

Other Issues

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

Overview

- Hardware Access
- HDMC
- Error handling and reporting
- Migration to new tdaq software and new OS
- Documentation

Hardware Access

Any further thoughts on bit field access?

- It was suggested have an email discussion on bit field access following our inconclusive discussions at the last software meeting...
- Thoughts presented then included:
 - Is it correct to maintain register persistence in a software model?
 - What about access by run control and HDMC? Our VME access layer has no concept of access control and arbitration of it: would need mods to the driver
 - Module services, invoked by run control, should be sure to explicitly set every bit. It could set whole registers and use software model for bit fields. HDMC diagnostics would still have to use read modify write cycles. A read-only HDMC might be useful
 - One radical suggestion: remove all rebuild classes, do all bit manipulations in higher level code

What further developments might be desirable?

- Many features not used: can we remove them? (less maintenance)
eg qwt histograms, (dis)assembler
- Old HDMC (pre CMT) had connected to scripting languages (never used) –
might this be used, eg some production tests?
- Should we improve GUIs for modules that dont have customised ones?
- Are the recent optimisations enough?

Error handling and reporting

Online/dataflow developments

- New online/dataflow document (Oct 2004) with suggestions for handling/reporting errors in the online/dataflow system:
e dms.cern.ch/document/atl-d-en-0003
- Proposes common interface with multiple implementations, single class hierarchy for uniform treatment of fatal errors (exceptions) through warnings (eg to MRS) and debug messages (eg to log files)
- Exceptions favoured over error code returns (for synchronous errors)
- Fatal error at low level may be recoverable by higher level – either by the same application or another application
- Error handling by run controllers, error propagated up RC tree
- Fault tolerance?

A lot of changes proposed

- Discussions since last summer on a new eformat – to be used ATLAS wide
- Intended for new tdaq release (April)
- Also corresponding updates to event format... ROL numbering?
- Maybe still time to comment on proposals
- There will be a further impact on all our code which uses eformat
NB recent tdaq release already has some changes to memory allocation

Migration to new software/OS versions

TDAQ releases

- First combined online/dataflow release (tdaq-01-01-00) now out
default platform SLC3/gcc323/java 1.5.0_01 (last release supporting RH73)
- Next release fairly soon (April?) SLC3 only
- Should include LCG database tools and interfaces to them
- One or the other expected to be used by detectors for installation

Move to SLC3

- No RH73 at CERN after 31 March
- When to migrate?

Documentation!

Last item as usual

- Documentation for non-experts to do production testing?
- Record software design and implementation before moving on.... (eg JEM?)
- Bring some existing documentation up to date
- Fill in gaps?