Contribution ID: **60** Type: **Demonstration**

GRelC DAIS: Towards Data Access and P2P Data Integration in gLite based Production Grids

Tuesday, February 12, 2008 4:00 PM (0 minutes)

Decoupling routing aspects from data access, the GRelC DAIS can be used in several data integration scenarios. Some examples are: integration of information stored within several distributed metadata DBs for Earth Science to perform queries across distributed collections described by a common metadata model; distributed queries on accounting services deployed at several sites (e.g. APEL or DGAS within EGEE) to infer "global reports" on the grid infrastructure usage (ordered list - per job, cputime, etc. - of VOs/GridUsers which are mostly using the grid). The architecture is very modular, query language independent and easily extensible, so the integration can be related to a set of XML DBs (using XPath), distributed Relational DBs (using SQL), distributed BDII (using LDAP), distributed flat files (using GFAL libraries), distributed Monitoring of the GRelC DAIS P2P Network (retrieving a KML files for client-side Google-Earth based visualization), etc.

3. Impact

The GRelC DAIS service is the extended and improved evolution of the GRelC DAS, it allows managing grid databases (relational, XML, flat-files) containing data/metadata carrying out data access and integration activities. gLite does not provide services so widely addressing these issues even though accounting, monitoring, database access and integration is really important for end-users/VO (astrophysics, bioinformatics, ES community, etc.). Supporting GSI/VOMS security model for authentication and authorization, this service can be naturally integrated within the gLite farm model together with CE and SE. Moreover, the GRelC DAIS provides Glue Schema extensions for the BDII to ease database discovery and publishing. Client side can be part of the UI (i.e. GILDA UI). For end-users the GRelC DAIS Portal allows managing and querying via web distributed data sources (very easy and attractive for end users). Submission through broker is also supported and SLC3 & SLC4 releases are available.

If demonstration is requested please explain what visual or interactive aspects of the contribution necessitate a demonstration rather than a presentation or poster?

Demonstration is requested. The demo will show how the GRelC DAIS successfully provides a data access and integration service for gLite. We will demonstrate how distributed DB integration, distributed accounting and monitoring can easily be performed by using the GRelC Portal (web interface). A live demo can really showcase how effective is the proposed solution, how efficient is the service w.r.t. query response time and how easily can be managing distributed (and heterogeneous) data sources.

URL for further information:

www.grelc.unile.it
https://grid.ct.infn.it/twiki/bin/view/GILDA/GRelCPortal

4. Conclusions / Future plans

The GRelC DAIS is very versatile so it can be used both at VO and site level. It can/was used in both ways depending on VO/user/database constraints and requirements. There is no single point of failure and no centralized management for this service due to the scalable P2P architecture. This service is currently successfully deployed and positively evaluated by end-users and sysadmins on the GILDA t-Infrastructure. It is part of the GILDA release and will be included within the INFNGRID release.

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

1. Short overview

The GRelC Data Access and Integration Service (GRelC DAIS) aims at transparently and securely integrating heterogeneous, distributed and geographically spread grid data sources (through P2P connected GRelC DAIS nodes) decoupling routing aspects from data access and so defining a very general and robust grid data integration architecture.
It is WS-I based, GSI and VOMS enabled, compatible with Globus and gLite grid middleware/environments, and it represents the evolution of the GRelC DAS.

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