

	Run 1	Run 2	Run 3
Event building rate pp ^a	100 kHz	100 kHz	100 kHz
Event size pp ^a	1 MB	2 MB	2 MB
Read-out links S-LINK64 (copper) 400 MB/s ^b	636 ^c	575 ^c –532 ^d	528 ^c
Read-out links optical ^e 6 Gb/s ^b	—	55 ^{d,f}	55 ^{c,f}
Read-out links optical ^e 10 Gb/s	—	60 ^c –167 ^d	176 ^c
FED builder network technology	Myrinet	Ethernet	Ethernet
FED builder network speed	2 rails of 2.5 Gb/s	10 & 40 Gb/s	10 & 100 Gb/s
Event builder # of readout units	640	108 ^d	57 ^g
Event builder network technology	Ethernet	Infiniband	Ethernet RoCE v2 ^h
Event builder link speed	1–3 rails of 1 Gb/s	56 Gb/s	100 Gb/s
Event builder parallel slices	8	1	1
Event builder network throughput	1.0 Tb/s	1.6 Tb/s	1.6 Tb/s
Event builder # of builder units	1260 ⁱ	73 ^d	57 ^g
BU RAM disk buffer	none	16 TB	10 TB
HLT # of filter units	720 ^{c,i} –1260 ^{d,i}	900 ^c –1084 ^d	200
HLT # of cores	5.8k ^c –13k ^d	16k ^c –31k ^d	26k ^j
HLT computing power (MHS06)	0.05 ^c –0.20 ^d	0.34 ^c –0.72 ^d	0.65 ^j
HLT # of NVIDIA T4 GPUs	—	—	400
Storage system technology	16 SAN ^k systems	1 cluster file system	1 cluster file system
Storage system bandwidth write + read	2 GB/s	9 GB/s	30 GB/s
Storage system capacity	300 TB	500 TB	1.2 PB
Transfer system to Tier 0 speed	2×10 Gb/s	4×40 Gb/s	4×100 Gb/s

^aDesign value. ^bMain data-taking configuration, excluding links from partition managers used for partitioned running. ^cAt the beginning of the run. ^dAt the end of the run. ^eSlinkExpress. ^f54 links from mezzanine cards with optical SlinkExpress. ^gReadout and builder unit running on the same server (“folded event builder”). ^hRemote DMA over Converged Ethernet. ⁱFilter and builder units running on the same server. ^jNot including the GPU computing power. ^kStorage-area network.