DAQ Status

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Over One Billion Served

http://logbook.phenix.bnl.gov/runspreadsheet/goodruns.php

Run Number	Start Time	Trigger	Events	Cumulative Events (x10^6)	ZDCNS Raw	ZDCNS Live	ZDCNS Scaled	Cumulative ZDCNS Live(x10^6)	BBC/ZDC	BBCLL1 Raw	BBCLL1 Live	BBCLL1 Scaled	Cumulative BBCLL1 Live (x10^6)
119138	Tue Mar 9 07:04:47 2004	BigRun4(70)	4184197	1219.15219	15623532	11002445	54738	3636.50351	0.35586808	5761096	3915419	3915419	1144.22486
119139	Tue Mar 9 08:17:49 2004	BigRun4(70)	583602	1219.7358	2134434	1820381	9057	3638.32389	0.29629402	647175	539368	539368	1144.76423
119140	Tue Mar 9 08:45:08 2004	BigRun4(70)	171444	1219.90724	633140	538992	2682	3638.86289	0.288867	187097	155697	155697	1144.91993
119141	Tue Mar 9 09:04:30 2004	BigRun4(70)	429124	1220.33636	1558174	1386011	6896	3640.2489	0.28416441	452119	393855	393855	1145.31378
119143	Tue Mar 9 09:27:37 2004	BigRun4(70)	108081	1220.44444	393184	352937	1756	3640.60183	0.28038998	112690	98960	98960	1145.41274
119264	Tue Mar 9 19:39:26 2004	BigRun4(71)	148658	1220.5931	739572	431303	2145	3641.03314	0.32972412	249927	142211	142211	1145.55495
119267	Tue Mar 9 19:54:02 2004	BigRun4(71)	1000544	1221.59365	4434737	3003066	14940	3644.0362	0.31760108	1444826	953777	953777	1146.50873
119268	Tue Mar 9 20:06:18 2004	BigRun4(71)	305833	1221.89948	1322668	928376	4619	3644.96458	0.31349582	424834	291042	291042	1146.79977
119269	Tue Mar 9 20:24:17 2004	BigRun4(71)	3228222	1225.1277	13298566	10162451	50560	3655.12703	0.30044681	4092898	3053276	3053276	1149.85305
Number of runs: 894													

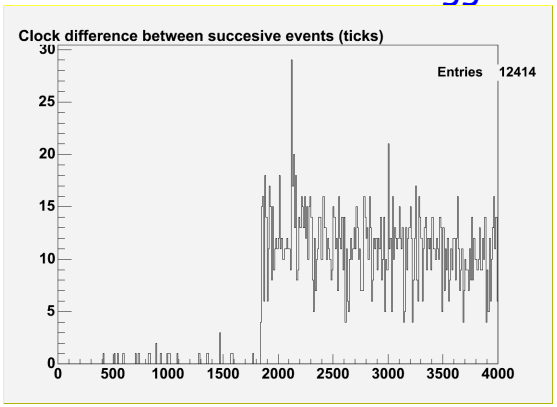
There may have been difficulties along the way, but we have produced a large data sample; the runs in pink are ones that ended abnormally… there are too many of them, and that's one of the main operational problems we are addressing

DAQ Status

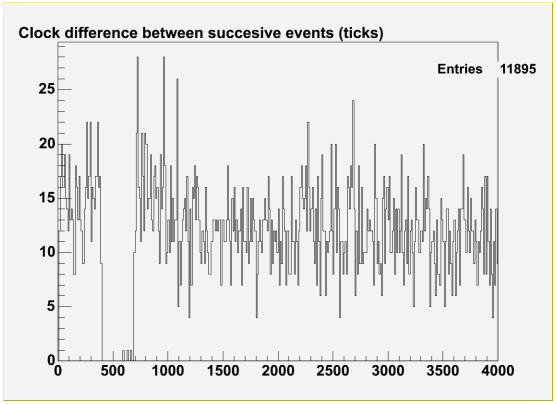
- Most of the hardware has been working fairly well… some problems with DC.E.N and a few PbGl FEM's, but mostly garden variety failures
- The computing environment has been pretty stable, including new disks and servers
- Brian, David, and Jiangyong have done a lot of EvB development to solve problems and incorporate Level 2; we can routinely build events at 1.7 kHz; Level 2 is currently not being run
- We have suspended development in favor of maintenance, repair, and debugging

Multievent Buffering Band-Aid

- It turned out that the MUTR multievent buffer problem occurs when the second trigger is in a time window about 50 μs after the first; this is confirmed in the simulation
- I rigged up a veto using a soldered in FEM Unreliable bit that I generated from the ENDAT of a GTM to prevent triggers with that time difference
- I think I'm missing some subtlety, because it works with N=2 triggers, but not N=3
- Livetime at 1.7 kHz goes from somewhat below 70% to a bit above 80%
- Jamie cooked up some DCM code at John Lajoie's behest so we can easily measure the time difference between triggers:



N=1 200 μs between events



N=2 with gap 40-70 μs

Moving to Multievent Buffering

- The band-aid solution came too little and too late to do much good, and in the meantime, Jack Fried has solved the problem in the design
- Bench tests by Imran look good so far, and Mike Leitch has set up the calibration pulser so that one can do controlled tests on the bench
- There is at least one more substantive modification it would be nice to make before programming all the MUTR FEM's
- Sergey made some rc changes to make turning on MEB straightforward
- I'd like to program all the MUTR FEM's "near the end of the run" and "take a reasonable amount of data" with the whole detector—still up in the air when to do that