

Accredited Standards Committee*
X3, Information Technology

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Date: 10/13/97

Project:

Ref. Doc.:

Reply to: Gene Milligan

To: Membership of X3T10

From: Larry Lamers, Secretary
Gene Milligan, Chair

Subject: Minutes of ATA Working Group - 11/29-30/95

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Results of Meeting

1. Opening Remarks

Gene Milligan, the ATA Working Group Chair, called the meeting to order at 9:00 a.m., Tuesday November 29, 1995. He thanked Tom Hanan of Western Digital for hosting the meeting.

As is customary, the people attending introduced themselves and a copy of the attendance list was circulated. It was announced that general information on X3T10 is available at the head table to any interested party.

2. Approval of Agenda

The draft agenda was approved with the following additions:

- 9.6 Items related to forthcoming formation of T13
- 10.3 44-pin Assignments
- 10.4 Intr Recognition
- 10.5 X3 Fees

3. Attendance and Membership

Attendance at working group meetings does not count toward minimum attendance requirements for X3T10 membership. Working group meetings are open to any person or organization directly and materially affected by X3T10's scope of work.

The following people attended the meeting:

Mr. Lawrence Lamers	Adaptec Inc.	(408) 957-7817	ljlammers@aol.com
Mr. Ron Roberts	Apple Computer	(916) 677-5714	rkr Roberts@aol.com
Mr. Richard Schnell	Apple Computer	(408) 974-5411	schnell2@eworld.com
Mr. Joe Chen	Cirrus Logic	(510) 226-2101	chen@cirrus.com
Mr. Marc Noblitt	Conner Peripherals	(303) 682-8408	marc.noblitt@conner.com
Mr. Dan Colegrove	IBM Corp.	(408) 256-1978	colegrove@vnet.ibm.com
Mr. LeRoy Leach	Maxtor Corp.	(303) 678-2828	leroy_leach@maxtor.com
Mr. Pete McLean	Maxtor Corp.	(303) 678-2149	pete_mclean@maxtor.com
Mr. Roger Li	Oak Technology Inc.	(408) 523-6668	rogerl@oaktech.com
Mr. Mark Evans	Quantum	(408) 894-4019	mevans@qntm.com
Mr. Curtis E. Stevens	Phoenix Technologies	(714) 440-8330	curtis_stevens@ptltd.com
Mr. Gene Milligan	Seagate Technology	(405) 324-3070	gene_milligan@notes.seagate.com
Mr. Alan Longo	SyQuest Technology Corp.	(303) 938-2930	alan.longo@syquest.com
Mr. Tokuyuki Totani	Toshiba America Info. Sys.	(408) 451-6960	ttotani@taisdpd.geis.com
Mr. Tom Hanan	Western Digital Corp.	(714) 932-7472	hanan_t@a1.wdc.com

4. Document Distribution

X3T10/2008D rev 6
 X3T10/1120D rev 3
 X3T10/0958D rev 4
 D96104r0 - ATA Overlap Proposal (X3T10/258r4)
 D96102r0 - Use of pins A-D on 44-pin connector

There was discussion on file naming conventions for the new technical committee. The following agreements were reached:

1) Each mailing will be contained in a single zip file labeled 'DMynnRx.ZIP'; where yy represents the year, nn represents the sequence number, and x represents the revision of that mailing.

2) Each document will be identified with a filename of 'DyynnnRx.TYP'; where yy represents the year, nnn represents the sequence number; and x represents the revision of the document. 'TYP' represents the application used to create the document.

3) Each working draft will be identified with a filename of 'Dnnnn-Rx.TYP'; where nnnn represents the project number, and x represents the revision of the document. 'TYP' is either DOC for uncompressed or DOZ for compressed files. All files are in Word 6 format per the consensus reached at the last meeting.

Document types are:

- DOC Word 6 document;
- XLS Excel 5 spreadsheet;
- PPT Powerpoint 4 presentation;
- TXT Text file in ASCII;
- CSV Comma separated value file in ASCII;
- ZIP Collection of files compressed into a single file.

The convention of changing the third character to 'Z' e.g., DOC becomes DOZ, is used to indicate that the file is compressed.

