

RCMS & XDAQ Software Things to Do and Understand

Souvik Das
(Cornell University)

RCMS <-> XDAQ Integration

- RCMS <-> XDAQ Integration done in XDAQ_3_7_3 (DAQKit 4_02_01 latest)
- New states introduced: TestingTTS, PreparingTTS, TTSTestMode.

TTSTestMode

- The sub-system is ready to receive TTS test commands to set the FMM output of a given FED to a given state.
- The DAQ is ready to read out the status memory of the FMM controller.

What should I be doing in terms of the Supervisors for these?

- PixelFunctionManager has the following global parameters:

- ACTION_MSG
- GLOBAL_CONF_KEY = How is it different from RunType?
- STATE = FSM State?
- SID = Used to tag Log messages. Sent with Initialize command from Level 0 FM.
- RUN_MODE = ?
- COMPLETION = Completion % must be reported back from PixelSupervisor?
- ERROR_MSG
- RUN_TYPE = Alias
- RUN_NUMBER = Run Number (supposed to be a +ve integer)

XDAO Pixel Online Software

- Introduce the “Stop” FSM Input to FEC / FED / TTC Supervisors (Takes you from Running -> Configured)
- Should calibration procedures be put into Workloops? One could then Halt / Stop / Pause / Resume if a calibration is not working correctly. (For example, we can see than an Address Level Calibration is going to mess itself up if the FED Baseline Correction is drifting by ~100 ADC counts. We then usually kill XDAQ and restart for the Baseline Calibration!)
- At the end of calibrations, should PixelSupervisor auto-trigger the “Stop” input to go from the Running state -> Configured state? How would PixelFunctionManager handle this?
- A global variable called completion_ must be added to PixelSupervisorBase that reflects completion % to its own WebGUI and PixelFunctionManager.
- Run PixelFEC/FED/TTCsSupervisor on different XDAQ processes and make sure everything still works.
- FED Low Level GUI being tested and will be AJAX-ified ASAP for streaming of FIFO 1 transparent data.
- Upgrade to 64 bit XDAQ
 - All integer types in the Supervisors and Interfaces need to be changed
 - Getting the FEC / FED Interfaces ready