

Accredited Standards Committee*

InterNational Committee for Information Technology Standards (INCITS)

Doc. No.: T13/08119r0

Date: May 8, 2008

Reply to: Mark Overby

To: T13 Membership
From: Mark Overby
Subject: T13 Plenary Meeting (Las Vegas, NV) -- April 22-24, 2008

Agenda

1. Opening Remarks
2. Approval of Agenda
3. Attendance and Membership
4. Approval of the Previous Minutes
5. Document Distribution
6. Review of Previous Action Items
7. Old Business
8. New Business
9. Liaison Reports
10. Call for Patents
11. Review of Action Items
12. Approved Proposals
13. Meeting Schedule
14. Adjournment

Results of Meeting

1. Opening Remarks

Dan Colegrove, the T13 Chair, called the meeting to order at 0900 Tuesday, April 22nd, 2008. Dan Colegrove thanked Hitachi GST for hosting.

As is customary, the people in attendance introduced themselves, and a copy of the attendance list was circulated. Copies of the agenda were made available to those in attendance.

The Chair briefly reviewed the meeting rules: T13 is a Technical Committee of INCITS and operates under INCITS rules. Anyone with interest in the work of the committee is free to attend and take part in discussions. However, motions and votes are limited to member organizations, one vote per member organization.

The Chair also noted that T13 operates under the INCITS antitrust guidelines. There should never be discussion of the following topics at any INCITS or an INCITS subgroup meeting:

- "Any company's prices or pricing policies;
- "Specific R&D, sales and marketing plans;
- "Any company's confidential product, product development or production strategies;
- "Whether certain suppliers or customers will be served;
- "Prices paid to input sources; or
- "Complaints about individual firms or other actions that might tend to hinder a competitor in any market.

*Operating under the procedures of The American National Standards Institute.

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Policies and Procedures and antitrust guidelines for INCITS are available at the web site at www.incits.org. T13 operates under these policies and procedures augmented by the T13 procedures at the T13 web site at www.t13.org.

2. Approval of Agenda

Mark Overby moved, Dan Colegrove seconded, that the agenda be approved as revised. The motion passed by unanimous consent.

3. Attendance and Membership

The Chair reviewed the rules for membership and attendance:

3.1 Membership

An individual from an organization new to T13 must attend at least one T13 plenary meeting before requesting voting membership. After that meeting, the representative may request membership from the T13 chair stating expertise and material interest in the scope of the committee and pay the required fees to INCITS. The time when membership becomes effective has just changed. Membership now becomes effective at the start of the next meeting the organization attends assuming the organization attends one of the next two meetings.

3.2 Fees

Current INCITS memberships fees are 1200.00 USD. Alternates are included in the membership fee.

Mailings of committee documents are available to any interested party after each plenary meeting. The cost for mailings for one year is 300.00 USD for mailing in the USA and 400.00 USD for mailing to a location outside of the USA.

Persons with questions or requests regarding membership fees and/or subscriptions for mailings should contact Barbara Bennett, ITI Standards Operations, at bbennett@itic.org.

3.3 Attendance

In addition to payment of fees, there are also minimum attendance and participation requirements to maintain voting membership status on T13. A representative from a member organization must attend two of every three plenary meetings and vote on at least every other letter ballot. If a member organization fails to have a representative in attendance at two of the last three T13 plenary meetings or vote on every other letter ballot, they are warned that failing to attend the next T13 meeting or to vote on the next letter ballot will result in their voting membership being terminated.

Attendance at a working group meeting does not affect voting membership status in T13.

The T13 voting membership during the meeting was 20 organizations.

The number of eligible voting members required for establishing a quorum was 7. 13 Member organizations were present at the start of the meeting, thus a quorum was present.

