Meeting of the Architecture group with Hanspeter
PART 1 26th September

Brief notes by Bob Dobinson

HPB lead us through the first part of the data collection system dealing essentially with the level 1 (L1) trigger interfaces RoI builder (RoIB), supervisor (L2S) and second level trigger processing unit (L2PU). The geographical positions of these items should be clarified.

We spent some time discussing the use of Ethernet in the connection of the level 1 trigger to RoIB and L2PU. A clear picture did not emerge at the meeting and some questions remain to be answered. HPB asked Bob Dobinson to discuss details with Bob Blair. HPB distributed a document after the meeting to clarify issues further. We need to understand how to monitor the data statistics through the system. L1, RoIB, L2S and L2PU.

We moved onto discuss the data collection SW and its relationship to the HLT and PESA. Issues of who starts the processing and access to databases arose. Many aspects of data collection SW performance and optimization need to be studied. This is the prime purpose of the test bed being assembled in bat 513. A program measurements is being drawn up.

A 10 ms event (complete) processing time was mentioned, processor speed unspecified. The reliability of this number and the consequences in terms of total amount of processing power required was unclear. The expected trigger latency and its consequences need firming up. If processing occurs in too small chunks then it is likely that it will be inefficient.

Whether individual ROBINs should be addressed to collect RoIs or whether this should go through the intermediary of a readout controller has to be evaluated.

Discussions went on about error handling and fault tolerance. No conclusions beyond thinking that studying some use cases would be very useful.

Personal conclusions; lets make measurements to see where we are now with the data collection SW rather than speculating!