LHCb signoff

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Introduction

- Notes / information remain the same as from Jan 2020
  - Link to Andrew McNab's talk
  - This talk – essentially same as on 27 Jan, just with updated plots
- RAL is an essential part of LHCb activities
  - Known issues being tracked at high level
    - Streaming data out of ECHO
      - Affects user jobs (and WG productions)
    - Problem with xrootd checksums
    - Data corruption (seems rare)
  - Other topics
    - Occasional large fluctuations in running jobs (though overall we meet the LHCb quota)
    - Look forward to https / webdav becoming available

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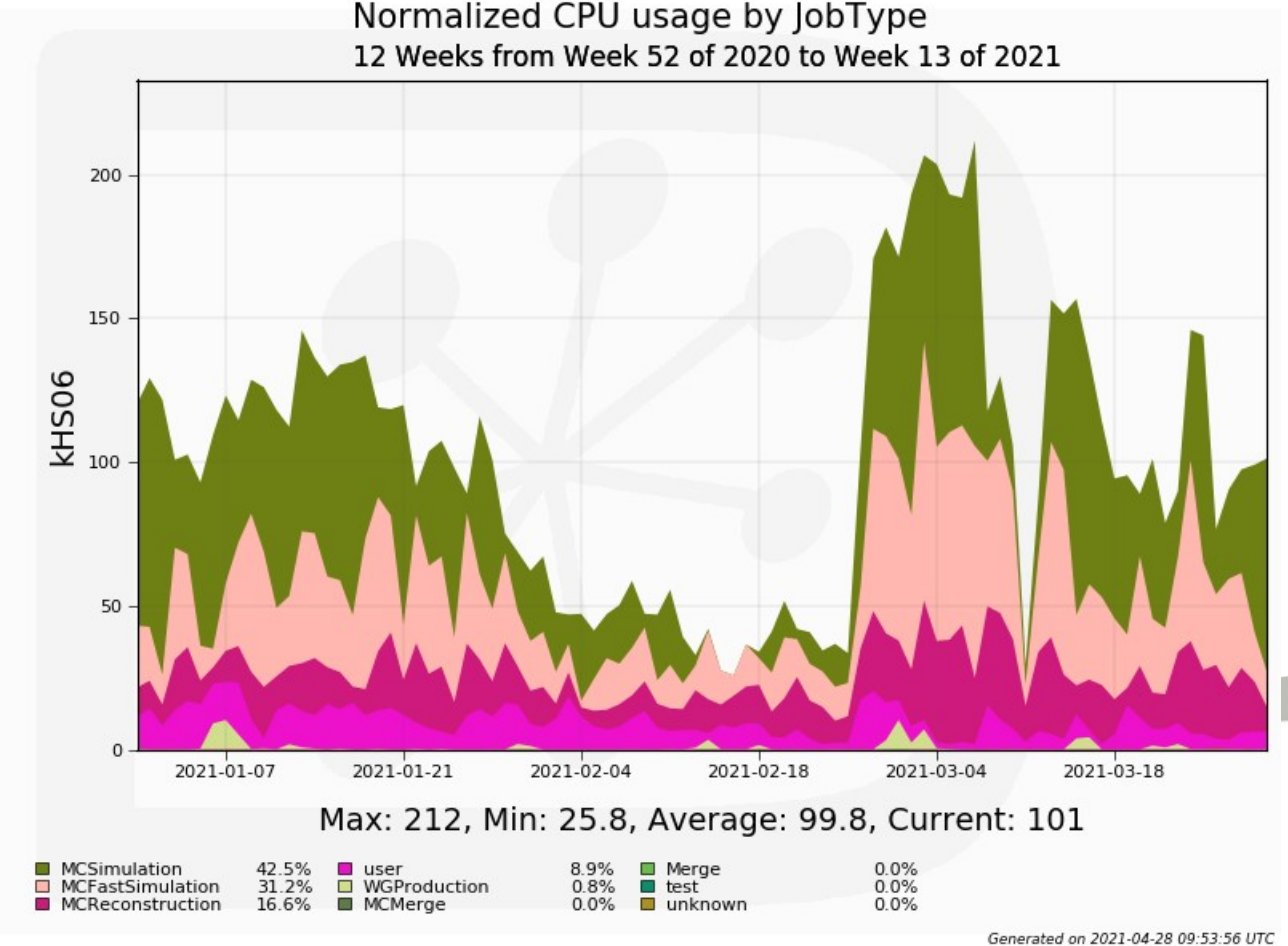
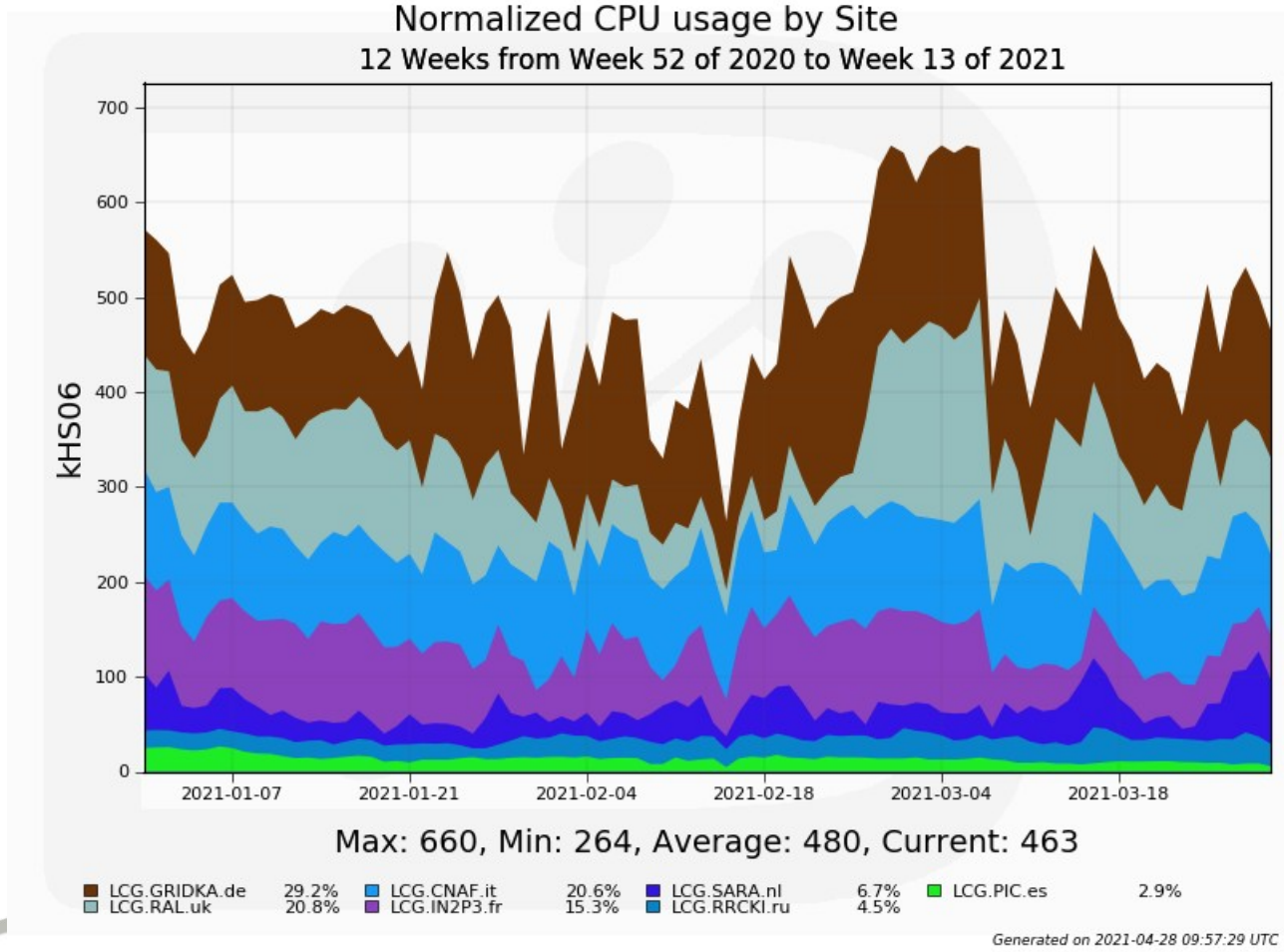
CPU used at RAL

