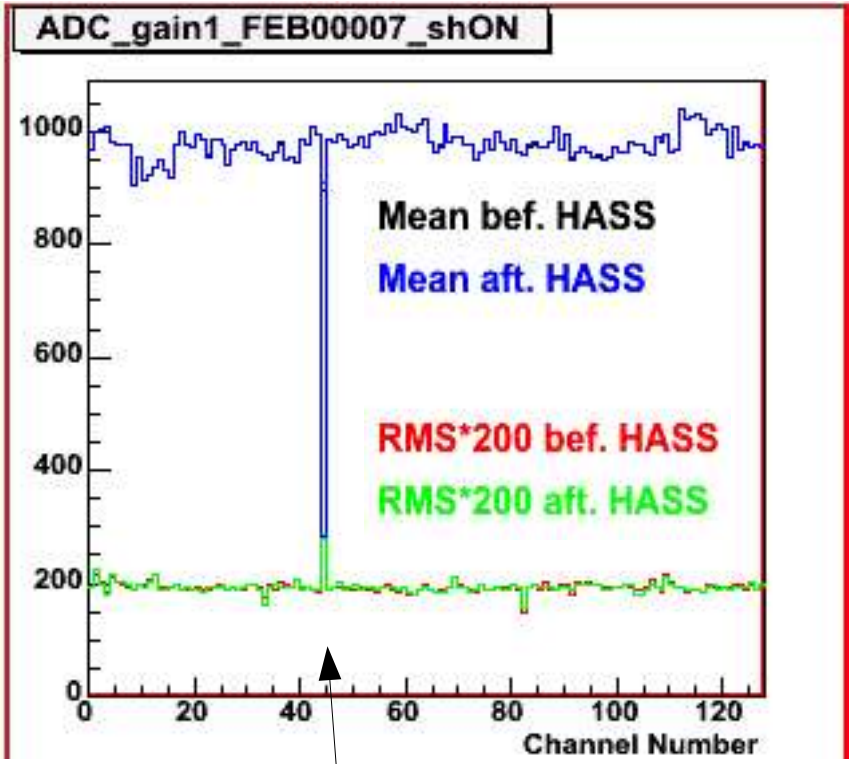
The HASS Test-stand GUI

Andy Haas
Columbia University /
Nevis Labs

ATLAS LArg Week
Sept. 6-10, 2004

The HASS Test

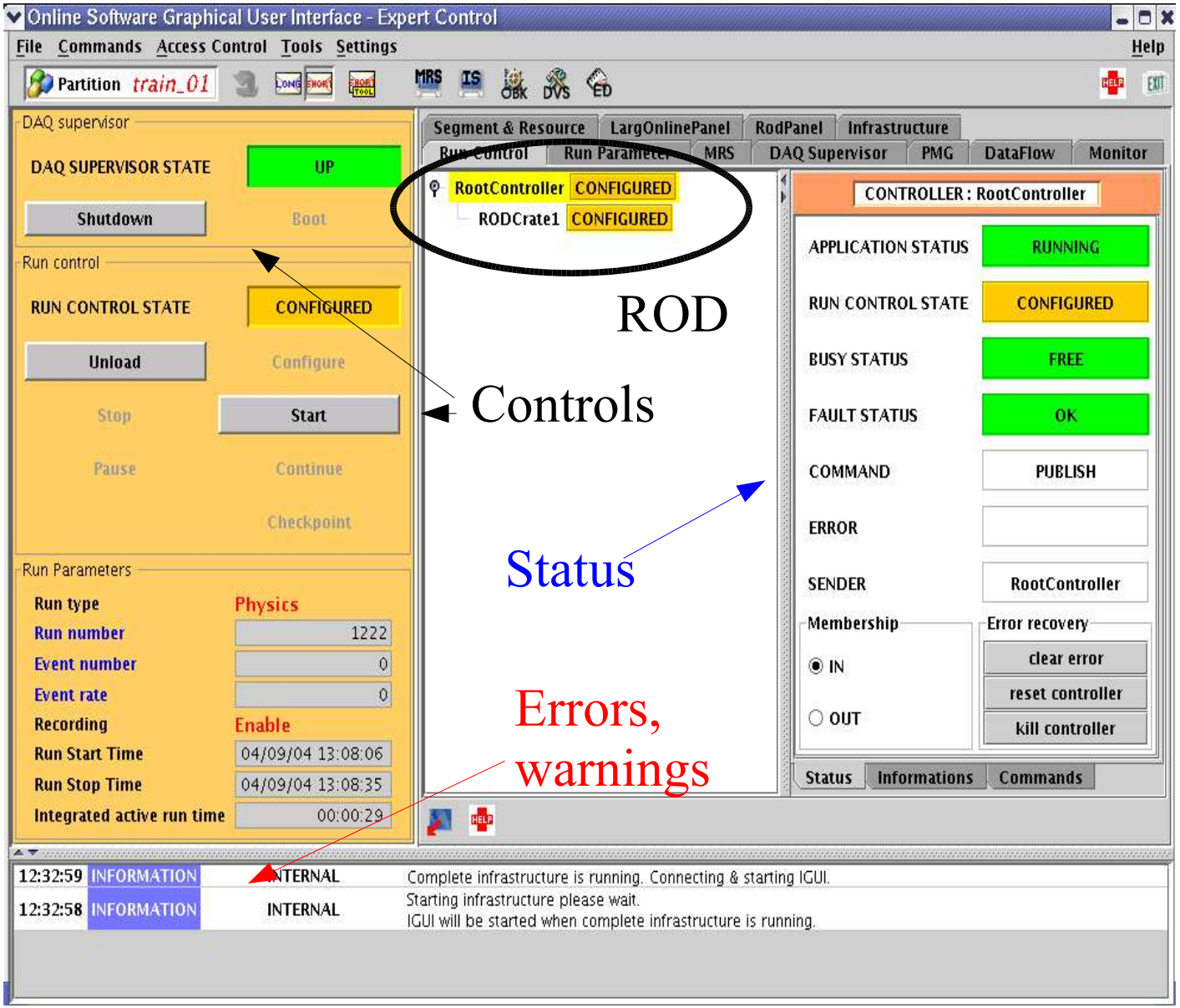
- Put all boards through intense hardship to weed out the weak ones...
  - Highly Accelerated Stress Screening
- Temperature cycle of LArg FEB's
  - 0 <-> 55 Celsius
  - 1 hours long
  - Repeated 8 times
- Noise data is taken from each board before and after the test
  - Look for bad channels, etc.
- DCU values (on-board temps and voltages) are recorded continuously
- Tests to be performed by technicians
  - Software must be easy to use, clearly display errors, etc.
- Data analyzed by physicists (us)



