

Accredited Standards Committee*

InterNational Committee for Information Technology Standards (INCITS)

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Reply to: John Lohmeyer

To: T10 Membership
From: Mark Overby & John Lohmeyer
Subject: SAT Working Group -- August 22, 2005
Boulder, CO

Agenda

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Results of Meeting

1. Opening Remarks

Steve Johnson called the meeting to order at 0900 Monday, August 22, 2005. He thanked Bob Sheffield and Intel for hosting the meeting. As usual, the people present introduced themselves.

2. Approval of Agenda

The draft agenda was approved as revised.

3. Attendance and Membership

Attendance at working group meetings does not count toward minimum attendance requirements for T10 membership. Working group meetings are open to any person or organization directly and materially affected by T10's scope of work. The following people attended the meeting:

*Operating under the procedures of The American National Standards Institute.
INCITS Secretariat, Information Technology Industry Council (ITI)
1250 Eye Street NW, Suite 200, Washington, DC 20005-3922
Email: incits@itic.org Telephone: 202-737-8888 FAX: 202-638-4922

Name	S	Organization
Mr. Kenneth Hirata	A	Emulex
Mr. Ralph O. Weber	P	ENDL Texas
Mr. Wayne Bellamy	V	Hewlett Packard Co.
Mr. Dan Colegrove	P	Hitachi Global Storage Tech.
Mr. Robert Sheffield	P	Intel Corp.
Mr. Steve Johnson	V	LSI Logic Corp.
Mr. Owen Parry	V	LSI Logic Corp.
Mr. Mark Overby	P	Nvidia Corp.
Mr. Greg Elkins	V	QLogic Corp.
Mr. Jim Hatfield	V	Seagate Technology
Mr. William Martin	P	Sierra Logic, Inc.
Mr. Curtis Stevens	P	Western Digital

Status Key: P - Principal
 A,A# - Alternate
 AV - Advisory Member
 L - Liaison
 V - Visitor

4. Old Business

4.1 SAT Work Items List (04-391) [Sheffield]

Bob Sheffield reviewed the current revision of the SAT work items list.

During the review, Bob noted that he added an item to cover the reflector discussion around the SAS NOTIFY for SPINUP REQUIRED and START STOP UNIT. A long discussion ensued over how to handle the case where the ATA drive is attached to an expander. A further discussion ensued about the ATA power up in standby feature set. The general consensus was the Mark Evans was needed to help complete the discussion in context of START STOP UNIT and was deferred until Mark was available.

Bob also reviewed the schedule and updated the current targets. It was noted that all proposals were requested to be submitted for SAT by the Vancouver (September) meeting.

4.2 SAT - LOG SENSE command and SMART (05-142r2) [Bellamy]

Wayne Bellamy reviewed the current revision of his proposal. Wayne noted the feedback, documented in the revision notes, from the previous meetings and how he addressed that feedback in his proposal. Jim Hatfield asked that the new ASC be modified to talk about features as opposed to feature sets. Ralph Weber also noted that the ASC would need to be requested for SPC-4, not SPC-3 since that is now a published standard.

Ralph also noted that there were fields marked as U that said "shall not support". A discussion ensued and it was generally agreed that in the LOG SENSE CDB fields they should be U with no text. Wayne agreed to make those changes.

Steve Johnson requested a straw poll on if I and E were equivalent terms. 9 voted in favor, 1 opposed. Bill Martin asked for a straw poll for removing the SATType column, deleting the definition of I and E, and creating text in the field descriptors to replace U. 4 in favor, 5 opposed.

Significant feedback was provided to Wayne to help clarify information in the various log pages to make them consistent with the SPC and SBC. Wayne agreed to incorporate that feedback into his proposal.

Continuing discussions were held on the use of the SATType field in reference to the page code and page length in the log page data. There were several people who pointed out that the current SATType column may not be providing any useful data and may be just confusing the issues. Mark Overby requested a straw poll again after the further discussions about removing the SATType. He requested a poll of how many people were in favor of removing the SATType column. The vote was 9 yes, 1 no.