- Dominated by MC Simulation
- Some dips in Feb 2021
  - Mixture of causes
  - Not fully understood



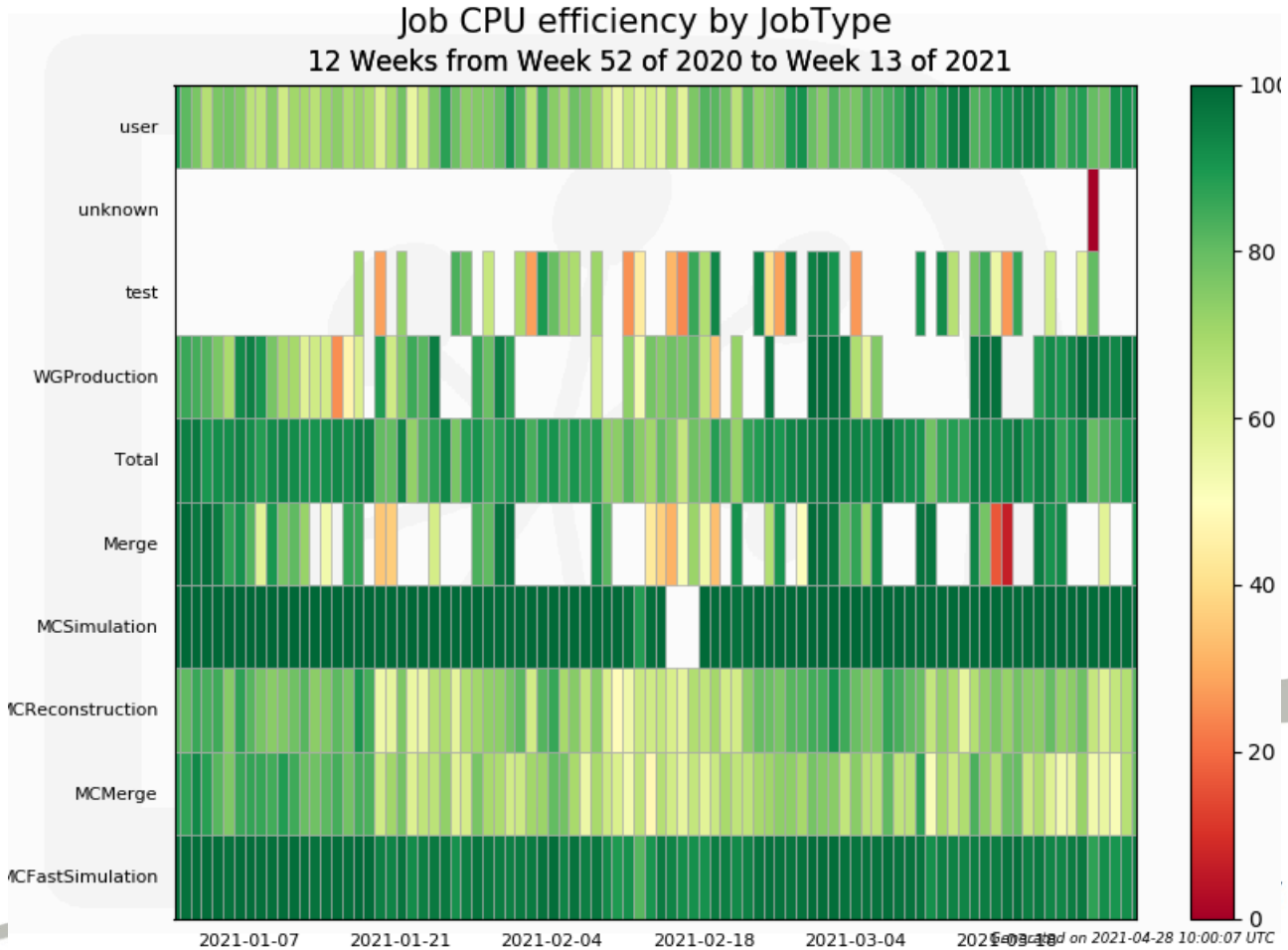
CPU used at all Tier-1 sites

- RAL broadly in line with other Tier-1s
  - Listing in order of contribution
    - Ignoring CERN, HLT farm

