



Enabling Grids for E-science

Workshop Goals

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EGEE Workshop on
Management of Rights in
Production Grids

www.eu-egee.org



- **Multi-science production Grids are a reality and increasingly used**
- **Taken the step from testbeds to infrastructures**
- **Rights management is still in its infancy**
 - Basic authentication and authorization mechanisms exist, but very often apply to all members of a VO equally
 - Access control is being deployed but priority and quota management remain open questions
 - Much progress made on the standards front but not yet fully reflected on infrastructures



- **Review current practices and issues in major production Grids**
 - Session 1 (09:00 – 11:00)
- **Update on standards and frameworks being used**
 - Session 2 (11:00 – 11:45)
- **Specific issues in data management**
 - Session 3 (11:45 – 15:15)
- **Specific issues in job management**
 - Session 4 (15:45 – 18:15)
- **Summary discussion**
 - Session 5 (18:15 – 19:00)
 - What's the way forward? Where is more research needed?



Enabling Grids for E-science

Session 1: Review of current practices and issues in major production Grids

The EGEE Project

www.eu-egee.org



- **Aim of EGEE:**

“to establish a seamless European Grid infrastructure for the support of the European Research Area (ERA)”

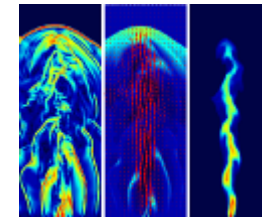
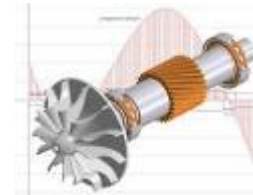
- **EGEE**

- 1 April 2004 – 31 March 2006
- 71 partners in 27 countries, federated in regional Grids

