



Network Data Challenges 2021

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on behalf of the WLCG DOMA Network Data Challenges Working Group

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DC2021

- Network Data Challenge exercise to take place 1st week of October (2nd week of October for Tape Challenge)
- Goal to demonstrate HL-LHC scale: 10% bandwidth, increasing in subsequent years
 - commission **HTTP Third Party Copy**
- Network target metrics (e.g per site and experiment) available at [HL-LHC document](#)
 - numbers calculated using raw data transfers, i.e. involving tape
- ATLAS and CMS will inject data in parallel to production activities
 - usage of “centralised infrastructure” → documentation at [DOMA-TPC Jira](#)
- Alice and LHCb will fill the network with normal production activities
 - traffic present for both (centrally monitored for LHCb)



Justification for Central Framework

- Common:
 - [transfers machinery](#) and “Data Challenge” activity
 - production/real data and volume
 - monitoring
 - containers to-be-moved centrally created
- ATLAS:
 - production RSEs and nuclei T2s
 - datasets/files selected by (in collaboration with) DDM
- CMS:
 - “_Test” RSEs and T2s > 2PB
 - datasets/files selected by transfer team (Data Management/CompOps)



Current Status of Network Topology for the Link-Tests

- Transfers:
 - from T0 to all T1s and T2s
 - from T1 to all T1s [for A,B,C testing A->B , A->C , and B->C] and T2s

- To be understood if to be included:
 - inclusive T1-T1s
 - from T2 to T1s and T2s



Monitoring

- Leveraging ESCAPE/WLCG existing expertise/dashboards for DC exercises
- FTS-based data source (ElasticSearch) is used for the **common [dashboard](#)**
 - currently including traffic from **ATLAS, CMS & LHCb**
 - special **activity** label for DC activity to filter traffic
 - matrices & plots in place for:
 - files/transfers and throughput
 - data volume
 - transfer error and failures (FTS and Rucio logs)
 - tape related metrics being integrated and filtered accordingly (e.g. read traffic)
- [Documentation](#)



Conclusions

- Network (and Tape) Data Challenges WG-activities progressing
 - Working on central infrastructure and monitoring
 - Effort aligned with the goal of commissioning services, tape, and protocols for Run3
 - First exercise of a series of periodic tests towards our common goal wrt HL-LHC
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