



NOTED and BBRv1 testing during DC24

DOMA meeting

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NOTED test

Test of new NOTED version with:

- start actions triggered by link saturation (saturation alarms from CERN network monitoring) and confirmed by presence of large FTS transfers to the affected site
- stop actions decided by decrease of FTS transfers below a certain threshold

During DC24, saturation alarms were set at ~50% of the link capacity, because there was seldom saturation

NOTED test

NOTED ran during the whole DC24

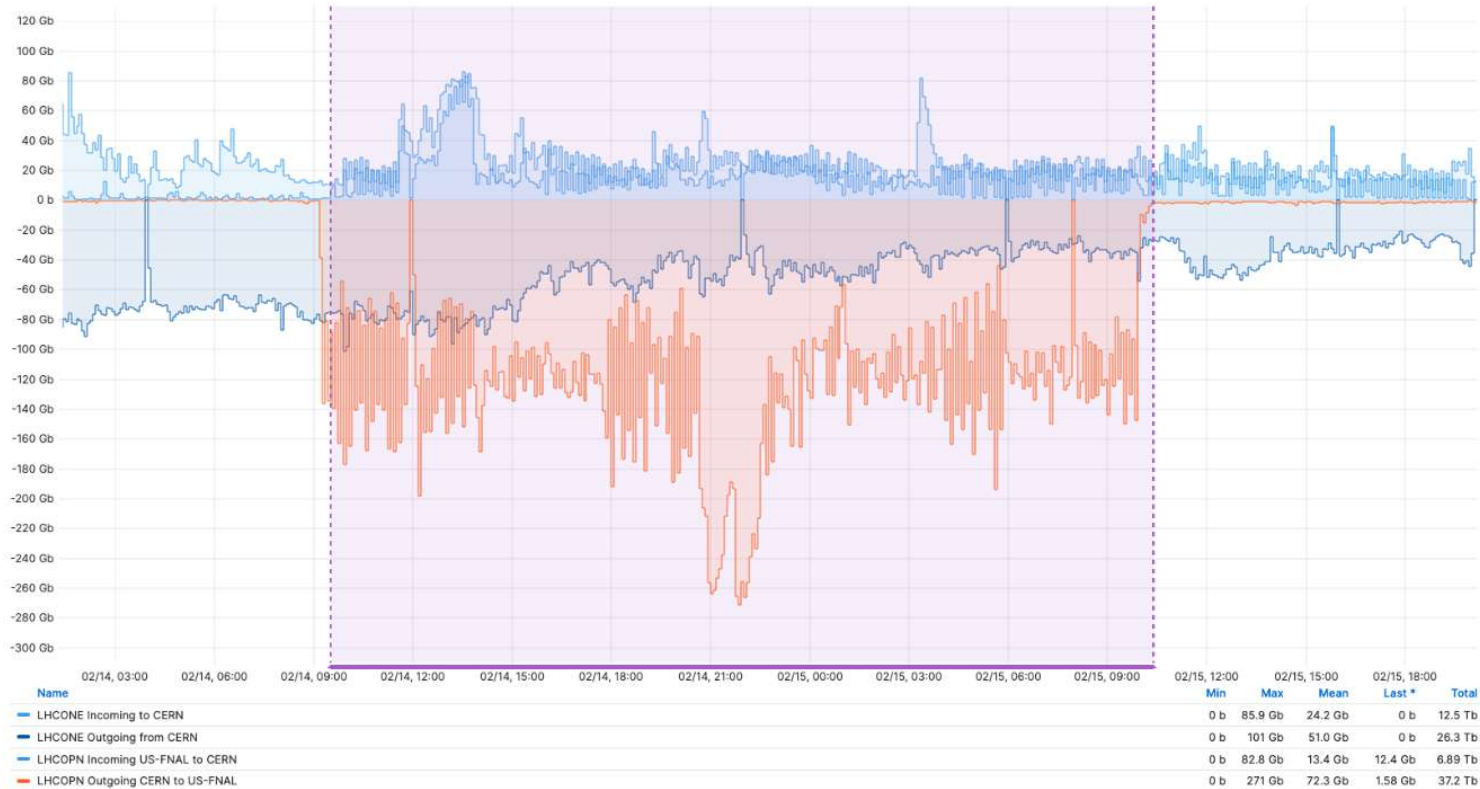
On the first 10 days it was not taking any action, just triggering a warning when additional bandwidth was needed

