Accredited Standards Committee*

National Committee for Information Technology Standards (NCITS)

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Reply to: John Lohmeyer

To: Membership of T10

From: Ralph Weber, Secretary T10

John Lohmeyer, Chair T10

Subject: Minutes of T10 Plenary Meeting #23

Nashua, NH -- September 11, 1997

Agenda

- 1. Opening Remarks
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 - 8.6 SCSI-3 Primary Commands (SPC) Status {Project 995-D} [Weber]
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 - 8.8 SCSI-3 Stream Commands (SSC) Status (Project 997-D) [Stephens]
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 - 8.10 Multimedia Command Set (MMC) Status (Project 1048-D) [Roberts]
 - 8.11 SCSI Parallel Interface 2 (SPI-2) {Project 1142-D} [Ham/Penokie]
 - 8.12 SCSI Enhanced Parallel Interface (EPI) Technical Report (Project 1143-D) [Ham]
 - 8.13 SCSI Fibre Channel Protocol 2 (FCP-2) {Project 1144-D} [Snively]
 - 8.14 Serial Bus Protocol 2 (SBP-2) {Project 1155-D} [Johansson]
 - 8.15 SCSI Architecture Model 2 (SAM-2) {Project 1157-D} [Monia]
 - 8.16 SCSI-3 Enclosure Commands (SES) {Project 1212-D} [Snively]
 - 8.17 High Availability Profile (HAP) Technical Report (Project 1224-DT) [Hagerman]
 - 8.18 SCSI Controller Commands 2 (SCC-2) {Project 1225-D} [Penokie]
 - 8.19 Multimedia Command Set 2 (MMC-2) Status (Project 1228-D) [Roberts]
 - 8.20 SCSI Primary Commands 2 (SPC-2) Status {Project 1236-D} [Weber]
 - 8.21 SCSI-3 Transport via SBP-2 Status (STS) {Project 1240-D} [Johansson]
 - 8.22 SCSI Socket/SSL Services Command Set (SSS) {Project 1246-D} [Parker]

- 9. Old Business
 - 9.1 Resolution of SSC Letter Ballot Comments (97-020r1) [Stephens]
 - 9.2 Project Proposal for SBP-2 Device Attachment (97-162r2) [McLean]
 - 9.3 Approval of Contract Editor Quote and Invoice [Lamers]
- 10. New Business
 - 10.1 Results of Letter Ballots on Forwarding SCC-2 (97-029) [Lohmeyer]
 - 10.2 Results of Letter Ballots on Forwarding SMC (97-028) [Lohmeyer]
 - 10.3 Actions on Working Group Recommendations
 - 10.3.1 Accept Terminator Current Differences Between SCSI-2 and SPI/Fast-20 for SPI-2 (97-236r1) [Aloisi]
 - 10.3.2 Accept Addressing Model for SAM-2 and SPC-2 (97-122r4) [Penokie]
 - 10.3.3 Accept Persistent Reservations Corrections for SPC-2 (97-218r2) [Snively]
 - 10.3.4 Accept Persistent Reservation with Non-Unique Keys for SPC-2 (97-246r1) [Coughlan]
 - 10.3.5 Accept SCCS Capabilities Bit in SPC-2 (97-234r1) [Weber]
 - 10.3.6 Accept 97-219r1 (REPORT LUNS Commands Requirements) for SAM-2 and SPC-2 [Oetting]
 - 10.4 Changes/additions to stabilized portions of SBP-2 (97-226r2 & 97-232r0) [Johansson]
- 11. ISO
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 - 12.6 IEEE P1285 Status
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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 T10 Chair, called the meeting to order at 1:32 p.m., Thursday September 11, 1997. He thanked Paul Aloisi and Unitrode Corp. for arranging and hosting the meeting. He complemented Paul on the quality of the refreshments during the week.

