

Accredited Standards Committee¹
X3, Information Processing Systems

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Date: April 4, 1994

Project:

Ref. Doc.:

Reply to: J. Lohmeyer

To: Membership of X3T10

From: Lamers/Lohmeyer

Subject: Minutes of X3T10 General Working Group March 16, 1994

Agenda

1. Opening Remarks
2. Attendance and Membership
3. Approval of Agenda
4. Physical Topics
 - 4.1 Ultra SCSI Progress Report (94-068) [Ham]
 - 4.2 Proposed changes to SPI (94-038) [Aloisi]
 - 4.3 SPI Public Review Comment Resolution (to add SCAM) [Lohmeyer]
5. Protocol Topics
 - 5.1 SCSI-3 Architecture Model - SAM (Project 994D) [Monia]
 - 5.2 Autosense [Monia]
 - 5.3 SCSI-3 Fibre Channel Protocol (Project 993D) [Snively]
 - 5.4 Message Handling Chart for SIP (94-032) [Houlder]
6. Command Set Topics
 - 6.1 SCSI-3 Download Microcode [McGrath]
 - 6.2 SCSI-3 Inquiry Command [McGrath]
 - 6.3 Data Recovery on Deferred Errors (94-067) [Houlder]
 - 6.4 Proposal for a WRITE BUFFER command (94-069) [Snively]
 - 6.5 RESERVE/RELEASE [Weber]
 - 6.6 P1355 Introduction [Strevens]
7. Meeting Schedule
8. Adjournment

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Results of Meeting

1. Opening Remarks

John Lohmeyer the Chair, called the meeting to order at 9:00 a.m., Wednesday, March 16, 1994. He thanked Skip Jones of Qlogic for hosting the meeting.

As is customary, the people attending introduced themselves. A copy of the attendance list was circulated for attendance and corrections.

It was stated that the meeting had been authorized by X3T10 and would be conducted under the X3 rules. Ad hoc meetings take no final actions, but prepare recommendations for approval by the X3T10 task group. The voting rules for the meeting are those of the parent committee, X3T10. These rules are: one vote per company; and any participating company member may vote.

The minutes of this meeting will be posted to the SCSI BBS and the SCSI Reflector and will be included in the next committee mailing.

2. 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 company to attend and to express their opinion on the subjects being discussed.

The following people attended the meeting:

