KLM Summary

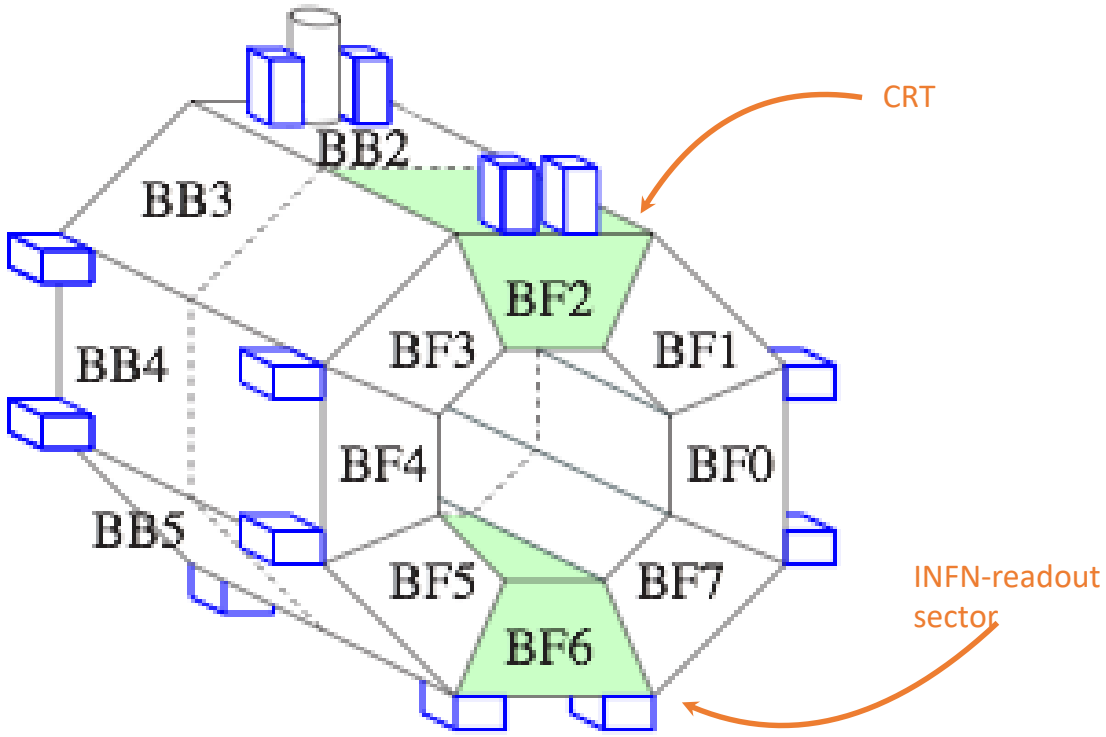
UH Update

3/08/2017 JST

Post B2GM Highlights

- Populated BF6 RPCs- INFN
  - Debug of DAQ and UT3 streams
  - Crate fully functional except BF6L13out
- Debug of DAQ: all barrel (BF+BB) can take data non-stop (UH-DAQ)
  - Charge distributions were plotted
  - Cosmics tracks for BF2+BF6 RPC
- Created a shared dashboard for readout/remote ops (UH-KEK)
  - Located on a PC in B2, shared remote desktop style access
  - Created sheetsheet for data taking
- Barrel and Endcap FTSWs have been separated
- (191 for B and 232 for E)

