eGee

Enabling Grids for E-sciencE

Installation and configuration of gLite Resource Broker

Emidio Giorgio

INFN

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Information Society

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- **What is a Resource Broker ?**
- **How to install it**
- **How to configure**
- **Possible troubles…**

- **Resource Broker is an alternate for Workload Management System + Logging and Bookkeeping**
- **Accepts and satisfies the requests for job management coming from its clients (UI's)**
- **Requests are specified through JDL files using ClassAd**
- **NS catchs user requests, checking validity through GSI infrastructure**
- **WM, taken a valid request, chooses the most appropriate action to satisfy it.**
- **Its main task is individuating the best suitable resources (CE, SE…)**
- **All of these passages are tracked by LB service !**

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- **Services to install**
  - **gLite Workload Management System**
  - **gLite Logging & Bookkeeping Server**
- **Easy installation process**
- **Start from a fresh install of SLC 3.0.4**
- **JAVA not included in distribution.**
- **Download the service script installer**

(http://glite.web.cern.ch/glite/packages)

```
[root@gliterb3~] wget \
http://glite.web.cern.ch/glite/packages/R1.1/R20050430/
   installers/glite-wms_installer.sh
[root@gliterb3~] wget \
http://glite.web.cern.ch/glite/packages/R1.1/R20050430/
   installers/glite-lb_installer.sh
```

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- **Execute them as root (possibly on a clean directory)**

sh glite-wms_installer.sh

[some minutes later....]

sh glite-lb_installer.sh

- **The installer downloads and then install all the needed packages**

- **Put host certificates under** `/etc/grid-security`

- **If you want to support CA's different from the ones distributed with gLite, install them now**

wget https://gilda.ct.infn.it/RPMS/ca_GILDA-0.28-1.386.rpm

rpm -i ca_GILDA-028-1.i386.rpm

- **If everything went ok, configuration can begin…..**

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- **Configuration comes through the execution of pyhton scripts, which take as input some xml files.**

- **Services have to be configured by editing these**

- **Attributes in xml files are self-explaining commented**

- **Xml files are provided as templates, under `/opt/glite/etc/config/templates`**

- **Copy templates for *glite-global*, *glite-wms*, *glite-lb*, *glite-security-utils*,*rgma-servicetool* and *rgma-commons* to `/opt/glite/etc/config`**

- **Edit each of them**

- **Launch the configurator scripts for WMS and LB**

- **Contains values for attributes used in the whole gLite environment (globus root path, glite root path, java home, host cert location…)**
- **Define correct values for these environment variables checking that they really exists**
- **Typically, is needed to set only JAVA_HOME attribute**
- **Other default values are fine**

```
ls /usr/java
j2sdk1.4.2_08
<JAVA_HOME
 description="Environment variable pointing to the SUN Java
JRE or J2SE package
 for example '/usr/java/j2sdk1.4.2_04/' or '$JAVA_HOME' (if
it is defined as an environment variable)"
 value="/usr/java/j2sdk1.4.2_08"/>
```

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- **Here are defined key values for WMS daemons**

  glite.user.name : glite [user running glite Services]

  glite.user.group : glite [user group running glite Services]

  pool.account.basename : gildauser [prefix of pool user accounts]

  pool.account.group : gildauser [prefix of group for pool user accounts]

  pool.account.number : 50 [number of pool accounts that will be created]

  information.index.host : grid004.ct.infn.it

  information.index.port : 2170

  R-GMA Server : rgmasrv.ct.infn.it

  wms.Cemon.Port : 5120 [Listening port for CE's notify]

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- **Set the parameters for GSI**

- **Enable glite-mkgridmap cron-job**

- **Enable fetch-crl cron-job**

Edit `/opt/glite/etc/glite-mkgridmap.conf`

- *group ldap://grid-vo.cnaf.infn.it:10389/ou=Testbed-gilda,o=gilda,c=it .gildauser*

- *group vomss://kuiken.nikhef.nl:8443/voms/EGEE .gildauser*

- **Configuration needs less parameters respect to WMS**
- **Default values are almost fine…**

```
glite.user.name : glite

glite.user.group : glite

rgma.servicetool.name : rgmasrv.ct.infn.it

rgma.servicetool.url.endpoint :
         rgmasrv.ct.infn.it:0/LB/LBServer
```

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- **glite-rgma-servicetool.cfg.xml**

    Define the site name of the publisher node, generally the FQDN of the RB

    `rgma.servicetool.sitename : glite-rb.ct.infn.it`

- **glite-rgma-common.cfg.xml**

    Define the R-GMA server where to publish infos

    `rgma.server.hostname : rgmasrv.ct.infn.it`

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- **In order to commit configuration, execute**

python /opt/glite/etc/config/script/glite-wms-config.py

python /opt/glite/etc/config/script/glite-lb-config.py

Now your WMS should be capable to accept jobs and to dispatch them to the CE's.

Configuration file produced are `/opt/glite/etc/*.conf`

Make tests from UI !

- **Possible problems**

  UI is unable to contact NS :

  possible reason : the user subject is not mapped

  No resources found with `glite-job-list-match`

  possible reason : WMS doesn't find resources

  check in glite_wms.conf that II_Contact, II_Port and Gris_Port are coherent with your II configuration.

  WARNING : Gris_Port could not be set from xml file, it is assumed to be equal to II_Port. So, if they are different, you have to change them from glite_wms.conf

  Many other problems could occur : ask to support !

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