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# Earth Science HUC and the ES GRID Community

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The ES Grid Community (ES VRC) will present an overview about the current activities and future plans. The Earth Science Grid community is following its strategy of propagating Grid technology to the ES disciplines, setting up collaboration among the members of the community and stimulating the interest of stakeholders on the political level since ten years already. This strategy is based on a roadmap published by the community in the Earth Science Informatics journal 3/2010. It was based on different European Grid projects and led to a Grid Earth Science VRC that covers a variety of ES disciplines; all of them in the end facing the same kind of ICT problems. National funding plays an essential role for dissemination activities through presentations and publishing papers. The major event for the VRC is the European Geosciences Union general assembly that gathers around 10 000 participants, mostly European. The community has been organizing a grid session at the EGU for the last 4 years. The penetration of Grid in the ES community is indicated by the variety of applications, the number of countries in which ES applications are ported, the number of papers in international journals and the number of related PhDs. Users of among six virtual organisations (VO) belong to ES Grid VRC. The ES HUC is operating a catch-all VO (ESR) to also attract ES researchers that are not organized in groups yet.

The lack of networking and development funding has decreased the global impact of this community as the expertise is geographically dispersed. Due to the present technological evolution in the ES community, this funding situation implies a large risk on the sustainability of the ES VRC as a whole, even if new applications have been deployed. Common activities are requests like a COST Action that aims to establish cross-disciplinary, holistic Earth System Science by enabling ES stakeholders, scientists and their applications to better exploit the multitude of resources provided by current DCIs (Grid, Cloud and HPC/GPU). Partners of the ES Grid community are active in different European projects.

The services for the ES task in EGI-Inspire concerns the data that are a key part of any ES application. The ES community requires several interfaces to access data and metadata outside of the EGI infrastructure, e.g. by using grid-enabled database interfaces. The data centres have also developed service tools for basic research activities such as searching, browsing and downloading these datasets, but these are not accessible from applications executed on the Grid. The ES HUC task in EGI-Inspire aims to enable these tools to be accessed from the Grid. In collaboration with GENESI-DR (Ground European Network for Earth Science Interoperations - Digital Repositories) this task is maintaining and evolving an interface in response to new requirements that will allow data in the GENESI-DR infrastructure to be comfortably used in EGI applications. A new activity of the ES HUC together with the international climate community for IPCC is to couple the data oriented Earth System Grid (ESG) with computing resources of the EGI infrastructure. The first technical difficulty to solve is the different security mechanism.

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