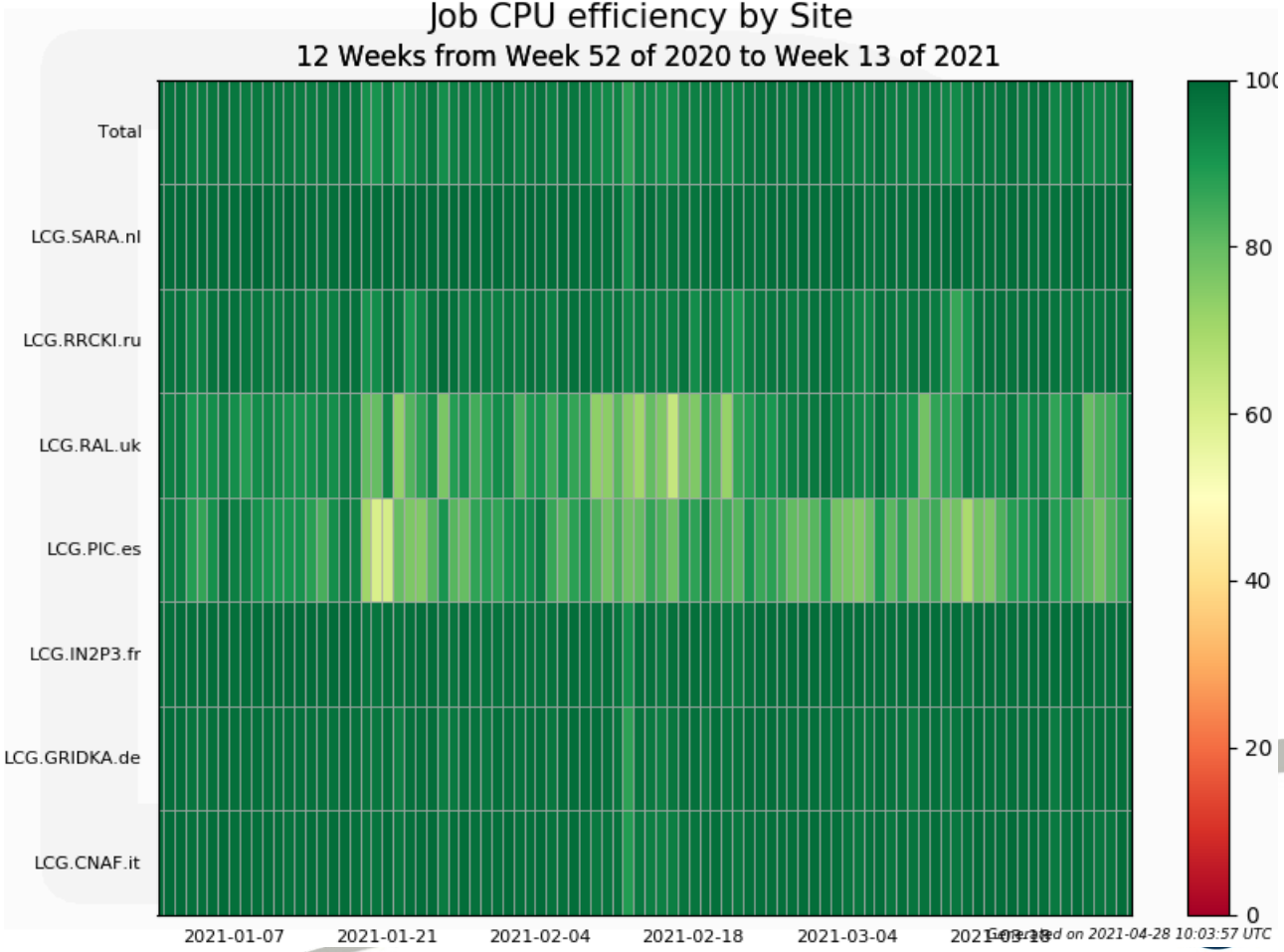


Job efficiency at RAL

- WG productions and user jobs are affected by the ECHO streaming issue
  - Partial workaround : limiting number of input files to alleviate job failure rate
  - Problem with old versions of LHCb applications (from Jan 2021)
    - Authentication issue / old versions of xrootd client - thanks @Tom Byrne
