GDL+CDCTRG Readout

TRG/DAQ workshop@NTU
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Operation

- trg01 (ROPC)
  - Monitor
    - regrx 130
    - staths
    - cat /proc/copper/FF_STA
    - cat /proc/copper/LEF_STA
    - cat /proc/copper/WEA_COUNTER
  - Reset/Initializatoin
    - tesths
    - booths hslb061_xtal_skipff00.bit
    - regrx 130 1/3
    - bootrx tt4r040.bit
- ttd8 (FTSW228)
  - Monitor
    - statft -i -c
  - Reset/Initialization
    - resetft
    - ttaddr -l, -c, -a, -u gdl, 2d0,2d1, -g
    - utimeft
- btrgsrv0
  - Monitor
    - monitor.sh
    - gdlmon
  - Reset/Initialization
    - 20170820_GCRT.sh
    - GDL bit file download with chipscope
    - GDL0033f.sh

- Quite stable in August runs
- Will be unified and embedded to SC

GDL+CDCTRG Data Size

		UT3	Copper HSLB	delay [clk]	header [bit]	data [bit]	data window [clock]	bit/ev (data* window)	MB/sec @100Hz	buf
GDL		1	15001a	25	32	640	48	31k	0.4	8/8
CDC	TSF2	1	11001b	77		2k	24	49k	0.6	8/8
CDC	2D0	1	11001a	39		2k	48	98k	1.2	1/8
Total		3						178k	2.2	

Summary

- < 2.2 MB/s with 3 UT3
- DQM for GDL (Unpacker+histoModule) ready
- Debugging CDCTRG firmware using b2l data started
  - Will be extended to ~20 UT3 boards
- Stable operation in August GCRT
- We need Slow Control!

Trigger B2L Data

		#UT3	Phys	Debug	bit/ev	MB/sec	
GDL		1	1	1	31k	115	
GRL		1	1				
ECLTRG		1	1	1	400	11	
KLMTRG		1			7/muon	0.2/muon	Sent to GRL
TOPTRG		2					No b2l? To GRL?
CDC	TSF	9		1			for debug
CDC	2D	4		1			for debug
CDC	3D	4					
CDC	NN	4					
CDC	ETF	1					No b2l?
Total		28					

Status