

# **uBooNE DAQ Status**

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# Readout at Nevis

- I can not speak for Georgia at Nevis. I think she's making good progress with XMIT readout. I think she's doing few-byte DMAs so far.
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# Slow-mon/Control

- I know we still need IOCs to be written to talk to HV/LV power supplies over ethernet, e.g.
- The Glomation (to read fanpack and temperature) boots. It is not kerberized. It is not yet reading over i2C and writing to a dB or anything.

# Hardware

- We have software for control of the calibration hardware: AFG3xxx and the NI digital IO cards.
- We don't have a run control script that incorporates this software to do a calibration. Will work toward precisely this at DAB.

# PMT: PAB Test Stand

- New machine uboonepab02 up and configured. *Almost* networked properly. Has /home directory on it from uboonepab01. minicom, rsh are on it in order to control the PMTs through the VME crate.
- Georgia will deliver PCIe card and crate of electronics and readout code on 26-June and MIT will be in business to take data.

# DAB Test Stand

- This is the core readout code. I expect Nevis/BNL equipment by mid-July.
- New uboonedaq-seb-10 up, configured.
- Gennadiy has made a *lot* of progress here. Event building code heavily refactored -- sometimes to just reorganize, sometimes to use art::daq stuff. Among other things, we've successfully obsolesced some ugly circular buffer legacy code.

# DAB Test Stand II

- Fake Data: Gennadiy has demo'd random numbers of 64 bit words shipping over 10 sockets from uboonedaq-seb-01 to uboonedaq-evb. Assembler collects the fragments and writes out events. Yay!

# DAB Test Stand 3: Next 4 weeks

- Avail ourselves of new Jungo license as necessary and ship fake data through PCIe and do the real DMA'ing, rather than shipping random # of 0xDEADBEEFs. Will do *MByte* DMA's!
- Install/insert Ganglia methods to monitor performance. Will then insert dB instance and keep performance histories in dB.
- Consider an art::EventViewer in order to view the data in shm. Need a data read utility.
- Thread the code to ensure no single seb node hogs the pipe to Assembler and to be sure DMA'ing is never throttled.
- Run Control to do a Calibration run. DDS messaging will be needed.

# Future DAQ workers

- End of July Cosima Santina from Italy shows up to work on beam data
- MIT people looking now for PMT DAQ tasks, I think. Write an IOC to control LED pulser?
- In October two people from Virginia Tech will jump in. Slow mon/control?
- New LANL post-doc looking for hardware work will jump in. RWM? 9

# Online monitoring

- We will have massive horsepower.
- I want to think about getting LArSoft instances up locally. Can do this as soon as we're building real events.

# GPS card

- Project: We have a trial GPS card coming from vendor soon. We need to think about getting GPS time into event. The GPS can be made to latch a time of a once-per-second, say, input, which we can shove into the header of the nearest frame. Or something.

# SN coding

- It's probably time to begin thinking about this.
- Reminder: 1.6 msec SN data frames are written straight to disk continuously by a dedicated seb process.
- Events are not built on the fly.
- However, upon receiving a trigger we then *will* gather the relevant chunks and build the event.
- Takes some finesse. Perhaps a CD person.