Rucio 1.31 release roadmap

"Donkeys of the Caribbean"

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on behalf of the Rucio team

RUCIO

SCIENTIFIC DATA MANAGEMENT

Release plan

- Three feature releases in 2023
  - 1.31   "Donkeys of the Caribbean"   March 2023
  - 1.32 LTS   "The Good, The Bad and the Donkey"   July 2023
  - 1.33   "Eternal Sunshine of the Donkey's Mind"   November 2023
- LTS support period
  - ~~1.23 will be supported until **2022-07**~~
  - 1.26 will be supported until **2023-07**
  - 1.29 will be supported until **2024-07**
  - 1.32 will be supported until **2025-07**

Component leads

- Need to update the leads of some components
- Will contact people over the next days

Authentication [3 → 6] @mlassnig

Priorities
- Create ongoing Token architecture document

Tasks
-

Ongoing long term tasks
- New token workflows with storage-specific authorization #4791

Ideas
-

Clients [8 → 8]
@mlassnig, @rcarpa, @joeldierkes

Priorities
-

Tasks
-

Ongoing long term tasks
-

Ideas
-

Consistency checks [4 → 3]
@faluchet, @ivmfnal

Priorities

- ~~Further integration of CMS-style consistency checking~~ ~~#5438~~
  - ~~Changes included; Need integration in toolkit now~~

Tasks

- Populate consistency-enforcement repo with common and CMS code
-

Ongoing long term tasks

- Auditor upgrade #3437

Ideas

-

Core & Internals [23 → 20]
@bari12, @mlassnig

Priorities
- Document and cleanup discrepancies between surl and lfn2pfn algorithms #5129
- ~~Reduce to <20 issues~~
- ~~Introduce heartbeat handler to all daemons #5443~~
- Tickets <15

Tasks
-

Ongoing long term tasks
-

Ideas
-

Data Pre-Placement [0 → 0] @bari12

Priorities
-

Tasks
-

Ongoing long term tasks
-

Ideas
- Re-write C3PO with a plugin-approach

Database [6 → 3]
@mlassnig, @bari12

Priorities
- Exchange of function-based indices with normal indices #5440
  - Identify list of indices
  - Change at least one for this release
- Track SQLAlchemy 2.0 migration progress

Tasks
-

Ongoing long term tasks
- Migration of all queries to new SQLAlchemy syntax (1.4 -> 2.0) #5247
  - Is not finished, how to proceed?

Ideas
-

Dataset deletion [3 → 3] @bari12

Priorities
- Allow undertaker to delete file dids #5154

Tasks
-

Ideas
-

Ongoing long term tasks
-

Deletion [4 → 6]
@cserf, @rcarpa

Priorities
- Foreign key error #5733

Tasks
- Improve globus deletion workflows #4575

Ideas
-

Ongoing long term tasks
-

DIRAC [1 → 1]
@cserf

Priorities
- ●

Tasks
- ●

Ideas
- ●

Ongoing long term tasks
- ●

Docker & Kubernetes [2+4+4 → 1+6+4]
@mlassnig, @rcarpa, @ericvaandering

Priorities
-

Tasks
- Automatic scaling of kubernetes daemons
- Helm-chart testing #h/95

Ideas
-

Ongoing long term tasks
-

Documentation [12+3 → 8+3]
@bari12, @joeldierkes

Priorities

- Create a good and clean Rucio installation (Server+daemons) page #5445
- ~~Remove old documentation and forward to the new one~~ #5446

Tasks

- Some re-organization of documentation needed
  - Most basic workflows, installation etc. need to be explained
- Some pages do not use verbose as they should

Ongoing long term tasks

-

Ideas

-

Functional tests [2→ 2] @cserf

Priorities
-

Tasks
- Add documentation

Ongoing long term tasks
-

Ideas
-

Lifetime model [1 → 1] @dchristidis

Priorities
-

Tasks
-

Ongoing long term tasks
-

Ideas
- Introduce Follower mode
  - ATLAS: Should at least advertise it

Messaging [4 → 4] @mlassnig

Priorities
- Replace hermes1 with hermes2
- STOMP connections not closed by Hermes? #5894

Tasks
-

Ongoing long term tasks
-

Ideas
-

Metadata [5 → 4] @robbarnsley

Priorities

- Merge list_dids and list_dids_extended #5448

Tasks

- Update and re-design core.meta module #5224
- ~~Finalize external postgres extension #5629~~

Ongoing long term tasks

-

Ideas

-

Monitoring & Logging [4 → 3]
@maany, @mlassnig, @rcarpa

Priorities
- ~~Further reduce logging~~ #5449
- ~~Rework prometheus/statsd metric names~~ #5804