    - (Partial) fix on LHCb end in Jan 2021
    - Some remaining edge cases
      - e.g. Some of the new xrootd binaries not available for sl6
- Simulation is obviously the best



Job efficiency at Tier-1 sites



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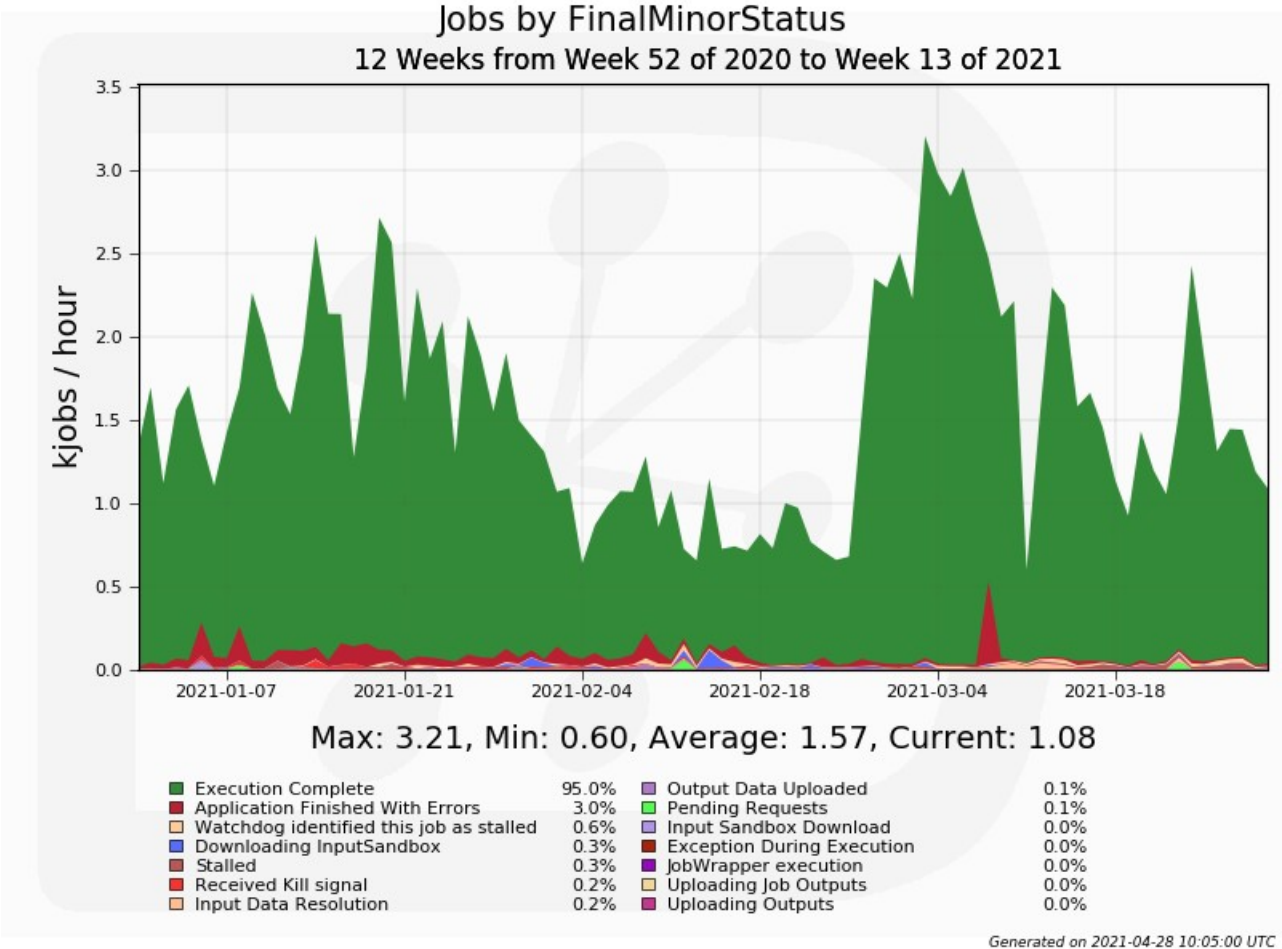
Jobs by outcome



