



# Online Software

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- External changes
- L1Calo status and developments (or lack of)
- Summary



# External Dependencies

- **TDAQ**

- New version 05-03-00 for ATLAS integration at point 1
  - First really official release of the new run control
- Linked with Athena 18.\* releases, latest LCG, using gcc47

- **Athena**

- Release 18.\* now contains L1Topo simulation
  - Latest release 18.1.1 has all the latest tags
  - But unfortunately the old run 1 trigger menu has a bug - to be fixed
  - And the standard L1Calo menu for run 2 is not yet fully implemented

- **IPbus**

- Still using uhal\_2\_0\_2 (stable since May 2013)
  - New version uhal\_2\_2\_0: will try to move to this soon?



# Integration in M1 Run

- First “milestone run” (M1) this week
  - Start to reintegrate detectors into ATLAS TDAQ system
  - Guinea pigs this week: L1Calo and muons (MDT, CSC, TGC)
    - NB CTP already integrated the week before
  - Integration went fairly smoothly for L1Calo
    - We had the advantage of trying new TDAQ ages ago (for IPbus work)
    - So most of the porting of code to new TDAQ APIs was already done
- Remaining issues:
  - Monitoring and Data Quality not yet available
  - Some issues with “TTC Restart”
    - Too little time to test after TDAQ fixed various problems on their side



# Status of Online SW (1)

## •CMX

- See talk by Duc
- Plenty of work going on for hardware configuration ("module services"), simulation and timing calibration software
- Some problems getting MSU test rig going...

## •L1Topo: HW & test vectors

- See talk by Jan: work ongoing

## •L1Topo: online simulation

- Offline L1Topo simulation wrapped up in online framework
  - Real time path done as far as possible (menu, links to CMX)
  - Test vectors in progress: simple patterns, all Electrons, all Jets
  - No work done on the readout side
    - This needs readout formats finalised first (review of current proposal?)
    - Probably best to have a common implementation of bytestream encoding/decoding
      - Needed by offline and online => DetCommon??



# Status of Online SW (2)

## •PPM nMCMs

- Online sim: needs to be reimported into ppmSim package
- Module services: nothing yet done for new MCMs
  - Update of register map needed for both old and new MCMs
  - This must be done (and tested) before installing any new MCMs!
  - Its getting urgent!



# Status of Online SW (3)

## •CPM:

- Updates needed for phase 0 changes
  - Both hardware configuration and online simulation
  - Work has started... (Rhys/Steve)
  - Will be needed fairly soon - month or two??

## •JEM:

- Similar updates needed for phase 0 changes
- Jörgen has started work on updating the jem simulation
  - He has mostly been learning so far and understanding existing code
  - Ready to start coding soon
  - He has got the dbSim test framework running for quick local tests
  - He plans to use common code from Duc for backplane format encoding
  - He aims to have first version of jet backplane about in a week or so...
- Corresponding updates in hardware configuration still needed
  - Jan?



# Status of Online SW (4)

## • ROD:

- Bytestream decoders need updating for new ROD formats
  - At least for dumping new events in readable format
  - For Athena monitoring we also need offline bytestream decoders
    - Being done by Pete?
- Online simulation also needs updating
  - No work done on this yet
- Possibly other tasks for Jörgen?
  - Once he has updated the jem simulation...



# Software Development Weeks

- Should we plan SW development sessions?
  - Very useful to have all the SW developers in the same place for tests weeks with the hardware
  - Hoped to do it this week - but slightly disrupted by M1
  - That will probably also be the case for future milestone runs
  - Should we already identify future SW development weeks?
  - For those involved in M runs, either the week before or after the M runs would be ideal to minimise travelling
  - My personal preferences:
    - Week after M2: 7-11 April
    - Two weeks before M3: 5-9 May
    - Week before M4: 30 Jun - 4 July





# Summary

- SW already on critical path for new MCMs?
  - Not yet critical for CMX, L1Topo
    - But probably not far off
  - Similar situation for CPM, JEM, ROD
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- Some people who expected (or hoped) to do the work have been saturated by other duties...