5. Review of Action Items

- 32) Gene Milligan to continue follow-up with Compaq on the reported security patent. Gene reported that a letter has been sent to the Chairman of X3T10 regarding SMART; a separate letter is being prepared to address the security patent.
- 34) Tom Hanan to prepare ATAPI rev 3. completed
- 35) Pete McLean to prepare Overlap Proposal rev 4. Deferred pending completion of state diagram review. Completed.
- 36) Rick Kalish to prepare When is DMA proposal. Dropped.
- 39) Pete McLean to generate rev 6 of ATA-3. Completed.
- 40) Gene Milligan to request a letter ballot. Completed.

6. ATA-2 - Project 0948 (X3.279-199x)

Revision 4 of ATA-2 was made available for the group to review the pre-edit changes. Gene Milligan stated that he will request X3T10 to not take action on this project if the X3T13 organization meeting occurs in January 1996.

Members were requested to review the working draft for technical consistency with revision 3.

7. ATAPI - Project 1120D

7.1 ATAPI Working Draft Review [Hanan]

Tom Hanan distributed revision 3. Tom stated that the document is so far from the style and format of existing X3 documents that he proposed scapping the existing draft and starting over. He reviewed a proposed table of contents. Tom will document this proposal in D96103r0.

7.2 Other ATAPI Items [] ()

The attendees did not have any additional ATAPI issues to discuss.

8. ATA-3 - Project 2008D

8.1 ATA-3 Working Draft Review [McLean]

Pete McLean distributed revision 6. This working draft is at X3T10 letter ballot; the ballot closes January 3, 1996.

8.2 Strong Command Overlap and Command Queuing [McLean] (95-258)

Pete McLean presented a revamped ATA Overlap Proposal with the state diagram included. As shown there is an assumption that if a Service Request is pending any new command will be queued until the pending Service Request is processed. That is, a cache hit will not occur on the new command when a Service Request is pending.

8.3 Proxy Interrupt Glitch [] ()

Mark Evans presented a strawman proposal to alleviate proxy interrupt glitches. .

8.4 IDENTIFY DRIVE data in support of host requirements [D96107r0] (Stevens)

Curtis Stevens made a proposal for Device Segmentation. This proposal would provide a public and private area on the storage device. The new commands provide tools to allocate and read or write segments. Curtis stated that defining formats for the segments is part of future work he plans for this proposal. There was consensus to make the size variable; set at the factory, not user settable. Should deallocate defragment the the space? This is more difficult, but better long term.

9. Old Business

9.1 ATA+PI [95-254r0] ()

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9.2 New Technical Committee [] ()

Gene Milligan took a straw poll regarding the plenary frequency

1 times a year - 0

3 times a year - 1

4 times a year - 10

6 times a year - 4.

The January organization meeting will be a 4-day plenary. The consensus for future meetings is that the Plenary meetings should start on Thursday morning.

Gene proposed a mailing to notify folks that have attended the working group meetings and provide a set of policies and procedures for the committee. It was agreed to do this if the policies and procedures can be assembled in time.

Gene Milligan reported that Lynn Bara confirmed the new TC will be X3T13.

9.3 Open Issues List [] ()

9.3.1 DMA Mode Model [Kalish] ()

Dropped.

9.4 ATA Mode X Analog Issues [] ()

No activity.

9.5 ATA Cable Issues and Definitions [McGrath] ()

Tom Hanan showed data taken on the 80-conductor cable. It looks like the ground bounce issue is resolved and the cross talk is significantly attenuated. The data setup time is 15 ns.

9.6 Web, ftp, reflectors for T13 [Hanan] ()

Tom Hanan explained that Western Digital is prepared to commit resources to provide a web site, an ftp site, and necessary reflectors for X3T13.

Two reflectors are planned: T13-ADMIN for meeting announcements, agendas, minutes, and notification of alternates regarding letter ballots; T13-TECH will replace the existing ATA reflector and carry the technical discussions. Tom will propose a format for subject lines to allow rule based mail handlers to classify the email.

The web site will be www.t13.org, if the committee is designated as T13.

The ftp site will have the following directories:

- admin
 - ballots
 - membership
 - minutes
 - announcements
 - agendas
 - document_register
- documents
 - 1996
 - 1997
- mailings
- projects
- pre-T13
 - minutes
 - T10_ftp
- reflector_archive.

