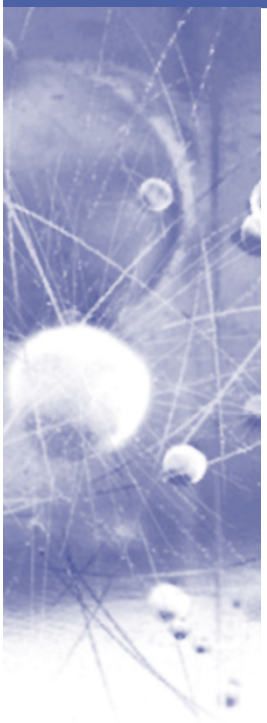

SA1 – EUROPEAN GRID SUPPORT, OPERATION AND MANAGEMENT

The European Grid Support, Operation and Management activity creates, operates, supports and manages a production quality European Grid infrastructure which provides computing, storage, instrumentation and informational resources at many resource centres (RCs) across Europe.

The resources are accessible to user communities and virtual organisations according to access management policies and service level agreements to be negotiated. The terms of engagement of the resource centres and users will be driven by policies determined by the **E**uropean e**I**nfrastructure **R**eflection **G**roup (eIRG).

This activity builds on current national and international Grid initiatives such as LCG, the UK e-Science Grid, the Italian Grid and NorduGrid. The key aim in assembling this infrastructure is to incorporate and exploit existing expertise and experience in deploying, supporting and operating prototype grids. The LCG project plays a central role in providing an operational infrastructure from the earliest stage of the EGEE Grid.

The key objectives of the European Grid Support, Operation and Management team include:

- Core infrastructure services: to operate a set of essential services, such as the information services, resource brokers, data management services and administration of the virtual organisations that bind distributed resources into a coherent infrastructure;
- Grid monitoring and control: to actively monitor the operational state of the Grid and its performance, initiating corrective action to correct problems arising with either core Infrastructure or Grid resources;
- Middleware deployment and resource induction: to validate middleware releases and then to deploy them to resource centres throughout the Grid. Strict criteria are placed on validating new middleware before production deployment. This involves close interaction and feedback with the Middleware Re-engineering and Integration activity (JRA1) and the Application Identification and Support activity (NA4). Where new resource centres are to join the Grid, assistance must be provided both with middleware installation and with the introduction of operational procedures at resource centres. Extra effort is offered to resource centres offering resources such as parallel and vector supercomputers that play strategic roles for a number of scientific applications;
- Resource and user support: to receive, respond to and coordinate the resolution of problems with Grid operations from both resource centres and users; this role filters and aggregates problems, providing solutions where known, and engaging core infrastructure or middleware engineering or other appropriate experts to resolve new problems;
- Grid management: to co-ordinate the fulfillment of the above objectives by Regional Operations Centres (ROCs) and Core Infrastructure Centres (CICs), together with managing the relationships with resource providers, through negotiation of service-level agreements, and with the wider Grid community, through participation in liaison and standards bodies;

- International collaboration: to drive collaboration with peer organisations in the Americas and in Asia-Pacific, and to ensure the interoperability of Grid infrastructures and services in order that the project can seamlessly access resources both within and outside those provided through EGEE. The first of these two objectives is the responsibility of Core Infrastructure Centres (CICs); the second objective is the responsibility of the Regional Operations Centres (ROCs), which bring new resources into the Grid. Both the ROCs and the CICs are overseen by an Operations Management Centre (OMC) which is responsible for their coordination.

The first six months of the project have seen the growth of the LCG-2 infrastructure which forms the initial EGEE production service, to some 80 sites, providing more than 8500 CPU of compute power (with occasions reaching close to 10,000 CPUs). All federations are providing resources at a level close to or, in most cases, exceeding those committed to in the contract. In addition, there are some 2000 CPU provided through non-EGEE sites in Taiwan, China, US, Canada, Pakistan, and India.

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