The EGEE-III Project
Towards Sustainable e-Infrastructures

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EGEE-II INFSO-RI-031688

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Flagship grid infrastructure project co-funded by the European Commission
Now in 3rd phase with 43 partners representing over 120 institutes

- **EGEE-III:**
  - Co-funded by European Commission with 32M€
  - 2 year period – 1 May 2008 to 30 April 2010
  - Consortium structured on a national basis (National Grid Initiatives/Joint Research Units)

- **Key objectives**
  - Expand/optimise existing EGEE infrastructure, include more resources and user communities
  - Prepare migration from a project-based model to a sustainable federated infrastructure based on National Grid Initiatives
EGEE – What do we deliver?

**Infrastructure operation**
- Sites distributed across many countries
  - Large quantity of CPUs and storage
  - Continuous monitoring of grid services & automated site configuration/management
  - Support multiple Virtual Organisations from diverse research disciplines

**Middleware**
- Production quality middleware distributed under business friendly open source licence
  - Implements a service-oriented architecture that virtualises resources
  - Adheres to recommendations on web service interoperability and evolving towards emerging standards

**User Support** - *Managed process from first contact through to production usage*
- Training
- Expertise in grid-enabling applications
- Online helpdesk
- Networking events (User Forum, Conferences etc.)

>250 sites
>49 countries
>70,000 CPUs
>20 PetaBytes
>10,000 users
>150 VOs
>150,000 jobs/day

21:13:50 UTC
Users and resources distribution

EGEE AP Partners:
- KEK, Japan
- Academia Sinica, Taipei
- KISTI, Korea
- Chonnam National University, Korea
- University of Melbourne, Australia

EUAsiaGrid Project started recently
EGEE Grid Management Structure

- **Operations Coordination Centre (OCC)**
  - management, oversight of all operational and support activities

- **Regional Operations Centres (ROC)**
  - providing the core of the support infrastructure, each supporting a number of resource centres within its region
  - Grid Operator on Duty
  - Asian ROC operated by ASGC

- **Resource centres**
  - providing resources (computing, storage, network, etc.)

- **Grid User Support (GGUS)**
  - At FZK, coordination and management of user support, single point of contact for users

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- **Regional Operations Centre**
- **GGUS**
- **Operations Coordination Centre**
Registered Collaborating Projects

Enabling Grids for E-sciencE

25 projects have registered as of September 2007: web page

Infrastructures
geographical or thematic coverage

Applications
improved services for academia, industry and the public

Support Actions
key complementary functions

Registered Collaborating Projects

- g-Eclipse
- KnowARC
- eGEE
- SEE-GRID
- euGrid
- int.eu.grid
- cyclops
- EUMEDgrid
- OMII Europe
- BioinfoGRID
- EnableGRID
- Open Grid Forum
- EasyGrid
- deegree
- eGrid
- Belief
- ISS-G
- GRIDCC
- OGF23, June 2008
Worldwide Grids

APAC
DEISA
EGEE
Naregi
NDGF
NGS
OSG
Pragma
Teragrid
How mature are we?

Grid on the Computing in High Energy Physics conferences timeline

Slide courtesy of Les Robertson, LCG Project Leader
From e-Infrastructures to Knowledge Infrastructures

- Network infrastructure connects computing and data resources and allows their seamless usage via Grid infrastructures.

- Federated resources and new technologies enable new application fields:
  - Distributed digital libraries
  - Distributed data mining
  - Digital preservation of cultural heritage
  - Data curation

→ Knowledge Infrastructure
ICT for Science: e-Infrastructures

Connecting the finest minds
Sharing and federating the best scientific resources
Building global virtual communities

Sharing and federating scientific data
Sharing computers, instruments and applications
Linking at the speed of the light

Mario Campolargo Acting Director Emerging Technologies and Infrastructures, EU
citizen Information Society and Media

European Information Space: Infrastructures, Services and Applications Workshop, Rome, 29-30 October 2007
• Need to prepare permanent, common Grid infrastructure
• Ensure the long-term sustainability of the European e-Infrastructure independent of short project funding cycles
• Coordinate the integration and interaction between National Grid Infrastructures (NGIs)
  • EGEE-III already structured on a national basis
• Operate the production Grid infrastructure on a European level for a wide range of scientific disciplines
Summary

- EGEE provides a dependable production quality Grid infrastructure to a wide variety of scientific disciplines.

- Collaborations on technical and political topics are key to implement a truly world-wide infrastructure.

- Need to cover full spectrum: from individual sites, small scale Grids to world-wide infrastructures.

- Grids are increasingly becoming an essential part of the scientific computing infrastructure – sustainability needs to be ensured.
EGEE ’08 CONFERENCE
22-26 September 2008
Harbiye Askeri Museum - Istanbul, Turkey

www.eu-egee.org/eggee08