

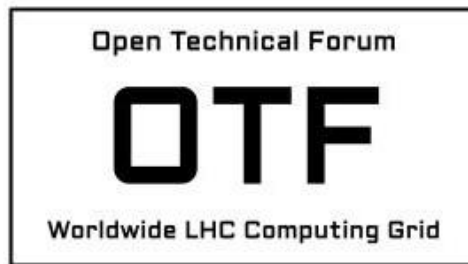
Live Notes for the Open Technical Forum #13 on Tuesday, September 15, 2026 at 16:00 (CERN)

Indico, FTS/XRootD workshop:

<https://indico.cern.ch/event/1639200/timetable/?view=standard#b-654222-wlcg-open-technical-f>

Remote participation connection (visio – not zoom) <https://visio.numerique.gouv.fr/zxr-rnfr-sfs>

Welcome to the WLCG Open Technical Forum (OTF).



The WLCG Technical Coordination Board (TCB) is responsible for the technical evolution of WLCG services in line with the needs of the experiments and the capabilities of the infrastructure providers. The TCB defines a multi-year roadmap for such evolution and is responsible for its implementation. The TCB achieves these goals with a bottom-up approach through an Open Technical Forum (OTF) which welcomes the participation of all contributors to the technical evolution in the WLCG community.

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Executive Summary

On Tuesday September 15th we held the first session of [OTF#13](#) on FTS development plans for DC27 and beyond. The main discussion focused on the use of FTS4 vs. FTS3 in the challenge, which is of particular interest for the U.S. sites since Fermilab and BNL runs FTS. FTS3 was used in the July US CMS mini-challenge up to 1 Tbps, with 200-300 concurrent transfers per site. The DOMA coordinators would like to focus on FTS4, so one open question is whether a single FTS4 instance could handle all of DC27 traffic (up to 4.8 Tbps world-wide). The database backend might be the limiting factor. More details of experiment goals will be given at the next

[DOMA General](#) meeting on September 30th. The FTS developers are particularly interested in the required number of concurrent transfers, though this might take some iteration to specify.

Introduction

Speakers: Alessandro Di Girolamo (CERN) and James Letts (UCSD)

Summary of Main Points: Today we aim to summarize and agree on the plans for FTS, also for DC27.

Q&A:

- None
-

FTS status and plans

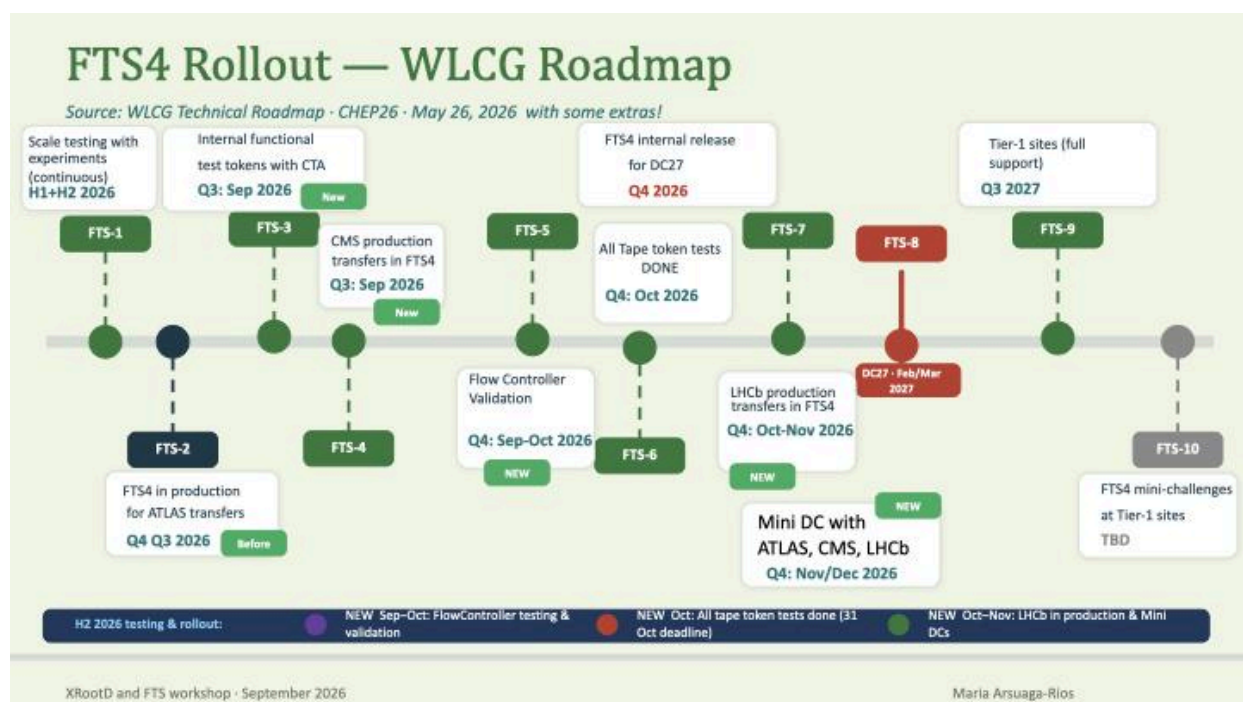
Speakers: Maria Arsuaga Rios (CERN)

Summary of Main Points:

DC24 to DC27: a factor 2x for FTS4 (Concurrent transfers from 20k to 40k, queued requests from 10M to 20M) and to address issues uncovered in DC24 with FTS3 (wrong scheduling decision, database limitations, non-deterministic behaviour, etc.) and address them in FTS4.

