

DAQ/CI Status

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Computer Setup

- OS and Python dependencies: done.
- Custom data upload and system update program (Python): done (John).
- Base Labview setup: done, RPM: in progress.
- Mariachi Labview program and libs: done (Dima), RPM: in progress
- FPGA Program Loader: works, but GUI onl. Long-term need to replace with CLI version.
- Electronics box: pulsing now understood, fix known, updated hardware soon.

Other DAQ/CI progress

- Data file formats (v.1) defined with written specification (on the gridwiki).
- Central compute farm (4 nodes): automated installation and configuration via PXE and Kickstart. Automated system RPM updating via local YAM repository. (done by Hari)
- Condor batch processing system (in progress, Hari).
- OSG CE (Compute Element) for grid interface. (soon).

High School DAQ Systems

What you get:

- Computer (Scientific Linux 4.4, Labview 8 + hardware interface library, and Mariachi upload and update software), keyboard, mouse, and lcd monitor.
- USB-connected electronics box.
- GPS unit.
- root password.

High School DAQ Needs

- Secure location.
- Electrical power and ethernet jack with internet connectivity.
- Connection to scintillator detectors.
- Connection to GPS unit.
- Inbound network access via port 22 (for debugging and adjustment phase only).
- Static IP and known hostname (now, later DHCP OK. We don't need a static IP if we don't have inbound access).

Phase I Rollout: Static IP, Inbound access

- Stony Brook physics (4th floor)
- Brentwood
- Rocky Point
- Deer Park
- ??

How it works

- Slightly different from previous non-Labview system...
- Electronics box connects to detectors and GPS.
- Computer connects to box via USB.
- Labview runs on computer, pulling information from box and writes file(s) to disk.
- Custom upload program copies data file(s) to central server via SSL-secured web interface. SSL-security provided by Grid certificates.
- Further data analysis on central server...

Real-Time Event Web Page

- Previously, the data acquisition script updated the central web page in real time.
- Now that Labview is doing everything, real-time event display will need to be derived from uploaded data on server.