



Software Provisioning and Infrastructure (UMD/CMD)

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EGI Repositories



The EGI Software Repository provides access for the middleware distributions (**used by WLCG sites**) together with some Community Repositories

- Constitutes a contribution from IBERGRID to the WLCG infrastructure

Composed by:

- **Software Quality Assurance** - validation of the products released as part of the UMD
 - Software Quality criteria - **definition of the criterias** (done once per product)
 - Software validation of the criteria - **run tests** against the define criterias (done for every release)
 - Done by IBERGRID since 2012 now LIP + CSIC (ex partners: UPV, CESGA)
 - Contract paid by EGI under competitive call
- **Repositories Infrastructure** - provides a **unified** point of access for the middleware distributions (IBERGRID since 2021)

EGI Repositories



Two main categories:

- The Unified Middleware Distribution (**UMD**): redistribution of traditional middleware
- **IGTF** Distribution of Authority Trust Anchors: packages with the trust anchor information

OS Support

- AlmaLinux9 (EL9) : **UMD-5**

What's new

- Complete redesign of the service:
 - Current infrastructure based on Nexus Repository OSS
 - Release workflow implemented in GitHub and Jenkins pipelines.
- Software Quality assurance - Full-automated approach
 - **Faster release cycle** with higher automation and less manual intervention

New Functionalities:

- IPV6 compliant
- New backend behind a proxy (HAProxy)
 - <https://repository.egi.eu/sw/production/> (prod)
 - <https://repository.egi.eu/software/umd/> (dev)
- High Availability (server side)
- Full automatic process until testing
- Testing -> production (manual git commit)

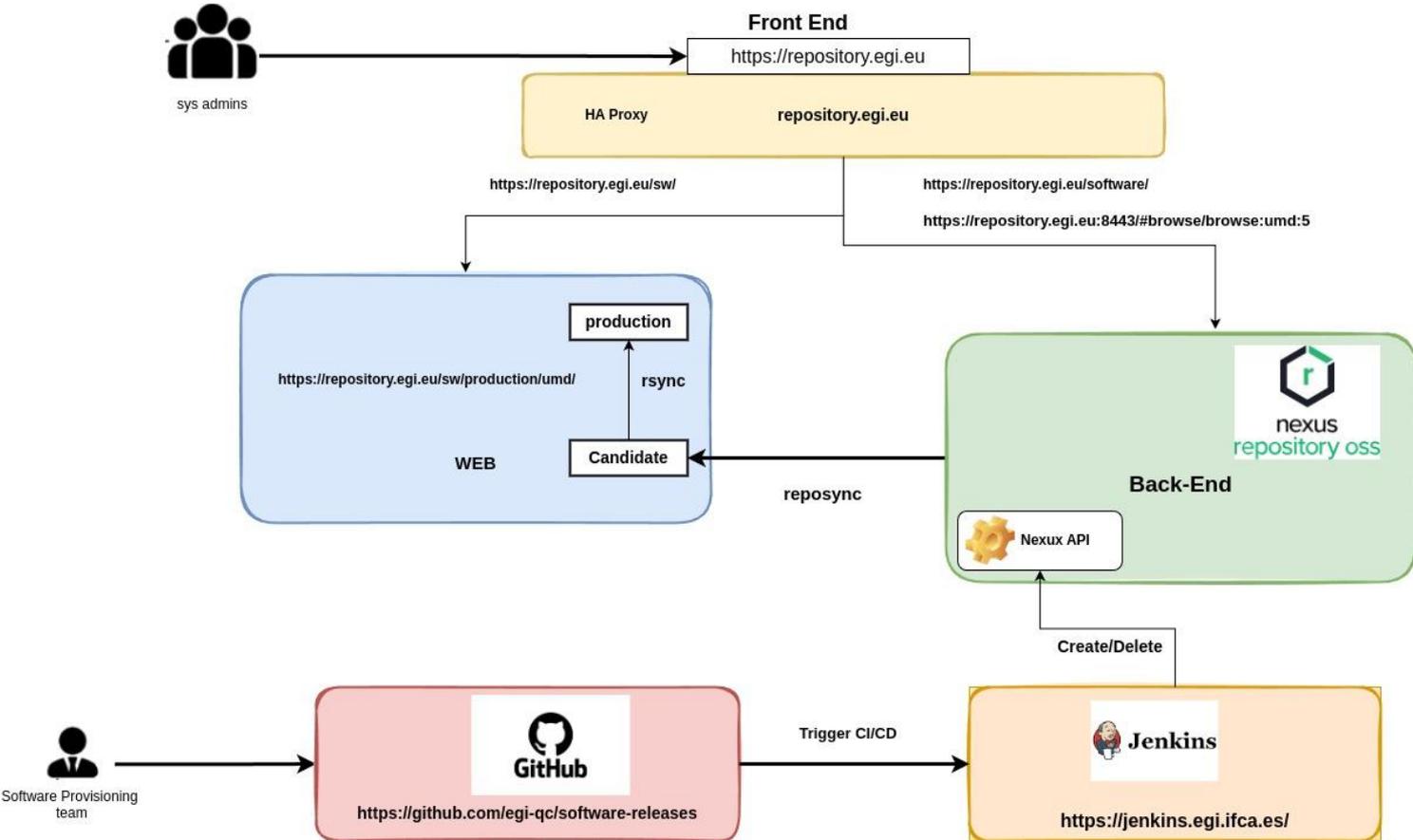
Yum repositories (UMD-5 structure)

