

Accredited Standards Committee*
InterNational Committee for Information Technology Standards (INCITS)

Doc. No.: T13/08-123r1

Date: July 14, 2008

Reply to: Mark Overby

To: T13 Membership
From: Mark Overby
Subject: T13 Plenary Meeting (Longmont, CO) -- June 24-26, 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. Call for Patents
8. Old Business
9. New Business
10. Liaison Reports
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, June 24th, 2008. Dan Colegrove thanked ST Microelectronics 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 21 organizations.

The number of eligible voting members required for establishing a quorum was 7. 15 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
Jim Hatfield	Seagate		Joseph Chen	Samsung

Table 1: Attendance List

Attendee	Company		Attendee	Company
Ulrich Hansen	Entorian Tech		Curtis Stevens	Western Digital
George Penokie	LSI		Aaron Wilson	Western Digital
Dan Colegrove	Hitachi GST		Steve Livaccari	IBM
Wayne Bellamy	HP		Dan Meyer	LSI
Takao Shinoi	Toshiba		Yoni Shternhell	SanDisk
Marty Stevens	Dell		Sumit Puri	Fujitsu
Frank Shu	Microsoft		Ken Foust	Kionix
John Geldman	Lexar Media		Steven Wells	Intel
Marc Noblitt	Seagate		Fred Knight	NetApp
David Landsman	SanDisk			

4. Approval of the minutes from the previous T13 plenary meeting (e08112r1)

Dan Colegrove moved, Mark Overby seconded, that the minutes be approved as revised. The motion passed with unanimous consent. It was noted that the Entorian was misspelled in the r1 minutes.

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. [Done]
2. Dan Colegrove to check the status of the EDD erratum. [Done]
3. Dan Colegrove to forward ATA8-AAM to INCITS for further processing. [Done]
4. Dan Colegrove to contact that SATA-IO board about material release from SATA 2.6 to ATA8-ACS2. [Carryover]

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.

There was no response to the call for patents.

8. Old Business

8.1 INCITS Change in RD1 [Colegrove]

Dan Colegrove reported that at the last T10 meeting a meeting was held with INCITS board members about the reasoning behind T10, T11, and T13 resistance to the new changes. Dan reported that the meeting went well and that the people attending understood better the need to not have these changes made. Bob Snively and John Lohmeyer also attended that meeting and also iterated the points on the impact of their respective organizations as well. There has been no official change in the policy, but discussion is ongoing.

8.2 ATA/ATAPI-7: 1532D

8.2.1 ISO Status

Mark Overby stated that volumes one and two have been returned from the ISO editor because some comments are still outstanding. Mark also reported that there has been difficulty in getting the comments back and forth with the ISO editor due to problems in word exchange as well as errors on his part in handing off the files.

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.

8.5 ATA/ATAPI-8 Projects

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

8.5.1.1 Forwarding Vote

Curtis Stevens reviewed revision five of ATA8-ACS to make comment resolution has been incorporated correctly. There were a couple of minor suggestions made to Curtis and he incorporated them. Curtis reviewed some problems with the HPA state diagrams with state names for the frozen state and the necessary changes with the letter ballot comment incorporation were reviewed and made in line.

Curtis Stevens moved, Jim Hatfield seconded, that e08125r0 be incorporated into ATA8-ACS to address letter ballot comment review incorporation. The motion passed with 17 ayes, 0 nays, and 0 abstentions.

Curtis Stevens moved, Bill Martin seconded, that ATA8-ACS (D1699/r6) be forwarded to INCITS for further processing. The motion passed with 17 ayes, 0 nays, and 0 abstentions.

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

8.5.2.1 ATA8-APT Open Issues (e07177)

Mark Overby reviewed the current open issues list. No new issues were added and all existing issues have been addressed.

8.5.2.2 Review of Draft

To allow for the completion of ATA8-ACS, Mark Overby asked that ATA8-APT be sent to letter ballot following the August 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 as ATA8-ACS was being wrapped up.

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

8.5.4.1 INCITS Review

Dan Colegrove stated that ATA8-AAM had been forwarded to INCITS for further processing.

8.6 ACS-2 Project 2015-D [Stevens]

8.6.1 ACS-2 Open Issues List (e07172) [Stevens]

Curtis Stevens reviewed the current open issues list for ATA8-ACS2. Curtis agreed to make suggestion revisions and post revision 3 to the website.

8.6.2 SCT Zone ERP (e07169) [Colegrove]

Dan Colegrove stated that revision two is still the most current and he was still looking for any feedback. He stated that he was not ready for a vote yet and asked that this be carried over to the next meeting. Dan also felt that it was technically complete and no further technical changes were needed.

