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Reply to: Mark Overby

To: Membership of T13
From: Mark Overby, Secretary of T13, and Dan Colegrove, Chairman of T13
Subject: Minutes of 51st T13 Plenary Meeting at the NVIDIA, Santa Clara, CA.
February 22nd to February 24th, 2005

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INCITS Secretariat: Information Technology Industries Council (ITI)
1250 Eye Street, N.W., Suite 200, Washington, DC 20005-3922
Email: incits@itic.org Telephone: 202-737-8888 Fax: 202-638-4922

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Results of the Meeting

1 Opening remarks

Dan Colegrove, the T13 Chair, called the meeting to order at 9:15 A.M. on Tuesday, February 22nd, 2005. Dan Colegrove thanked Mark Overby and NVIDIA for hosting the 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

Dan Colegrove reviewed the agenda. Two new items were added to the agenda and one item was added to discussions of reflector topics. Mark Overby moved, Curtis Stevens seconded, that the revised agenda be approved. The motion passed with unanimous consent.

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. Dan Colegrove reminded the attendees that membership must be paid by March 1st, 2005 or the company will be transitioned from voting membership to advisory 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.

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. 10 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
		For attendee contact information
Puri, Sumit	Fujitsu	
Colegrove, Dan	Hitachi GST	
Livaccari, Steve	IBM	
Obr, Nathan	Microsoft	
Liu, Raymond	Silicon Image	
Evans, Mark	Maxtor	
Overby, Mark	NVIDIA	
Schadegg, John	Samsung	
Chen, Joe	Samsung	
Luksic, Mladen	Western Digital	
Sastry, Raghu	Agilent	
Arakawa, Yutaka	Toshiba	
Stevens, Curtis	Western Digital	
Masiewicz, John	Western Digital	
Dees, Brian	Intel	
Strong, Robert	Intel	
Hirata, Ken	Emulex	

4 Approval of the Minutes from the Previous T13 Plenary Meeting

Jim Hatfield moved, Mark Overby seconded, that the minutes of the previous meeting be approved. The motion passed with unanimous consent.

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

6.1 Review of Open Issues

1. Curtis Stevens will assign a minor revision for ATA-7 ANSI published version in the minor revisions of IDENTIFY DATA. [Carryover]
2. Dan Colegrove to query Gordon Hughes about the status of the freeze lock proposal. [Carryover]
3. Dan Colegrove to incorporate e04127r0 into the ATA-7 errata. [Done, draft errata published]
4. Curtis Stevens to liaison with Mt. Fuji and MMC on the proposal to obsolete ATAPI overlap and queuing. [Curtis stated that the groups would consider it, but no decision reached. Expect feedback in March. Carryover]
5. Dan Colegrove to update the long name policy for documents to include the project acronym in the title. [Done]
6. Dan Colegrove to check with INCITS about the anti-trust implications for the SATA-IO proposal. [INCITS is considering but no final word yet]
7. Jim Hatfield to work on a proposal to create a procedures document for T13 activities. [Carryover]
8. Dan Colegrove to draft an ATA-7 erratum for the device signature issues. [Done, published]
9. Mark Evans will research if a separate letter is needed from Maxtor for a Quantum patent related to UDMA that was released for ATA-5 and subsequent project. [Carryover]
10. Nathan Obr to bring a proposal to clarify the behavior as to what hosts shall expect and devices shall do when a command is not supported and for how to report unsupported commands. [Carryover]
11. Dan Colegrove to report back about establishing a liaison to the MMC association (multi media card) [Dan will be liaison]

7 Old Business

7.1 ATA/ATAPI-7 Project 1532D

7.1.1 INCITS Status

Dan Colegrove reported that the project is going to be published imminently. John Masiewicz reported that INCITS has approved all of the final edits and that the last step needed is actual publication.

7.1.2 ISO Status

Once the document has been published, the ISO process can begin with Gary Robinson leading this effort.

