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Portals for Earth Science

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Large sets of ES data are available and distributed all over the world. The data come from satellites, ground-based network and sensors aboard balloons, aircrafts, and/or sounding rockets. A critical requirement is the organisation of the data, their accessibility and in some cases tools to define the workflow of the application. From a very large number of existing ES portals, a survey was done to focus on, analyze and document those of particular interest and relevance. The focus is on ES portals which are employing, to a greater or lesser extent, some combination of the following relevant technologies and methodologies, Grid, e-collaboration, Service oriented architecture, semantic web and Ontology.
This survey provides a clear picture of wide range of emerging technologies in ES portals. The high-level of web-based portal services, provided to end-users, permits to define requirements for implementation on gLite and for development of new services.

3. Impact

Some ES portals have appeared with different tools for discovery, download, and local computation. Grid infrastructure offers the capability to explore those large sets of data that could not be analysed before due to computing power limitations and the inability to deploy complex calculations based on a combination of various large sets of data.
Portals enormously increase the number of Grid potential users because they mirror most established usage patterns without requiring any specific expertise of the technological background to be understood.

URL for further information:

http://www.eu-degree.eu

4. Conclusions / Future plans

By full exploration of the data, the combination of data web services and Grid via a portal will open new fields and discovery, not limited to Earth science alone.

Provide a set of generic keywords that define your contribution (e.g. Data Management, Workflows, High Energy Physics)

Earth Science, portal, Data management, Grid

1. Short overview

Earth Science (ES) is an all-embracing term for sciences related to planet Earth, covering a large and diverse user community. Since several years the ES applications show an increasing need for access to intensive computing facilities and to large and heterogeneous sets of data, in general via web portals.
DEGREE is a consortium of ES partners aiming at promoting the uptake of Grid technology in ES and defining the requirements of ES applications on GRID technologies, including portals.

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