On the last 3 days, NOTED was taking real actions for TRIUMF, PIC and KIT

- TRIUMF: load-balancing traffic over the primary and backup links
- PIC and KIT: load-balancing over the LHCOPN and LHCONE links

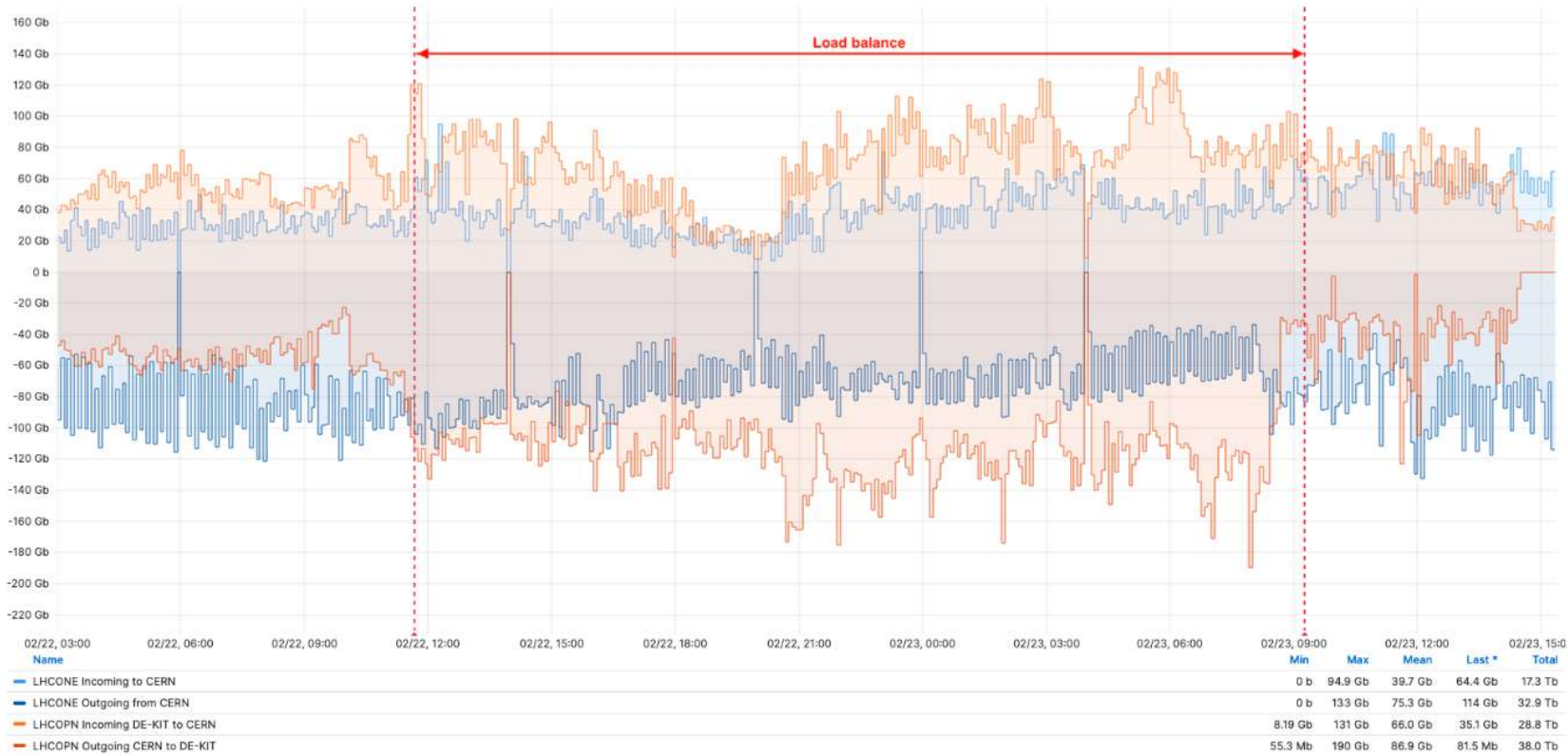
NOTED test

Dry-run on US-FNAL LHCOPN link



NOTED test

Real run on DE-KIT LHCOPN link



NOTED test: conclusions

Useful exercise to fix some NOTED driven router configuration issues (e.g. load-balancing routing when a site had multiple LHCOPN links, full BGP config on both the LHCOPN routers...)

