



Enabling Grids for E-scienceE

EGEE's vision and roadmap for commercial uptake of grids

Bob Jones
EGEE Project Director
CERN



www.eu-egee.org



- **Infrastructure operation**

- Currently includes ~240 sites across 45 countries
 - ~ 40000 CPUs and ~5 PBytes of storage
 - Continuous monitoring of grid services & automated site configuration/management
 - Support >150 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 inter-operability 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.)

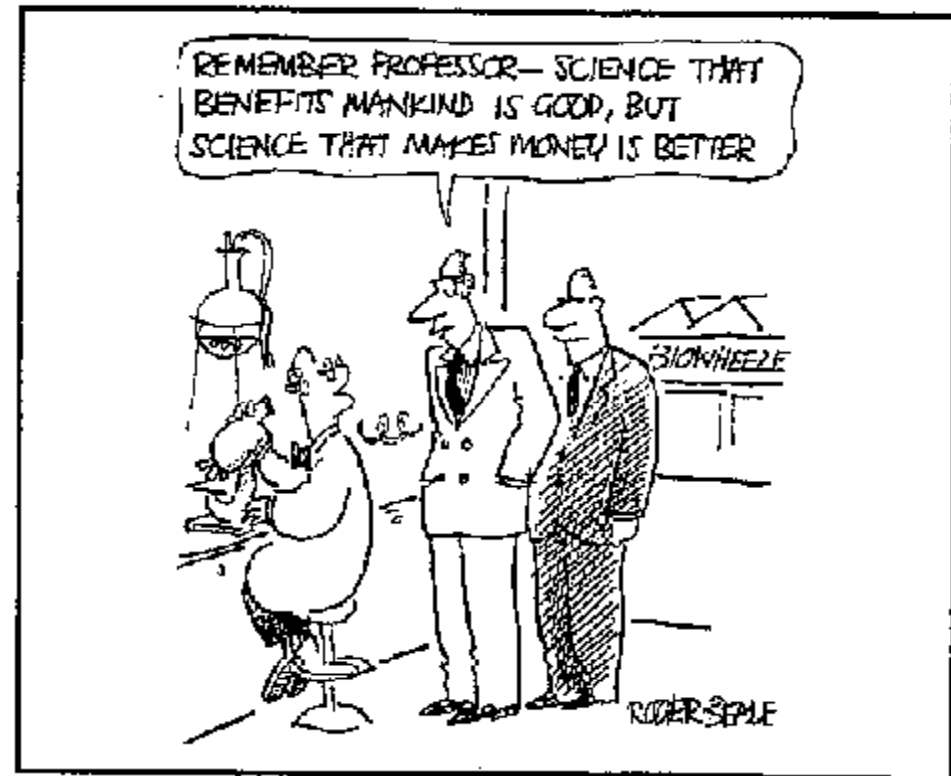


- **Middleware tested in large scale - gLite**
 - Range of higher-level services
 - Service Oriented Architecture (SOA) with virtualised resources, making it easy to connect the software with other Grid services
- **Compliance with**
 - web service interoperability
 - accepted standards for web service foundation stack
- **Available expertise, user- and operator-level guides**
- **Security model with authentication, authorisation and audit trails**
- **Possibility to integrate internal and external resources**
- **40,000 CPU's potentially accessible**
- **Visibility**
 - 240+ sites in 45+ countries for +150 Virtual Orgs.
 - An excellent shop-window for products, services and expertise



- **EGEE's Programme for Industry aims to:**
 1. Formulate strategies to improve the uptake of EGEE-II in Industry
 2. Recruit new industry users of the Grid (and possible future financial supporters of a sustainable Grid infrastructure in Europe)
 3. Support and Attract Business Applications using gLite next generation Grid middleware
 4. Attract industrial stakeholders to the opportunities available within EGEE-II
 5. Identify and target new user communities from Industry & suggest means to overcome the obstacles industry face when adopting Grid technologies
 6. Facilitate a fruitful, dynamic exchange between current Grid users and potential new industry Grid users

- Business Partners
- Business Associates
- Industry Forum & Task Force



Signatories of the project contract with responsibilities in EGEE-II

- **CEA (France)**
 - Working with the Fusion community
- **CGGVeritas (France)**
 - Seismic Imaging and Reservoir simulation – BEinGRID (BE18)
- **CRSA (France)**
 - Finance - Risk Management in Finance – BEinGRID (BE11)
- **CS-SI (France)**
 - Responsible for Q.A. and Technology Transfer to SMEs
 - Support Large enterprises
- **DATAMAT (Italy)**
 - gLite middleware development & testing
- **Metaware (Italy)**
 - Dissemination and outreach to Businesses and Industry
 - Leads the Industry Forum and organises Industry Events
- **TID (Spain)**
 - Telecoms



- **GridWiseTech**

- Developing Grid tutorials to Industrial Mgt.
- Outreach to Business



- **NICE**

- Developing EGEE compatible GENIUS Grid portal and EnginFrame Framework



- **Platform Computing**

- Making gLite middleware better in exploiting the LSF local resources management system



- **Avanade**

- IT Consultancy

- Interface gLite with MS Windows based AGA software



- **Excelian**

- UK-based Grid Consulting Company for Finance and Energy

- Aid in adapting EGEE infrastructure to meet needs of the Finance & energy sectors



