DAQ work

SLAC

Configuration issue fixed

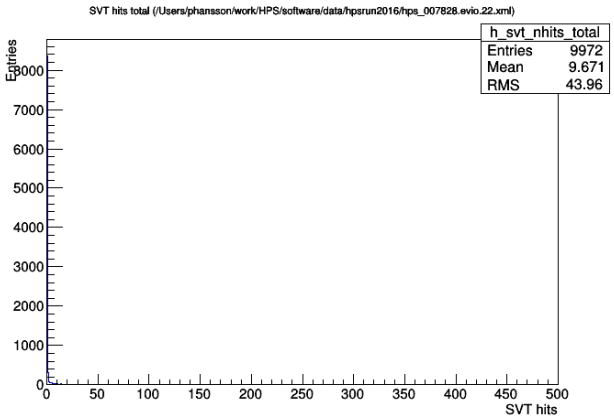
Timing and event size bank fixed

Software/firmware use releases (branched from DAQ group updates for now)

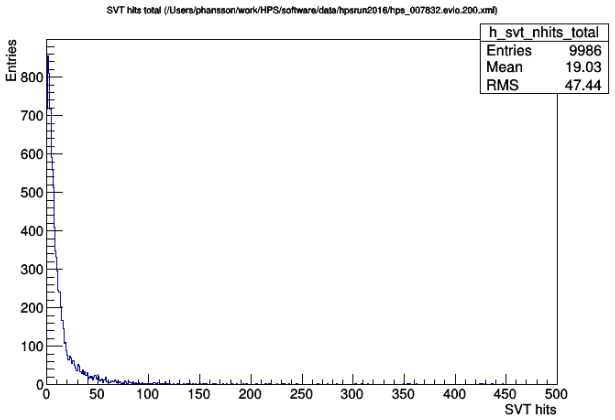
Testing

Event Size Testing

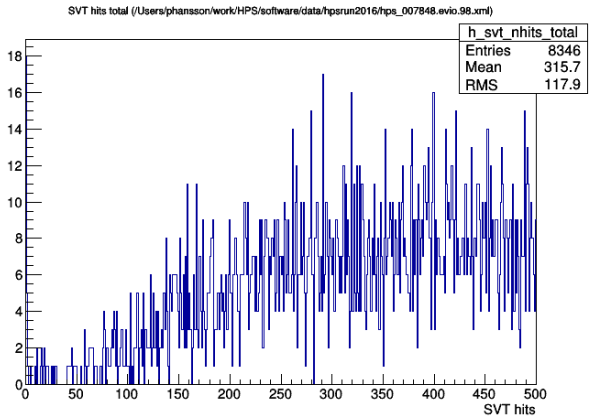
3S



2S



1S

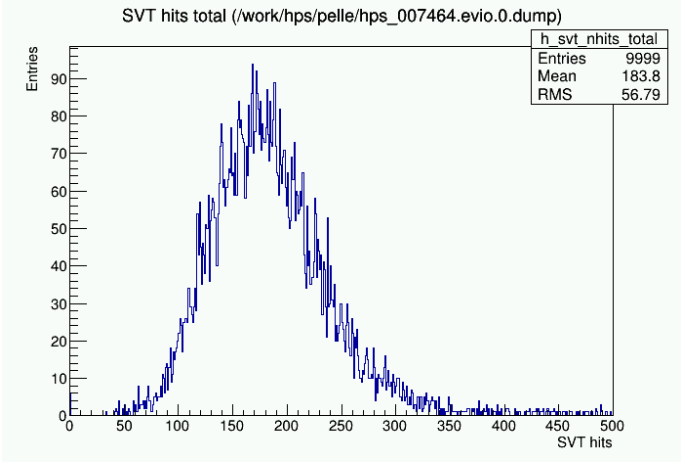


Special testing configuration incl. large ECal event sizes (similar/ larger than w/ beam)