Installation in BKLM Cosmic Ray Test Stand

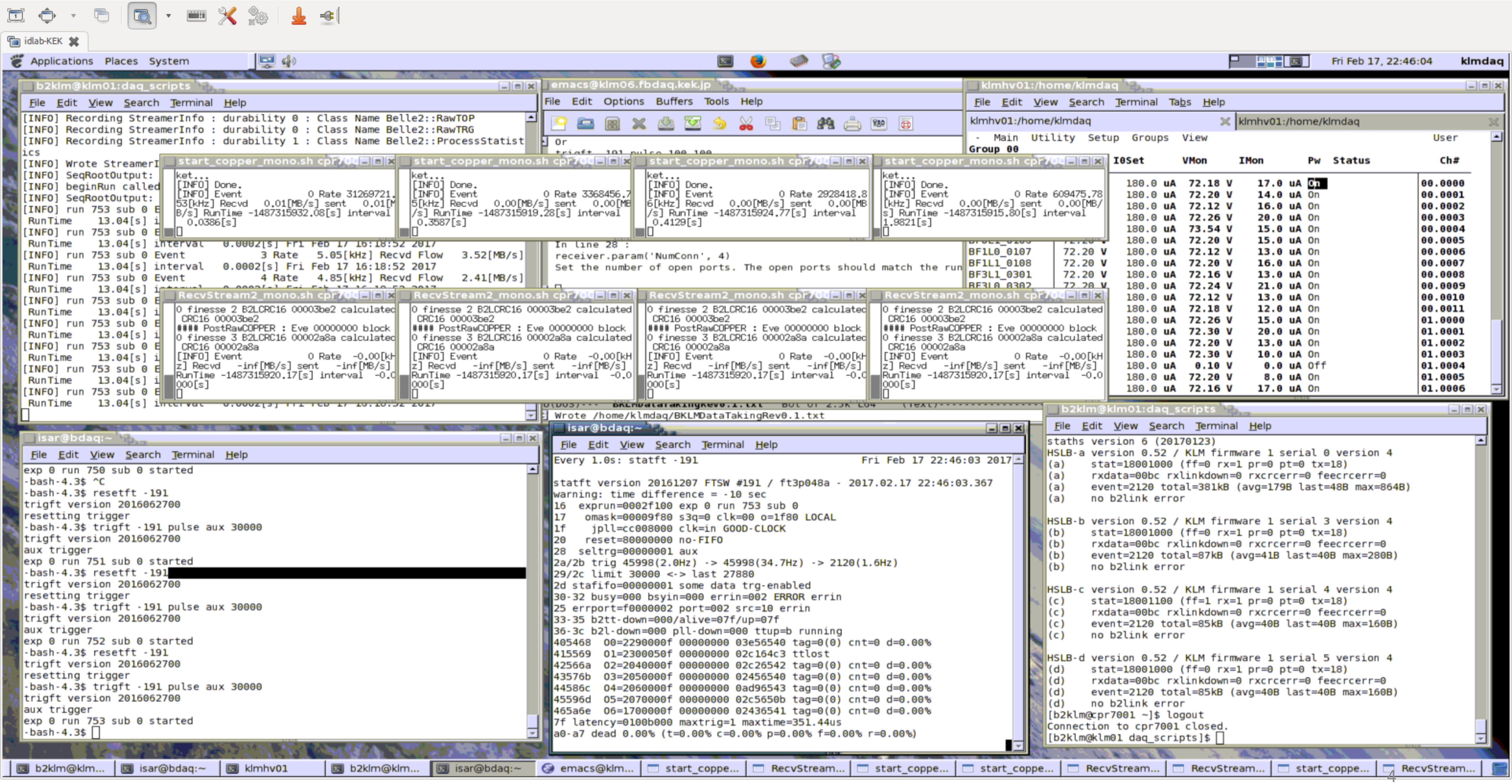


CRT (octant BF2 = top forward):

- two layers of scintillators – used for trigger – with Hawaii readout + 13 layers of RPCs with Indiana readout

INFN-test sector (octant BF6 = bottom forward):

- two layers of scintillators with Hawaii readout + 13 layers of RPCs with INFN readout



