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

EGI Repositories

- Since 2021 new service provider IBERGRID
- Complete redesign of the service:
  - New infrastructure based on Nexus Repository OSS
  - Release workflow implemented in GitHub and Jenkins pipelines.
- **New public webpages**
- **Quality assurance - Full-automated approach**
  - **Faster release cycle** with higher automation and less manual intervention

Usage

10 months of access data

Dashboard

Last Updated: 2023-06-20 16:39:45 +0000

OVERALL ANALYZED REQUESTS

14/AUG/2022 — 11/JUN/2023

Total Requests	Valid Requests	Failed Requests	Init. Proc. Time	Unique Visitors	Requested Files
423,427,319	421,365,014	0	19779 secs	2,069,347	178,364
Excl. IP Hits	Referrers	Not Found	Static Files	Log Size	Tx. Amount
0	30,303	14,373	1,057	0 Byte	2.33 TiB

UNIQUE VISITORS PER DAY

HITS HAVING THE SAME IP, DATE AND AGENT ARE A UNIQUE VISIT.

Panel Options

#	Hits	Visitors	Tx. Amount	Data
	421,365,014	2,069,347	2.33 TiB	302 Total
	Max: 2,214,783	Max: 12,265	Max: 35.76 GiB	
	Min: 267,488	Min: 4,549	Min: 2.66 GiB	

REQUESTED FILES (URLS)

TOP REQUESTS SORTED BY HITS [, AVGTS, CUMTS, MAXTS, MTHD, PROTO]

Panel Options

#	Hits	Visitors	Tx. Amount	Method	Data
	419,777,192	54,182,947	2.33 TiB		178,364 Total
	Max: 58,991,956	Max: 1,772,884	Max: 819.43 GiB		
	Min: 1	Min: 1	Min: 0 Byte		

14/08/2022 to 11/06/2023

Usage

10 months of access data

GEO LOCATION

CONTINENT > COUNTRY SORTED BY UNIQUE HITS [,AVGTS, CUMTS, MAXTS]

Panel Options

#	Hits	Visitors	Tx. Amount	Data
	421,365,014 Max: 231,237,070 Min: 1	2,069,347 Max: 429,697 Min: 1	2.33 TiB Max: 482.67 GiB Min: 226 B	139 Total
1	382,851,884 (90.86%)	1,598,615 (77.25%)	2.18 TiB (93.34%)	EU Europe
2	25,160,584 (5.97%)	244,987 (11.84%)	61.21 GiB (2.56%)	AS Asia
3	9,117,585 (2.16%)	9,229 (0.45%)	55 MiB (0.00%)	Unknown
4	3,114,473 (0.74%)	182,589 (8.82%)	90.75 GiB (3.80%)	NA North America
5	925,733 (0.22%)	24,779 (1.20%)	5.43 GiB (0.23%)	SA South America
6	150,946 (0.04%)	8,314 (0.40%)	1.04 GiB (0.04%)	AF Africa
7	43,804 (0.01%)	832 (0.04%)	654.03 MiB (0.03%)	OC Oceania

#	Hits	Visitors	Tx. Amount	Data
	421,365,014 Max: 417,831,194 Min: 1	2,133,595 Max: 2,008,935 Min: 1	2.33 TiB Max: 1.88 TiB Min: 0 Byte	30,303 Total
1	417,831,194 (99.16%)	2,008,935 (94.16%)	1.88 TiB (80.38%)	-
2	1,398,553 (0.33%)	1,462 (0.07%)	5.5 GiB (0.23%)	https://repository.egi.eu/sw/production/cas/1/current/tgz/
3	939,777 (0.22%)	305 (0.01%)	451.01 GiB (18.87%)	https://repository.egi.eu/sw/production/umd/4/sl6/x86_64/update
4	374,385 (0.09%)	3,597 (0.17%)	2.25 GiB (0.09%)	https://repository.egi.eu/sw/production/cas/1/current/RPMS/
5	337,148 (0.08%)	309 (0.01%)	2.29 GiB (0.10%)	https://repository.egi.eu/sw/production/umd/4/centos7/x86_64/u
6	159,250 (0.04%)	962 (0.05%)	1.62 GiB (0.07%)	http://194.210.120.165
7	26,971 (0.01%)	6,605 (0.31%)	12.5 MiB (0.00%)	https://repository.egi.eu:443/sw/testing/