Also useful to implement additional checks on FTS

Overall happy of the results: Large Transfers detection worked properly in most of the cases

BBRv1 test

During the last 3 days, 40 EOS servers at CERN used by ATLAS and CMS were flipping their TCP congestion protocol every 2 hours (every 6 hours from Thursday on)

20 CMS EOS servers

Blue: BBRv1 active. Otherwise Cubic

BBRv1 testing: 20 CMS nodes



20 ATLAS EOS servers

Blue: BBRv1 active. Otherwise Cubic

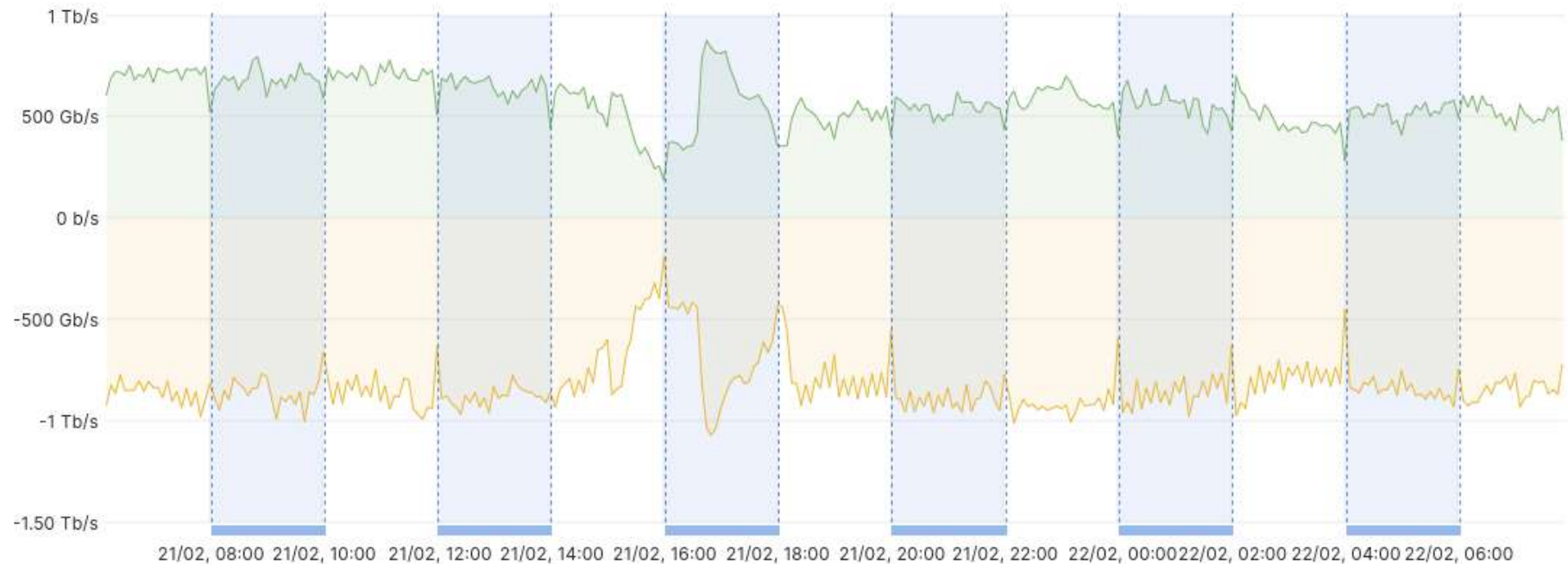
BBRv1 testing: 23 ATLAS nodes



Total LHCOPN+LHCONE at CERN

Blue: BBRv1 active. Otherwise: Cubic

LHCOPN and LHCONE Total traffic - BBRv1 testing



— In to CERN — Out from CERN

BBRv1 test: conclusions

No evidence of gain nor loss using BBRv1

BBRv1 shows advantages in congested lines, but there wasn't much congestion

Questions, comments?

