SBS DAQ update
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GEM

- DATE installed on CNU PC
- Basic communication with SRS in C using UDP
- Located SRS UDP code in DATE

- No direct access to DATE source code without CERN account, suggest having a UVA mirror
- Check if UDP loss is an issue at high rate

GEM event size

Nb samples	5										
Rate	5000										
Occupancy	1					Total MB	Data rate	Crates	APV	FEC/MPD	MPD/crate
GEM Front	60000	60000	1321875	6609375000		6609.375	1321.875	13.21875	468.75	29.296875	2.21631205673759
GEM back	64000	64000	1410000	7050000000		7050	1410	14.1	500	31.25	2.21631205673759

Nb samples	3										
Rate	5000										
Occupancy	1					Total MB	Data rate	Crates	APV	FEC/MPD	MPD/crate
GEM Front	60000	60000	793125	3965625000		3965.625	793.125	7.93125	468.75	29.296875	3.69385342789598
GEM back	64000	64000	846000	4230000000		4230	846	8.46	500	31.25	3.69385342789598

Need implement and test deconvolution on MPD , SRS

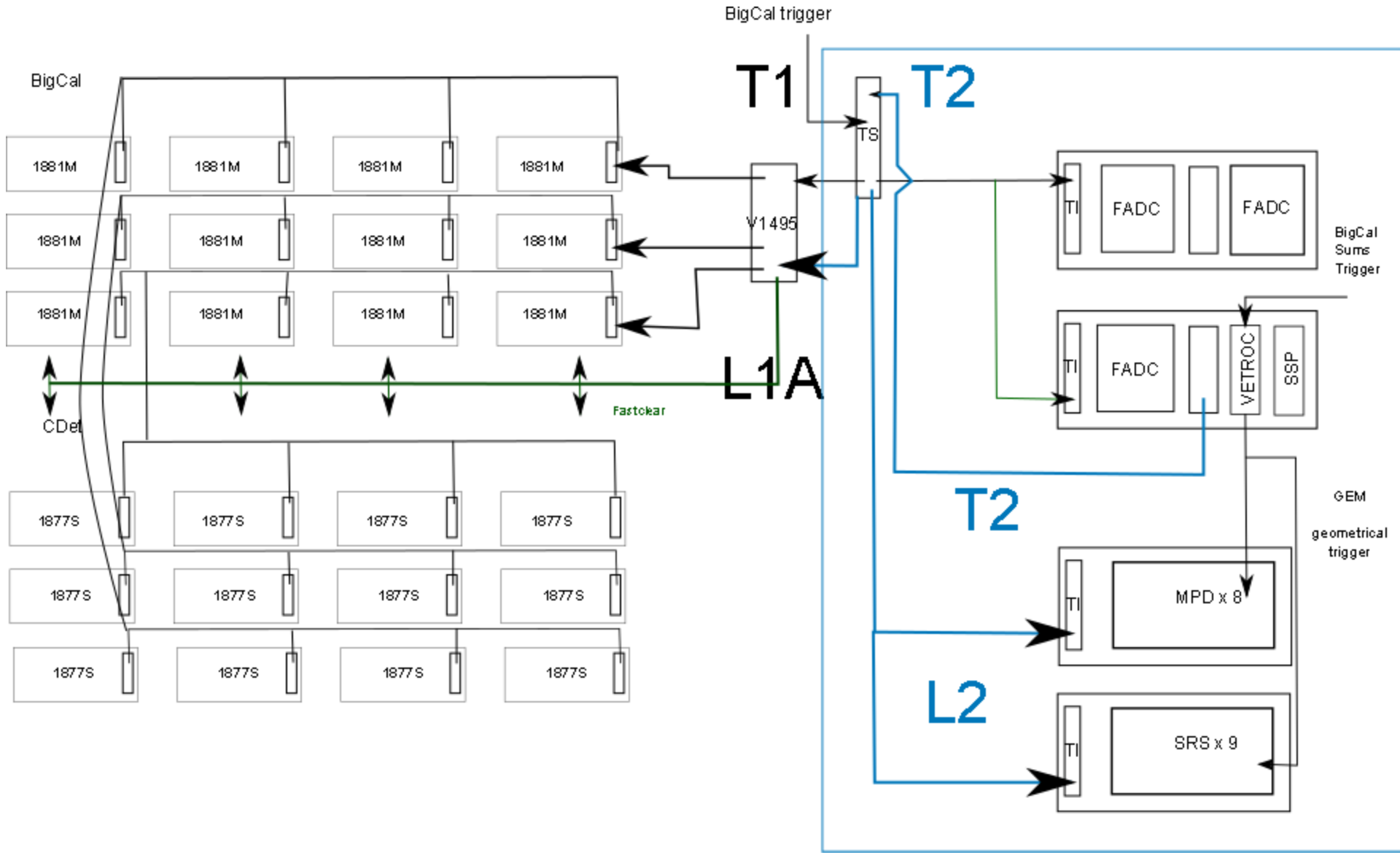
Fastbus

- 6 Fastbus crates tested
- 2 crates running, 1 almost setup
- Development of readout for old VME CPU using new TI

Fastbus event size

5 KHz	Channels	Single MHz	Window ns	Ocuppancy	Modules	3x modules	Channels firing	Data rate	Max Data rate MB	Expected Data rate MB
Cdet	3700	2	100	0.2	38.5416666666667	115.625	3700	75541666.6666667	75.547	15.10
ECal	1800	1250	60	0.021	28.125	84.375	1800	37125000	37.125	0.779625

DAQ layout


BigCal trigger
BigCal
T1
T2
TS
1881M
V1495
TI
FADC
BigCal Sums Trigger
VETROC
SSP
L1A
Fastclear
CDet
1877S
T2
GEM
geometrical trigger
MPD x 8
L2
SRS x 9

Plan

- GEM
  - Restore INFN setup
  - Move SRS setup to Test Lab
  - Readout with CODA
- Fastbus
  - Test 2 and 3 crates flipping with old and intel CPU with old and new TI
    - Dead time measurement
    - Event blocking old TI
    - Event resynchronization
- Write-up