

Accredited Standards Committee*
X3, Information Technology

Doc. No.: X3T10/96-259r1

Date: November 15, 1996

Project:

Ref. Doc.:

Reply to: John Lohmeyer

To: Membership of X3T10

From: Ralph Weber, Secretary X3T10
John Lohmeyer, Chair X3T10

Subject: Minutes of X3T10 Plenary Meeting #18
Palm Springs, CA -- November 7, 1996

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 - 8.20 SCSI Serial Bus Protocol - 2 (SBP-2) {Project 1155-D} [Johansson]
 - 8.21 SCSI Architecture Model - 2 (SAM-2) {Project 1157-D} [Monia]
 - 8.22 SCSI-3 Enclosure Commands (SES) {Project 1212-D} [Snively]

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- 8.23 High Availability Profile (HAP) Technical Report {Project 1224-DT} [Hagerman]
- 8.24 SCSI Controller Commands - 2 (SCC-2) {Project 1225-D} [Penokie]
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- 9.4 Five-year review of X3.146:1986[R1992] Streaming Cartridge and Cassette Tape Drives - Device-level Interface

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- 11.3 SCSI-2 Corrigenda [Milligan]
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12. Liaison Reports

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13. Review of Action Items

14. Meeting Schedule

- 14.1 Authorization of Working Group Meetings

15. Adjournment

Results of Meeting

1. Opening Remarks

John Lohmeyer, the X3T10 Chair, called the meeting to order at 1:02 p.m., Thursday November 7, 1996. He thanked Norm Harris of Adaptec for hosting the meeting.

John said that X3 Subgroup Membership forms and the X3T10 Mailing Subscription form were available from Larry Lamers at the head table. He said that people should use the X3 forms to insure the X3 Secretariat has the latest membership information. These forms should be mailed directly to the X3 Secretariat.

As is customary, the people attending introduced themselves and a copy of the attendance list was circulated. Copies of the draft agenda and general information on X3T10 were made available to those attending.

2. Approval of Agenda

The draft agenda was approved with the following additions:

- 5.2 Web Voting [Lohmeyer]
- 10.1.1 Accept 96-198r4 for inclusion in SAM-2 and SPC-2 [Johansson]
- 10.1.2 Accept 96-263r0 for inclusion in SPC-2 [Coughlan]
- 10.1.3 Make REZERO UNIT and SEARCH XXX obsolete in SBC [Milligan]
- 10.1.4 Withdraw Greater Than 8 GB Booting TR [Lohmeyer]
- 10.1.5 Authorize creation of SPC R11 & forwarding to X3 2nd PR [Milligan]
- 10.1.6 Authorize creation of SBC R7 & forwarding to X3 1st PR [Milligan]
- 10.4 IEEE RAC Report [Snively]
- 10.5 12-Byte Commands in SBC [Milligan]
- 10.6 READ(6) Mandatory in SBC [Milligan]
- 10.7 Mode Page Code 2Ah [Roberts]
- 11.3 SCSI-2 Corrigenda [Milligan]
- 11.4 JTC-1 Reorganization [Milligan]
- 11.5 Tag Ballot [Milligan]

3. Attendance and Membership

The membership requirements were reviewed. X3 rules permit one vote per organization. An individual from a new organization must attend two out of three consecutive plenary meetings. He/she may apply for voting membership the second meeting via a letter to the Chair of X3T10. The individual may vote at the second plenary meeting. Working group meetings do not count toward attendance requirements.

Organizations must also pay the X3 Service Fee (\$300) to maintain membership. The ANSI International Program Fee (also \$300) is billed at the same time.

The Chair said he had sent letters to 21 people from 9 organizations informing them that their membership was in jeopardy due to non-attendance (see 96-033r0) and that their membership would be terminated if they did not attend this meeting. All organizations were represented at this meeting except:

Hitachi (not Hitachi Cable)
Methode Electronics

All members from the non-attending organizations were changed to observer status. First alternates were dropped from the list.

The X3T10 membership during the meeting was 47 organizations down from 49 organizations last time. Enclosure (1) is the list of the people present at the meeting and enclosure (2) is the current X3T10 membership list.

4. Approval of Minutes - September Meeting Natick, MA (X3T10/96-235r1)

The minutes were approved as written.

5. Document Distribution

Members who have any problems with their mailing subscription should deal directly with Katrina Gray (kgray@itic.nw.dc.us) (202) 626-5741.

Larry Lamers requested that all documents for the next mailing be in his hands in electronic format by 10:30 a.m. on Thursday November 14, 1996. Documents received after this time will go into a subsequent mailing.

Larry Lamers reminded the committee of the requirements for document submission to be included in the committee mailing. Since X3T10 meets its document archiving requirements by including the X3 Secretariat on the mailing list, documents included in the mailing must be suitable for archiving. This means that native-format electronic originals with proper identification must be submitted. Document X3T10/95-147 contains the list of requirements for submissions. Document X3T10/95-361r0 contains instructions for expeditious delivery of documents to Larry.

The electronic copies can be sent directly to Larry by email (at ljlammers@corp.adaptec.com), placed on the SCSI BBS (719-533-7950), or they can be transferred by ftp protocol to ftp.symbios.com and placed in the /pub/standards/io/incoming directory. In the latter two cases, please also send an email to Larry (at ljlammers@aol.com) informing him of the exact file name and location of the file.

As usual, minutes are also available on the SCSI BBS (719-533-7950) and will be distributed to the SCSI Reflector.

To be added to the SCSI Reflector, send an email to majordomo@symbios.com with the line 'subscribe scsi' in the message body. The X3 Secretariat maintains a World Wide Web page at <http://www.x3.org>. Symbios Logic maintains a World Wide Web page on behalf of X3T10 at <http://www.symbios.com/x3t10>.

The current document register is enclosure (3).

5.1 Results of Letter Ballot 96-039R0 on Elimination of Paper Mailings in 1997 (96-044 r0) [Lohmeyer]

John Lohmeyer reported that the letter ballot to eliminate paper mailings passed, 39:6:0:4=49. The four organizations that did not return their letter ballots were AMP, FSI Consulting, Panasonic, and Philips.

However, the X3 Secretariat has decided to offer paper mailings anyway. The cost of paper mailings in 1997 will be \$900 US and \$1,400 Foreign.

5.2 Web Voting [Lohmeyer]

John Lohmeyer described the WWW electronic voting procedure that X3T10 will use for the letter ballots anticipated after this committee meeting. The committee discussed details of the electronic voting procedures. John noted that electronic voting is accomplished at <http://www.symbios.com/x3t10/members/>. Those members without web access may still vote by email to john.lohmeyer@symbios.com.

6. Call for Patents

This is a regular agenda item to identify any potential patent issues with developing standards.

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 WWW at http://www.x3.org/help/ansi_sdo.html. Annex I

contains the ANSI patent policy. Amy Marasco manages patent issues for ANSI and can be contacted at amarasco@ansi.org or 212-642-4954.

7. Review of Old Action Items

- 163) Larry Lamers, John Lohmeyer and Gene Milligan will notify the membership of X3T10 and X3T13 that the Boot Considerations TR project might be dropped. *Complete*
- 172) John Lohmeyer will add an agenda item to discuss the SCSI Roadmap, the standards family bibliography, and the definition of SCSI vs. SCSI-3 at the next General SCSI Working Group meeting. *Complete*
- 173) Ron Roberts will complete SBP revision 22a and deliver it to Larry for the mailing. *Complete*
- 174) John Lohmeyer will forward SBP revision 22a to X3 for further processing for X3 letter ballot. *Complete*
- 175) John Lohmeyer will inform the X3 Secretariat that X3T10 recommends Project 998-D be withdrawn. *Complete*
- 176) John Lohmeyer will forward 96-221 as revised to X3 (to revise the scope of SPI-2 to include SIP). *Complete*
- 177) John Lohmeyer will inform X3 of the X3T10 recommendation to reaffirm X3.91M:1987 (SMD-E). *Complete*
- 178) John Lohmeyer will forward the SPC-2 Project Proposal (96-225r0) to X3 for further processing. *Complete*
- 179) Gene Milligan will take the necessary actions to recommend the inclusion of the changes in 96-239 into the ISO version of SCC. *Complete*

8. Subgroup and/or Project Status Reports

8.1 Project Status Summary and X3/OMC Liaison [Lohmeyer]

John Lohmeyer said that the current X3T10 project status summary was included in the X3T10 Information Packages and will be included in the mailing as usual.

John informed the committee that Lynn Barra has left the X3 Secretariat. Committee leadership should contact Kate McMillan, as Lynn's temporary substitute.

8.2 X3T10.1 Task Group Report [Lamers]

Larry Lamers, the X3T10.1 chair, made an oral report to the committee and provided the following electronic report for the minutes:

X3T10.1 Report Larry Lamers, Chair X3T10.1

X3T10.1 met in Lahaina, HI on Wednesday, October 30, 1996 with 11 people present. Membership is now at 12 voting organizations of which 9 were in attendance.

The second generation SSA documents (PH2, TL2, and S3P) were forwarded to X3T10 with a role call vote of 10:1:0:1.

X3T10.1 requests that a letter ballot be conducted on these working drafts with a closing date of January 21, 1997.

A motion was taken to modify the plenary meeting schedule as detailed below. The motion carried 11:0:0:1.

The next plenary meeting of X3T10.1 will be February 26, 1997, in Austin, TX at the Doubletree on I-35 North, phone: (512) 454-3737, fax: (512) 454-6915 hosted by IBM. The meeting will begin at 3:00 p.m.

The long-term schedule for X3T10.1 plenary meetings is:

Thursday, June 12, 1997 in Seattle, WA.
Thursday, October 9, 1997 in Tuscon, AZ.
Thursday, February 12, 1998 in *.

John described his plans to issue the three letter ballots requested by X3T10.1, as per the request of X3T10.1. The committee raised no objections to John's plans.

8.3 SCSI-3 Parallel Interface (SPI) Status {Project 855-D} [Lamers]

Larry Lamers reported that he has received his ANSI printed copy of SPI, indicating the completion of the SPI project. John noted that this item will be removed from future agendas.

8.4 SPI Amendment (SPIAmnd) {Project 0855-D} [Johansson/Lamers]

Larry Lamers announced that working group has completed a detailed review of the SPI Amendment. Larry offered electronic copies of the latest SPI Amendment to anyone interested. Larry announced that the latest SPI Amendment will be in the next committee mailing and that actions toward forwarding will be undertaken at the January meeting.

8.5 SCSI-3 Interlocked Protocol (SIP) Status {Project 856-D} [Penokie]

George Penokie announced that the second public review period closes on 12 November. He knows of no comments from the second public review. If there are no comments, SIP will proceed to X3 letter ballot and ultimately to publication.

8.6 SCSI Common Access Method -3 (CAM-3) Status {Project 990-D} [Dallas]

Bill Dallas was absent and there was no status to report.

8.7 SCSI-3 Serial Bus Protocol (SBP) Status {Project 992-D} [Roberts]

John Lohmeyer reported that the X3 letter ballot on SBP closes on 31 December 1996.

8.8 SCSI-3 Architecture Model (SAM) Status {Project 994-D} [Monia]

Charles Monia reported that he has received the ANSI published SAM, which indicates final publication of SAM.

