

Accredited Standards Committee*

InterNational Committee for Information Technology Standards (INCITS)

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Date: December 17, 2004

Reply to: John Lohmeyer

To: T10 Membership
From: Mark Evans and John Lohmeyer
Subject: SAT Working Group -- December 16th and 17th, 2004
Las Vegas, NV

Agenda

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Results of Meeting

1. Opening Remarks

John Lohmeyer called the meeting to order at 1:00 PM Thursday, December 16, 2004. He thanked Dan Colegrove of Hitachi GST for hosting the meeting. As usual, the people present introduced themselves.

2. Approval of Agenda

The draft agenda was approved with no changes.

No items were added or revised during the course of the meeting.

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:

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Name	S	Organization
Mr. Ralph O. Weber	P	ENDL Texas
Mr. Wayne Bellamy	V	Hewlett Packard Co.
Mr. Dan Colegrove	P	Hitachi Global Storage
Mr. Steve Livaccari	V	IBM Corp.
Mr. Nathan Marushak	V	Intel Corporation
Mr. Robert Sheffield	P	Intel Corp.
Mr. John Lohmeyer	P	LSI Logic Corp.
Mr. Steve Johnson	V	LSI Logic Corp.
Mr. Mark Evans	P	Maxtor Corp.
Mr. Mark Overby	V	nVidia Corp.
Mr. Jim Hatfield	V	Seagate Technology
Mr. William Martin	V	Sierra Logic
Mr. Curtis Stevens	P	Western Digital

13 People Present

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

4. Old Business

4.1 SAT INQUIRY contents (04-218r7) [Elliott]

In Rob Elliott's absence, Wayne Bellamy reviewed revision 7 of this proposal about data that is returned for an INQUIRY command.

There was much discussion about names and topology, for example, target device names derived from model number and serial number. The proposed identifier type of 1 (T10 vendor identification) for target device names would allow non-globally unique names. One possibility is: if a WWN is provided by a SATA device in its IDENTIFY DEVICE information, that WWN could be used as the target port identifier. If a WWN is not provided by a SATA device, the target port identifier could be the expander port name.

During the discussion Ralph Weber stated that George Penokie intended that only target devices containing well-known logical units be required to have target device names. Wayne said that he would remove the clauses in his proposal concerning target device name.

Wayne moved that 04-218r8 (r7 as revised based on input from the working group) be recommended for inclusion into the SAT draft. Mark Evans seconded the motion. The motion carried unanimously (8:0:0).

4.2 ATA Command Pass-Through (04-262r2) [Stevens]

Curtis Stevens reported that he received the op codes from the CAP Working Group to define new SCSI CDBs for issuing ATA commands and sense information to report completion status. He will incorporate these into the next revision of the proposal.

4.3 SAT: Remaining Work Items (04-391r1) [Sheffield]

Bob reviewed revision 1 of the list that he is maintaining that itemizes the known work items to be completed for the

project and the status of those items. Bob reported that he will continue to maintain this list until the project is complete.

5. New Business

5.1 SAT ATA Protocol Specific Mode Page Proposal (04-397r0) [Overby]

Mark Overby reviewed his proposal for a protocol specific mode page for SAT. There are two subpages, one for parallel ATA devices and one for serial ATA devices.

It was recommended that Mark increase the size of the pages to provide more reserved bytes. Mark agreed to make this change.

It was suggested that these might be better as Control Mode subpages. Mark agreed to make this change.

There was a comment that information presented in the SATA subpage (e.g., status) was not available. Mark said that he would check to see why he included this.

Mark agreed to make a new revision of his proposal including input from the working group.

6. Review of SAT Working Draft

Bob Sheffield began by reviewing change bars and editor's notes in the draft.

Mark Overby stated that the definition for "ATA domain" ("An I/O system consisting of a set of ATA hosts and ATA devices that communicate with one another by means of a service delivery subsystem.") is incorrect. Mark stated that there can only be one host in an ATA domain. Ralph Weber stated that the current definition in the draft is consistent with the definition in the SAS standard and that Mark's definition of an ATA domain (i.e., having only one host) conflicted with the concept of a SCSI domain. Mark Evans stated that Mark Overby's definition is correct and is consistent with the definition in the preliminary version of the ATA Architecture Model draft standard.

Mark Evans agreed to review the SAS draft standard and propose wording to change the definition of "ATA domain" (and possibly other related definitions) to be correct and consistent.

There was more discussion about power management (e.g., START STOP UNIT). Mark Evans agreed to review the draft for consistency between SPC and ATA/ATAPI standards.

There was extended discussion about the REASSIGN BLOCKS command mapping. Several folks stated that there was no way to reassign a block on an ATA device after a write failure because an ATA drive would only report a write error (via the DF bit in the Error register) after there were no more spare LBAs. It was also stated that an ATA drive would only consistently reassign an LBA after a read failure when the LBA was written. Therefore, it could be possible to reassign an LBA by performing a READ VERIFY. If the READ VERIFY succeeds then the LBA has been reassigned if necessary. If the READ VERIFY fails, then issue a WRITE command to that LBA and the device will reassign the block if necessary. The WRITE command should be followed by a READ VERIFY to insure that the LBA was written correctly.

Dan Colegrove agreed to create an agenda item for the next T13 meeting to review this reassignment algorithm with that group.

The next discussion was about mapping of the FORMAT UNIT command. It was stated that ATA devices could not support any form of defect list. It was noted that SBC-2 only requires a vendor-specific defect list format, which could be no defect list. Also, SBC-2 does not require the medium to be altered by a FORMAT UNIT command.

Ralph Weber recommended, and all agreed, that SAT require only the vendor-specific defect list format option with no defect list. If an application client requires that the media be written, then this function could be mapped to using the ATA WRITE SAME command.

Bob stated that he will not make a new revision of this document until we complete review of the current revision of the draft.

7. Review of Recommendations

Mark Evans noted that the working group made the following recommendation to the T10 plenary:

For inclusion in SAT: SAT INQUIRY contents (04-218r8) [Elliott], {r7 as modified, unanimous}

8. Meeting Schedule

SAT Working Group meetings are scheduled for:

Tuesday, January 18, 2005 from 9:00 AM to 12:00 PM in Las Vegas, NV at the Tropicana Hotel (800-634-4000), hosted by Hitachi GST.

Thursday, February 25, 2005 commencing at 1:00 PM ending at 12:00 PM on Friday, February 25, 2005. The meeting will be held at the nVidia facility in Santa Clara, CA. Mark Overby will send a list of recommended hotels to the reflector.

Teleconference calls may be announced on the T10 reflector as needed.

9. Adjournment

The meeting was adjourned at 11:30 AM on Friday, December 17, 2004.