John said that NCITS Subgroup Membership forms and the T10 Mailing Subscription form were available from Larry Lamers or himself at the head table. He said that people should use the NCITS forms to insure the NCITS Secretariat has the latest membership information. These forms should be mailed directly to the NCITS 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 T10 were made available to those attending.

2. Approval of Agenda

The draft agenda was approved with the following additions/changes:

- 10.1 Results of Letter Ballots on Forwarding SCC-2 (97-029) [Lohmeyer]
- 10.2 Results of Letter Ballots on Forwarding SMC (97-028) [Lohmeyer]
- 10.3 Actions on Working Group Recommendations
- 10.3.1 Accept Terminator Current Differences Between SCSI-2 and SPI/Fast-20 for SPI-2 (97-236r1) [Aloisi]
- 10.3.2 Accept Addressing Model for SAM-2 and SPC-2 (97-122r4) [Penokie]
- 10.3.3 Accept Persistent Reservations Corrections for SPC-2 (97-218r2) [Snively]
- 10.3.4 Accept Persistent Reservation with Non-Unique Keys for SPC-2 (97-246r1) [Coughlan]
- 10.3.5 Accept SCCS Capabilities Bit in SPC-2 (97-234r1) [Weber]
- 10.3.6 Accept 97-219r1 (REPORT LUNS Commands Requirements) for SAM-2 and SPC-2 [Oetting]
- 10.4 Changes/additions to stabilized portions of SBP-2 (97-226r2 & 97-232r0) [Johansson]

No agenda items were added during the course of the meeting.

3. Attendance and Membership

The membership requirements were reviewed. NCITS 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 T10. The individual may vote at the second plenary meeting. Working group meetings do not count toward attendance requirements.

Organizations must also pay the NCITS 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 6 people from 3 organizations informing them that their membership was in jeopardy due to non-attendance (see 97-025r0) and that their membership would be terminated if they did not attend this meeting. The organizations in jeopardy were Distributed Processing Technology, Harting Electronik, and Hitachi Micro Systems.

All of the organizations were present except:

Hitachi Micro Systems

They were terminated due to lack of attendance (i.e., the principal member was changed to observer status and the first alternate member, if any, was dropped). In this particular case, the alternate member, Paul Boulay, was retained as an observer and the principal member, Nedi Nadershahi, was dropped since Mr. Nadershahi has apparently left the organization as his email is bouncing consistently.

The T10 membership during the meeting was 53 organizations. After the meeting was over, lomega requested to be reinstated. Thus the T10 membership following the meeting was 54 organizations, the same as last time. Enclosure (1) is the list of the people present at the meeting and enclosure (2) is the current T10 membership list.

4. Approval of Minutes - July Meeting Colorado Springs, CO (T10/97-212r0)

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 September 18, 1997. 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 T10 meets its document archiving requirements by including the NCITS 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 T10/95-147 contains the list of requirements for submissions. Document T10/95-361r0 contains instructions for expeditious delivery of documents to Larry.

The electronic copies can be sent directly to Larry by email (at ljlamers@ix.netcom.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 ljlamers@ix.netcom.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), the T10 World Wide Web page (see below), and will be distributed to the T10 Reflector.

To be added to the T10 Reflector, send an email to majordomo@symbios.com with the line 'subscribe t10' in the message body. The NCITS Secretariat maintains a World Wide Web page at http://www.ncits.org/. Symbios Logic maintains a World Wide Web page on behalf of T10 at http://www.symbios.com/t10/.

The current document register is enclosure (3). The T10 document register is also available on the SCSI BBS in file DR.TXT and at ftp://ftp.symbios.com/pub/standards/io/t10/dr.txt.

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.ncits.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.

George Penokie recounted his attempts to get a patent statement from IBM regarding patents that might be applicable to SCC-2. He expects to get a similar statement to the one on SCC. He noted that he is continuing his efforts in this matter.

