Enabling Grids for E-sciencE (EGEE) has become a critical infrastructure for many European researchers. It has grown into the largest, most widely used multi-disciplinary grid infrastructure in the world. EGEE-III, the project's third phase, running between 2008 and 2010, has two clear objectives that are essential for European research infrastructures: to expand, optimize and simplify the use of Europe's largest production grid by continuous operation of the infrastructure, support for more user communities and addition of further computational and data resources; and to prepare the migration of the existing grid from a project-based model to a sustainable federated infrastructure based on National Grid Initiatives.

Foundations

A computing grid is a service for sharing processing power and data storage capacity over the Internet. It is more than computers simply sharing information. Grids allow dispersed computers to combine their abilities, allowing users access to computational resources from all over the globe.

One day grid computing may turn the global network of computers into one vast computational resource for solving large-scale, compute- and data-intensive computing applications.

Forward looking

With a successful transition from EGEE-II, EGEE-III started on 1 May 2008 and continues to provide a world-class, coherent and reliable European grid, ensuring Europe remains at the forefront of scientific excellence. As the e-Infrastructure landscape further evolves EGEE's contributions will continue to be of great importance.

EGEE actively contributes to the set-up of a sustainable grid infrastructure in Europe, seeking an inclusive, federated method for ensuring the long term availability of grid computing—through the European Grid Initiative. By this EGEE is fulfilling its commitments to users of the EGEE infrastructure, strengthening the ability of grid computing to transform the way modern science operates. The goal of this is to ensure that the benefits of grid technology can be taken up by the broadest community possible in years to come.

How it is done: project organisation

EGEE divides its activities into three primary areas: Networking Activities (NA), Service Activities (SA) and Joint Research Activities (JRA). These are further subdivided as indicated below.

NA1: Management of the consortium	NA4: User community support and expansion	SA2: Networking support
NA2: Dissemination, communication and outreach	NA5: International policy and cooperation	SA3: Integration, testing and certification
NA3: User training and induction	SA1: Grid operations	JRA1: Middleware engineering

Networking activities are designed to work in concert to increase and expand the user base and uptake of grid technology in the European Research Area. With overall management of the project and consortium provided by the NA1 activity, NA members are responsible for:

- Disseminating EGEE-III goals and achievements, to attract new users to the Grid infrastructure (NA2);
- Bringing new commercial users to the project and promote technology transfer through a business programme (NA2);
- Working with user communities, ensuring their needs are met through training services and user support (NA3 and NA4);
- Coordinating standardization and policy, both within and without the project (NA5).

Service activities are designed to ensure continuous grid infrastructure operation. Specifically, SA1 provides the infrastructure operation, SA2 interfaces with the underlying network infrastructure provided by the NRENs and GEANT, and SA3 provides the middleware distribution gLite deployed on the infrastructure.

The Joint research activity, JRA1, maintains the EGEE developed middleware, gLite, supporting the service activities by re-engineering and hardening essential middleware components.

This comprises security services, information and monitoring services, data services, job management services and helper services.

EGEE III is co-funded by the European Commission under contract number INFSO-RI-222667

All project activities work in close collaboration with the European Grid Initiative Design Study project (EGI_DS) to migrate to a self-sustainable infrastructure under the coordination of the consortium's management (NA1).

The service activities will specifically strengthen the regional aspects of operations and work towards automation of the service provision to optimise the human resources needed for operations. Similarly, the network activities will strengthen their regional components as well. Regular check-points with EGI_DS are foreseen to monitor the mutual progress and ensure the vision of a sustainable grid infrastructure managed by National Grid Initiatives is made a reality.

Project duration: 24 months

European Commission contribution: €32 million, representing less than 1/3 of the total project budget.

Consortium: The project comprises 42 beneficiaries, representing a further 100 Joint Research Unit members in 33 countries, organised in 12 geographical federations.

EGEE III is co-funded by the European Commission under contract number INFSO-RI-222667