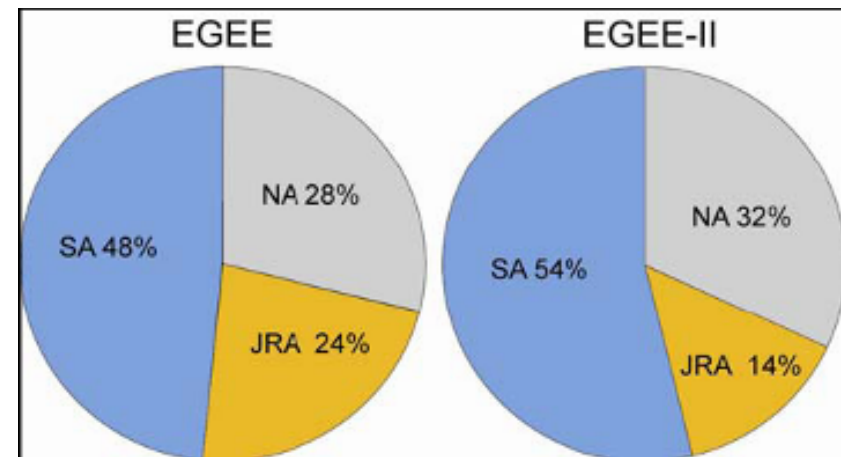


- **EGEE-II**

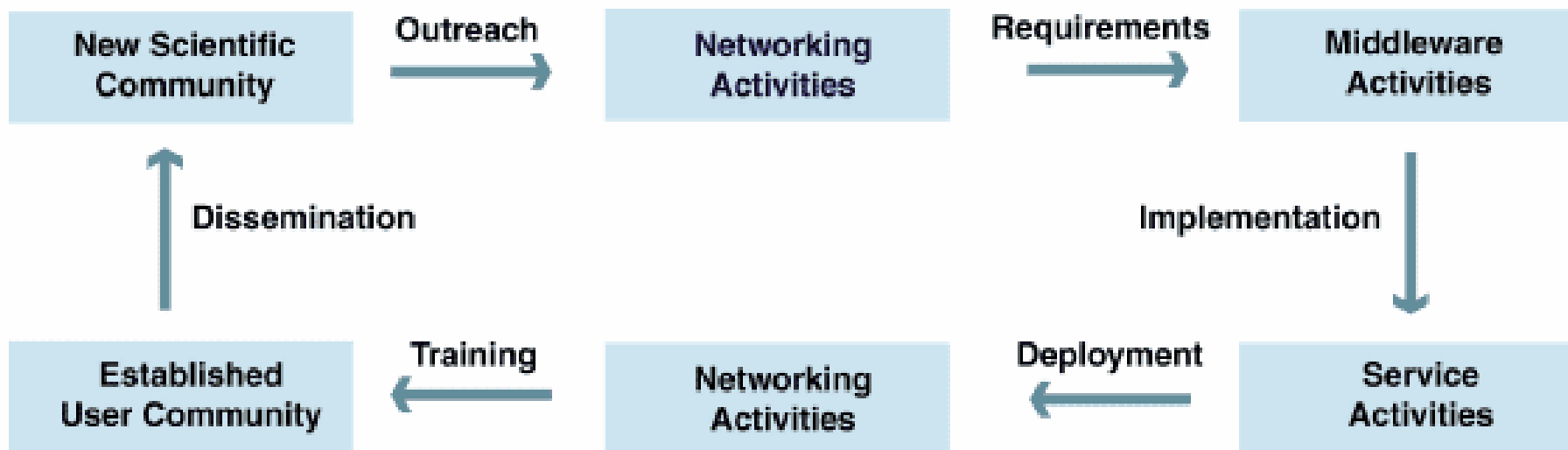
- 1 April 2006 – 31 March 2008
- Expanded consortium
 - 91 partners
 - 11 Joint Research Units (48 partners)



- Natural continuation of EGEE
- Emphasis on providing production-level infrastructure
 - increased support for applications
 - interoperation with other Grid infrastructures
 - more involvement from Industry