Wayne agreed to turn a new revision for the next meeting.

4.3 SAT, START STOP UNIT command mapping (05-226r2) [Evans]

Mark Evans presented 05-226r2. Mark Evans received significant feedback about separating the FLUSH CACHE EXT from the STANDBY and making sure that on spindown if the drive failed to flush the cache. Also Mark received feedback to include the error cases and he would go back and find one CHECK CONDITION status ASC/ASCQ combination for each case. Mark Overby raised a question about can FLUSH CACHE abort if the write cache is disabled. Mark Evans believed that was not the cache. Mark Overby agreed to research this with T13 and drive companies and get back to Mark Evans if this would be a problem. Wayne Bellamy and Bob Sheffield both proposed that a better way of handling the errors could be to have a general statement in the commands referring readers to the error translation map with exceptions noted in the appropriate command. Mark Evans agreed to prepare a new revision from considerations at the next meeting.

4.4 SAT: Add 16-byte CDBs and PIO modes (05-247r1) [Sheffield]

Bob Sheffield reviewed 05-247r1, SAT: Add 16-byte CDBs and PIO modes. The group reviewed the proposal page by page.

Bob received significant feedback about the size (clause 9.1) paragraphs which allow for a SATL to not be forced to report the exact size of the ATA sector to the SCSI application client. Mark Overby reminded the group that the reason this was there was to allow the SATL to do emulation of non-512 byte sectors to allow for SATL innovation and emulation. Curtis Stevens also noted that it was possible that the reverse direction would be needed as well in order to allow a SATL to present a 512-byte interface to a device that had a 4k sector size. Ralph Weber noted that the wording needed revision to make that clear and feedback was provided to Bob for incorporation.

A lengthy discussion was held about the capacity reported in READ CAPACITY. There were many differing opinions about the SATL reserving space on the hard drive for its own metadata. Several people raised objections that there was no "standard" way to know if a SATL can be used in different implementations. There were also several people who raised objections in the other direction saying that SATL's have to have flexibility in how they define their capacities, store metadata, store persistent data, and so on. Some people came to a suggestion that a definition could be created for an annex that would define an entry in the ATA PARTIES format that would allow a SATL to store standard SCSI information to indicate when it did something non-standard. This prompted further discussion on the fact that you cannot require this for a simple SATL that does a 1-1 mapping and what all would need to be stored in such metadata. The conversation was terminated in the interests of moving along the agenda with a request for those people who care about such a thing to bring in a proposal.

Other minor comments were made of editorial or minor type.

Bob agreed to turn a revision of the document with the changes and bring to the next meeting.

4.5 SAT Task Management (05-108) [Johnson]

This item was deferred due to a lack of time.

5. New Business

5.1 Microsoft Logo Requirements [Overby]

This item was deferred due to a lack of time. Mark asked that this be carried forward to the next meeting.

5.2 Standardization use of SATL-specific areas of the media [Bellamy]

This item was covered during other discussions and Wayne did not see a need to carry this forward to the next meeting.

5.3 Self diagnostic and self test [Bellamy]

This item was deferred due to a lack of time. Wayne asked that this be carried forward to the next meeting.

6. Review of (SAT) Working Draft

Due to a lack of time, this item was deferred to the next meeting.

7. Review of Recommendations

No recommendations were made at this meeting.

8. Meeting Schedule

A SAT Working Group meeting is scheduled for:

Tuesday September 13, 2005 from 9:00 a.m. to 5:00 p.m. in Vancouver, BC at the Vancouver Marriott Pinnacle Downtown Hotel (604-684-1128; Reservations: 800-207-4150), hosted by PMC-Sierra.

Tentative: Monday October 17, 2005 from 9:00 a.m. to 5:00 p.m. in Las Vegas, NV pending coordination with the T13 host for that meeting.

9. Adjournment

The meeting was adjourned at 5:55 p.m. on Monday, August 22, 2005.