



SEE-GRID-SCI Newsletter

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SEE-GRID-SCI Infrastructure

The SEE-GRID-SCI infrastructure is built on the basis of the regional Grid infrastructure that was established during the previous phases of the project. Two new countries -Georgia and Armenia- joined the project and the infrastructure, contributing to the available computing and storage resources that now amount to 32 sites in 13 countries, with more than 1750 CPUs and around 60 TB of storage.

A set of core Grid services deployed by the regional eInfrastructure is widely geographically distributed, which pro-

vides fault tolerance and load balancing for user communities from the South Eastern Europe region.

Since the project specifically targets three user communities (meteorology, seismology, environmental sciences), a full set of core Grid services is deployed for the three new Virtual Organisations established to provide support for these communities and enable smooth production-level use of available computing and storage resources by a wide range of applications.

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SEE-GRID-SCI Regional VOs

SEE-GRID-SCI aims to engage regional user communities in close collaboration within three distinct Virtual Organizations (VOs). The target applications are from core earth science disciplines in the region: seismology, meteorology and environmental protection.

The Seismology VO allows sharing of data among seismologists in the region as well as collaboration in the development and usage of various applications. The applications to be deployed are: Seismic Risk Assessment (SRA), Numerical Modelling of Mantle Convection (NMMC3D), Fault Plane Solution (FPS), Automatic Earthquake Center Location (ELF), and Massive Digital Seismological Signal Processing with the Wavelet Analysis (MDSSP-WA). To collect and serve data to the applications, a seismic data server application (SDS) is also being developed.

The meteorology VO aims to deploy two sets of applications to the SEE-GRID-SCI infrastructure. The multi-model, multi-analysis ensemble weather forecasting system (REFS), that will comprise the use

of four different weather prediction models (multi-model system), that will be initialized with various initial conditions (multi-analysis). With this procedure a multitude of forecasts will be produced. The second application (WRF-ARW) will provide an estimation of the effect of improved resolution on the numerical weather prediction quality, and consequently in improving the forecasting skill, and the air-pollution dispersion modeling over complex terrain.

The environmental VO covers two main application domains: environmental protection/response, and environment-oriented satellite image processing. These topics bring together scientists and research institutions, working in the domains of Environmental modeling, Environmental security, Environment evolution supervision and impact of climate-related events in the SEE region, with the aim to achieve results with sufficient temporal and spatial resolution using the SEE-GRID-SCI infrastructure.

SEE-GRID-SCI Training Approach

SEE-GRID-SCI offers information transfer through organized trainings for grid end users, administrators, and focusing to build up a solid grid community in the SEE region. SEE-GRID-SCI uses a learning model that combines media-rich online curricula, classroom instruction, and hands-on labs. The project delivers information and grid technology skills to help researchers with various socioeconomic background and IT people become grid end-users, professional grid application developers and administrators. During SEE-GRID-SCI the offered education focusing mainly to help narrow the technology skills gap while enabling the three main communities (Seismology, Meteorology and Environmental Protection) to

facilitate their research work and gain benefits enabling so called "big science" research.

SEE-GRID-SCI provides national and regional scale events with different targeted audience (end-user, developer, and administrator) for the various SEE-GRID-SCI VOs.

The training methodology is supported by the SEE-GRID-SCI training portal (<http://www.lpds.sztaki.hu/stc/>) that provided a point of entry to facilities such as the training agenda, training presentations and documents, the P-GRADE training portal and technical information on the usage of the training infrastructure (t-infrastructure).

News from partners

National Grid Initiative of Albania has been established

The Minister of Education & Science of Albania has officially recognized the National Grid Initiative in Albania. ALBGRID is funded by the National Programme for Research and Development in ICT for 2007-2009. Central part of ALBGRID team is involved in the SEE-GRID-SCI project.

Training of meteorologists from Serbia, Montenegro and Bosnia - Herzegovina

A two-day training of meteorologists from Serbia, Montenegro and Bosnia-Herzegovina on SEE-GRID infrastructure, services, and grid usage and programming, was held at the School of Electrical Engineering, University of Belgrade on June 24-25. The following institutions participated in the training: South Environment and Weather Agency, Serbia; Republic Hydrometeorological Institute, Banjaluka, Republic of Srpska, Bosnia and Herzegovina; Hydrometeorological Institute of Montenegro; Research and Development Center for Bioengineering, Kragujevac, Serbia; Institute of Physics, Belgrade, Serbia; RCUB, Belgrade, Serbia

Grid Training/Dissemination for Greek Meteorologists

In the context of SEE-GRID-SCI a one day Grid Training/Dissemination event was

held at the National Technical University of Athens, Athens, Greece on the 13th of October 2008. The event targeted groups of meteorologists in Greece that would like to benefit from the Pan-European, Regional, and National Grid Infrastructures and establish collaborations on the regional level.

Participants to this event were from the following research groups:

- National Observatory of Athens
- Laboratory of Atmospheric Physics, Dept. of Physics, Aristotle University of Thessaloniki
- Division of Environmental Physics and Meteorology, Department of Physics, National and Kapodistrian University of Athens
- Centre for Atm. Physics and Climatology, Academy of Athens.

Division of Environment and Meteorology, School of Physics, University of Athens.

The participants were trained in basic principles of the Grid as well as more specific technical issues on the porting of meteorological models to the Grid. Further to that groups of users with no prior experience with the grid presented their applications and infrastructure needs and further steps for collaboration were initiated.

Establishment and Government-level recognition of the Albanian Grid Initiative, as well as the kick-off of the national grid project ALBGRID, is a big step for the country's Grid community

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SEE-GRID-SCI(SEE-GRID eInfrastructure for regional eScience) is a 2 year project co-funded by the European Commission, starting on 01/05/2008.

SEE-GRID-SCI stimulates widespread eInfrastructure uptake by new user groups extending over the region, fostering collaboration and providing advanced capabilities to more researchers, with an emphasis on strategic groups in seismology, meteorology and environmental protection. The initiative thus aims to have a catalytic and structuring effect on target user communities that currently do not directly benefit from the available infrastructures.

In parallel, it aims to enlarge the regional eInfrastructure to cater for demands of the communities by increasing the computing and storage resources and involving new partner countries in the region.

Finally, SEE-GRID-SCI targets to help mature and stabilize the National Grid Initiatives in the region, allowing them to join the new era of longer-term sustainable Grid infrastructure in Europe.



SEE-GRID-SCI Booth at EGEE-08

SEE-GRID-SCI had its own booth at EGEE 08 that was held in Istanbul between the 22nd and 26th of September 2008. The booth provided a way to disseminate the main objectives of the project focusing on the three applications domains. Posters highlighting the applications and aims of each of the SEE-GRID-SCI Virtual Organizations (Seismology, Meteorology and Environmental Protection) were presented. The booth also featured a demo of one of the seismological applications, the Fault Plane Solution (FPS) applications. Can Ozturan the seismology VO manager gave an interview for the Grid-

Talk project blog that can be found in:

<http://gridtalk-project.blogspot.com/2008/09/virtual-tour-see-grid-sci.html>