Bad channel

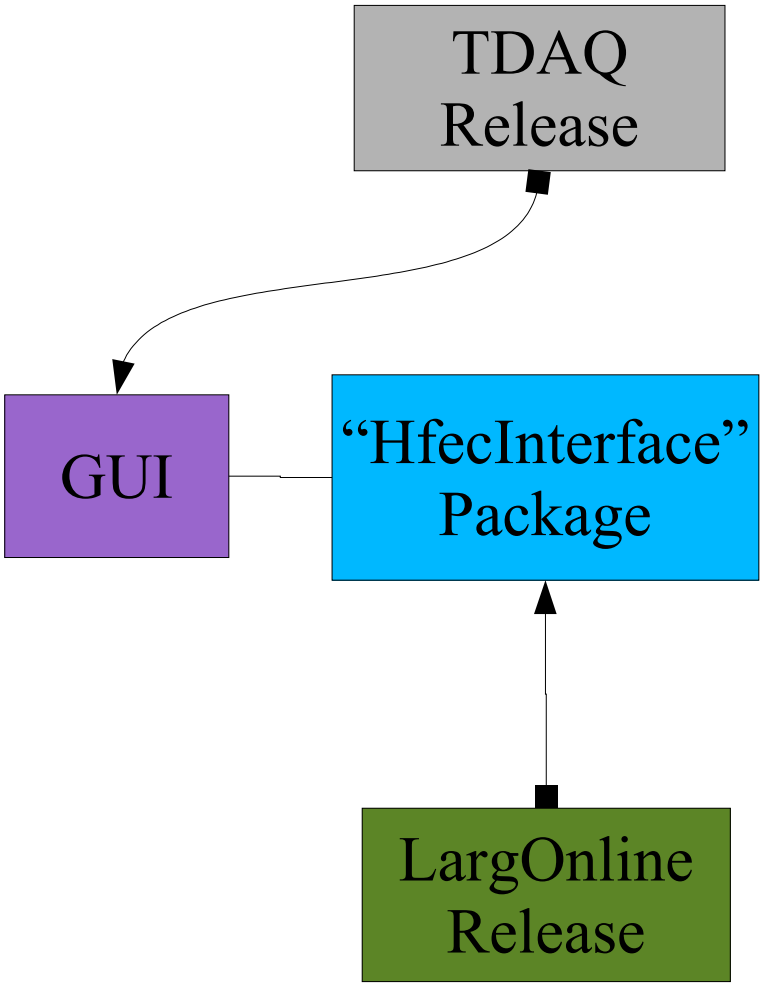
The Online GUI

- Single ROD
  - Boot:
    - Low voltage on
    - Loads boards
  - Configure:
    - Configures
    - Starts DCU readout
  - Run:
    - Takes data
    - Pauses DCU
- Publishes IS monitoring
- Shows warning and errors using MRS