Random triggers from ECal

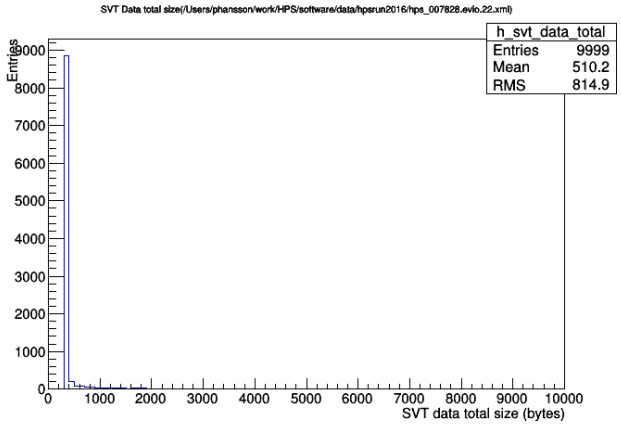
Look at overall livetime, individual busy sources, etc.

Run 7464

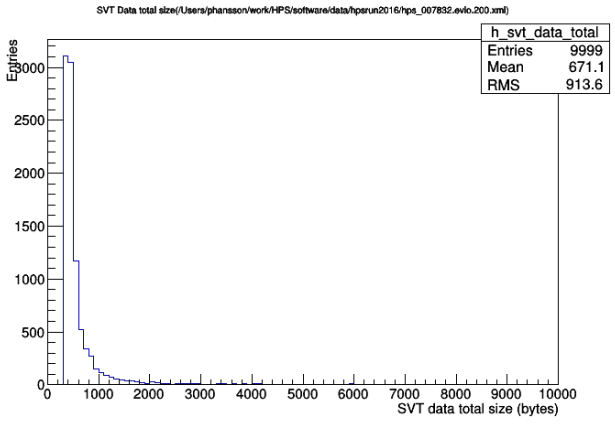


SVT Event Size

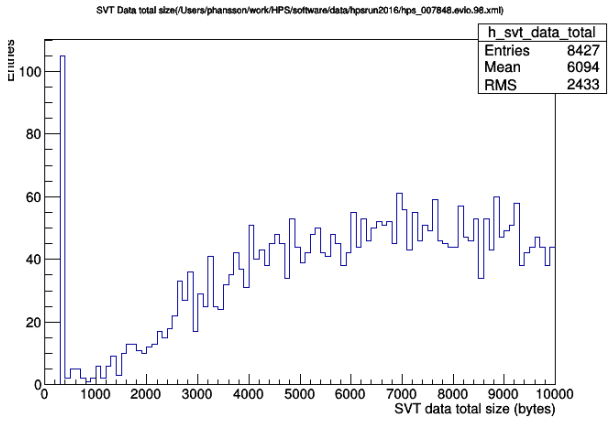
3S



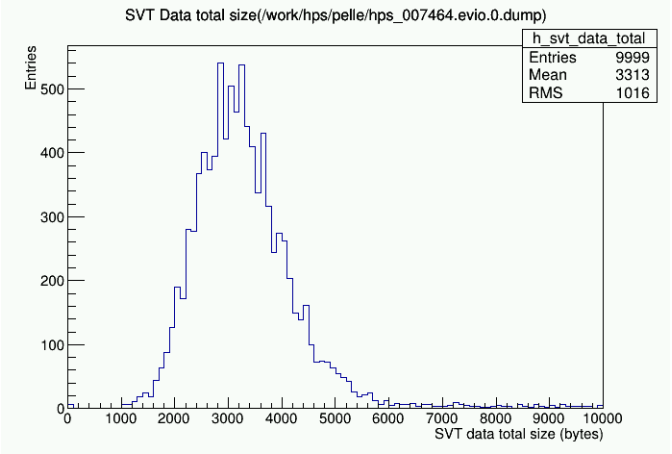
2S



1S