7.1.3 ATA/ATAPI-7 Errata

Dan Colegrove published the ATA/ATAPI-7 errata document (e05108r0) that contains the device signature issue. Dan Colegrove stated that he would like to keep this document open for 6 months to capture any further errata that may be noted after the document has been published.

Jim Hatfield noted a reflector item that noted an additional erratum was requested to correct a missing table number in Volume 3. John Masiewicz noted that the INCITS editor caught this one and it will be fixed in the official publication. John also noted that he would fix this in ATA-8.

7.2 EDD-3 Project 1572D Status

7.2.1 INCITS Status

Curtis Stevens stated that he has not heard from the editor yet, but no public comments have been received.

7.3 ATA/ATAPI-8 Projects

7.3.1 AT Attachment-8 – Architecture Model

7.3.1.1 Architecture Model Discussion and Diagram [Evans]

Mark Evans reviewed the first part of his architecture model document. He reviewed the front matter material that he created in frame. The boilerplate and styles have been created for his document. There were no objections to Mark continuing forward using Frame to create the architecture model document. Dan Colegrove stated that the PDF comment system will be the preferred mechanism for handling letter ballot comments for the ATA-8 standards. Mark reviewed the diagram which describes the relationship in the document. John Masiewicz and Jim Hatfield both noted that the diagram was confusing. Mark Overby suggested a modification to re-layer the image and general consensus was that this helped the image. Curtis Stevens suggested further changes to reflect the other documents such as SATA, MMCA, and CF and host specifications.

A long discussion was held between attendees about allowing more than one host in an “ATA domain” and if this was possible or allowed. Further discussion was held on exactly what a domain means. The concept of a procedure call was also discussed.

7.3.1.2 UML Conversion for State Diagrams [Overby]

This agenda item was deferred to the next meeting.

7.3.1.3 Define Term Restricted [Hatfield]

Jim Hatfield presented revision 0 of his proposal to define the term restricted for the purposes of identifying items that have been allocated for other specifications or standards and should not be used for the purposes of ATA compliance. Curtis Stevens asked what the need for this proposal was and a discussion ensued. Jim Hatfield agreed to withdraw the proposal at this time until a need was recollected.

7.3.2 AT Attachment-8 – ATA/ATAPI Command Set (ATA8-ACS)

Curtis Stevens reviewed the latest draft of the ACS document to obtain feedback about the changes to the ACS document that consolidates the outputs, errors, and such register items into tables at the end of the document. Curtis showed several examples of this. Joseph Chen raised an issue of how signatures are assigned. The general consensus was that any other groups that wish to have signatures should go to this organization for signature assignment.

7.3.2.1 HPA State Diagrams [Zelenko]

Dan Colegrove will query Karen Zelenko about the state of the HPA state diagrams.

7.3.2.2 SMART Table Settings / Single SMART Table Proposal [Stevens]

Curtis Stevens reviewed the request to verify that the host vendor specific pages are the same pages for both the log commands and SMART commands. The general consensus was that they were the same pages. Jim Hatfield moved, Curtis Stevens seconded, that the proposal be incorporated into ATA/ATAPI-8. Mark Overby moved, Mark Evans seconded, that the motion be suspended until Wednesday. The motion to suspend passed with 12 ayes, 0 nays, and 1 abstention. On Wednesday the issue was resumed and the motion passed with 9 ayes, 0 nays, and 0 abstentions.

7.3.2.3 READ WRITE VERIFY Proposal [Puri]

Sumit Puri reviewed revision 5 of the READ WRITE VERIFY proposal that incorporated the changes requested from the last meeting. Curtis Stevens pointed out that this defines behavior for the DF bit requiring a power on reset. Curtis stated that he could bring in a proposal to make the definition for DF requiring a power on reset. Sumit collapsed this IDENTIFY DEVICE changes into a single table. Dan Colegrove will post this document and the expectation is that a vote will be taken at the next meeting on approval of this proposal.

7.3.2.4 Download Microcode Enhancements [Livaccari]

Steve Livaccari reported that the issues that were raised appear to be resolved and he requested that the item be deferred to the next meeting for action.