The following individuals attended:

Table 1: Attendance List

Attendee	Company		Attendee	Company
Bill Martin	Emulex		Mark Overby	NVIDIA

Table 1: Attendance List

Attendee	Company		Attendee	Company
Jim Hatfield	Seagate		Joseph Chen	Samsung
Larry Barras	Apple		Curtis Stevens	Western Digital
Dan Meyer	LSI		Aaron Wilson	ST Microelectronics
Dan Colegrove	Hitachi GST		Steve Livaccari	IBM
Wayne Bellamy	HP		Randy Hines	ST Microelectronics
Patrick Hery	Toshiba		Ulrich Hansen	Eutorian Tech.*
Marty Stevens	Dell		Sumit Puri	Fujitsu
Frank Shu	Microsoft		Joe Scanlon	AMD*
John Geldman	Lexar Media		Steven Wells	Intel
George Penokie	LSI		Yoni Shternhell	Sandisk

*Nonmember Guest

4. Approval of the minutes from the previous T13 plenary meeting (e08112r0)

Dan Colegrove moved, Mark Overby seconded, that the minutes be approved. The motion passed with unanimous consent.

5. Document Distribution

No documents were distributed.

6. Review of Previous Action Items

1. Dan Colegrove to check the status of the DDT technical report. [Going to EB review. No new status. Carryover]
2. Dan Colegrove to check the status of the EDD erratum. [No new status. Carryover]
3. Dan Colegrove to post Apple and HP patent letters. [Done]
4. Dan Colegrove to post the new RD-1 rule. [Done]
5. Dan Colegrove to issue letter ballot for ATA8-APT parallel mapping [Cancelled]

7. Call for Patents

The Chair explained the patent policy. A document is available from ANSI, "Procedures for the Development and Coordination of American National Standards", at no charge. This document is also on the INCITS web site at www.incits.org/help/ansi_sdo.html. Section 1.2.11 of that document contains the ANSI patent policy.

The Chair then called for patents and/or patent applications that may be necessary to comply with the requirements in T13 standards, draft standards, technical reports, or draft technical reports.

Dan Colegrove stated that the call for patents will be moved to the beginning of the agenda for future meetings.

There was no response to the call for patents.

8. Old Business

8.1 INCITS Change in RD1 [Colegrove]

Dan Colegrove reported on the request from T10 and T11 to waive the new RD1 policy. The request was declined by the executive board. Dan and the chairs of T10 and T11 are meeting with the INCITS EB chair in approximately two weeks. George Penokie reported that there was some thought that the request was misinterpreted by the executive board and that Karen Higgenbottom requested to attend the T committee meetings to determine why the changes were being requested. Dan stated that he would inform INCITS that T13 supports the position of T10 and T11 and would report back on further developments.

8.2 ATA/ATAPI-7: 1532D

8.2.1 ISO Status

Mark Overby stated that the volumes were progressing with the ISO editor and the ISO committees.

8.3 HBA-2 Standard Project: 2014-D

Mark Overby reported that there was nothing new at this time.

8.4 DDT Technical Report

Dan Colegrove stated that the amendment is going through management review and public review with INCITS.

8.5 ATA/ATAPI-8 Projects

8.5.1 AT Attachment 8 - Command Set (ATA8-ACS)

8.5.1.1 Letter Ballot Comment Resolution (e08110)

Curtis Stevens led a review of the remaining letter ballot comments on ATA8-ACS.

During letter ballot comment resolution, multiple motions were made to resolve contended letter ballot comments.

For WRITE DMA FUA EXT and WRITE MULTIPLE FUA EXT being mandatory for the 48-bit feature set, Curtis proposed a motion to resolve the comments. Curtis Stevens moved, Jim Hatfield seconded, that WRITE DMA FUA EXT and WRITE MULTIPLE FUA EXT be mandatory if the 48-bit feature set is implemented. The motion passed by unanimous consent.

