OSG-LHC Updates

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Pictured: Tomatoes being thrown at a knight (D&D Saturday Morning Cartoon)

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IRIS-HEP Strategic Plan

Areas of opportunity

- Support for heterogeneous architectures (e.g., ARM)
- Advancing container best practices (e.g., rootless images)
- HPC integration
- Hosting institute images (partnership with SOTERIA)

OSG 23

- OSG release series will be tightly aligned with HTCSS major versions moving forward
- Aiming for an August 2023 release
  - And Q3 releases each subsequent year
  - Two release series/HTCSS major versions supported at a time
- Expected major packages for the initial release
  - HTCSS 23.0.0 in main; HTCSS 23.1.0 in upcoming
  - XRootD 5.6 in main
- OSG 23 will support Enterprise Linux 8 and 9
- OSG 3.6 will be supported until at least June 2024

EL9 Future

RedHat stopped uploading RHEL RPMs publicly in June 2023, directing users to CentOS Stream for package sources

- Alma is still exploring options, will continue to provide updates as quickly as possible https://almalinux.org/blog/our-value-is-our-values/
- Rocky Linux plans on using the power of the GPL https://rockylinux.org/news/keeping-open-source-open/
- SUSE is investing $10mil+ to create a RHEL fork https://www.suse.com/news/SUSE-Preserves-Choice-in-Enterprise-Linux/
- Oracle enters the room https://www.oracle.com/news/announcement/blog/keep-linux-open-and-free-2023-07-10/

EL9 Future

A Path Forward for CERN IT and WLCG

- ➔ Still in the “neutral zone”, closely following the evolution
  - ➢ SUSE just announced to fork publicly available RHEL and fund it w/ 10M$
  - ➢ Will there be timely updates and releases?
  - ➢ What is the model how these are provided?
  - ➢ CERN IT Linux team is in touch with AlmaLinux upstream
- ➔ Too early to revise our RHEL / AlmaLinux offering
  - ➢ Clearly, we need clarity at some point … and likely a Plan B
  - ➢ Next minor release of RHEL (autumn)?
- ➔ CERN IT committed to work with the WLCG community

https://indico.cern.ch/event/1225114/contributions/5476138/attachments/2682993/4654533/CERN%20IT%20Linux%20Strategy%20-%20GDB%2012%20July%202023.pptx.pdf

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CA Certificates

- InCommon IGTF CA V3 released last month
  - InCommon IGTF CA V1 and all issued certs expires at the end of the year
  - InCommon IGTF CA V2 is NOT in the IGTF distribution but we have seen some institutions issue certs from this CA!
- CILogon X.509 plans to retire IGTF CAs (CILogon Basic, Silver) after May 2025 (https://ca.cilogon.org/retirement)
- Known issues with certs issued by SHA1-signed IGTF CAs and the default EL9 crypto policy (https://opensciencegrid.atlassian.net/browse/SOFTWARE-5365)
  - osg-ca-certs-experimental2 RPM with potential workaround available in osg-testing for EL9

CA Certificates: dCache and EL9

Workaround does not appear to work for dCache/java-based software. Sample error:

```
Jul 11 10:28:47 atn12 dcache@webdav-atn12-Domain[106041]:
javax.net.ssl.SSLHandshakeException: Certificates do not conform to
algorithm constraints

…

Jul 11 10:28:47 atn12 dcache@webdav-atn12-Domain[106041]: Caused by:
java.security.cert.CertPathValidatorException: Algorithm constraints check
failed on signature algorithm: SHA1withRSA
```

CA Certificates: XRootD and EL9

Workaround still needs to be tested for XRootD, looking for volunteers!
Sample error:

```
220531 15:22:44 1336225 TPC_PullRequest: event=TRANSFER_FAIL,
local=/mnt/hpcdisk/atlasdatadisk/rucio/data18_hi/be/52/DAOD_HION9.29151562._00019
5.pool.root.1,
remote=https://atlaswebdav-kit.gridka.de:2880/pnfs/gridka.de/atlas/disk-only/atla
sdatadisk/rucio/data18_hi/be/52/DAOD_HION9.29151562._000195.pool.root.1?copy_mode
=pull, user=ddmadmin, bytes_transferred=0; HTTP library failure: Peer certificate
cannot be authenticated with given CA certificates

220531 15:23:49 1348707 TPC_PullRequest: event=TRANSFER_FAIL,
local=/mnt/hpcdisk/atlasdatadisk/rucio/data18_hi/be/52/DAOD_HION9.29151562._00019
5.pool.root.1,
remote=https://webdav-at2.pic.es:8446/t2atlasdatadisk/rucio/data18_hi/be/52/DAOD_
HION9.29151562._000195.pool.root.1?copy_mode=pull, user=ddmadmin,
bytes_transferred=0; HTTP library failure: Peer certificate cannot be
authenticated with given CA certificates
```

Token Transition

- Remaining OSG Software work in areas of training, documenting troubleshooting strategies, and work with upstream to improve tooling and logging
- See Brian's HTCSS token/security debugging talk later today!
- Run through our token documentation!
  - Token overview: https://osg-htc.org/docs/security/tokens/overview/
  - How to get tokens from IAM using oidc-agent (similar to ssh-agent), how to inspect your token, etc. https://osg-htc.org/docs/security/tokens/using-tokens/

Token Transition

Playing with tokens (hint this probably won't work)

1. Retrieve your personal access token with oidc-agent
   a. Store it in a standard location: https://osg-htc.org/docs/security/tokens/using-tokens/#using-tokens
2. Determine your token issuer + subject
   a. STOP! Do you have compute scopes?
3. On your CE, map your issuer + subject to your local user
4. Run condor_ce_reconfig
5. Run condor_ce_trace as yourself

Questions?

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