Software Meeting: Some Points for Discussion

Overview

- Timescales and priorities
- Review
- HDMC optimisation...and other changes?
- VME read-modify-write
- ROD crate DAQ
- Calibration procedures, timing/delay scan
- Online monitoring

Timescale and Priorities

Major concerns

- PPM readout and integration testing (more detailed than at testbeam)
- Automated procedures: timing scans, PPM input calibration
- What to do and when with databases
- Migrations: ROD crate DAQ (and perhaps monitoring?)
- Software needs for production testing, installation and commissioning

Review

If, when and what?

- Do we still have time for a meaningful review (preparation and implementation of any proposed changes)
- Should we just do it anyway? What kind of scope?
- What style? Lots of documents and/or N-day concentrated workshop?
- Roughly when? Eg early next year?

HDMC

Immediate concerns

- Propose to change PartManager: only manages “top level parts”. All other parts managed by their parents. No single huge list of parts to be sorted or searched. Still need to check for any gotchas.
- VME read-modify-write: tried briefly (and unsuccessfully?) at the testbeam. Should we reinstate this? Whats the model for reliably accessing registers from more than one process?

Things to review?

- Future improvements to HDMC: parts files, composites?
- Further cleanup, removal or simplification of unused code or facilities (eg multiformat registers)

ROD Crate DAQ (1)

Status and short term plans

- Got basic RCD software to configure the slice test system last week
- Need to test it some more, eg check reading/writing to IS
- Maybe change schema: reduce number of additional DB objects
- Check readout (eg of 6U ROD) and connection to monitoring
- Try using exising LTP segment? (Feedback on LTP requested before Xmas)

ROD Crate DAQ (2)

Feedback

- At end of RCD workshop, Benedetto asked for precise input/feedback on changes to ROS/RCD architecture (compared to vague requests aired in talks)
- My suggestions based on limited experience so far are:
- Access to top level online Configuration object (not parameters strings)
  NB the configuration is anyway being moving from controller to IOM
- Interfaces to IS and OH like the online ones (still allowing ROS developers to run standalone with non-online implementations)
- Common action for all modules before each state transition
- Streamlining of hardware and RCD ConfDB schema, also addition of cables
- We need to say how we might use interrupts from RODs (and PPMs??)

Calibration and Timing Scans

Need to fix the architecture: for ourselves and with calorimeters

- Need precise sequences of operations: TTC broadcasts and readout
- Is run control and sequencer enough? Maybe with “user” RC commands?
- Stay with standalone programs or aim to move the readout of non-ROD modules also into RCD readout framework?
- LAr/Tile calibration done in 9U ROD processors? Or not?
- Define schema and mechanism for storing calibration data in conditions DB

Online Monitoring

Future direction?

- GNAM monitoring framework and PMP presenter being pushed as standard ATLAS tools (used at the testbeam by several subdetectors)
- Frascati TDAQ workshop proposed the developers gather requirements from (other) subdetectors – first task of new monitoring group
- Should we maintain Adrians framework and display program?
- We should anyway submit our requirements to new monitoring group
- Develop RecExTB work towards “offline”/EF monitoring programs?

Offline Spot

My personal concerns

- Save testbeam work in offline CVS repository
- Bytestream converters for final ATLAS setup
- How to coordinate related online/offline developments?

  Eg monitoring, calibration, configuration and conditions databases