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Date: 22 Apr 2004
Reply to: Mark Overby

To: Membership of T13
From: Mark Overby, Secretary of T13, and Dan Colegrove, Chairman of T13
Subject: Minutes of 46th T13 Plenary Meeting at Longmont, CO.
April 20th to April 22nd, 2004

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Results of the Meeting

1 Opening remarks

Dan Colegrove, the T13 Chair, called the meeting to order at 9:00 A.M. on Tuesday, April 20th, 2004. Dan Colegrove thanked Marc Noblitt of Seagate who hosted this meeting.

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.

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

John Masiewicz moved, Mark Jackson seconded, that the agenda be approved. The motion passed with 13 ayes, 0 nays, and 0 abstentions.

3 Membership and attendance

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 for Principal or additional Alternates are 800.00 USD. The First Alternate is free with a Principal membership.

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 Parthenia Purnell, ITI Standards Operations, at ppurnell@itic.org.

The chair reviewed the current membership status of members according to INCITS. It was noted by multiple members that they had paid and had receipts for their payment, but were not reflected in the INCITS list. In addition, there were multiple errors in the primary and alternate designations.

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. 15 Member organizations were present at the start of the meeting, thus a quorum was present.

The following individuals attended:

Name	Company	E-Mail
		E-Mail Addresses
		Removed due to spam mail abuse.
		Contact the committee chairman
Colegrove, Dan	Hitachi Global	For attendee contact information
Puri, Sumit	Fujitsu	
Barras, Larry	Apple	
Strong, Robert	Intel	
Jackson, Mark	Maxtor	
Overby, Mark	NVIDIA	
Obr, Nathan	Microsoft	
Schadegg, John	Samsung	
Noblitt, Marc	Seagate	
Hatfield, Jim	Seagate	
Hirata, Kenneth	Emulex	
Masiewicz, John	Western Digital	
Thompson, Tim	LSI Logic	
Stevens, Curtis	Western Digital	
Elkins, Greg	QLogic	
Liu, Raymond	Silicon Image	
Lott, Glenn	ST Microelectronics	

4 Approval of the Minutes from the Previous T13 Plenary Meeting (e04114r0)

It was noted that during the last meeting a project, HBA-2, that the project was thought to be approved. In reality it failed to carry because of the 2/3 majority rule. It was also commented by Mark Overby and Robert Strong that the notice of the failure should have been more widely disseminated.

John Masiewicz moved, Tim Thompson seconded, that the minutes be approved as posted. The motion passed with 14 ayes, 0 nays, and 0 abstentions.

5 Document Distribution

The following documents were distributed either via hard copy, soft copy, or both:

Agenda and document directory

6 Review of Previous Action Items

The open action items list were reviewed under item 11

6.1 Review of Open Issues

1. Dan Colegrove to forward ATA/ATAPI-6 approved project proposals to INCITS for further processing. [Done]
2. Dan Colegrove will develop project proposals for the architecture, ATA command, parallel transport, and serial transport project proposal. [Done]
3. Larry Barras will develop the project proposal for the infrastructure standard project proposal. [Done]
4. Dan Colegrove: Determine if the project proposal can be approved by doing a letter ballot. [Done: Yes – letter ballot can be done]
5. Dan Colegrove: Check with CFA about if they want to allow long logical sectors. [Meeting not yet held for CFA, carry over]
6. Dan Colegrove: Verify with Phoenix Technologies that they will still be hosting in June 2004. [Done: Phoenix will host]

7 Jim Hatfield: Provide written feedback for EESA (e04115). [Done]Old Business

7.1 ATA/ATAPI-7 Project 1532D

7.1.1 Letter Ballot Comment Resolution

John Masiewicz reviewed further volume 3 comments. Several editorial changes were made to correct typographical and formatting errors.

For technical comments, Table 11 was left unchanged as the change was in 1/10 of a pico second and it was determined that no change would be made because the value in the document was safer and more restrictive. The section on DWORD times with regards to ALIGN behavior would make the requirement, as currently stated, less restrictive and should be deferred to a future standards project (potentially ATA-8). In the case of the HOLD/HOLD case, text will be added to the section (15.4.8.1) to cross-reference to the appropriate sections on HOLD behavior in relation to HOLDA reception within 20 DWORD latency times. In addition the 20 DWORD latency requirements were left unchanged for this standard as the requirement currently exceeds designs and has sufficient margin. However, this issue should be studied further for the next ATA project.

