EUROPEAN MIDDLEWARE INITIATIVE

Worker Nodes Installation&Configuration

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EMI is partially funded by the European Commission under Grant Agreement RI-261611

28 August 2012 – GridKa School

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Main reference guide:

https://twiki.cern.ch/twiki/bin/view/EMI/\

GenericInstallationConfigurationEMI2

Prerequisites: OS

Required: a standard

- 64 bit SL(C)5
- 64 bit SL(C)6

Linux distribution properly installed.

Check OS version installed with

cat /etc/redhat-release

Repositories: No DAG, Yes EPEL

- The DAG repository must be removed or deactivated:

  rm /etc/yum.repos.d/dag.repo or

  mv /etc/yum.repos.d/dag.repo /etc/yum.repos.d/dag.repo.remove

- The EPEL repository must be installed

  rpm -Uvh \
  http://download.fedora.redhat.com/pub/epel/5/i386/epel-release-5-4.noarch.rpm

- Good practice: install yum-protectbase

  yum install yum-protectbase.noarch

Repositories: Certification Authorities

Complete information on Certification Authorities distribution:

https://wiki.egi.eu/wiki/EGI_IGTF_Release

We need:

wget http://repository.egi.eu/sw/production/cas/1/current/repo-files/EGI-trustanchors.repo -O /etc/yum.repos.d/EGI-trustanchors.repo

Repositories: EMI 2 distribution

EMI repositories can be installed

- manually (configuring yum .repo files and giving EMI repositories precedence over EPEL. Check guide)

- through emi-release package (suggested):

wget http://emisoft.web.cern.ch/emisoft/dist/EMI/2/sl5/x86_64/base/emi-release-2.0.0-1.sl5.noarch.rpm

yum install ./emi-release-2.0.0-1.sl5.noarch.rpm

Exercise 6: Worker Node + Torque Installation

- Install the WN

Relevant files:

https://wiki.scc.kit.edu/gridkaschool/index.php/Exercise_6:_Worker_Node_%2B_Torque_Installation

WN configuration

- Configuration tool: YAIM

  TheYAIM modules needed to configure are automatically installed with the middleware.

- Relevant configuration files (an example in /opt/glite/yaim/examples):

  - users.conf
  - groups.conf
  - wn-list.conf
  - site-info.def
  - vo.d
  - services/glite-wn

Configuration files customization (1)

- The WN can be configured using exactly the same
  - siteinfo/site-info.def
  - vo.d/*
  - users.conf (described in users.conf.README)
  - groups.conf (described in groups.conf.README)
  - wn-list.conf (described in wn-list.conf.README)
- Only the module specific configuration file must be checked and customized (if needed)
  - services/glite-wn

Enable munge (1)

- Check that munge is installed:

```
rpm -qa |grep munge
munge-libs-x.y.z
munge-x.y.z
```

Enable munge (2)

- Enable munge on yout torque cluster:
  - Install the munge package (if it is not installed) on your pbs_server, submission hosts and all worker node hosts in your cluster.
  - On one host generate a key with /usr/sbin/create-munge-key
  - Copy the key, /etc/munge/munge.key to your pbs_server, submission hosts and all worker node hosts on your cluster.

    Pay attenction the ownership of that file must be:

    -r-------- 1 munge munge 1024 Jan 03 09:57 munge.key
  - Start the munge daemon on these nodes

    service munge start

    chkconfig munge on

Exercise 7: Worker Node + Torque Config

- make an archive (tar -cvf) of CE configuration files
- copy it in a safe path in the WN (/root/siteinfo_dir) and open it (tar -xvf)
- Copy the example file /opt/glite/yaim/examples/siteinfo/services/glite-wn

  in the safe path /root/siteinfo_dir/services
- Edit and customize services/glite-wn if needed
- Configure

  /opt/glite/yaim/bin/yaim -c -s /root/siteinfo_dir/site-info.def \

  -n WN -n TORQUE_client

  Relevant files:

  https://wiki.scc.kit.edu/gridkaschool/index.php/Exercise_7:_Worker_Node_%2B_Torque_Configuration

Exercise 8: Cluster CE+WN verification

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Check the batch system:

- Try a pbsnodes to check node status

- Try a job submission to the batch system logging as a pool account user

Relevant files:

https://wiki.scc.kit.edu/gridkaschool/index.php/Exercise_8:_Cluster_CE%2BWN_verification

Important on automatic updates

An update of an RPM not followed by configuration can cause problems.

STRONG RECOMMENDATION:

NOT TO USE AUTOMATIC UPDATE PROCEDURE OF ANY KIND.

Suggestion: Run the script(*) available at

http://forge.cnaf.infn.it/frs/download.php/101/disable_yum.sh

It disable yum autoupdate.

(*) Script by Giuseppe Platania (INFN Catania)

Questions ?