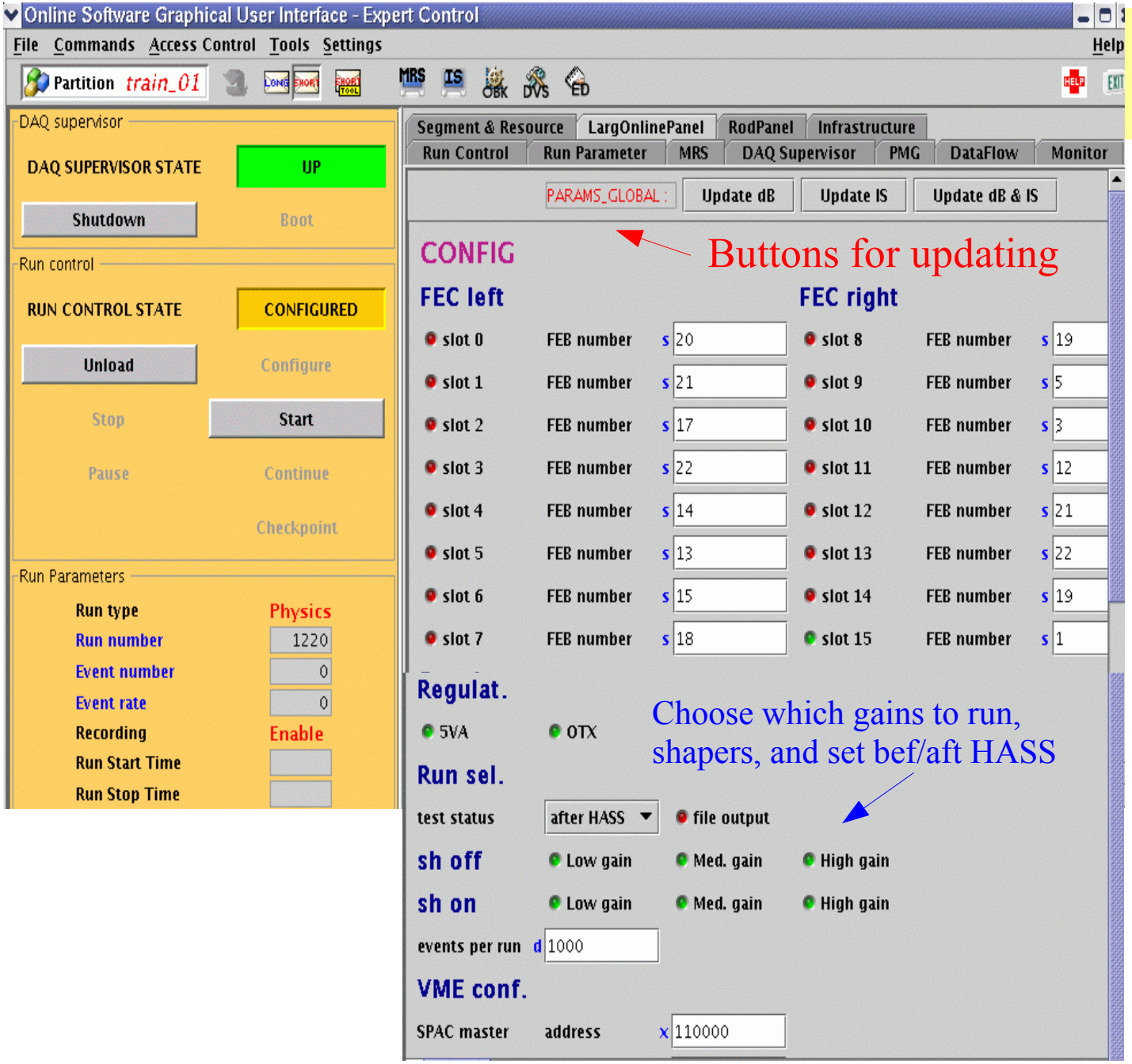


Software and Setup

- TDAQ 00-21-02
  - gcc 3.3.2
  - linux-bit3-dbg build with CMT
  - linked from LArg-online interface package (HfecInterface)
- SPAC master, FEB and ROD classes based on LargOnline release used in combined testbeam (as of June 04)
- Custom setup for controlling readout of up to 16 FEB's with 2 readout channels
  - Also continuous DCU readout inside GUI
  - Parallel-port control of power supply



