# Online SW for FEX Tests

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- Current Status
- Next Steps
- Effort?

# Current Status

- eFEX and FTM
  - Plenty of python scripts for testing firmware developments
  - Configuration also being implemented in C++ TDAQ packages
    - Using IPbus "moduleControl" interface as used by L1Topo (with updates)
- jFEX
  - Following eFEX model
- gFEX
  - Plenty of activity (I believe) - in separate world so far?
- ROD/Hub
  - Some python scripts for ROD tests
  - Hub still on the to do list?

# Running Combined Tests

- eFEX and FTM
  - Have prototype OKS database for RAL setup
  - Can run a basic partition (at least in principle)
  - Could add jFEX as an appropriate package exists
- Other module types
  - Would still need to add suitable moduleControl packages

# Current Limitations (1)

- Database
  - Virtually no useful information yet taken from any database
  - In the present system (Run 1 & 2) the database supplies:
    - Connectivity (links between modules) - currently from OKS database
    - Trigger menu: either private OKS menu or official menu from oracle
    - Calibration (eg digital timing setup) from COOL
    - Quite a bit of work invested in all this…
      - Done in common for HW & Sim and centrally for all modules
  - Run 3 (and prototype tests)
    - Most complexity and flexibility desirable early on (final system fixed)
    - Official trigger menu APIs tend to come late (always so in the past)
    - Calibration data may be much less than previously? (Mostly for PPMs)
    - We need to discuss the best way to proceed for the FEXes
      - And Ive been too distracted with L1Topo to think or act on this so far

# Current Limitations (2)

- Simulation
  - Run 1 system completely simulated online (bit correct)
    - Flexible scheme for generating and loading test vectors where needed
    - Both simulation and HW configuration derived from common database
  - Aimed for the same for the Run 2 system
    - In principle its all there, but not fully debugged
    - And no "rodmon" to compare and complain about mismatches
  - Not sure what we really want to do for the Run 3 system
    - At least keep similar scheme for test vectors?
- Monitoring tools
  - Hmmmm?

# Effort

- Not much active online SW effort at the moment
  - Maintaining Run 2 system is fairly light
    - And even L1Topo work will hopefully trail off soon
- For new prototypes and Run 3 system
  - Will need approximately one person per module type
    - Ideally based where module HW/FW development is happening
  - Plus some central SW and coordination