



Control Software for ATCA

Murrough Landon
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- Requirements
- Progress
- Planning...



Requirements: Make Decisions!

- What model do we use for controlling ATCA modules?
 - Keep modules simple: complexity in software outside crates?
 - Load modules with fancy CPUs and run software on board?
- Baseline so far: keep modules simple
 - IPBus from CMS follows this philosophy
 - But people are looking at alternatives
 - For how long?
- When do we need to make a decision on our philosophy?
 - May depend on progress of ATLAS in making such decisions?
 - Maybe Dave Sankey already knows?
 - Or will ATLAS end up with many philosophies
 - Very late in trying to converge on ATCA standards



Progress (Not Much)

- Looking at the IPBus package from CMS
 - Its now in a non-CMS SVN area at CERN
 - <https://svnweb.cern.ch/trac/cactus/>
 - Aimed to be available and supported outside CMS
- So I tried to check it out and build it...
 - Did not work "out of the box"
 - CMS uses default SLC5 gcc compiler
 - And recent version of the Boost libraries
 - Whereas ATLAS follows LCG with more recent gcc but older Boost
 - The IPBus developers were very helpful
 - A small set of modifications for ATLAS compatibility is now identified
 - <https://svnweb.cern.ch/trac/cactus/ticket/116>
 - With these IPBus can be built using the standard ATLAS TDAQ setup
 - Making these changes more official probably depends on whether ATLAS (or just L1Calo at least) decides to adopt IPBus
 - At the moment we are just investigating it



Next Steps

- How to integrate IPBus into L1Calo software?
 - Naturally fits as replacement for VME drivers
 - And (maybe) partial replacement of HDMC layers
- We need to think about HDMC evolution/replacement
 - Large amount of original HDMC development is no longer used
 - Complex to extend it to include slightly different paradigm
 - On the other hand a rewrite also takes effort
 - I started to remind myself of HDMC internals
 - Useful to have more discussion with other L1Calo SW experts
 - To be arranged...



Planning and Timescales

- Use of serial VME to configure L1Topo gives some time
- But we need to get active now to be ready for phase 1