SCSI Working Group Meeting Attenders -- March 16, 1994

| Name | S | Organization | Electronic Mail Address |
|-------------------------|---|---------------------------|--|
| Mr. Rick Heidick | A | 3M Company | |
| Mr. Norm Harris | P | Adaptec, Inc. | nharris@adaptec.com |
| Mr. Lawrence J. Lamers | A | Adaptec, Inc. | ljlammers@adaptec.com |
| Mr. Neil T. Wanamaker | P | Amdahl Corp. | ntw20@amail.amdahl.com |
| Mr. Charles Brill | P | AMP, Inc. | cebrill@amp.com |
| Mr. Bob Whiteman | A | AMP, Inc. | whiteman@cup.portal.com |
| Mr. Ken Scherzinger | S | Amphenol Spectra Strip | |
| Mr. Carlos Orosco | V | AST Computer | carlos.orosco@ast.com |
| Mr. Charles Binford | S | AT&T GIS | Charles.Binford@WichitaKS.ncr.com |
| Mr. Ian Morrell | A | Circuit Assembly Corp. | |
| Mr. Michael Alexenko | A | Conner Peripherals | |
| Mr. Ken Smith | O | Conner Peripherals | KEN_SMITH+AENG+ASAN_JOSE%CONNER@MCIMAIL.COM |
| Mr. Ed Carmona | O | Conner Peripherals | ED_CARMONA+AENG+ASAN_JOSE%CONNER@MCIMAIL.COM |
| Mr. Doug Pickford | O | Conner Peripherals | DOUGLAS_PICKFORD+AENG+ASAN_JOSE%CONNER@MCIMAIL.COM |
| Mr. Paul Entzel | V | Conner Peripherals | |
| Ms. Adrienne Turenne | A | Conner Tape | |
| Mr. Louis Grantham | P | Dallas Semiconductor | grantham@dalsemi.com |
| Mr. Charles Monia | P | Digital Equipment Corp. | monia@starch.enet.dec.com |
| Mr. William Dallas | A | Digital Equipment Corp. | dallas@wasted.enet.dec.com |
| Mr. Ralph Weber | A | Digital Equipment Corp. | weber@star.enet.dec.com |
| Mr. Edward A. Gardner | A | Digital Equipment Corp. | gardner@ssag.enet.dec.com |
| Mr. I. Dal Allan | P | ENDL | 2501752@mcimail.com |
| Mr. Kenneth J. Hallam | A | ENDL | khallam@endlas.com |
| Mr. Edward Lappin | P | Exabyte Corp. | tedl@exabyte.com |
| Mr. Gary R. Stephens | P | FSI Consulting Services | 6363897@mcimail.com |
| Mr. Robert Liu | P | Fujitsu Computer Products | |
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| Mr. Kurt Chan | A | Hewlett Packard Co. | kc@core.rose.hp.com |
| Ms. Nancy Cheng | O | Hitachi Computer Products | n_cheng@hitachi.com |
| Mr. George Penokie | P | IBM Corp. | gop@rchvmp3.vnet.ibm.com |
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| Mr. Ken Cummings | O | IBM Corp. | kenc@tucvm2.vnet.ibm.com |
| Mr. Gary Brandvold | O | Iomega Corp. | |
| Mr. Geoff Barton | O | Iomega Corp. | glbarton@iomega.com |
| Mr. Dean Wallace | P | Linfinit Micro | |
| Mr. Ron Roberts | P | Maxtor Corp. | ron_roberts@maxtor.com |
| Mr. Cliff W. Carlson | O | NCCOSC RDTE DIV 821 | wcarlson@nosc.mil |
| Mr. Robert Gallenberger | O | NCCOSC RDTE DIV 821 | wcarlson@nosc.mil |
| Mr. John Lohmeyer | P | NCR Microelectronic | john.lohmeyer@ftcollinsco.ncr.com |
| Mr. Greg Kapraun | A | NCR Microelectronic | Greg.Kapraun@ftcollinsco.ncr.com |
| Mr. Dan Davies | O | Overland Data Inc. | |
| Mr. Stephen F. Heil | P | Panasonic Technologies, | sfh@research.panasonic.com |
| Mr. Skip Jones | O | QLogic Corp. | sk_jones@qlc.com |
| Mr. Ting Le Chan | O | QLogic Corp. | |
| Mr. Gary Dickinson | V | QLogic Corp. | g_dickinson@qlc.com |
| Mr. Wayne Dupre | V | QLogic Corp. | |
| Mr. James McGrath | P | Quantum Corp. | JMCGRATH@QNTM.COM |
| Mr. Gerald Houlder | A | Seagate Technology | Gerry_Houlder@notes.seagate.com |
| Mr. Stephen G. Finch | P | Silicon Systems, Inc. | 5723283@mcimail.com |
| Mr. David Deming | O | Solution Technology | |
| Mr. Erich Oetting | P | Storage Technology Corp. | Erich_Oetting@Stortek.com |
| Mr. Robert N. Snively | P | Sun Microsystems, Inc. | Bob.Snively@sun.com |
| Mr. Vit Novak | A | Sun Microsystems, Inc. | vit.novak@sun.com |
| Mr. Pete Tobias | A | Tandem Computers | Tobias_Pete@Tandem.com |
| Mr. Harvey Waltersdorf | P | Thomas & Betts | |
| Mr. Peter Dougherty | P | UNISYS Corporation | peter.dougherty@mv-oc.com |
| Mr. Paul D. Aloisi | P | Unirode | Aloisi@uicc.com |
| Mr. Jeff Stai | P | Western Digital | stai@dt.wdc.com |
| Mr. Tak Asami | A | Western Digital | asami@dt.wdc.com |
| Mr. Duncan Penman | O | Zadian Technologies | |

61 People Present

Status Key: P - Principal
A - Alternate
O - Observer
L - Liaison
S,V - Visitor

3. Approval of Agenda

The proposed agenda was approved.

4. Physical Topics

4.1 Ultra SCSI Progress Report (94-068) [Ham]

Bill Ham summarized the ultra-SCSI activity to date and presented a progress report on the ultra-SCSI testing. See 94-068 for details.

Bill also showed 40 mega-transfer test data on 20 meter cable 30AWG using 27 individual transceivers. The test data shows adequate margins in the test setup.

The setup and hold measurement diagram was discussed. Giles Frazier questioned the slew rates specified. His concern was interoperability of fast and ultra.

Kurt Chan questioned the cable distortion value of 2 ns. He asked if there was any test data to support the reduction from 4 ns. Bill stated he did not know how to test for distortion and asked for input on this.

