

JRA4 – NETWORK SERVICES DEVELOPMENT

The Enabling Grids for E-science (EGEE) project aims to provide a production-quality infrastructure integrating a large number of software components provided by different, geographically distributed organisations. The fifth framework Grid projects, notably the EU DataGrid project (EDG), have defined and deployed the latest generation of Grid software.

Building on this work and the experience acquired, EGEE provides to the Grid applications an environment based on production quality software and facilities available around the clock.

The Network Services Development activity has three sub-activities:

1. **Network resource allocation/reservation**
Interfaces to the network control plane were developed in a unique collaboration with Network providers GÉANT2, to allow Grid middleware to make advance reservations of network connectivity, specified in terms of bandwidth, duration and quality of service. Two incremental prototypes have been delivered, demonstrating the use of these interfaces.
2. **Network performance measurement**
A common framework for the production and consumption of network performance monitoring data has been set up. The team specified a simple architecture based on the GGF Network Measurements Working Group standard web services interface, which allow all sites and network domains to provide information, irrespective of the underlying measurement framework. Two prototypes have been produced, proving that it is possible to interact with different monitoring frameworks and offering insight into the successes and limitations of the interface. A graphic Diagnostic Tool has also been developed which allows authorized users to make use of these heterogeneous, complementary data from a single interface.
3. **Promotion of IPv6 uptake**
A study has taken place on the availability and implications of the deployment of IPv6 on the EGEE fabric. It highlights guidelines for the smooth introduction of IPv6 in future development and concludes that resources and experience can be pulled together to integrate IPv6 into EGEE, albeit in a separate project.

The Network Services activities are aimed evolving research-level techniques into production-level, Grid services. The activities also ensure a very important engagement between EGEE and the GÉANT/NREN network providers, which is essential for developing the ways of working required for the symbiosis of Grid and Network infrastructures in the future.

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JRA4 Webpages:

<http://egee-jra4.web.cern.ch/EGEE-JRA4/>