Enabling Grids for E-science in Europe

EGEE - Status of the project

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Overview of EGEE - Summary

- EGEE is expected to deliver a production Grid infrastructure for scientific applications
- The project started 3 months ago
  - We have a running grid service based on LCG-2
  - All EGEE activities are well advanced
  - Next generation middleware being designed – first prototype made available to applications
- Biomedical and physics applications ported on the EGEE Grid infrastructure, more applications are welcomed
- The first project conference held in Cork (Ireland) 18-22nd April
  - http://public.eu-egee.org/kickoff/index.html

Progress so far

- Project Office and administrative structure established and getting up to speed
- PMB and AFM meetings on going
- PEB and other technical meeting getting up to speed
- PM3 deliverables being reviewed
- Quarterly Report being completed (including T/sheets)
- First EU advance payment distributed (1/3)
- Review process to complete by the end of the month
  - PEB=>PD=>PMB=>EU

Future major events

- International Grid school in Vico Equense (next week)
- EU IST consultation event on 15 September 2004
  - Participation from EGEE requested
- Next conference in Den Haag 22-26 November 2004
  - EU consultation event hosted by EGEE
- Accepted as official Dutch EU presidential event

Dutch EU Presidency event

- Dutch EU Presidency Umbrella-Event:
  - The Dutch Presidency will host the event
  - General theme title: “European Leadership in e-Science and Grids”
  - All four projects (EGEE, DEISA, SEE-Grid, DILIGENT) will be covered by this umbrella
  - Pro:
    - Local government contributes funding and organises sponsorship
    - IBM (DEISA) sponsorship issue addressed

Sponsorship

- Vital to obtain a low registration fee
- Not yet been confirmed
  - Possibilities: IBM, HP
- Sponsor Speech slots (condition for some sponsors):
  - Monday morning (main sponsor), Open Day
  - Tuesday at lunch time (secondary sponsor)
  - Tuesday night banquet (additional sponsor)
  - Wednesday at lunch time (additional sponsor)
- Prize for best application at conference banquet

Invited Speakers

- Possibilities:
  - Tatsuyo Sato, *Earth Simulator Project*
  - Irving Wladawsky Berger, *IBM*
  - Dutch Minister (confirmed by local organisers)
  - EU representative (to be invited officially by Dutch authorities, not yet decided)
  - New GGF Chair
  - Project representatives

- To speak at the Open Day, Monday AM, November 22nd

Concertation Event

- Request from the EU to host the *Grid RI Projects'* Concertation Event:
  - EGEE to bring EU Grid Projects together at Den Haag Conference (DEISA, SEE-GRID, Diligent…)
  - Goal: To assure new projects' awareness of current projects' expertise:
    - *Authentication, authorization, accounting*
- IST Projects to be invited: GridStart, GridLab, NextGrid, CoreGrid, SimDat, Akogrimo
  - Invitation to be co-written by Mario Campolargo (EC) and Fabrizio Gagliardi
- Event to take place Mon., Nov. 22nd afternoon - Tues., Nov. 23rd noon

New Open Day Agenda

AM:	Speaker	Subject	Length of Speech
09:30	**Local Organisers**	**Welcome + practical info**	**30 min**
10:00 10:30	**Pr. T. SATO** **I. W. Berger**	**Earth Simulation** **IBM Grid VP**	**30 min** **30 min**
Break		**11:00-11:30**	30 min
11:30	**New GGF Chair**	**The Future of GGF**	**30 min**
12:00 12:30	**Dutch Minister** **EU Representative**	**Welcome/ EU Presidency** **EU FP7**	**30 min** **30 min**
13:00		Lunch	1.5 h
PM: 14:30 14:50 15:10 15:30	Concertation Event: **SEE-Grid** **GN2** **Diligent** **COREGRid**	**Individual Projects' Presentations to the** Concertation Meeting	**20 min** **20 min** **20 min** **20 min**
Break		**15:30 –16:00**	**30 min**
16:00 16:20 16:40 17:00	**DEISA** **EGEE** **GridStart** **GridLab**	**Individual Projects' Presentations to the** Concertation Meeting	**20 min** **20 min** **20 min** **20 min**
Break		**17:20-18:00**	**40 min**
18:00 18:20 18:40	**NextGrid** **SimDat** **Akogrimo**	**Individual Projects' Presentations to the** Concertation Meeting	**20 min** **20 min** **20 min**
19:00	Welcome Drink		1 h

