SEE-GRID-SCI ES VOs

www.see-grid-sci.eu

SSC Workshop: Preparing SSCs for EGI
**05/05/2009**

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Outline

- The SEE-GRID-SCI Project
- SEE-GRID-SCI VOs
  - Collaborating parties
  - Applications
- SEE-GRID-SCI Application services developments
- SEE-GRID-SCI Views on SSCs

SEE-GRID-SCI: The project

- **Contract n°:** RI-211338
- **Project type:** I3
- **Start date:** 01/05/2008
- **Duration:** 24 months
- **Total budget:**
- 3 214 690 €
- **Funding from the EC:**
- 2 500 000 €
- **Total funded effort, PMs:** 676.5
- **Web site:** www.see-grid-sci.eu
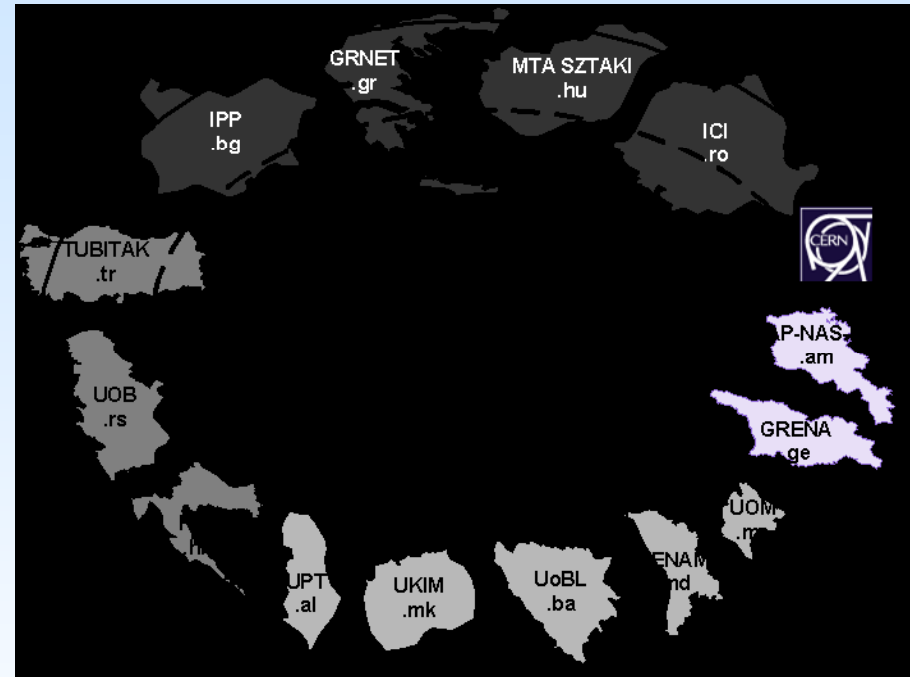
SEE-GRID-SCI: Project objectives

- Engaging international user communities (meteorology, seismology, environmental protection) and providing application-specific service extensions

- Providing infrastructure for new communities

- Consolidating actions towards long-term sustainability and European Grid Initiative inclusion

- Strengthening the regional and national human network

SEE-GRID-SCI ES VOs

- Meteorology VO
  - VO Name: meteo.see-grid-sci.eu
- Seismology VO
  - VO name: seismo.see-grid-sci.eu
- Environmental VO
  - VO name: env.see-grid-sci.eu

- http://wiki.egee-see.org/index.php/SEE-GRID_Wiki#SEE-GRID-SCI_VO_Applications

Meteorology VO Researchers Network

- **Researchers network**
  - The participating institutes are:
    - Greece: National Observatory of Athens (NOA) – VO Leader
    - Serbia: South Environment and Weather Agency of Serbia (SEWA)
    - Montenegro: Hydrometeorological Institute of Montenegro (HIM)
    - Rudjer Boskovic Institute (RBI-HR),
    - Department of Geophysics, Faculty of Science, University of Zagreb(AMGI)
    - FGA of University of Zagreb (FGA-HR),
    - Faculty of Electrical Engineering, University of Banja Luka (UoBL-BA)
    - Republic Hydrometeorological Institute (RHI-BA),
    - Federal Hydrometeorology Institute (FHI-BA),
    - and new comers: Georgia, Moldova

Meteo Applications

- Regional scale Multi-model, Multi-analysis ensemble forecasting system
- Interaction of airflow with complex terrain
- Models used: BOLAM, MM5, NCEP/ETA, NCEP/WRF-NMM, WRF/ARW