Deployment at CERN for DC27 has been preferred to avoid providing a suboptimal support to the Tier1s with a release not yet stressed at scale - something that will happen in DC27. FTS4 will also include tape scheduling features and tape daemon. In DC27 FTS4 will use the http protocol only, and include tape token support pretested with dCache, CTA, and StoRM.

Updates to the Roadmap for the FTS4 roll-out e.g., Tier-1 full support in Q3 of 2027:



Q&A:

- **FTS4/3 Mix:** Dimitrios: For ATLAS and CMS, either all the traffic will be with FTS4 at CERN or we run in mixed mode with FTS3 at other sites. Katy thinks we will run everything from the CERN instance. Too much for one instance handling everything? Tape token transfers would be missing if we use FTS3 at the Tier-1 sites. Alessandra Forti comments [inaudible], it would be better to have FTS4 only at CERN for comparison. Production transfers would need to be reconfigured. Main question: Can a single instance of FTS4 handle all of the DC27 traffic? Ale: Would it be reasonable to just inject the *additional* load for DC27 into FTS4 and the production transfers remain configured as they are? Dimitrios: Would this distort or skew the results especially for North America e.g., BNL? Maria: We want a comparison.
- **Monitoring:** Ale asks about the WEB UI. Is it correct that the old dashboards will still work? Yes. So we do have measurements to compare. Mihai remarks that we *could* see the old FTS3 issues in the U.S. during DC27.
- **FTS3 Performance in Mini-Challenge:** Andrew Melo (Vanderbilt): US CMS Tier-2 sites were transferring at 100 Gbps each during a recent mini-Challenge using FTS3, total about 1 Tbps maximum, which sets a boundary. Diego Davila (UCSD) says that the number of concurrent transfers was 200-300 per site.
- **Monitoring:** Ale asks, How do we measure that FTS4 is doing better than FTS3? Mihai says that there was a presentation on this in the morning in this Workshop. Ran 40K concurrent transfers in a sandbox. There may be a limitation in the database at higher scales but we are OK with 40K.
- Alessandra [inaudible] ... Asks about having FTS4 at BNL and FNAL? During the challenge we could run an extra instance of FTS4 to mimic BNL?

- FTS Configuration in DC27: ATLAS fear that results will reflect poorly on sites running FTS3. Will the proposed configuration be sufficient? Maria: ATLAS, CMS, and LHCb at CERN will use FTS4 only, and the rest FTS3. D: Do we move all the traffic to FTS4 at CERN? Or will production transfers stay in FTS3? Panos:
- **Open Question: Mixing FTS3 and FTS4 in DC27 is seen as a bad option by Ale and others. No general agreement on the configuration. Needs further discussion. Can extra instances for FTS4 be added at CERN to mimic BNL, FNAL rather than mixing FTS3 & 4 in DC27?** To be discussed further this evening.
- Lorena Lobato: tape authentication, DUNE will participate, using CILogon for authentication and only works with tokens. Discussions with FTS3 team and CILogon developers. Mihai comments on the technical aspects but this change is envisioned for FTS4. If needed for DC27, it might need to be implemented in FTS3. Comment about multiple VO challenges. Maria asks about DUNE plans for DC27. Need to ask the DUNE liaison.
- Ale has two last points about monitoring for DC27: 1) Tier-1 tape will test token transfers, how will be follow up. 2) AIM - any way to measure if this is scaling? 3) We have talked about DC27 planning, but we also need to focus on longer-term plans.
 - 1) Dimitrios, ATLAS and CMS would check the site configurations. There is a snag in the FTS4-Rucio interface which will be discussed tomorrow. Ale: let us know if they need something from WLCG MB.
 - 2) Dimitrios: Someone from IAM should have been present in this workshop. Looks promising, however. ATLAS is a heavy user with file-specific tokens, LHCb as well. Put enough load on IAM in advance of DC27 to measure whether IAM can survive DC27. Ale: any additional tests?
 - Discussion on what could be tested to push IAM more, with managed tokens.
- Katy: in terms of sites, we think all the Tier1s and above 90 Tier2s - CMS would like to test them all, ATLAS is still thinking about how many - ATLAS will include every sites that has transferred at least 2 GB/s during the previous year. Maria wants to know how many sites per VO and files/sec/link ATLAS and CMS plan to do. **DOMA General meeting on September 30th is the next checkpoint**, will show these numbers from the experiments, though files/link may be too much detail to show this month.

Persons connected by Visio: 35

Meeting time: 70 minutes