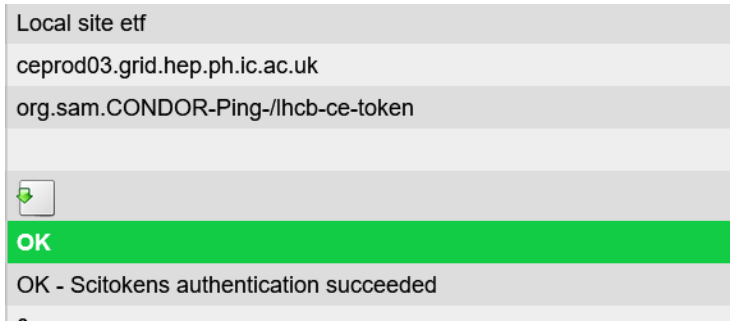
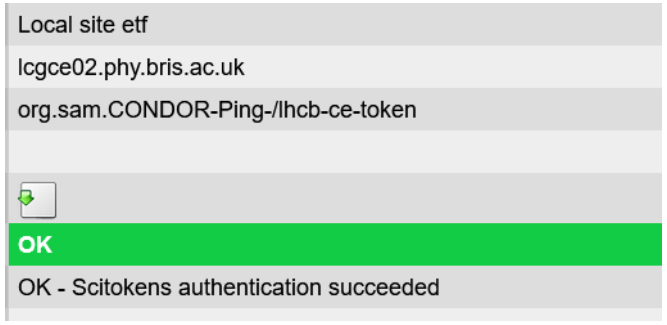
LHCb: token status

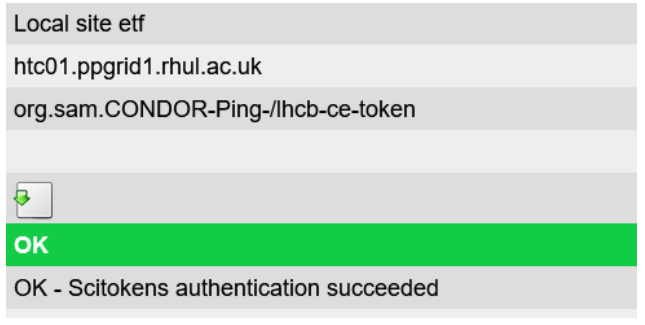
07.06.2024

Current status: ETF Tests

- ETF tests
  - New set of ETF tests used in prod since the 23rd of May
    - Includes storage tests
    - maintained by RAL employee
  - Token specific tests for HTCondor-CEs were added to preprod recently
    - Will be pushed to prod as soon as CERN IT propagates secrets to prod machine properly
    - Working for Bristol, Imperial and RHUL, but not for Liverpool
    - For Birmingham there are no tests at all, ETF issue







Current status: CE

- CEs
  - HTCondor
    - Most HTCondor CEs are running pilots using tokens
      - Including Bristol, IC, RHUL, Birmingham
      - Not Liverpool
  - ARC
    - A few CEs are trying to handle pilots using tokens
    - RALPP is the only UK site
      - Some problems are present, see ticket

Current status: SE

- ~~There is a patch for DIRAC to enable token support for FTS transfers~~
- ~~LHCb requested token authenticate to be enabled at RAL before DC24~~
  - ~~Good base path selection is another story~~
- ~~Patch was applied to DIRAC during the DC24, some T1 sites enabled tokens~~
  - ~~Namely, some dCache sites, i.e. GRIDKA, IN2P3, NCBJ, PIC~~
- ~~Token-based FTS transfers did not work for RAL and CNAF, two non-dCache sites~~
- ~~There were some issues during DC24~~

- Tokens for storage auth were used during DC24 for some sites (all outside UK)
- Have not been used since then at all
  - That said, it should be relatively easy now to add appropriate ETF tests

Current status: RAL SE

- ~~Tokens were set up at RAL, but unfortunately did not work~~
- ~~The problem is the following~~
  - ~~we use the strictest scope possible: `storage.modify:<full_path>`~~
    - ~~Plus `storage.read:<full_path>`~~
  - ~~FTS tries to make sure that all necessary directories exist before copying~~
    - ~~Meaningless for ECHO~~
  - ~~To do so, it issues `PROPFIND $(basename <full_path>)` request~~
  - ~~This request fails in xrootd since scope includes full path~~
  - ~~It looks like according to WLCG token spec (which is not very clear in this aspect) such requests should be allowed~~
  - ~~Jyothish opened a PR to fix it~~
  - ~~It may be possible to restrict FTS to only copying on submission, but this was not tested~~
  - ~~STORM storage at CNAF has the same issue~~

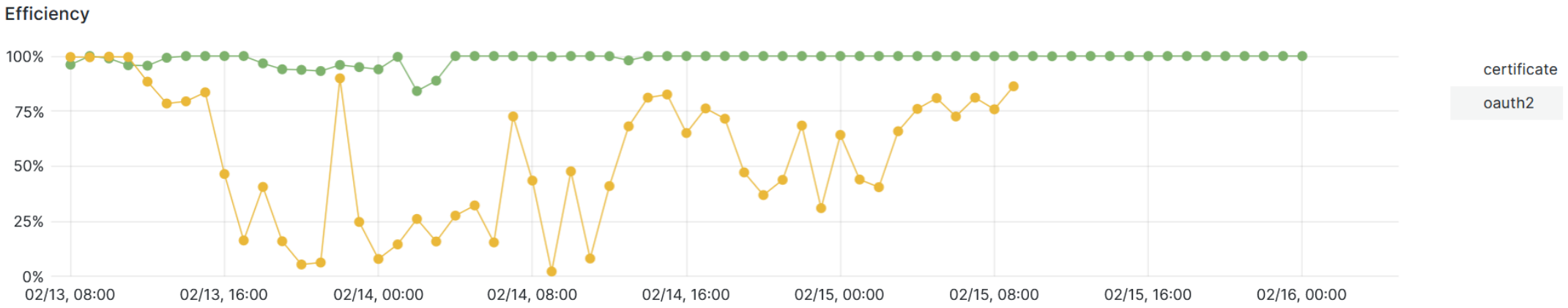
- LHCb Tokens are working for ECHO authentication!
  - But LHCb does not use them at all..

