Activity report (ADC)

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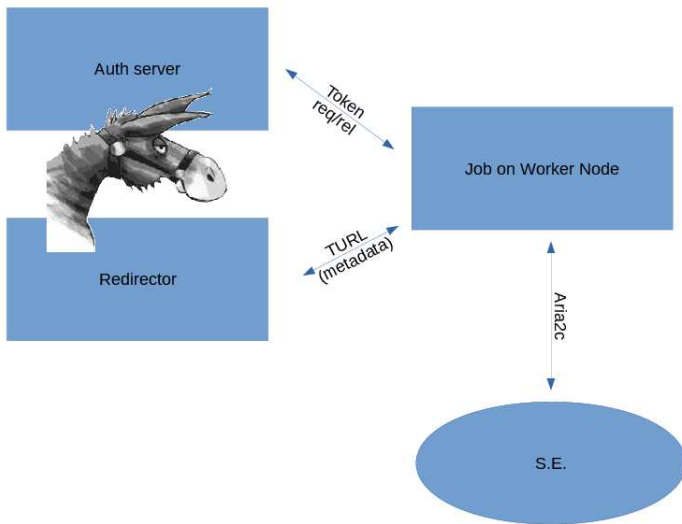# Content

Vincenzo Lavorini   Activity report (ADC)

Fast and reliable access in reasonably long jobs essential for any kind of (HEP) data analysis job ATLAS Grid setup:

- Input data access is configured on a site by site basis depending on the storage element (SE) type:
    - dcap, copy-to-scratch, file, xrootd, FAX (federated xrootd)
    - DPM usually copy-to-scratch or lately xrootd
    - dCache uses usually dcap

Study industry standard protocol for input

- HTTP/WebDAV
- same client and access protocol for every SE
- uses aria2c for stage in
- use Davix plugin for ROOT I/O

Stage-in process

1. Asks for token:
   - curl (...) -H "X-Rucio-Account: RUCIO_ACCOUNT" -X GET https://rucio-auth-prod.cern.ch/auth/x509_proxy
2. Uses token to get the metalink:
   - curl (...) -H "token" -H 'Accept: application/metalink4+xml' https://rucio-lb-prod.cern.ch/replicas/scope/filename

```xml
<xml version="1.0" encoding="UTF-8">
<metalink xmlns="urn:ietf:params:xml:ns:metalink">
 <file name="NAME">
   <identity>SCOPE:NAME</identity>
   <hash type="adler32">CODE</hash>
   <size>XXXXX</size>
   <url location="SITE1" priority="1">URL /url>
   <url location="SITE2" priority="2">URL /url>
   <url location="SITE2" priority="3">URL /url>
 </file>

</metalink>
```

Aria2c dowloader

- Lightweight tool which uses HTTP-WebDAV protocol
- It uses the metalink, and can download from multiple sources

HammerCloud jobs running

Presented at CHEP2015:
http://indico.cern.ch/event/304944/session/3/contribution/
157/material/slides/0.pdf

Monitoring the transfers between sites

- Every day a cron job select 1/7 of the ATLAS grid sites which have DATADISKs (mainly T1s and T2s)
- Then sends 10 files of 1 GB each to all the other sites (110)
- to be extended to all the other T3s

```
http://dashb-atlas-ssb.cern.ch/dashboard/request.py/
siteview#currentView=Network+measurements&highlight=false
```

T0 tape transfers monitoring

- To monitor the transfer time from ATLAS to T0 tapes
- Only transferred files' informations are plotted (4, 8, 12, 24, 48, 128 hours)
- There are also plots for the timings on the FTS
- There are also status informations on the ongoing transfer (by dataset)

```
http://adc-mon.cern.ch/T0_Transfers_Timing/latest/
overview.html
```

T0 to T1 export

- Similar to the previous
- Only last 48 hours plots

```
http://adc-mon.cern.ch/T0_Transfers_Timing/t02t1/latest/
overview.html
```

Lifetime Model

- DATADISKs, expecially at T1s, are always in need of free space
- Some datasets become useless after a certain time
- We check if delete them based on Two parameters: lifetime and extension time
- After 3/4 of the lifetime we check if they can be deleted from disks
- Next slide example with MC AODs datasets

MC AOD

Lifetime: 12 months
Extension: 6 month

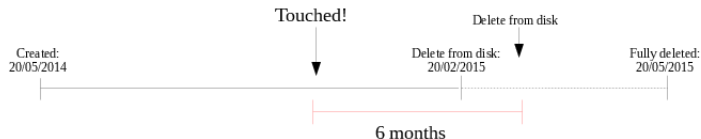If touched: will take care of the extension.

Touched!

Created:
20/05/2014

Delete from disk:
20/02/2015

Fully deleted:
20/05/2015

6 months

Same as the "not touched" case

MC AOD

Lifetime: 12 months
Extension: 6 month

If touched: will take care of the extension.

Touched!

Delete from disk

Created:
20/05/2014

Delete from disk:
20/02/2015

Fully deleted:
20/05/2015

6 months

The deletion from disk occours only after six months from the read action

MC AOD

Lifetime: 12 months
Extension: 6 month

If touched: will take care of the extension.

Full deletion six months after the read action, but for reading we have to get back from tapes
(very few cases foreseen)