CEMON/LCG GIP Installation and Configuration Procedure

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1.1. CEMON installation from EGEE rpms

The installation steps are the following:

1. Download rpms from the site http://grid.pd.infn.it/cemon/ServerRPMs (Last version is in Nov152005 for the time being)

```
glite-ce-ce-plugin-1.6.0-1_U200511151817.noarch.rpm
glite-ce-monitor-1.6.0-1_U200511151809.noarch.rpm
glite-ce-osg-ce-plugin-1.6.0-0_U200511151813.noarch.rpm
glite-security-authz-framework-java-1.2.1-1_U200511151804.i386.rpm
glite-security-trustmanager-1.8.1-1_U200511151805.noarch.rpm
glite-security-util-java-1.2.0-2_U200511151801.noarch.rpm
tomcat5-5.0.28-4_EGEE.noarch.rpm
```

2. Install rpms. The software is installed under /opt/glite directory
3. Configure tomcat with EGEE trustmanger (should be root in order to so):
    - Modify /etc/tomcat5/tomcat5.conf , set up JAVA_HOME
    - Setup CATALINA_HOME directory
    - Execute /opt/glite/etc/glite-security-trustmanager/configure.sh. This will do the following:
        i. Replace server.xml in $CATALINA_HOME/conf
        ii. Copy the following libraries into $CATALINA_HOME/server/lib: bcprov-jdk14-122.jar, log4j-1.2.8.jar, glite-security-trustmanager.jar, glite-security-util-java.jar
        iii. Copy log4j-trustmanager.properties into $CATALINA_HOME/conf
    - Customize server.xml by specifying
      sslCAFiles="/etc/grid-security/certificates/*.0"
      crlFiles="/etc/grid-security/certificates/*.r0"
      sslCertFile=”<TOMCAT_SERVICE_CERTIFICATE>”
      sslKey=”<TOMCAT_SERVICE_CERTIFICATE_KEY>”
      log4jConfFile="$CATALINA_HOME/conf/log4j-trustmanager.properties"

      <TOMCAT_SERVICE_CERTIFICATE>, <TOMCAT_SERVICE_CERTIFICATE_KEY> should be readable by tomcat service owner (tomcat4)

4. Copy ce-monitor.war from /opt/glite/share/webapps/ce-monitor.war to $CATALINA_HOME/webapps

5. Copy cemon configuration file /opt/glite/etc/glite-ce-monitor/ce-monitor.xml into $CATALINA_HOME/conf/Catalina/localhost and modified it so

    <Environment name="sslKey"
                value=”<TOMCAT_SERVICE_CERTIFICATE>”
    …
    <Environment name="sslCertFile"
                value= ”<TOMCAT_SERVICE_CERTIFICATE_KEY>”
    ….
6. Restart tomcat:
        /etc/init.d/tomcat5 start
7. Open your browser to <u>https://hostname:8443/ce-monitor/services</u> (you have to have your certificate to be downloaded into your browser.

Comments, known bugs, and workaround for current cemon installation

1. In ce-monitor.xml DO NOT uncomment the following lines:
   <!-- Environment name="gridProxyFile"
                value=""
                type="java.lang.String" override="false"/ -->
   If these lines are uncommented the static subscription will not work.
2. In order for dynamic subscription to work (to avoid ClassCastException) do the following, move bcprov-jdk14-122.jar from $CATALINA_HOME/server/lib to $CATALINA_HOME/common/lib and delete this library from $CATALINA_HOME/webapps/ce-monitor/WEB_INF/lib
3. In order to control the level of ce-monitor output into the log file modify the log4j.properties file in $CATALINA_HOME/webapps/ce-monitor/WEB_INF/classes I would recommend to
   - Set it to debug level
     log4j.logger.org.glite=debug,fileout
   - Add timestamp to the output format
     log4j.appender.fileout.layout.ConversionPattern=%d{MM/dd/yy HH:mm:ss,SSS} :%-5p:%t:%c.%M: %m%n
   If you want to change the log out level for trustmanager modify $CATALINA_HOME/conf/log4j-trustmanager.properties file
4. Check /opt/glite/etc/glite-ce-monitor/authconfig.xml file to verify that the location of your gridmap file matches the default configuration. You have to add all the distinguished name of cemon subscribers into the gridmap file.
5. You have to restart tomcat again in order for these changes to take effect.

