Software Provisioning Infrastructure (UMD/CMD)

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EGI Repositories

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

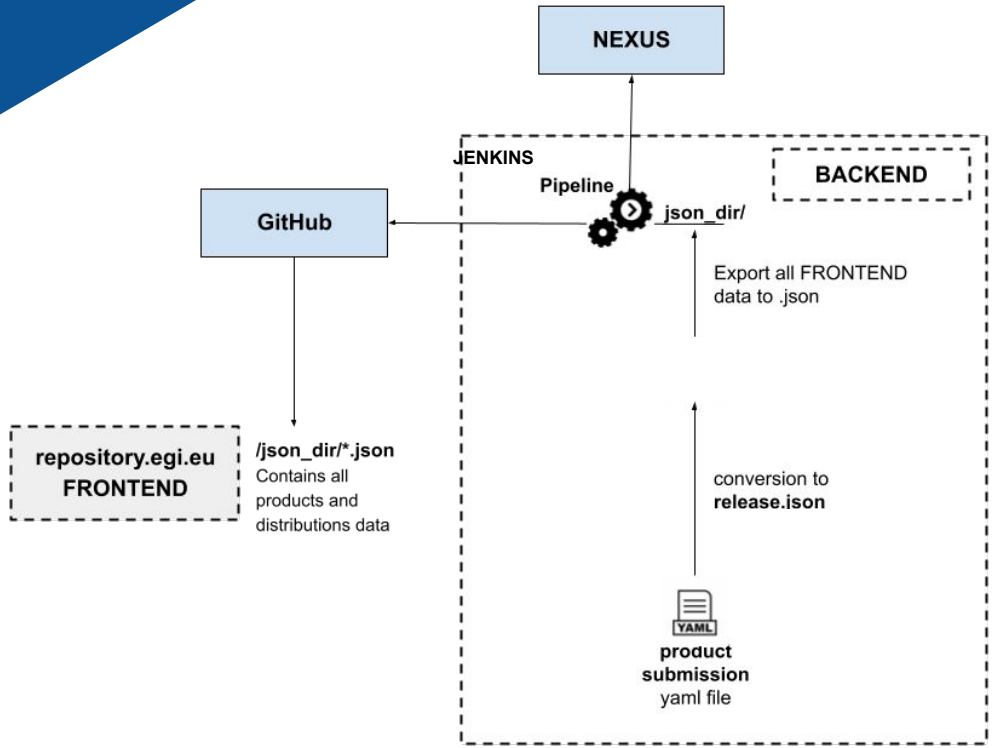
  OS Support
  - Centos 7 : **UMD-4**

  Provider:
  - IBERGRID since 2021

- Cloud Middleware Distribution (**CMD**): specific middleware for OpenStack and OpenNebula integration components

- **IGTF** Distribution of Authority Trust Anchors: packages with the trust anchor information

Current architecture



Future:

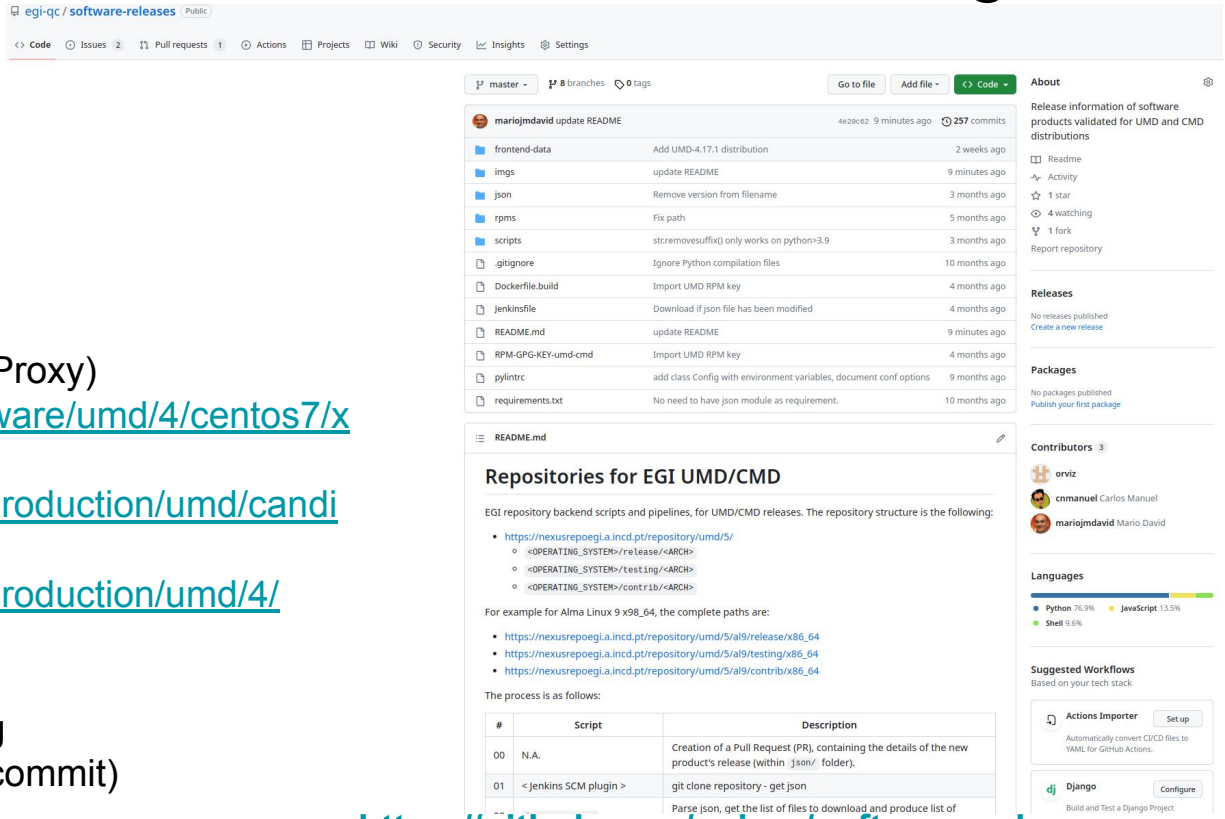
- Integration with SQAaaS from EOSC-Synergy
- Allow it to be used by external users:
  - EGI / EOSC marketplace

Tracking of the workflow all based on git

Frontend: https://repository.egi.eu/

New Functionalities:

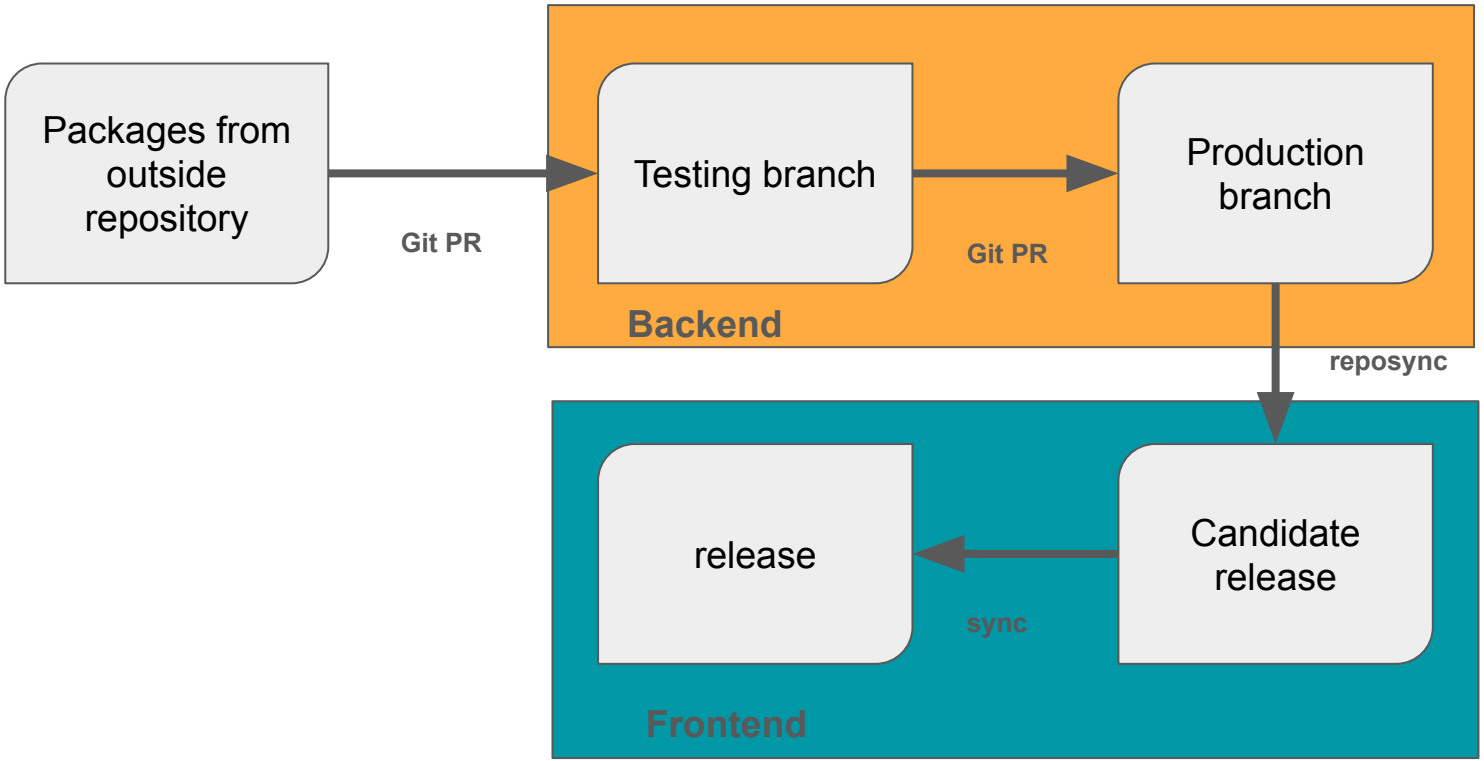
- IPV6 compliant
- New backend behind a proxy (HAProxy)
  - https://repository.egi.eu/software/umd/4/centos7/x86_64/ (prod new)
  - https://repository.egi.eu/sw/production/umd/candidate/4/ (candidate)
  - https://repository.egi.eu/sw/production/umd/4/ (prod)
- High Availability
- Full automatic process until testing
- Testing -> production (manual git commit)