7.3.2.5 Secure Freeze Lock Proposal

Item is carried over to the next meeting, pending the resolution of Dan Colegrove's action item to check with Gordon Hughes to see if a proposal is forthcoming.

7.3.2.6 Corrections to the ATA signature [Hatfield] (e04127r0)

Item resolved at the December meeting and was carried forward in error.

7.3.2.7 Self-test Polling Time [Hatfield] (e04130r1)

Jim Hatfield reviewed his latest draft of the proposal which incorporates changes that a conveyance timer was only needed for the extended self-test. Jim reviewed the reasons for the changes for this proposal because of the need for extended times as drive capacity grows quickly, there is no way to indicate the minimum time that should expire before checking the status. Jim stated that he would turn a revision 2 of the document with the requested clarifications from discussion on the items. Jim reviewed the change to revision 2 of the document to clarify that the time interval should be the time to first check by the host. Jim Hatfield moved, Mark Evans seconding, that revision 2 be incorporated into ATA-8. The motion passed 7 ayes, 0 nays, and 1 abstention.

7.3.2.8 Features Register in Read Log Ext (e05103r0)

Mladen Luksic reviewed his proposal which addresses a discrepancy between SATA documents and ATA/ATAPI-7 in regards to the behavior of the features register. According the ATA/ATAPI-7 the features register is always reserved, however the SATA-IO documents use the features register for log page 11h. This proposal would make the features register log page specific. John Masiewicz moved, Jim Hatfield seconding, that the proposal be adopted as revised. The motion passed with 13 ayes, 0 nays, and 0 abstentions.

7.3.2.9 ATAPI Command Overlap and Queuing Obsolescence [Stevens]

Curtis Stevens requested that this item be carried over to the next meeting until more data could be obtained from the MMC group at the March T10 meeting.

7.3.2.10 Removing ATAPI Prohibited States [Stevens]

Curtis Stevens stated his proposal that would remove the prohibition from devices that implement the packet command set from implementing commands that are not part of the packet command set. Larry Barras asked for a clarification on if this proposal means just changing the words for prohibited or actually allowing ATAPI devices to execute the commands. Curtis stated that he was attempting with this proposal to actually allow ATAPI devices to execute the other commands. Curtis asked that the item be dropped from the agenda for future meetings.

7.3.2.11 Annex of Historical Command Usage [Hatfield]

Jim Hatfield reviewed the latest revision of his historical command usage document. Jim Hatfield moved, John Masiewicz seconded, the motion passed with 8 ayes, 0 nays, and 0 abstentions. Curtis Stevens will incorporate this into the next draft for ATA8-ACS.

7.3.2.12 Queuing Control Mechanism (e05110r0) [Overby]

Mark Overby presented his proposal to create a mechanism to allow a host to exert control over the queued command completion from a drive. This would allow the host to indicate when it is ready to start accepting command completions from the drive and issue new commands to the drive while holding off command completion. John Masiewicz and Curtis Stevens both noted that there could be a way to achieve this without having to invent new commands, but by using

bits in the existing queued commands. Mark agreed to look into this. Jim Hatfield also noted that the subcommand codes (if used) might need modification.

7.3.2.13 DCO / Set Features for Vendor Unique (e05102r1) [Chen]

Joseph Chen presented his proposal for reserve a portion of the DCO bits as well as some SET FEATURES subcommand codes for vendor unique purposes. Curtis Stevens noted that it would be good to have a vendor reserved section with the high bits off, thereby reserving two areas to create symmetry (i.e. 50-5C as well as D0-DC). Dan Colegrove expressed a concern that this would consume a very large number of opcodes. Curtis additionally stated that perhaps splitting the commands into two blocks of six could balance the concern about the number of opcodes and the need for a vendor specific range. Joseph asked if the principle of having vendor unique commands was agreeable to the committee. Joseph agreed to amend the document to use D6-DC and 56-5C instead of his current proposal on the SET FEATURES subcommand codes. Curtis Stevens moved, Jim Hatfield seconded, that the proposal be incorporated as amended. The motion passed with 7 ayes, 0 nays, and 1 abstention.

