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# **System Administrator Guide for CEMon for EMI-3**

# 1 Installation and Configuration

## 1.1 Prerequisites

### 1.1.1 Operating system

The following operating systems are supported:

- SL5 64 bit
- SL6 64 bit

It is assumed that the operating system is already properly installed.

### 1.1.2 Node synchronization

A general requirement for the Grid nodes is that they are synchronized. This requirement may be fulfilled in several ways. One of the most common one is using the NTP protocol with a time server.

## 1.2 Plan how to deploy CEMon

### 1.2.1 Choose the authorization model

CEMon can be configured to use as authorization system:

- the ARGUS authorization framework

OR

- the grid Java Authorization Framework (gJAF)

In the former case a ARGUS box (usually at site level) where to define policies is needed.

To use ARGUS as authorization system, yaim variable `USE_ARGUS` must be set in the following way:

```
USE_ARGUS=yes
```

In this case it is also necessary to set the following yaim variables:

- `ARGUS_PEPD_ENDPOINTS` The endpoint of the ARGUS box (e.g. "https://cream-43.pd.infn.it:8154/authz")
- `CREAM_PEPC_RESOURCEID` The id of the CREAM CE in the ARGUS box (e.g. "http://pd.infn.it/cream-18")

If instead gJAF should be used as authorization system, yaim variable `USE_ARGUS` must be set in the following way:

```
USE_ARGUS=no
```

## 1.2.2 Repositories

For a successful installation, you will need to configure your package manager to reference a number of repositories (in addition to your OS);

- the EPEL repository
- the EMI middleware repository
- the CA repository

and to **REMOVE (!!!)** or **DEACTIVATE (!!!)**

- the DAG repository

### 1.2.2.1 The EPEL repository

On sl5\_x86\_64, you can install the EPEL repository, issuing:

```
rpm -Uvh http://dl.fedoraproject.org/pub/epel/5/i386/epel-release-5-4.noarch.rpm
```

On sl6\_x86\_64 instead issue:

```
rpm -Uvh http://dl.fedoraproject.org/pub/epel/6/x86_64/epel-release-6-5.noarch.rpm
```

### 1.2.2.2 The EMI middleware repository

On sl5\_x86\_64 you can install the EMI-2 yum repository, issuing:

```
wget TBD
yum install ./TBD
```

TBC

### 1.2.2.3 The Certification Authority repository

The most up-to-date version of the list of trusted Certification Authorities (CA) is needed on your node. The relevant yum repo can be installed issuing:

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

### 1.2.2.4 Important note on automatic updates

An update of an RPM not followed by configuration can cause problems. Therefore **WE STRONGLY RECOMMEND NOT TO USE AUTOMATIC UPDATE PROCEDURE OF ANY KIND.**

Running the script available at [http://forge.cnaf.infn.it/frs/download.php/101/disable\\_yum.sh](http://forge.cnaf.infn.it/frs/download.php/101/disable_yum.sh) (implemented by Giuseppe Platania, INFN Catania) yum autoupdate will be disabled

## 1.2.3 Installation of CEMon

In EMI, CEMon is installed as part of the CREAM-CE. So please refer to the installation instructions for the whole CREAM CE available at:

<https://wiki.italiangrid.it/twiki/bin/view/CREAM/SystemAdministratorGuideForEMI2>

## 1.2.4 Installation of the CEMon CLI

The CEMon CLI is part of the EMI-UI. To install it please refer to the EMI UI installation documentation.

## 1.3 Configuration

### 1.3.1 Using the YAIM configuration tool

For a detailed description on how to configure the middleware with YAIM, please check the YAIM guide .

The necessary YAIM modules needed to configure a certain node type are automatically installed with the middleware.

### 1.3.2 Configuration of CEMon using yaim

In EMI, CEMon is installed and configured as part of the CREAM-CE

#### 1.3.2.1 Install host certificate

The CREAM CE node requires the host certificate/key files to be installed. Contact your national Certification Authority (CA) to understand how to obtain a host certificate if you do not have one already.

Once you have obtained a valid certificate:

- `hostcert.pem` - containing the machine public key
- `hostkey.pem` - containing the machine private key

Make sure to place the two files in the target node into the `/etc/grid-security` directory. Then set the proper mode and ownerships doing:

```
chown root.root /etc/grid-security/hostcert.pem
chown root.root /etc/grid-security/hostkey.pem
chmod 600 /etc/grid-security/hostcert.pem
chmod 400 /etc/grid-security/hostkey.pem
```

#### 1.3.2.2 Configure the siteinfo.def file

Set your `siteinfo.def` file, which is the input file used by yaim. Documentation about yaim variables relevant for CREAM CE is available at

[https://twiki.cern.ch/twiki/bin/view/LCG/Site-info\\_configuration\\_variables#cream\\_CE](https://twiki.cern.ch/twiki/bin/view/LCG/Site-info_configuration_variables#cream_CE)

Be sure that `USE_CEMON` is set to `true`.