8.6.3 Device Statistics

8.6.3.1 Device Statistics Overview (e08106) [Hatfield]

Jim Hatfield presented revision one of the device statistics overview proposal. Curtis Stevens noted that the overview restricts device statistics to only being accessible from GPL. He suggested that restriction be removed. Jim agreed to note this. Upon further study it was noted that ATA8-ACS currently allows SMART access to the statistics, so it was agreed that this restriction would require a change that would make them not interoperable with ATA8-ACS.

A further discussion ensued about normalization functions for statistics and there was some disagreement about how the statistics are reported. George Penokie stated that this had been clarified in the proposals further down the agenda for this meeting. There was significant discussion over the concept of having a normalized value and a non-normalized value and if they should be two statistics, one statistic, or if normalized should even be allowed.

Mark Overby requested a straw poll (yes / no) on if the option to report both normalized and non-normalized statistics in the same page. 4 were in favor, 12 were opposed. Further discussion occurred and there was general agreement that if the statistic allows both, then the value has to be defined in the standard for both options. It was also noted that not all statistics would allow normalized and non-normalized values (i.e., some may require a specific setting because normalized (or non-normalized) may have no meaning).

After significant discussion and the straw poll, it was decided to move on in reviewing the proposal with the understanding that both options would be permitted.

Jim Hatfield agreed to turn another revision and review for the next meeting.

There was discussion about what to do about the existing proposals since the style and direction for statistics have changed, but no work has gone into ATA8-ACS to incorporate these yet.

Curtis Steven moved, George Penokie seconded, that e06180r5, e06182r3, and e06184r7 be rescinded for incorporation into ATA8-ACS2. Since the prior notice was not given, a 2/3 majority is required. Curtis noted that the motion to rescind is intended to bring these proposals back to the committee for the necessary changes in order to make them work with ATA8-ACS. The motion passed with 14 ayes, 3 nays, and 1 abstention.

8.6.3.2 Teleconference Report (e08124) [Chen]

Joseph Chen displayed the report for the teleconferences on device statistics.

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

Joseph Chen displayed the revisions to the errors statistics page. The attendees made several suggestions for editorial changes to comply with the style used in T13 documents. During discussion of the reallocation sectors statistic there was significant discussion over what does a "reallocation" mean? There was significant discussion about if this was intended to just be an error. Also discussed was what happens if logical sectors are forced to be reallocated by a single logical sector in a physical sector that contains multiple logical sectors. George Penokie suggested that this log page be restricted to rotating media to help narrow the scope of what needs to be defined and what needs to be clarified to make forward progress.

The committee looked at each statistic and determined if that is common across device technologies or if it is specific to a technology (e.g., SSD or rotating media). This effort was undertaken in order to attempt to split out statistics from this page that are not rotating media specific and put them in a common page. During discussion of these statistics there was significant discussion about what these statistics actually mean and what problem is being solved. Sumit Puri and Dan Colegrove noted that some of these statistics are already being reported but that there are diverging definitions today so that we need to focus on those without getting distracted by new features just yet. Dan also noted that what he would like to see is a simple way of understanding that at the end of each command how to determine what statistics have to be incremented or counted. Dan stated he was opposed to statistics that have no relation to the action of completion or processing of commands.

Mark Overby proposed a set of straw poll questions to find consensus on use case models to address with the initial device statistics proposals:

Should FA be a targeted use case for device statistics? 14 yes. 0 no.

Should Qualification tests be a targeted use case for device statistics? 10 yes. 2 no.

Should field screening be a targeted use case for device statistics? 9 yes. 5 no.

Should normal usage data collection be a targeted use case for device statistics? 8 yes. 5 no.

Should field predictive failure be a targeted use case for device statistics? 5 yes. 8 no.

Should preventative measure data to prevent user data loss by operating system or host interaction be a targeted use case for device statistics? 9 yes. 5 no.

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

Joseph Chen presented revisions to the device statistics proposal to track temperatures at the device. The proposal was reviewed line by line and multiple comments were made to Joseph to improve consistency with other statistics and formats.

Significant discussion was held about the statistics and how to measure the temperature

Bill Martin moved, George Penokie seconding, that A.5.2.12 (time in over-temperature statistic) and remove the references to A.5.2.12 be removed from consideration in the proposal. The motion passed with 10 ayes, 3 nays, and 0 abstentions.

Joseph agreed to prepare a new revision for the next meeting.

