

# Grid in a Grid

Deployment of a gLite Grid inside Grid'5000

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Grid'5000 - INRIA Grand-Est

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# Introduction

## gLite

### 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.



# Introduction

## Scientific Linux

### Operating System

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



# Scientific Linux

# Introduction

Grid'5000



## Topologie

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

# Introduction

## gDeploy Script

### Goal

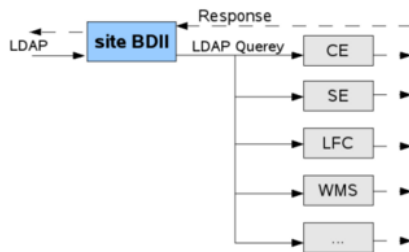
- ▶ Deploy a minimalist gLite site.
- ▶ composed by :
  - ▶ a BDII element.
  - ▶ a Batch scheduler.
  - ▶ a Computing element.
  - ▶ Workers nodes.

### Script

- ▶ Written in ruby.
- ▶ available on <http://sbadia.github.com/gdeploy/>

### gLite BDII

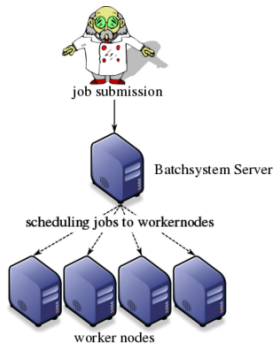
- ▶ Information Service is a BDII (Berkley Database Information Index), OpenLDAP Server.
- ▶ BDII provide information about the grid ressource and their status.



### gLite Batch

- ▶ Batch scheduler.
- ▶ Queue manager.

Batch is a Torque server and a Maui scheduler.

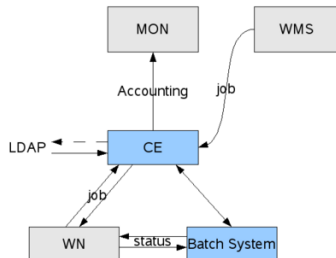




### Computing Element

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

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



### 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.

## Sources - Links

- ▶ <http://glite.web.cern.ch/glite/>
- ▶ <http://en.wikipedia.org/wiki/GLite>
- ▶ <http://www.sysadmin.hep.ac.uk/>

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