idlab-KEK
Applications Places System
Fri Feb 17, 22:46:04 klmdaq
b2klm@klm01:daq_scripts
File Edit View Search Terminal Help
[INFO] Recording StreamerInfo : durability 0 : Class Name Belle2::RawTOP
[INFO] Recording StreamerInfo : durability 0 : Class Name Belle2::RawTRG
[INFO] Recording StreamerInfo : durability 1 : Class Name Belle2::ProcessStatistics
[INFO] run 753 sub 0 Event 3 Rate 5.05[kHz] Recvd Flow 3.52[MB/s]
RunTime 13.04[s] interval 0.0002[s] Fri Feb 17 16:18:52 2017
[INFO] run 753 sub 0 Event 4 Rate 4.85[kHz] Recvd Flow 2.41[MB/s]
emacs@klm06.fbdaq.kek.jp
File Edit Options Buffers Tools Help
In line 28 :
receiver.param('NumConn', 4)
Set the number of open ports. The open ports should match the run
Wrote /home/klmdaq/BKLMDataTakingRev0.1.txt
start_copper_mono.sh
[INFO] Done.
[INFO] Event 0 Rate 31269721.53[kHz] Recvd 0.01[MB/s] sent 0.01[MB/s] RunTime -1487315932.08[s] interval 0.0386[s]
RecvStream2_mono.sh
0 finesse 2 B2LCRC16 00003be2 calculated CRC16 00003be2
PostRawCOPPER : Eve 00000000 block
0 finesse 3 B2LCRC16 00002a8a calculated CRC16 00002a8a
[INFO] Event 0 Rate -0.00[kHz] Recvd -inf[MB/s] sent -inf[MB/s] RunTime -1487315920.17[s] interval -0.0000[s]
klmhv01:/home/klmdaq
File Edit View Search Terminal Tabs Help
Main Utility Setup Groups View User
Group 00
I0Set VMon IMon Pw Status Ch#
180.0 uA 72.18 V 17.0 uA On 00.0000
180.0 uA 72.20 V 14.0 uA On 00.0001
180.0 uA 72.12 V 16.0 uA On 00.0002
180.0 uA 72.26 V 20.0 uA On 00.0003
180.0 uA 73.54 V 15.0 uA On 00.0004
180.0 uA 72.20 V 15.0 uA On 00.0005
BF1L0_0107 72.20 V 180.0 uA 72.12 V 13.0 uA On 00.0006
BF1L1_0108 72.20 V 180.0 uA 72.20 V 16.0 uA On 00.0007
BF3L1_0301 72.20 V 180.0 uA 72.16 V 13.0 uA On 00.0008
180.0 uA 72.24 V 21.0 uA On 00.0009
180.0 uA 72.12 V 13.0 uA On 00.0010
180.0 uA 72.18 V 12.0 uA On 00.0011
180.0 uA 72.26 V 15.0 uA On 01.0000
180.0 uA 72.30 V 20.0 uA On 01.0001
180.0 uA 72.20 V 13.0 uA On 01.0002
180.0 uA 72.30 V 10.0 uA On 01.0003
180.0 uA 0.10 V 0.0 uA Off 01.0004
180.0 uA 72.20 V 8.0 uA On 01.0005
180.0 uA 72.16 V 17.0 uA On 01.0006
isar@bdaq:~
File Edit View Search Terminal Help
exp 0 run 750 sub 0 started
-bash-4.3$ ^C
-bash-4.3$ resetft -191
trigft version 2016062700
resetting trigger
-bash-4.3$ trigft -191 pulse aux 30000
trigft version 2016062700
aux trigger
exp 0 run 751 sub 0 started
-bash-4.3$ resetft -191[redacted]
trigft version 2016062700
resetting trigger
-bash-4.3$ trigft -191 pulse aux 30000
trigft version 2016062700
aux trigger
exp 0 run 752 sub 0 started
-bash-4.3$ resetft -191
trigft version 2016062700
resetting trigger
-bash-4.3$ trigft -191 pulse aux 30000
trigft version 2016062700
aux trigger
exp 0 run 753 sub 0 started
-bash-4.3$
isar@bdaq:~
File Edit View Search Terminal Help
Every 1.0s: statft -191 Fri Feb 17 22:46:03 2017
statft version 20161207 FTSW #191 / ft3p048a - 2017.02.17 22:46:03.367
warning: time difference = -10 sec
16 exprun=0002f100 exp 0 run 753 sub 0
17 omask=00009f80 s3q=0 clk=00 o=1f80 LOCAL
1f jpll=cc008000 clk=in GOOD-CLOCK
20 reset=80000000 no-FIFO
28 seltrg=00000001 aux
2a/2b trig 45998(2.0Hz) -> 45998(34.7Hz) -> 2120(1.6Hz)
29/2c limit 30000 <-> last 27880
2d stafifo=00000001 some data trg-enabled
30-32 busy=000 bsyin=000 errin=002 ERROR errin
25 errport=f0000002 port=002 src=10 errin
33-35 b2tt-down=000/alive=07f/up=07f
36-3c b2l-down=000 pll-down=000 ttup=b running
405468 00=2290000f 00000000 03e56540 tag=0(0) cnt=0 d=0.00%
415569 01=2300050f 00000000 02c164c3 ttlost
42566a 02=2040000f 00000000 02c26542 tag=0(0) cnt=0 d=0.00%
43576b 03=2050000f 00000000 02456540 tag=0(0) cnt=0 d=0.00%
44586c 04=2060000f 00000000 0ad96543 tag=0(0) cnt=0 d=0.00%
45596d 05=2070000f 00000000 02c5650b tag=0(0) cnt=0 d=0.00%
465a6e 06=1700000f 00000000 02436541 tag=0(0) cnt=0 d=0.00%
7f latency=0100b000 maxtrig=1 maxtime=351.44us
a0-a7 dead 0.00% (t=0.00% c=0.00% p=0.00% f=0.00% r=0.00%)
b2klm@klm01:daq_scripts
File Edit View Search Terminal Help
staths version 6 (20170123)
HSLB-a version 0.52 / KLM firmware 1 serial 0 version 4
(a) stat=18001000 (ff=0 rx=1 pr=0 pt=0 tx=18)
(a) rxdata=00bc rxlinkdown=0 rxcrcerr=0 feecrcerr=0
(a) event=2120 total=381kB (avg=179B last=48B max=864B)
(a) no b2link error
HSLB-b version 0.52 / KLM firmware 1 serial 3 version 4
(b) stat=18001000 (ff=0 rx=1 pr=0 pt=0 tx=18)
(b) rxdata=00bc rxlinkdown=0 rxcrcerr=0 feecrcerr=0
(b) event=2120 total=87kB (avg=41B last=40B max=280B)
(b) no b2link error
HSLB-c version 0.52 / KLM firmware 1 serial 4 version 4
(c) stat=18001100 (ff=1 rx=1 pr=0 pt=0 tx=18)
(c) rxdata=00bc rxlinkdown=0 rxcrcerr=0 feecrcerr=0
(c) event=2120 total=85kB (avg=40B last=40B max=160B)
(c) no b2link error
HSLB-d version 0.52 / KLM firmware 1 serial 5 version 4
(d) stat=18001000 (ff=0 rx=1 pr=0 pt=0 tx=18)
(d) rxdata=00bc rxlinkdown=0 rxcrcerr=0 feecrcerr=0
(d) event=2120 total=85kB (avg=40B last=40B max=160B)
(d) no b2link error
[b2klm@cpr7001 ~]$ logout
Connection to cpr7001 closed.
[b2klm@klm01 daq_scripts]$