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

8.6.3.6 Additional device statistics - Freefall (e06182) [Chen]

Joseph Chen presented this proposal (previously rescinded during this meeting) for reconsideration after making changes. Suggestions were made for improvements and Joseph agreed to incorporate those changes.

8.6.3.7 Device Statistics Technical Report Straw Poll [Livacarri]

Steve Livacarri asked for a straw poll to see the feeling of the group on putting statistics into a technical report instead of putting it into the standard. There was discussion about if that would actually speed things up and reduce the number of objections. There was also discussion about TR and that a TR doesn't change the lack of consensus. George Penokie pointed out that based on the discussions he would not have any change of position just because it is a technical report versus a standard. Others echoed that sentiment. Joseph and Marty Stevens noted that they believed that people would be less resistant in the technical report process because it isn't part of the main standard. Steve felt that he did not need the straw poll based on the comments by the attendees.

8.6.4 Data Path Protection (e07162) [Stevens]

Curtis presented revision 2 of this proposal. This revision made modifications to allow some tags to do CRC checking and some tags to not do CRC checking. There are also tags that allow 512 byte transfers and others that allow 520 byte transfers. The proposal adds a new feature set for External Path Protection. The mechanism was changed from set features to a log address that can be read and written. An additional feature was to allocate Queue tag ranges that support each of the DIF features. Curtis presented this proposal to make members aware of the contents and plans to have further review of this at the August 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 Goldman presented a possible revision to his proposal for a sanitize command. There was discussion over the units of time for the estimated time to completion and suggestions were made to John on how to improve that definition. John took these suggestions and others to prepare for 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 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 Enable DMA for all features (e08118) [Hatfield]

Jim Hatfield presented a proposal to enable DMA modes for all ATA commands and features. Jim sought feedback on various commands and how they should be translated into new commands. Jim suggested using READ/WRITE LOG commands. Some people stated that there were problems with move things into log pages and some would be appropriate as their own opcodes. Various people suggested varying options for each command that is currently PIO only. There was significant discussion about if these need to be queued and how moving them to DMA if other changes were made might allow them to be queued.

Jim stated that helped him guide the proposal and would prepare a revision for the next meeting.

8.6.13 Reporting Non-Volatile Write Cache (e08116) [Livacarri]

Steve Livacarri asked that this be deferred to the next meeting.

8.6.14 Extended Power Conditions (e08120) [Hatfield]

Jim Hatfield displayed a proposal to add new extended power states to ATA. Jim noted that there was a similar proposal ongoing in T10 for the SCSI standards. This would be a new feature set and Jim noted he was coordinating with the T10 version to keep the T13 and T10 versions in alignment. Jim received significant feedback and agreed to incorporate feedback and prepare a new revision.

8.6.15 Long Physical Sector Alignment [Stevens]

Curtis Stevens presented a proposal to allow a host to know when an unaligned access is being done by the host to a drive that has multiple logical sectors per physical sector. There was a significant discussion about if the log should be volatile or non-volatile. Curtis asked for people to review the proposal and to provide feedback.

8.6.16 Two fixes: Identify and SCT Status after NCQ Error (e08122) [Colegrove]

Dan Colegrove presented a proposal to make two minor changes to error processing related to the processing for NCQ commands. Curtis noted that the proposal does not refer to an error table as all other commands do and Dan agreed to make that change. Mark Overby and Curtis suggested table 122 (generic abort) and Dan added that to the proposal.

Dan Colegrove moved, Mark Overby seconded, that e08122r0 as revised be incorporated into ATA8-ACS2. The motion passed with unanimous consent.

8.6.17 Project Schedule

8.6.17.1 Cut Off Date

Curtis Stevens stated that it would not be possible to set a deadline until the first draft had been published. His goal was for one to two meeting cycles following the first draft.

8.7 EDD Erratum

8.7.1 INCITS Status

Dan Colegrove stated that INCITS has scheduled it for management review and he would continue to track status.

8.8 EDD-4 Study Group / Project Proposal

The committee discussed the EDD-4 project proposal. Minor suggestions of an editorial nature were suggested to the project proposal. Intel agreed to defer this to the next meeting for voting on the project proposal.

8.9 ATA/ATAPI-6 Amendment [Stevens]

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

8.10 Withdrawing ATA/ATAPI-4 [Stevens]

Curtis Stevens reminded the committee that CFA was using ATA/ATAPI-4 and that caused the committee to not withdraw ATA/ATAPI-4 when it was up for renewal. Curtis did further analysis and noted that CFA is working on a document to not reference ATA/ATAPI-4. John Goldman noted that work has not completed and he did not feel it was time to withdraw ATA/ATAPI-4. Curtis stated that he wanted to get rid of ATA-4 so that ATA-5 could be withdrawn in the future to remove CHS.