8.9 SCSI-3 Primary Commands (SPC) Status {Project 995-D} [Weber]

John Lohmeyer reported that the first public review closes on 12 November 1996. Ralph reported that the working group agreed on resolutions for the public review comments received so far and anticipated. Plenary action on the proposed resolution of these comments was anticipated later in this meeting.

8.10 SCSI-3 Block Commands (SBC) Status {Project 996-D} [Milligan]

Gene Milligan reported that SBC revision 6 was distributed at the working group meeting. Technical issues in SBC revision 6 were discussed in the general SCSI working group meeting (96-258). Editorial issues will be reviewed in an editor's meeting on 8 November 1996.

8.11 SCSI-3 Stream Commands (SSC) Status {Project 997-D} [Lappin]

Ted Lappin reported on the SSC work undertaken by the SSC/SMC working group meeting (minutes in 96-274). Ted requested an editing session for SSC during the January meeting week.

8.12 SCSI-3 Graphics Commands (SGC) Status {Project 998-D} [Tewell]

John Lohmeyer reported that withdrawal of SGC was on the OMC agenda for next week.

8.13 SCSI-3 Medium Changer Commands (SMC) Status {Project 999-D} [Oetting]

Erich Oetting reported on two SMC proposals discussed at the SSC/SMC working group (minutes in 96-274).

8.14 SCSI-3 Controller Commands (SCC) Status {Project 1047-D} [Penokie]

John Lohmeyer reported that SCC is on its way to ANSI for publication.

8.15 Multimedia Command Set (MMC) Status {Project 1048-D} [Roberts]

Ron Roberts reported that the MMC letter ballot comments have been resolved. Action on the comments resolution was anticipated later in this meeting.

8.16 SCSI Parallel Interface - 2 (SPI-2) {Project 1142-D} [Ham]

John Lohmeyer reported that the LVD portion of SPI-2 continues to be stable. The work on SPI-2 is focused on integrating the several physical documents into SPI-2, as decided by past plenary votes. Larry Lamers noted that identifying the integration issues is currently the major activity. Minutes of the most recent SPI-2 working group meeting can be found in 96-257.

Gene Milligan raised a concern about how terminators are handled in SPI-2.

8.17 SCSI Enhanced Parallel Interface (EPI) Technical Report {Project 1143-D} [Ham]

Larry Lamers reported that revision 7 of EPI is available. John and Larry described the EPI discussion at the general SCSI working group (minutes in 96-258).

8.18 SCSI Fibre Channel Protocol - 2 (FCP-2) {Project 1144-D} [Snively]

No report.

8.19 Boot Considerations Technical Report {Project 1154-DT} [Lamers]

(See 10.1.4)

8.20 SCSI Serial Bus Protocol - 2 (SBP-2) {Project 1155-D} [Johansson]

Peter Johansson reviewed the actions of the SBP working group. He said that the asynchronous operating mode of SBP-2 is felt to be very stable. The working group has recommended that the project be split into two separate projects.

Peter presented a revised SBP-2 project proposal (96-255r0) and a project proposal for SCSI-3 Transport over SBP-2 (96-256r0).

Peter moved that 96-255r0 be approved as an amendment to project 1155-D and that 96-256r0 be approved for forwarding to X3 for creation of a new project. Bob Snively seconded the motion. The motion passed 33:0:0:14=47.

John Lohmeyer took an action item to forward 96-255 to X3 for processing as an amendment for project 1155-D. John Lohmeyer took an action item to forward 96-256 to X3 for processing toward the creation of a new project.

8.21 SCSI Architecture Model - 2 (SAM-2) {Project 1157-D} [Monia]

No report.

8.22 SCSI-3 Enclosure Commands (SES) {Project 1212-D} [Snively]

Bob Snively reported on the activities of the SES review during the working group on Monday (minutes in 96-257). Bob reviewed the resolution to concerns raised in the letter ballot review regarding the required use of the FC-PH globally unique name, the use of the REPORT bit in two data formats, and other specific topics raised by the letter ballot review.

Bob described a request to reserve diagnostic page codes 01h through 0Fh for use by SES.

Bob moved that 96-249r1 (r0 plus the results of the working group discussion) be accepted as the resolving the letter ballot comments on SES. Ralph Weber seconded the motion. The motion passed 32:0:0:15=47.

As a result of the comments resolution, Ralph Weber requested that the Symbios No vote on the letter ballot be changed to a Yes.

Bob reported on his interaction with the SAF-TE representatives regarding interactions between SES and SAF-TE. He described the planned process by which SAF-TE 2 would be a profile application document relating SES to the SAF-TE environment.

8.23 High Availability Profile (HAP) Technical Report {Project 1224-DT} [Hagerman]

Doug Hagerman reported that copies of the High Availability Profile were distributed at the general SCSI working group (minutes in 96-258). Doug requested that working group time be scheduled in January to discuss issues in the profile and that editing time be scheduled to review editorial issues.

8.24 SCSI Controller Commands - 2 (SCC-2) {Project 1225-D} [Penokie]

George Penokie reported on the SCC-2 working group meeting (minutes in 96-260). The working group has reached consensus on the high-level RAID-set creation command. George requested a SCC-2 working group meeting during the January meeting week.

8.25 Multimedia Command Set - 2 (MMC-2) Status {Project 1228-D} [Roberts]

Ron Roberts reported on the activities of the MMC-2 working group and the joint MMC-2 working group meeting with the SCSI working group (minutes in 96-273 and 96-258). Ron presented a schedule for a total of six MMC-2 working group meetings in the months of January through May 1997.

9. Old Business**9.1 Resolution of Letter Ballot Comments on Forwarding MMC to First Public Review [Roberts]**

Ron Roberts reported that letter ballot comments resolutions were incorporated in MMC revision 8A, distributed in the last committee mailing. Ron moved that MMC revision 9 be accepted as resolving the letter ballot comments and that MMC revision 9 be forward to X3 for further processing toward first public review. Devon Worrell seconded the motion. The motion passed 33:0:0:14=47.

Based on the resolution of the letter ballot comments George Penokie (IBM), Ralph Weber (Symbios), and Norm Harris (Adaptec) requested that their No votes on the letter ballot be changed to Yes.

Ron Roberts took an action item to prepare MMC revision 9. John Lohmeyer took an action item to forward MMC revision 9 to X3 for further processing toward first public review.

9.2 Resolution of Letter Ballot Comments on Forwarding SES to First Public Review [Snively]

Bob Snively reported that this agenda item was acted upon previously in this meeting.

9.3 Resolution of Letter Ballot Comments on Forwarding SPI Amendment #1 to First Public Review [Lamers]

John Lohmeyer noted that a new draft of the SPI Amendment will be in the next mailing. He explained that the committee is proceeding cautiously on this project and asked the committee members, particularly those who are interested in SCAM, to review the new draft carefully.

9.4 Five-year review of X3.146:1986[R1992] Streaming Cartridge and Cassette Tape Drives - Device-level Interface

At the September meeting, the consideration on the motion shown below was postponed until the November meeting. John Lohmeyer reported that QIC has agreed that X3.146:1986[R1992] should be withdrawn. John listed several other conversations the result of which was that there are no objections to withdrawal of X3.146:1986[R1992]. The group discussed the availability of the standards after X3T10 recommends their withdrawal. Concerns were expressed that reference copies of standards need to be available after the standard is withdrawn.

The motion was re-opened: that X3T10 recommend to X3 that X3.146:1986[R1992] be withdrawn. The motion passed 31:0:0:16=47.

John Lohmeyer took an action item to communicate to X3 that X3T10 recommends the withdrawal of ANSI X3.146:1986[R1992].

10. New Business

10.1 Actions on Working Group Recommendations

10.1.1 Accept 96-198r4 for inclusion in SAM-2 and SPC-2 [Johansson]

Peter Johansson presented 96-198r4 to the committee, describing it as the working group accepted proposal based on Jim McGrath's proposal for simplified queuing. He reviewed the details of the proposal. Peter noted that the working group recommended the proposal on a vote of 17:2.

Bob Snively moved that 96-298r4 be accepted for inclusion in SAM-2 and SPC-2. Charles Monia seconded the motion. The motion passed 31:2:3:11=47.

10.1.2 Accept 96-263r0 for inclusion in SPC-2 [Coughlan]

John Lohmeyer described 96-263r0 as describing extensions to persistent reservations. Bob Snively moved that 96-263r0 be accepted for inclusion in SPC-2. Gary Porter seconded the motion. There was a brief discussion of possible effects on SPC, the result of which was that no changes will be made in SPC without public review comments. The motion passed 23:0:0:24=47.

10.1.3 Make REZERO UNIT and SEARCH XXX obsolete in SBC [Milligan]

Gene Milligan described previous activities regarding making the SEEK, REZERO UNIT, and SEARCH DATA XXX commands obsolete in SBC. Gene moved the plenary accept the SCSI working group recommendation that the SEEK(6), REZERO UNIT, and all SEARCH DATA commands be made obsolete in SBC and that a statement be added to the SEEK(10) command that this commands is included for use by MMC and a hint that the use is for pre-fetch. Gary Porter seconded the motion. The motion passed 33:0:0:14=47.

10.1.4 Withdraw Greater Than 8 GB Booting TR [Lohmeyer]

Based on the working group's recommendation, Peter Johansson moved that project 1154-DT, Boot Considerations Technical Report be withdrawn. Ed Gardner seconded the motion. The motion passed 33:0:0:14=47.

John Lohmeyer took an action item to inform X3 that X3T10 recommends withdrawal of 1154-DT, Boot Considerations Technical Report.

10.1.5 Authorize creation of SPC R11 & forwarding to X3 for 2nd PR [Milligan]

Gene Milligan moved that the technical editor be instructed to prepare SPC revision 11 based on the working group resolutions of the public review comments received from DEC and pre-forwarded to X3T10 by IBM and that the chair be authorized to prepare responses to the public review comments and to forward SPC revision 11 to X3 for further processing toward second public review, provided no additional comments are received. Bob Snively seconded the motion. The motion passed 35:0:0:12=47.

Ralph Weber took an action item to prepare SPC revision 11. John Lohmeyer took an action item to forward SPC revision 11 to X3 for further processing toward second public review assuming no other comments are received. John Lohmeyer took an action item to prepare response letters to those organizations submitting public review comments on SPC.

10.1.6 Authorize creation of SBC R7 & issue letter ballot for forwarding to X3 for 1st PR [Milligan]

Gene Milligan moved that X3T10 instruct the editing ad hoc to work with the editor to agree on the edited text for the changes authorized by the plenary along with any other editorial corrections from the ad hoc; instruct the editor to produce a resultant revision 7; and request the chair to conduct a forwarding letter ballot using revision 7. George Penokie seconded the motion. The motion passed 33:0:0:14=47.

10.2 Proposal to amend Project 1155-D (SBP-2) to be command set neutral [Johansson]

Action on this topic was taken earlier in this meeting (see 8.20).

10.3 Project Proposal for SCSI-3 Transport over SBP-2 [Johansson]

Action on this topic was taken earlier in this meeting (see 8.20).

10.4 IEEE RAC Report [Snively]

Bob Snively reported on a meeting of the IEEE Registration Authority Committee held on 23 October 1996 (see 96-276 for Bob's written notes). At that meeting, IEEE approved of X3T10 use of IEEE organization identifiers to create globally unique identifiers. As a result of the IEEE meeting Bob Snively took the following action items: 1) Bob Snively will complete definition of the usage of IEEE organization identifiers in FC-PH. 2) Bob Snively will prepare a tutorial for FC usage of IEEE organization identifiers. 3) Bob Snively will prepare a tutorial for SCSI usage of IEEE organization identifiers. Bob noted that IEEE took an action item to clarify the structure of their web page indexes.