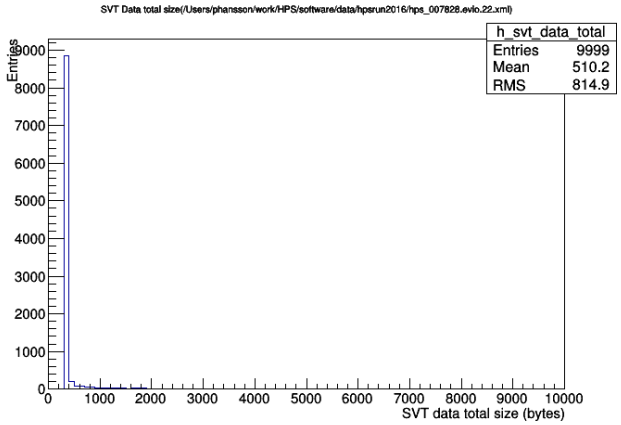


Run 7464

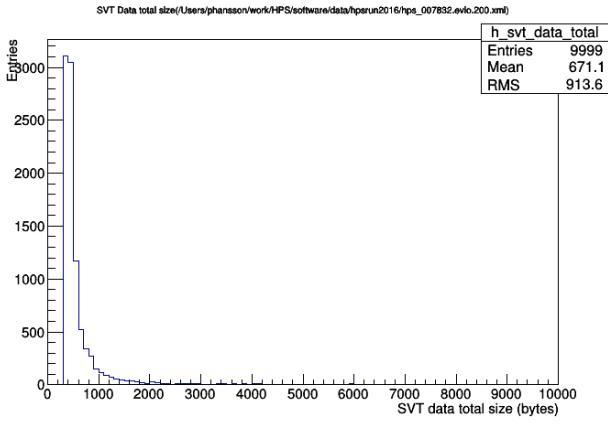


Event Size Testing

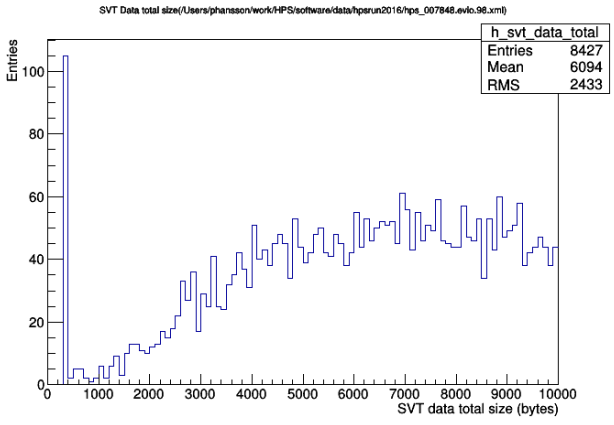
3S



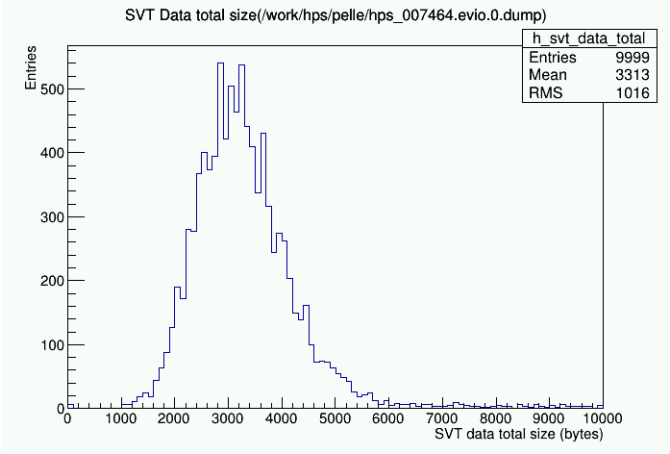
2S



1S

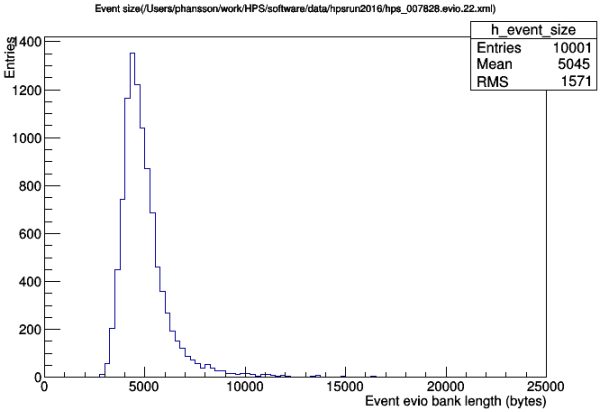


Run 7464

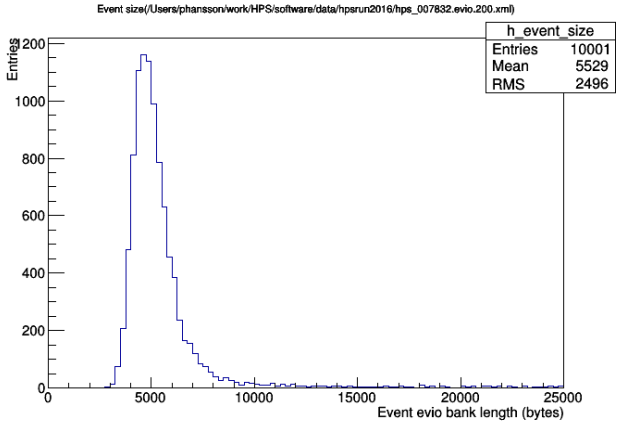


HPS Event Size