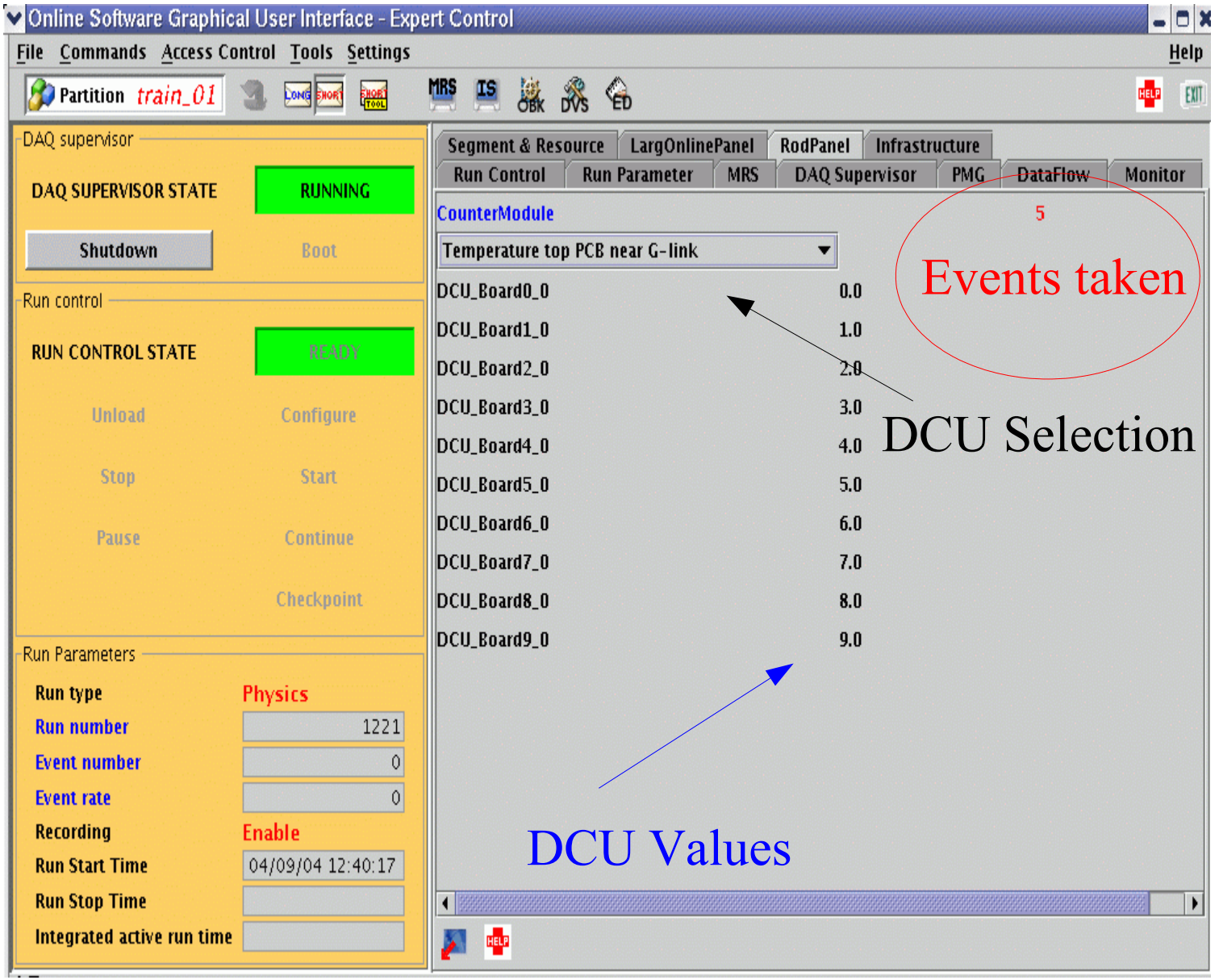
Parameters



- Can choose active slots, and set FEB serial numbers
- Can also choose which runs to take (low/high gain, shapers on/off) and other run parameters
- Set whether before or after HASS test
- Buttons for updating info once set, via the database and IS servers

DCU Monitoring

- DCU values (voltages and temperatures) are read continuously during the test
- Monitored on a panel, and archived for later analysis
- The number of events taken during data taking is displayed through IS in the panel



Comments

- This is just a start
  - <2 month old project
- We are gaining experience with:
  - TDAQ online framework
  - CMT
  - MRS
  - IS
  - Java / Swing
- **We hope to transfer our software and knowledge**
  - **Contribute to the LArg online monitoring effort**