Software Status, Direction and Priorities

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

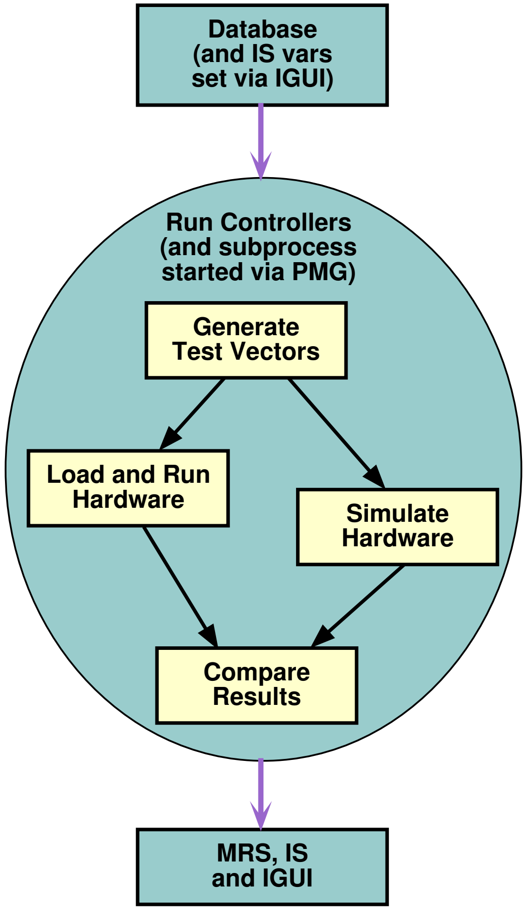
Overview

- Introduction
- Recent progress
- Whats missing
- Priorities and worries
- Summary

Reminder of the Aims (1)

Slice Test Procedure

- Choose a test to run and a hardware configuration
- Generate test vectors (if necessary)
- Load the hardware with test vectors
- Simulate expected output of the selected configuration
- Run the system, collect data, compare and report



Reminder of the Aims (2)

Test beam requirements

- Run as part of a larger configuration
- No simulation, more monitoring required
- Calibration of calorimeter signals
- Timing setup with other detectors
- Record conditions in conditions database
- Offline (Event Filter) analysis/monitoring

Recent Developments (1)