Bob noted that the IEEE web site contains a list of assigned IEEE organization identifiers and is located at <http://stdsbbs.ieee.org/products/oui/ouilst.htm>.

Charles Monia thanked Bob for his work on IEEE identifiers.

10.5 12-Byte Commands in SBC [Milligan]

Gene Milligan moved that the plenary accept the SCSI working group recommendation that the READ(12), SET LIMITS(12), and WRITE(12) command be made applicable to all block devices in SBC. Devon Worrell seconded the motion. The motion passed 38:0:0:9=47.

10.6 READ(6) Mandatory in SBC [Milligan]

Gene Milligan moved that READ(6) be made mandatory in SBC revision 7 along with a statement that even though this command will not accommodate the full capacity of some devices it may be required during the boot process on some systems. George Penokie seconded the motion. The motion 27:6:0:14=47. J.R. Sims of Hewlett Packard provided the following reason for his negative vote: "READ(6) is more appropriate obsolete, which indicates that is desirable for backwards compatibility, but that new implementations not use it. READ(6) just carries forward one extra for yet another generation."

10.7 Mode Page Code 2Ah [Roberts]

Ron Roberts moved that mode page code 2Ah, CD Capabilities and Mechanism Status be made device type specific for all device types in SPC revision 11. John Lohmeyer seconded the motion. The motion 29:3:0:15=47.

11. ISO**11.1 ISO Report [Milligan]**

Gene Milligan, the X3T10 International Representative, provided the following electronic report:

November ISO Report

The letter ballot to fast track of X3.232:1996 SCSI CAM closed 9/16/96 with passing vote of 27:2:0:20.

X3T11 submitted CD drafts for IPI-3 Disk, IPI-3 Tape, HIPPI-FC, HIPPI-Serial, HIPPI-ATM, HIPPI-SC, FC-AL, FC-SB, FC-PH-2, FC-PH-3, FC-GS, & FC-FP. SC 25 has in turn distributed CD ballots with an international closing of 3/31/97 and a TAG closing of 3/7/97 as follows: N324 CD 9318-4 IPI-3 Tape; N325 CD 11518-8 HIPPI ATM; N326 CD 14165-121 FC-AL; N327 CD 14165-221 FC-SB; N328 CD 14165-112 FC PH-2; N329 CD 14165-113 FC-PH-3; N330 CD 14165-211 FC-FP; N331 CD 11518-9 HIPPI-SE; N332 CD 14165-411 FC-GS.

X3T12 submitted a Yes vote with comment CD 9314-20 FDDI PMD-ATS and Yes votes on CD 9314-21 FDDI PHY-ATS; CD 9314-26 FDDI MAC-ATS; and YES on ISO/IEC JTC 1 FDDI SMF-PMD DIS 9314-4.

The IR sent out a reflector message concerning the IEEE letter asking if we wished to be listed for liaison on the IEEE P1596.8 Parallel Connection to SCI & 1394.2. A few responses were received which discussed the project but did not address the liaison question. Consequently the IR decided to take the safe route and accepted the offer to be listed as liaison on this project.

There is an ongoing effort in JTC 1 to re-engineer the organization and their procedures and processes to make the organization more responsive to market needs. Beyond procedures to embrace Publicly Available Specifications, automation and increased use of the Internet facilities, the re-engineering effort has resulted in a proposal from Joel Urman of IBM to reorganize JTC 1 into groups as follows:

Group I: Communications/Networking Services - SC 6; SC 25 WG 3,4; SC 21 WG 4,7; & SC 18 WG 4

Group II: Electronic Commerce Services - SC 30

Group III: Data Management and Portability Services - SC 22 WG 15; SC 17;

Group IV: Standardized Data Structures for Transport of Info. Svs. - SC 11; SC 23

Group V: Data Interchange and Representation Services - SC 2; SC 14; SC 22 WG 20; SC 21 WG 3, 8, 9

Group VI: Data Presentation Services - SC 22 WG 22; SC 18 WG 3, 8, 9

- Group VII: Hardware Technology Services - SC 26; SC 28
- Group VIII: Multimedia Services - SC 24; SC 29 (The committee that won an Emmy for JPEG & MPEG.)
- Group IX: Home Electronic Services - SC 25 WG 1
- Group X: Development Tools and Techniques Services - SC 22 all WG except 15, 20, 22; SC 7
- Special Group on Vocabulary: SC 1
- Special Group on Security: SC 27

If the concept of the business groups were to be implemented our projects, in my opinion overlap into Groups I, VII, and VIII. Since we are more of an enabling activity, it seems to me Group VII would be the most logical home but we have vital interest in the other groups.

An early step in the reengineering was to change the balloting procedures. The changes result in modification to the directives which:

- a) provide for multiple CD ballots culminating in a final SC CD ballot which is the last ballot of no less than four months and 14 days and extendible to six months and fourteen days which allows substantive changes.
- b) changes the DIS ballot of four months to a two month Final DIS (FDIS) ballot on which only up/down votes are allowed. Although no substantive changes can be proposed, it appears minor changes are allowed.
- c) Fast Track ballots remain as a six month six months an allows comments to be addressed by the SC.

The two month FDIS ballot is not congruent with the current US TAG procedures. Consequently changes to the procedures are being proposed. One of the proposals is to use a default ballot rather than a proactive ballot. Comments are solicited.

JT96-0444 96/10/18 summarizes the JTC 1 TAG 1997 Budget and Fees. In 1996 the JTC 1 TAG had an income of \$689K. Downsizing is projected to yield an income of \$226K in 1997. The 1996 expenses were \$824K for a deficit of \$135K. Completion of the automation projects and staff downsizing has resulted in a 1997 expense projection of \$255K for a deficit of \$29K. The reason for the deficit is that the JTC 1 TAG decided not to raise subcommittee fees and also decided to date to limit the JTC 1 TAG fee increase to 18%. The fee change raises the: Producer/Government fee from \$6,715 to \$7,900; User A from \$4,918 to \$5,800; User B from \$1,343 to \$1,600; User Groups & Societies from \$4,029 to \$4,750; Observers from \$2,212 to \$2,600; and SDOs unchanged at \$1,150. Waivers of 1996 fees totaled \$4,029 and \$4,750 is projected for 1997.

The ISO/IEC DIS 14575: Heterogeneous InterConnect (HIC) (low cost, low latency, scaleable, serial interconnect for parallel stuff) JTC 1 ballot has a due date of 01/26/97.

An updated list of international documents is attached to this report.

DOC_NO	ORIG_DATE	DESCRIPTION
SC25N310	96/07/05	Approved Resolutions of 6th SC25 Plenary
X3T11/IR	96/07/06	Transmittal of CD IPI-3 Disk, IPI-4 Tape, HIP PI-FC, HIPPI-Serial, HIPPI-ATM, HIPPI-SC
X3T11/IR	96/07/06	Transmittal of CD FC-AL, FC-SB, FC-PH-2,FC-PH-3, FC-GS, & FC-FP
T159/4N372	96/07/11	Guidelines for Implementation of Vienna Agree
1N4172	96/07/29	Response to N3996 Relationship with Regional Workshops on Open Systems
25N311	96/08/06	Draft Minutes SC 25 London Meeting
IR96020	96/08/15	LB to fast track X3.232:1996 SCSI CAM
IR96014	96/08/27	Editor's report and DIS 9314-6 FDDI SMT Text
IR96015	96/08/27	Editor's report and DIS 9314-7 FDDI PHY-2 Txt
IR96016a	96/08/27	Editor's report and DIS 9314-8 FDDI MAC-2 Txt
IR96016b	96/09/02	Yes vote with comment CD 9314-20 FDDI PMD-ATS
IR96017	96/09/02	Yes vote CD 9314-21 FDDI PHY-ATS
IR96018	96/09/02	Yes vote CD 9314-26 FDDI MAC-ATS
IR96019	96/09/02	Liaison statement to IEC TC 100

IR96021	96/09/19	Editors report and DIS9314-25 FDDI SMT-ATS Te
von Pattay	96/10/10	Request for distribution of DIS 9314-25 FDDI SMT-ATS for 4 month ballot
von Pattay	96/10/11	What happened to von Pattay's comments on CD 9314-13 FDDI CT-PICS
25N336	96/10/15	Resolution of Comments CD 9314-25
IR96022	96/10/18	YES on ISO/IEC JTC 1 FDDI SMF-PMD DIS 9314-4.
IR96023	96/10/18	Acceptance of liaison on IEEE P1596.8 Parallel Connection to SCI & 1394.2
JT96-0444	96/10/18	JTC 1 TAG 1997 Budget and Fees

11.2 Results of Letter Ballot on recommending that X3.232:1996 (CAM) be submitted to ISO/IEC JTC 1 for Fast Track (IR96020) [Milligan]

Gene Milligan reported that CAM Fast Track letter ballot passed 27:2:0:20=49. Gene reported on SCSI Reflector discussions regarding handling the CAM Fast Track and the committee discussed the SCSI Reflector message traffic. Gene Milligan moved that the committee approve the response shown below and that the IR be instructed to process CAM for Fast Track consideration at ISO/IEC JTC 1. Charles Monia seconded the motion. The motion passed 31:2:0:14=47. Ed Gardner offered the following explanation for his negative vote: "The response does not address my comments. Indeed, it describes a compelling rationale for why CAM should not be a standard."

The response voted upon was:

"Thank you for your comments. Although the ballot received 93% approval of those voting the issues you have raised have caused X3T10 to reconsider CAM. X3T10 notes that the nature of CAM is not one for precise interoperability. Rather, it is more of standard which has been successful as an architectural guide which is valuable to the international community. It would be inconsistent for X3T10 to have all of the other SCSI international standards reference CAM and make it available only as a domestic standard.

While the fact that CAM is not a precise point of interoperability is acknowledged, this in itself makes CAM an excellent candidate for the fast track process. This will be the first time we have, with knowledge of the fast track process, attempted to use the fast track process. It will be a valuable experience to guide us with options for processing other international standards in the future."

Gene Milligan took an action item to initiate ISO Fast Track processing of CAM.

11.3 SCSI-2 Corrigenda [Milligan]

Gene Milligan reviewed the history of SCSI-2 revisions, with the help of Larry Lamers. Gene described the error reported by SC25/WG4L3 and the SCSI working group recommended responses. Gene Milligan moved that the IR send a favorable response to the proposed SCSI-2 corrigendum (SC25/WG4L3) with the revisions recommended by the SCSI working group along with the dimensions confirmed by AMP. Charles Monia seconded the motion. The motion passed 33:0:0:14=47.

Gene Milligan took an action item to send a favorable response to the proposed SCSI-2 corrigendum. John Lohmeyer took an action item to add reconsideration of SCSI-2 to the agenda for the next general SCSI working group meeting.

11.4 JTC-1 Reorganization [Milligan]

Gene Milligan lead the committee in a discussion of the proposed JTC-1 reorganization. Larry Lamers moved that X3T10 recommend the establishment of an ISO group on I/O technology. Charles Monia seconded the motion. The motion passed unanimously.

