

Numbers on reprocessing HL-LHC and Run2 campaigns

ATLAS - June 2020

Inputs

- Proposal from F. Wuerthwein to build reprocessing challenge based on HL-LHC numbers (10 PB/day)
- References for ATLAS numbers
 - Run-2 : Numbers from last Run-2 reprocessing campaign (Presentation at next GDB)
 - HL-LHC : Preliminary numbers from CDR
- Caveats
 - ATLAS reprocessing : highly distributed by composition of ATLAS Grid
 - Some infrastructure requirements not listed : Size of buffer

	Run2 repro 2020	All data (2020)	Repro year 2028
Number events (Billions)			70 <small>(10KHz * 7Bsec)</small>
Event size (MB)			4.4 <small>(estimate)</small>
Total RAW size (PB)	18		300
Reprocessing time (days)	75 (not permanently full speed)		100
Reprocessing PB per day			3
File size (GB) (estimation)	2.2		10
Staging (GB/s)	15 (sum of max of each site)		40 (steady) → 60 (peak)
Fraction reprocessed outside T1	50% ?		50% ?
WAN traffic of RAW (GB/s)	10	10-20	150
Nb transferred files / hour		100k	12 k
Processing time ttbar (HS06.sec)			300 <small>(estimate)</small>
Nb core (1 core=10 HS06)	~ 150k	400k	250 k