Last week (March 1-8,2017)

- AUX trigger stopped working right after Isar left KEK
  - Troubleshooting remotely
  - Need to find a way to scan trigger delays until scint data shows up
    - Use chipscope for coarse tune
    - Maybe use multiple slow control files to fine tune
- We saw tracks in both BF2+BF6 instrumented RPC modules.
- We took data at ~100Hz rate where re just read out charge values from all channels (forced trigs)
- At 100Hz + system would become unstable and crash- we have some idea why it is happening in FEE FW

Last week (March 1-8,2017)

- Working with Dmitri at UH:
  - Bring up of Ecap scripts
  - New DAQ scripts in place, slow control for Endcap OK
  - DAQ didn’t work:
  - Need debug connection for ECAP FEEs- Dmitri to setup
- Barrel:
  - Some 6U barrel crates had DAQ fiber issue on detector side as per Yinghui
  - Dmitri will help investigate why we cannot take data from Barrel now
- At DAQ session:
  - 1. We promised to attach KLM to back end as soon as possible
  - 2. They asked us to start using Konno-san’s SLC interface to start/stop runs

DAQ fiber connection issue on DC13 on detector- photo by Yinghui

Plans we promised at 3/1/17 DAQ session

1. Make sure the pocketDAQ system is working again for all barrel
   - Some sectors stopped working after Isar left KEK
   - This should be done by ~3/2 JST-
2. Once system is stable, we will try to connect to backend
   - This will require coordination w all groups
   - Hopefully should be ready to do so ~3/9 JST
3. Once operation is verified we will disconnect from backend
   - Improve FW for readout speed
   - Implement Slow Control GUI
   - New FEE/SiPM calibration sets will be prepared
   - Dates: 3/15/17-5/15/17