11.5 Tag Ballot [Milligan]

Gene Milligan told the committee that the U.S. will have two months to respond on the final DIS ballots on international standards. He expressed the belief that electronic letter ballots solve the problem. Gene asked the committee to consider the use of "default ballots" (i.e., no negative votes means approval).

Chair's note: The X3 rules (SD-2) apparently reserve the default ballot voting method to X3 only. Also, since a single negative ballot causes the default ballot to fail, default ballots are only useful for non-controversial matters.

12. Liaison Reports

12.1 X3T11 Liaison Report [Cummings]

Roger Cummings, X3T11 Chair, delivered an oral report and provided the following electronic report:

X3T11 met on October 9, 1996 with 114 people in attendance. Cable Design Technologies and Netstar lost membership. Lucent Technologies and Solution Technology were added as a new member organizations, and the existing AT&T membership was renamed NCR. The membership of X3T11 remains at 71 organizations.

Public Reviews ended on September 17, 1996 for the Revised HIPPI-SC (X3.222-199x), HIPPI-ATM (X3.299-199x) and HIPPI Serial (X3.300-199x) projects. No comments were received, but suggestions were received from the ANSI editor on all drafts. All suggestions were reviewed, and responses were discussed.

Rollcall votes "that the changes be accepted by X3T11, and that the new revision be accepted as the final dpANS for the Project with the recommendation that the changes between it and the revision which underwent first Public Review be regarded as non-substantive" were made for five projects with the following results (which all met the 2/3rds rule):

Revised HIPPI-SC, Revision 3.2, Project 818-R, F54-O00-DNV17
HIPPI-ATM, Revision 1.8, Project 1026-D, F46-O00-DNV25
HIPPI Serial, Revision 2.7, Project 1117-D, F54-O00-DNV17
FC-PH-2, Revision 7.4, Project 901-D, F52-O00-DNV19
SBCON, Revision 2.3, Project 1132-D, F51-O01-DNV19

A rollcall vote to forward FC-PH-3 Rev 9.1 for further processing, including and OMC compliance review and a first Public Review, passed with F54-O00-DNV17.

It was reported that HIPPI-FC has been published as X3.283-1996, and that the X3 LB on the reaffirmation of X3.183-1991, HIPPI-PH passed.

Notification was received from OMC of the need to reaffirm six X3T11 standards in 1997. It is intended to make a motion that:

ANSI X3.129-1986[R1992] IPI Physical (IPI-1PH)
ANSI X3.201-1992, IPI Enhanced Physical (EIP-1PH)
ANSI/ISO 9318-2:1992 IPI Device Specific Disk (IPI-2D)

NOT be reaffirmed at the December X3T11 Plenary. For the other three standards, the intent is that:

ANSI/ISO 9318-3:1992 IPI Device Generic Disk (IPI-3D)
ANSI/ISO 9318-4:1992 IPI Device Generic Tape (IPI-3T)

be replaced by the revisions currently being processed, and a project proposal will be introduced for a revision to:

ANSI X3.210-1992, HIPPI Framing Protocol (HIPPI-FP).

A postponed motion on a proposal from the Fibre Channel Loop Community (FCLC), requesting the assignment of a code point to allow them to establish a service to provide unique FC identifiers, was further postponed until the next Plenary by F20-O09-A24-DNV18.

Project proposals were approved for further processing as follows:

FC-AV (Audio-Video), F57-O00-DNV14
 FC-BB (Backbone), F44-O02-DNV25

Both of the above votes met the two-thirds rule.

A major proposal from IBM, Seagate and Adaptec for future loop functionality was introduced, and reviewed in detail at an Ad Hoc following the Plenary. A motion that "the term FC-EL not appear in any X3T11 projects in the next year, and that the sense of this committee be that the term FC-EL not be used in relation to any of the proposals presently under consideration" was approved by F29- O06-A19-DNV19. The major proposal was then renamed "Aaron", in honor of the IBM presenter's new grandson, and with apologies to his maternal grandmother. (In future, proposals to X3T11 will follow the NWS-approved names for Atlantic Basin hurricanes.) A press release on the subject of this proposal was also edited, and the revised version approved by F37-O00-A05-DNV29.

The next meeting of X3T11 is being hosted by hosted by Horst Truustedt of IBM during the week of December 2-6, 1996 at the Embassy Suites Hotel in Bloomington, MN. The rate is \$119 plus tax and group name is X3T11/IBM. The phone number is (612)854-100. The Plenary meeting is on Wednesday, December 4. Interim study and ad hoc meetings are approved for:

FC-SW	10/30-31 Minneapolis, MN
	11/14-15 San Jose, CA
HIPPI	11/6-7 Phoenix, AZ
FC-SL and Loop Futures	11/11-12 San Jose, CA
Jitter Study	11/7-8 Sunnyvale, CA
FC-AV	11/12-13 San Jose, CA

The "FC-SL and Loop Futures" meeting was approved after considerable discussion and many motions and amendments by F20-O19- A03-DNV29.

12.2 X3T13 Liaison Report [Milligan]

Gene Milligan provided the following electronic report:

X3T13 Report

The X3T13 membership now comprises 30 organizations. The ATA-2 final edits have been returned by the ANSI editorial staff for Larry Lamers to check prior to publication.

The X3 letter ballot on ATA-3 closes on December 13, 1996. The OMC compliance review is being done concurrently. The public review results were publicized in a press release PR/96-081. Paul Raikunen was requested to submit a comment on the Digital Equipment ballot regarding the DREQ to DMARQ transition description in the register descriptions. X3T13 has approved a response to the expected X3 letter ballot results by informing X3 that X3T13 accepts the Digital Equipment comment that DMARQ be changed to DMACK in the clause on IO Register Descriptions and that the chair be directed to request at least a press release to inform users that the change was being made.

ATA/ATAPI-4 - Project 1153D rev 7 was accepted as the current working draft. The schedule be adjusted to allow a thorough review pushing out the schedule by two meeting cycles. X3T13 has cut-off new proposals for this project.

X3T13 accepted the proposal, as modified for strong command overlap and queuing of the READ DMA and WRITE DMA register commands along with protocols for tagging, release and service for packet commands.

X3T13 assigned the option pinouts for both unitized connectors SFF TBD & TBD to be incorporated into ATA/ATAPI-4.

A method of Feature Reporting (D96103) was also approved. The plenary passed a motion to prohibit the use of the DEVICE RESET command in register based devices. A New Obsolete Bit was added which indicates inability of an ATAPI device to accept a device reset command while busy. This bit was added to accommodate devices which have implemented ATAPI with ATA protocol chips.

A Security Erase proposal was reviewed and changes are being processed. There have been requests received for functionality not provided by the SCSI-3 function.

The Ultra DMA/33 (D96153r1) proposal for Ultra DMA/33 went through an introductory walk through and a detailed review has been scheduled for the November ad-hoc. Mark Evans reported at the X3T13 meeting that a patent has been applied for regarding the DMA-33 and that Quantum will abide by the ANSI patent policy.

At the moment the X3T13 project Open Issues List comprises support for removable media.

Oak Technology has a patent approved in Europe which has been reported to apply to implementation of the ATAPI portion of the standard. As of the X3T13 meeting we did not know what Oak Technology's position is relative to it's relationship to the standard nor to their position on the ANSI patent policy.

The Enhanced BIOS Disk Drive Technical Report (D1228r1) will be reviewed in detail at the November ad-hoc.

The next plenary meeting of X3T13 will be January 24, 1997 at the Seagate Facility in San Jose, CA, hosted by Seagate.

The plenary authorized the following ad hoc meetings:

Date	Location	Host	Contact
November 13-15, 1996	Irvine, CA	Western Digital	Tom Hanan
January 22-24, 1997 *	San Jose, CA	Seagate	Marc Noblitt

Greater detail about X3T13 activity and documents can be accessed via the web site, <http://www.X3T13.com>; the ftp site [x3t13.dt.wdc.com/x3t13](ftp://x3t13.dt.wdc.com/x3t13); and the reflector, x3t13@dt.wdc.com. Subscriptions to the reflector should be sent to majordomo@dt.wdc.com, with "subscribe x3t13" in the body.

12.3 SFF Industry Group [Allan]

Dal Allan provided the following report:

SFF Committee Report

An SFF Committee meeting was held in Honolulu on October 22 to complement the X3T13 meetings. It was well-attended, with a large number of new faces in attendance.

- Jay Neer summarized the operations of SFF, and the projects which are involved with form factors and connectors.
- Yukinori Okazaki described SFF-8070i, the Removable Rewritable Media command set for ATAPI devices.

- Neil Sugie held a SSWG to cover SFF-8080, the CD-R/E command set for ATAPI devices the previous afternoon. The most obvious change will be in name to CD-R/RW for Rewritable.
- Devon Worrell converted what was to be a presentation into a SSWG. He distributed copies of SFF-8090 for DVD (Digital Video Disk) to be the basis of a new SFF project. SFF-8090 introduces a new approach, which is to make operations independent of the transport mechanism. Capabilities which may exist in the physical interface will be duplicated in the command set.

Beyond SFF-8090 there is a requirement for a single specification which integrates all the ATAPI command sets and describes how all devices react to the same conditions. Microsoft has made known that the baseline for all ATAPI support will be SFF-8020 Rev 3.0. No-one objected to the idea of a project which will remove all references to the ATAPI transport, and reference them to the X3T13 ATA/ATAPI-4 draft.

The November meetings were held in X3T10 week.

SFF-8450 on SCA-2 connectors has been completed, and it was recommended to go to a letter ballot.

One item in SFF-8440 prevents VHDCI from being completed. The proposed footprint of the stacked VHDCI connector is not acceptable to many members. AMP and Berg are to supply drawings to be included in the ballot. If insufficient material is provided, or a decision cannot be made without argument, the stacked connector will be moved to VHDCI-2 so that SFF-8440 can be published. Work on VHDCI-2 will begin immediately, with increasing interest in 40-pin microSCSI and 50-pin for a network application.

Harvey Waltersdorf reported that the 1.8" and 1.3" form factors are now EIA standards, and the power connector is near publication. Initial contact has begun in pursuing the 2-56 jackscrew standardization at IEC that was requested by X3T10.

No new specifications were submitted for consideration as either Information Specifications or Projects in November. SFF-8090 for DVD (Digital Video Disc) was received in October, during the same week as X3T13.

A new project will be started to document the 2mm connector as used on 1.8", 2 1/2", and other drives. Toshiba America and AMP both reported incidents of undue insertion forces which have been initially attributed to a tolerance issue on the pins as documented in the form factor specifications/EIA standards. The project will document both mating interfaces, and may be expanded to include the backend as well.

The SFF Committee has been provided with the copy of a patent granted to Oak Technology in Europe which claims use of a controller on the ATA interface to attach CD ROM devices. A discussion took place over whether SFF should send a letter to the European Patent Office advising the dates of the first public distribution of ATAPI drafts and the members at that time. The issue will be balloted.

12.4 IEEE 1394 [Johansson]

Peter Johansson submitted the following report from current IEEE 1394 standards development activities.

