

# dq2-\* tools / rucio tools

ADC Technical Interchange Meeting Chicago

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# DQ2 clients : Reminders

- DQ2 clients releases history :
  - 2.4.1 : Support of the new naming convention for dq2-put. Previous releases have been blocked.
  - 2.5.0 : First release that supports the Rucio File Catalog. Since all Sites have been migrated to Rucio File Catalog, older releases are broken.
  - 2.6.0 (Rucio aware release) : Current stable release that can talk to both the DQ2 and Rucio backends.
  - 2.6.1 : Bug fix release foreseen for November. Hopefully last DQ2 release.

## DQ2 clients : Rucio aware release

- All the DQ2 API methods have been implemented in Rucio (RucioDQ2 API).
- The RucioDQ2 API takes the same arguments as the pure DQ2 API but translates DQ2 concepts into Rucio ones.
- Mapping between DQ2 and Rucio :
  - DQ2 subscriptions → Rucio rules.
  - DQ2 replicas → Rucio rules/locks.
  - DQ2 exceptions → Rucio exceptions.

# DQ2 clients : DQ2 CLI

- Client is available on ALRB, just setup : localSetupDQ2Client 2.6.0.

```
# dq2-ls -fp -L FZK-LCG2_SCRATCHDISK user.serfon.test.16092014.1

user.serfon.test.16092014.1
srm://atlassrm-fzk.gridka.de/pnfs/gridka.de/atlas/disk-only/atlasscratchdisk/rucio/user/serfon/8b/da/file2.0cb
srm://atlassrm-fzk.gridka.de/pnfs/gridka.de/atlas/disk-only/atlasscratchdisk/rucio/user/serfon/ab/03/file3.0cb
srm://atlassrm-fzk.gridka.de/pnfs/gridka.de/atlas/disk-only/atlasscratchdisk/rucio/user/serfon/6d/cc/file1.0cb
total files: 3
local files: 0
total size: 3145728
date: 2014-09-16 15:49:49

# dq2-get user.serfon.test.16092014.1
...
Number of datasets requested: 1
Total number of files in dataset: 3
Number of files or lfn patterns specifically requested by user: 0
Number of file download attempts by dq2-get (not including retrials): 3
Number of successful file download attempts: 3
Number of failed file download attempts: 0
Number of files where validation was skipped: 0
Number of download retrials: 0
Finished
```

## DQ2 clients : Support

- The DQ2 clients will be supported for X months after the decommissioning of DQ2.
  - As a developer, would like to have X as short as possible (3 months).
  - Operation people (more conservative) probably want to keep them longer.
  - What about 6 months ?
- During that period, users/services will be asked to migrate to the rucio clients.
- Software tutorial will have to introduce Rucio tools instead of DQ2.

# Rucio clients

- The Rucio clients provide the same functionalities as the DQ2 clients, but can only show datasets/containers in Rucio.
- Quick release cycles : New release every 2 weeks, current version 0.2.0
- Available on ALRB (latest release installed 0.1.35).
- Two clients :
  - rucio : for end-users (e.g. rucio upload, rucio download).
  - rucio-admin : to support admin operations (add RSE, accounts, set quota...).

# Rucio clients : rucio download

```
(rucio)[voatlas306] /afs/cern.ch/user/d/ddmsr01 > rucio download user.serfon:user.serfon.test.16092014.1
2014-10-13 15:58:43,660 INFO [Starting download for user.serfon:user.serfon.test.16092014.1]
2014-10-13 15:58:43,660 DEBUG [Getting the list of replicas]
2014-10-13 15:58:43,781 DEBUG [Choosing RSE]
2014-10-13 15:58:43,950 DEBUG [Getting file user.serfon:file1.0cbeb793a59342bfb21f397ab6e718dd from FZK-LCG2_SCRATCHDISK]
File downloaded. Will be validated
File validated
2014-10-13 15:58:46,674 INFO [File user.serfon:file1.0cbeb793a59342bfb21f397ab6e718dd successfully downloaded from FZK-LCG2_SCRATCHDISK]
2014-10-13 15:58:46,675 DEBUG [Choosing RSE]
2014-10-13 15:58:46,675 DEBUG [Getting file user.serfon:file2.0cbeb793a59342bfb21f397ab6e718dd from FZK-LCG2_SCRATCHDISK]
File downloaded. Will be validated
File validated
2014-10-13 15:58:48,698 INFO [File user.serfon:file2.0cbeb793a59342bfb21f397ab6e718dd successfully downloaded from FZK-LCG2_SCRATCHDISK]
2014-10-13 15:58:48,699 DEBUG [Choosing RSE]
2014-10-13 15:58:48,700 DEBUG [Getting file user.serfon:file3.0cbeb793a59342bfb21f397ab6e718dd from FZK-LCG2_SCRATCHDISK]
File downloaded. Will be validated
File validated
2014-10-13 15:58:50,635 INFO [File user.serfon:file3.0cbeb793a59342bfb21f397ab6e718dd successfully downloaded from FZK-LCG2_SCRATCHDISK]
2014-10-13 15:58:50,636 INFO [Download operation for user.serfon:user.serfon.test.16092014.1 done]
-----
Download summary
DID user.serfon:user.serfon.test.16092014.1
```

- rucio download support multi-protocols.
- Big difference with DQ2 : scope is mandatory.

# Other clients

- curl :

```
curl -O -L --capath /etc/grid-security/certificates/ --cacert $X509_USER_PROXY --cert $X509_USER_PROXY
https://rucio-redirect-prod-01.cern.ch/redirect/mc12_8TeV/NTUP_SMWZ.01188279._000007.root.2
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 2010M  100 2010M    0     0  4760k      0  0:07:12  0:07:12  --:--:-- 3752k
```

- aria2c, Davix...

```
root [0] TFile *f = TFile::Open("https://rucio-redirect-prod.cern.ch/redirect/mc12_8TeV/NTUP_COMMON.015
root [1] TTree *t = (TTree*)f->Get("physics")
root [2] t.GetEntries()
(const Long64_t)5000
```