Specification for VME crates, computers and software

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Overview

2 read-out systems envisaged, one at Liverpool and one at RAL which will run the data acquisition and logging tasks.

- Will also be further off-line software such as raw data display and analysis packages.

Primary system will be a CES RIO2 host processor running LynxOS in a VME crate.

- The VME crate will also host the other custom VME analogue, ADC and digital modules.

At each site there will also be host PCs to provide access to the read-out systems.

- These be useful for software development in a commercial IDE.
- These could well be whatever desktop device those working on the system already have.

Hardware

2 Double-height VME crate

2 CES RIO2 VME module
    preferably with 64Mbyte RAM
    SCSI PMC
    local disk for operating system and local data logging
    LynxOS development license (CES bundle)

2 CES MFCC 8441 with ?Mbyte SDRAM
    (does this imply PPC740 rather than 603ev?)

(2 PC/Macintosh/UNIX workstation)

Installed Software on RIO2

- LynxOS – operating system
- cvs – code management system (possibly not needed if used on "host" PC)
- RAL vtp package – I/O to tapes in RAL datastore
- tcl/tk – interface package
- additional compilers (such as Fortran)?

Software on "host" PC

- cvs –code management system
- commercial IDE such as CodeWarrior
- X-server (or even real X-terminal!)
- VTnnn emulator (or even real dumb terminal!)

Software Deliverables

- Data acquisition task capable of operating in either full raw data mode or more usually performing zero suppression and analysis of CCD frame
- Trigger task accepting random and externally triggered events
- Data logging task capable of writing data either to local disk or to formatted tape in RAL datastore using vtp
- Raw data display package capable of displaying raw frame and derived quantities
- Framework for reading data from disk or tape
- Off-line analysis package

Initial Time-scales

- Purchase first system
- Implement code management and development environment
- Create data acquisition task
- Create trigger task
- Create local data logging task
- Create framework for reading local data from disk
- Create primitive raw data display package
- Implement support for tape I/O
- Enhance data display package
- Start off-line analysis package