Bill Ham stated that at least two cable vendors stated that 2 ns of cable skew was sufficient.

Jeff Williams questioned the transceiver performance with temperature variations; he noted that temperature effects have been a significant issue in the past.

John Lohmeyer stated that a project proposal has been put together for consideration at the plenary.

Paul Aloisi questioned the 5.25 V d.c. maximum high voltage should be reduced.

4.2 Proposed changes to SPI (94-038) [Aloisi]

Paul Aloisi presented a proposal to limit the termpower decoupling capacitance to 10 uf. He stated several companies have had problems in hot plug environments where glitches occur on the data bus if the termpower decoupling capacitance is too large. The primary cause of the glitches is that term power sags during the time it takes to charge the decoupling capacitor.

A small group of folks will develop wording for the plenary to consider for incorporation into SPI.

There also is an issue with battery powered systems. Paul will investigate having a study group in this area.

4.3 SPI Public Review Comment Resolution (to add SCAM) [Lohmeyer]

John Lohmeyer noted that one comment was received regarding SPI. This comment regarding incorporation of SCAM as a normative annex.

5. Protocol Topics

5.1 SCSI-3 Architecture Model - SAM (Project 994D) [Monia]

Charles Monia presented his current working version of SAM. His intention is to take comments from today and prepare a version to go to letter ballot concurrent with the next mailing.

5.2 Autosense [Monia]

5.3 SCSI-3 Fibre Channel Protocol (Project 993D) [Snively]

John Lohmeyer reported on the letter ballot results. Two no votes were received.

Bob Snively stated that he is working on the comments. A working group is planned for Seattle to resolve comments.

5.4 Message Handling Chart for SIP (94-032) [Houlder]

Gerry Houlder discussed his proposal for message handling. The document was in the mailing. Gerry is looking for feedback on the proposal.

The way to deal with an illegal/inappropriate message is to use the MESSAGE REJECT and continue.

Gerry would like to take a motion for inclusion in SIP at the May plenary.

6. Command Set Topics

6.1 SCSI-3 Download Microcode [McGrath]

Jim McGrath stated that there is a problem with his customers using download microcode when more than 64kb of code needs to be downloaded. He requested changing the buffer id field and allowing it to be used for the download microcode operation.

Per Bob Snively's comments the proposal will change to allow any non-zero buffer id could use the relative offset to download more than 64kb of firmware.

Jim McGrath noted that there is a desire to have multiple versions of firmware present in the device. He proposed using the buffer id to indicate different versions of firmware.

Gerry Houlder noted that CHANGE DEFINITION is the way to deal with this.

6.2 SCSI-3 Inquiry Command [McGrath]

The revision level field in INQUIRY data is fairly useless with the advent of multiple SCSI-3 documents. What is needed is compliance information in more detail. A vital product data page was suggested as the right mechanism. The compliance page should deal with the profiles being developed.

6.3 Data Recovery on Deferred Errors (94-067) [Houlder]

Gerry Houlder brought in a proposal for dealing with data recovery on deferred errors. There was considerable sentiment that this issue is not relevant to the way write caching is implemented in disk drives.

Gerry will go off to work on a more focused proposal based on the comments received.

6.4 Proposal for a WRITE BUFFER command (94-069) [Snively]

Discussed in item 6.1.

6.5 RESERVE/RELEASE [Weber]

Ralph Weber, looking for guidance as the editor of SPC, brought up the a question on dealing with the RESERVE/RELEASE commands using third party.

One proposal is to use a 10-byte CDB with an extended parameter list. This appears to the best starting place.

6.6 P1355 Introduction [Strevens]

Colin Whitby-Strevens of INMOS made a presentation on P1355.

The ftp server is ftp.inmos.co.uk. The document is located in primary\projects\ieee\hic. The reflector address is ieee-hic@inmos.co.uk. To subscribe send an email to ieee-hic-request.inmos.co.uk.

7. Meeting Schedule

The next working group meetings will be May 16-18, 1994 at the Sheraton Inn (717-561-2800) in Harrisburg, PA hosted by AMP. The room rates are \$69.00 plus tax. The reservation deadline for these rates is April 26, 1994. The group name is AMP/ANSI. The host contact is Chuck Brill at TEL: 717-561-6198, FAX: 717-561-6179, (cebrill@amp.com).

8. Adjournment

The meeting was adjourned at 9:00 p.m. on Wednesday March 16, 1994.