Preparation for “Data Challenge 24”
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DC24 Objectives

Objectives
- To monitor system performance, stability, scalability
- To identify existing or potential bottlenecks
- To identify operational overhead
- To collect site experience and best practices

Non-Objectives
- Fixing on-the-flight sites issues
  - Some configuration changes might apply, though
dCache Built-in Java Flight Recorder

- A low overhead profiler built into JVM
- Starting dCache 7.2 attach listener is enabled by default
- Starting dCache 9.1 added simple admin commands to start/stop recording
- The collected recordings can be shared with developers for later analysis
Tokens... What’s wrong with X509?

- Grid is currently X.509 based, using VOMS to identify groups of people.
- Mapping between X.509 and site-local resource identifiers (typically uids / gids) is often lousy and difficult to predict.
- Updating permissions can be a slow, manual process.
- Jobs often run with delegated credentials that have full permissions.
  - A stolen credential can do anything the user is allowed to do.
Tokens …

• ID Tokens
  • Provides user identity and/or group membership
    \textit{eduPersonPrincipalName}: tigran@desy.de

• Access Tokens
  • Tells what token holder can do
    \textit{storage.read:/users/tigran}
"wlcg.ver": "1.0",
"sub": "2ea41db8-ecd7-47a1-8f86-7ac97ebcc466",
"aud": "https://wlcg.cern.ch.jwt/v1/any",
"nbf": 1662472763,
"scope": "openid profile storage.read:/ storage.create:/",
"iss": "https://cms-auth.web.cern.ch/"
"exp": 1662476363,
"iat": 1662472763,
"jti": "88a1f764-8311-4210-a8cd-d5604b942d8c",
"client_id": "106ceb94-e89c-421a-9c7d-1424e2fa4668",
"wlcg.groups": [
  "/cms",
  "/cms/dcms",
  "/cms/integration"
]
Tokens carrying `storage.*` OR `compute.*` scopes are explicit AuthZ tokens and suspend from any further permission checks.
gplazma.oidc.provider!\n  cms=https://cms-auth.web.cern.ch/ \n  -profile=wlcg \n  -authz-id="group:cmsuser gid:4050" \n  -prefix=/pnfs/desy.de/cms/tier2/
gplazma.oidc.provider!

cms=https://cms-auth.web.cern.ch/ \
-profile=wlcg \
-authz-id="group:cmsuser gid:4050" \
-prefix=/pnfs/desy.de/cms/tier2/
gplazma.oidc.provider!

cms=https://cms-auth.web.cern.ch/ \\ 
-profile=wlkg \ 
-authz-id="group:cmsuser gid:4050" \ 
-prefix=/pnfs/desy.de/cms/tier2/
gplazma.oidc.provider!

dCache Config

```plaintext
gplazma.oidc.provider!\
```
What We are Interested In

- Bulk-API for deleting test data
  - We want get rid on SRM, isn’t it?
- dCache services on RHEL9 and clones
  - Developer tests ever scale to production size
- Java 17 as runtime
  - Better performance, low CPU usage
- Container-based deployments
- Different dCache pools deployments
  - CephFS, ZFS-DRAID
Summary

- dCache dev team sees DC24 as an opportunity for large-scale data transfer test (no tape-api tests 😞)
- Token support is available for all token capable protocols: HTTP, REST (TAPE-API), Xroot
- We recommend sites to run dCache version 9.2 to benefit from the latest developments
- We recommend sites to collect as much log information as possible for later analysis
Thank You!

More info:
https://dcache.org

To steal and contribute:
https://github.com/dCache/dcache

Help and support:
support@dcache.org, user-forum@dcache.org