Mark Overby moved, Sumit Puri seconding, that the comment resolution for all letter ballot comments regarding the NV Cache feature set and the NV Cache power management feature set be to remove the feature set from ATA8-ACS and defer to a future standard or technical report. Frank Shu stated that he was opposed because he felt that the feature set was needed and that he did not see what removing the feature set would solve. Mark responded that he felt that this feature set has been rewritten several times since the original proposal was introduced and that he felt that the feature set was not stable enough to incorporate into the final version of ATA8-ACS. He also felt that to be a candidate for further work because it is not possible to create interoperable implementations with the current documentation and referenced several times in which the standard has been reworked to make implementations interoperable. Jim Hatfield noted that he felt that there were serious interoperability concerns as well because with each round of letter ballot and at each meeting, new issues have been raised with the NV cache feature set that have resulted in very divergent and non-compatible implementation interpretations of the technology. Curtis Stevens noted that there have been significant rewrites each year to the overall technology and he was uncertain if it was clear to a vendor how they should build an implementation compliant to the standard. Frank Shu stated that he felt that the material had the right information in it (for example, the MSB/LSB confusion from the 1st letter ballot) and that it was transcribed wrong. Bill Martin stated that if this motion were to be carried, that the material as is should be preserved in order to not lose any of the work and corrections that had been made. Mark and Jim Hatfield both agreed that would be important.

Apple (Barras): Yes
Broadcom: Not Present
Dell (Stevens): No

Emulex (Martin): No
 Fujitsu: No
 HP: No
 Hitachi: Abstain
 IBM: No
 Intel: Not Present
 Kyonix: Not Present
 Lexar: No
 LSI: Abstain
 Microsoft: No
 NVIDIA: Yes
 Samsung: Not Present
 Sandisk: No
 Seagate: Yes
 ST Microelectronics: Not Present
 Toshiba: No
 Western Digital: Abstain

The motion failed with 3 ayes, 9 nays, 3 abstains, and 5 not present.

Curtis Stevens moved, Mark Overby seconding, that words 119 and 120 bits 14 and 15 be marked as reserved to resolve WD letter ballot comments for words 119 and 120. Jim Hatfield stated that he was concerned that because this had been published for some time. The motion failed with 3 ayes, 6 nays, and 6 abstentions.

Curtis Stevens moved, Mark Overby seconding, to accept the editors resolution for the description for FLUSH NV CACHE to resolve letter ballot comments. The motion passed with 11 ayes, 1 nay, and 3 abstentions.

Bill Martin moved, George Penokie seconded, to reject the comment to change the name of page 0 statistics and leave it unchanged. Joseph Chen moved, Wayne Bellamy, to amend the motion to replace the name of the page 0 statistics with device usage statistics (from general statistics). The motion to amend failed with 2 ayes, 10 nays, and 3 abstentions. The main motion failed with 8 ayes, 2 nays, and 5 abstentions.

Jim Hatfield moved, George Penokie seconding, the general statistics page be moved to page 1 from page 0 and all other pages shall be marked as reserved. Curtis Stevens stated that he felt that this was too large a change to be made at this point and that it should be deferred to ACS-2. Curtis felt that implementing a directory could be done in a separate log address. The motion passed with 12 ayes, 2 nays, and 2 abstentions.

Jim Hatfield moved, Sumit Puri seconding, that e08110r4 be accepted as the resolution for letter ballot comment resolution for ATA8-ACS. The motion passed with passed with 13 ayes, 0 nays, and 0 abstentions.

The chair asked the no voters if they wished to change their no votes to yes.

NVIDIA agreed to change their vote from no to yes.

Samsung agreed to change their vote from no to yes.

Seagate agreed to change their vote from no to yes.

Intel agreed to change their vote from no to yes.

8.5.1.2 IDENTIFY DEVICE Data Word 21 [Stevens]

Curtis Stevens requested that the committee consider an interpretation what value to report when a 32MB cache is present in the device in word 21. Dan suggested that the value in word 21 be zero if the cache size is larger than maximum reportable value. The interpretation passed by unanimous consent.