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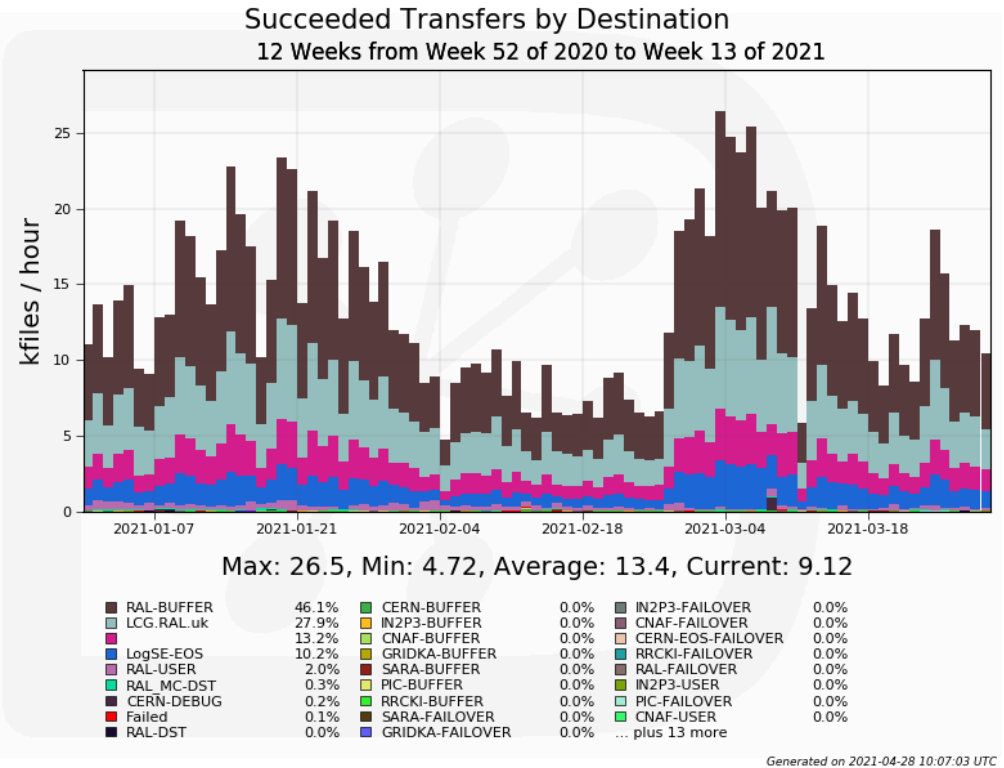
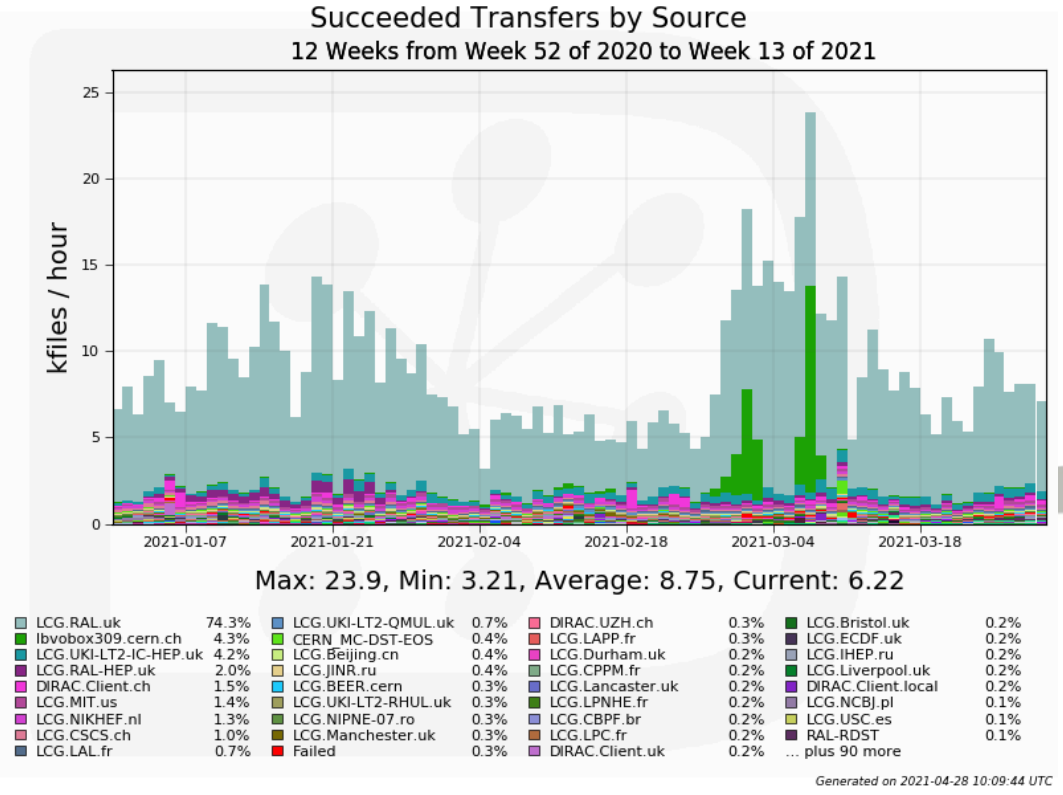