John Masiewicz moved, Mark Overby seconded, that the letter ballot comment resolution be accepted and the ATA/ATAPI-7 project (1532D) be forwarded to INCITS. A roll call vote was held.

Absolute Software: Not Present
IBM: Not Present
LSI Logic: Yes
Maxtor: Yes
Microsoft: Yes
Pacific Digital: Not Present
Phoenix Technologies: Not Present
QLogic: Yes
ST Micro: Yes
Toshiba: Not Present
Western Digital: Yes
Apple: Yes
Seagate: Yes
Fujitsu: Yes
Intel: Yes
Emulex: Yes
Hitachi GST: Yes
Silicon Image: Yes
Samsung: Yes
nVidia: Yes

The motion passed with 15 ayes, 0 nays, 0 abstentions, and 5 not present.

John Masiewicz gave Dan Colegrove the final revision (4b) for forwarding.

7.1.2 PIO Emulation for SATA

Mark Overby pointed out that in the state diagrams for decomposing a PIO Setup FIS, the wording for some of the states could be interpreted as allowing the host bus adapter to delay setting the ending status in the shadow registers after the FIS has been accepted by the drive as opposed to when the hardware has received the last DWORD of data into the FIFO for composing into the data FIS. If a host controller were to implement this behavior it would potentially cause problems with software seeing BSY low and DRQ high when that was not the correct state. There was discussion that while other sections say differently, this section was ambiguous and could lead to confusion on the nature of the correct behavior.

Mark Overby moved, Tim Thompson seconded, that the ATA-7 document state HTPS4 be modified to state “entered when the byte count for the DRQ block has been reached” and a cross-reference to the PIO FIS be added. The motion passed with 13 ayes, 0 nays, 0 abstentions.

7.1.3 ATA/ATAPI-7 Schedule Review

No changes were made.

Schedule Item	Original	Prior	Proposed
Proposal	Aug-01	Aug-01	Aug-01
Initial draft	Dec-01	Dec-01	Dec-01
Proposal cut-off	Jun-02	Jun-02	Jun-02
Stabilized draft	Dec-02	Dec-02	Aug-03
Letter ballot	Apr-03	Apr-03	Dec-03
Forward to INCITS	Jun-03	Jun-03	Apr-04

7.2 ATA/ATAPI-8 Project Proposal [Colegrove]

7.2.1 Project Proposal Reviews

Dan Colegrove reviewed the project proposal for the ATA architecture document. Suggestions were made by Curtis Stevens, John Masiewicz, Jim Hatfield, and Mark Overby to clarify the justification for the document to state that the technologies are being separated into different standards and that this document links those future standards. Dan made those changes inline with the review process.

Dan reviewed the serial transport proposal. Revisions to the examples of items to be included to continue development of the serial transport were included with revisions suggested by John Masiewicz. In addition, comments were made about how queuing would fit into this document or if it would fit into this document. It was discussed by multiple parties that different transports could implement queuing commands in different manners based on their transports and that would be documented in the appropriate transport document. Nathan Obr asked if SATA activity LED's would be appropriate for this document. Cables and connectors are documented in the transport document, so the activity LED would be appropriate.

Dan reviewed the parallel transport document. A discussion ensued about if there was a need to carry the parallel transport forward into the ATA-8 timeframe. Mark Jackson pointed out that it

would be good to have a baseline document that marks the final revisions to the parallel transport. In addition, if in the future, a modification might be needed it could be made independently. John Masiewicz pointed out that this would be a massive effort to apply all of this information into the new format.

Dan also reviewed the command transport document. Boilerplate revisions were made.

Larry also reviewed the infrastructure proposal.

7.2.2 Project Schedules

Schedules to be set (with cut-off dates) at the next meeting.

7.2.3 Project Proposal Approvals

Mark Overby moved, Mark Jackson seconded, that the architecture project proposal be approved as revised.

Absolute Software: Not Present
 Apple: Yes
 Emulex: Yes
 Fujitsu: Yes
 Hitachi GST: Yes
 IBM: Not Present
 Intel: Yes
 LSI Logic: Yes
 Maxtor: Yes
 Microsoft: Yes
 nVidia: Yes
 Pacific Digital: Not Present
 Phoenix: Not Present
 QLogic: Yes
 Samsung: Yes
 Seagate: Abstain
 Silicon Image: Yes
 ST Microelectronics: Not Present
 Western Digital: Yes
 Toshiba: Not Present

The motion passed with 13 ayes, 0 nays, 1 abstention, and 6 not present.