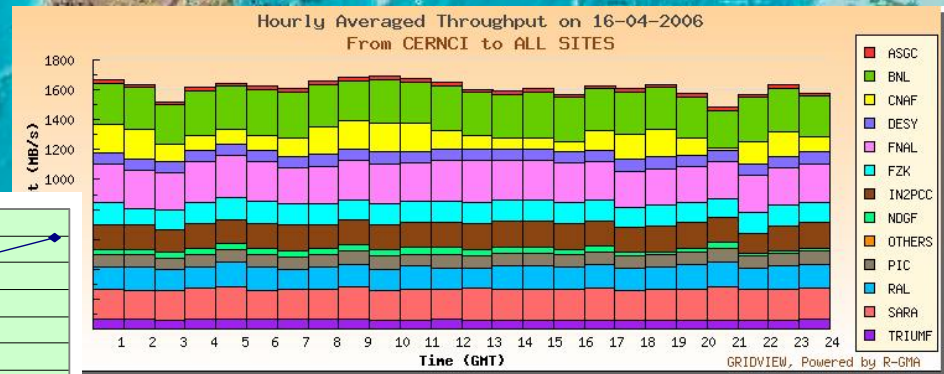
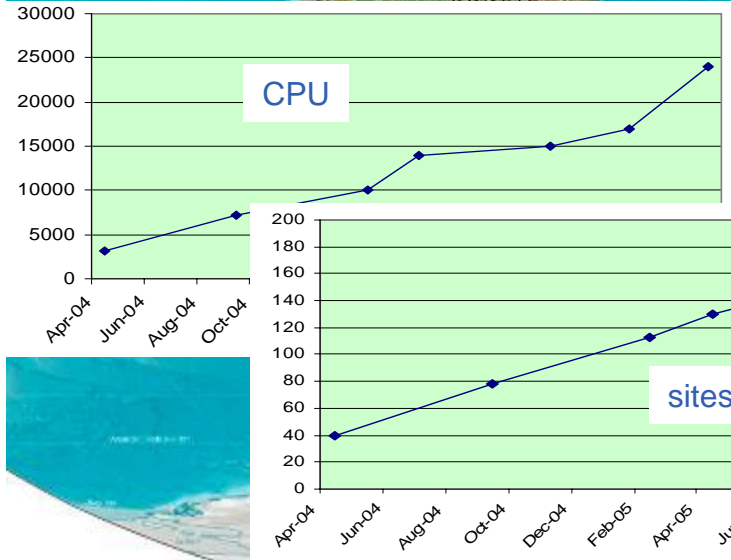
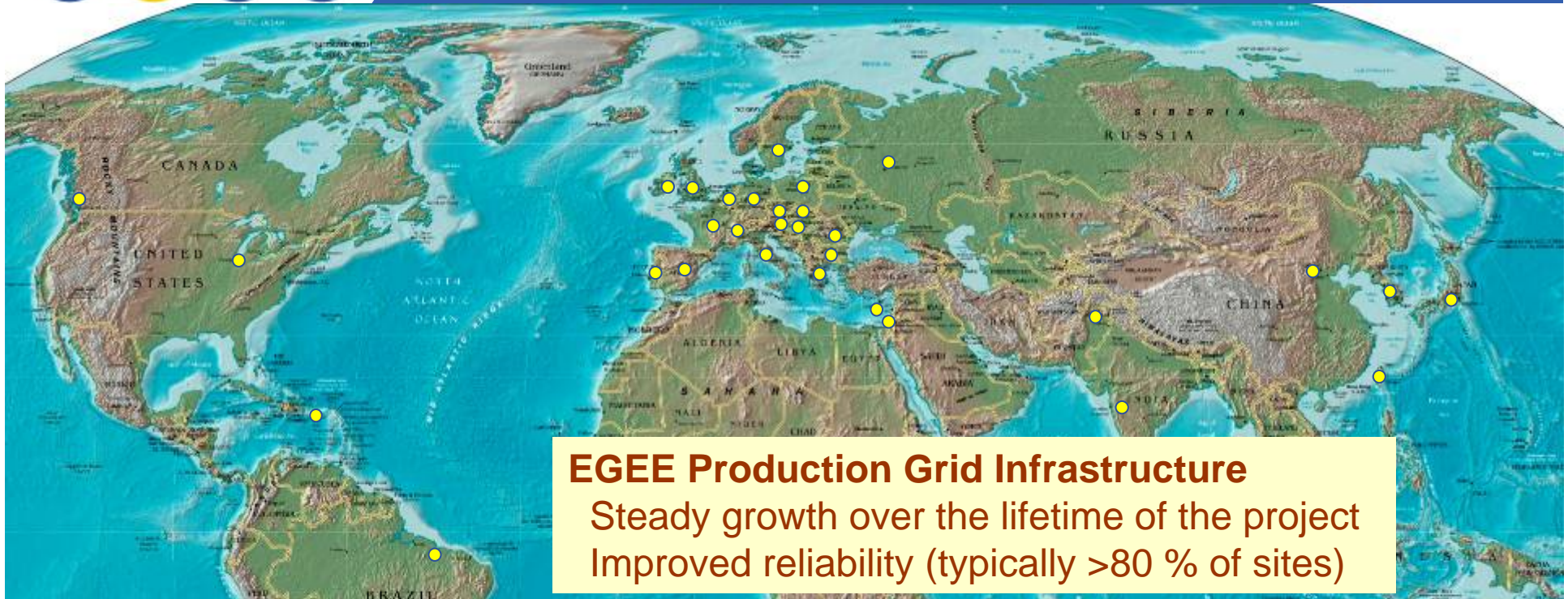


- All Activities work in concert to drive the **Virtuous Cycle**
- *Field-tested* and refined during EGEE

