Software Status

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`http://www.hep.ph.qmul.ac.uk/~landon/talks`

Overview

- Documents
- Packages
- Recent Work
- Remaining Tasks
- Future Meetings
- People

Documents

Requirements

- Draft 0.4b updated after internal review on 19 July:
  `http://www.hep.ph.qmul.ac.uk/l1calo/doc/pdf/Requirements.pdf`
- Subsequent comments from Oliver: describe use cases in more detail
- Do we want an external review?

Packages and Software Organisation

- Draft 0.3 discussed briefly at recent software meetings
  `http://www.hep.ph.qmul.ac.uk/l1calo/doc/pdf/SwOrganisation.pdf`
- Division of our online software into packages agreed
- Open issues relating to use of various tools. Adopt CMT for building packages? Standardise on code development and quality tools?

Packages (1)

Responsibilities

- Hardware Access Library: Oliver
- Interactive Diagnostics: Oliver
- Module Services: Bruce/Gilles/*
  (the Module Service package may be better viewed as a collection of subpackages).
- Configuration Databases: Murrough
- Run Control: Murrough
- Readout: Bruce
- Simulation: Steve
- Test Vectors: Steve
- System Testing: Steve

Packages (2)

No Responsibilities

- Calibration
- Hardware Monitoring
- Event Monitoring
- DCS (high level SCADA stuff)
- Distributed Histogramming (may use LVL2 package)

Other responsibilities: librarian, system management, website.

Recent Work (1)

Simulation and Test Vectors

- See Steves talk...
- Outstanding issues:
  - Extending existing work to other modules and FPGA designs
  - Organising test vectors for the whole slice test setup

Readout

- See Normans talk...
- Outstanding issues:
  - Can we (should we) read out everything?
  - Triggering on events with errors
  - Time scale and support for new ROBins

Recent Work (2)

CPUs

- New Concurrent CPUs working happily (two at RAL, one at Bham)
- Mainz have ordered one of the same model.
- Four CPUs are sufficient for 1 DSS crate, 1 ROD crate, 1 CP crate and 1 JEP crate.
- QMW and Mainz also have one each of an older model without complete bus error handling.

System Setup

- Propose to standardise on RedHat Linux 7.1 for the slice tests (except ROS PC?).
- List of required software (and RPMs) on the software website
  `http://www.hep.ph.qmul.ac.uk/l1calo/sweb`
- Diskless booting and configuration of crate CPUs tested successfully at RAL.
- Use (imminent) version 0.0.15 of the ATLAS Online Software.

Recent Work (3)

Run Control and Databases

- Prototype of run control and configuration database for slice test updated to use latest Online Software.
- Demo system runs at QMW and RAL.
- Outstanding issues:
  - Interface with Module Services and HDMC.
  - Definition of calibration data.
  - How to implement run types?
  - Control via new panels the standard GUI.

Reminder: TDAQ milestone requires integration of at least one component of L1Calo Trigger with the Online Software by end 2001.

Remaining Tasks (1)

Near Future: Initial Module Tests

- HDMC changes.
- Development of classes for new Modules and their major subcomponents.

Medium Future: Serious Module Tests

- Need to integrate test vectors, trigger menus, simple calibration datasets with code to download modules, all via standard run control.
- Also needs some version of PC ROS readout (may be simple Slink)
- Simple monitoring programs to check data.

Remaining Tasks (2)

Slice Tests

- As above on a larger scale.
- Develop calibration procedures (eg internal timing)
- Add hardware monitoring and DCS?

Future Meetings

CERN

- Several “softies” will be at CERN next week.
- Use the time for informal chats and two meetings (Wednesday pm and Thursday am).
- Some issues (related to readout) to be discussed with CERN DAQ group.

Joint Meeting

- Intend to have a couple of days of working meetings before the main meeting.
- Eg agree HDMC changes and then implement them.
- Time for other discussion of a number of other issues.

Software Effort

People

- Thomas Trefzger has recently joined Mainz with a mandate to be involved in software.
- Present software effort now includes: Bruce, Eric, Gilles, Murrough, Norman, Oliver, Steve and Thomas – variously contributing from <10 to $\sim 90\%$ of their time.
- Probably about five full time equivalent people.
- Possibly a student at Heidelberg will help Oliver.
- Still may not be enough on the timescale of the slice tests...