

DOMA General meeting

Tape workflow

24th March 2021

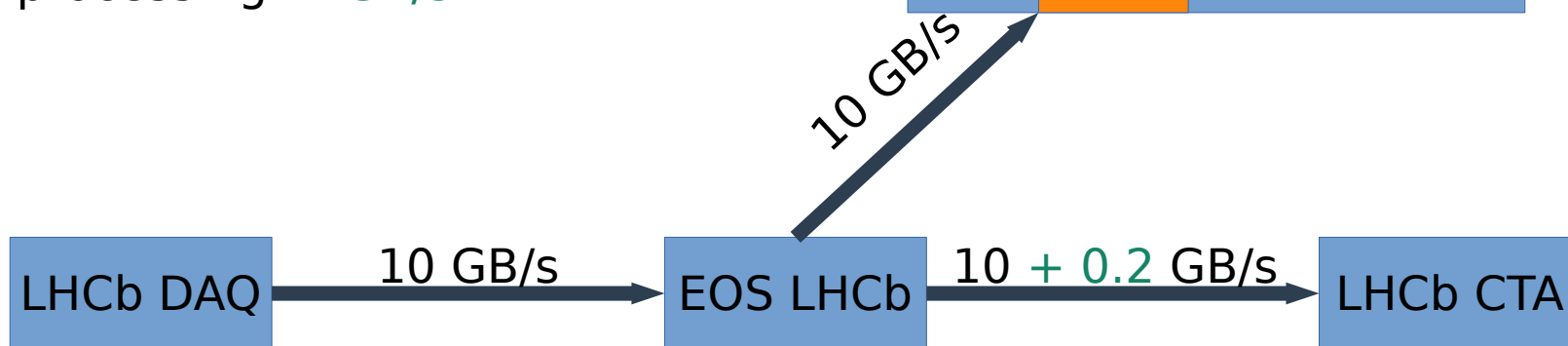
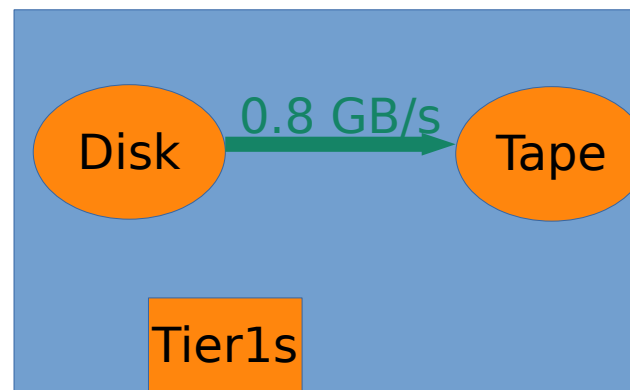
Data taking period



Data workflow and throughput to tape during data taking

LHCb computing TDR section 6.1.3

- 10 GB/s “RAW” from Point 8 (2 copies)
- Baseline: 20% processed at CERN
- Total throughput after offline processing: 1 GB/s



Caution: unit is GB per LHC second

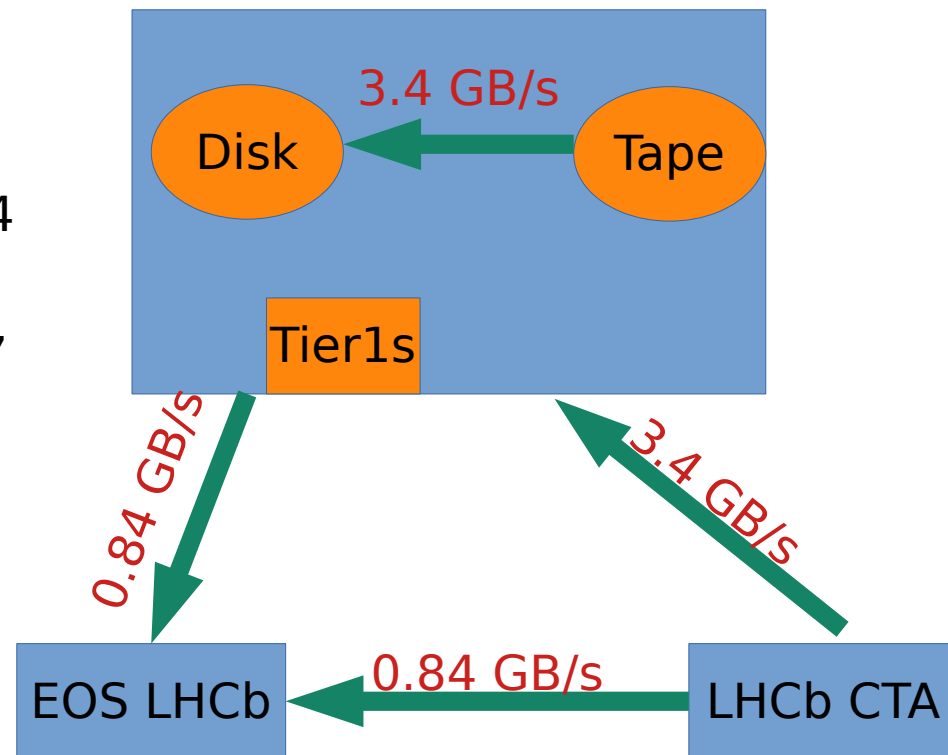
EYTS periods (reprocessing)



Data workflow during winter shutdown

LHCb computing TDR section 6.1.3

- 44 PB per year to reprocess
- Do it in 2 months
- Disk buffer of 2 weeks
- Aggregated recall throughput: 8.4 GB/s
- Baseline: 50% staged from CERN, but process 20% at CERN
- Output to tape ≤ 1 GB/ LHC s



Caution: unit is GB per real second

Tape bandwidth request



Requests for tape bandwidths

- **Minimum bandwidths** required by site, to write custodial samples while taking data, and recall them for EoY resprucing
- A **disk buffer** corresponding to a contingency of **at least two weeks** must be provided as well

Country	Site	Tape Read BW (GB/s)	Tape Write BW (GB/s)
CERN		4.24	5.50
Tier1 sites			
France	CC-IN2P3	0.49	0.63
Germany	GridKA	0.86	1.12
Italy	CNAF	0.86	1.12
Netherlands	SARA/NIKHEF	0.34	0.44
Russia	RRCKI	0.34	0.44
Spain	PIC	0.23	0.29
UK	RAL	1.13	1.46
TOTAL Tier1 sites		4.24	5.50

Note: total Run2 bandwidths ~1GB/s

* Shares based on current distribution of the Run 1 + Run 2 RAW data

** Write BW slightly off: 5.2 GB/s at CERN, 0.3 GB/s to be shared by T1s

Buffer size



Site	Buffer size (PB)
CERN	2.2
CC-IN2P3	1.01
GridKA	1.79
CNAF	1.79
SARA/NIKHEF	0.7
RRCKI	0.7
PIC	0.47
RAL	2.34