

L2Muon Commissioning

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Phases of L2 Muon Commissioning

Phase	Where	When*
1) Individ. Board Tests	Inst's	
Alpha	UIC	
MBT	Umd	03/00
SLIC	Nevis	01/00
CIC & SFO	Nebraska	03/00
2) Board-to-Board comm.	Inst's	
MBT-SLIC	Nevis	10/99
MBT-Alpha	UIC	
SCL-MBT	FNAL	
3) System Integration	FNAL	07/00
L2Mu Crate	standalone?	
L2Mu + Data Src		
4) DØ-Style Running	FNAL (MCH)	09/00

* *my random guesses*

Baseline Needs (all Phases)

- Crate (5V & 3.3V), Bit3, PC
- Data Source (*mid-Phase-3*)

Data Source Needs

- **Two Data Types:**
 - 1) SCL-Like → SLIC Input 0
 - * Initiates SLIC Readout
 - * Format needs to be very similar to SCL structure
 - 2) Data-Like → SLIC Inputs 2-15
 - * Format not critical
- **Adjustable Event Rate**
- **Adjustable Delay b/w 1) & 2)**
- **Timescale**
 - Data Source only needed late in Phase 3 (late spring 00)

Phase1: SLIC Goals

- **Data Rate Tests**

- **The Test:** Circulate data & Count Errors
 - * Hotlink Out → Hotlink In0 → Data Link → DSP → Hotlink Out
- **Results:** Data errors in continuous running
 - * limited by DSP Out Rate

- **Processing Tests**

- **The Test:** Load (<100?) real events to all SLIC input fifos
 - * Input → Processing DSP → Formatting DSP → VME
- **Results:** Verifies Algorithms
 - * Processing, Formatting, Monitoring
 - * limited rate dependence

Phase 3: Goals

- **SLIC-MBT-Alpha Communication/Processing Tests**
 - **The Tests:** Real events from SLIC inputs through system
 - * SLIC inputs → Proc. DSPs → Form. DSP → MBT → Alpha
 - **Results:** Tests communication throughout system for real events + L2Mu Monitoring
 - * limited rate capability
- **Data Rate Testing**
 - **The Tests:** Send data from Data Source through system at variable rate
 - * Data Source → CIC/SFO → SLIC → MBT → Alpha
 - **Results:** Data Errors in continuous running
 - * Event structure limited by complexity of Data Source
- **Note:** all of these test can be done standalone
 - no dependence on L2 Framework

Phase 4: Goals

- **Fully Integrate w/ DØ**
 - SCL: realistic conditions
 - TCC: downloads
 - VBD to L3
 - Monitoring
 - *Possible w/ Pulser Triggers*
- **Cosmic Running**
 - **Advantages (over pulser)**
 - * Algorithm test
 - **Disadvantages**
 - * Limited rate(?)