John Masiewicz moved, Sumit Puri seconded, that the command set project proposal be forwarded to INCITS as revised.

Absolute Software: Not Present
 Apple: Yes
 Emulex: Yes
 Fujitsu: Yes
 Hitachi GST: Yes
 IBM: Not Present

Intel: Yes
LSI Logic: Yes
Maxtor: Yes
Microsoft: Yes
nVidia: Yes
Pacific Digital: Not Present
Phoenix: Not Present
QLogic: Yes
Samsung: Yes
Seagate: Yes
Silicon Image: Yes
ST Microelectronics: Yes
Western Digital: Yes
Toshiba: Not Present

The motion passed with 14 ayes, 0 nays, 0 abstentions, and 6 not present.

John Masiewicz moved, Sumit Puri seconded, that the serial transport project proposal be forwarded to INCITS as revised.

Absolute Software: Not Present
Apple: Yes
Emulex: Yes
Fujitsu: Yes
Hitachi GST: Yes
IBM: Not Present
Intel: Yes
LSI Logic: Yes
Maxtor: Yes
Microsoft: Yes
nVidia: Yes
Pacific Digital: Not Present
Phoenix: Not Present
QLogic: Yes
Samsung: Yes
Seagate: Yes
Silicon Image: Yes
ST Microelectronics: Yes
Western Digital: Yes
Toshiba: Not Present

The motion passed with 14 ayes, 0 nays, 0 abstentions, and 6 not present.

Mark Overby moved, Mark Jackson seconded, that the parallel transport project proposal be forwarded to INCITS as revised.

Absolute Software: Not Present
 Apple: Yes
 Emulex: Abstain
 Fujitsu: Yes
 Hitachi GST: Yes
 IBM: Not Present
 Intel: Abstain
 LSI Logic: Yes
 Maxtor: Yes
 Microsoft: Yes
 nVidia: Yes
 Pacific Digital: Not Present
 Phoenix: Not Present
 QLogic: Yes
 Samsung: Yes
 Seagate: Yes
 Silicon Image: Yes
 ST Microelectronics: Yes
 Western Digital: No
 Toshiba: Not Present

The motion passed with 11 ayes, 1 nays, 2 abstention, and 6 not present.

7.2.4 SATA LED [Barras]

Larry Barras agreed to bring a proposal for a SATA activity LED to the next meeting.

7.2.5 HPA State Diagram Corrections [Zelenko]

Karen Zelenko was not present.

7.3 SMART Command Transport (SCT) Technical Report Proposal (e04117r0) [Stevens]

Curtis Stevens reviewed the technical report proposal as was posted on the T13 website. Jim Hatfield recommended a change to the document to reflect the revision number. Mark Overby and Dan Colegrove both stated that they were concerned about section 3.1 implying that the new commands invented by WD would be implied to be excluded from other vendor designs. Curtis made changes with input from John Masiewicz to make this text more neutral. Jim and Dan both suggested that in section 4.1 the ATA/ATAPI-7 be referred to by the project number and move it to related standards activity and add a reference to ATA/ATAPI-6 in the existing standards section. These changes were reflected into a new revision

John Masiewicz moved, and Mark Overby seconded, that the proposal be approved as documented in e04117r1 and forwarded to INCITS for further processing.

Absolute Software: Not Present
 Apple: Yes
 Emulex: Yes

Fujitsu: Yes
Hitachi GST: Yes
IBM: Not Present
Intel: Yes
LSI Logic: Yes
Maxtor: Yes
Microsoft: Yes
nVidia: Yes
Pacific Digital: Not Present
Phoenix: Not Present
QLogic: Yes
Samsung: Yes
Seagate: Yes
Silicon Image: Yes
ST Microelectronics: Yes
Western Digital: Yes
Toshiba: Not Present

The motion passed with 15 ayes, 0 nays, 0 abstentions, and 5 companies not present.

7.3.1 SMART Command Transport (SCT) Technical Report Responses (e04126r0) [Stevens]

Curtis reviewed responses to Jim Hatfield's posted comments for the SCT document (previously EESA). These responses to these comments are posted as document number e04126r0.

