Pixel Online Software Components Status

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PixelFEDSupervisor

Status

- Ready to Go.

Features

- Can set Control Register and Mode Register of FED.
- Can trigger using external TTC triggers and internal VME triggers.
- Can enable / disable and read from all three Spy FIFOs.
- Algorithms to adjust channel offsets exist.
- Can convert 32 bit words to 64 bit S-link words.
- Can ship data to Screen, File, or RUBuilder.
- Its GUI is PixelSupervisorGUI. [Commands are channeled from browser through PixelSupervisorGUI (xgi) through PixelSupervisor (SOAP) to PixelFEDSupervisor (SOAP). Simpler alternatives exist.]

All thanks to PixelFEDInterface!

To Do

- Make it's own GUI for standalone use. [Will ease routing chain in a small way.]
- Any progress on XML-ising the "params_fed.dat" file?

PixelFECSupervisor

Status

- Insufficient testing. (Compiles and runs though). Haven't used it to see response from FEC. Ran out of time at Fermilab.
- GUI under development.
- Bug found in PixelFECInterface and fixed. HAL version of PixelFECInterface under development. Too many things in the code I do not understand.

Features

- Operates with its GUI as a standalone application (for immediate testing), and with SOAP messages from PixelSupervisor.
- Has a State Machine for bookkeeping purposes. No associated methods.
- Operates with Low Level Commands (…Prog_DAC) and State Machine Commands (…Configure).
- Much cleaner code in general ☺.

To Do

- Finish GUI design.
- Test.

PixelTTCSupervisor

Status

- Untested. Ran out of time at Fermilab.
- Compiles, runs with PixelSupervisor without throwing exceptions.

Features

- Modified version of TTCciControl from CERN.
- Needs TTCSoftware parked parallel to /pixel/ directory.
- PixelSupervisor has been tested with TTCSoftware and seen to generate PreCal triggers.

To Do

- Test.

PixelSupervisor and PixelSupervisorGUI

Status

- Ready to Go.

Features

- Implements the state machine prescribed.
- Three basic types of Runs – Manual, Calibration, Physics.

To Do

- Current GUI incapable of handling multiple FEDs or FECs. Will change.
- If we get rid of PixelSupervisorGUI, it is possible to give PixelSupervisor a nicer GUI and the relevant parts of FED and FEC GUIs can be embedded into it. Pixel Function Manager will still work fine, according to Alex Oh's prescription.
- Think of a new way of passing configuration data for the FECs (and that means their mFECs… ports… ROCs) and FEDs in SOAP messages from PixelSupervisor->other Supervisors. Probably a nice extensible XML structure that can be read from file (or object, or database) and easily turned into a SOAP message.