Contribution ID: **180** Type: **Poster**

Implementation of Geospatial services on Grid platform for Civil Protection applications

Describe the scientific/technical community and the scientific/technical activity using (planning to use) the EGEE infrastructure. A high-level description is needed (neither a detailed specialist report nor a list of references).

The CYCLOPS (CYber-Infrastructure for CiviL protection Operative ProcedureS) EU project started the 1st June 2006, with the main goal to bridge the gap between Grid and Global Monitoring for Environment and Security (GMES) communities making Civil Protection (CP) people be aware of the services provided by Grid infrastructures, and, at the same time, letting Grid researcher to be aware of Civil Protection specific requirements and service enhancement needs.

Report on the experience (or the proposed activity). It would be very important to mention key services which are essential for the success of your activity on the EGEE infrastructure.

In the geoscience community the Web Coverage Service (WCS) OGC standard is used to share and retrieve geospatial data as coverages,digital geospatial informations representing space-varying phenomena.
In this context a Grid-enabled WCS prototype has been developed:it exposes a standard WCS interface to the web,while it is able to process a user request in a distributed Grid environment. It evaluates the request, splits it in an arbitrary number of sub-requests, generates a JDL le describing a Direct Acyclic Graph (DAG), and sends it to the WMProxy component of the gLite-WMS using its Java API. The WMProxy submits the sub-jobs to the various Computing Elements close to the replicas of the requested initial data, and makes sure that all sub jobs are executed successfully. This approach allows to handle a huge set of geographically distributed datasets and to process an arbitrary number of high demanding requests. In the same way will be implemented other OGC services,such as WMS,WPS,WFS.

Describe the added value of the Grid for the scientific/technical activity you (plan to) do on the Grid. This should include the scale of the activity and of the potential user community and the relevance for other scientific or business applications

Civil Protection procedures, as well as most of GMES applications, require a strict integration with research infrastructures providing heterogeneous and distributed resources useful in the full cycle of emergency situations,from forecasting to post-emergency assessment. Moreover this kind of activities typically involves many different actors who need to share resources in a coordinated and effective way.
Consequently the adoption of a Grid-based infrastructure seems a natural choice. Current Grid platforms are mainly designed to support research and applications requiring intensive processing and data management.
The CYCLOPS project aims to define a set of services that are essential for GMES and in general for the Earth Science community.

On top of the Grid platform an intermediate layer of services will be defined. Such services will make use of well known solid standards and will be designed to access and process data using the advanced grid capabilities required by CP.

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Track Classification: Demo and Poster session