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# Argus Service Deployment for EMI

Argus Service Reference Card: <https://twiki.cern.ch/twiki/bin/view/EMI/ArgusSRC>

## Requirements

### Platform

- For **EMI-3** the supported platforms are **Debian6/x86\_64**, and **SL5/x86\_64** and **SL6/x86\_64** with the [EPEL](#) repository **enabled**.
- For **EMI-2** the supported platforms are **SL5/x86\_64** and **SL6/x86\_64** with the [EPEL](#) repository **enabled**.
- For **EMI-1** the supported platform is **SL5/x86\_64** with the [EPEL](#) repository **enabled**.

### Host Certificate

The Argus services require a valid host certificate. The key pair is typically installed in `/etc/grid-security/hostcert.pem` and `/etc/grid-security/hostkey.pem`

## Installation with YUM

The Argus Authorization Service is a bundle of 3 services (PAP, PDP and PEP Server) and is available in the EMI repository. The Argus metapackage should be installed with YUM.

### Install the EGI IGTF Bundle

If not already present on your host, install the EGI IGTF trust anchors. More information available online: [https://wiki.egi.eu/wiki/EGI\\_IGTF\\_Release](https://wiki.egi.eu/wiki/EGI_IGTF_Release)

- Install the EGI IGTF trust anchors with [YUM](#)

### Install fetch-crl

If not already present on your host, install the `fetch-crl` cron job (from the [EPEL](#) repository), run it once, and enable the cron job:

```
# install
yum install fetch-crl
# run it immediately (it can take some time...)
/usr/sbin/fetch-crl
# enable the periodic fetch-crl cron job
/sbin/chkconfig fetch-crl-cron on
/sbin/service fetch-crl-cron start
```

### Install the EMI Repository

If not already configured on your host, install the EMI repositories package as described in the EMI generic installation and configuration guide for EMI 1 or EMI 2, or EMI 3.

And update the YUM cache: `yum makecache`

## Install the Argus Metapackage

The `emi-argus` metapackage bundles the 3 Argus services: PAP, PDP and PEP Server

Therefore, the `emi-argus` metapackage is the simplest way to install the Argus Authorization Services (PAP, PDP and PEP Server) on your host.

Use YUM to install the Argus metapackage: `yum install emi-argus`

At this point all 3 Argus services (PAP, PDP and PEP server) are installed on your host. You must now continue with the Argus service configuration with YAIM.

## Update with YUM

Argus and its components are packages in the EMI and UMD repositories, and therefore automatically updated if a new version is available and `yum update` is executed. The updating process however is stopping the Argus services (PAP, PEPd and PDP). To get Argus back to work after an update it is recommended to rerun `Yaim` and/or restart the services.

**Please make sure that your system **does not use the automated yum updating service**, since this may lead to a stopped Argus server in case of a unnoticed update.**

## Configuration with YAIM

The `ARGUS_server` node type is available to configure the Argus service with YAIM.

### Argus YAIM Configuration Variables

Description of all the available Argus YAIM configuration variables:  
<https://twiki.cern.ch/twiki/bin/view/EGEE/ArgusEMIIYaimConfiguration>

### Mandatory YAIM Variables

- `ARGUS_HOST` Fully qualified host name (FQHN) of the Argus host
- `PAP_ADMIN_DN` Certificate distinguished name (DN) of the administrator, allowed to use the `pap-admin` command
- `SITE_NAME` BDII site name
- `USERS_CONF` Absolute location of the users configuration file
- `GROUPS_CONF` Absolute location of the groups configuration file
- `VOS` List of supported VO names
- `VO_<vo-name>_VOMS_CA_DN` VOMS CA DN for each VO name listed in `VOS`
- `VO_<vo-name>_VOMSES` VOMS definition for each VO name listed in `VOS`

The `USERS_CONF` and `GROUPS_CONF` configuration files **MUST** be the same on the Argus host as on the client host (CREAM, WMS, gLExec, ...). On successful authorization, the Argus PEP Server is configured to determine the user/group mapping (pool account) for this authorization and send it the client. Therefore, the client must be able to map the resulting user mapping received with the authorization decision.

### Argus `site-info.def` Configuration

Your `site-info.def` for Argus must contain at least the following variable:

```
# BDII site name
```

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```
SITE_NAME=MySiteName

# Argus service hostname
ARGUS_HOST=argus.example.org

# PAP administrator DN allowed to use 'pap-admin' command
PAP_ADMIN_DN="/DC=org/DC=acme/CN=John Doe"

# Users and Groups definition for grid and group mapfile
USERS_CONF=/opt/glite/yaim/examples/users.conf
GROUPS_CONF=/opt/glite/yaim/examples/groups.conf