1. **release**: Main repository with all the packages (= to production).
2. **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.
3. **contrib**: repository for specific communities or special services. (**NEW**)

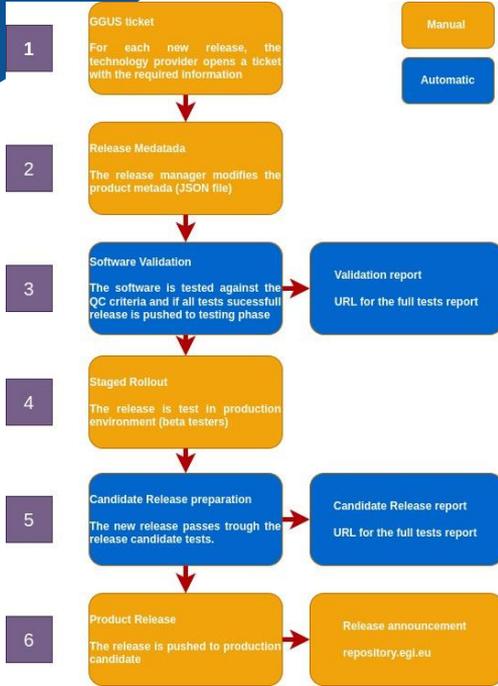
Dropped repositories: Staged Rollout and Release Candidate

- UMD-5 Production since (October 2024)
 - <https://repository.egi.eu/umd/distribution.html?id=5.0.0#5.0.0>
 - Install instructions:
 - <https://repository.egi.eu/umd/installation-notes.html?id=5>