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

UMD/CMD Workflow

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



UMD/CMD Workflow

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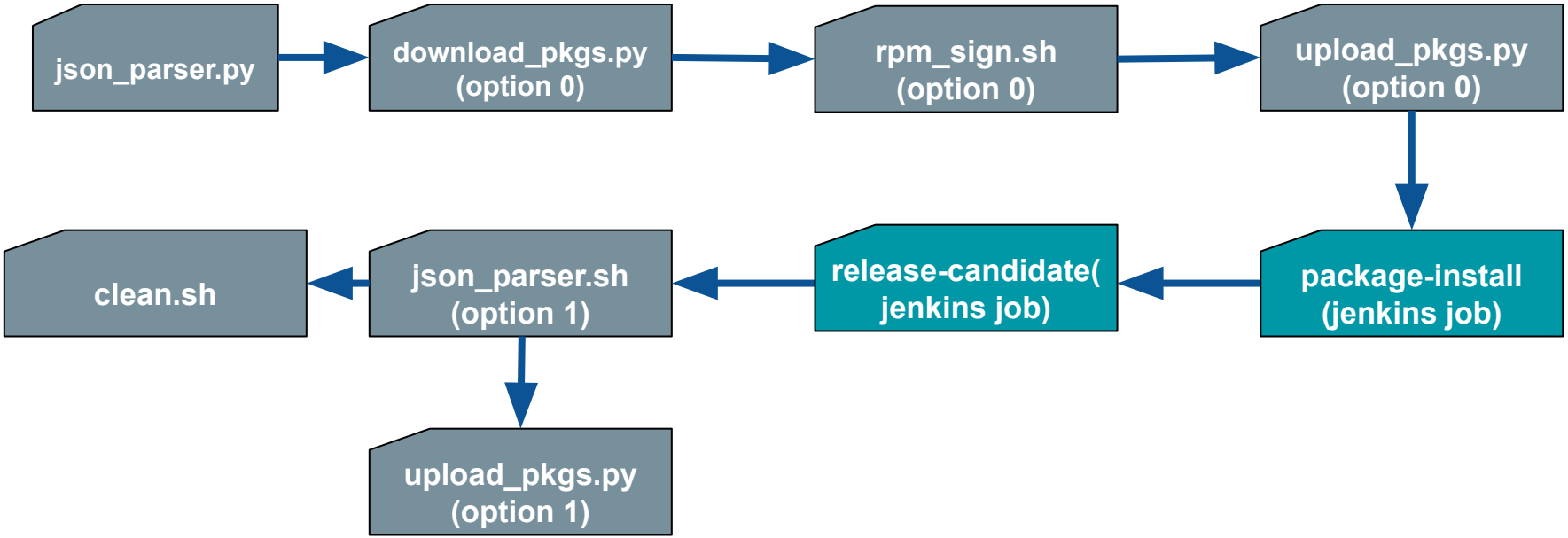

