SolID EC/DAQ meeting

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FADC Readout

- Current system
  - Individual threshold on each channel
  - Need to keep it low
- Need selective readout to reduce data rate and take advantage of clustering

FADC Readout

- Current TS is limited to 256 event types
- 58 blocks
- Idea is upgrade trigger link

Updated rates

- Data rate assuming 2 clusters by event
  - 60 MB/s for 60 KHz : 1 crate sufficient for FADC

- Multiply number of TD board and fibers by 4 for 64 bit bandwidth : 1 bit per block to be read

Updated budget

• FADC	250	4500	250	1125000
• TD	3000	12	36000	
• CTP	5000	30	150000	
• SSP	5000	3	15000	
• GTP	5000	30	150000	
• TS	3500	30	105000	
• TID	3000	61	183000	
• SD	2500	61	152500	
• VXS crate		11500	61	701500
• VME CPU		3400	61	207400
•	Total		2,825,400 $	

Around 3.5 M$ including fibers spare

L3 farm

- Hall D : 27 Hz/core with tracking

  77 Hz/core without tracking for 24 planes
- Assume SoLID 2 times faster because of less channels

Rate	Tracking	No tracking
20 KHz	1.8 M$	0.61M$
40 KHz	3.6 M$	1.21 M$
60 KHz	5.4 M$	1.81 M$

- Need to evaluate processing power for our reconstruction, most likely need to go without tracking for L3