Notes from the 10/25/05 MI BPM Upgrade Meeting
Bob Webber
These notes can be found in Beams docDB #1526.

Agenda as announced:

Project Announcements : Bob and Steve
Combiner Board status : Marv, Tim, Bob Forster, Vince
VME crate purchase status : Bob Forster
MI30 status : Peter, Bob Webber
Transition Board status, bill of materials : Manfred
Transition Board crate, controller, backplane : Adim, Vince, Manfred
Signal cables : Bob Forster, Adim, Marv
Service Building survey/BLM coordination : Tim, Marv
Front-end software : Luciano
MVME processor status : Luciano, Margaret, Steve
Online software : Brian
Validation: Rob Kutschke
MI BPM requirements/MI issues : Dave and Alberto
Timing Board : Bill
AOB

0. Announcements - Bob and Steve

- Bob mentioned that the MI8 BPM upgrades may be piggybacked onto the MI BPM upgrades when possible. This mainly involves purchase orders (adding VME crates, timing boards, other relevant parts).

- MI BPM project should go "full steam ahead". Most work can go on in parallel (and should) so that nothing waits for individuals or deliveries unnecessarily.

1. MI BPM requirements/MI issues : Dave and Alberto

- A new version of the MI BPM requirements (the final version) has been inserted into beams-doc-1786-v7. The most recent changes include responses for Margaret's comments, some information about applications, and Adim's glossary. This is an excellent accomplishment and we will move on now to build the system that meets these requirements.

2. Timing Board : Bill

- Firmware is finished for now. Work is proceeding on building the boards. The first prototype (PC board) will be available next week. There are enough parts around to assemble the first board next week.

3. Validation: Rob Kutschke

- Waiting for data.

4. Front-end software : Luciano
5. MVME processor status : Luciano, Margaret, Steve

- Luciano and Steve were in class. Their reports are given here:

Luciano:

We are close on getting version 2 working. The system is capable of taking a turn-by-turn measurement by reconfiguring the echoteks and the timing board. The echotek setup is not reloaded. The measurement values read from the echoteks are not being checked yet. We may need some help from Adim and/or Peter to make sure the tbt measurements and the echotek setup are correct and make sense.

The FTP at 500 Hz are now working for the tev bpm. It is not included in the mibpm, but that can be done quickly.

Steve Foulkes:

A PO (566124) was issued on 20-Oct-05 for the MVME5500s. I need to follow up with Arrow to see what exactly the lead time is for these. I am still waiting to hear back from Craig McClure about exactly what parts need to be ordered for the PMC TCLK decoder cards.

I can also update you on 2.2. I said last week that the changes I made to the driver to be able to readout selected gray chips buffers caused the readout to be much slower. I couldn't figure out the problem, so I emailed EchoTek. Their response was that the EchoTek was not setup to do block transfers with the MV5500 as the controller, and that i'd have to use the Universe chip on the EchoTek to achieve transfers with a reasonable amount of speed. I re-worked the driver to do this, and got one board to work, but haven't had enough time yet to sort out a problem when I transfer data off of more than one board.

6. Combiner Board status : Marv, Tim, Bob Forster, Vince

- Bob F. talked to the assembler on Monday. Their claim is that parts are on the way and that more assembled boards will be delivered soon. However, this is an old story and there is not much confidence that they will actually deliver.

- We discussed strategy. The plan that we will follow is to work with Procurement/Purchasing and to cancel the remaining assembly by this company (unless they come through with assembled boards by the end of the week). We would take delivery of partially assembled boards and any components that remain and we would finish the assembly here at Fermilab. Bob will execute this plan.

- It was mentioned that there are "non-combining" combiner boards that also do need to be made.

- Installation of combiner boards continues. So far 63 have been installed. 29 more are ready to install. 7 boards still need to be placed in boxes (when more boxes are available). 1 board is on hold and needs a part. 1 is a reference board. That totals to 101 boards, which is what has been delivered up to now.

- One BPM in the tunnel is not reading out properly since the last combiner board installation. It needs to be fixed during the next access.

7. VME crate purchase status : Vince, Bob

- 2 bids have been received. Should close on Tuesday the 25th. Then a winner will be declared and we can order the crates.

- Some additional crates will be ordered as part of this acquisition.

8. MI30 status : Manfred, Peter, Charlie, Duane

- Nothing new for now.

9. Transition Board status, bill of materials : Manfred

- Manfred has updated and rechecked the 2 channel prototype board. He now has a final design but there is one remaining issue -- the noise is higher than Manfred would like and this leads to a fairly large (~100 micron) error in TBT measurements. The final board design allows the option to bypass the preamp for some measurements and therefore to (hopefully) reduce the noise. This still needs to be checked.

- Parts are being ordered for the transtion board. The layout is underway and should be finished within the next two weeks. The layout includes some logic analyzer capability on some of the boards for debugging purposes. This was proposed by Stefano Rapisarda.

- An updated document with details will be entered into docDB soon.

10. Transition Board crate, crate controller, backplane : Adim, Manfred

- The crates and power supplies are being ordered. It was decided to purchase a standard VME backplane.

- Stefano Rapisarda will be working on the controller as well as FPGA firmware.

11. Signal cables : Bob Forster, Adim, Marv

- Manfred mentioned that RG316U and RG188U single-shielded coax are candidates for signal cables. Still work to be done to lay out the number of cables, types of cables, types of connectors, lengths of cables, etc. in preparation for ordering.

12. Service Building survey/BLM coordination : Tim, Marv

- Adim/Marv has found a location for the crate to be installed in MI40 for initial testing. The location is in rack 40118 -- an email with details was sent out to the project on 10/21/05.

13. Online software : Brian

- The front-end specification document is being updated and corrected and will be entered into docDB as often as required.

- It will take about 3 weeks to develop the "I6" clone program to provide information to the FE. Would like something by mid-November.

- An "R25" type of application will also be needed.

14. AOB