# Supported VOs
VOS="dteam"

VO_DTEAM_VOMSES="'dteam voms.hellasgrid.gr 15004 /C=GR/O=HellasGrid/OU=hellasgrid.gr/CN=voms.hell
VO_DTEAM_VOMS_CA_DN="'/C=GR/O=HellasGrid/OU=Certification Authorities/CN=HellasGrid CA 2006' '/C=
```

Documentation of all the Argus YAIM Configuration Variables.

### Generate Argus Configuration

Run YAIM to generate the Argus configuration for your site: `/opt/glite/yaim/bin/yaim -c -s site-info.def -n ARGUS_server`

At this point, the Argus services (PAP, PDP and PEP Server) must be configured, up and running.

# Nagios Probes for Argus

A set of Nagios probes for Argus (EMI-2 and EMI-3) are available to monitor the Argus PAP, PDP and PEP Server:

- Argus Nagios Probes Documentation (EMI):  
<https://twiki.cern.ch/twiki/bin/view/EGEE/ArgusEMINagiosProbes>

## EMIR Publisher for Argus 1.6 (EMI-3)

You can use EMIR-SERP to publish the Argus resource information to EMIR. EMIR-SERP uses the information already available in the resource BDII and publish it to an EMIR DSR endpoint.

- See the Argus EMIR Configuration to publish the Argus into EMIR:  
<https://twiki.cern.ch/twiki/bin/view/EGEE/ArgusEMIEmirConfiguration>

# Known Issues

## Timeouts for certificates from CAs that use OCSP

As of late 2013 a few CAs (e.g. the CERN CA) have started using the Online Certificate Status Protocol [\(OCSP\)](#) in addition to the CRL mechanism to advertise which certificates have been revoked. Some security libraries will then by default contact the OCSP responder of the CA in real time when a certificate from such a CA needs to be validated. If that outgoing traffic happens to be blocked, or if the responder is slow or even unreachable, the operation will eventually time out (see [GGUS:105666](#)). Depending on the case at hand, such a timeout need not be a fatal error in itself, but will at least slow down operations and may therefore cause timeouts downstream (e.g. for CREAM or gLExec).

### Workaround

In EGI and WLCG we do not need OCSP to work at this time, as the CRL mechanism is still deemed sufficient. Therefore it is reasonable to disable OCSP for the time being and version 1.4.1 of the `argus-pdp-pep-common` rpm does that by default. That version was officially released in Argus v1.6.3 [as part of EMI-3 Update 27](#) (2015-06-10).

## Performance issue with Argus PEP Server (EMI-2, EMI-3, all versions)

After a large number of authorization requests, the PDP responses caching mechanism in the PEP Server becomes unstable and the performance of the service deteriorates. It is recommended to completely disable the PDP responses caching mechanism in the Argus PEP Server.

Additionally, the default memory settings for the Argus PEP Server could be too low for production site. It is recommended to allocate at least 1GB memory.

### Workaround

#### Disabling the caching mechanism

Completely disabling the PDP responses caching mechanism in the PEP Server configuration solves the performance issue. To disable the cache:

1. edit the `/etc/argus/pepd/pepd.ini` file
2. add the parameter `maximumCachedResponses = 0` in the `[PDP]` section (see example)
3. restart PEP Server: `/etc/init.d/argus-pepd restart` (or increase the memory settings, then restart)

Example:

```
[PDP]
pdps = https://chaos.switch.ch:8152/authz
# disabling the cache
maximumCachedResponses = 0
```

#### Increasing the default memory

Allocating 1GB of memory for the Argus PEP Server solves the performance issue. To increase the default memory:

1. edit the `/etc/sysconfig/argus-pepd` file
2. set the line `PEPD_JOPTS="-Xmx1024M"`
3. restart PEP Server: `/etc/init.d/argus-pepd restart`

## Problem the EMI-3 update and Argus PEP Server v.1.6.1

Updating the Argus PEP Server to the last EMI-3 update (`argus-pep-server-1.6.1`) will not always restart the Argus PEP Server

### Workaround

After the update (`yum update`), restart the Argus PEP Server by hand:

```
root# /sbin/service argus-pepd restart
```

## Problem with Argus 1.6 (EMI-3) and `fetch-crl`

The Argus metapackage `emi-argus` have no dependency on the `fetch-crl` cron job. Installing and starting the Argus services, without having `fetch-crl` installed, will cause SSL errors when trying to connect to the services.

### Workaround

**Prior** to installing the `emi-argus` metapackage, install the the `fetch-crl` package by hand, and run it at least once:

```
root# yum install fetch-crl
root# fetch-crl -v
```

If you have **already** installed and configured Argus, just install the `fetch-crl` package by hand, run it at least once, and restart the Argus services:

```
root# yum install fetch-crl
root# fetch-crl -v
root# service argus-pap restart
root# service argus-pdp restart
root# service argus-pepd restart
```

## Problem with Nagios plugins for Argus and TMP directory permission

The `nagios-plugins-argus` package do not set the correct ownership for the `/var/lib/grid-monitoring/nagios-plugins-argus` temp directory. The plugins will throw errors (Permission denied) because the ownership of the directory is not `nagios`.

### Workaround

To fix the temp directory ownership to `nagios`, please do:

```
root# yum install nagios-plugins-argus
root# chown -R nagios:nagios /var/lib/grid-monitoring/nagios-plugins-argus
```

## Problem with Argus 1.5 (EMI-2) and CREAM

Under heavy load the Argus PEP Server (v1.5.1) does not always return a user mapping for a permitted operation, causing CREAM to throw an error and abort the job. This typically occurs for 10% of the jobs submitted by CREAM.

### Workaround

Disabling the PDP responses caching mechanism in the PEP Server configuration solve this issue. To disable the cache:

1. edit `/etc/argus/pepd/pepd.ini`
2. add the parameter `maximumCachedResponses = 0` in the `[PDP]` section (see example below)
3. restart PEP Server: `/etc/init.d/argus-pepd restart`

Example:

```
[PDP]
pdps = https://chaos.switch.ch:8152/authz
# disabling the cache
maximumCachedResponses = 0
```

## Problem with upgrade from Argus 1.4 (EMI-1) to Argus 1.5 (EMI-2)

When upgrading an previous Argus 1.4 (EMI-1) installation on SL5, you need to re-install Argus 1.5 (EMI-2). This is due to an error in the Argus 1.4 post uninstall script.

### Workaround

Simply reinstalling the components with YUM just after the upgrade solves the issue:

```
yum upgrade
(argus is upgraded...)
yum reinstall argus-pap argus-pdp argus-pep-server
```

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This topic: EGEE > ArgusEMIDeployment

Topic revision: r50 - 2017-06-06 - MaartenLitmaath



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