NRC · CNRC

Expanded Very Large Array

Pre-OTS Tests Penticton—H/W

B. Carlson

NRC · CNRC

Outline

- Options.
- Testing workshop.

NRC · CNRC

Options

- Available test rack H/W:
  - 3 x 6-slot, 19” rolling racks (use for functional go/no-go test beds)
  - Original full rack (penciled in for burn-in rack in thermal room).
  - 2 single-board test beds for board debug.
- Flexible nature of connectivity allows a correlator (sub-) system of any style to be lashed together.
  - Amount of leftover/original/proto Meritec cable is limiting factor (need to do inventory to find out how much is usable, what is possible).
  - The GUIs and mapper support virtually any configuration (?)
- If full 10-station PTC is assembled in Penticton, might require holding back delivery of production racks.

NRC · CNRC

Options

- I think that the focus for pre-OTS Penticton testing should be on single baseline system:
  - Work to debug/get right S/W, firmware, hardware.
  - Get real-time S/W working and tested in lab environment.
  - Minimum hassle/worries/delays with networking etc.
  - Burn-in/shakedown boards in test beds…develop canned test suites for specific test bed configurations. With the X-bar Board (in test mode), each board type can have its own test bed and canned test suite.
  - In the meantime, get infrastructure set up at site, ready for full OTS H/W quantities.

NRC · CNRC

Testing Workshop

- Can't make specific case for it but…the more people who poke and prod the H/W and S/W, the more bugs will be found and fixed.
  - HP paper years ago studied testing/debugging… "defect finding rate" from adequate number of tester persons is good measure of readiness for shipment. More testers=faster e^(-t/tau) curve of #bugs vs time.
  - Provide more people with experience in using the correlator before delivery.

- Impractical to come up with detailed test plan…will take longer to write the plan than to execute, and won't think of everything.
  - Still, will develop acceptance test plan for production/pre-production units…but this entails running pre-defined test suites, burn-in procedures etc…not specifically what buttons to press or functions to test.
  - Bulk of "test plan" will be functional test suites.