WLCG DOMA BDT
May 2023 update

Brian Bockelman, Maria Rios, Petr Vokac

TAPE REST deployment status

- Access to tape – last SRM dependency / almost last Globus dependency
- TAPE REST API specification – uniform tape access for CTA, dCache, StoRM
- Already supported by FTS, CTA and dCache – stress test end of 2022
  - StoRM pre-production implementation now also available on INFN-T1 testbed
- ATLAS already started to use TAPE REST for production T0/T1 tape transfers
  - CTA at CERN – early March planning, enabled (OTG0076390), mid-April production
  - dCache at FZK (GGUS:160869)
    - started with LOCALGROUPDISK and 8.2.17, few issues discovered & fixed
      - short path 256 -> 1024 chars changed in **8.2.22** (improved in 9.2 dCache#7104)
    - configuration – site specific JSON published on well-known URL + firewall for REST endpoint
    - tuning of transfer parameters – default values updated in 8.2.20 (WLCG BDT meeting)
  - FTS – different retention for transferred files compared to SRM FTS-1913
- ATLAS contacted T1 and ask them for deployment plans (preferably by end 23)
  - RAL CTA also moved to TAPE REST (this may allow to remove multi-hop via Echo in future)

Further TAPE development

- Improving data placement for TAPE data reads
  - Archival metadata tests at FZK
  - Standard way of passing archival metadata
    - CTA presentation at ATLAS S&C #75 Week in two weeks
- Tape access with tokens
  - `storage.stage` behavior clarified recently (WLCG BDT meeting)
  - hoping to see news at tomorrows dCache Workshop
    - WLCG TAPE API & Token presentations

Storage token configuration status

- CMS already started ask sites to configure tokens on production SEs
  - CMS SAM/ETF probes extended to use tokens (access wlcg-doma-tpc e-group)
    - WebDAV: se_webdav.py (documentation)
    - xrootd: se_xrootd.py (documentation)
  - started with EOS and XRootD sites (XRootD 5.5.4)
  - followed by dCache sites

  audience:
  https://wlcg.cern.ch/jwt/v1/any

- ATLAS
  - production dCache enabled for tokens and https&roots (PRAGUELCG2) a month ago
    - few issues found & fixed (e.g. issue#7129 with xroot protocol)
    - work in progress on (simle) ATLAS SAM/ETF probes for storage access with tokens
  - HTTP token support enabled on INFN-T1 StoRM
    - storage namespace layout for disks and tapes vs. one gateway
  - EOS ATLAS with HTTP tokens enabled
    - troubles with tokens (ZTN) enabled for roots protocols – configuration reverted
  - new ATLAS IAM optional groups used by IAM scope policies
    - group atlas/policy/storage-test - for ATLAS SAM/ETF probes and clients allowed to test SE
    - `storage.*` gives client access to /atlasdatadisk/SAM/ + /atlasscratchdisk/SAM/
      - temporarily(?) also to /atlas:datadisk/SAM/ and /atlas:scratchdisk/SAM/

dCache 8.2 mandatory for ATLAS & CMS

- WLCG JWT token support already in 7.2, but with different "scitoken" plugin
- uniform token support in "oidc" plugin comes with WLCG JWT support in 8.2
  - we don't want to deal with two different configurations
- avoid other troubles with older releases (e.g. related to old CaNL)
- current status from WLCG CRIC:
  - 8.2.x - 48% (32 sites)
  - 7.2.x - 44% (29 sites)
  - 6.2.x - 2% (1 sites)
  - 5.2.x - 6% (6 sites)
- dCache developers recommends latest version of stable dCache for token support
  - e.g. 8.2.17 came with security fix for tokens
  - 8.2.22 include another fix for sites that rely on symlinks

Pre-signed URL discussion

- LHCb presented idea to use *industry standard / S3* way to access storage (WLCG BDT Meeting)
- Still a lot of open questions
  - Our infrastructure is different than Amazon (hundreds sites / orgs)
  - It may not be possible to use (S3) standard without extension
- A lot of effort already invested in WLCG tokens
  - Not everything is yet clear but we should focus
  - resolve use-cases that are not well covered (understood) by WLCG JWT tokens (e.g. WLCG-AuthZ-WG/#22)
- ATLAS & CMS will use WLCG JWT tokens for DC24 and we'll push service providers in this direction

Rucio & FTS token design

- Developers working on design document
- On June WLCG DOMA BDT agenda
  - open questions related to WLCG JWT profile

Misc

- IAM 1.8.2 release hopefully this week
  - performance limits / scalability / robustness needs to be better understood
    - CMS expects hundreds of tokens per hour
    - ATLAS roughly thousands per hour (with our current limited knowledge)
    - It is still too easy for one user to cause Halloween troubles
  - IAM built on top of OpenID Connect reference implementation MitreID
  - Database design causing performance issuer, e.g. iam#579, iam#580
    - Too much state stored in DB (e.g. access tokens iam#537)