Architecture

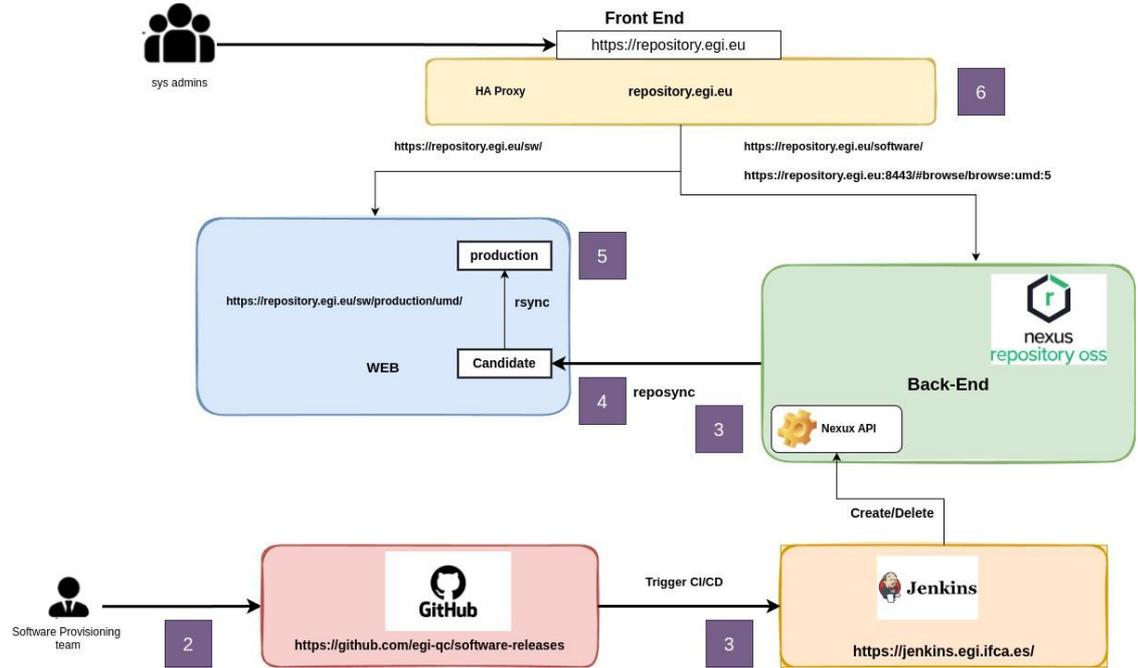


Workflow



Workflow

Architecture



Tracking of the workflow all based on git

Software provisioning process:

<https://github.com/egi-qc>

Software Releases:

<https://github.com/egi-qc/software-releases>

Ansible playbooks for install software:

<https://github.com/egi-qc/umd-verification>

Conversation | Commits | Checks | Files changed | +39 -0

jopina commented now

adding sub-set of globus packages to UMD-5

Reviewers: No reviews. Still in progress? Convert to draft

Assignees: No one assigned yourself

Labels: None yet

Projects: None yet

Milestone: No milestone

Development: Successfully merging this pull request may close these issues. None yet

0 Some checks haven't completed yet

- continuous-integration/jenkins/pr-merge - Pending — This commit is scheduled to be built
- continuous-integration/jenkins/branch - This commit looks good
- This branch has no conflicts with the base branch

Merge pull request or view command line instructions

Add a comment

egi-qc / software-releases Public

Code | Issues | Pull requests | Actions | Projects | Wiki | Security | Insights | Settings

master | 8 branches | 0 tags

Go to file | Add file | Code

mariojmdavid update README 4e26c2 9 minutes ago 257 commits

- frontend-data Add UMD-4.17.1 distribution 2 weeks ago
- imgs update README 9 minutes ago
- json Remove version from filename 3 months ago
- rpms Fix path 5 months ago
- scripts strremovesuffix() only works on python>3.9 3 months ago
- .gitignore Ignore Python compilation files 10 months ago
- Dockerfile.build Import UMD RPM key 4 months ago
- Jenkinsfile Download if json file has been modified 4 months ago
- README.md update README 9 minutes ago
- RPM-GPG-KEY-umd-cmd Import UMD RPM key 4 months ago
- pylintrc add class Config with environment variables, document conf options 9 months ago
- requirements.txt No need to have json module as requirement. 10 months ago

Repositories for EGI UMD/CMD

EGI repository backend scripts and pipelines, for UMD/CMD releases. The repository structure is the following:

- https://nexusrepoegi.a.incd.pt/repository/umd/5/
 - <OPERATING_SYSTEM>/release/<ARCH>
 - <OPERATING_SYSTEM>/test/ing/<ARCH>
 - <OPERATING_SYSTEM>/contrib/<ARCH>

For example for Alma Linux 9 x86_64, the complete paths are:

- https://nexusrepoegi.a.incd.pt/repository/umd/5/al9/release/x86_64
- https://nexusrepoegi.a.incd.pt/repository/umd/5/al9/testing/x86_64
- https://nexusrepoegi.a.incd.pt/repository/umd/5/al9/contrib/x86_64

The process is as follows:

#	Script	Description
00	N.A.	Creation of a Pull Request (PR), containing the details of the new product's release (within 'json/' folder).
01	< Jenkins SCM plugin >	git clone repository - get json
--	--	Parse json, get the list of files to download and produce list of

Contributors: orviz, cnmanuel Carlos Manuel, mariojmdavid Mario David

Languages: Python 76.9%, JavaScript 13.5%, Shell 9.6%

Suggested Workflows: Actions Importer, Django

Workflow

Full Request PR-130

Full project name: egi-qi/software-releases/PR-130



Last Successful Artifacts

release.json 1.81 KB view

Stage View

3

	Declarative: Checkout SCM	Declarative: Agent Setup	Install dependencies	Detect release changes	Get release info	Collect the list of packages	Download the packages to a temporary directory	Add UMD GPG key	Upload packages to testing	Trigger validation	Generate JSON release file	Trigger Release Candidate validation	Production download packages to a temporary directory	Upload packages to production
Average stage times: (Average full run time: ~1min 51s)	1s	852ms	3s	349ms	892ms	863ms	3s	2s	3s	1min 28s	693ms	0ms	0ms	0ms
Oct 14 14:54 No Changes	1s	852ms	3s	349ms	892ms	863ms	3s	2s	3s	1min 28s	693ms			