7.4 EDD-3 Project 1572D [Stevens]

Curtis Stevens reviewed comments that he had received from Karen Zelenko and Rob Elliot. The comments were reviewed and will be incorporated by Curtis into a future draft of the specification.

7.4.1 Behavior for Obsolete Commands

Dan Colegrove asked what the expected behavior is when an application issues a command to the legacy functions which has been made obsolete by ATA standards. Curtis responded that he would add language to the document that is informative about the behavior that would be expected. This material would be added to revision 1b.

7.4.2 Page by Page Review

Curtis Stevens led a page by page review of the EDD-3 r1a document. Changes were suggested by multiple parties to the document and were incorporated by Curtis into revision 1b. Curtis would like to do a change bar review at the next meeting and vote to forward to letter ballot for approval.

7.5 Time Limited Technical Report Project Proposal [Hatfield]

Jim Hatfield reviewed the project proposal for a technical report to describe the time-limited commands that were removed from ATA/ATAPI-7. Curtis Stevens suggested that the boiler

plate text for items that are not specific to the time-limited command proposal be changed so that the SCT and time-limited documents use the same, newer boilerplate text. Jim made those changes.

Jim Hatfield moved, Glenn Lott seconded, that the project proposal be forwarded (revision e04108r1) to INCITS for further processing as a technical report project.

Absolute Software: Not Present
 Apple: Yes
 Emulex: Yes
 Fujitsu: Yes
 Hitachi GST: Yes
 IBM: Not Present
 Intel: Yes
 LSI Logic: Yes
 Maxtor: Yes
 Microsoft: Yes
 nVidia: Yes
 Pacific Digital: Not Present
 Phoenix: Not Present
 QLogic: Yes
 Samsung: Yes
 Seagate: Yes
 Silicon Image: Yes
 ST Microelectronics: Yes
 Western Digital: Yes
 Toshiba: Not Present

The motion passed with 15 ayes, 0 nays, 0 abstentions, and 5 companies not present.

7.5.1 Technical Report Review [Hatfield]

Jim Hatfield reviewed the latest draft of the time-limited technical report. Mark Overby raised a continuing concern that this technical report redefines a bit in the status register that was previously marked as obsolete and that it sets a precedent that a technical report can override the corresponding standard. The discussion was tabled as this discussion was had at a previous meeting as the concerns were the same.

Dan Colegrove stated that if he could conduct a letter ballot that, after INCITS approves the project, would conclude before the next meeting, he would issue that letter ballot.

7.6 PARTIES-2 Project Status [Zelenko]

Karen Zelenko was not present and the item will be carried forward to the next meeting.

7.7 Proposal for HBA-2 Standard

This item was discussed in the context of the 2/3 voting procedure as the project proposal failed at the last meeting. Mark Overby agreed to bring the first draft of the proposal and a revised project proposal to the next meeting.

7.8 A/V Technical Project Report [Colegrove]

Dan Colegrove stated that he has no new information to report on this project. The item will be carried forward to the next meeting.

7.9 T13 reflector, FTP, and web site setup

Dan Colegrove asked if the committee felt that the website should link to a currently running archive. Marc Noblitt and John Masiewicz both stated that since T13 did not have any control or guidance over the archive, we should not link to the archive. John Masiewicz also stated that he did not feel that there was a value in the archived messages.

8 New Business

8.1 T13 Booth at WinHec

Dan Colegrove stated that the WinHec organization has offered a booth at WinHec (Seattle) in approximately two weeks. Dan queried the committee as to what value the committee could bring to the booth. Dan stated that he would like to bring examples of T13 compliant hardware to the booth

8.2 Soft settings across COMRESET [Masiewicz]

John Masiewicz stated that there was a lot of traffic and confusion about what settings do with a COMRESET scenario. The behavior was intended to treat COMRESET the same as a pin 1 reset. John Masiewicz asked if there should be work in this group. He suggested that there should be work here as much of this involves settings, command settings, feature sets, and so on. The problem is also present and visible with asynchronous signal recovery in future serial ATA work. John Schaddeg also agreed that this group would be good to discuss this. John M. and John S. agreed that there should be some form of a specification or proposal brought to the group as an agenda item during the next meeting.