8.5.2 AT Attachment-8 - Parallel Transport (ATA8-APT)

8.5.2.1 ATA8-ACS Mapping and Register Descriptions (e07145) [Overby]

Mark Overby reviewed the draft of e07145 for incorporation into ATA8-APT. Mark Overby moved, Jim Hatfield seconded, that e07145r1 be incorporated into ATA8-APT. The motion passed with unanimous consent.

8.5.2.2 ATA8-APT Open Issues (e07177)

Mark Overby reviewed the current open issues list. No new issues were added and Mark agreed to continue to track this for the next meeting.

8.5.2.3 Review of Draft

Draft review was deferred in order to continue with ATA8-ACS letter ballot comment review. Mark did note that he had no more proposals outstanding and would like to go to letter ballot following the next meeting.

8.5.3 AT Attachment-8 - Serial Transport (ATA8-AST)

8.5.3.1 Review of Draft

Curtis Stevens stated that he had no new information to present and was still working towards an October letter ballot.

8.5.4 AT Attachment-8 - Architecture Model (ATA8-AAM)

8.5.4.1 Letter Ballot Comment Resolution

There were no new comments received on ATA8-AAM for inclusion. Mark Overby moved, George Penokie seconded, that ATA8-AAM be forwarded to INCITS for further processing. The motion passed with 13 ayes, 0 nays, and 0 abstentions.

8.6 ACS-2 Project 2015-D [Stevens]

8.6.1 INCITS Status

Dan Colegrove reported that there was no new status to report.

8.6.2 SCT Zone ERP (e07169r1) [Colegrove]

Carried over to the next meeting.

8.6.3 Device Statistics

8.6.3.1 Teleconference Report (e08109) [Hatfield]

Jim Hatfield reported on the recommendations of the teleconference.

8.6.3.2 Additional device statistics - Errors (e06181) [Chen]

Joseph Chen presented the latest version of the error statistics page for feedback from the group. George Penokie raised an issue that he felt that statistics 2 - 5 were not useful information without context about what is within bounds for a given device. Steve Livacarri and Wayne Bellamy both stated that they had the experience and knowledge to interpret these statistics. Mark Overby and John Geldman both responded that without knowledge of the internal device statistics, geometry, design, and architecture that the number is not useful. They argued for a normalized statistic that is more of a gas gauge. George agreed with this position. Curtis Stevens stated that his goal was to have statistics that would be useful for the general tool writers and would not require special interpretation. He suggested that it might be possible to have normalized values reported and then have a vendor-specific method to turn the statistic into raw numbers. Dan Colegrove stated that he felt that normalized data was not useful to determining failure patterns because the differing levels of normalization lead to different interpretations and should not be used for failure detection.

Mark Overby suggested 3 straw polls in order to see if there was a path for consensus:

1. Should the device statistics proceed as defined.

5 were in favor, 9 were opposed.

2. Should there be a method for normalized values or raw values and the reporting is fixed.

13 were in favor, 2 were opposed.

3. Report normalized only.
9 were in favor, 6 were opposed.

Joseph Chen agreed to revise the proposal for the next meeting.

8.6.3.3 Additional device statistics - Temperature (e06183) [Chen]

Joseph Chen received feedback on the latest revision of his proposal and he agreed to bring back a new revision at the next meeting.

8.6.3.4 Additional device statistics - Transport Statistics [Chen] (e07168)

Joseph Chen presented the latest version of the transport statistics page for feedback from the group. He agreed to bring back a new revision of the proposal at the next meeting. Steven Livacarri moved, Marty Stevens seconding, that two teleconferences be authorized for device statistics. The motion passed with unanimous consent.

8.6.4 Data Path Protection (e07162) [Stevens]

Curtis Stevens asked that this be deferred to the next meeting.

8.6.5 Freefall Feature Set Enhancements (e06162) [Chen]

Joseph Chen asked that this be deferred to the next meeting.