Permalinks

- Last build (#1), 4 min 23 sec ago
- Last stable build (#1), 4 min 23 sec ago
- Last successful build (#1), 4 min 23 sec ago
- Last completed build (#1), 4 min 23 sec ago

S	W	Name
		package-install
		release-candidate
		os
		grid-clients
		anoad
		fronter-squad
		etc
		gridfp
		cloudinfo-provider
		dpm
		run
		gridite
		ml-site
		fts
		esoo
		zpaas
		cream
		user-interface
		ool
		weaker-node
		ml-top
		teptone-oms

https://jenkins.egi.ifca.es/job/QualityCriteriaValidation/job/package-install/268/artifact/logs/qc_conf.stdout/*view*/

Moving product to testing repository

<https://github.com/egi-qi/umd-verification>

Build #268 (Oct 14, 2024, 1:55:04 PM)

Build Artifacts
qc_conf.stdout 71.17 KB view

No changes.

Started by upstream project egi-qi/software-releases a PR:130 build number 1 originally caused by:

- Pull request #130 opened at 1:54:17 PM on Oct 14, 2024

Docker build metadata:

- Cloud: docker-cloud
- Container ID: 350654efec3e35a31e8117cc7e54564ede5c416d020b487d3a533c664e849f

This run spent:

- 12 sec waiting;
- 1 min 15 sec build duration;
- 1 min 28 sec total from scheduled to completion.

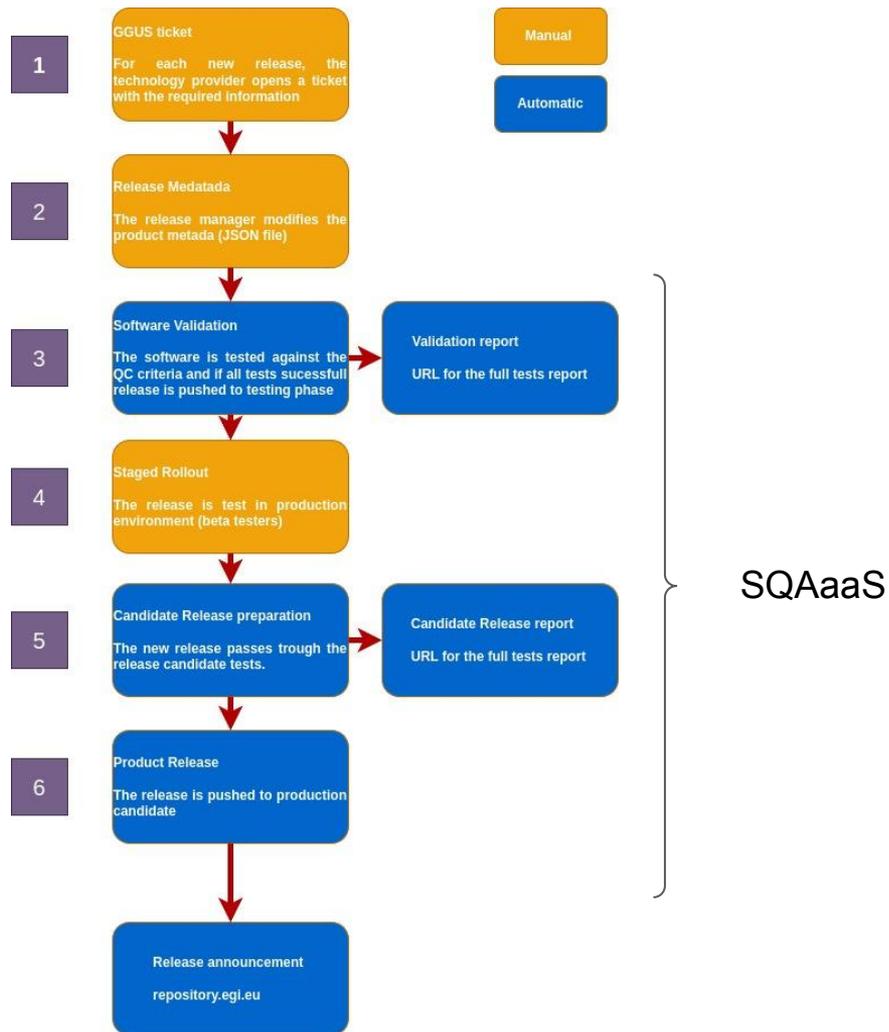
Revision: a5b04c71a797a6037fa8a51b5a491d528e41a473
Repository: <https://github.com/egi-qi/umd-verification>

- ref/remotes/origin/master

Evolution

Future:

- Integration with SQAaaS from EOSC-Synergy
 - **Allow full pipeline tests**
- Allow it to be used by **external users**:
 - EGI / EOSC marketplace



End

Questions?