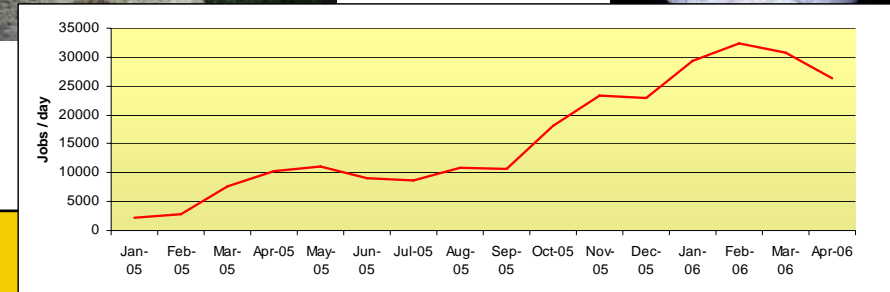
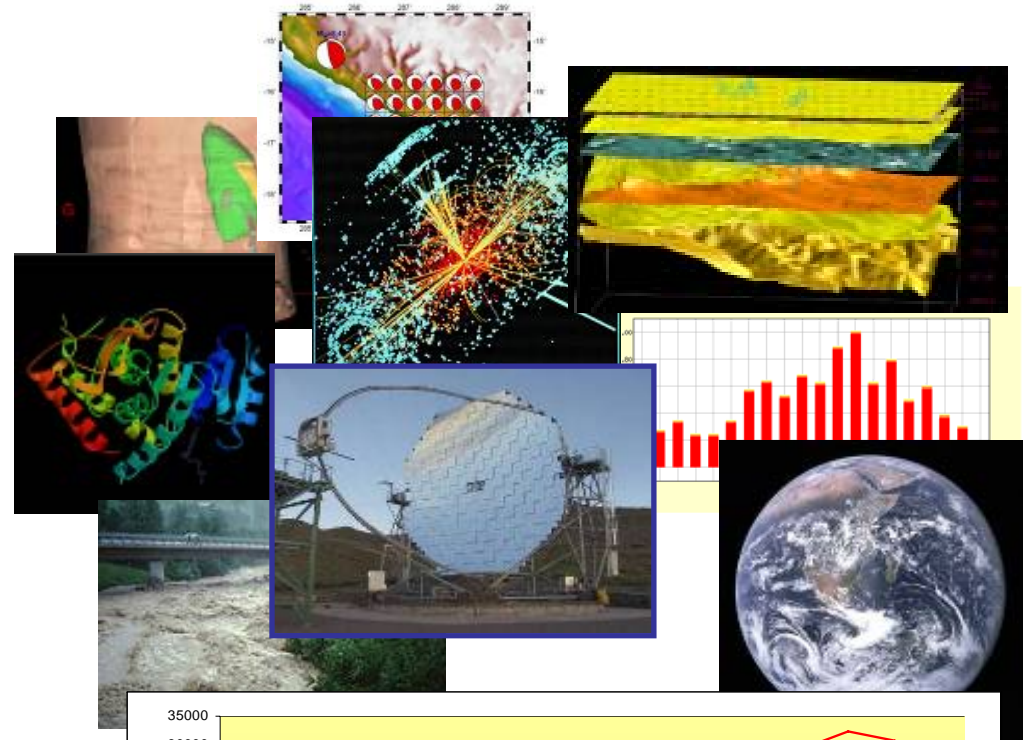




Highlights of 2 Years of EGEE



- **>60 VOs from 9 domains**
 - Archaeology
 - Astronomy
 - Biomedicine
 - Computational Chemistry
 - Earth Sciences
 - Financial Simulation
 - Geo-Physics
 - High Energy Physics
 - Physics of Plasma
- **Further applications under evaluation**