7.3.2.14 First Party DMA part of 48-bit Command Set [Stevens]

Curtis Stevens brought up a question about what happens with FPDMA if the 48-bit command set is disabled. A discussion was held amongst the attendees about if the FPDMA commands are inherently disabled if 48-bit commands are disabled. The general consensus was that the commands should still be enabled unless the DCO bit disables those commands.

7.3.3 AT Attachment-8 – Parallel Transport (ATA8-PT)

7.3.3.1 Review Draft

Mark Overby requested postponing this item until after the ad hoc meetings editors review.

7.3.4 AT Attachment-8 – Serial Transport (ATA8-ST)

John Masiewicz noted that the PDF he sent out did not have the change bars enabled and that you needed to open the DOC file to see the changes. John noted that there was no new technical content and that any place where it might be considered technical changes were marked with editors notes so that reviewers could find such places. John then further led a review of the changes to the document that he has made for revision 0a. There was a substantial discussion over the meaning of HBA and the use in defining the location of host registers and controls. John requested a straw poll to indicate host status register or HBA status register for the glossary. HBA was preferred 6-5. John asked for a straw poll to change the references to register(s) in the serial document to refer to fields instead for the contents of the FIS's. The preference was 12-1 to make this change.

7.3.4.1 SATA-IO Copyright Issues (e04156r1) [Hatfield]

Jim Hatfield reviewed a revision of his proposal. Jim stated that the changes between revision 0 and 1 were to change some wording. Dan Colegrove stated that he would forward this revision to INCITS for further anti-trust review. John Masiewicz stated that he felt that this should be handled on a case by case basis. Brian Dees stated that material introduced here should be reviewed by the SATA-IO organization as well. John and Dan both responded that this should work through the current liaison process, perhaps with improvements to our existing liaison process. John reviewed some of the language in the proposal and noted some problems with the

language and conclusions stated by the proposal. Jim asked if the general consensus was that the SATA liaison should be strengthened. This was generally accepted by the attendees. Jim stated that he would take these comments back internally and decide what to do with this proposal next.

7.3.4.2 Device Initiated Power Management (e04149r0) [Masiewicz]

Curtis Stevens stated that there was no new material and that the item should be carried over to the next meeting.

7.3.4.3 Detecting PATA Device behind SATA Bridge [Overby]

Mark Overby stated that he neglected to write this proposal and requested this item be carried over to the next meeting.

7.4 DRQ=1 when ERR=0 Technical Report Project [Livacarri] (e05105r0)

Steve Livacarri reviewed his project proposal for a technical report to describe a behavior to require DRQ=0 when ERR=1 that moves the proposal from ATA-8 to a technical report. Steve Livacarri moved to approve this as a project, Jim Hatfield seconded. The motion failed with 8 ayes, 1 nay, and 1 abstention due to a failure to carry a 2/3 majority and a majority of the membership. John Masiewicz stated that WD voted no because they felt it added little value.

7.5 SMART Command Transport (SCT) Technical Report [Stevens]

7.5.1 Comment Resolution

Curtis Stevens reviewed the final resolution of the pending comments from the last meeting as well as the additional comments received after the last meeting. These changes were incorporated into revision 4a.

7.5.2 Approval of Comment Resolution Vote

Curtis Stevens moved, Dan Colegrove seconding, that DT1701r3e-SCT as the letter ballot comment resolution. The motion passed with 10 ayes, 0 nays, and 0 abstentions.

7.5.3 SCT BIST Proposal [Stevens] (e04148r1)

Curtis Stevens reviewed revision 1 of his proposal based on feedback from the October meeting. The proposal provides a command for causing the device to send a BIST FIS to the host as there is no current instruction, command, or feature that causes the device to begin this process. Mark Overby requested that instead of using a vendor specific log page, that perhaps the host could specify a host-specific log page. Curtis stated that it was the intention to use a defined log page (non-vendor specific). Joseph Chen stated a concern that they are working on a similar proposal and they discussed using this as part of SET FEATURES. Mark raised a concern that for hosts and host software SMART has an advantage for host software. Curtis will turn a revision to add a reserved and vendor-specific area to the BIST commands.