14/08/2022 to 11/06/2023

Architecture

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 in production:**
  - **3 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**

New architecture (next)

Future:

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

UMD/CMD new Workflow

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

Approved the Release (Testing/Production repository)

Tracking of the workflow all based on git

Frontend: https://egirepo.a.incd.pt/
Backend: https://egirepo.a.incd.pt/software/umd/

New Functionalities:

- IPV6 compliant
- New backend behind a proxy (HAProxy)
  - https://repository.egi.eu/sw/production/ (prod old)
  - https://egirepo.a.incd.pt/software/umd/5/ (beta new)
- High Availability
- Full automatic process until testing
- Testing -> production (manual git commit)

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

Nexus

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 and **Release Candidate**

Nexus

Yum repositories (new structure)

Production

```
[UMD-5]
name=UMD 5  (Alma Linux 9)
baseurl=https://egirepo.a.incd.pt/software/umd/5/al9/release/$basearch
protect=1
enabled=1
# To use priorities you must have yum-priorities installed
priority=1
gpgcheck=1
gpgkey=https://egirepo.a.incd.pt/repository/umd/UMD-5-RPM-PGP-KEY
```

EPEL 9 required

UMD higher priority than EPEL

Priorities already part of DNF

Non official link

egirepo.a.incd.pt [will become] repository.egi.eu

Nexus

Yum repositories (new structure)

Testing

```
[UMD-5-testing]
name=UMD 5  (Alma Linux 9)
baseurl=https://egirepo.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://egirepo.a.incd.pt/umd/5/UMD-RPM-PGP-KEY
```

Non official link

egirepo.a.incd.pt [will become] repository.egi.eu

Nexus

Yum repositories (new structure)

External Contribution (new)

```
[UMD-5-contrib]
name=UMD 5  (Alma Linux 9)
baseurl=https://egirepo.a.incd.pt/software/umd/5/contrib/$basearch
protect=1
enabled=0
# To use priorities you must have yum-priorities installed
priority=2
gpgcheck=1
gpgkey=http://egirepo.a.incd.pt/umd/5/UMD-RPM-PGP-KEY
```

Non official link

egirepo.a.incd.pt [will become] repository.egi.eu

Frontend
New Design

Frontend
New Design

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

Testbed:
https://egirepo.a.incd.pt/

Frontend

Testbed:
https://egirepo.a.incd.pt/

Frontend

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 • published

UMD 4.15.0 is an update release of UMD 4. It includes StoRM 1.11.21, lcmaps-plugins 1.8.1, CERN Frontier 4.15.2, dmlite 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 • published

UMD 4.14.10 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

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://egirepo.a.incd.pt/

Frontend

Software Catalog

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

apel.apel-ssm-2.3.0 CMD-OS-1.3.0 • published 2020-02-18 11:34:44

Secure Stomp 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.apel-1.8.1 CMD-OS-1.3.0 • published 2020-02-18 11:34:44

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

undefined capabilities File Management Resource Manager

ifca.caso-1.4.0 CMD-OS-1.3.0 • published 2020-02-18 11:34:44

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

undefined capabilities File Management Resource Manager

infoprovider.cloud-info-provider-0.12.0 CMD-OS-1.3.0 • published 2020-02-18 11:34:44

Testbed:
https://egirepo.a.incd.pt/

Frontend

dcache.dcache 6.2.24

deployed • UMD 4.15.0 • published 2021-07-23 13:39:45

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

Notes https://www.dcache.org/old/downloads/1.9/release-notes-6.2.shtml

Installation --
Additional Details --

Documentation Links

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

Repository Url
/sw/production/umd/4

Contacts
juergen.starek@desy.de

Target platforms (0) | Issues (0) | Change log

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

Testbed:
https://egirepo.a.incd.pt/

UMD-5 (first release plan)

- List of products for al9 (provisory):
  - BDII and site-bdii
  - Gfal2
  - Dcache
  - Globus (evaluation)
  - HTCondor-CE
- First release planned over July/August (new date)
- Creation of a non-supported Rocky8 repository containing all relevant middleware packages (request from WLCG)

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.