Approved the Release (Testing/Production repository)

UMD/CMD new Workflow

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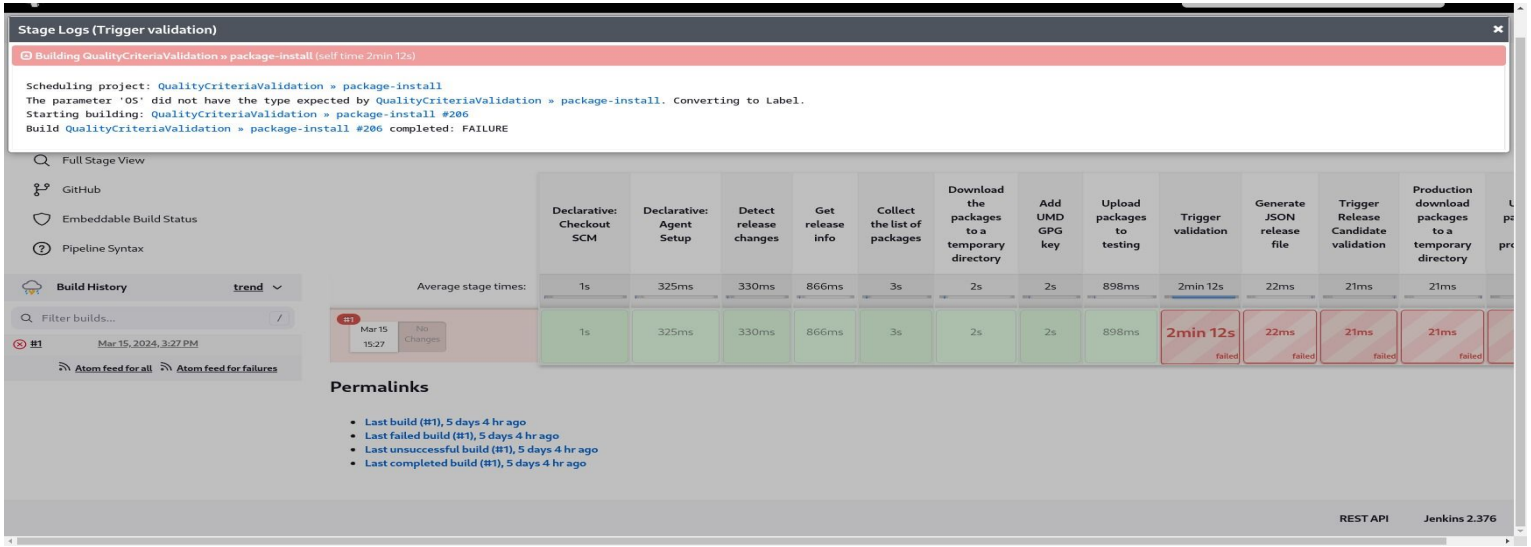


Packages -> Testing

UMD/CMD new Workflow

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


```
            "use_backend": "auto",
            "validate_certs": true
        }
    },
    "item": "apel-ssm-service-3.4.0-1.el7.noarch",
    "msg": "Error unpacking rpm package apel-ssm-3.4.0-1.el7.noarch\n",
    "rc": 1,
    "results": [
        "Loaded plugins: fastestmirror, ovl, priorities\nLoading mirror speeds from cached hostfile\n * base: ftp.csuc.cat\n * epel: cdn.centos.no\n * extras: ftp.csuc.cat\n * updates: ftp.csuc.cat\n5 packages exc
due to repository priority protections\nResolving Dependencies\n--> Running transaction check\n---> Package apel-ssm-service.noarch 0:3.4.0-1.el7 will be installed\n--> Processing Dependency: apel-ssm for package:
apel-ssm-service-3.4.0-1.el7.noarch\n--> Running transaction check\n---> Package apel-ssm.noarch 0:3.4.0-1.el7 will be installed\n--> Finished Dependency Resolution\n\nDependencies
```


