



L2 Upgrade - Node Status

Kristian Hahn
University of Pennsylvania
11/05/04

Algorithm Node Recap

- Hardware
 - beam tests with xeon
 - timing studies with AMD test-stand
- Data I/O
 - Input : SVT + Slink Merger (L1,Muon,XTRP)
 - Output : L2 decision + input copy to L2TS PULSAR
- Algorithms
 - hard coded trigger table, 3 representative triggers
- TLD Communication
 - respond to run transitions from TLD
 - push monitoring data to TLD
 - observed problems on the node ...

Updates - Hardware

- Full node framework ported to AMD
 - previously only algos, Slink-I/O and timing
 - now threaded control & monitoring included
- 2 new AMD machines arrive next week
 - one to serve as a spare processing node
 - one to function as software build-node
 - will find a rack for 3rd floor

Updates - I/O

- Unpacking
 - relies on unique “Data Source ID's”
 - DSID's implemented in Slink headers
 - all DSID's now unique
 - testing Cluster/Iso/Reces
- TL2D generation
 - all but Cluster/Iso/Reces currently
 - verified “by eye” on split alpha data
 - once C/I/R unpacking is complete, verify parasitically

Updates - Algorithms

- All triggers from PHYSICS_2_05-v11 ported
 - both Xeon & AMD
 - testing on offline data (reformatted from TL2D)
- Algorithms now invoked through a shared library
 - ease of use: node process remains running and in communication with the TLD
 - library will be fetched on CONFIGURE
 - it compiles, testing

Updates – Control & Monitoring

- Control framework works
- Need to investigate monitoring issues
 - monitoring caused up to get out of sync Alpha
 - important?
 - rate dependent?
- Spec and implement error handling
 - already built-in to monitoring
 - need to define error conditions and responses

Plan

- Finish testing shared library code
 - Using current algos, not much involved
- Complete Cluster/Iso/Reces unpacking
 - This allows ...
 - verification of **all** of the ported triggers
 - Completion of TL2D generation
- Specify/implement error handling
- Documentation