



Globus-based Services for the Hydro-Meteorology Scientific Community

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Scientific workflows in hydro-meteorology involve multiple applications with varying computational requirements. These are best met by different e-Infrastructures in Europe: sequential codes with modest requirements are well suited to resources offered in EGI (European Grid Infrastructure) while parallelized, computationally demanding codes have to run on PRACE (Partnership for Advanced Computing in Europe) resources.

Access to major Distributed Computing Infrastructures (DCI) in Europe such as PRACE and EGI is provided by means of grid middleware like Globus, which is available in both eInfrastructures and thus can bridge between them. The consortium “Initiative for Globus in Europe” (IGE – <http://www.ige-project.eu>) and its community body EGCF (<http://www.egcf.eu>) act as European provider for Globus technology, offering the resource providers and scientific user communities professional services such as Globus software provisioning and certification, training and documentation, and community software adaptation to Globus technology.

This presentation will cover the following two parts: an outline of the IGE/EGCF services for the DRIHM community and an introduction to data handling with Globus Online, with emphasis on the achievements to date.

The set of **Globus-centered services of potential interest to the hydro-meteorology community** have been identified to be:

Globus support for:

- data access and handling: GridFTP, Globus Online, Globus Connect, Globus Storage;
- computing: GRAM for submission of parallel jobs to PRACE or of high-throughput jobs to EGI;
- accounting: tracking the usage records with GridSAFE.

Infrastructure and workflow integration support such as:

- setup of virtual organizations for DRIHM community;
- access to EGI and PRACE infrastructures via Globus-based tools;
- investigation of workflow interoperability technologies (such as SHIWA).

Furthermore, IGE successfully *provides access to test bed resources* where developers of the DRIHM community can port their software to the latest Globus middleware.

Globus Online is a cloud-based service for fast and reliable data transfer, built with the scientific researcher in mind (service available at <http://www.globusonline.eu>). With a minimum of manual intervention, large data sets can be moved from one storage location to another, end-points can be made available to the service, data can be shared between scientists. The service is available to its users both via web and scripting, thus making possible its seamless integration in portals or workflow applications. The presentation of the Globus Online service and tools will be accompanied by a demo.