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Grid Portal for seismic data processing and geophysical simulations

Thursday 10 May 2007 14:00 (20 minutes)

Describe the scientific/technical community and the scientific/technical activity using (planning to use) the EGEE infrastructure. A high-level description is needed (neither a detailed specialist report nor a list of references).

BEInGRID, Business Experiments in GRID, is the European Union's largest integrated project funded by the Information Society Technologies (IST) research, part of the EU's sixth research Framework Programme (FP6). The aim of our experiment is to validate the technical and economic viability of geo-science processing on the Grid using the gLite middleware.

Report on the experience (or the proposed activity). It would be very important to mention key services which are essential for the success of your activity on the EGEE infrastructure.

The main business objective of this BE is to validate the economics viability by creating a model for economics suitable for EGEODE Virtual Organization and to explore new business generated by deploying grid technology in Oil & Gas, in term of cost saving and support of IT.
The technical objective of this BE is to validate the technical viability of geosciences processing on the grid by consolidating EGEODE actual applications, in using and validating gLite outside the general EGEE infrastructure.

The experiment is based on 3 main phases
* Consolidation of applications and services, additional porting, install tools to gather information for setting up the economic model, feedback to BEINGRID core tools.
* Run the applications, gathers figures, simulate and design the economic model.
* Integrate last versions of software (both middleware and applications), experiment the economic model, final report.

With a forward look to future evolution, discuss the issues you have encountered (or that you expect) in using the EGEE infrastructure. Wherever possible, point out the experience limitations (both in terms of existing services or missing functionality)

One barrier to deploy such simulation techniques is also the complexity of access to grid environment by end-users who are not computer scientists. This is why we will implement the EnginFrame Portal to give an ubiquitous Grid access.

Describe the added value of the Grid for the scientific/technical activity you (plan to) do on the Grid. This should include the scale of the activity and of the potential user community and the relevance for other scientific or business applications

Modern seismic data processing and geophysical simulations require greater amounts of computing power, data storage and sophisticated software. The research community hardly keeps pace with this evolution, resulting in difficulties for small or medium research centres to exploit their innovative algorithms.

Grid Computing is an opportunity to foster sharing of computer resources and give access to large computing power for a limited period of time at an affordable cost, as well as sharing data and sophisticated software.
The capability to solve new complex problems and validate innovative algorithms on real scale problems is also a way to attract and keep the brightest researchers for the benefit of both the academic and industrial R&D geosciences communities.

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Session Classification: Users in the wider Grid community - from science to business

Track Classification: Related Projects