Repositories for UMD and CMD

Yum repositories (new structure)

Production

[UMD-5]

name=UMD 5 main repository (Alma Linux 9)

baseurl=https://repository.egi.eu/sw/production/umd/5/al9/release/\$basearch

enabled=1

priority=1

gpgcheck=1

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

EPEL 9 required

UMD higher priority than EPEL

Priorities already part of DNF

Need crb almalinux9 enabled

No more base / updates >> release

Yum repositories (new structure)

Testing

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

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

```
baseurl=https://repository.egi.eu/sw/production/umd/5/al9/testing/$basearch
```

```
enabled=0
```

```
priority=1
```

```
gpgcheck=1
```

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

**Packages under testing but already
validated**

Yum repositories (new structure)

External Contribution (new)

[UMD-5-contrib]

name=UMD 5 contrib (Alma Linux 9)

baseurl=https://repository.egi.eu/sw/production/umd/5/al9/contrib/\$basearch

enabled=0

priority=1

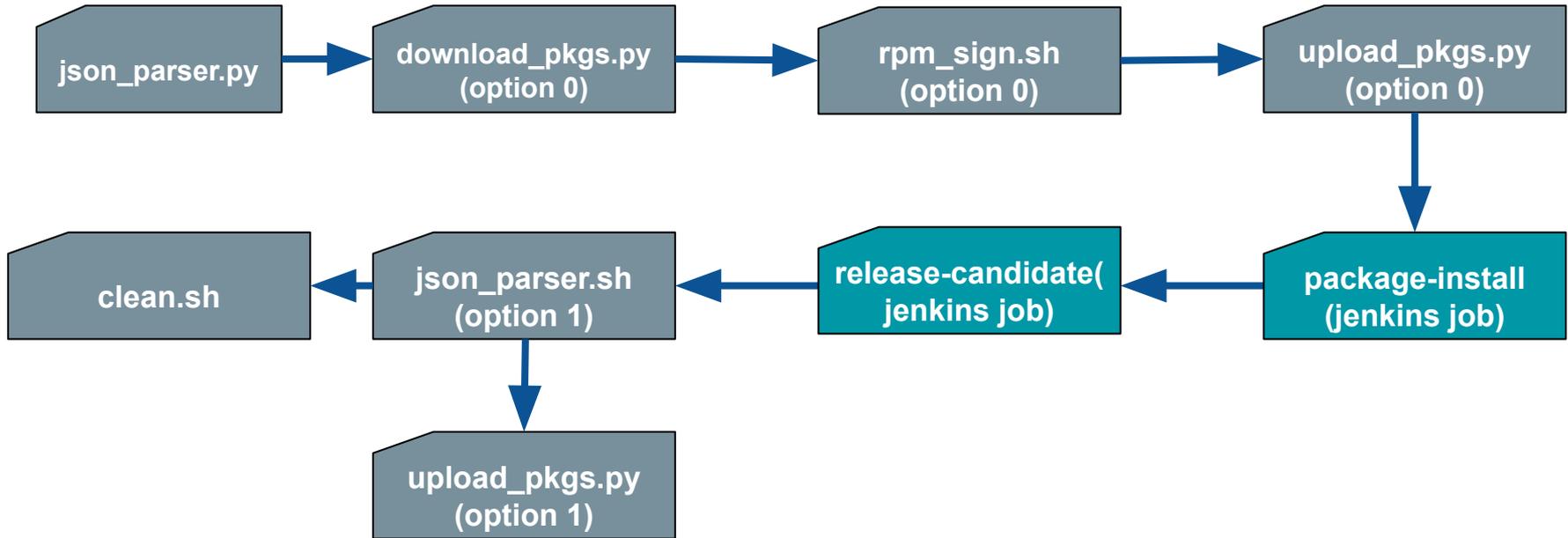
gpgcheck=1

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

**Packages under testing but already
validated: Caso**

UMD/CMD new Workflow

<https://github.com/egi-qc/software-releases>



Approved the Release (Testing/Production repository)



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.