8.6.6 Security Command Update (e07104) [Chen]

Joseph Chen asked that this be deferred to the next meeting.

8.6.7 Extended Security (e07189) [Chen]

Joseph Chen asked that this be deferred to the next meeting.

8.6.8 Sanitize Command (e07197) [Geldman]

John Geldman asked that this be deferred to the next meeting.

8.6.9 Set Features Set Policy (e07121) [Hatfield]

Jim Hatfield asked that this be deferred to the next meeting.

8.6.10 SSD Identify (e07153) [Shu]

Frank Shu asked that this be deferred to the next meeting.

8.6.11 Change Host Vendor Specific to Scratch Pad (e07159r0) [Stevens]

Curtis Stevens asked that this be deferred to the next meeting.

8.6.12 IDENTIFY DEVICE Changes to CFAST (e08108) [Geldman]

John Geldman stated that this can be removed from the agenda as it was approved at the previous meeting and no further action was required.

8.6.13 Obsolete PIO [Hatfield]

Jim Hatfield presented a proposal to develop DMA alternatives to existing non-DMA commands to allow development of a non-PIO host. Dan Colegrove asked Jim to alter the title of his proposal to indicate this instead of obsoleting PIO. Jim agreed to turn a revision of his proposal

8.6.14 ACS-2 Open Issues (e07172) [Stevens]

Curtis Stevens reviewed the open issues list for ACS-2. Curtis Stevens moved, Bill Martin seconded, that issue 34 from the open issues list be incorporated into ACS-2 and into the conventions section. The motion passed with unanimous consent.

8.6.15 Project Schedule

8.6.15.1 Cut Off Date

Dan Colegrove and Curtis Stevens stated that they wanted to cut off new proposals to ACS-2 for October and would likely start reviewing the ACS-3 project proposal in August. Curtis also stated that he would post a proposed schedule to the website in a document.

8.7 EDD Erratum

8.7.1 INCITS Status

Dan Colegrove stated that he would verify that it has been published and cleared management board review.

8.8 T13 reflector, FTP, and web site setup

There were no issues since the last meeting.

8.9 EDD-4 Study Group / Project Proposal

Steven Wells moved, Jim Hatfield seconded, that a teleconference be approved for the discussion of EDD-4. The motion passed with unanimous consent. The discussion of EDD-4 was deferred to the teleconference.

9. New Business

9.1 Approve Liaisons

This agenda item was covered in 10.1.

9.2 Signatures in ATA/ATAPI-6

Curtis Stevens presented material about problems with device signatures from ATA/ATAPI-6 that can lead to compatibility problems. He stated that he felt that he would bring in a project proposal for an amendment to ATA/ATAPI-6 to fix these problems at the next meeting.

9.3 Reporting Non Volatile Cache

Steve Livacarri presented a proposal to identify devices that have a non-volatile write cache. There was significant debate and discussion about the need for reporting non-volatile cache and what the usage scenario is. Steve stated that he was bringing this proposal so that he could identify that a devices cache is non-volatile so that he did not have to disable the cache in some circumstances. Dan Colegrove and Curtis Stevens both noted that in ATA-8 the cache bit was reworded to specify that the cache reporting that exists today is a volatile cache. Mark Overby, John Geldman, and Curtis Stevens all pointed out that there should be no restrictions that would keep a device from implementing both non-volatile and volatile cache. After significant debate there was some consensus that there should be separate reporting bits and that the enable and disable that exists today would not have any impact on the non-volatile write cache. Steve agreed to take the feedback and bring a new revision of the proposal to the next meeting.

9.4 Items from the Reflector

No items that needed committee attention were reported.

10. Liaison Reports

10.1 Confirmation Vote of Liaison List [Colegrove]

Dan Colegrove moved, Bill Martin seconding, that JEDEC JC-64 liaison be Mark Overby of NVIDIA. The motion passed with 11 ayes, 1 nay, and 2 abstentions.