IEEE P1394a Supplement to the Serial Bus Standard

The IEEE approved the Project Authorization Request (PAR) for P1394a September 19, 1996. The scope of the project is as follows:

1. Cables and connectors for a 4-pin variant (from the 6-pin already standardized);
2. Standardization of the PHY/LINK interface, which at present is an informative annex to the existing standard;
3. A connection management protocol, and the necessary CSR facilities, for isochronous data;
4. Performance enhancements to the PHY layer that are interoperable with the existing standard, e.g., a method to shorten the arbitration delay when the last observed Serial Bus activity is an acknowledge packet;
5. An incremental reconfiguration protocol, invoked when a device is connected to or disconnected from Serial Bus, which is designed to limit the circumstances under which a Serial Bus reset is necessary;

6. A technique for Serial Bus topologies that form a physical loop to be resolved into a logical tree structure (required by the existing standard) without user intervention;
7. Minor corrigenda to the existing standard.

The most recent meeting of P1394a was held October 8, 1996 in Redmond, WA.

Most of the technical content of P1394a is already well understood and the work to be accomplished is documentation. Writing assignments were accepted by technical contributors who will forward their work to the Technical Editor for inclusion into the first working draft. A target date of December 15 was agreed to for the draft.

The working group authorized the formation of a High Speed PHY Task Group, chaired by Mike Teener, to study the issue of a plug-compatible 800 Mbps PHY. The task group is to report back to the working group at a later time with recommendations. During the course of the work, periodic liaison reports are expected from the task group chair.

After a lengthy discussion on methods of encapsulating IP protocol over 1394, the working group authorized the formation of a task group to design a way to operate Internet Protocol transport over 1394. The task group should make a proposal for this design to the working group.

Interested parties that wish to follow the activities of the P1394a working group are encouraged to subscribe to the reflector, P1394@Sun.com. Requests to subscribe should be directed to Bob Snively, bob.snively@sun.com. The next meeting of P1394a is expected in January. The date(s) have yet to be determined but will be announced over the aforementioned reflector.

P1394.1 Bridges

Dick Scheel chaired the last meeting of this working group on October 7, 1996 in Redmond, WA.

The discussions were entirely technical and focused upon the addition of additional detail to the existing draft of P1394.1

Interested parties that wish to follow the activities of the P1394a working group are encouraged to subscribe to the reflector, P1394.Bridges@Sun.com. Requests to subscribe should be directed to Bob Snively, bob.snively@sun.com.

P1394.2 Gigabit SCI Extensions

William Van Loo chairs this IEEE working group. Regular task group meetings devoted to technical discussion are held each Thursday at Apple Computer. Contact David James, (408) 974-1321, for details.

Interested parties that wish to follow the activities of the P1394a working group are encouraged to subscribe to the reflector, P1394.2@Sun.com. Requests to subscribe should be directed to Bob Snively, bob.snively@sun.com.

12.5 IEEE P1285 Status

No report was available.

12.6 PCMCIA Report

No report.

Gene Milligan questioned the existence of any host bus adapter development work in PCMCIA.

In the absence of any objections the committee agreed to drop this item from future agenda. John agreed to verify that no relevant development work is in progress before actually removing the agenda item.

12.7 SCSI Trade Association (STA) [Jones/Grantham]

STA Liaison Report 11/07/96 to X3T10 (Louis Grantham, Dallas Semiconductor)

There was STA meeting today, 11/07/96, and future meetings are planned each month during the week of X3T10 and X3T11 meetings. STA will have a SCSI Technology Center at Comdex in the Las Vegas convention center. STA plans to take the Ultra SCSI Seminar to Japan in March of 1997.

Articles are written for each Computer Technology Review issue and other publications on SCSI technologies and applications. The charter as well as the activities and direction of STA will be addressed at the meeting in December.

The STA Technical Liaison Committee met 11/06/96 and received input from X3T10 members. Topics included SCSI terminology, SPI-2 market issues, feedback from the September meeting, and SCSI connectivity. There will be continued effort to increase communications between X3T10 and STA through this forum.

The next meeting with X3T10 will commence at the adjournment of the SCSI-3 Working Group Wednesday January 8 (5 PM) and will adjourn by 7 PM.. An agenda will be distributed on the SCSI reflector.

13. Review of Action Items

- 180) Larry Lamers will prepare revision 2 of the SPI Amendment.
- 181) Roger Cummings will send an email to B. Elliston regarding the proposal for transporting IP over SCSI.
- 182) John Lohmeyer will forward 96-255 to X3 for processing as an amendment for project 1155-D.
- 183) John Lohmeyer will forward 96-256 to X3 for processing toward the creation of a new project.
- 184) Ron Roberts will prepare MMC revision 9.
- 185) John Lohmeyer will forward MMC revision 9 to X3 for further processing toward first public review.
- 186) John Lohmeyer will communicate to X3 that X3T10 recommends the withdrawal of X3.146:1986[R1992].
- 187) John Lohmeyer will inform X3 that X3T10 recommends withdrawal of 1154-DT, Boot Considerations Technical Report.
- 188) Bob Snively will complete definition of the usage of IEEE company identifiers in FC-PH.
- 189) Bob Snively will prepare a tutorial for FC usage of IEEE company identifiers.
- 190) Bob Snively will prepare a tutorial for SCSI usage of IEEE company identifiers.
- 191) Gene Milligan will continue ISO Fast Track processing of CAM.
- 192) Gene Milligan will send a favorable response to the proposed SCSI-2 corrigendum.
- 193) John Lohmeyer will add reconsideration of SCSI-2 based on the corrigendum to the agenda for the next general SCSI working group meeting.
- 194) John Lohmeyer will add a plenary agenda item for a IEEE P1596.8 Liaison Report.
- 195) Gene Milligan editor will generate SBC revision 7.
- 196) John Lohmeyer will conduct a letter ballot on SBC revision 7 for forwarding to first public review.
- 197) Ralph Weber editor will generate SPC revision 11.
- 198) John Lohmeyer will generate response letters to the people who submitted public review comments on SPC revision 11.
- 199) John Lohmeyer will forward SPC revision 11 to X3 for further processing toward second public review assuming no other comments are received.
- 200) Bob Snively will generate SES revision 8.

14. Meeting Schedule

The next plenary meeting of X3T10 will be January 9, 1997, in Dallas, TX at the Omni Dallas Hotel at Park West (972-869-4300), hosted by Quantum Corp. The meeting will begin at 1:00 p.m. on Thursday.

The meeting list for the next plenary week is:

January '97 Meeting Map

Monday 1/6	8	9	10	11	12	1	2	3	4	5	6	7	8	9	
		+-----+													
		SPI-2 Working Group												(20)	
		+-----+													
		SBP-2 Working Group												(25)	
		+-----+													
		Fibre Channel WG												(40)	
		+-----+													
Tuesday 1/7		9	10	11	12	1	2	3	4	5	6	7	8		
		+-----+													
		SCSI-3 WG (EPI topics are Tuesday am)													(40)
		+-----+													
		MMC WG													(20)
		+-----+													
		SCC/RAB WG RAB													(25)
		+-----+													
		SBP-2 Working Group													(25)
		+-----+													
		Fibre Channel WG													(40)
		+-----+													
Wednesday 1/8		9	10	11	12	1	2	3	4	5	6	7	8		
		+-----+													
		SCSI-3 WG STATech													(40)
		+-----+													
		MMC Working Group													(20)
		+-----+													
		SFF SSWGs													(40)
		+-----+													
		RAB													(25)
		+-----+													
Thursday 1/9	8	9	10	11	12	1	2	3	4	5	6	7	8		
		+-----+													
		SFF													(40)
		+-----+													
		X3T10 Plenary Meeting													(70)
		+-----+													
		SSC/SMC WG													(15)
		+-----+													
		STA													(30)
		+-----+													
Friday 1/10	8	9	10	11	12	1	2	3	4	5					
		+-----+													
		HAP/SSC Document Review													(10)
		+-----+													

Meetings marked with == are X3T10-authorized meetings.
 Meetings marked with -- are authorized by other groups and may change without notice.

Meeting Map Abbreviation Key:

Amnd: Amendment
 CAM: Common Access Method
 CAM-3: Next generation CAM for SCSI-3
 Diskboys: Industry group studying disk attachment via IEEE 1394
 EPI: SCSI Enhanced Parallel Interface (Technical Report)
 Fast-20: Synchronous Data Transfer at 20 Megatransfers/second
 FC-AL: Fibre Channel - Arbitrated Loop (an X3T11 project)
 FCLC: Fibre Channel Loop Community (not an X3 activity)
 I/F: Interface
 HAP: High Availability Profile (Technical Report)
 High Avail.: High Availability
 LB: Letter Ballot
 MMC: SCSI-3 Multimedia Commands (CD-ROM)
 PH: Physical (Connectors, Cables, Transceivers, etc.)
 Plenary: Full Committee Meeting
 RAB: RAID Advisory Board (not an X3 activity)
 RAID: Redundant Array of Independent Devices
 SBC: SCSI-3 Block Commands
 SBP: SCSI-3 Serial Bus Protocol
 SCC: SCSI-3 Controller Commands (RAID)
 SCSI: Small Computer System Interface
 SES: SCSI Enclosure Services
 SPC: SCSI-3 Primary Commands
 STA: SCSI Trade Association (not an X3 activity)
 STATech: STA Technical Meeting (X3T10 members invited)
 SFF: SFF Industry Group (not an X3 activity)
 SG: Study Group
 SMC: SCSI-3 Medium Changer Commands
 SPI-2: Second Generation SCSI-3 Parallel Interface
 SSA: Serial Storage Interface
 SSC: SCSI-3 Stream Commands (includes Tape)
 SSWGs: Specific-Subject Working Groups
 VHDCI: Very High Density Cabled Interconnect
 WG: Working Group (same as Ad Hoc Group)
 X3T10: Lower Level Interfaces Technical Committee
 X3T10.1: SSA Task Group of X3T10

Several other X3T10 events are also planned:

Event	Date(s)	Location/contact
SPI-2 Working Group	12/5/96	Bloomington, MN (with X3T11)
SPI-2 Working Group	2/6/97	San Jose, CA (with X3T11)
MMC Working Group	1/30-31/97	Irvine, CA
SBP-2 Working Group	12/9-10/96	San Jose, CA
SBP-2 Working Group	1/20-21/97	San Jose, CA

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	or	
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SIP, SCC	George Penokie	(507) 253-5208 gop@rchvmp3.vnet.ibm.com
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SPC	Ralph Weber	(972) 733-3594 roweber@acm.org
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SSA-S2P & -S3P	John Scheible	(512) 823-8208 Scheible@vnet.ibm.com
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Other Activities	John Lohmeyer	(719) 533-7560 john.lohmeyer@symbios.com

Ron Roberts moved that the November 1998 meeting dates be changed from 11/9-13 to 11/2-6. Charles Monia seconded motion. The motion passed unanimously.

