

JRA1 DAQ Status

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Outline

- Repository
- Documentation
- VME Library
- Grid
- Other Issues
- Summary

Repository

- Moved software to HepForge.org:
<http://www.hepforge.org/projects/eudaq>
- Uses Trac: Wiki and issue-tracking system for software project management
- Subversion repository:
<http://svn.hepforge.org/eudaq>
- Technical documentation automatically generated by Doxygen, higher level documentation in Wiki.
- Users can report bugs and request features, and track their progress online.

Repository

- Currently have a problem loading Trac plugins, so some features not working:
 - Doxygen integration
 - Pdf file generation from Wiki
 - User registration system (allows anyone to register a Trac account to submit bugs / contribute to the Wiki etc.)

Documentation

- Wiki pages can be combined into a pdf, for offline reading/printing (currently not working).
- Doxygen is set up and running, but integration with Trac currently not working.
- Code needs more comments, so that Doxygen can generate better docs.
- Some higher level documentation in Wiki, but needs expanding.

VME Library

- Single access is very slow (~ 4 ms per access)
- Investigation showed time is lost reconfiguring VME on each access (also found independently by Lorenzo)
- Modified driver to detect if settings have changed and only reconfigure if needed
 - Single access now $2\text{--}3\ \mu\text{s}$
 - But still lose ~ 4 ms every time we switch EUDRB (at least once per event: $6\text{ boards} * 4\text{ ms} = 24\text{ ms} \rightarrow \sim 40\text{ Hz max rate}$)
 - Loading pedestals goes from ~ 2.5 min / board to < 1 sec
 - But readout speed not significantly improved.
- Tsi148 has 7 VME channels, rewriting driver to use one channel per board: only configure once at startup

Grid

- Grid tools being ported to Mac, but WN first, UI won't start until mid 2008
<http://grid.ie/porting>, <http://grid.ie/autobuild>
- Decided to create separate GridProcessor:
 - Monitors RAW data files generated by DAQ
 - When a file is complete, upload it to Grid
 - Then initiate analysis on Grid
 - Initially run under Linux (SLC) either on separate machine, or VM on Mac
 - Consider porting to Mac when Grid UI available
- Do we keep native format, or write LCIO directly?

Other Issues

- Configuration files do not appear in RunControl list
 - Fixed.
- Missing logs directory causes log files to get lost
 - Now refuses to start without logs
- Joerg Behr's improvements to RootMonitor added to software repository

Summary

- HepForge looking into problems with Trac plugins
- Documentation started, but needs expanding
- VME Library slightly improved but more work is underway
- Need to start work on GridProcessor
- Other issues fixed in code