10. New Business

10.1 Cache Flush [] ()

How does an OS know when a drive has flushed its cache. There is no requirements in this regard. In order to insure system integrity this issue needs to be addressed. Warnings regarding the behavior of SET FEATURES disabling write cache to not expect a cache to flush need to be added. A seperate command to synchronize cache is needed to get the assured system behavior. Richard Schnell voluteered to develop a proposal.

10.2 Suggestions for ATA+PI [Schnell] ()

Richard Schnell reviewed his suggestions. The third item could be dealt with by adopting a selective reset as defined in ATAPI. The disable retries in SET FEATURE needs to be aligned with the retry bit in the commands.

Backward compatibility indicates the possibility of building a device that works in an enviroment that was designed for the previous generation of devices. It does not make this mandatory, only possible.

10.3 44 Pin connector use of A-D [McLean] (D96102r0)

Pete McLean made a proposal for recommending an implementation for pins A-D to use for drive selection. Members are requested to review this for consideration at the January meeting.

10.4 Intr Recognition [] ()

Curtis Stevens stated that today there is no way to tell which channel is asserting interrupt in a 'Y' cable environment. It is possible to use the interrupt reason register to accomplish this..

10.5 X3 Fees [] ()

Gene Milligan, in response to requests from the floor, explained the fee structure. He noted that those people who had been members of X3T10, but only desired to participate in X3T13 should not pay the invoice and should advise Katrina Gray (202) 626-5741 or kgray@itic.nw.dc.us of this fact.

Forms will be available to sign up for X3T13 at the organization meeting and subscribe to the mailing. The mailing will not be coincident with X3T10, and will require a separate subscription fee. The X3 Secretariat is cooperating in being prepared to deal with X3T13 and provide mailing services following the organization meeting.

11. Call for Patents

Gene Milligan requested that anyone aware of any patents required for the proposals be disclosed early in accordance with the ANSI patent policy. He also pointed out that IBM has made a blanket offer of any of their patents that may be required by the interface standards.

As noted in earlier minutes the Secure Mode proposal involves patents pointed out by Pete McLean and he stated that a letter has been submitted by Maxtor. He also mentioned an IBM patent and Dan Colegrove noted that document 94-125 contains the letter regarding the ANSI patent policy. Gene observed that he has talked with the Compaq attorney who is preparing a response from Compaq to the patent letter from the X3T10 Chair John Lohmeyer.

12. Open Issues List

No new issues were added to the list.

13. Action Items

- 41) Gene Milligan to continue efforts to secure ANSI patent statement from Compaq regarding security
- 42) Larry Lamers to provide list of members of ATA WG and T10 to Pete McLean for dpANS.
- 43) Larry Lamers to post the January meeting notice to the reflectors.
- 44) Larry Lamers to contact X3 and ensure that appropriate documents and forms are available at the January meeting.
- 45) Mark Evans to generate meeting announcements for the two subsequent plenaries.

14. Future Meeting Schedule

The ad hoc meetings are authorized by the plenary for a maximum of two plenary meeting cycles. However meeting dates beyond that are blocked out for planning purposes to enable the dates should they be judged to be required by the plenary. In the event X3 authorizes the formation of a new technical committee no more than six per year of these blocked dates would be assigned for the plenary week. The group also discussed the need to minimize the number of meetings required to fit the needs of the industry.

January 23-26, 1996 - at Crown Sterling Suites, in Milpitas, CA, hosted by Quantum.

Proposed dates for 1996 are:

February 20-23, 1996 hosted by Quantum
March 26-29, 1996 hosted by Conner or Maxtor in Colorado
April 23-26, 1996 hosted by Quantum
May 21-24, 1996 hosted by Quantum

June 18-21, 1996 hosted by Western Digital
July 30-August 2, 1996 hosted by Quantum
August 20-23, 1996 hosted by Quantum
September 24-27, 1996 hosted by Western Digital
October 22-25, 1996 hosted by Quantum
November 12-15, 1996 hosted by Western Digital
December 1996 - No Meeting
January 21-24, 1997 hosted by Quantum.

The starting time for the meetings is 9:00 am.

Note: The attendees may elect to have working lunch sessions on any of these days.

15. Adjournment

The meeting adjourned upon completion of the agenda items.