Online Software "To Do" List

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- HDMC and module services
- Run control and IGUI
- Calibration and setup procedures
- Miscellaneous
- Tools
- Documentation
- Experts weeks

HDMC and Module Services

- ## HDMC
  - Enable bus error handling
  - Use hardware byte swapping
  - (Improve parts file syntax one day....)

- ## Module Services
  - General optimisation and cleanup
    - Remove/minimise sleeps
    - Remove obsolete/unused code (to reduce future maintenance)
    - Add speedups where possible, eg
      - Load PPM firmware from flash
      - Broadcast register(s) for PPM settings?
  - Improve/extend status information published to IS
  - Add "full statistics" information, eg PPM rates/histos

Run Control (1)

- ROD Crate DAQ controllers (as ever!)
  - Sort out VME readout in that context (source IDs)
- Startup/control of standalone ("kicker") programs
  - Some standalone programs, eg cpmkicker, currently started by our old style run controller – this will no longer be done after tdaq-01-07-00
  - In future such programs
    - Either need to be started by the standard TDAQ mechanisms (for all run types) and just sleep if they should do nothing for this run
    - Or be started by hand, eg as monitoring programs or DVS tests

Run Control (2)

- **IGUI improvements?**
  - Change status display?
  - Remove detailed settings
  - Remaining settings need to read/update database
- **Merge run sequencer with run plan handler?**
  - Reimplement in IGUI?

Calibration and Setup Procedures (1)

- **Calorimeter signals and PPM calibrations**
  - VME readout procedures fine for integrity tests
  - Need ROD based procedures for calibrations
    - Need RODs!!
  - DAQ readout pointer and PHOS4 scans still untested with ROD readout
  - Results need to be stored to COOL folders (in progress)
  - Run type definitions in COOL
  - Control of runs integrated with calorimeters
    - Also needs work on their side

Calibration and Setup Procedures (2)

- ## CPM, JEM and CMM timing setup
  - VME readout of parity errors used throughout (?)
  - Startup/control needs to be sorted out
  - Run type definitions in COOL
  - Results need to be stored to COOL folders

Miscellaneous

- ## Simulation
  - Test vectors for large scale integration tests?
  - Use of sets of preprepared test vectors?
- ## Error handling and robustness
  - Move to new TDAQ error handling and exceptions (ERS)
  - Make sure errors which do occur are handled properly
    - Need to report errors, attempt to recover, continue if possible

Tools

- **We are missing many tools:**
  - COOL database editing and display
    - Is KTIDB explorer enough?
    - Scripts using COOL_IO and/or PyCool?
- **DVS style tests**
  - Simple tests in DVS framework to check modules, crates, connections(?) at startup time

Documentation

- Requirements and design documentation
  - Why the code is like it is?
  - Ideally in the form of a SW note...
- Implementation documentation
  - Well commented code for the benefit of future maintainers
  - Probably best in the form of Doxygen
- Timescale
  - Now (or earlier!) before you forget... (or leave)

Getting on with it...

- ## Experts weeks
  - Very useful to gather experts in one place to work together on one aspect of the software (with adequate preparation)
  - Despite good intentions, we have held very few such weeks
    - And the database one this year got overloaded with other things
  - Try to do better this spring/summer...
    - Hopefully will be easier to fit in as cabling activities finish
    - More natural overlap with commissioning activities (same people)
  - Can we try setting some dates...?