applications to the emerging Grid world. It will provide new, innovative tools, services and methodologies for efficient development of the grid enabled applications. The GridLab software will enable researchers and developers worldwide to develop new generations of engineering and scientific applications that can harness the power of the Grid.

In the fall of 2003 GridLab participants continued to implement the Eger workshopÕs requirements and specifications. Still, a substantial effort has been devoted to gathering new applications to us e the GAT. GridLab participants planned originally to organize open workshop where potential users of the GridLab's technologies could be invited. However, due to the fact that the first release was not ready (actually it was scheduled for December 2003), a workshop of this kind did not take place and was postponed until the middle of 2004. However, the decision to have an integration-like meeting in the fall of 2003 had been made. This meeting took place in Olomouc, Czech Republic in October 2004. The following report is a report on that meeting. Nevertheless we plan to update this deliverable with the report on the First Grid Application Programming Workshop to be organized by GridLab in August 2004 in Edinburgh. In the appendix to the current report one can find a CFP of this workshop in both, text and graphics form.

1.1 GridLab Integration Meeting in Olomouc, October 2003.

The GridLab workshop in Olomouc was organized by the Masaryk University from Czech Republic. The program of the meeting, the list of participants and other comments can be found at https://www.gridlab.org/Meetings/Olomouc2003/index.html. In general the meeting was attended by 50+ people from the project, including Kate Keahey from Argonne National Laboratory. The program, as always, was divided into two parts: two days of conference like meeting and 6 days of workshop, hands-on workshop. During the conference part all the partners gave status update on their developments. All the problems and issues were discussed and the goals for the workshop were defined. Kate Keahey gave an invited talk on the technologies under development in the Globus team. This talk led us to a long discussion on how GridLab could be affected in both, positive and negative ways. No risks that could potentially be important for GridLab were identified. Instead, GridLab participants learned a lot about new developments being undertaken by the Globus team. The strategies for the future collaboration were discussed afterwards. One of them was porting the GAT to the GT3.0 and GT3.x versions. The decision was made to postpone this development until the middle of 2004. In the meantime, since some other help from ANL team was needed by the GridLab consortium we decided to center this collaboration around Resource Management, gSOAP and mobile user support.

After the conference, the remaining days were dynamically scheduled to provide time and space for different groups, or workpackages to meet together and discuss the issues of the integration between them. Actually the integration of all the GridLab components was the main goal of the workshop part of the meeting. General structure of the workshop day was as follows:

Morning sessions:
- 9:00 - 10:20: Discuss one central WP in detail. Solve all outstanding issues, or provide work plan (with deadlines).
- 10:20 - 10:30: Evaluate the previous day, discuss a work plan for the day.
- 10:30 - 11:30: Discussion sessions to specific WPs, open to all. Solve all outstanding issues, or

provide work plan (with deadlines).
Afternoon sessions:
- Adaptors writing (coding and/or work plans)
- Portlet writing (coding and/or work plans)
- WP-WP Integration (coding and/or work plans)

The migration scenario designed at the meeting in Zakopane was still a driving force for all the developments and the integration.

2 Summary of the Workshop Achievements.

The following are the outcomes of the project meeting in Olomouc:

2.1 Software Integration

The main driving force for the projects integration work was the Supercomputing demo at the end of November 2003 in Phoenix, US. The testbed group (WP-5), based on the decisions made during the Olomouc GridLab meeting incarnated an Integration Team, which was signed responsible for the technical aspects of that demo. The scenario (migration of a running GAT-based Cactus job on the testbed) involved almost all work packages. This work was quite complex, but also important for the project. The Olomouc meeting was crucial for this demo.

Although the scenario was implemented successfully, the real performance at the NCSA booth failed due to the software misconfiguration, and had to be repeated later, at the Sun Microsystems booth. Finally the central pieces of the GridLab software (services and applications) have been demonstrated to work together as planned.

2.2 Introduction of New Coordination Bodies.

During the meeting in Olomouc we decided to introduce the following bodies to ensure the proper integration of the software:

- Demo Car - the person responsible for coordination of the demos. Miroslav Ruda from the Testbed WP (Masaryk University) was appointed to this position. Demo Car chairs also an Integration Team.
- Integration Team consisting of 5 persons from the most important WPs, initially WP1, WP2, WP4, WP5 and WP9 is responsible for the whole process of the integration. Integration Team is a body that works very closely with the Project Technical Board and it reports to the Project Technical Board Chair.