Seismology VO Researchers Network

- University of Ss Cyril and Methodius (MK)
- Faculty of Natural Sciences and Mathematics of University of Ss. Cyril and Methodius (MK)
- Middle East Technical University (TR)
- Seismological Department, in Geophysical Institute of BAS (BG)
- Seismological Survey of Serbia (RS)
- Boğaziçi University (TR) – VO leader
- Department of Geophysics in Institute of Geography and Earth Sciences of Eötvös Lorand University (HU)
- Polytechnic University of Tirana (AL)
- National Academy of Sciences of Armenia (AM)
- Institute of Geology and Seismology of ASM (MD)
- Earthquake Research Dept. of General Directorate of Disaster Affairs (TR)
- Technical University of Cluj-Napoca (RO) Seismological Observatory of Geodetic and Geophysical Research Institute of Hungarian Academy of Sciences (HU)

Seismology VO applications

- Seismic Risk Assesmen
- Seismic Data Server
- Earthquake location finding
- Fault Place Solution
- Numerical Modeling of Mantle Convection
- Massive Digital Seismological Signal Processing with the Wavelet Analysis

Environmental VO Researchers Network (1/2)

- Institute of Water, Energy and Environment in Tirana (AL)
- Institute for Parallel Processing of BAS (BG) – VO Leader
- Eötvös Lorand University (HU)
- Hungarian Meteorological Service (HU),
- Research and Educational Networking Association of Moldova (MD)
- State Hydrometeorological Service (MD)
- Faculty of Radioelectronics and Telecommunications of Technical University of Moldova (MD)
- National Center for Information Tecnology of University "Politehnica" Bucharest (RO)
- Computer Science Dept. of West University of Timisoara (RO)
- Institute for Water Resources "Jaroslav Cerni" (RS)
- Belgrade University Computing Centre (RS)
- Ruder Boskovic Institute (HR),
- Roskilde National Environmental Research Institute (DK)

- National Institute of Meteorology and Hydrology of BAS (BG)
- State Agency "Civil Protection" (BG)
- Executive Environmental Agency (BG)
- Aristotle University of Thessaloniki (GR)
- National Meteorological Administration (RO)
- State Agency "Civil Protection" (BG)
- National Institute of Meteorology and Hydrology of BAS (BG)
- Aristotle University of Thessaloniki (GR)
- Geophysical Institute of Bulgarian Academy of Sciences (BG)
- Center for Scientific Research of Serbian Academy of Sciences and Arts and University of Kragujevac (RS)

Environmental VO Applications

- Monte Carlo Sensitivity Analysis for Environmental Systems
- Study of CHanges of Environment with Remote Sensing
- GREENVIEW - Refinement of surface and vegetation parameters in SEE region based on satellite images
- Lizza PAKP - Groundwater Flow Simulation System
- Multi-scale atmospheric composition modeling
- Modelling System for Emergency Response to the Release of Harmful Substances in the Atmosphere

SEE-GRID-SCI JRA1 Application Services

- JRA1 Develops applications services addressing commonalities of different VO applications
  - Data management and Data Access
  - File Management, Logical Files
  - Development Environments and portals
  - Job Management, Information Services and Workload Management
  - Interactive and pilot jobs, Workflows
  - Image Rendering services and Application level event and performance logging
- Several other applications and Vos can benefit from such developments

SEE-GRID-SCI views for Collaboration in SSCs (1/2)

- SEE-GRID-SCI involves a large ES community in the South East Europe Region
- Almost all scientific disciplines from the region activated in grid activities as past of the SEE-GRID-2 project. i.e.
  - Biomedicine/Bioinformatics
  - Computer Science
  - Electrical Engineering & Electronics
  - Business
  - Physics, Geophysics, Metallurgy etc.
  - More user communities are active within NGIs
- Full list: http://wiki.egee-see.org/index.php/SEE-GRID_Wiki#SEE-GRID-SCI_VO_Applications

SEE-GRID-SCI Views for collaboration in SSCs (2/2)

- SEE-GRID-SCI communities have interest in SSCs to:
  - Establish pan European scientific collaborations
  - Bring in specific applications and users
  - Share scientific and gridification expertise in the scientific disciplines of interest
- SSCs should be open to all scientific groups from all countries
- Effort in SSCs should be based on criteria such as:
  - Social and Scientific impact of the applications
  - Benefit from using the grid infrastructure
  - Number of users for the applications.
- Specific application support for scientific communities should be encouraged inside scientific SSCs

Further Considerations

- Resource allocation policies can be coordinated between SSCs/VOs and NGIs

- SEE-GRID-SCI has expertise in Earth Science collaborations and could provide a leading role such an SSC

- Formal channels should be identified to inform all related projects on the progress of creating the SSCs

Thank you!

- Questions?