



Software Provisioning Infrastructure (UMD/CMD)

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(IFCA)



The **EGI Software Repository** provides access for the middleware distributions together with some Community Repositories

Three main categories:

- The Unified Middleware Distribution (**UMD**): redistribution of traditional middleware
- Cloud Middleware Distribution (**CMD**): specific middleware for OpenStack and OpenNebula integration components
- **IGTF** Distribution of Authority Trust Anchors: packages with the trust anchor information

OS Support

- Centos 7 : **UMD-4**

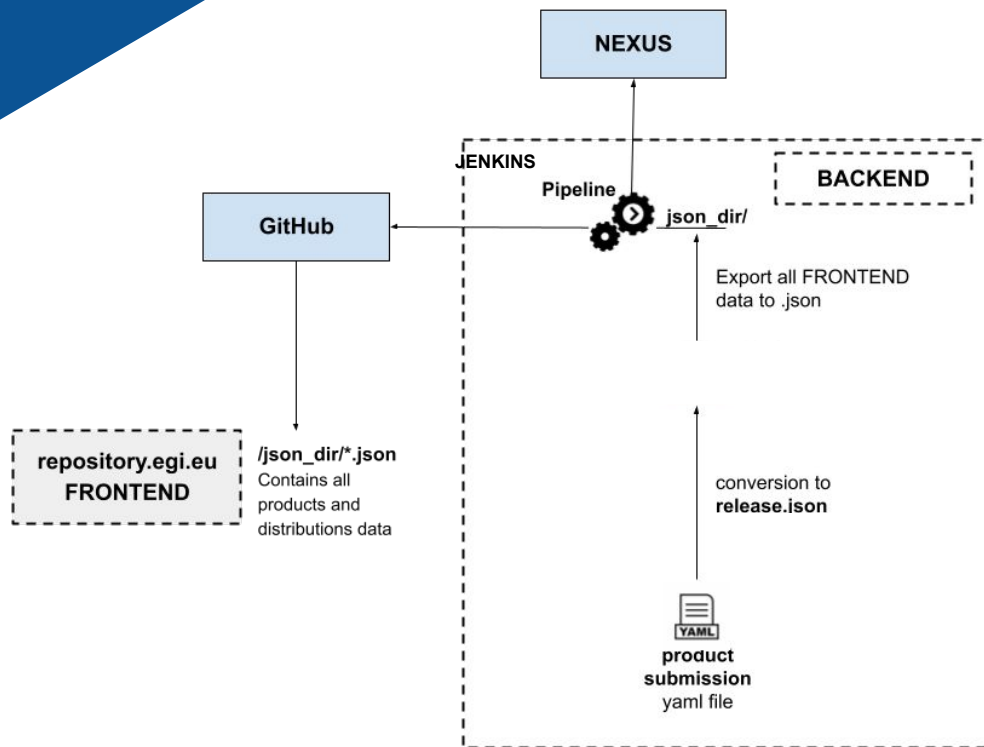
Provider:

- IBERGRID since 2021

EGI Repositories

- Since 2021 new service provider IBERGRID
- Bidding proposal included a complete redesign of the service
 - New infrastructure based on Nexus Repository OSS
 - Release workflow implemented in Jenkins
- New public webpages
- Quality assurance - Full-automated approach
 - Faster release cycle with higher automation and less manual intervention

