Online Software Status

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- TileCal Cable Test SW
- ROD Crate DAQ
- Databases
- Monitoring
- Next Steps

TileCal Cable Test Software

- Currently reading PPM via VME
  - Complex format, differs from final ROD readout
  - Few events, but may be better with ROD crate DAQ
  - Decoding, histograms, analysis, checks by Florian
  - Now also monitoring from Victor
- Next Steps
  - Test improved checks when TileCal tests restart
  - Run with ROD Crate DAQ controller
  - Migrate checks to cope with ROD readout
  - Better control of multistep runs

ROD Crate DAQ Progress

- Further small steps in a long saga
  - We have intended for a long time to migrate our crate controller to the ROD Crate DAQ skeleton
  - This includes more integrated handling of readout and other monitoring streams than our custom controller
  - All aspects of this now tested and work in principle
  - Though new changes in how we treat some of our readout data have been proposed...
- Next Steps
  - Discuss and decide any changes to module services API and handling of monitoring and readout streams
  - Just make the migration finally

Databases: Overview

- Configuration database
  - Current hardware setup
  - Current connectivity
  - Calibration and other settings for the next run
- Conditions database
  - Settings used in previous runs
  - Archive of all calibrations (even if never used)
- Data archive
  - Detailed data from calibrations, monitoring data
- Description/control of (sets of) multistep runs
- DCS configuration and conditions
- Trigger menu

Databases: Progress

- Used CMM calibration as testbed
  - Detailed results (histograms) stored as ROOT files
  - Summary of required settings stored in COOL
  - Started to look at tools/queries for trend studies
  - NB not using pure COOL API (limited queries)
  - Instead using underlying "RAL" software to look in COOL tables behind the back of the API
- Next steps
  - Load settings from DB to HW via run controller
  - Extend to other modules: PPM is worst case
  - Worry about use of COOL in ATHENA (performance issues with too many separate channels?)
  - Compare with experience elsewhere in ATLAS

Monitoring

- Lot of activity recently (see next talks)
  - Started to implement monitoring in GNAM
    - Bytestream decoding of ROD and PPM/VME
    - Simple histograms, more to come…
  - Work started on PPM monitoring incl rate/spectra
  - Activity at CERN, QMUL, Heidelberg, Stockholm
- Next steps
  - So far concentration on online monitoring
  - We will also want to look at offline data in ATHENA

Next Steps, Whats Missing

- Databases
  - **Lot** of work to do: configuration, connectivity, multistep run "plans", migration to new trigger DB, etc
  - Not so many people to do it
- Monitoring
  - Lot of people (and work), needs organising
- Support for integration/commissioning
  - Tile/LAr integration and cable testing with RODs
  - Integration with ROS, CTP, RoIB
- Eternal migrations
  - New TDAQ, new LCG, ROD crate DAQ(!)
- Documentation (as ever)