1.2   LCG GIP Installation from EGEE rpms

The installation steps are the following:

1. Download rpms from the site
   http://lfield.home.cern.ch/lfield/cgi-bin/wiki.cgi?area=gip&page=documentation
   lcg-info-generic-1.0.22-1.noarch.rpm
   lcg-info-templates-1.0.14-1.noarch.rpm

   lcg-info-dynamic-condor-1.1.1-1.noarch.rpm
2. Install rpms. The software is installed under /opt/lcg directory
3. Create initial static configuration. The files can be created in /opt/glite/etc/glite-ce-ce-plugin. One file describes CE static configuration (use the template in /opt/lcg/share/doc/lcg-info-templates/lcg-info-static-ce.conf). Second file describes cluster configuration (template can be found in /opt/lcg/share/doc/lcg-info-templates/lcg-info-static-cluster.conf). What should be actually in these files is complete mystery for me!
4. The script that is located in /opt/lcg/sbin should be run in order to create static ldif files in /opt/lcg/var/gip/ldif

   /opt/lcg/sbin/lcg-info-static-create -c lcg-info-static-ce.conf -t /opt/lcg/etc/GlueCE.template > /opt/lcg/var/gip/ldif/lcg-info-static-ce.ldif

   /opt/lcg/sbin/lcg-info-static-create -c lcg-info-static-ce.conf -t /opt/lcg/etc/GlueCluster.template /opt/lcg/var/gip/ldif/lcg-info-static-cluster.ldif

   Check if names of the files can be different (!)
5. Create dynamic configuration for condor. First, the script /opt/lcg/libexec/lcg-info-dynamic-condor shoud be fixed. Replace lines #16,17 with:
   my $fh = new FileHandle $LDIF_FILE
   * or die "Can't open static ldif file: $LDIF_FILE\n";*
   Then create a wrapper script in /opt/lcg/var/gip/plugin directory and make it an executable.

   ```
   >more lcg-wraper
   #!/bin/sh
   export CONDOR_LOCATION=<CONDOR_LOCATION>
   export CONDOR_CONFIG=$CONDOR_LOCATION/etc/condor_config

   /opt/lcg/libexec/lcg-info-dynamic-condor $CONDOR_LOCATION/bin
   /opt/lcg/var/gip/ldif/lcg-info-static-ce.ldif  <central_manager>
   ```

6. Create script glite-ce-info in /opt/glite/etc/glite-ce-ce-plugin
   ```
   >more glite-ce-info
   #!/bin/sh
   /opt/lcg/bin/lcg-info-generic /opt/lcg/etc/lcg-info-generic.conf
   ```
7. Modify file CESensor. Properties in /opt/glite/ect/glite-ce-ce-plugin
   Alter type
       type=OSG_CE

and scriptURI should point to glite-ce-info script

    scriptURI=/opt/glite/etc/glite-ce-ce-plugin/glite-ce-info

8. Create symbolic link in $CATALINA_HOME/webapps/ce-monitor/sensors to glite-osg-plugin

ln -s /opt/glite/share/java/glite-ce-osg-ce-plugin.jar $CATALINA_HOME/webapps/ce-monitor/sensors/OSGCESensor.jar

9. Add static subscription. Modify $CATALINA_HOME/webapps/ce-monitor/subscriptions/ predefinedSubscriptionList.xml :

```
….
<ns1:monitorConsumerURL>https://<collector_host>:8443/collector/services/CEInfoCollector</ns1:monitorConsumerURL>
  <ns1:topic>
   <ns1:name>OSG_CE</ns1:name>
   <ns1:dialect>
     <ns1:name>OLD_CLASSAD</ns1:name>
   </ns1:dialect>
…..
```

Comments and known bugs

Somehow CESensor.properties is ignored and $CATALINA_HOME/webapps/config/sensorConfig.xml is populated with default value for scriptURI (/opt/glite/etc/glite-ce-ce-plugin/glite-ce-info). One has manually changed it and no need to restart tomcat.

