First European Globus Community Forum Meeting

Florian Zrenner (zrenner@lrz.de)

Slides from Dr. Helmut Heller (heller@lrz.de)
Leibniz Supercomputing Centre (LRZ), Munich, Germany

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Overview

• The European Grid Ecosystem
• Initiative for Globus in Europe (IGE)
  – what are we?
  – where do we fit into the big picture?
• First success stories
• Summary
The European Grid Ecosystem

Software providers

Tier 0
European Computing Centers

Tier 1
National & Topical Computing Centers

Tier 2
Regional & Local Computing Centers

DEISA

PRACE

High Performance Computing

High Throughput Computing

Software providers:
gLite
ARC
dCache
UNICORE
- PRACE: Top level HPC, Petaflop computing
- Six European supercomputers of highest performance
- Globus tools used:
  - Gsish for interactive access
  - GridFTP for high speed data transfer
• Globus tools used in PRACE
  – **Gsiss**h as primary interactive access method to PRACE through Gsissh door nodes
  – **GridFTP** as primary high performance data transfer tool through door nodes to GPFS
  – **MyProxy** @ LRZ
  – **GRAM** (GT5) available on request
• IGE is a middleware provider and will bring Globus components into UMD
  
  – Service Level Agreement (SLA) signed with EGI

• Service provider for European Grids

• Third level support for Globus in Europe

• Globus can act as bridge between tiers
Help Scientists in the European Research Area
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- Coordination of widespread European Globus development and operation activities
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- Central point of contact in Europe for Globus
- Add the European perspective to Globus
- Globus service provider for European e-Infrastructures such as EUIndiaGrid, EGI, PRACE
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IGE Partners

- Leibniz Supercomputing Centre, Coordinator (LRZ)
- Technische Universität Dortmund (TUDO)
- University of Southampton (SOTON)
- The University of Edinburgh (EPCC)
- Poznan Supercomputing and Networking (PSNC)
- GridwiseTech (GWT)
- Technical University Cluj-Napoca (UTCN)
- Complutense University of Madrid (UCM)
- Uppsala University (UU)
- National Inst. for Nuclear and High Energy Physics (NIKHEF)
- The University of Chicago (UC)
Objectives 1

- **Coordination** of European Globus activities
- **Bundle** European input to Globus
- Introduce **adjustments** critical for Europe into Globus code base
- Act as **Globus service provider** for European Grids like DEISA, PRACE, and EGI
- **Standardization, training, promotion, and documentation**
- Organize **Globus Europe conference and Globus community forum**
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Objectives 2

- Mirror of globus.org for Europe
- Provide a European metrics collector (otherwise privacy concerns)
- Providing a repository and web resource: http://www.ige-project.eu/ (“the Hub”)
- Maintain binary packages for various Linux flavours
- Support batch systems like SGE, LL, …
• IGE will perform software adaptions to European requirements on demand
• New PDCA cycle every 6 months

• Tasks:
  – AdHoc-GSI integration
  – porting GridWay to GT5
  – porting OGSA-DAI to GT5
  – VOMS, LCAS/LCMAPS site access control
  – OGSA-BES/JSDL enhancements to work with GT5
  – Gsissh-Term improvements
Interactions with other DCIs

- **EGI**
  - IGE is Globus software provider
  - training, support, SLAs, MoUs

- **EDGI**
  - get Globus to run on top of EDGI for NGI-UK
  - develop gateway from Globus GRAM to EDGI

- **StratusLab**
  - Globus Grid services on top of cloud
  - investigate dynamic Grid deployment (submit VMs through GRAM)
  - using StratusLab for workshops

- **PRACE**
  - Globus support, training, SW development
1st Success Story: the Problem

- DEISA supports the VPH VC which wants to use GT5 GRAM to submit jobs with their SAGA-based software (no support for WS-GRAM).
- Many machines in DEISA are IBM-brand with LoadLeveler (LL) batch scheduler.
- IBM does not provide a GT5 LL-adaptor, thus SARA’s computer could not be used.
1st Success Story: the Solution

• SARA (Rob van der Wal) contacted IGE
• Within WP4 of IGE
  – Eduardo Huedo from Universidad Complutense de Madrid (UCM) offered to have a look
  – but he had no access to an IBM machine
• IGE connected Rob and Eduardo
• Together they ported GT4 LL-adaptor to GT5.0.1
• SARA is now offering GT5 GRAM to VPH
• GridKa Summer School 2010
• Joint European DCI Summer School
  – July 11 to 16th, 2011
  – Budapest, Hungary
• GridKa Summer School 2011
  – Karlsruhe, Germany
• Orchestration of file transfer through new service globusonline.org
• IGE developing a drag&drop GUI
Objectives of Globus.org mirror
- increase reliability
- decrease transatlantic data transfer
- decrease European response times
- provide world wide load balancing


More in separate talk later today
**5th Success Story: First Software Release IGE V1.0**

- Re-packaging Globus 5.0.4 for EGI
- Adding missing items like
  - native binary packages for Linux distros
  - man pages
  - build instructions
  - XML description of release (needed by EGI)
- Access through our Hub, download area

http://www.ige-project.eu/downloads
6th Success Story: European Statistics Collector

- Globus tools send usage info, containing IP addresses back to a statistics collector — unless disabled by setting an environment variable.

- Since IPs are considered privacy relevant data, sending them outside Europe is problematic.

- IGE set up a European collector and will only forward anonymized data to the US.
7th Success Story: EGCF!

• First European Globus Community Forum meeting in Munich on May 18th, 2011
• GlobusEUROPE take place on 19 September 2011 in Lyon
  – collocated with the EGI Technical Forum
Summary

• Vision: **One-stop shop** for Globus in Europe
  Advance research in Europe
• Bundle and coordinate European Globus efforts: **usage** and **development**
• Develop and contribute missing functionality
• Service provider for European Grids
• Third level support for Globus in Europe
• Promote Globus usage in Europe
• First GlobusEurope conference in Lyon on September 19th, 2011 (with EGI TF)
Fact Sheet

- **http://www.ige-project.eu**

- Trouble ticket system: [http://rt.ige-project.eu](http://rt.ige-project.eu)
  - Login: guest / Password: guest

- email: info@ige-project.eu

- Duration: 30 months

- Start date: October 1\textsuperscript{st}, 2010