Contribution ID: **144** Type: **poster**

Experiences in managing web application software resources for the astronomical community in an EGEE compliant grid infrastructure

Wednesday 9 May 2007 17:30 (20 minutes)

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 INAF VO collects individuals and institute that compose the Italian National Institute for Astrophysics. Projects and research in this area involve the use of a grid computation system in order to exploit the data and computational facilities of such an infrastructure. Astronomers deal with a massive amount of data both textual data and binary data (i.e. images and spectra) coming from celestial bodies observations made with ground or spatial telescopes. Such information is stored worldwide

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.

Practical experiences regard the deploying and managing of web applications and web services application in an EGEE-compliant grid infrastructure. The work deal with the development of a set of web services performing the different tasks. By starting from services interacting with database, some web applications have been developed. Essentially based on the Java platforms (java web services), they may be easily deployed on the application container (Tomcat) present on grid nodes (i.e. the Computing Element), but problems were outlined in their use. The main problems encountered from the “application layer”point of view according to grid infrastructure, and in the optics of a decentralized management of resources are discovery of such resources and inherent security issues. By considering such web applications like resources to be shared by the VO, difficult is in having an appropriate and exhaustive resource schema and encoding mechanism for such

“software”grid
resources. According t

With a forward look to future evolution, discuss the issues you have encountered (or that you expect) in using the EGEE infrastructure. Wherever possible, point out the experience limitations (both in terms of existing services or missing functionality)

Future evolution are related to the possibility of integration
between different
discovery and composition method into the infrastructure. An
example is the
use of gLite service discovery library that in its scope has the
development of
different plug-ins able to interact with different front-end. By
maintaining the
UDDI registry as a mechanism for registering web services
application, it may
be used by other grid components. Moreover an enhanced semantic
registry
may be established for automa

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

By starting from the inherent distributed nature of such
information, the
potential user community is the INAF scientists which work in
different ways on
the data in the databases. They have to extract useful
information with several
queries and retrieve requests, since they search for the “best”
data. This
operation may include a comparison between different sources
(i.e. different
observations stored in time and period of the same sky’s
portion). Otherwise
they elaborate images to refine and extract information following
a pre-
determined schema (pipeline). Finally data are processed by using
different
software programs (all running on Linux-compliant platform).
Moreover data
may not be always public available since each institution that
owns them may
put restrictions. The implementation of a security infrastructure
like the grid
ones may take account of these requirements and provide a
mechanism to set
rights and privileges for different users. The added value of the
grid is having a

Author: PASTORE, Serena (INAF)

Presenter: PASTORE, Serena (INAF)

Session Classification: Poster and Demo Session

Track Classification: Poster session