

Online Software Status

Murrough Landon 9 November 2006

- Overview
- Summary of recent work
- To do list
- Getting on with it...



- "Online software": all SW needed to configure the system for data taking, to collect & monitor data during a physics run, also for doing special test runs,
- Basic frameworks provided by TDAQ group
 - L1Calo Online SW customises these
 - Also with some custom libraries and SW of our own
- Main categories include:
 - Databases: configuration, connectivity, conditions
 - Module Services: low level access to VME modules
 - Simulation: for testing the system outside physics runs
 - Monitoring: checking quality of data, also for calibrations
 - Controls: state transition actions, user interfaces, errors



- Databases
 - Much exists in DAQ database (OKS), needs moving to COOL (offline conditions DB) for final ATLAS
 - Lots of work still to do here
- Module Services
 - Exists for all modules for some time optimise a bit?
- Simulation
 - Also stable for a long time tweak for large scale test?
- Monitoring
 - Lot of work started recently, move to GNAM framework
- · Controls
 - Not much change since the "slice tests"
 - Should move to updated frameworks (RCD!)



- Mostly covered in other talks
- PPM Calibration/Monitoring
 - Body of software mainly aimed at calo signal testing with the intention that this develops into calo calibration
 - Previously script based system with VME readout of PPMs
 - Now (almost completed) move to ROD based readout with processing in GNAM monitoring framework under control of "run plan" GUI
 - \cdot For details and remaining issues, see talks by Florian, Victor
 - Still needs connection to conditions database
 - Run plan implementation may also need evolution to connect it to databases and run together with calorimeters



- Databases
 - Plenty of work, see DB talk
- Monitoring/Calibration
 - Complete PPM (timing) calibration setup work
 - Not yet tested with signals
 - Save results in COOL
 - Need to migrate or update other calibrations
 - \cdot Eg CPM/JEM input timings for the whole system
 - So far only standalone programs, no DB connection
 - CMM calibration
 - DB work done (may need update) but not in GNAM
- Simulation
 - Test vectors for large scale integration tests?



- Module Services
 - Some updates for forthcoming DB changes
 - Optimisations for speedy start in full crates
- · Controls
 - Interminably delayed move to RCD controllers
 - Rethink L1Calo panels in DAQ user interface (IGUI)?
 - Run plans & joint runs with calorimeters
 - New TDAQ error handling and exceptions
- Offline
 - Online SW needs work in many areas, but exists and runs
 - However we have NOTHING to look at our data offline
 - $\cdot\,$ We need quick checks of our data using ATHENA
 - Now that bytestream decoders exist this should now be possible
 - Possibly also ATHENA based monitoring in the Event Filter?



- Experts weeks
 - Very useful to gather experts in one place to work together on one aspect of the software
 - Set requirements beforehand and what we hope to achieve
 - Recent GNAM week made useful progress
 - Though not as much as we had hoped, another one certainly needed
 - We discussed a database experts week: 27 Nov or 11 Dec
 - Prefer 27 Nov, but not everyone can make it
 - Maybe just declare two general SW experts weeks?
 - Continue this style next year with SW integration weeks?
 - Is there overlap/conflict with system integration?
 - Avoid cabling weeks, leave some gaps for CERN people to recover
 - Possible dates for next year: 22 Jan, 12 Feb?
 - NB Geneva motor show mid March book hostel in early January!