SBS meeting
INFN MPD short update

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MPD APV25 INFN readout

- Multi Purpose Digitizer
- GEM readout
- Up to 16 APV by board
  2048 channels / board
- Latency :

t_{APV} = 141 x number_of_sample / 40 MHz = 11 us

- Buffered
- VME320 board

INFN MPD

- VME64X VME board : up to 200 MB/s burst rate in 2eSST (still to be implemented)
- Plan to use VXS crate to distribute trigger and clock
- VXS crate + CPU ~ 15 K$ additionnal
- 32768 channels per crate
- Custom bus with on board voltage regulator
- Signal sent on HDMI A connectors

INFN DAQ package

- C++ package based on libconfig
- VME interface separated from MPD code makes it easy to interface with other
- Standalone DAQ program
- Small analysis package and macro

Status

- Move setup to EEL 126
- Written the VME interface and Makefile to compile with intel CPU VME libraries
- Seems to work in standard VME
- Just finished block transfer seens to work too need to be tested thoroughly
- Best rate so far 500 Hz with 5 % deadtime
  (Evaristo got about 3 KHz with other controller)
- Need to optimize program and use faster computer for data writing
- Issue with A16 and old TI board not seen when MPD is in the crate, trying with new TI

Plan

- Test new MPD with HDMI
- Write C wrapper of MPD class to use within CODA
- Test with CODA and buffering
- Test faster protocol when available
- Test with real signal from chamber