Condor batch system with lcg-CE or creamCE as Condor Submitter

Installation of the Condor software

This step is required both for the Condor Server/Condor Client and the Condor Submitter. It can be done independently from the other steps, but should be done before running YAIM.

Download the latest stable Condor package from http://www.cs.wisc.edu/condor/downloads-v2/download.pl⧉ and install it in the node. For gLite 3.1: download condor-7.2.X-linux-x86-rhel3-dynamic-1.i386.rpm. For gLite 3.2: download condor-7.2.X-linux-x86-rhel4-dynamic-1.x86_64.rpm.

```
$ yum localinstall condor-7.2.x-linux-x86-rhelX-dynamic-1.XXX.rpm
```

Be aware that running Condor has security implications. You are adviced to consult the Condor manual about security, and stay up-to-date with security fixes.

A) Installation of a Condor Server (central manager)

First of all, download the repository and update the system.

```
$ wget http://grid-deployment.web.cern.ch/grid-deployment/glite/repos/3.X/glite-CONDOR_utils.repo
$ yum update
```

Then, download and install latest glite-yaim-condor-node package from http://eticssoft.web.cern.ch/eticssoft/repository/org.glite/glite-yaim-condor-node. A Condor central manager node does not need a full gLite installation, only needs glite-yaim-core and glite-version which should be pulled as dependencies of glite-yaim-condor-node.

```
$ yum localinstall glite-yaim-condor-node-4.X.X-X.noarch.rpm
```

Edit site-info.def and adjust the following variables:

```
BATCH_SERVER=«hostname of this machine»
BATCH_VERSION=«Condor version (i.e 7.2.4)»
BATCH_BIN_DIR=/opt/condor-$BATCH_VERSION/bin
```

Finally, configure with YAIM.

```
$ /opt/glite/yaim/bin/yaim -c -s site-info.def -n glite-CONDOR_server
```

B) Installation of a Condor Client (execute node)

First of all, update the repositories and upgrade the system.

```
$ rm /etc/yum.repos.d/jpackage.repo
$ wget http://grid-deployment.web.cern.ch/grid-deployment/glite/repos/3.1/jpackage.repo -O /etc/y
$ wget http://grid-deployment.web.cern.ch/grid-deployment/glite/repos/3.1/glite-CONDOR_utils.repo
$ wget http://grid-deployment.web.cern.ch/grid-deployment/glite/repos/3.1/glite-WN.repo -O /etc/y
$ yum update
```

Then, download and install latest glite-yaim-condor-node package from http://eticssoft.web.cern.ch/eticssoft/repository/org.glite/glite-yaim-condor-node. In this case, a condor execute node needs a full gLite WN installation below, so install it too.

```
$ yum install glite-WN
```

```
$ yum localinstall glite-yaim-condor-node-4.X.X-X.noarch.rpm
```

Edit site-info.def and adjust the following variables:

```
BATCH_SERVER=«hostname of condor head node»
BATCH_VERSION=«Condor version (i.e 7.2.4)»
BATCH_BIN_DIR=/opt/condor-$BATCH_VERSION/bin
```

Add this machine to the execution node list.

```
grep `hostname` wn-list.conf || echo `hostname` >> wn-list.conf
```

Finally, configure with YAIM.

```
$ /opt/glite/yaim/bin/yaim -c -s site-info.def -n glite-WN -n glite-CONDOR_client
```

C) Installation of the Condor Submitter

We support the installation of the Condor Submitter together with the installation of a lcg-CE or a creamCE over SL4, or with creamCE over SL5. First of all, make sure you have one of those CE installed (may be not configured).

Then, download the repository and update the system.

```
$ wget http://grid-deployment.web.cern.ch/grid-deployment/glite/repos/3.X/glite-CONDOR_utils.repo
$ yum update
```

There are three ways of installing the CONDOR_utils:

1. Using the production repo (recommended) (currently only for SL4):

```
$ yum install glite-CONDOR_utils
```

2. Using SA3 repository (for certification):

```
$ cat > /etc/yum.repos.d/condor-utils-certification.repo << EOF
[patchXXXX]
  name=patchXXXX
  baseurl=http://grid-deployment.web.cern.ch/grid-deployment/glite/cert/3.X/patches/XXXX/slX/XXXX
  enabled=1
EOF
$ yum install glite-CONDOR_utils
```

3. Downloading manually from ETICS certification repository. For SL5:
http://eticssoft.web.cern.ch/eticssoft/repository/org.glite/glite-yaim-condor-utils. For SL4:
http://eticssoft.web.cern.ch/eticssoft/repository/org.glite/org.glite.yaim.condor-utils

```
$ yum localinstall glite-yaim-condor-utils-X.X.X-X.noarch.rpm
```

Next, ensure the required configuration variables have a proper value:

- If you have LCG-CE, ensure that the variables are set in in services/glite-condor-utils:

```
CONDOR_ARCH=INTEL
CONDOR_OS=LINUX
```

- Keep also an eye on the values that are set in the site-info.def, especially:

B) Installation of a Condor Client (execute node)   2

```
CE_HOST=<<hostname of this machine>>
BATCH_SERVER=<<hostname of condor headnode>>
JOB_MANAGER=condor
CE_BATCH_SYS=condor
BATCH_VERSION=<<Condor version (i.e.: 7.2.4)>>
BATCH_BIN_DIR=/opt/condor-$BATCH_VERSION/bin
#BATCH_LOG_DIR is the path where condor history file is located
BATCH_LOG_DIR=/opt/condor-$BATCH_VERSION/local.<<short hostname of this machine>>/spool
QUEUES="<<short hostname of this machine>>"
..._GROUP_ENABLE=...
```

Warning: Only a single queue per Condor CE is officially supported, and its name MUST be the short hostname of the CE machine. Please, ensure that QUEUES variable has the proper value. If you need more than one queue, you can try the following instructions for multiple queues.

Finally, configure the node with YAIM. Due to a bug in yaim you need to set the path to the condor binaries (PATH=$PATH:/opt/condor-7.2.4/bin) if it is the first run of yaim.

- For LCG-CE:

```
$ export PATH=$PATH:/opt/condor-X.X.X/bin
$ /opt/glite/yaim/bin/yaim -c -s site-info.def -n lcg-CE -n glite-CONDOR_utils
```

- For creamCE:

```
$ export PATH=$PATH:/opt/condor-X.X.X/bin
$ /opt/glite/yaim/bin/yaim -c -s site-info.def -n creamCE -n glite-CONDOR_utils
```

Configuration of the Condor software

Condor should be properly configured to work with gLite and in order to be able to run jobs. The TYPECONDORCONF variable sets whether YAIM will try to configure Condor itself or let all the configuration upon the administrator. If it is set to "tight", YAIM will provide a minimal configuration to Condor that should work out-of-the box and that is intended as a starting point. On the other hand, if it is set to "loose", YAIM will no touch Condor configuration, so admin has to ensure that the Condor system is configured properly to work with gLite. In particular:

- Condor should be configured to start along gLite, preferrably on boot.

- Some users must be configured to be able to run condor jobs. There are three alternatives: nobody user, specific per-slot users, or grid-mapped real accounts.

- Condor jobs must be able to transfer from submit node to execute nodes. Allowing file transfers between condor nodes or configuring a shared filesystem should be enough.

If you have any question regarding these instructions or have any doubt about them, please do not hesitate to contact me at tallada@picNOSPAMPLEASE.es.

-- PauTallada - 24-Mar-2010

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