Total: 3 h

Total: 1 h 20 min

Total: 1 h 20 min

Total: 1 h

Tuesday Morning Agenda

- Tuesday, November 23rd:
  - Morning reserved for the technical sessions between all Concertation Meeting Projects
  - To conclude in a road map "What Next?" session at the end of the morning

- Conclusions:
  - EGEE is considered "the flagship project" by the EU

International cooperation

- Grid projects are by their intrinsic nature international
- Serve scientific communities established on a wide international basis
- Experienced excellent collaboration during the last several years
  - In particular between US and EU groups
  - Collaboration between the EU DataGrid, the Globus and VDT US teams is a good example
  - With the EU DataTAG and US iVDGL projects we introduced a more formal collaboration approach between the EU and the US

International cooperation

- USA:
  - ANL/UoC, ISI/USC, Wisconsin University
  - full partners in the project
- Russia is participating with 8 fully EU funded partners
- Israel institutes are also full EGEE partnes
- A MoU has been signed with South Korea institutes
- EGEE extended to Balkans through SEE-GRID SSA
- Discussion on going with Baltic countries, Latino America, India, Iran, Egypt and Pakistan

Next events

- First Project review on Feb 9-11 2005
- Close of extraordinary EU Grid call in March 2005 (tbc)
  - Focus on extension of existing Grid infrastructures (Baltic countries, Latino America, Mediterranean countries, China etc.)
- Third project conference in early May 2005 (Athens)
- Close of 3rd EU Grid call September 2005 (tbc)
- Second Project review October 2005 (tbc)
- Last Project Conference in UK November 2005 (tbc)

Longer term future (I)

- Grid at a turning point
  - From research Grid to production Grid
  - Applications will soon depend on a high quality grid
- Grid is today what networks were yesterday
  - Research Networks use to be disparate testbed
  - Networks use to be non-standard and could not interoperate
  - Network standards were not defined and adopted
- Example of network standards
  - Winners: TCP/IP
  - Losers: ISO-OSI
- EU/EC played an important role in nurturing this evolution

Longer term future (II)

- Natural selection played its role in network standards
- Only after an incubator period, did the industry turned research networks and testbeds to commercial and production like services
- Still today, research networks are working on the future of networking

Grid Infrastructure

- Grid at a turning point: from Research to Production
- EGEE and Deisa are the first of this production generation
- Both will deploy services on top of Geant and GN2
- Meanwhile, initiatives such as the eIRG in Europe will develop appropriate international access policy and regulations
- Software development, multi-platform, is slow
- Evolution of the regulatory and policy framework is a human oriented activity and as such will require more time to develop

A look into the Future

- At the beginning of the EU FP7 (2007) it is conceivable that EGEE and Deisa will be running major international Grid infrastructures possibly together
- Need to continue our effort to complete the grid maturity in an EGEE-like EU funded consortium and make it embrace emerging standards
- Only then will it be ready to have the industry involved in its operations
- Grid users need a stable, committed and well maintained Grid infrastructure

Difference between RNs and Grid

- Networks are generally hardware intensive systems
- Grids are software intensive systems
- Software is much more volatile medium than hardware
- Still grid lack from international adopted standards

User perspectives

- A process of integration, in a seamless way, of new scientific communities (VO) will need to be developed and then supported
- Different categories of users, and corresponding support, should to be defined to meet their needs
- Some VOs will come with problems requiring computing power only, other data storage
- More organised user communities will come with problems, but also expertise, and computing resources

Future of Grid - Summary

- We have a window of opportunity to turn Grid from research to production, as network did a few years ago
- The next 2 years of EGEE will be critical in establishing the first generation of production grid
- Fundamental to work with the EU member state representatives to sustain Grid plans in FP7
- A wide community of happy EGEE users will be the best selling point for the long term future of EGEE
- This event is a good step forward