Meeting Minutes: MMC Working Group - Wednesday 15 January 2003
9:00 AM - 5:00 PM

T10 Meeting Week at:
Embassy Suites - Washington Square
9000 S.W. Washington Square Rd.
Tigard, OR 97223

Hosted by: Intel, Cris Simpson

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) MMC4R01f.pdf is on the T10 website.

2.0 Introductions

14 people from 12 companies were present at the meeting:

Kenji Tokumitsu	Hitachi
David Hanes	HP
Hiromichi Oribe	IOMEGA
Takaharu Ai	Matsushita (MEI)
Emily Hill	Microsoft
Terry Nelson	Panasonic America
Bill McFerrin	Philips
Keiji Katata	Pioneer
Takeshi Kohda	Pioneer
Toshiro Tanikawa	Pioneer
Masaetsu Takahashi	Ricoh
Greg Fry	Roxio
Norichika Mine	Sony
Hideki Takahashi	Toshiba

3.0 Document Distribution

MMC4R01f was distributed for those who have not downloaded it.
Pioneer proposal to Mt Fuji for Software Defect Management was distributed for review. Pioneer's documents will be posted to the T10 web site.

4.0 Call for Patents
None reported.

5.0 Approval of Agenda
Katata, Pioneer requested time to review the Software Defect Management proposal as it was presented to the Mt Fuji group.

6.0 Old Business

None

7.0 New Business
7.1 Software Defect Management
Katata-san, Pioneer reviewed the proposal for software defect management as it was proposed to Mt Fuji. The review was primarily focussed upon the model section.

There are 2 forms: Persistent and real-time

- Persistent is a read-back logging.
- Real-time covers only hard failures.

No defect case:
Somehow the device must filter mechanical difficulties such as jitter after seek and land, external shock, etc. After that, no seek retries are required. Next, the correctability must be "easy". In this case, "easy" means that PI fails to correct at most 8 lines. PO is capable of correcting those PI failures. Beyond such errors, the ECC block is considered crossing into type 1 status.

Type 1 Defect Case: Acceptable amount of time is dedicated to recovery

Somehow the device must filter mechanical difficulties such as jitter after seek and land, external shock, etc. After that the block must be recoverable after some low number of seek retries. Here "low" is not well defined. At some point the data is recovered with not more than 15 PI lines in error.
The GET PERFORMANCE command is given a new type code (5) defined for returning defective block information.
Bill McFerrin noted that a method for returning defect information is already specified in SBC: the READ DEFECT DATA command. A new data format type is required, however, using the SBC command seems more appropriate than defining a new type for the GET PERFORMANCE command.

Type 2 Defect Case: Recoverable with extreme measures
This is not well defined. It represents a boundary case where the block is recoverable, but only after an unacceptable amount of time has been dedicated to recovery.

Type 3 Defect Case: Unrecoverable read.

Type 4 Defect Case: Write failure

A formal, final version will be made available in March.

7.2 SCSI CAP Joint Session

The Pioneer review was interrupted for a visit with the SCSI Commands and Protocols WG. The Pioneer proposal requests using 2 reserved bits from the READ/WRITE ERROR RECOVERY MODE PAGE. The CAP WG did not object. The Pioneer proposal also adds a Streaming bit to the VERIFY (12) command. Additionally, the READ (12) and WRITE(12) commands were originally defined for use only by MMC. SBC-2 will be defining those commands in a general way. MMC also needed to be assured that the Streaming bit in each of these is not used for other purposes by the SBC-2. There were no objections within CAP. In fact, CAP is proposing that a Streaming bit be defined for the 10-byte version of each of commands (READ (10), WRITE (10), and VERIFY (10)).

7.3 Review the MMC-4 draft revision 1f.

Bill McFerrin requested that all new material for MMC-4 be proposed no later than the March meeting with final MMC-4 material to be received by the May meeting. The goal for MMC-4 going to T10 for review is the September T10 meeting.

The review process is to proceed even though new material is still being added.

Bill McFerrin pointed to the goals of the document and the review process:

1. Improve document structure to make a more effective reference:
   a. Similar subjects should have a similar structure. e.g. Each DVD media type model discussion should have a common set of sub-headings.
   b. The term "Obsolete" has been replaced by Legacy. The definition of Legacy is: Not Recommended. Legacy items shall appear in a Legacy Specifications annex. Legacy items may not change in newer versions of MMC. Legacy items may be removed from the annex only when there are NO objections.

2. Improve descriptions for better clarity. This could involve changing names of functions, fields, etc.

3. Review Sequence:
   Document Structure,
   Models,
   Features,
   Mode Pages,
   Commands,
   References,
   Definitions,
   Introductory.

The document structure review included ordering of major sections and annexes:

1 Scope
2 References
3 Terms and Definitions
4 Multi-Media Device Models
5 Features and Profiles for Multi-Media Devices
6 Mode Parameters for Multi-Media Devices
7 Commands for Multi-Media Devices

Annex A Implementation Notes: ATA Layer of ATAPI (Normative)
Annex B Implementation Notes: SCSI Parallel Interface (Normative)
Annex C Implementation Notes: SCSI Serial Bus Protocol (Normative)
Annex D Implementation Notes: Universal Serial Bus (Normative)
Annex E Legacy Specifications (Normative)
Annex F Error Reporting (Informative)
Annex G Features and Profiles (Informative)
Annex H Event Reporting Using GESN (Informative)
Annex I Power Management (Informative)
Annex J Using MRW Formatted Media (Informative)
Annex K Implementation Examples for Software Defect Management (Informative)

This structure was accepted with no objection. Changes may be required in order to be in compliance with the T10 style guide.

The models section was reviewed quickly with notes about potential problem areas. Bill McFerrin pointed to new information in the CD Model section about High Capacity CD Recordable media. Although such media is currently restricted to roughly 100 minutes today, the latest version of Orange Book allows for expansion to nearly 160 minutes.

The current plan may include review meetings in June and/or August. We will probably request a 2 day meeting during the July T10 week. The goal is to forward MMC-4 to the T10 committee during or before the September T10 plenary.

8.0 Review of Action Items

The entire WG was requested to do a detailed review of the model section and notify Bill McFerrin by e-mail of any errors or omissions.

9.0 Future Meeting Schedule

The March meeting will be in Dallas, 12 March 2003 at:
Crowne Plaza Suites
7800 Alpha Road
Dallas, Texas (USA)
Ph: (US) 972 233 7600
Fax: (US) 972 788 0947

WinHEC is scheduled to take place during the May T10 week, so the MMC WG will not meet with T10 during May 2003. Some alternatives were discussed. Currently, we hope to schedule a 2 day meeting following WinHEC in New Orleans, Louisiana USA. Bill McFerrin will investigate the possibilities and report at the March meeting.

10.0 Adjournment

The meeting was adjourned at 5:30 PM.

Regards,
Bill McFerrin, (CD Edge, Inc) for Philips Electronics, NA
720-320-0790