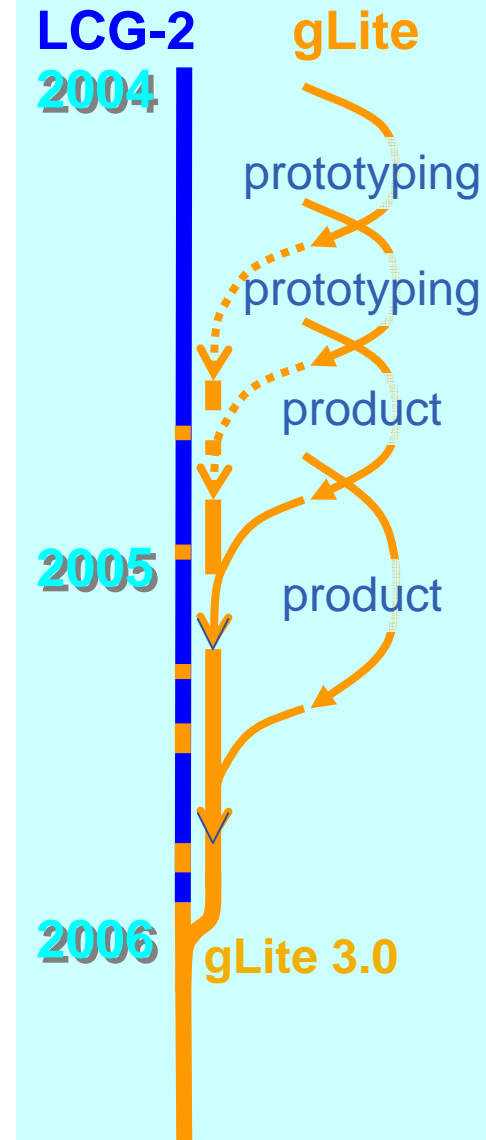


Applications have moved from testing to routine and daily usage
~80-90% efficiency

- **gLite middleware distribution re-engineered according to industry strength process**
 - Now more widely available via ETICS project
- **Planned convergence with distribution existing at the start of the project (LCG-2) reached with**

gLite 3.0

- Publicly released on May 4, 2006



- **Authentication based on X.509 PKI infrastructure**
 - **Certificate Authorities** (CA) issue (long lived) **certificates** identifying individuals (much like a passport)
 - Commonly used in web browsers to authenticate to sites
 - Trust between CAs and sites is established (offline)
 - In order to reduce vulnerability, on the Grid user identification is done by using (short lived) **proxies** of their certificates
- **Proxies can**
 - Be **delegated** to a service such that it can act on the user's behalf
 - Include **additional attributes** (like VO information via the VO Membership Service VOMS)
 - Be stored in an **external proxy store** (myProxy)
 - Be **renewed** (in case they are about to expire)

- **Rights management based on VO membership, groups, roles, and DNs**
- **Access to computing resources allowed on VO basis with possibility to blacklist individual DNs**
- **Access to data allowed on VO basis – ACL support available in some services but not yet consistently**
- **Some services allow specific actions based on VO roles (e.g. contacting the administration interface)**

- **Scalability: need to support 100s of users, 10s of groups and 10s of roles within a VO**
- **Consistent use of ACLs**
 - Monitor or modify jobs (currently restricted to the user – “VO admin” cannot interfere trying to help)
 - File listing, deletion, and access
 - Both at storage and catalog levels
 - Accessing published information in the information system
 - ACLs are often added later to services, makes their consistent usage tedious and error-prone
- **Encryption of data on the grid**
 - Prototype for file based data available
- **Priorities and quotas**
 - for scheduling, file storage etc. both at the resource level as well as meta-scheduler level
- **Policy definition and propagation**
 - Need automatic mechanisms to transmit what various groups and role mean. Prototypes available.

- **EGEE'06 – Capitalising on e-infrastructures**
 - Demos
 - Related Projects
 - Industry
 - International community (UN organisations in Geneva etc.)
- **25-29 September 2006**
- **Geneva, Switzerland**
- **<http://www.cern.ch/egee-intranet/conferences/EGEE06>**

Welcome to the key European Grid event of 2006!