The output of glite-ce-info script is stored in temp directory defined in /opt/lcg/etc/lcg-info-generic.conf and never deleted. Should script be changed or cron job is needed to avoid disk overflow?

Installing gip, cemon via OSG and VDT

The installation steps are the following:
1. Make sure that no daemons are running (such as mysql, tomcat, apache etc)
2. Remove all artifacts of previous installations (clean /etc/init.d, /etc/xinet.d and /etc/services)
3. create directory where osg and vdt will be installed
   mkdir /usr/local/vdt
   cd /usr/local/vdt
4. Install current OSG package
       pacman -get OSG:osg-0.4.0
   Answer "s" when asked about web services installation
5. Install Condor from VDT

pacman -get VDT:vdt_139_cache:Condor
            pacman -get http://www.cs.wisc.edu/vdt/vdt_139_cache:Globus-Condor-Setup

 6. Install CEMon from vdt
            pacman -get http://www.cs.wisc.edu/vdt/vdt_139_cache:CEMon

Configuring GIP

In order to configure GIP to run with condor:
    $VDT_LOCATION/vdt/setup/configure_gip --batch condor

This command creates two files in $VDT_LOCATION/var/gip:
lcg-info-generic.conf and   lcg-info-static.ldif

It is very possible that you will have to modify lcg-info-generic.conf. If you have done
any modification execute the following command:
$VDT_LOCATION/lcg/libexec/lcg-info-generic $VDT_LOCATION/lcg/var/gip/lcg-
info-generic.conf

Configuring CEMon

CEMon is initially configured by VDT installation script that performs the following
actions:
1.   untar ce-monitor.war in $VDT_LOCATION/glite/share/webapps directory
2.   delete bcprov-jdk14-122.jar from $VDT_LOCATION/glite/share/webapps/ce-
     monitor/WEBINF/lib directory
3.   copy ce-monitor directory under $CATALINA_HOME/webapps, change the
     directory owner to "daemon"
4.   create two symbolic links in $CATALINA_HOME/webapps/ce-
     monitor/sensors
         OSGCESensor.jar -> $VDT_LOCATION/glite/share/java/glite-ce-osg-ce-
         plugin.jar
         CEMontiorSensor -> $VDT_LOCATION/glite/share/java/glite-ce-ce-
         plugin.jar
 5. modify $VDT_LOCATION/glite/etc/ce-monitor.xml to specify location of
    service certificate and certificate key

Additional steps that are needed for CEMon configuration:
1.   create the symbolic link under $VDT_LOCATION/glite/etc/glite-ce-ce-plugin
         glite-ce-info -> $VDT_LOCATION/lcg/libexec/lcg-info-wrapper
2.   modify $CATALINA_HOME/webapps/ce-monitor/config/sensorConfig.xml
         by changing scriptURI to $VDT_LOCATION/glite/etc/glite-ce-ce-
         plugin/glite-ce-info
3.   add IG to
     $CATALINA_HOME/webapps/subscriptions/predefinedSubscriptionList.xml

by specifying URL (https://hostname:8443/collector/services/CEInfoCollector), Topic (OSG_CE) and Dialect (OLD_CLASSAD)

Comments and known bugs

Somehow CESensor.properties is ignored and $CATALINA_HOME/webapps/config/sensorConfig.xml is populated with default value for scriptURI (/opt/glite/etc/glite-ce-ce-plugin/glite-ce-info). One has manually changed it and no need to restart tomcat.