

# WLCG Novelties

JUNO Computing Review

22<sup>nd</sup> January 2021

# Monitoring the WLCG technical evolution

- Grid Deployment Board (GDB) monthly meeting
  - <https://indico.cern.ch/category/6890/>
- WLCG DOMA (Data Organization Management and Access) Working Groups
  - <https://indico.cern.ch/category/10829/>
  - TPC – Third Party Copy (SRM-less)
  - QoS – Storage Quality-of-Service
  - Access – Caching systems
- WLCG Workshops
  - <https://indico.cern.ch/category/7971/>
- Hepix Workshops
  - <https://indico.cern.ch/category/2510/>

# Hot Topics

- New protocols for Third Party Copy
- Retirements of the Globus Toolkit
- Moving away from x509 certificates towards token based authentication systems
- Storage Federations and Datalakes
  - RUCIO as a widespread tool to implement the policy driven data management
- New RedHat model for releasing Centos
  - Change of OS needed? (<http://cern.ch/go/sb6z>)
- New metrics for CPU performance
  - Benchmarking heterogeneous resources (i.e GPU)
  - HEPSPC → Hepix CPU Benchmark ( <https://twiki.cern.ch/twiki/bin/view/HEPIX/CpuBenchmark> )

# Storage and Third Party Copy

- Agreed to consider HTTP as the WLCG baseline protocol for TPC
  - Every storage solution should implement it and every site should deploy it
  - Alice has its own scenario based on xrootd protocol which already works in production at the ALICE sites
- Need to make it work at the required scale across the WLCG infrastructure
- The timescale is tight: WLCG would like to be gridFTP-free by end of 2021
  - linked to the Globus decommissioning
  - WLCG Data challenges in late Q2 2021 to test the gridFTP replacement with HTTP in full scale production

# New AAI model for WLCG

- Two aspects:
  - Decommissioning of Globus (in OSG by end of 2021)
  - Wish to progress toward x509-free infrastructure (toward token-based AAI)
- Proposed timeline for WLCG – it can deeply affect also the JUNO Computing Model
  - **March 2021**: Baseline services for WLCG sites includes HTTP-TPC endpoint.
  - **July 2021**: IAM services available, including VOMS endpoint.
  - **October 2021**: All WLCG pilot factories have the ability to submit to CE using WLCG tokens.
  - **December 2021**: VOMS-Admin shutoff; IAM becomes authoritative identity provider endpoint (including VOMS endpoint).
  - **January 2022**: OSG ends support for Grid Community Toolkit. Globus GridFTP support no longer required at WLCG sites.
  - **March 2022**: Baseline services for WLCG sites include token support for HTTP endpoints.
  - **October 2022**: Rucio transfers performed with token auth in production.
  - **March 2023**: Experiments stageout performed via tokens.
  - **March 2024**: X.509 client auth becomes optional.
  - 2025 serves for schedule contingency.
  - **Token transition must be done by 2025** to allow for experiments to complete their other HL-LHC activities