New architecture



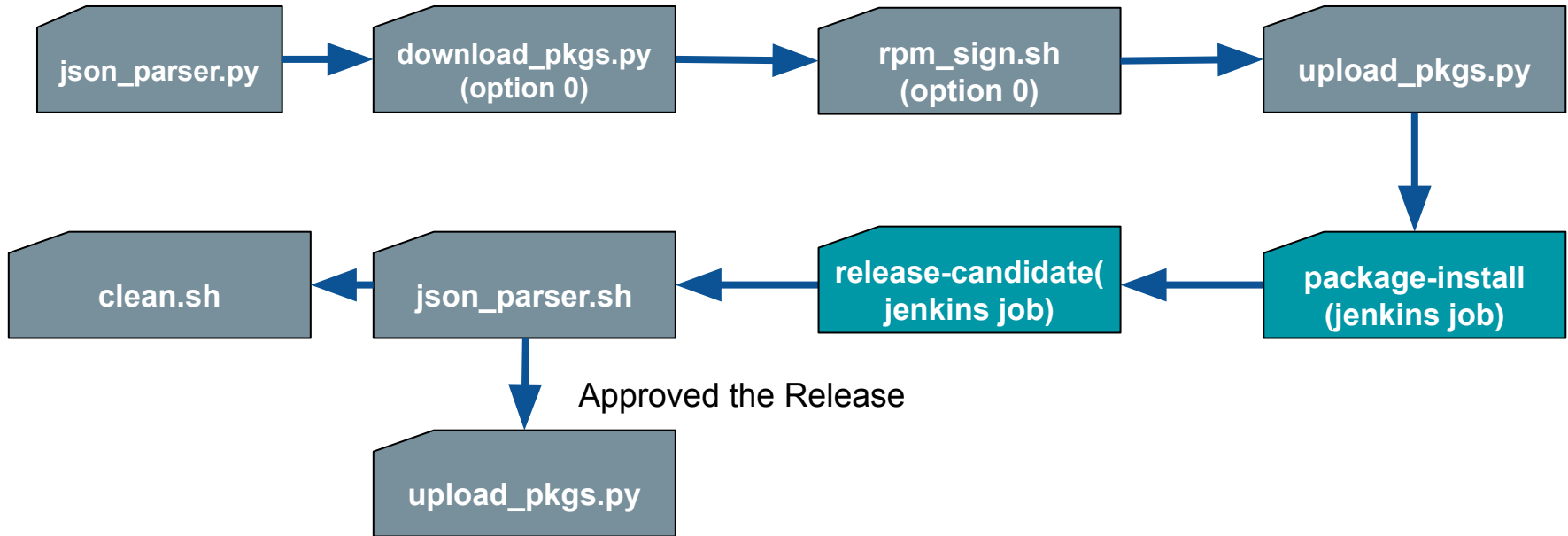
New setup:

- **Complete redesign of the service**
- Allow full automatization of the process
- Easier to add new functionalities like new OS, containers support
- Better integration with Jenkins
- New Frontend layout based on software products rather than releases.
- **Planned entering production 1 quarter of 2023 UMD-5 ONLY**
- **UMD-4 will use old infrastructure**
- **CA's will be moved after UMD-5 (no changes in path's)**

Future:

- Integration with SQaaS service from EOSC-synergy
- Allow it to be used by external users: EGI /

UMD/CMD new Workflow



Pipeline



<https://github.com/egi-qc/software-releases>
<https://nexusrepoegi.a.incd.pt/#browse/browse:UMD>

The pipeline is as follows:

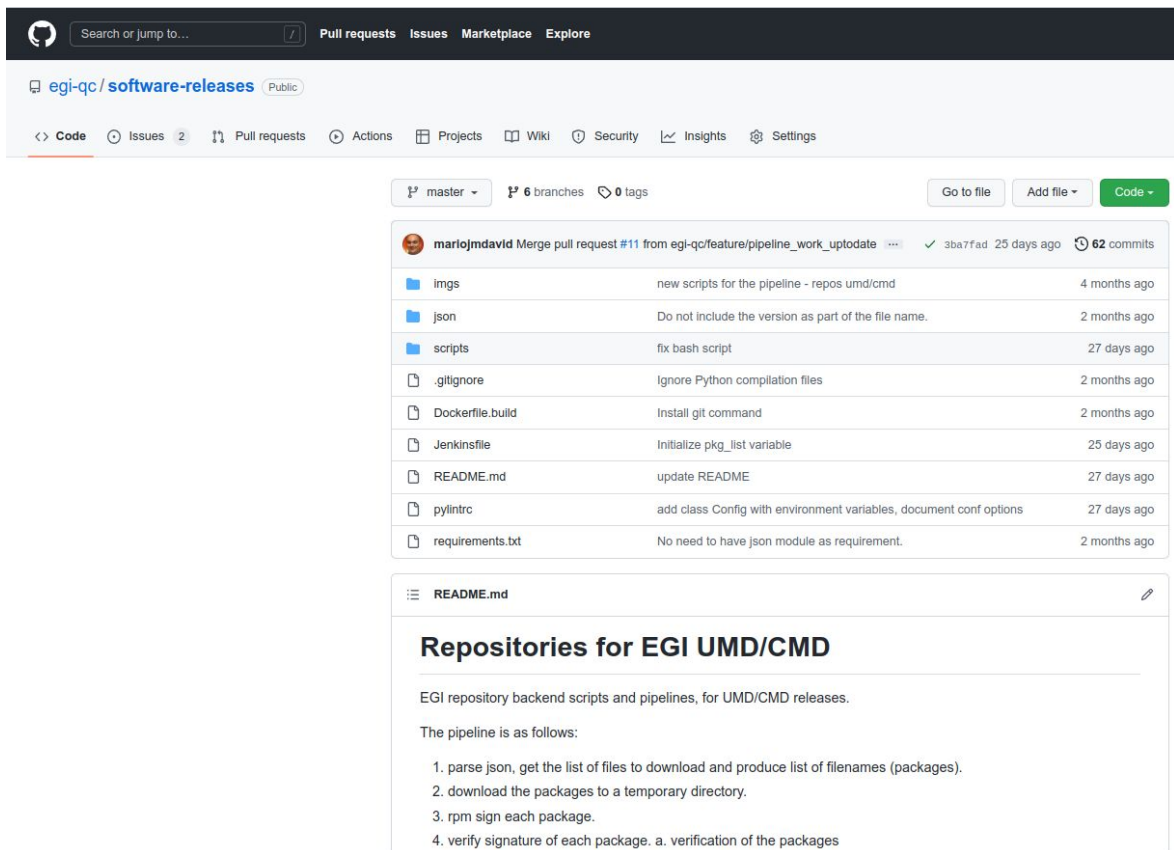
1. `json_parser.py`: parse json, get the list of files to download and produce list of filenames (packages).
2. `download_pkgs.py` (option 0): download the packages to a temporary directory.
3. `rpm_sign.sh` (option 0): rpm sign each package.
4. `rpm_sign.sh` (option 0): verify signature of each package.
 - a. a. verification of the packages
5. `upload_pkgs.py`: upload each package to nexusrepo.
6. `Package-install`: Validate package installations from testing repository and perform functional tests.
7. `release-candidate`: Install all packages in release repo together with the new packages from testing
8. `json_parser.sh`: Produce new json file as asset of the new release
9. `clean.sh`: clean temporary directories.

Yum repositories (new structure)

UMD-5 only

1. **contrib**: repository for specific communities or special services. (**NEW**)
2. **release**: Main repository with all the packages (= to production).
3. **testing** : testing repository with rpm not fully validated in production environment. RPM belonging to release declared as production ready will be moved from testing to release.

Tracking of the workflow all based on git



The screenshot shows a GitHub repository page for 'egi-qc/software-releases'. The repository is public and has 6 branches and 0 tags. A merge pull request #11 is shown, merged 25 days ago by marjoimdauid. The pull request includes 62 commits. The files listed in the pull request are:

File	Description	Time
imgs	new scripts for the pipeline - repos umd/cmd	4 months ago
json	Do not include the version as part of the file name.	2 months ago
scripts	fix bash script	27 days ago
.gitignore	Ignore Python compilation files	2 months ago
Dockerfile.build	Install git command	2 months ago
Jenkinsfile	Initialize pkg_list variable	25 days ago
README.md	update README	27 days ago
pylintrc	add class Config with environment variables, document conf options	27 days ago
requirements.txt	No need to have json module as requirement.	2 months ago

The README.md file content is as follows:

Repositories for EGI UMD/CMD

EGI repository backend scripts and pipelines, for UMD/CMD releases.