Transfers out of RAL WNs

Transfers into RAL SEs by source



Streaming out of ECHO

- https://ggus.eu/?mode=ticket_info&ticket_id=142350
- Lots of work on it with Tom Byrne
  - https://wiki.e-science.cclrc.ac.uk/web1/bin/view/EScienceInternal/LHCbJobFailure
  - And support from xrootd developers
    - https://github.com/xrootd/xrootd/issues/1259
  - Problem identified in xrootd-ceph interface
- Development of fix to xrootd-ceph interface
  - Work ongoing by George Patargias and Ian Johnson
  - Ongoing testing of the fixes whenever available
- Other methods of alleviation
  - Some retuning of blocksizes in production already
    - Has helped some ATLAS workflows
  - Main help for now from reducing the number of input files in a job
    - And resubmission of jobs on failure

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Summary

- Many thanks to Tier-1 team!
  - RAL a critical part of LHCb computing
  - Ongoing issue with streaming (slide 8)
    - Among others
- Looking forward from LHCb
  - Also another round of reprocessing
    - Later this year
  - Migration to CTA at RAL

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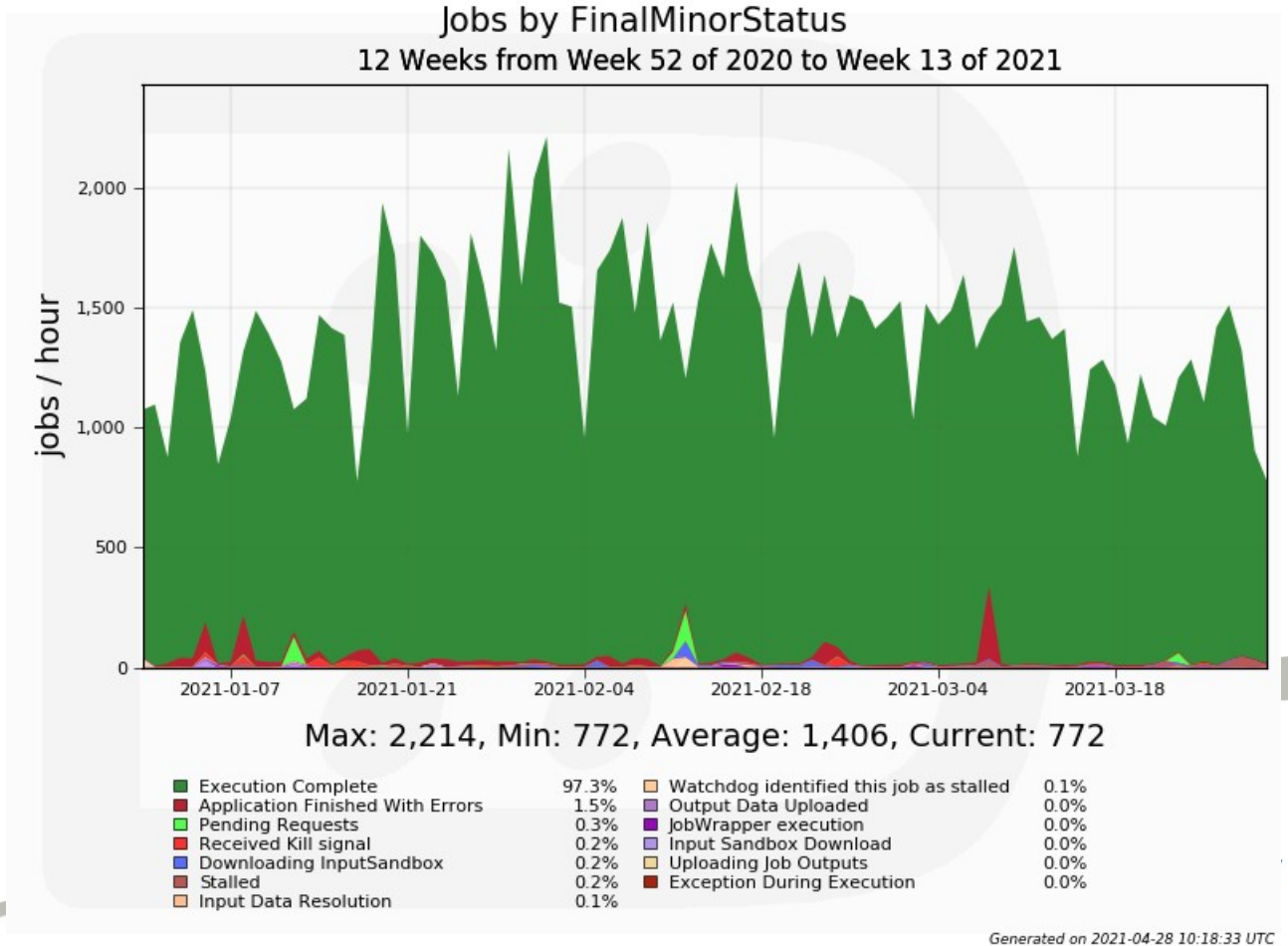
Backup – Jobs by final status : CNAF

- ~ similar size to RAL
  - ➔ up to a point (slide 4)
- Note : Application finished with errors = 1.5%
  - ➔ 3% at RAL (slide 7)