Packages -> Testing

Pipeline
Workflow

UMD/CMD new Workflow

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

	Declarative: Checkout SCM	Declarative: Agent Setup	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: ~8min 1s)	1s	353ms	338ms	1s	1s	0ms	0ms	0ms	0ms	356ms	12min 13s	967ms	1s
#3 Mar 15 16:08 — 1 commit	1s	387ms	337ms	876ms	628ms					356ms	15min 43s	1s	3s
#2 Mar 15 15:51 — 1 commit	1s	328ms	338ms	1s	3s					356ms	8min 42s failed	23ms failed	74ms failed
#1 Mar 15 15:46 — No Changes	1s	344ms	340ms										

Testing -> Production

Yum repositories (new structure)

UMD-5 only

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

UMD production readiness

UMD-4 (first release plan) : Second week of April

UMD-5 (first release plan) : Second half of May

- List of products for al9 (provisory):
  - BDII and site-bdii
  - Gfal2
  - Dcache
  - Globus (evaluation)
  - HTCondor-CE

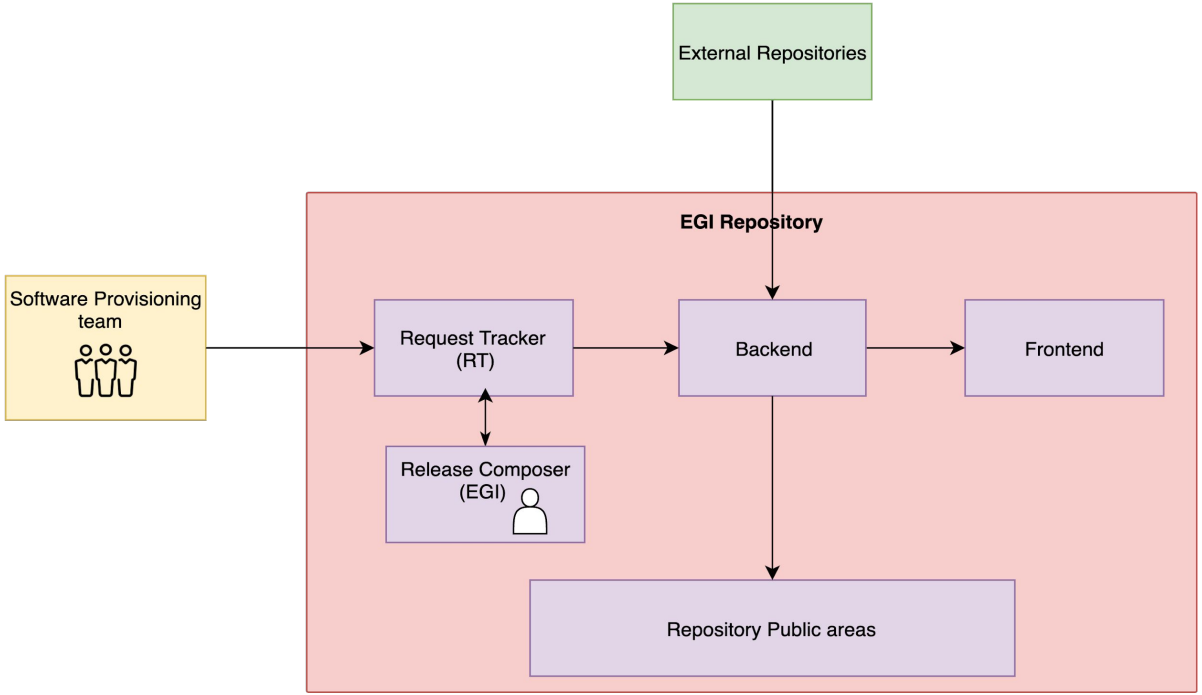
End

Questions?

UMD-4 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.
- To 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**)



Pipeline

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

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.