8.11 T13 reflector, FTP, and web site setup

Curtis Steven reported that there have been issues with requesting documents and posting documents. He is currently working on this issue.

9. New Business

9.1 Items from the reflector

10. Liaison Reports

10.1 T10 [Colegrove]

10.1.1 SCSI to ATA Translation (SAT) Working Group Report

Mark Overby reported that SAT-2 is moving towards a letter ballot following the July T10 meeting. He also noted that there was only one critical proposal remaining for integration. SAT will not be meeting with T13 in August.

10.1.2 General T10 Report

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

10.2 T11 [Colegrove]

No issues to report.

10.3 IEEE

10.3.1 IEEE1667

IEEE 1667 will be meeting next week at Lexar working on finalizing 1.1 version with T10 mapping. T13 mapping is among the work items for the next version.

10.3.2 IEEE1619

At the moment there is not a liaison. While there are some encryption schemes that are appropriate for T13 products, there does not seem to be a current need a liaison. We will discontinue IEEE 1619 Liaison reports for future meetings.

10.3.3 INCITS Liaison Opportunities

Dan Colegrove presented the list of additional liaison activities. The group reviewed the list and there were no additional liaisons identified at this time.

10.4 CE-ATA

10.4.1 Hosting CE-ATA Archive [Colegrove]

CE-ATA is going out of business and has asked T13 to host the archives of their specifications. The proposal would be to create a separate web page that looks different than the T13 web page so that there was no confusion about CE-ATA being endorsed by T13, but rather hosting this archive. Curtis Stevens moved and John Geldman seconded to host the CE-ATA archive on the T13 web site. The motion passed unanimously.

10.5 Trusted Computing Group [Hatfield]

TCG is meeting in Paris this week. They are quickly coming toward final versions of their documents. They are working on updated version of the 1.0 spec.

10.6 SFF [Colegrove]

Nothing to report.

10.7 IDEMA [Colegrove]

Had a meeting at microsoft to discuss 4K promotion in the industry with another meeting tomorrow at Seagate. They reliability group has started back up again. They are also standardizing the number of LBAs in a Gigabyte.

10.8 CFA [Geldman]

CFA had a face-to-face meeting in May with future meetings scheduled for July and November. This week they voted to move CFAST to .9 likely to move to 1.0 in July

10.9 Serial ATA IO [Hatfield]

They have a large list of things on the todo list, but at the present time all of the items being worked on have come to a completion and they are waiting to activate something from the todo list. They are at a point of being able to align SATA-IO documents with ATA-8. The primary goal is to have the SATA-IO document recognize the new features that have been put into ACS and remove references to ATA-5 and ATA-6.

10.10 JEDEC

Dan Colegrove noted that JEDEC had asked Mark Overby to be the JC64 liaison. Dan Colegrove moved, Curtis Stevens seconding, that Mark be the JC64 liaison. The motion passed with unanimous consent.

10.11 INCITS Annual report

Dan Colegrove reviewed the annual report of T13 to INCITS contained in e08077. The report will be presented at the INCITS Officers Symposium in July. There were no recommendations for changes and it will be presented to INCITS as written.

11. Review of Action Items

1. Dan Colegrove to contact that SATA-IO board about material release from SATA 2.6 to ATA8-ACS2. [Carryover]
2. Dan Colegrove to forward ATA8-ACS to INCITS for further processing.

12. Approved Proposals

ATA8-ACS2:
e08122r1

13. Meeting Schedules

13.1 Authorization of Ad-Hoc Working Groups

Steve Livaccari moved, Marty Stevens seconding, that up to four teleconferences be authorized for the discussion of device statistics. The motion passed by unanimous consent.

13.2 Next Meeting

Table 2: 2008 Dates

Date	Location	Host	Contact
Aug. 19 - 21, 2008	San Jose, CA	Samsung	Joseph Chen

Dan Colegrove moved, Bill Martin seconding, that the April 2009 meeting be moved to April 14th to 16th, 2009. The motion passed with 13 ayes, 0 nays, and 3 abstentions.

Tuesday of the August meeting week will be devoted to Device Statistics.

14. Adjournment

Curtis Stevens moved, Jim Hatfield seconding, that the meeting be adjourned at 1254, 26 June 2008. The motion passed with unanimous consent.