

Pixel Run Control and Calibration

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FED, TTC and RU Builder Integration in the Pixel Suite

- FED and TTC boards on the same crate can now be commanded simultaneously by PixelFEDSupervisor and TTCciControl (to be PixelTTCSupervisor) respectively. This is done using a pointer sharing mechanism Jennifer Vaughan and Jim Hunt invented.
- The FED can be triggered by VME triggers or L1A triggers from the TTC. The choice can be made using radio buttons on PixelSupervisorGUI.
- Spy FIFO 3 data has been successfully shipped to an RUBuilder using a I2O connection! Thanks to Jim Hunt.

Spy FIFO 3 on the FED

- The reason I was seeing some malfunctioning channels on the FED last time was because I was not using the `set_chnl_onoff()` command in the `PixelFEDInterface`.
- SpyFIFO 3 seemed to have lots of 0x1 when the channels were sparsely hit with 1 or 2 hits per channel. Will Johns said Helmut is working to fix this and it should not be a problem in Version 4 of the FED.
- 0xffffffff were seen as fillers if an odd number of pixel hits were recorded on a channel.
- I did not see any S-link trailers on SpyFIFO 3. I am not sure I understand:
 - There are 2 Spy FIFO 3 – Up and Down. Danek's `drainDataFifo3()` method in `PixelFEDInterface` finds the end of data on the Up FIFO by finding a repeated word and then appends data from the Down FIFO till a word is repeated there. Shouldn't the S-link trailer be used to signify the end of data? Presuming the S-link trailer looks like 0xa0000000, I didn't see any!
- VME Event # did not increment on either VME or TTC triggering and seemed set at 0.
- Multiple triggering still a problem. The second time I generate an event using `fed1->generateVMETrigger()`, I see repeated last words from the previous event! What am I missing now?