Meeting Minutes: MMC Working Group - Wednesday 12 March 2003
9:00 AM - 5:00 PM

T10 Meeting Week at:
Crown Plaza Suites
7800 Alpha Road
Dallas, TX

Hosted by: Texas Instruments, Paul Aloisi

Agenda:
1.0 Opening Remarks
   Bill McFerrin opened the meeting at 9:00 AM. The following announcements
   were noted:

   1) This meeting has been authorized by INCITS T10 and will be conducted
   under the NCITS rules. Ad hoc meetings take no final actions, but prepare
   recommendations for approval by the INCITS task group. The voting rules
   for the meeting are those of the parent committee, INCITS T10. For the ad
   hoc, other than straw votes, the voting rules are: one vote per
   participating company.

   2) The minutes of this meeting will be posted to the T10 Reflector and
   will be included in the next T10 committee mailing. Attendance at a
   working group meeting does not count toward minimum attendance
   requirements for T10 membership. Working group meetings are open to any
   person or company to attend and to express their opinion on the subjects
   being discussed.

   3) MMC4R01g.pdf is on the T10 website.

2.0 Introductions
   Present at the meeting:
   Greg Fry   Roxio
   David Hanes   HP
   Emily Hill   Microsoft
   Keiji Katata   Pioneer
   Bill McFerrin   Philips
   Norichika Mine   Sony
   Terry Nelson   Panasonic America
   Hiromichi Oribe   IOMEGA
   Curtis Stevens   Pacific Digital
   Masaetsu Takahashi Ricoh

3.0 Document Distribution
   Bill McFerrin made MMC-4 draft Rev 1G available electronically.
   Hiromichi Oribe made USB_MMC4_Annex_Rev10 available electronically.
   Keiji Katata made Proposal_gt3_revised available electronically.

4.0 Call for Patents
   None reported.

5.0 Approval of Agenda
   The agenda included only final proposals and review of current draft.
   Keiji Katata requested to present a proposal for a Group 3 timeout.

6.0 New Business
6.1 USB Annex, Oribe, IOMEGA
    Some clarifications were recognized:

- The USB Implementation Notes Annex must be changed from normative to informative. No use of the word "shall".
- Clarification: Reset is a USB reset and does not place requirements on the underlying device. That action is Vendor specific.
- Command queueing is not a requirement.
- USB MASS is little endian.
- USB MASS describes behavior of "13 cases". Those are based upon 3 primary command cases:
  1. No data to transfer
  2. Data In only
  3. Data Out only

      Only the three primary cases should be shown in MMC.

      Oribe will revise.

6.2 Group 3 timeouts, Katata, Pioneer
    Group 1 and Group 2 timeouts cover entire command execution. Very long reads or very long writes may require very long timeout values. This allows very long delays when error recovery is damaging average transfer rate.

    Group 3 defines interval timeouts for streamed reads and writes. This assures that long recoveries will be timed out earlier.

    It was noted that this seems to be unnecessary, because the SET STREAMING parameters should already assure a quick time-out when the streaming rate falls below the host requested rate. Katata claims that SET STREAMING is associated with "recoverable errors" while Group 3 time-outs are associated with unrecoverable errors.

7.0 Old Business
    Review of questions and change requests wrt MMC-4 draft revision 1F.

    A large number of comments and questions wrt MMC-4 version 1F were received by e-mail since the last meeting. Some were discussed during the meeting. The comments were in 3 categories:
1. Genuine errors within the draft.
2. Questions that indicate clarification is required.
3. Questions that suggest a need to specify further. In this case, behavior of existing devices suggests that more detail on mandatory/optional behavior is required.

    Bill McFerrin will document responses in a separate memorandum.

8.0 Review of Action Items
    Mr. Oribe will revise USB annex based upon discussion, including 3 figures that provide a better overview of how USB MASS works. Focus on protocol but reduce detail. Add references USB MASS document whenever convenient.

    Bill McFerrin will post to the t10 website all documents disclosed during the meeting.

Bill McFerrin will produce MMC-4 version 2 that contains completed annexes.

Bill McFerrin will respond to e-mail questions and comments wrt versions 1F and 1G. MMC-4 version will reflect necessary changes.

9.0 Future Meeting Schedule
Due to an overlap with WinHEC, many members will not be able to attend the May T10 meeting week (week of May 4). The MMC WG will not meet during that week. It is important, however, to have an MMC WG meeting in order to be ready with a MMC-4 draft during the July t10 plenary.

The general attitude of members is that delaying a meeting until after t10 week is too late. The week prior to current t10 weeks is Golden Week in Japan (week of April 27).

A 2-day meeting will be held during the week of 20 April. Greg Fry (ROXIO) has agreed to find an acceptable location in Hawaii.

10.0 Adjournment
The meeting was adjourned at 5:30 PM.