7.5.4 Add SCT to ATA/ATAPI-8

Curtis Stevens proposed incorporating SCT into the ATA8-ACS. A discussion was held about the incorporating SCT into ATA-ATAPI8 in its current form or if revisions to SCT should be done before incorporating into ATA-8. Curtis requested no vote at this meeting and the item should be carried forward for further discussion at the next meeting.

7.6 A/V Technical Report project [Colegrove]

7.6.1 Draft Review

This item is carried over due to lack of time in the meeting.

7.7 T13 reflector, FTP, and web site setup

No issues were reported with the reflector or web site. Dan Colegrove presented a short scheme that he is trying to hold to for document naming where the document starts with lower case e, d, or dt depending on the type of document. The document number follows with rX, where X is the revision number, then the draft standard abbreviation in all capital letters, followed by the title. (e.g. e05999r0-ATA8-ACS-Example_Filename.pdf). Dan Colegrove agreed to make this into a formal document and proposal.

8 New Business

8.1 Non Volatile Proposal [Obr] (e05106r0)

Jack Creasey delivered a presentation relating to Microsoft's concerns about the power consumption, spin up times, and performance bottlenecks in drives. Discussion ensued about using NVRAM on the motherboard or using existing USB technology. Concerns were also raised about the write lifetime of NVRAM and wear leveling. Extensive discussions were held as well about the usage model of this NV cache and how the cache relates to normal LBA operations. The presentation noted that in order to make this technology work it would require a new paradigm in how drives operate. Changes that would be needed to the ATA standards include commands for controlling the NV cache, disabling/enabling the NV cache, as well as identifying the NV cache capabilities. Nathan stated that he would bring commands, in a proposal, for ATA-8. Nathan also asked for a straw poll on continuing work on NV cache for ATA-8. The vote was 8 yes, 1 no, and 3 abstentions.

8.2 Items from Reflector

8.2.1 Clarification on reset signature

Jim Hatfield reported that in the device register there are bits that are marked obsolete but are set by some devices. The signature is required to be 0x00 and there is confusion over the precedence of the signature requirement or the fact that the bits are 0. Curtis stated that the device register is not needed for the signature and there was general agreement to this. Curtis Stevens moved, Jim Hatfield seconded, that the device register be removed from all signatures for both ATA-7 and ATA-8. The motion passed with 8 ayes, 0 nays, and 0 abstentions.

8.2.2 Clarification on INTRQ / BSY behavior in state machine diagrams (e05114r)

Mark Overby and Jim Hatfield reported on a concern that was raised on the reflector that the BSY bit should never be set if INTRQ is asserted. However, it is a harmless activity for the host to check the BSY bit before exiting from the state machine and in reality not all devices follow this behavior (all though they should). Mark Overby moved, Curtis Stevens seconded, that the proposed changes to the state diagrams document e05114r0 be rejected. The motion passed with 7 ayes, 0 nays, and 1 abstention.

8.2.3 SRST and ATAPI

There was a concern that there was text missing about the behavior of the DSC bit and the ATAPI device for soft reset capability. The text that was being looked for was in clause 11.2 for the D0SR0 state that indicates what an ATAPI device should do if SRST is issued.

8.2.4 Execute Device Diagnostic

This item was covered in the discussion on agenda item 8.2.2.

8.3 Obsolete Bits from ATA Signature [Hatfield]

This item was covered in agenda item 8.2.1.

9 Liaison Reports

9.1 T10 [Colegrove]

The T10 liaison report was posted to the web.

9.1.1 SCSI to ATA Mapping Study Group

9.1.1.1 Working group co-location

The SAT working group meeting follows this meeting and will be co-located on the Monday previous to the April plenary meeting.

