Commissioning the L1CalTrack Trigger

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L1CalTrack Trigger System

Gbit/s Serial Link
Inputs from L1CAL, L1CCT, and FPS

MTCxx with UFB for L1CalTrack Logic

Octant Trigger Decisions

MTCM Crate Manager

L2 Data

Muon L2

To L2

MTCM with UFB for MTM Logic

To TF

MCX

Muon Readout Crate

L3 Data

To L3

FPGA
Downloading and User Communication via Ethernet and 1553

Timing and Trigger Info via TF

1 Custom VME Crate

5/4/2004
Some D0 meeting
Preproduction MTCxx with Prototype MTFB (no tail)
Follow L1MU Successful Commissioning Procedure
Commissioning Steps

- **Step A**
  - JTAG boundary scan testing
  - Test stand commissioning which includes testing of inputs, MTFB, buffering, and L1-L3 outputs
Commissioning Steps

• **Step B**
  - Generate BOT triggers to TF
  - Readout L1CalTrack crates to L3
    - Use spare inputs from L1MU
    - Use spare L1MU cards
  - Some of the infrastructure is already in place
  - If we can accomplish Step B this summer we will be in excellent shape
    - But it’s a lot of detailed dirty work

• **A successful Step B means we are integrated into the experiment**
Commissioning Steps

• Step C
  - Repeat Step B with L1CalTrack hardware (MTCM, MTCxx, UFB)
  - The source of any problems must be the new cards since the infrastructure was tested in Step B
Commissioning Steps

• Step D
  ♦ Repeat Step C using inputs from new L1CTT and new L1CAL
  ♦ The source of any problems must be the new inputs since the L1CalTrack cards were commissioned in step C
    - Compare our L1CTT-only triggers with L1CTT triggers
    - Compare our L1CAL-only triggers with L1CAL triggers
  ♦ At this point we could begin to take special run data to look at various L1CalTrack triggers
Commissioning Steps

- Step E

Thinking about new L1Caltrack triggers
Conclusions

• A first version of the L1CalTrack commissioning doc has been produced
  ◆ Commissioning steps
  ◆ Infrastructure tasks
  ◆ Software tasks

• Big issues are
  ◆ Power supply replacement in 3rd floor MCH for Step B
  ◆ PDT FEB modifications
  ◆ AND/OR terms
  ◆ Person-power in 2005