

Event Builder

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Contents

- Update since the last TDAQWS
- E.B.1
- E.B.2
 - Distribution PC
 - New problem found recently

Update

- Recovery from Event Mismatch
 - slightly updated in EB2
- Double buffering at EB1
 - By Konno-san
 - to reduce the CPU consumption under the high rate test

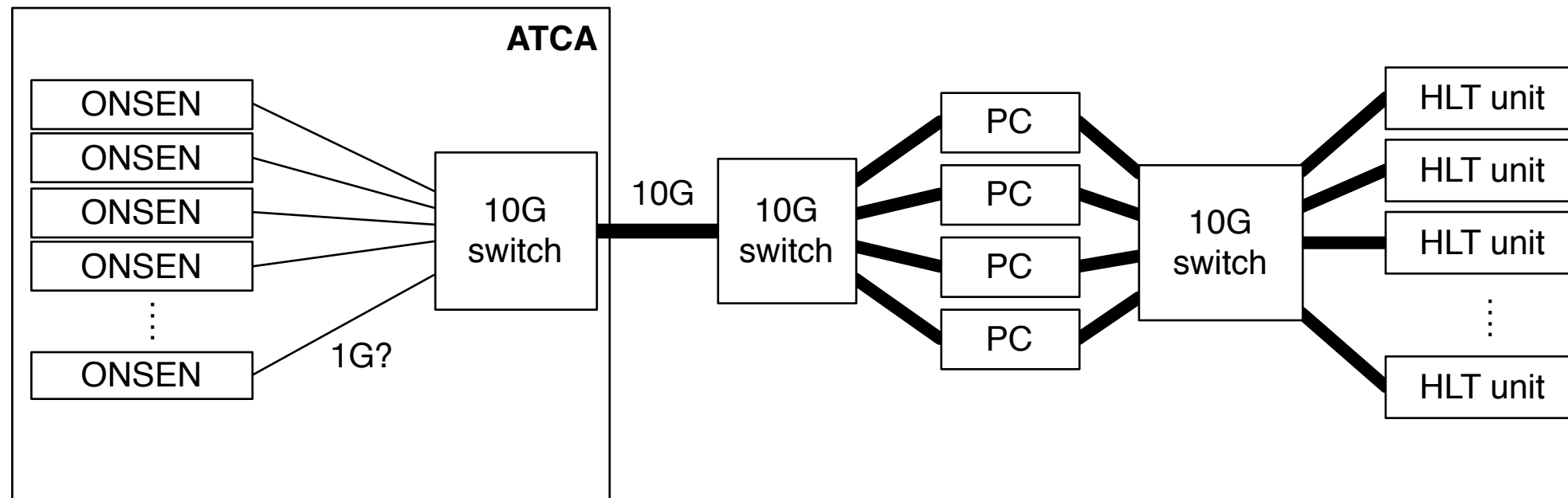
E.B.1

- Almost nothing had happened
- Reports statistics via SLC
 - using /dev/shm scheme provided by Konno-san

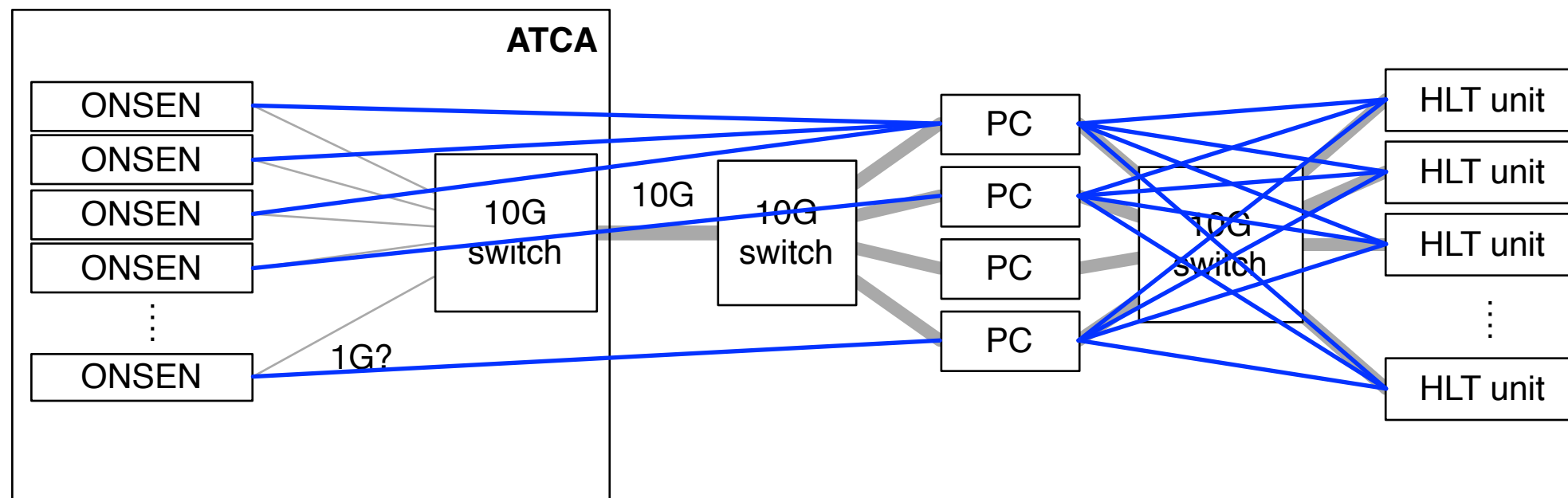
E.B.2

- Items to be bought
- Switch to connect ONSEN and HLT
 - Full 10G
 - # of input (1) < # of output (10)
 - Deep buffer is desirable, but optional
- PC to distribute events to proper HLT using event #

Physical connection



Logical connection



Distribution PC

- is connected to...
 - Physically to two 10G switch (up + down)
 - Logically to few ONSSEN and all HLT unit
- runs
 - many distribution process
 - must be $<$ # of TCP streams from ONSSEN, # of core
- Send an event to proper HLT unit
 - according to the trigger number
- Never assemble data stream

of PC for EB2

- 1 core of 3GHz Xeon can distribute
 - 1 input to 10 outputs, ~ 10Gbps
- Will share 40 streams by 3 of 16core PCs

	40kB/ev	400kB/ev	4MB/ev
Max Trig.	31kHz	3kHz	230Hz
Through	1.25GB/s	1.18GB/s	0.9GB/s

Recent problem about switch for E.B.

- Vender lock of ARISTA switch
 - Their old OS refuses newer Twinax cable **even if it is their product.** we should update OS to use newer cable
 - But OS update will be stopped 5 years after the end of sales.
 - Optical Transceiver is not so problematic, because the revision is not changed so frequently
- May choose another one

Summary

- E.B.1 is already in operation
 - needs performance improvement for high rate operation
- Construction of E.B.2 will start soon.