LHCb tokens during DC24 (backup)

- Sites mentioned above used tokens during writing part of the DC24
- There were a lot of problems, namely:
  - Slow transfer submission
    - Since every transfer require at least 2 tokens, submission rate dropped to ~1Hz
      - Some links were starving as a result
  - Token refreshment problems
    - FTS is supposed to renew storage tokens before transfer stat if the lifetime left is short
    - Because of the number of requests LHCb IAM server was overloaded and responded very slow
    - That resulted in many failed refreshments, and, eventually, failed transfers
      - The most affected sites were NCBJ and GRIDKA
  - Patched FTS Agent got stuck several times
    - Most probably because of the token related changes

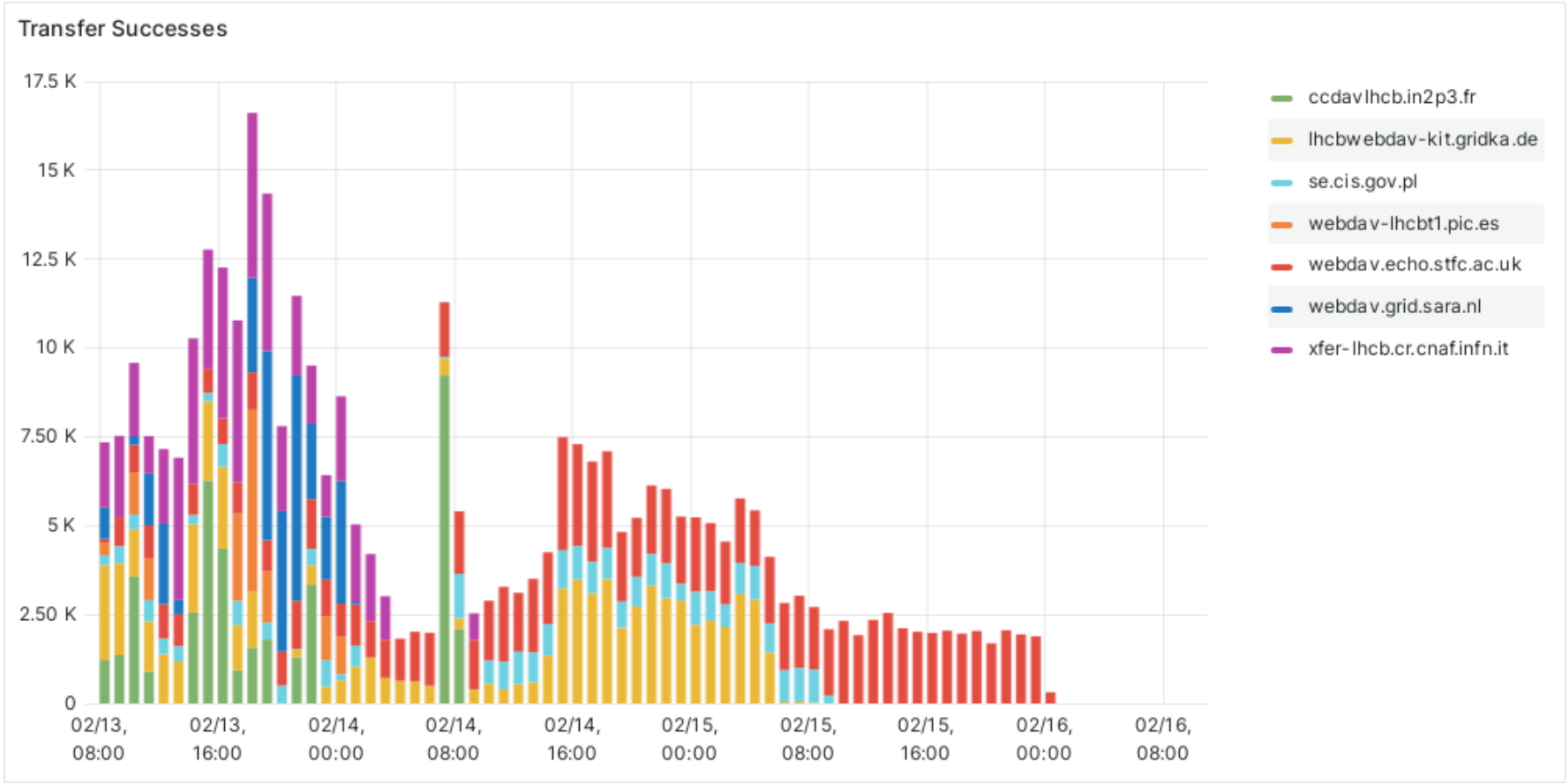
LHCb Tokens during DC24 (backup)

- Efficiency of token-based transfers are much lower, compared to certificate-based



LHCb Tokens during DC24 (backup)

- Starved links can be seen



LHCb tokens during DC24 (backup)