Run 2 Online SW Status

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- Recent Activity
  - TDAQ, DetCommon
  - L1Calo, Receivers
  - To Do List

TDAQ/External

- TDAQ
  - Using tdaq-06-01-01 for 2016
  - Looking ahead:
    - TDAQ have moved their SW repository from svn to git
    - And are in the process of moving from CMT to CMake
    - When Run 2 changes settle down I will look into following this path…
- DetCommon
  - New release 20.7.5 associated with latest TDAQ release
    - Still no fixes for CP scale factor…

Recent Changes

- Preprocessor
  - Adjustment of peak finder and saturated BCID behaviours
    - Stop peak finder after N BCs in case of saturation
    - Temporary hacks to configure Sat80 but still use Sat40 algorithm
- CMX
  - Fixes for instability of occasional VME configuration
    - Odd firmware behaviour still needs to be understood?
- L1Topo
  - Multitude of fixes to configuration procedure and tools
    - Link reset sequence and timeouts adjusted
    - Overflow rates added
    - Fine/coarse timing scripts improved
    - Muon mapping in event viewer and l1calomap tools
    - Tools for checking topo readout consistency and timing at CTP
    - Simulation is now more stable - but still sometimes crashing

Expected Changes (TS+)

- Preprocessor
  - New COOL folders added for saturated BCID and additional LUT parameters
    - These are for registers added after the Run 2 COOL folders were frozen in early 2015, also to support even more complex LUT filling functions
    - The new folders still need to be filled and used
  - Try readout of pedestal corrections again?
  - Implement LUT JEP function
  - Try signal generator…?
- L1Topo
  - Change status reporting to allow easy systematic checking as done for other modules
  - Continue improvement of tools for checking new firmware

Receivers

- Receivers: software
  - Configuration SW has been imported to the L1Calo empire
  - New tool for easily configuring monitoring channels
    - Used a bit for investigating problem towers in the shutdown
- Receivers: hardware
  - Now control receivers via two old L1Calo monitoring PCs
    - Old VME crates with 32 bit SBCs retired
  - However it was impossible to use newer PCs
    - Receiver USB uses really ancient protocol
    - Modern USB interfaces will not talk to it
      - Despite extensive help from TDAQ sysadmins
    - We need a solution for the long term: Tile receivers until Run 4

The Usual To Do List (2)

- CMX
  - Automation of timing scans (would be nice)
- L1Topo
  - Additional HW monitoring information to be published?
  - Careful HW simulation comparison with data
- Simulation
  - Needs proper testing against HW
  - Instabilities need to be found and fixed
- Documentation!!