The pipeline is as follows:

1. parse json, get the list of files to download and produce list of filenames (packages).
2. download the packages to a temporary directory.
3. rpm sign each package.
4. verify signature of each package. a. verification of the packages

Yum repositories (new structure)

[UMD-5]

name=UMD 5 (Alma Linux 9)

baseurl=https://nexusrepoegi.a.incd.pt/repository/umd/5/al9/release/\$basearch

protect=1

enabled=1

To use priorities you must have yum-priorities installed

priority=1

gpgcheck=1

gpgkey=https://nexusrepoegi.a.incd.pt/repository/umd/UMD-5-RPM-PGP-KEY

EPEL 9 required

UMD higher priority than EPEL

Priorities already para of DNF

Non official link

Yum repositories (new structure)

```
[UMD-5-testing]
```

```
name=UMD 5 (Alma Linux 9)
```

```
baseurl=https://nexusrepoegi.a.incd.pt/repository/umd/5/al9/testing/$basearch
```

```
protect=1
```

```
enabled=0
```

```
# To use priorities you must have yum-priorities installed
```

```
priority=1
```

```
gpgcheck=1
```

```
gpgkey=http://repository.egi.eu/umd/5/UMD-RPM-PGP-KEY
```

Non official link

Yum repositories (new structure)

```
[UMD-5-contrib]
```

```
name=UMD 5 (Alma Linux 9)
```

```
baseurl=https://nexusrepoegi.a.incd.pt/repository/umd/5/al9/contrib/$basearch
```

```
protect=1
```

```
enabled=0
```

Non official link

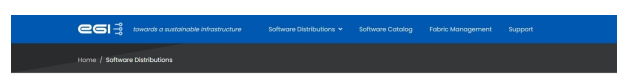
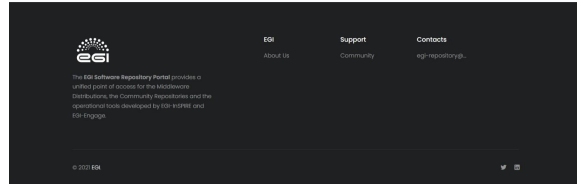
```
# To use priorities you must have yum-priorities installed
```

```
priority=2
```

```
gpgcheck=1
```

```
gpgkey=http://repository.egi.eu//umd/5/UMD-RPM-PGP-KEY
```

Frontend New Design



Software Distributions

The EGI Software Repository Portal provides a unified point of access for the **Middleware Distributions**, the **Community Repositories** and the **operational tools**.
The Middleware Distributions are divided in **Unified Middleware Distribution (UMD)** and **Cloud Middleware Distribution (CMD)**.

UMD - Unified Middleware Distribution
is the integrated set of software components contributed by Technology Providers and packaged for deployment on production quality services in EGI. UMD release schedule is available here.
Current: UMD-4 Future: UMD-5 Past: UMD-2, UMD-3

CMD - Cloud Middleware Distribution
distributes OpenStack and OpenNebula integration components developed by Cloud Technology Providers. Two different distribution are technically available, CMD-OS for OpenStack and CMD-ONE for OpenNebula. For further details, please have a look at the Cloud Middleware Distribution wiki.
CMD-OS (Openstack) CMD-OS-1 CMD-ONE (OpenNebula) CMD-ONE-1

Community Repositories - Community Software
is the integrated set of software components contributed by Technology Providers and packaged for deployment on production quality services in EGI. UMD release schedule is available here.