8.3 SMART Table Settings [Stevens]

Curtis Stevens pointed out that in the SMART off-line data collection status tables that there are several status values that can be have bit 7 on or off (auto-offline in enabled). Curtis did research to find out that bit 7 was defined as part of an SFF project (SFF-8035). Curtis was wondering why command 03h (Off-line activity in progress) does not have bit 7 on. Curtis pointed out that the behavior of this bit and the interaction of this bit with selective self-test is not defined. Curtis

thought that this information should be updated with definitions for bit 7 as well as defining the interactions. In addition, SFF defined each value individually in their tables.

8.4 CRC Coverage discussion from the Reflector

The issue was reported that the identify data (on parallel) did not have a enforced way of doing integrity checking. The consensus of the committee was that this issue was specific to parallel and that if the identify was failing, that larger problems were present and as such does not need to be addressed going forward for ATA-8.

9 Liaison Reports

9.1 T10

Dan has posted a liaison report for T10.

9.1.1 SCSI to ATA Mapping Study Group

Dan Colegrove brought up that the T10 group is forming a study group to study the mapping of SCSI commands into the ATA command set.

9.2 SFF

No new items.

9.3 IDEMA

Dan Colegrove reported that IDEMA is working on AV benchmarking and logging for long block.

9.4 Compact Flash Association

CFA would like to add faster PIO modes for their products and is practical for their form factor because they have no cable. Dan asked if there were any objections to proposing for ATA-8 that part of the PIO word be modified to “reserved for compact flash”. There were no objections to proposing that for ATA-8.

9.5 Serial ATA II

John Masiewicz reported that the reserved words for future serial ATA features are not in ATA-7, but this is no different than other words reserved for other committees and organizations. John Schaddeg reported that there was still confusion about what a SATA II “compliant” drive really means and that there is confusion because of the constant revision of the documents. Dan Colegrove stated that this is one of the values for ATA-7 is that consensus and finality is set when T13 formalizes a standard.

10 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 ftp://www.incits.org/help/ansi_sdo.html. Section 1.2.11 contains the ANSI patent policy. Amy Marasco manages patent issues for ANSI and can be contacted at amarasco@ansi.org or 212-642-4954.

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.

11 Review of Action Items

1. Larry Barras to create document for SATA LED proposal.
2. Mark Overby to write up discussion about PIO timings with PIO writes and forward to Knut and the T13 reflector.
3. Dan Colegrove to forward the approved project proposal for SCT to INCITS.
4. Dan Colegrove to forward ATA/ATAPI-7 with letter ballot comment resolution to INCITS.
5. Dan Colegrove to review rule on posting date for the 2 week rule for meeting proposals. (To the chair or to the membership within 2 weeks)
6. Dan Colegrove to forward project proposals for the parallel transport, serial transport, architecture, and command set document for further processing
7. Dan Colegrove to create an ATA-8 open issues document to track open issues
8. Dan Colegrove to create a proposal to reserve IDENTIFY DEVICE words for compact flash new PIO modes

12 Schedule

12.1 Authorization of Ad Hoc Working Groups

No ad-hoc meetings were authorized.

12.2 Long term meeting schedule

The meeting dates, locations, hosts, and contacts were reviewed through CY2005 (included below).

CY 2004 Dates	Location	Host	Contact
June 22-24, 2004	San Jose, CA	Phoenix	Karen Zelenko
August 24-26, 2004	Boulder, CO	Maxtor	Mark Jackson
October 19-21, 2004	Las Vegas, NV	Fujitsu	Sumit Puri
December 14-16, 2004	Las Vegas, NV	Hitachi Global	Dan Colegrove
CY 2005 Dates	Location	Host	Contact
February 22-24, 2005	TBD	NVIDIA	Mark Overby
April 19-21, 2005	Longmont, CO	Seagate	Jim Hatfield
June 21-23, 2005	O.C., CA	Western Digital	John Masiewicz.
August 23-25, 2005	Longmont, CO	Maxtor	Mark Jackson
October 18-20, 2005	Las Vegas, NV	Fujitsu	Sumit Puri
December 13-15, 2005	Las Vegas, NV	Hitachi Global	Dan Colegrove
NOTE – Meetings are scheduled for three days.			

John Masiewicz moved, Greg Elkins seconded, that the meetings be extended from 2 ½ days to 3 days for the future. The motion passed with 9 ayes, 6 nays, and 1 abstention.

13 Adjournment

Mark Overby made a motion that the meeting be adjourned at 3:45pm on Wednesday April 21, 2004. The motion passed with unanimous consent.