The long-term X3T10 meeting week schedule is:

Date	Location	Host/Comments
Jan 8-12, 1996	Dallas, TX	Quantum
Mar 11-15, 1996	Newport Beach, CA	QLogic
May 6-10, 1996	Ft. Lauderdale, FL	Adaptec
Jul 15-19, 1996	Colorado Springs, CO	Symbios Logic
Sep 9-13, 1996	Natick, MA (near Boston)	Digital
Nov 4- 8, 1996	Palm Springs, CA	Adaptec
Jan 6-10, 1997	Dallas, TX	Quantum
Mar 10-14, 1997	San Diego, CA	QLogic
May 5-9, 1997	Natick, MA (near Boston)	Digital
Jul 14-18, 1997	Colorado Springs, CO	Symbios Logic
Sep 8-12, 1997	Nashua, NH	Unitrode
Nov 3-7, 1997	Palm Springs, CA	Adaptec
1998 dates are firm; locations and hosts are accepted, but tentative		
Jan 5-9, 1998	Dallas, TX	Quantum
Mar 9-13, 1998	San Diego, CA	QLogic
May 4-8, 1998	Colorado Springs, CO	Symbios Logic
Jul 13-17, 1998	Portland, ME	Digital
Sep 14-18, 1998	St. Petersburg Beach, FL	AMP
Nov 2-6, 1998	Palm Springs, CA	Adaptec

14.1 Authorization of Working Group Meetings

John noted that the working group meetings are required to operate under the same voting procedures as does X3T10 (that is, one vote per organization) and the results of a working group are not binding on the parent committee. This later requirement is why we have traditionally only used non-binding straw polls in working group meetings. Any issue where the voting rules would make a difference should be deferred to the plenary group. Nonetheless, task groups and ad hoc groups should strive to achieve consensus prior to bringing issues to X3T10.

Erich Oetting moved that X3T10 authorize the X3T10-related meetings and events in the list above. Ken Hallam seconded the motion. The motion passed unanimously.

15. Adjournment

The meeting was adjourned at 5:44 p.m. on Thursday November 7, 1996.

Meeting Attendees -- Enclosure (1)

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

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Nov 13, 1996 - X3T10 Document Register - Enclosure (3)

X3T10/96-001R0 Date: 11/20/95 Author: J. Lohmeyer [SY-96-01]
Agenda for X3T10 Meeting #14 (Mar '96)

X3T10/96-002R0 Date: 11/20/95 Author: J. Lohmeyer [SY-96-01]
X3T10 Project Summary - January '96

X3T10/96-003R0 Date: 11/20/95 Author: J. Lohmeyer [SY-96-01]
Jeopardy letter for Mar '96 meeting

X3T10/96-004R1 Date: 1/4/96 Author: J. Lohmeyer [SY-96-01]
Summary of Letter Ballot Results on ATA-3 (95-044) and SIP (95-045)

X3T10/96-005R0 Date: 11/20/95 Author: J. Lohmeyer [SY-96-01]
Response to Public Review Comment #1 on SBP

X3T10/96-006R0 Date: 11/20/95 Author: J. Lohmeyer [SY-96-01]
Response to Public Review Comment #2 on SBP

X3T10/96-007R0 Date: 11/29/95 Author: J. David Cabello [SY-96-01]
ltr to John Lohmeyer re Compaq patent position on SMART proposed standard

X3T10/96-008R0 Date: 1/5/96 Author: L. Lamers [SY-96-01]
Letter Ballot forwarding SSA-PH1 to 1PR

X3T10/96-009R0 Date: 1/5/96 Author: L. Lamers [SY-96-01]
Letter Ballot forwarding SSA-TL1 to 1PR

X3T10/96-010R0 Date: 1/5/96 Author: L. Lamers [SY-96-01]
Letter Ballot forwarding SSA-S2P to 1PR

X3T10/96-011R0 Date: 1/10/96 Author: J. Lohmeyer [SY-96-01]
Jeopardy Letter - Letter Ballots

X3T10/96-012R0 Date: 1/17/96 Author: J. Lohmeyer [SY-96-01]
Letter Ballot forwarding SPC to 1PR

X3T10/96-013R0 Date: 1/17/96 Author: J. Lohmeyer [SY-96-01]
ltr to Richard Gibson, Chair ITCC, re IPF

X3T10/96-014R0 Date: 2/2/96 Author: Gene Milligan [SY-96-01]
Letter Ballot on recommended response to NWI N 3862

X3T10/96-015R0 Date: 2/6/96 Author: J. Lohmeyer [SY-96-02]
Agenda for X3T10 Meeting #15 (May '96)

X3T10/96-016R0 Date: 2/6/96 Author: J. Lohmeyer [SY-96-02]
X3T10 Project Summary - March '96

X3T10/96-017R0 Date: 2/6/96 Author: J. Lohmeyer [SY-96-02]
Jeopardy letter for May '96 meeting

X3T10/96-018R1 Date: 2/13/96 Author: J. Lohmeyer [SY-96-02]
Letter Ballot Results on forwarding SSA-PH1 (96-008) & SSA-TL1 (96-009)

X3T10/96-019R0 Date: 2/16/96 Author: J. Lohmeyer [SY-96-02]
Letter Ballot Results on forwarding SSA-S2P (96-010)

X3T10/96-020R1 Date: 3/12/96 Author: J. Lohmeyer [SY-96-02]
Letter Ballot Results on forwarding SPC (96-012)

X3T10/96-021R0 Date: 2/29/96 Author: J. Lohmeyer [SY-96-02]
Letter from R. Gibson, Chair ITCC, re IPF

X3T10/96-022R0 Date: 4/3/96 Author: J. Lohmeyer [SY-96-03]
Agenda for X3T10 Meeting #15 (July '96)

X3T10/96-023R0 Date: 4/3/96 Author: J. Lohmeyer [SY-96-03]
X3T10 Project Summary - May '96

X3T10/96-024R0 Date: 4/3/96 Author: J. Lohmeyer [SY-96-03]
Jeopardy letter for July '96 meeting

X3T10/96-025R0 Date: 4/3/96 Author: J. Lohmeyer [SY-96-03]
X3T10 Annual Report (April 1995 -- March 1996)

X3T10/96-026R0 Date: 5/31/96 Author: J. Lohmeyer [SY-96-04]
Agenda for X3T10 Meeting #16 (Sept '96)

X3T10/96-027R0 Date: 5/31/96 Author: J. Lohmeyer [SY-96-04]
X3T10 Project Summary - July '96

X3T10/96-028R0 Date: 5/31/96 Author: J. Lohmeyer [SY-96-04]
Jeopardy letter for Sept '96 meeting

X3T10/96-029R0 Date: 5/31/96 Author: J. Lohmeyer [SY-96-04]
ltr to Gene Milligan, X3T13 Chair, re X3T13/96-009

X3T10/96-030R0 Date: 7/24/96 Author: J. Lohmeyer [SY-96-04]
Letter Ballot on forwarding MMC to 1PR

X3T10/96-031R0 Date: 7/30/96 Author: J. Lohmeyer [SY-96-05]
Agenda for X3T10 Meeting #17 (Nov '96)

X3T10/96-032R0 Date: 7/30/96 Author: J. Lohmeyer [SY-96-05]
X3T10 Project Summary - Sept '96

X3T10/96-033R0 Date: 7/30/96 Author: J. Lohmeyer [SY-96-05]
Jeopardy letter for Nov '96 meeting

X3T10/96-034R0 Date: 7/30/96 Author: J. Lohmeyer [SY-96-05]
Response to 1PR Comment #1 on SIP (to Ron Silletti, IBM)

X3T10/96-035R0 Date: Author: J. Lohmeyer [SY-96-05]
Letter Ballot Jeopardy Letter - September '96

X3T10/96-036R0 Date: 7/31/96 Author: J. Lohmeyer [SY-96-05]
Letter Ballot on forwarding SES to 1PR

X3T10/96-037R0 Date: 7/31/96 Author: J. Lohmeyer [SY-96-05]
Letter Ballot on forwarding SPI Admendment #1 to 1PR

X3T10/96-038R0 Date: 9/4/96 Author: J. Lohmeyer [SY-96-05]
Results of letter ballots 96-030, 96-036, and 96-037

X3T10/96-039RO Date: 9/18/96 Author: J. Lohmeyer [SY-96-05]
Letter Ballot on eliminating paper mailing option

X3T10/96-040RO Date: 10/29/96 Author: J. Lohmeyer [SY-96-06]
Agenda for X3T10 Meeting #19 (Jan '97)

X3T10/96-041RO Date: 10/29/96 Author: J. Lohmeyer [SY-96-06]
X3T10 Project Summary - Nov '96

X3T10/96-042RO Date: 10/29/96 Author: J. Lohmeyer [SY-96-06]
Jeopardy letter for Jan '97 meeting

X3T10/96-043RO Date: 10/29/96 Author: J. Lohmeyer [SY-96-06]
Letter Ballot Jeopardy Letter - November '96

X3T10/96-044RO Date: 10/29/96 Author: J. Lohmeyer [SY-96-06]
Results of X3T10/96-039 Letter Ballot

X3T10/96-101RO Date: 12/14/95 Author: R. Roberts [SY-96-01]
Minutes of MMC Working Group - 12/95

X3T10/96-102RO Date: 12/16/95 Author: J. Lohmeyer [SY-96-01]
Minutes of SPI-2 Working Group - 12/95

X3T10/96-103RO Date: 12/16/95 Author: W. Bridgewater [SY-96-01]
Proposed Change for Setup Time Budget

X3T10/96-104RO Date: 12/16/95 Author: J. McGrath [SY-96-01]
Request for full SCSI support with LVDS

X3T10/96-105RO Date: 12/16/95 Author: J. McGrath [SY-96-01]
Request for SPI (Fast-40/LVDS) Stabilization

X3T10/96-106RO Date: 1/4/96 Author: J. Lohmeyer [SY-96-01]
Minutes of SPI-2 Working Group - 1/96

X3T10/96-107RO Date: 1/4/96 Author: J. Lohmeyer [SY-96-01]
Minutes of EPI Working Group - 1/96

X3T10/96-108RO Date: 1/4/96 Author: J. Lohmeyer [SY-96-01]
Minutes of SCSI Working Group - 01/96

X3T10/96-109RO Date: 1/4/96 Author: R. Roberts [SY-96-01]
Minutes of MMC Working Group - 1/96

X3T10/96-110RO Date: 1/4/96 Author: Weber/Lohmeyer [SY-96-01]
Minutes of X3T10 Plenary Meeting #13 - 1/96

X3T10/96-111RO Date: 1/5/96 Author: J. Emard [SY-96-01]
X3T10 Actions Regarding ANSI/ITCC IPF Payments and X3 TC Membership

X3T10/96-112RO Date: 1/9/96 Author: J. McGrath [SY-96-01]
SIP and Command Queuing

X3T10/96-113RO Date: 1/9/96 Author: G. Penokie [SY-96-01]
Minutes of SCC Working group - 1/96

X3T10/96-114R1 Date: 1/10/96 Author: T. Lappin [SY-96-01]

Granularity of Block Size for Tape

X3T10/96-115R0 Date: 1/10/96 Author: T. Lappin [SY-96-01]
Minutes of SMC/SSC Working Group - 1/95

X3T10/96-116R0 Date: 1/10/96 Author: K. Hallam [SY-96-01]
Clarification of WRITE BUFFER

X3T10/96-117R0 Date: 1/11/96 Author: P. Kornitski [SY-96-01]
Invoice for ATA-2 Pre-edit

X3T10/96-118R1 Date: 1/11/96 Author: Johansson/Lamers/Lohmeyer
[SY-96-01]
Project Proposal for SPI Amendment

X3T10/96-119R0 Date: 1/11/96 Author: D. Allan [SY-96-01]
ANSI International Participation Fee Levy

X3T10/96-120R0 Date: 1/11/96 Author: G. Penokie [SY-96-01]
Resolution of Comments on SIP

X3T10/96-121R0 Date: 1/23/96 Author: G. Houlder [SY-96-01]
Addition of software write protect to Mode Page Ah

X3T10/96-121R2 Date: 3/15/96 Author: G. Houlder [SY-96-02]
Addition of software write protect to Mode Page Ah