• [Distributions Complete list](#)



SOFTWARE-DISTRIBUTIONS

Here you can find all the SOFTWARE-DISTRIBUTIONS distribution releases.

Filter by distribution:
UMD, CMD-OS, CMD-ONE, All

UMD-4.15.0

UMD 4.15.0 is an update release of UMD 4. It includes StoRM 1.11.21, lcmsaps-plugins 1.8.1, CERN Frontier 4.15.2, dmilite 1.15.0, APEL SSM 3.2.1, DDNS Nagios probe 1.0.1, dCache 6.2.24, Infrastructure Manager Nagios probe 1.0.1

UMD-4.14.0

UMD 4.14.0 is an update release of UMD 4. It includes ARC 6.12.0, xrootd 5.2.0, xrootd 5.2.0, davix 0.7.6, gridftp 13.24.1, gfal2 2.18.2



Software Catalog

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apel-ssm-2.3.0

Secure Stamp Messenger (SSM) is designed to simply send messages using the STOMP protocol. Messages are signed and may be encrypted during transit. Persistent queues should be used to guarantee delivery.

capabilities File Management Resource Manager

apel-1.8.1

The APEL project provides grid accounting for EGI. It is written in Python and uses MySQL.

undefined capabilities File Management Resource Manager

lfcaso-1.4.0

casO is a pluggable extractor of Cloud Accounting Usage Records from an OpenStack installation. casO gets usage information from nova or cellometer APIs and can generate valid output for Apel SSM or logstash.

undefined capabilities File Management Resource Manager

infoprovider.cloud-info-provider-0.12.0



dcache.dcache 6.2.24

deployed - UMD 4.15.0 - published 2020-07-23 18:39:45

dCache provides system for storing and retrieving huge amounts of data, distributed among a large number of heterogeneous server nodes, under a single virtual filesystem tree with a variety of standard access methods.

Notes: <https://www.dcache.org/dcd/dcacheos/1.9/release-notes-6.2.shtml>

Installation —
Additional Details —

Documentation Links

• <https://www.dcache.org/man/ush/index.shtml>

Repository URI
<https://production.umd4>

Contacts
junger.storag@desy.de

Target platforms (0) Issues (0) Change log

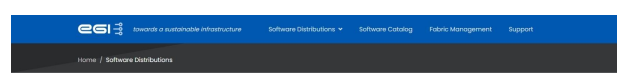
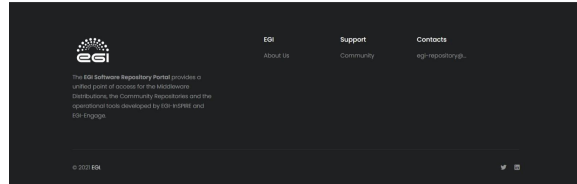
Platform	Architecture	repository
centos7	x86_64	https://production.umd4/centos7/68_64updates



Frontend New Design

Based on
Html / Javascript / Json
making it **easy to maintain.**

Testbed:
<https://dev-repository.a.incd.pt>



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apel.apel-ssm-2.3.0 CMD-OS-1.3.0 • published 2020-02-18 13:34:44

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Installation ---
Additional Details ---

Documentation Links

• <https://www.dcache.org/man/uch/1/index.shtml>

Repository URI 
<https://production.umdl4>

Contacts
jungen.ks@desy.de

Target platforms (0)  Issues (0) Change log

Platform	Architecture	repository
centos7	x86_64	https://production.umdl4/centos7/ah5_64/updates



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UMD-4.13.1 • published

UMD 4.13.1 is a fix release of UMD 4. It includes a new releases for CERN Frontier.