9.2 Trusted Computing [Hatfield]

Jim Hatfield reported that TCG is working on the container for the commands for the trusted commands. TCG is preparing a proposal to describe the payload for credentials from the device.

9.3 SFF [Colegrove]

Dan Colegrove stated that he was not aware of any activities to track.

9.4 IDEMA [Colegrove]

Dan Colegrove reported that the 4k committee is now leaning towards using logical blocks of 4k size instead of using read-modify-write on 512 byte sectors. Curtis Stevens stated that this is going to cause a poor legacy experience and that it is not practical. John Masiewicz asked what is wrong with the definition that is currently in ATA for logical sectors. Dan suggested that these concerns be fed back to IDEMA.

9.5 Compact Flash Association

Dan Colegrove report that the May (23-25) meeting for CFA will be in Kauai, HI. Dan Colegrove asked if anyone was attending to do a liaison report.

9.6 SATA-IO [Dees]

The liaison items were discussed during other agenda items for the meeting.

9.7 MMCA (Multi Media Card) [Colegove]

Dan Colegrove has no liaison report.

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

- Dan Colegrove to forward SCT form 1 and associated documents to INCITS.
- Mark Overby to prepare project proposal for HBA-2 to incorporate the parallel emulation from ATA/ATAPI-7.
- Dan Colegrove to query CFA on the use of SET FEATURES subcommand codes.
- Curtis Stevens will assign a minor revision for ATA-7 ANSI published version in the minor revisions of IDENTIFY DATA.
- Dan Colegrove to query Gordon Hughes about the status of the freeze lock proposal.
- Curtis Stevens to liaison with Mt. Fuji and MMC on the proposal to obsolete ATAPI overlap and queuing.
- Dan Colegrove to check with INCITS about the anti-trust implications for the SATA-IO proposal.
- Jim Hatfield to work on a proposal to create a procedures document for T13 activities.
- Mark Evans will research if a separate letter is needed from Maxtor for a Quantum patent related to UDMA that was released for ATA-5 and subsequent project.
- Nathan Obr to bring a proposal to clarify the behavior as to what hosts shall expect and devices shall do when a command is not supported and for how to report unsupported commands.

12 Schedule

12.1 Meeting length

John Masiewicz and Dan Colegrove brought up the idea of possible having the plenary start on Tuesday and recessing for working group activity. The advantage of having the plenary at the end of the meetings is that it is the only required day. Discussion ensued about if this would help increase attendance. The consensus was to leave our schedule unaltered.

It was noted that while meetings were extended to 3.5 days (Tuesday – Friday noon) the April meeting may end at Thursday because of scheduling.

12.2 SAT Meeting on Mondays

The SAT meetings will be held on the Monday before the T13 plenary beginning in April, 2005.

12.3 Authorization of Ad Hoc Working Groups

Dan Colegrove moved, Mark Overby seconded, to authorize an Ad Hoc meeting for the editors of the ATA-8 standard. The motion passed with 10 ayes, 0 nays, and 0 abstentions. The editors will announce the location and time through the reflector and website.

12.4 Long term meeting schedule

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

12.4.1 Hosting Volunteers

CY 2005 Dates	Location	Host	Contact
April 19-21, 2005	Longmont, CO	Seagate	Jim Hatfield
June 21-23, 2005	Orange County, CA	Western Digital	John Masiewicz.
August 23-25, 2005	Longmont / Boulder, CO	Maxtor	Mark Evans
October 18-20, 2005	Las Vegas, NV	Fujitsu	Sumit Puri
December 13-15, 2005	Las Vegas, NV	Hitachi Global	Dan Colegrove
February 21-24, 2006	Orange County, CA	Western Digital	John Masiewicz
April 18-21, 2006	Longmont, CO	Seagate	Jim Hatfield
June 20-23, 2006	Seattle, WA	NVIDIA	Mark Overby
August 22-25, 2006	Longmont, CO	Maxtor	Mark Evans
October 24-27, 2006	Las Vegas, NV	Fujitsu	Sumit Puri

13 Adjournment

Mark Overby moved, Jim Hatfield seconded, that the meeting be adjourned at 1230. The motion passed with unanimous consent.