Tasks
- ~~Prometheus client groundwork has been done~~
  - ~~Needs more metrics and work~~

Ongoing long term tasks
-

Ideas
-

MultiVO [1 → 1] @Thysk

Priorities
- ●

Tasks
- ●

Ideas
- ●

Ongoing long term tasks
- ●

Policies [3 → 3]
@jamesp-epcc

Priorities
- ●

Tasks
- ●

Ideas
- ●

Ongoing long term tasks
- ● Switching permissions/schema/policy to policy packages [#4798](#4798)

Probes & Alarms [1+4 → 1+3]
@dchristidis, @ericvaandering

Priorities
- ~~Contributor guide~~ ~~#p/84~~

Tasks
- Move semi-required probes (e.g. obsolete calculation) to abacus daemon
- Convert CMS probes to SQLAlchemy

Ongoing long term tasks
-

Ideas
- ~~Long Term: Moving away from Nagios probes~~
- Moving probes to prometheus

Protocols [5 → 5]
@mlassnig, @rcarpa

Priorities

- ~~Create a documentation page about integrating S3-type storage~~ #5450
- ~~Add support for S3 virtual hosted buckets~~ #5451

Tasks

- Some updates needed for xrootd implementation

Ongoing long term tasks

-

Ideas

- Rucio without rsemanager.py

Rebalancing [0 → 0]
@cserf

Priorities
-

Tasks
-

Ongoing long term tasks
-

Ideas
-

Recovery [2 → 3]
@cserf

Priorities
-

Tasks
-

Ongoing long term tasks
-

Ideas
- Archive support for necromancer
  - TPC transfer for archive contents?
  - Student project

Release management [4 → 4] @bari12

Priorities

- ~~Add aliases for all daemons to the release~~ #5131
- ~~Compile a clear list where the daemon names need to be changed~~ #5132
  - ~~Helm charts~~
  - ~~Monitoring~~
  - ~~...~~

Tasks

-

Ongoing long term tasks

- Rename daemons to understandable names #4795

Ideas

- Dependency testing of target platform

Replicas [7 → 9] @mlassnig

Priorities
-

Tasks
- ~~Add distance based sorting~~ ~~#4020~~
- ~~nrandom functionality~~ #5418

Ongoing long term tasks
-

Ideas
-

REST & API [7 → 7]
@bziemons, @bari12

Priorities
-

Tasks
-

Ideas
- Look into pagination for (heavy) streaming APIs
- Start thinking about API 2.0

Ongoing long term tasks
- Versioning for the REST API
  [#4796](#)

Rules [16 → 17]
@bari12

Priorities

- ~~Fix consistency of rule grouping dependent on order of ATTACH #5251~~
- Bug with rule consistency on CONTAINERS #5447
- Reduce tickets <13

Tasks

- Reevaluate rule option: if the RSE expression doesn't point to the same RSEs anymore we should be able to reevaluate the rule. Would help a lot for decommissioning sites #536

Ongoing long term tasks

- Introduction of QoS to Replication Rules #3419

Ideas

- Possibility of a rule dry-run

Subscriptions [5 → 1] @cserf

Priorities
-

Tasks
- ~~Include the creation of delayed rules in subscriptions~~

Ideas
-

Ongoing long term tasks
-

Testing [18 → 17]
@maany, @joeldierkes

Priorities
- Write a developers testing guideline/manual #5452
- Add python 3.10 testing to CI #5145
- ~~Re-factor the different test workflows to a common one~~
- ~~Switch test to pytest~~

Tasks
- ~~Improving usability of CI tests locally~~ #4047
- More tests to factories

Ongoing long term tasks
- Mypi static code analysis #4455
  - How to continue?

Ideas
-

Traces [5 → 5]
@mlassnig, @maany

Priorities
-

Tasks
-

Ideas
-

Ongoing long term tasks
- Trace schema enforcement

Transfers [9 → 14]
@rcarpa, @ericvaandering

Priorities
- ~~Re-work/cleanup distance table~~ [#5454](#)
- ~~Re-factor conveyor throttler~~

Tasks
- Remove full_mode from conveyor-receiver [#5453](#)

Ideas
-

Ongoing long term tasks
-

WebUI [2+29 → 2+29]
@maany, @cserf

Priorities
- ~~Release a beta webui 2.0 beta~~
  - ~~X509, userpass, oidc auth~~
  - ~~High priority views~~
  - ~~User dashboard~~
- Collect feedback from running the atlas webui test instance
- Setup a release process that aligns with the main rucio releases #w/121
- Increase test coverage
- Evolve architecture (Clean, Hexagonal, DDD) #w/117

Tasks
-

Ongoing long term tasks
- WebUI 2.0

Ideas
-