

Notes from the 9/06/05 MI BPM Upgrade Meeting
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These notes can be found in Beams docDB #1526.

Agenda as announced:

MI BPM requirements update : Dave and Alberto
Combiner Board status : Bob Forster, Vince
VME crate purchase status : Bob Forster
MI BPM signals to FCC3 : Bakul
MVME processor status : Luciano, Margaret, Steve
Transition Board status : Manfred
Timing Board : Bill
MI30 status : Peter, Bob Webber
Service Building survey/BLM coordination : Tim, Marv
Front-end software : Luciano
Online software : Brian
Other Business

0. Announcements - Bob and Steve

- Steve asked what the latest word on the shutdown was. It seems likely to be March with some chance that it might be a little earlier. This probably has no impact on the MI BPM project - at least in regard to the combiner box installation. We should proceed to make a plan to install them as we get access to the MI.

- Bob and Peter have been working on the MI30 test stand. There are still issues to be resolved (see MI30 report below).

1. Requirements update - Alberto and Dave

- A new version of the requirements has been posted as beams-doc-1786-v5. Everyone is kindly requested to read and comment on this draft.

- Alberto went through and described the changes, which are substantial and address many if not all of the recommendations of the review committee, in particular concentrating on the measurements that are to be made.

- Some highlights from my notes:

- Table 1 was rewritten and includes more information.
- Mention is made of slip-stacking and coalescing and the fact

that the system is not required to measure accurate position during those times (though it would be good to see what does happen then).

- Closed orbit is >100 orbit average.
- No bunch by bunch for 2.5 MHz pbar is required.
- Batch by batch is required but one batch at a time.
- >500 Hz fast time plot is required.
- 512 turns of injection/extraction TBT is required.
- 2045 turns for user specified TBT.
- There are suggested implementation details, which will help us bridge from the current to the new system.
- References were added.

- Not done were details on the applications (will be taken mainly from Brian's talk at the review and included).

- Also not included are the detailed physics justifications/uses for the BPM measurements. These will not likely go into the requirements document but will of course inform us as we design and build the system.

- This is a big step for the project and Alberto and Dave are to be congratulated. Additional input, clarification, questions, etc. should be sent to Alberto and Dave.

2. Combiner Board status : Bob Forster, Vince

- The combiner boards have not yet arrived - Bob will chase them down.

3. VME crate purchase status : Bob Forster

- The specification for the VME crate has been circulated and requires signatures of Vince, Bob, Manfred, Steve. Those have all been obtained and Bob Forster can go to purchasing, make a plan to do some sort of limited bid, and acquire the 11 VME crates.

4. MI BPM signals to FCC3 : Bakul

- MDAT will be enabled soon by Greg Vogel to the FCC3 test stand. The other signals will await the necessary quiet time needed to make modifications to the clock system.

5. MVME processor status : Luciano, Margaret, Steve

- While attempting to port code to the 5500 some issues were uncovered in MOOC and ACNET libraries for the 5500. Some of this has been looked at and corrected and it is expected that the port will

continue this week.

- Bob Webber suggested that the memory requirements be re-examined in light of the updated requirements. There was some discussion about the requirement for keeping information based on state -- how long, how many, etc. Luciano should update his estimate for memory requirement.

6. Transition Board status : Manfred

- Manfred has written a document (in beams-doc-1526) giving status of the transition board and the first tests of the 2-channel analog prototype board. This board is incomplete and is awaiting a few capacitors on the 2.5 MHz channels.

- Four tests have been made on the 53MHz path:

- Smoke test
- DC
- Sine wave
- Network analyzer

- Results so far are promising. The board functions as expected.

- The layout for the 8 channel board is more or less on schedule. Manfred will update us on progress next week.

7.&8. MI30 status/Timing Board : Peter/Bob W./Bill

- Still debugging the 2 Echotek/2 clock generator setup in MI30. The Echotek clock generator seems to function properly and allow the Echotek to collect good data at all times. The timing board loses lock occasionally and so has problems taking data. This has not yet been fully debugged and might be due to noise.

- In any case debugging will continue. Bill has two boards to bring to MI30 for further investigation.

- More work has occurred on the timing board firmware.

9. Front-end software : Luciano

- Luciano has not yet seen multiple TBT and is working on it.

- Specification for buffer allocation and management is being worked on.

- Data structures need to be defined and work is proceeding with

Brian and others.

11. Online software : Brian

- Brian will work with Luciano and others on the data structures.

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

- Marv, Ken and Stew did a survey of the MI service buildings. The report is being prepared.

12. AOB

- Rob Kutschke has returned from a long holiday.
- Next week we will ask for updates on all projects.