

**Eric, Yale, 17-April-2012**

## A short summary of tools (tasks) yet to build (perform)

- Let's presume MRT is behind us (mid-June)
  - This glosses over a lot of work Wes and Gennadiy and others are doing now.
  - Am also presuming KSU slowmoncon work is fully in-hand.
- June-September time frame
  - I presume we'll probably be doing real work on the DAB teststand through November, at least.
- Sept-end 2013 timeframe
  - DAQ team should have a 2nd TPC crate and a PMT/trigger crate
  - The Project may have us installing computers at LArTF by September-November.

# First things first, post-MRT

- Fix/understand problem of missing Beginning/End of event words in compressed mode
- This is our 0th order readout hurdle right now.
- Once solved, run in SN + Trigger mode.
- Can we query status on crates while we run??
- **Has Nevis's new XMIT code fixed our compressed-mode run crashing?!**

New Work and moving parts that are remaining that (I think) we should have at least parts of running by end of June/July.

## □ ~~DataSpy~~ Online Data monitoring

- Start with SEB SN info. Look for ~~messed up data words: show good/bad in color coded grid~~ at actual wire/PMT data in in-browser histograms. Hand off data to online monitor via shared memory. **argo\_backend**

## □ Dispatching data from files to N Online LArSoft swizzling processes. Is this something we build from scratch?

## □ Application Manager

- should likely port this from NOvA, as planned

Other things that have been started that I hope can be pretty mature by end of August

- ❑ DAQ dB schema and hooks into dB
- ❑ Calculate calib constants
  - Should fall out from MRT work
- ❑ Process to insert beam data into data file.
- ❑ data swizzling
  - no beam data yet. Should swizzling await that?
  - decompressing?
  - CalWire? HitFinding? ...
- ❑ Run Control GUI
- ❑ GPS time into SEB header, then Glbl header
  - Code is there, machine is ready.

# Work that must be done in September when DAB test stand gets a PMT crate and a 2nd DAB crate.

- Generate triggers (Ext pulse is fine). *Easy-peasy.*
- Fan it out to generate readout of both crates.
- Get assembler to read and build data from both.
- Run in SN + Trigger mode.
- No foreseeable problems here. We just would like to do it before LArTF. **Scheduling may dictate this gets pushed to LArTF.**
- Then ...
  - Read the Trigger card directly in crate on its fiber/PCIe
  - Get the GPS time into the header

## Pre- and Post-September: SuperNova data. (Big project, I think)

- ❑ Scripts needed, listening/reacting to SNEWS email, to tell processes on SEBs to drill down into appropriate frame numbers  $\pm 1$  hr around putative SN. Then, fake this email at reasonable rate ( $\sim 1$ wk).
- ❑ Ensure we're in a low rate trigger mode.
  - if not, stop, reconfig, re-start Run.
- ❑ Pull that data off disks, ship it over sockets to assemblerSN, intelligently, over network.
- ❑ Swizzle, analyse to look for the actual events.
- ❑ Scripts to monitor/reap disks
- ❑ Meta scripts to watch over all this.