X3T10/96-122R0 Date: 1/23/96 Author: Lohmeyer/Ham [SY-96-01]
Minutes of SPI-2 Working Group - 2/96

X3T10/96-123R0 Date: 1/30/96 Author: K. Gingerich [SY-96-01]
LVD SCSI Models

X3T10/96-124R0 Date: 1/30/96 Author: K. Gingerich [SY-96-01]
LVD SCSI Driver/Receiver Specifications

X3T10/96-125R0 Date: 1/30/96 Author: Paul Aloisi [SY-96-01]
Additional Termination Issue

X3T10/96-126R0 Date: 1/30/96 Author: D. Uber [SY-96-01]
Active Negation to Release Issues

X3T10/96-127R0 Date: 2/1/96 Author: B. Ham [SY-96-01]
LVD SCSI Signals

X3T10/96-128R0 Date: 2/2/96 Author: X3 Secretariat [SY-96-01]
Proposa for NWI-SCSI Specifications for Optical Memory Card Reader/Writer

X3T10/96-129R0 Date: 1/9/96 Author: W. Bridgewater [SY-96-01]
Voltage Driven Outputs

X3T10/96-130R0 Date: 2/6/96 Author: Johansson/Lamers [SY-96-01]
Ammendment to SPI

X3T10/96-131R0 Date: 2/15/96 Author: J. Scheible [SY-96-02]
SSA-PH1 Letter Ballot Comment Resolution

X3T10/96-132R0 Date: 2/15/96 Author: J. Scheible [SY-96-02]
SSA-TL1 Letter Ballot Comment Resolution

X3T10/96-133R0 Date: 2/15/96 Author: J. Scheible [SY-96-02]
SSA-S2P Letter Ballot Comment Resolution

X3T10/96-134R0 Date: 3/7/96 Author: Weber/Ham/Lohmeyer [SY-96-02]
Minutes of SPI-2 Working Group - 3/96

X3T10/96-135R0 Date: 3/7/96 Author: Weber/Ham/Lohmeyer [SY-96-02]
Minutes of EPI Working Group - 3/96

X3T10/96-136R1 Date: 3/7/96 Author: Weber/Lamers/Lohmeyer [SY-96-02]
Minutes of SCSI Working Group - 03/96

X3T10/96-137R0 Date: 4/16/96 Author: P. Kornitsky [sy-96-03]
Quotation on Technical Report for > 8GB

X3T10/96-138R0 Date: 4/16/96 Author: T. Heinzmann [SY-96-03]
Quotation on SPI ISO Version

X3T10/96-139R1 Date: 3/7/96 Author: Weber/Lohmeyer [SY-96-02]
Minutes of X3T10 Plenary Meeting #14 - 3/96

X3T10/96-140R0 Date: 3/8/96 Author: G. Penokie [SY-96-02]
Clarification of sleep mode

X3T10/96-140R1 Date: 4/23/96 Author: G. Penokie []
Clarification of sleep mode

X3T10/96-140R2 Date: 5/8/96 Author: G. Penokie [sy-96-03]
Clarification of sleep mode

X3T10/96-140R3 Date: 7/15/96 Author: G. Penokie [sy-96-04]
Clarification of sleep mode

X3T10/96-141R0 Date: 3/11/96 Author: []
not used

X3T10/96-142R0 Date: 3/12/96 Author: G. Penokie [SY-96-02]
Minutes of SCC Working Group - 3/96

X3T10/96-143R0 Date: 3/12/96 Author: G. Houlder [SY-96-02]
Clarification of Set Capacity Feature

X3T10/96-144R0 Date: 3/12/96 Author: G. Houlder [SY-96-02]
Comment on SPI Error

X3T10/96-145R0 Date: 3/12/96 Author: R. Moore [SY-96-02]
LVD SCSI Assertion and Negation Currents

X3T10/96-146R1 Date: 3/13/96 Author: R. Snively [SY-96-02]
Project Proposal for Enclosure Services Interface (ESI) Standard

X3T10/96-147R0 Date: 3/13/96 Author: C. Burns [SY-96-02]
Question on use of SEL during SCAM

X3T10/96-148R0 Date: 3/13/96 Author: R. Weber [SY-96-02]
Comment Resolution on SPC X3T10 Letter Ballot

X3T10/96-148R3 Date: 7/15/96 Author: R. Weber [SY-96-04]
Comment Resolution on SPC X3T10 Letter Ballot

X3T10/96-149R0 Date: 3/14/96 Author: E. Oetting [SY-96-02]
Minutes of SMC/SSC Working Group - 2/96

X3T10/96-150R1 Date: 3/14/96 Author: B. Ham [SY-96-02]
LVD Test Results

X3T10/96-151R1 Date: 3/14/96 Author: D. Hagerman [SY-96-02]
Project Proposal for High Availability Profile Technical Report

X3T10/96-152R0 Date: 3/21/96 Author: Lohmeyer/Penokie [SY-96-03]
Project Proposal for SCC-2 Standard

X3T10/96-153R0 Date: 3/21/96 Author: R. Roberts [SY-96-02]
Minutes of MMC Working Group - 3/96

X3T10/96-154R0 Date: 3/25/96 Author: K. Gingerich [SY-96-02]
SCSI LVD Model

X3T10/96-155R0 Date: 4/9/96 Author: K. Hallam [SY-96-03]
Log Page 0Ch

X3T10/96-156R0 Date: 4/22/96 Author: D. Hagerman [SY-96-03]
Tape Support on FC-AL

X3T10/96-157R0 Date: 4/22/96 Author: Lamers/Lohmeyer [SY-96-03]
Minutes of SPI-2 Working Group - 4/96

X3T10/96-158R0 Date: 4/22/96 Author: J. Lohmeyer [SY-96-03]
Release Glitches

X3T10/96-159R0 Date: 4/22/96 Author: B. Ham [SY-96-03]
LVD Fast 40 REQ/ACK Test Results with Symmetrical Drivers and Terminators

X3T10/96-160R0 Date: 4/22/96 Author: S. Krakirian [SY-96-03]
Presentation on LVD glitch windows

X3T10/96-161R0 Date: 4/22/96 Author: R. Moore [SY-96-03]
LVD Driver Proposal

X3T10/96-162R0 Date: 4/24/96 Author: G. Penokie []
Clarification of when parity is valid (SPI-2).

X3T10/96-162R1 Date: 4/24/96 Author: G. Penokie [SY-96-03]
Clarification of when parity is valid (SPI-2).

X3T10/96-163R0 Date: 6/4/96 Author: J. Lohmeyer [sy-96-04]
Proposed Outline for SPI-2

X3T10/96-164R0 Date: 5/6/96 Author: G. Penokie [SY-96-03]
SCC-2 Proposals

X3T10/96-164R2 Date: 7/17/96 Author: G. Penokie [SY-96-04]
SCC-2 Proposals

X3T10/96-165R1 Date: 5/6/96 Author: G. Penokie [SY-96-03]

Minutes of SCC Working Group - 5/96

X3T10/96-166R1 Date: 5/6/96 Author: Lohmeyer/Ham [SY-96-03]
Minutes of SPI-2 Working Group - 5/96

X3T10/96-167R1 Date: 5/7/96 Author: Weber/Lohmeyer [SY-96-03]
Minutes of SCSI Working Group - 05/96

X3T10/96-168R0 Date: 5/7/96 Author: Weber/Lohmeyer [SY-96-03]
Minutes of X3T10 Plenary Meeting #15 - 5/96

X3T10/96-169R0 Date: 5/7/96 Author: C. Monia [SY-96-03]
Proposed Changes for SAM-2

X3T10/96-169R1 Date: 9/8/96 Author: C. Monia [SY-96-05]
Proposed Changes for SAM-2

X3T10/96-170R0 Date: 5/7/96 Author: P. Johanson [SY-96-03]
Simple Task Management

X3T10/96-171R0 Date: 5/7/96 Author: G. Houlder [SY-96-03]
Change Action for Zero in programmable Capacity Feature

X3T10/96-172R0 Date: 5/7/96 Author: G. Penokie [SY-96-03]
Fairness Algorithm

X3T10/96-173R0 Date: 5/8/96 Author: C. Monia [SY-96-03]
Expanding the ACA Mechanism to All Command Exceptions

X3T10/96-174R0 Date: 5/9/96 Author: T. Lappin [SY-96-03]
Minutes of SMC/SSC Working Group - 5/96

X3T10/96-175R0 Date: 5/9/96 Author: B. Ham [SY-96-06]
Proposal for LVD SCSI Physical Interface

X3T10/96-176R0 Date: 5/9/96 Author: B. Ham [SY-96-06]
Proposal for VHDCI and SCA Connectors

X3T10/96-177R0 Date: 5/9/96 Author: B. Dallas [SY-96-03]
Minutes of CAM-3 Working Group - 5/96

X3T10/96-178R0 Date: 5/9/96 Author: G. Stephens [SY-96-03]
SSC - SET CAPACITY Command

X3T10/96-179R0 Date: 5/9/96 Author: G. Stephens [SY-96-03]
Additional Write Protect functions for SCC

X3T10/96-180R0 Date: 5/9/96 Author: G. Stephens [SY-96-03]
SSC READ REVERSE command byte order selection

X3T10/96-181R0 Date: 5/9/96 Author: G. Stephens [SY-96-03]
SSC Progress Indication Using REQUEST SENSE Polling

X3T10/96-182R0 Date: 5/9/96 Author: G. Stephens [SY-96-03]
SPC Test Unit Ready and Deferred Error Reporting

X3T10/96-183R0 Date: 5/9/96 Author: G. Stephens [SY-96-03]
SBC Mandatory Commands and the PLDA Profile

X3T10/96-184R0 Date: 5/9/96 Author: R. Roberts [SY-96-03]
Minutes of MMC Working Group - 5/96

X3T10/96-185R0 Date: 5/9/96 Author: R. Roberts [SY-96-04]
Project Proposal for MMC-2 Standard

X3T10/96-186R0 Date: 5/9/96 Author: Weber/Lohmeyer [SY-96-03]
Security Initialization Proposal for SBC

X3T10/96-186R1 Date: 7/17/96 Author: Weber/Lohmeyer [SY-96-04]
Security Initialization Proposal for SBC

X3T10/96-187R0 Date: 6/4/96 Author: B. Ham [SY-96-04]
Voltage Mode and Slew Rate Test Data

X3T10/96-188R0 Date: 6/4/96 Author: J. Lohmeyer [SY-96-06]
Project Proposal for a SUPR standard

X3T10/96-189R0 Date: 6/6/96 Author: Lamers/Lohmeyer [SY-96-04]
MInutes of SPI-2 Working Group - 6/96

X3T10/96-190R0 Date: 6/6/96 Author: K. Gingerich [SY-96-06]
Changes to SPI-2 draft for HVD

X3T10/96-191R0 Date: 6/22/96 Author: C. Monia [SY-96-04]
Proposed Notational Conventions for SCSI Layered Protocol Documents

X3T10/96-192R0 Date: 6/22/96 Author: C. Monia [SY-96-04]
Request for Firmware Boot/restart ASC/ASCQ

X3T10/96-193R0 Date: 6/25/96 Author: R. Roberts [SY-96-04]
Minutes of MMC Working Group - 6/96

X3T10/96-194R0 Date: 7/8/96 Author: G. Houlder [SY-96-04]
Add Immediate bit to XPWRITE and XDWRITE Extended commands