UMD-4.13.0 • published

UMD 4.13.0 is an update release of UMD 4. It includes new releases for ARC, APEL, StoRM, VOMS admin server, VOMS client, CVMFS

UMD-4.12.6 • published

UMD 4.12.6 is an update release of UMD 4. It includes new packages for ARGO AMS library and APEL SSM

Testbed:

<https://dev-repository.a.incd.pt>

Software Catalog

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Installation --

Additional Details --

Documentation Links

- <https://www.dcache.org/manuals/index.shtml>

[Target platforms \(0\)](#) [▲ Issues \(0\)](#) [Change log](#)

Platform	Architecture	repository
centos7	x86_64	/sw/production/umd/4/centos7/x86_64/updates

Repository Url [🔗](#)

</sw/production/umd/4>

Contacts

juergen.starek@desy.de

Testbed:

<https://dev-repository.a.incd.pt>

UMD-5 (release plan)

- **First release** end of March
 - Need to **implement an HA proxy** in order to properly guide traffic between UMD-4 and UMD-5
- List of products (provisory):
 - BDII and site-bdii
 - Gfal2
 - Dcache
 - Globus (evaluation)
 - HTCondor-CE

End

Questions?

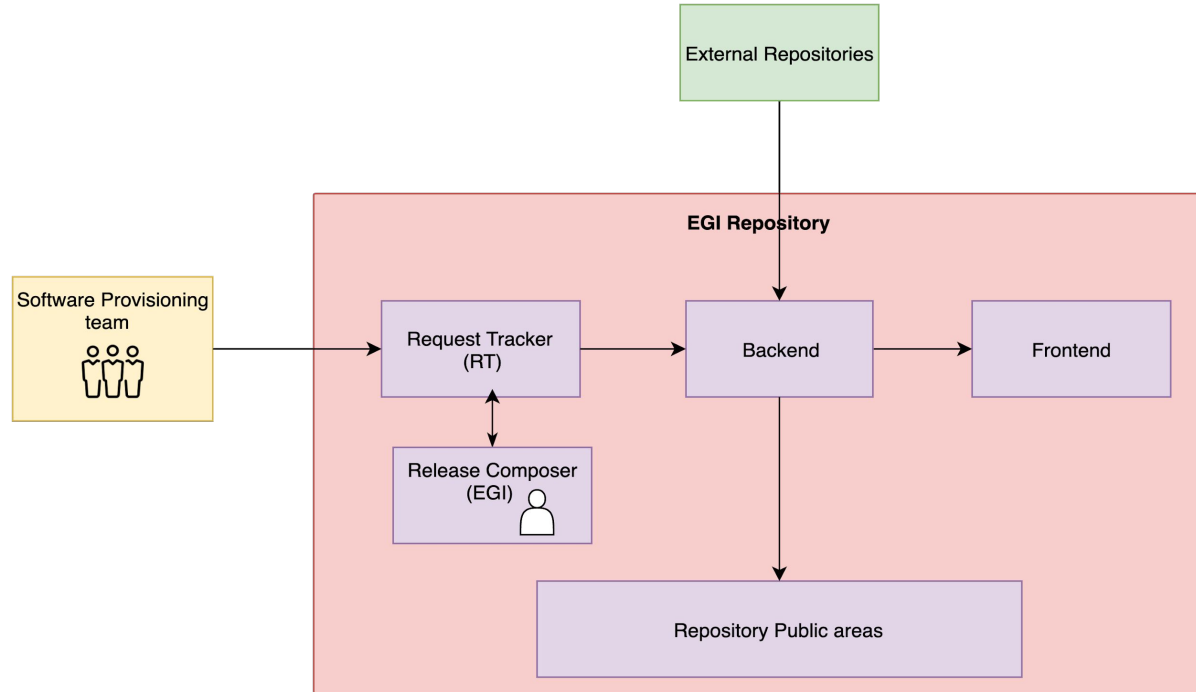


Repositories for UMD and CMD

Current architecture

Old setup:

- No new functionalities for many years, since it's hard to implement them.
- Backend based on perl scripts with tight relation with RT.
- Too many manual steps (RT fully manual) leading to a large delay in the releases of packages
- Frontend outdated which could lead to security issues (**already replaced by a simplified version**)



One year access data