2.3 Starting the GAT Standardization Process.

During the meeting the plans for the GAT standardization at GGF were presented, discussed and finally approved. The new Research Group, namely Simple Grid Application Enabling RG was proposed at the meeting in Chicago and since then two BOF sessions were held. We believe that the first meeting of the group will be held during the GGF in Honolulu.

2.4 GridLab Open Source License.

The Steering Committee, at its meeting in Olomouc finally approved the GridLab Open Source License. The whole GridLab software is open source since it's first release in December 2003.

2.5 Collaboration Between the GridLab Partners.

Each GridLab all-hands meeting brings the project partners closer together and helps dramatically to coordinate and develop the project towards common goals. The workshop facilitates and fosters the collaboration. Information flow is very positive and influences the development of the project even several months after the workshop. We will continue these meetings, with the next one coming in May 2004 (Lecce, Italy) and the last one in December (Zakopane, Poland).

2.6 New Ideas.

The GridLab all-hands meetings are to organize brain storming sessions. Many great ideas taken from such sessions are implemented as a functionality of various GridLab services. The workshops bring together 50-60 experts in grid computing and grid programming and we always try to take best out of it.

3 GridLab's Grid Application Programming Workshop, 19-21 July 2004, Edinburgh.

GridLab has already started the organization of the Grid Application Programming Workshop to be held in Edinburgh, 19-21 July, 2004. The WorkShop will bring together Application Programmers with the interest to port or run their applications in Grids, an Grid middleware developers who want to make their services available to this user community.

A large part of the workshop will be devoted to the (tutorial like) presentation and discussion of the Grid Application Toolkit (GAT), an API developed in the EU GridLab project to support applications on the Grid. The GridLab project seeks to enhance its user community in cooperation with GridStart projects and others, and also seeks feedback to the scope and specification of the GAT API.

More information about the workshop can be found at: http://www.nesc.ac.uk/esi/events/424/. The flyer (draft) is appended to this document.

web site http://www.gridlab.org/Meetings/Edinburgh-2004/

Workshop on Grid Applications Programming

overview

EPCC and the EU funded projects GridLab and GridStart invite to the 3-day workshop on "Grid Applications Programming" on July 2004 19-21 in Edinburgh, UK. The Workshop will bring together Application Programmers with interest to port their applications to make use of Grid capabilities; and Grid middleware developers which want to make their services available to the scientifiifc application community. The workshop is addressed to application and Grid middleware developers from 20 FP5 Grid projects clustered by GridStart as well as FP6 and all other Grid initiatives. This brings a great opportunity to take into consideration a variety of Grid use-casesand help projects that has just started to develop Grid applications using existing components.

goals

A large part of the workshop will be dovoted to the (tutorial like) presentation and discussion of the Grid Application Toolkit (GAT), an API developed in the EU GridLab project, which supports application development for Grids. The GridLab project seeks to enhance its user community in coopoeration with the GridStart projects and others, and also seeks feedback to the scope and specification of the GAT API.

audience

- Programmers of scientific applications
- Grid middleware developers
- ???

invitation

As preparation for the workshop, we encourage the submission of use cases from the various projects. **That will allow us to tailor the workshop to YOUR specific application requirements.**

important dates

Workshop:	**2004 July 19-21**
Registration deadline:	**2004 July 07**
Use Case Submission:	**2004 July 07**
Contact:	**Andre Merzky *<merzky@cs.vu.nl>***

The number of registrations is limited to 25.

web site http://www.gridlab.org/Meetings/Edinburgh-2004/

Workshop on Grid Applications Programming

agenda

Day one: Application needs in Grids

Session A) Application Use Cases
- GridStart applications (presentations)
- dicussion of use cases (discussion)
- discussion of required Grid Middleware (discussion)

Session B) Grid Application Toolkit
- motivation, design and raw overview of GAT (presentation)

Day two: Tutorial

Session C) GAT Tutorial
- GAT API in detail (presentation)
- One-Liners in GAT (tutorial)
- 1st round of feedback: scope (discussion)

Day three: Tutorial / Discussion

- Scenarios in GAT (presentation)
- Applications in GAT (tutorial)
- Services in GAT (tutorial)
- 2nd round of feedback: details (discussion)

organizers

Mark Parsons	(EPCC, UK -- local organizer)
Jarek Nabrzysky	(PSNC, Poland)
Ariel Oleksiak	(PSNC, Poland)
Ed Seidel	(LSU, USA)
Gabrielle Allen	(LSU, USA)
Tom Goodale	(LSU, USA)
Hartmut Kaiser	(AEI, Germany)
Andre Merzky	(VU, Netherlands)

links

www.gridlab.org
www.gridstart.org
www.epcc.ed.ac.uk