

# DOMA TPC

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GDB

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# TPC Phase 2

- Phase 2 (deadline 30 June 2019): All sites providing more than 3PB of storage to WLCG experiments are required to have one non-GridFTP endpoint in production.
  - All sites have non-GridFTP endpoints used for other activities than TPC
    - xrootd
    - http(s)
  - Not used for TPC yet



# Storage baselines

- Xrootd: 4.9.1
- DPM: 1.12.0
- StoRM: 1.11.15
- Dcache:
  - WebDAV: 3.2.39, 4.0.31, 4.1.25, 4.2.17, 5.0.0
  - Xrootd: 4.2 (without delegation), 5.2 (with delegation)
- EOS: 4.4.37



# Features

- Authorization
  - Xrootd: delegation
    - user proxy rather than servers or robot proxies
  - Http: tokens
- Checksums



# DOMA Tests

- Http smoke tests
  - Run once a day very detailed tests to pinpoint the exact problem of why the transfer might be failing
    - Push/pull
    - Capture detail diagnostic
    - Sys admins can run them manually to see the effect of changes
  - Xrootd version being worked on
- Rucio functional tests
  - Any site that asks to participate http/xrootd



# More sites

- We since March we have added a number of extra sites particularly to the functional tests
  - We need more production sites willing to upgrade to the baseline and enable the required features
  - Particularly DPM sites, for which there is already a WLCG organised TF sites can refer to.
  - ....but not only
    - Dcache sites can participate with almost every major release because most changes are backported.
    - Xrootd, EOS and StoRM are needed too



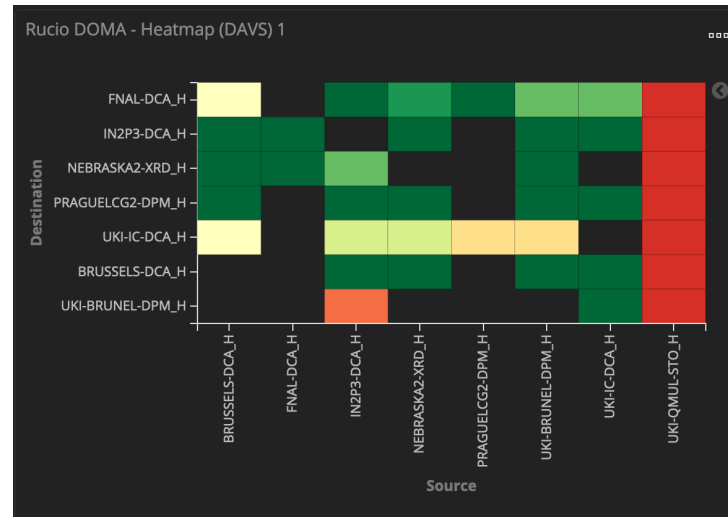
# DOMA tests



- Error pattern indicates problems are mostly the sites rather than protocol.
  - Either standard problems or configuration ones



# DOMA stress tests



- Stress tests
  - Only production sites with a baseline version of the storage
  - For http since January
    - >500TB / week across participating sites
  - Adapting now for xrootd too





# Extending to experiments

- CMS can add already non-gridftp protocols for TPC to phedex
- ATLAS needs development in rucio
  - Rucio feature to handle sites with different protocols preferences in AGIS is under development
  - Setting up stress tests in ATLAS
    - For now tests protocol is hardcoded (both http, xrootd)
    - Not yet “stressing”

	AGLT2_SCRATCHDISK	AUSTRALIA-ATLAS_SCRATCHDISK	BNL-OSG2_SCRATCHDISK	CA-VICTORIA-WESTGRID-T2_SCRATCHDISK	CERN-PROD_SCRATCHDISK	DESY-HH_SCRATCHDISK	UNI-BONN_LOCALGROUPDISK
AGLT2_SCRATCHDISK	-	100%	-	100%	100%	100%	100%
AUSTRALIA-ATLAS_SCRATCHDISK	0%	-	0%	0%	0%	0%	0%
BNL-OSG2_SCRATCHDISK	-	100%	-	100%	100%	75%	100%
CA-VICTORIA-WESTGRID-T2_SCRATCHDISK	100%	100%	100%	-	100%	0%	100%
CERN-PROD_SCRATCHDISK	0%	0%	0%	0%	-	0%	0%
DESY-HH_SCRATCHDISK	0%	0%	0%	0%	0%	-	0%
PRAGUELCG2_SCRATCHDISK	0%	0%	0%	0%	0%	0%	-
UKI-NORTHGRID-MAN-HEP_SCRATCHDISK	100%	100%	100%	100%	83%	83%	100%
UNI-BONN_LOCALGROUPDISK	100%	67%	0%	0%	0%	50%	100%



# FTS

- To enable TPC activities and monitor them correctly
  - specific versions of FTS/gfal2/xrootd and davix and new library in order to issue tokens have been installed
    - Baseline
      - FTS v 3.8.5
      - gfal2-plugin-http and gfal2-plugin-xrootd v 2.16.2
      - davix v 0.7.2
      - Xrootd v 4.9.0
      - x509-scitokens-issuer-client v 0.7.0
  - http streaming needs to be switched off to avoid ambiguity when monitoring TCP
    - This cannot be done yet until all sites can handle TPC in production



# Conclusions

- Getting there
- Sites upgrading to baseline will help to plug them in a more straightforward manner

