Grid in a Grid

Deployment of a gLite Grid inside Grid'5000

Lucas Nussbaum - Sébastien Badia

Grid'5000 - INRIA Grand-Est

g5ks *Avril* 2011

Table of contents

gLite (from wikipédia)

gLite is the middleware stack for grid computing used by the CERN LHC experiments and a very large variety of scientific domains. gLite is a part of the EGEE Project, gLite provides a complete set of services for building a production grid infrastructure.

Operating System

- Scientific Linux 5.5 (Boron), based on RHEL
- Kadeploy3 use for deployment on Grid'5000

Topologie

- Multi-sites, Multi-Vo
- One Virtual Organisation per site.

Goal

- Deploy a minimalist gLite site.
- composed by :
  - a BDII element.
  - a Batch scheduler.
  - a Computing element.
  - Workers nodes.

Script

- Written in ruby.
- avaliable on `http://sbadia.github.com/gdeploy/`

gLite BDII

- Information Service is a BDII (Berkley Database Information Index).
- BDII provide information about the grid ressources and their status.

IS is a simple OpenLDAP server.

Computing Element

- Store information about workers nodes.
- Interface with cluster (wn).

Cream computing element (torque client, mysql, tomcat).

gLite Batch

- Batch scheduler.
- Queue manager.

Batch is a Torque server and a Maui scheduler.

Workers

- Cluster on Scientific Linux 5.5
- belong to a Virtual Organisation.

Demonstration

gDeploy

Demo

- Reserve and deploy Scientific Linux on nodes.
- Launch gdeploy script.
- Test your gLite site.

Conclusion

Next steps

Future work for gLite on Grid'5000.

To do

- Generic sl image.
- SE element and Lfc.
- Inter Vo communications.
- Wms and Ui.