Membership

Name	S	Company	Tel	Address	City
Raghu Sastry	P	Agilent	408-553-6559	5301 Stevens Creek Blvd.	Santa Clara, CA 95051
Randy Sharp	A	Apple Computer	408-974-5024	6 Infinite Loop	Cupertino, CA 95014
Larry Barras	P	Apple Computer	408 974-3220	1 Infinite Loop MS306-2tc	Cupertino, CA 95014
Kenneth Hirata	P	Emulex	714 662-5600	3333 Susan St.	Costa Mesa, CA 92626
Bob Nixon	A	Emulex			
Sumit Puri	P	Fujitsu	408 829-5252	23160 Hatteras St	Woodland Hills, CA 91367
Mike Chenery	A	Fujitsu			
Dan Colegrove	P	Hitachi GST	702 614-6119	2903 Carmelo Dr	Henderson, NV 89052
Frank Chu	A	Hitachi GST			
Jeff Hobbet	A	IBM			
Steve Livaccari	P	IBM	919 543-7393	3039 Cornwallis Rd.	RTP NC 27709
Brian Dees	A	Intel	503-712-7761	2111 NE 25th Ave.	Hillsboro, OR 97124
Robert Strong	P	Intel	916 356-0616	1900 Prairie City Rd	Folsom, CA 92618
Tim Thompson	P	LSI Logic	970 206-5753	2001 Danfield Ct	Fort Collins, CO 80525
Ben Chang	A	Maxtor			
Mark Evans	P	Maxtor	408 894-5310	500 McCarthy Blvd	Milpitas, CA 95035
Nathan Obr	P	Microsoft	425 705-9157	One Microsoft Way	Redmond, WA 92630
Akil Houston	A	Microsoft			
Charles Seaborg	A	Net Cell			
Scott Richmond	P	Net Cell			
Conrad Maxwell	P	Net Cell	951-415-5289	2595 Junction Ave. Ste 200	San Jose, CA 95134
Mark Overby	P	nVidia	425 417-9412	1430 NE 24th Suite 203	Bellvue, WA 98007
Scott Pritchett	A	nVidia			
Stefan Thurnhofer	A	Pacific Digital	949 252-1111	2052 Alton Parkway	Irvine, CA 92606
Robert Horton	P	Pacific Digital	949-252-1111	2052 Alton Parkway	Irvine, CA 92606
Karen Zelenko	P	Phoenix Tech.	408 570-1418	915 Murphy Ranch Rd.	Milpitas, CA 95035
Timothy_Markey	A	Phoenix Tech.			
Arie Krantz	A	Qlogic			
Greg Elkins	P	Qlogic	303 651-1919	6134 Utica Ct.	Longmont, CO 80504
Joe Chen	P	Samsung	408 544-5766	75 W Plumeria Dr.	San Jose, CA 95134
John Schadegg	A	Samsung	408 544-5838	75 W Plumeria Dr.	San Jose, CA 95134
Jim Hatfield	P	Seagate	720 684-2120	389 Disc Drive	Longmont, CO 80503
Marc Noblitt	A	Seagate	720 684-1177	389 Disc Drive	Longmont, CO 80503
Raymond Liu	P	Silicon Image	949 470-3152	9501 Jeronimo Rd	Irvine, CA 92618
Mark Hartney	A	Silicon Image	408 616-4197	1060 E. Arques Ave.	Sunnyvale, CA 94085
Aaron Wilson	A	ST Microelectro			
Glenn Lott	P	ST Microelectro	303 381-3549	1625 S Fordham Suite 500	Longmont, CO 80503
Yutaka Arakawa	P	Toshiba		9740 Irvine Blvd	9740 Irvine Blvd
John Masiewicz	P	Western Digital	949 672-7686	20511 Lake Forest Dr	Lake Forest, CA 92630
Curtis Stevens	A	Western Digital	949 672-7933	2011 Lake Forrest Dr.	Lake Forrest, CA 92630