Summary since the RAL meeting

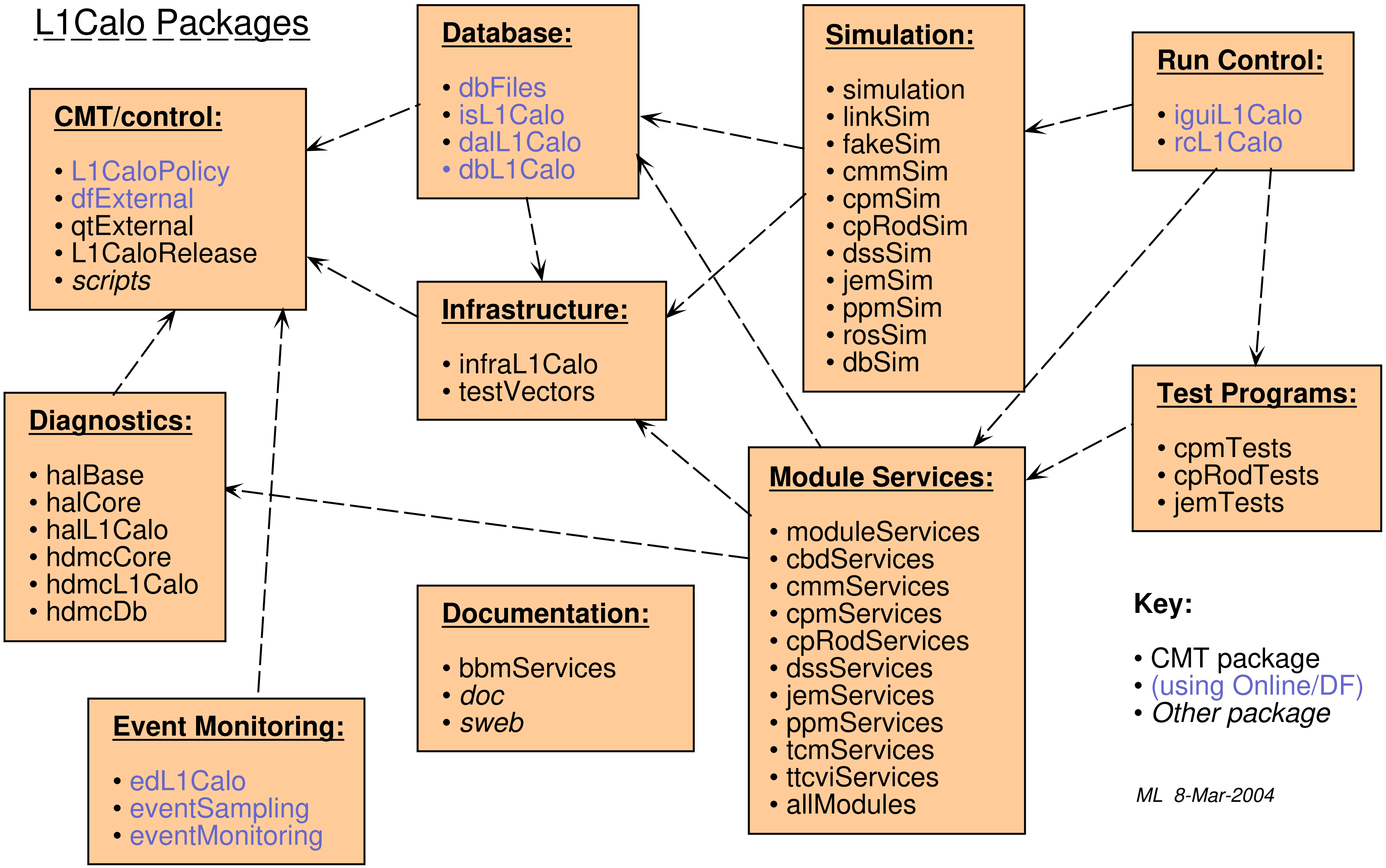
- Good progress on PPM module services
- PPM simulation (one MCM?) added to CVS/CMT environment
- JEM module services changes for JEM1 style firmware
- Further developments of JEM and CMM simulation and generators (first tests of jet firmware done)
- First try with online histogramming
- Many other developments, improvements and optimisations coming from the active subslice test programme

Recent Developments (2)

Move to new Online software (release 21)

- New online software release (or minor update) will be used at the testbeam:
  - Major changes to configuration database schema
  - Database access library is now automatically generated
  - New run control state model
  - Many other changes more or less visible to the user/developer
- Adopting this required changes to our use of the configuration database (two new packages in place of the old one)
- Also required updates to our run controllers and IGUI panels
- Still to do: use new run state model in module services

L1Calo Components and Packages



Missing/Incomplete Software (1)

Module specific

- PreProcessor:
  - VME issues (homebrew driver, A32 access)
  - Database integration for PPM
  - Module services developments with a real module
  - Complete the PPM simulation
  - Test programs?
- JEM: more debugging jet component of module services and simulation?
- CMM: more debugging of jet and energy variants, readout of all variants
- 6U ROD: simulations for new/updated data formats (given firmware)
- 9U ROD: reimplement module services and simulation
- ROS: fast monitoring/comparison with simulation
- New CERN module types: LTP, BUSY

Missing/Incomplete Software (2)

System related software

- Offline: using ATHENA for analysis/monitoring/calibration
- Physics test vector input
- Generating test vectors (for some modules)
- Event dump: new/modified formats
- Multistep runs for calibration:
  - Stepping infrastructure largely untested
  - Run numbers, run steps and checkpoints?
- Calibration:
  - Control: pulsing, setting parameters, LTP
  - Analysis, conditions DB?
- Histogramming (of monitored events, calibrations)
- DCS

Priorities and Worries (1)

- ROS:
  - Update to latest dataflow release
  - Monitoring tools to compare with simulation
- PreProcessor:
  - VME issues, database, simulation
  - Test integration with CPM/JEM (eg timing setup)
- Monitoring:
  - Better hardware monitoring
  - Some online monitoring (slice test)
  - Offline analysis (test beam)

Priorities and Worries (2)

- Databases:
  - Conditions database (eg calibrations)
  - Offline access to configuration (eg cabling)
- Multistep runs:
  - Use in existing setups (started)
  - Use in integrated calibration
- Complete migration to new online/dataflow software:
  - New run state model
  - ROD crate DAQ

Summary

Progress

- Good progress... but still going slowly
- Many critical areas still missing