#### 1.3.2.3 Run yaim

After having filled the `siteinfo.def` file, run yaim as explained in the CREAM system administrator guide available at: <https://wiki.italiangrid.it/twiki/bin/view/CREAM/SystemAdministratorGuideForEMI2>

## 1.3.3 Configuration of the CEMon CLI

The CEMon CLI is part of the EMI-UI. To configure it please refer to the EMI UI documentation.

## 2 Operating the system

### 2.1 How to start the CEMon service

A site admin can start the CEMon service just starting the tomcat container.

On sl5\_x86\_64:

```
service tomcat5 start
```

On sl6\_x86\_64:

```
service tomcat6 start
```

To stop the CEMon service, it is just necessary to stop the CEMon container.

On sl5\_x86\_64:

```
service tomcat5 stop
```

On sl6\_x86\_64:

```
service tomcat6 stop
```

### 2.2 Configuration files

Information about configuration files in the CEMon is available at

[https://wiki.italiangrid.it/twiki/bin/view/CEMon/ServiceReferenceCardEMI2#Configuration\\_files\\_location\\_wit](https://wiki.italiangrid.it/twiki/bin/view/CEMon/ServiceReferenceCardEMI2#Configuration_files_location_wit)

### 2.3 Log files

Information about log files in the CREAM CE is available at

[https://wiki.italiangrid.it/twiki/bin/view/CEMon/ServiceReferenceCardEMI2#Logfile\\_locations\\_and\\_management](https://wiki.italiangrid.it/twiki/bin/view/CEMon/ServiceReferenceCardEMI2#Logfile_locations_and_management)

### 2.4 Network ports

Information about ports used in the CREAM CE is available at

[https://wiki.italiangrid.it/twiki/bin/view/CEMon/ServiceReferenceCardEMI2#Open\\_ports](https://wiki.italiangrid.it/twiki/bin/view/CEMon/ServiceReferenceCardEMI2#Open_ports)

### 2.5 Security related operations

#### 2.5.1 Security recommendations

Security recommendations relevant for CEMon is available at

[https://wiki.italiangrid.it/twiki/bin/view/CEMon/ServiceReferenceCardEMI2#Security\\_recommendations](https://wiki.italiangrid.it/twiki/bin/view/CEMon/ServiceReferenceCardEMI2#Security_recommendations)

#### 2.5.2 How to block/ban a user

Information about how to ban users is available at

[https://wiki.italiangrid.it/twiki/bin/view/CEMon/ServiceReferenceCardEMI2#How\\_to\\_block\\_ban\\_a\\_user](https://wiki.italiangrid.it/twiki/bin/view/CEMon/ServiceReferenceCardEMI2#How_to_block_ban_a_user)

## 2.5.3 How to block/ban a VO

To ban a VO, it is suggested to reconfigure the service via yaim without that VO in the `siteinfo.def`

## 2.6 How to add/remove sensors

CEMon sensors that must be plugged in CEMon are defined in the CEMon configuration file (`/etc/glite-ce-monitor/cemonitor-config.xml`). Each active sensor is identified by a section that has the following format:

```
<sensor id=xxx
...
...
/sensor>
```

To enable/disable a specific sensor, it is just necessary to uncomment/comment the sensor definition in the CEMon configuration file.

## 2.7 How to add a static subscription

There are two types of subscriptions:

- subscriptions created by an authorized user (using e.g. the `glite-ce-monitor-subscribe` command)
- static subscriptions, created by the CEMon system administrator

Static subscriptions can be created editing the CEMon configuration file `/etc/glite-ce-monitor/cemonitor-config.xml`.

An example of static subscription settings is this one:

```
<subscription id="subscription-1"
  subscriberId="_C_IT_O_INFNOU_Personal_Certificate_L_Padova_CN_Massimo_Sgaravatto"
  subscriberGroup="dteam"
  monitorConsumerURL="https://cream-47.pd.infn.it:8788"
  sslprotocol="SSLv3"
  retryCount="-1">
  <topic name="CREAM_JOBS">
    <dialect name="CLASSAD" />
  </topic>
  <policy rate="60" />
</subscription>
```

---

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