X3T10/96-195R0 Date: 7/8/96 Author: G. Houlder [SY-96-04]
Add mode page for Fibre Channel features

X3T10/96-196R1 Date: 7/10/96 Author: G. Penokie [SY-96-04]
Simplification of SACL configuration

X3T10/96-197R0 Date: 7/12/96 Author: G. Frazier [SY-96-04]
proposal for a new set of SES elements to support parallel SCSI bus extenders

X3T10/96-198R1 Date: 7/15/96 Author: P. Johansson [SY-96-04]
New Task Management Models for SAM

X3T10/96-198R3 Date: 9/11/96 Author: P. Johansson [sy-96-05]
New Task Management Models for SAM

X3T10/96-199R0 Date: 7/15/96 Author: B. Hager [SY-96-04]
Proposed Normative Reference Structure (clause 2) and Guidelines for Use

X3T10/96-200R0 Date: 7/15/96 Author: B. Ham [SY-96-04]
LVD SCSI Current Mode Dirver Data Fast 80

X3T10/96-201R0 Date: 7/15/96 Author: Weber/Lohmeyer [SY-96-04]
Minutes of SPI-2/EPI Working Group - 7/96

X3T10/96-202R1 Date: 7/15/96 Author: Weber/Lohmeyer [SY-96-04]
Minutes of SCSI Working Group - 07/96

X3T10/96-203R0 Date: 7/15/96 Author: Weber/Lohmeyer [SY-96-04]
Minutes of X3T10 Plenary Meeting #16 - 7/96

X3T10/96-204R0 Date: 7/15/96 Author: Weber/Dallas [SY-96-04]
Minutes of the Serial Issues Study Group - 7/96

X3T10/96-205R1 Date: 7/16/96 Author: A. Stone [SY-96-04]
Proposal for SCSI Tape Devices clauses of FC-PLDA

X3T10/96-206R0 Date: 7/16/96 Author: G. Penokie [SY-96-04]
Minutes of SCC-2 Study Group - 7/96

X3T10/96-207R0 Date: 5/3/96 Author: SC 25 Secretariat [SY-96-04]
CD Comments on SPI

X3T10/96-208R0 Date: 5/3/96 Author: SC 25 Secretariat [SY-96-04]
CD Comments on SBP

X3T10/96-209R0 Date: 5/3/96 Author: SC 25 Secretariat [SY-96-04]
CD Comments on Fast-20

X3T10/96-210R0 Date: 5/3/96 Author: SC 25 Secretariat [SY-96-04]
CD Comments on SAM

X3T10/96-211R0 Date: 5/3/96 Author: SC 25 Secretariat [SY-96-04]
CD Comments on SCC

X3T10/96-212R0 Date: 7/11/96 Author: C. Monia [SY-96-04]
SCSI-2 Questions

X3T10/96-213R0 Date: 7/17/96 Author: P. Johannson []
Presentation on SBP-2

X3T10/96-213R1 Date: 7/17/96 Author: P. Johannson [sy-96-04]
Presentation on SBP-2

X3T10/96-214R0 Date: 7/17/96 Author: R. DeKoning [SY-96-04]
Extensions to Identifier Descriptor

X3T10/96-215R0 Date: 7/18/96 Author: P. Kornitsky [SY-96-04]
Invoice for 8GB Technical Report

X3T10/96-216R0 Date: 7/18/96 Author: P. Kornitsky [SY-96-04]
Quote on SBP table conversion

X3T10/96-217R0 Date: 7/18/96 Author: P. Kornitsky [SY-96-04]
Invoice on SBP table conversion

X3T10/96-218R0 Date: 7/18/96 Author: T. Heinzman [SY-96-04]
Paritial Invoice on SPI ISO

X3T10/96-219R0 Date: 7/18/96 Author: E. Oetting [SY-96-04]

Minutes of SMC/SSC Working Group - 7/96

X3T10/96-220R0 Date: 7/18/96 Author: L. Grantham [SY-96-04]
Proposal for LVD Icons

X3T10/96-221R0 Date: 7/18/96 Author: G. Stephens [SY-96-04]
Proposal for ammended project proposal for 1142

X3T10/96-222R1 Date: 8/13/96 Author: G. Milligan [sy-96-05]
Terminator Issues

X3T10/96-223R0 Date: 7/22/96 Author: S. Schmalz [SY-96-04]
Dependence of Differential and Common Mode Impedance on Parasitic Capacitances
and Freq

X3T10/96-224R0 Date: 7/22/96 Author: G.Penokie [SY-96-04]
Comments on SPI Ammendment

X3T10/96-225R0 Date: 9/6/96 Author: R. Weber [SY-96-05]
Project Proposal for SPC-2 Standard

X3T10/96-226R1 Date: 8/14/96 Author: J. Lohmeyer [SY-96-05]
Proposed corrections and clarifications to SPI-2 regarding Release Glitches

X3T10/96-227R0 Date: 8/8/96 Author: J. Lohmeyer [SY-96-05]
Minutes of SPI-2 Working Group - 8/96

X3T10/96-228R0 Date: 9/4/96 Author: G. Penokie [SY-96-05]
More Simplification of SCAL Configuration

X3T10/96-229R0 Date: 9/6/96 Author: G. Penokie [SY-96-05]
Case for mandatory Read(6)

X3T10/96-230R0 Date: 9/6/96 Author: G. Penokie [SY-96-05]
Commands required by SCSI-2 and optional in SCSI-3

X3T10/96-231R0 Date: 9/6/96 Author: Richard Hovey [SY-96-05]
X3 OMC Copy Protection ad hoc group - Convener's Report

X3T10/96-232R1 Date: 9/6/96 Author: Ham/Weber/Lohmeyer [SY-96-05]
Minutes of SPI-2 Working Group - Sept 9, 1996

X3T10/96-233R0 Date: 9/6/96 Author: T. Coughlan [SY-96-05]
Proposal for Additional Persistent Reservation Functions

X3T10/96-234R0 Date: 9/6/96 Author: Weber/Lamers/Lohmeyer [SY-96-05]
Minutes of SCSI Working Group - 09/96

X3T10/96-235R1 Date: 9/6/96 Author: Weber/Lamers/Lohmeyer [SY-96-05]
Minutes of X3T10 Plenary Meeting #17 - 9/96

X3T10/96-236R0 Date: 9/11/96 Author: C. Monia [SY-96-06]
Proposed Resolution to ISO Comments on SAM

X3T10/96-237R1 Date: 9/11/96 Author: G. Milligan [SY-96-05]
Obsolete Field Checking

X3T10/96-238R0 Date: 9/11/96 Author: P. Johansson [SY-96-05]
Enhanced Configuration ROM for SBP-2 Devices

X3T10/96-239R0 Date: 9/11/96 Author: G. Penokie [SY-96-05]
Editors Comments on SCC (ISO)

X3T10/96-240R1 Date: 9/11/96 Author: G. Stephens [SY-96-05]
Link Event Timeout and the PLDA profile

X3T10/96-241R1 Date: 9/12/96 Author: G. Penokie [SY-96-05]
Example of Normative Reference under new Guidelines

X3T10/96-242R1 Date: 9/11/96 Author: C. Monia [SY-96-05]
Editors Report: Proposed Responses to ISO Review Comments on SAM

X3T10/96-243R0 Date: 9/12/96 Author: Roberts/Reisch [SY-96-05]
Minutes of MMC Working Group - 9/96

X3T10/96-244R0 Date: 9/12/96 Author: E. Oetting [SY-96-06]
Minutes of SMC/SSC Working Group - 9/96

X3T10/96-245R0 Date: 9/12/96 Author: D. Wallace [SY-96-06]
SPI-2 Termination

X3T10/96-246R0 Date: 9/12/96 Author: R. Roberts [SY-96-05]
Normative Reference Clause for SBP

X3T10/96-247R0 Date: 9/12/96 Author: [SY-96-06]

X3T10/96-248R0 Date: 9/12/96 Author: G. Penokie [SY-96-05]
Minutes of SCC Study Group - 9/10/96

X3T10/96-249R0 Date: 9/18/96 Author: R. Snively [SY-96-06]
Ballot Review Comments on SES

X3T10/96-250R0 Date: 9/20/96 Author: R. Roberts [SY-96-05]
Comment resolution on MMC

X3T10/96-251R0 Date: 10/10/96 Author: P. Aloisi [SY-96-06]
SE Termination Suggestions

X3T10/96-252R0 Date: 10/10/96 Author: B. Ham [SY-96-06]
Suggested Glitch Wording

X3T10/96-253R0 Date: 10/15/96 Author: J. Lohmeyer [SY-96-06]
Minutes of SPI-2 Working Group - 10/96

X3T10/96-254R0 Date: 10/28/96 Author: G. Alvey [SY-96-06]
Autosense Message Proposal

X3T10/96-255R0 Date: 10/29/96 Author: P. Johansson [SY-96-06]
Project Proposal revision - SBP-2

X3T10/96-256R0 Date: 10/29/96 Author: P. Johansson [SY-96-06]
Project Proposal - New

X3T10/96-257R0 Date: 11/4/96 Author: Weber/Lohmeyer [SY-96-06]
Minutes of SPI-2 Working Group - 11/96

X3T10/96-258R0 Date: 11/4/96 Author: Weber/Lohmeyer [SY-96-06]
Minutes of SCSI Working Group - 11/96

X3T10/96-259R0 Date: 11/4/96 Author: Weber/Lohmeyer [SY-96-06]
Minutes of X3T10 Plenary Meeting #18 - 11/96

X3T10/96-260R0 Date: 11/5/96 Author: G. Penokie [SY-96-06]
Minutes of SCC Working Group - 11/96

X3T10/96-261R0 Date: 11/5/96 Author: D. Wallace [SY-96-06]
Universal Backplane

X3T10/96-262R0 Date: 11/5/96 Author: C. Monia [SY-96-06]
Public Review Comments on SPC

X3T10/96-263R0 Date: 11/5/96 Author: T. Coughlan [SY-96-06]
Proposal for an Additional Persistent Reservation Type

X3T10/96-264R0 Date: 11/6/96 Author: R. Basham [SY-96-06]
New Mode of Operation for Sequential Devices with Access to Medium Changer
Functions

X3T10/96-265R0 Date: 11/6/96 Author: R. Basham [SY-96-06]
SSC Partition Change Control

X3T10/96-266R0 Date: 11/6/96 Author: R. Basham [SY-96-06]
Prevent Allow Setting Outstanding

X3T10/96-267R0 Date: 11/6/96 Author: R. Basham [SY-96-06]
Read Element Status and Reservation Conflicts

X3T10/96-268R0 Date: 11/6/96 Author: G. Penokie [SY-96-06]
Proposal to reword TTD

X3T10/96-269R0 Date: 11/7/96 Author: M. Mori [SY-96-06]
Copy of London 3 errata on SCSI-2 (9316:1995)

X3T10/96-270R0 Date: 11/7/96 Author: G. Penokie [SY-96-06]
LUN response to transceiver change

X3T10/96-271R0 Date: 11/7/96 Author: D. Cressman [SY-96-06]
Tape Error Recovery Model

X3T10/96-272R0 Date: 11/7/96 Author: D. Cressman [SY-96-06]
Tape FC Error Detection

X3T10/96-273R0 Date: 11/7/96 Author: R. Reisch [SY-96-06]
Minutes of MMC Working Group - 11/96