- **Hitachi Sophia-Antipolis Laboratory**

- France-based technical lab

- Integrate gLite data management with INCA middleware



CERN openlab is contributing to the EGEE programme of work

- **Linked to EGEE via the**
 - **Grid interoperability & integration centre (GCC)**
 - **Platform competence centre (PCC)**



PARTNERS



ORACLE

CONTRIBUTORS



STONESOFT

- **Platform and dissemination tool designed to give Industry:**
 - Opportunity to learn about EGEE and its benefits
 - Find out how their Industrial Applications can be deployed on EGEE using gLite middleware
- **285 members**
 - Key role in organising industry days and business tracks



Platforms to enable current and potential adopters of grid technology to:

- Interact with EGEE project
- Exchange knowledge and experiences
- Sector specific
- Discuss technical and non-technical barriers
- Benefits for the up-take of grid by industry

Venue	Date	Topic
Paris, France	Apr 06	Launch
Cambridge, UK	May 06	SMEs
Ischia, Italy	Jul 06	Data grids
Catania, Italy	Oct 06	SMEs
Helsinki, Finland	Nov 06	Bioinformatics
Pisa, Italy	Jan 07	Finance
Budapest, Hungary	Feb 07	Large Enterprise
Madrid, Spain	Mar 07	Latin America
Thessaloniki, Greece	Sep'07	SMEs
Bratislava, Slovakia	Sep'07	Pharmaceutical

- **Business representatives that work with EGEE to:**
 - Assess gLite in industrial contexts
 - Define EGEE technical requirements for industry
 - Support channel for commercial and technical requirements for industrial take-up external to EGEE
 - Liaise with Industry Forum and Technical Coord Group
 - Technical direction of EGEE-II and business needs
 - Ensure Business Applications have equal status to Scientific App.
 - Support gLite business applications

- **BEinGRID**
 - 3 different applications
 - Earth Sciences – seismic imaging & reservoir simulation
 - Earth Observation – atmospheric retrieval parameters
 - Finance and Insurance – Risk Management
- **SMEs**
 - OpenPlast project - Develop and deploy Grid platform for plastics industry
 - Cambridge Ontology - Ported gLite application and GridPP sites
- **Health**
 - Health-e-Child – Biomedical information platform for Paediatrics
 - WISDOM – using EGEE infrastructure for drug discovery
- **Energy**
 - TOTAL, UK - Ported application using GILDA testbed
- **CERN Openlab**
 - Collaboration with IT partners to develop data-intensive Grid solutions



- **Security – control/secure access to data/applications as well as “privacy” for sensitive data with sensitive applications**
 - gLite has prototype secure data management facilities
 - Favourable security review performed by CNES
- **Standards & Policies – to encourage long-term investment**
 - EGEE driving standards via Open Grid Forum
- **Training – need to offer training tailored to businesses**
 - Survey of commercial grid training needs completed and published:
https://edms.cern.ch/file/794178/2/EGEE-II-DNA3.2-794178-v3.0_Final.pdf
 - Software license management – how users access commercial packages & how ISPs generate revenue
 - Working with ISVs to explore grid licence management possibilities
- **Networking – costs of network services is prohibitive**



<i>Networking activities</i>	<i>Specific Service Activities</i>
NA1: Management	SA1: Grid Operations
NA2: Dissemination, Communication & Outreach	SA2: Networking Support
NA3: Training & induction	SA3: Integration, Testing & Cert.
NA4: User Community support and expansion	
NA5: Policy & International Cooperation	<i>Joint Research Activities</i>
NA6: Technology Transfer & outreach to Business 	JRA1: Middleware Engineering

- **Proposed EGEE-III project**
 - 2 years – spring'08 to spring'10
- **NA6 - New activity dedicated to business' needs will build on initial successes**
 - **Commercial Exploitation Plan**
 - **Targeted Business Day events**
 - **One to one site visits**
 - **Support business users**
 - **Analysis and implementation of some missing functionality/services required by business user that are not satisfied in the gLite middleware**

Date	Monday 1 Oct	Tuesday 2 Oct	Tuesday 2 Oct	Wednesday 3 Oct
<i>Coffee - Networking</i>		<i>Parallel</i>	<i>Parallel</i>	
11:00 -12:30		Business Track A3.1 Grid & Healthcare	Business Track A3.2 Grid for Design, Engineering and Product Development	
<i>Lunch</i>		<i>Parallel</i>	<i>Parallel</i>	
14:00 -15:30	Business Track A1	Business Track A4.1	Business Track A4.2	
	Introduction to EGEE & Business	Grid in Industrial Contexts and Business	Cross Industry Session	
<i>Coffee - Networking</i>				
16:00 - 17:40	Business Track A2	Business Track A5		Business Track A7
	Working with EGEE and gLite Success Stories	Solutions and Barriers to Grid Adoption in Business		Recommendations & Next Steps
		Interactive Panel Discussion:		
		Conclusions, Wrap-Up & Recommendations		



EGEE'07

The banner features a stylized white line-art illustration of a classical building on the left and a suspension bridge at night on the right. The bridge is illuminated with lights that trail across the sky. The background is a dark blue gradient.

www-eu.egee.org/egee07

*We hope EGEE07 helps you
bridge the gap between
research and business*



ORACLE®



Microsoft™