Mark Overby moved, Joseph Chen seconding, that John Goldman be the liaison for IEEE 1667. The motion passed with 10 ayes, 1 nay, and 2 abstentions.

Bill Martin moved, Curtis Stevens seconding, that the IEEE 1619 liaison be removed. The motion passed with unanimous consent.

Joseph Chen moved, Jim Hatfield seconding, that Joseph Chen be made liaison to CE-ATA. The motion passed with 4 ayes, 1 nay, and 9 abstentions.

Dan Colegrove moved, Bill Martin seconding, that e08006r0 be the official T13 liaison list. The motion passed with unanimous consent.

Later in the meeting Mark Overby moved, Curtis Stevens seconded, that the JEDEC liaison be left as open until the next plenary meeting. The motion passed with 9 ayes, 0 nays, and 0 abstentions. Mark stated that he felt that since there was some controversy that the action on liaison

10.2 T10 [Colegrove]

10.2.1 SCSI to ATA Translation (SAT) Working Group Report

Mark Overby reported that SAT would meet the day before our next meeting in the Denver airport area.

10.2.2 General T10 Report

Dan Colegrove stated that he will post the T10 plenary report to the website.

10.3 T11 [Colegrove]

No issues to report.

10.4 IEEE

10.4.1 IEEE1667

John Goldman reported that the committee is working on a T10-based spec, and the T13 will be an intended focus in the near future.

10.4.2 IEEE1619

John Goldman reported that they are meeting at the next T10 meeting week and that work continues to progress in multiple sub-groups.

10.4.3 INCITS Liaison Opportunities

Dan Colegrove stated that no new information was available on this.

10.5 Trusted Computing Group [Hatfield]

Jim Hatfield stated that he felt no activities impacted T13 standards as this time.

10.6 SFF [Colegrove]

Dan Colegrove stated that there was no activities that impact T13 standards at this time.

10.7 IDEMA [Colegrove]

Dan Colegrove stated that 4k meetings continue and efforts to show the benefit of 4k sectors are continuing. Curtis Stevens added that there have been discussions about new ECC schemes that fit 4k well. Curtis also noted that for LDCP correction, 4k would not be the correct sector size. Dan noted that the ballot on sizing with new sector sizes was out for voting.

10.8 CFA [Geldman]

John Geldman stated that CFAST is currently the main activity and that the necessary material had already been incorporated into ACS-2.

10.9 Serial ATA IO [Hatfield]

Jim Hatfield reported that SATA-IO had a face to face meeting in late March that discussed the current open items and wish lists for future features for SATA-IO. There is a movement to align the SATA documents to ATA8-ACS instead of ATA/ATAPI-6. Dan Colegrove stated that he would like to see the material that has been incorporated into ATA8-ACS removed from SATA-IO to avoid duplication, where practical.

11. Review of Action Items

1. Dan Colegrove to check the status of the DDT technical report.
2. Dan Colegrove to check the status of the EDD erratum.
3. Dan Colegrove to forward ATA8-AAM to INCITS for further processing.
4. Dan Colegrove to contact that SATA-IO board about material release from SATA 2.6 to ATA8-ACS2.
5. Dan Colegrove to discuss JEDEC liaison with Alvin Cox (Seagate).

12. Approved Proposals

ATA8-APT:
e07145r1

13. Meeting Schedules**13.1 Authorization of Ad-Hoc Working Groups**

Four teleconferences and one face to face was authorized during discussion of agenda items (see the agenda item details for the authorization motions and voting results).

13.2 Next Meeting

Table 2: Next Plenary Meeting

Date	Location	Host	Contact
June 24-27, 2008	Longmont, CO	ST Microelectronics	Aaron Wilson

14. Adjournment

Mark Overby moved, Dan Colegrove seconding, that the meeting be adjourned at 1246, 24 April 2008. The motion passed with unanimous consent.