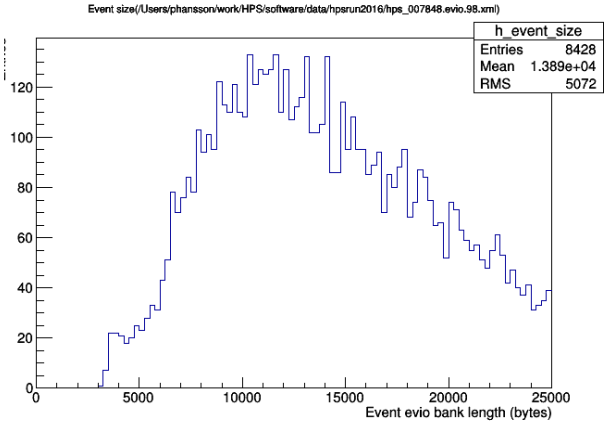
3S



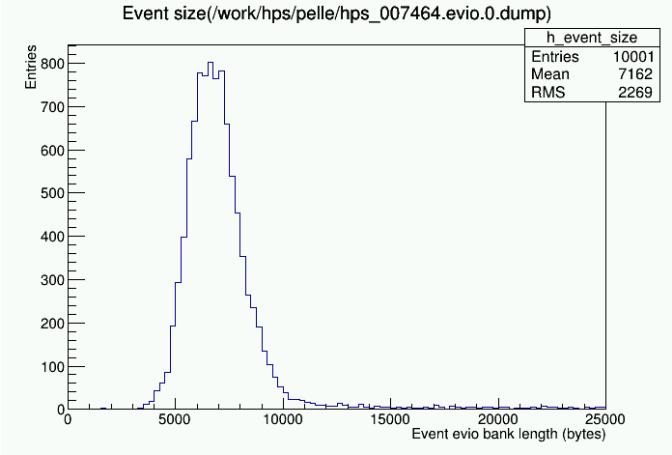
2S



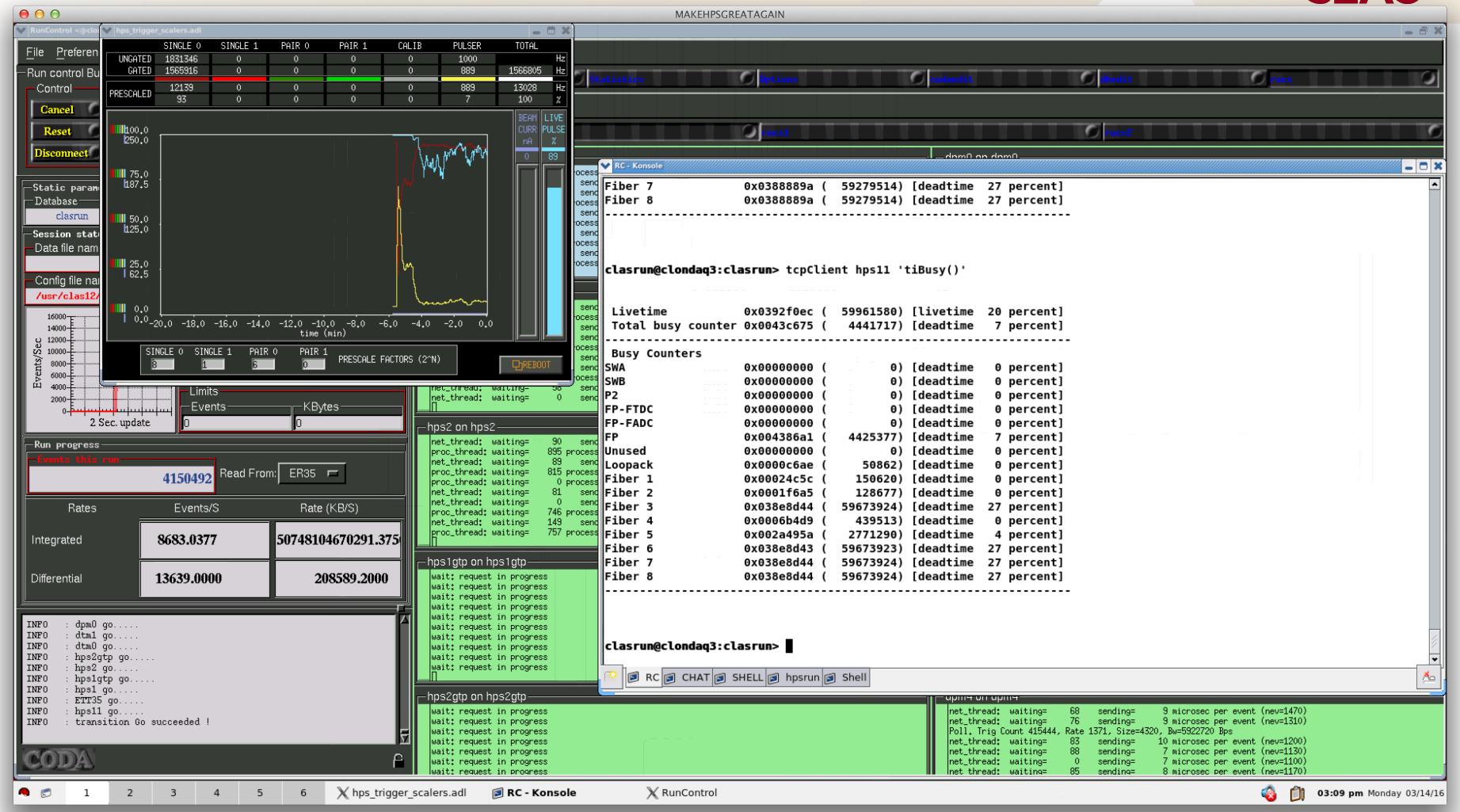
1S



Run 7464

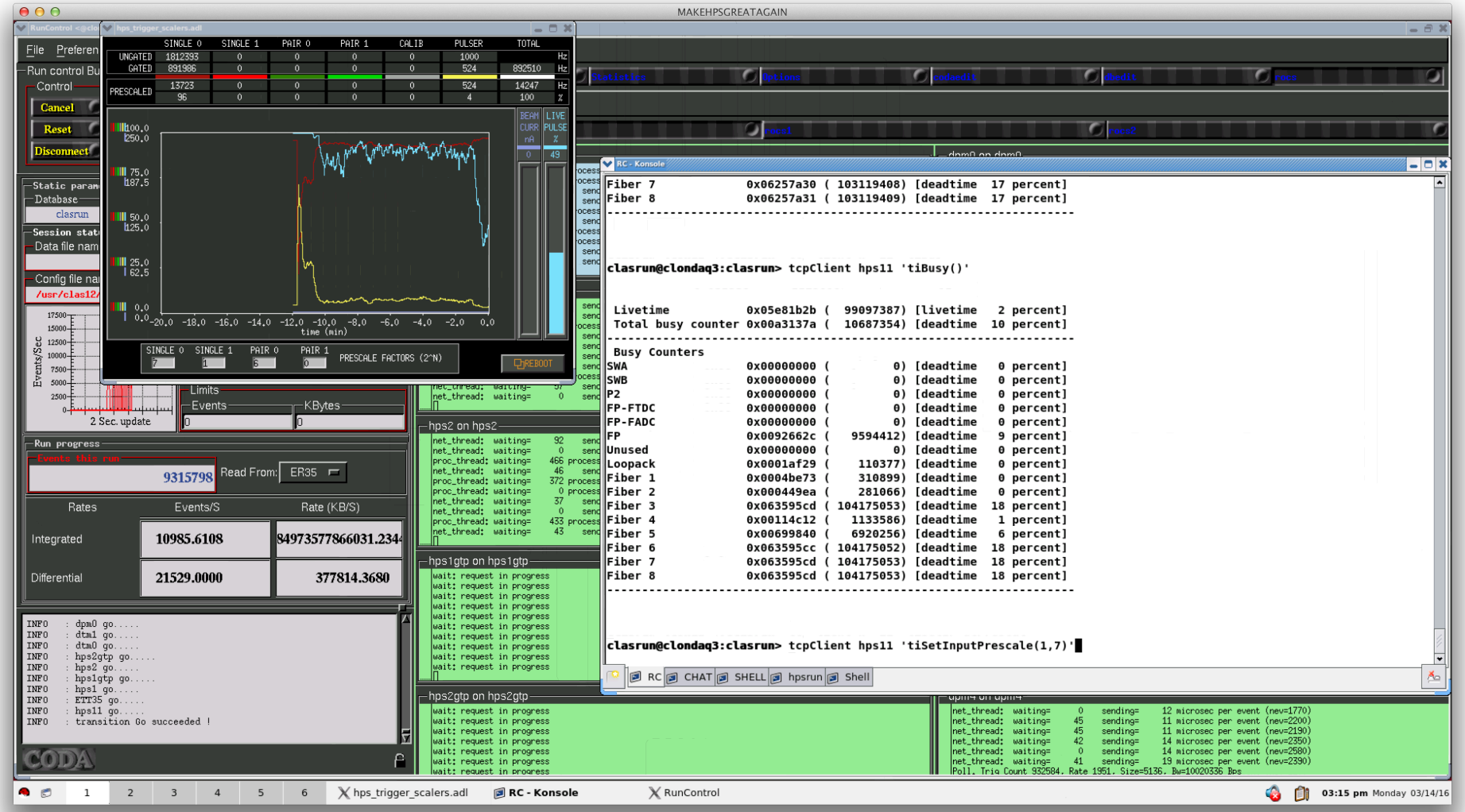


Event Size Testing



At ~13kHz with these huge events, SVT DAQ <5% busy with overall 10% livetime
With 2S thresholds SVT <2% busy always (up to 40kHz)

Event Size Testing



At 21~kHz with these huge events, SVT DAQ <5% busy, with overall ~50% livetime
With 2S thresholds SVT <2% busy always (up to 40kHz)

Preliminary Conclusions

SLAC

SVT DAQ is stable with up to 4x occupancy

- No crashes (burn frames if sw not keeping up, 1G network in crate might be ultimate bottleneck, but we're not that close..)
- Multiple runs with >1M events
- One EB crash after 28M (Sergey is looking at it, rates are 400MB/s…)

SVT DAQ has only small contribution to busy

- <2% with smaller event sizes up to 35-40kHz
- ~5% at 4x beam occupancy at 21kHz