7. Review of Old Action Items

- 228) Larry Lamers will incorporate the pre-edit comments into SPI Amendment #1. Carryover
- 229) John Lohmeyer will forwarded the revised SPI Amendment #1 to NCITS for management review. *Carryover*
- 230) John Lohmeyer will forward the revised SES to NCITS for management review. Carryover
- 231) Larry Lamers (via professional editor) will prepare SES for forwarding to NCITS for management review. *Carryover*
- 232) Erich Oetting will prepare SMC revision 8 for the committee mailing and T10 letter ballot. Complete
- 233) John Lohmeyer will conduct a T10 letter ballot to approve forwarding SMC revision 8 to first public review. *Complete*

- 234) George Penokie will prepare SCC-2 revision 3 for the committee mailing and T10 letter ballot. Complete
- John Lohmeyer will conduct a T10 letter ballot to approve forwarding SCC-2 revision 3 to first public review. *Complete*
- John Lohmeyer will report to NCITS the T10 recommendation that T10.1 be disbanded and its projects be assigned to T10. *Complete*
- John Lohmeyer will contact the NCITS secretariat to authorize payment of the RDSGraphics invoice in the amount of \$3,139.25. *Complete*
- 238) Larry Lamers will check Fast-20 for inclusion of the ISO comments. Carryover
- 239) Gene Milligan will communicate the T10 endorsement of the SC 25 (Buzios/US) 35 recommendation regarding the JTC 1 re-engineering to the JTC 1 TAG. *Carryover*
- 240) Gene Milligan will communicate the T10 endorsement of his personal recommendations on JTC 1 N 4787 and JTC 1 N 4785 to the JTC 1 TAG. *Carryover*
- 241) Bob Snively will contact the chair of P1596.8 to establish an appropriate liaison. Carryover
- 242) Ralph Weber will consult with Harvey Rosenfeld about updating World Wide Web references in Annexes B and C of SPC prior to final ANSI publication. *Complete*
- John Lohmeyer will include discussion of making the REPORT LUNS command mandatory on the agenda of the combined SCSI/MMC working group meeting in September. *Complete*

8. Subgroup and/or Project Status Reports

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

John Lohmeyer said that the current T10 project status summary was included in the T10 Information Packages and will be included in the mailing as usual. John also announced that since the last meeting, he had been reappointed Chair of the T10 Technical Committee until July 1, 2000. The new policy is that the Chair appoints the Vice Chair. The Chair has always appointed the Secretary. John appointed Larry Lamers as Vice-Chair and Ralph Weber as Secretary of T10.

8.2 T10.1 Task Group Report [Lohmeyer]

John Lohmeyer reported that the T10.1 task group is in the process of being disbanded.

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

The amendment is awaiting editing work by Larry Lamers.

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

Bill Dallas reported that revision 3 of CAM-3 will be available by the time of the next meeting. Bill expressed a belief that CAM-3 will be ready for forwarding after the March 1998 meeting.

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

Questions were raised about whether SBP has been formally withdrawn. Once that issue is resolve, it was agreed that this item should be dropped from the agenda.

Chair's note: The NCITS letter ballot on recommending that SBP should be withdrawn passed. The NCITS Secretariat will communicate the recommendation to ANSI for BSR approval. I expect BSR to complete this action by early November.

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

Ralph Weber presented 97-253r0, a review of the editorial changes made to SPC by ANSI during final publication. Concerns were raised about the change in the definition of 'command standard'. Although correct,

the wording chosen by ANSI did not have the nuance desired by the committee. Superior wording was proposed for SPC-2.

8.7 SCSI-3 Block Commands (SBC) Status (Project 996-D) [Milligan]

John Lohmeyer reported that the NCITS letter ballot regarding first public review of SBC closes around October 20th.

8.8 SCSI-3 Stream Commands (SSC) Status (Project 997-D) [Stephens]

Erich Oetting reported on the SSC activities of the SSC/SMC working group (minutes in 97-248). Since Gary Stephens was not present, work on letter ballots comments resolution was deferred until November.

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

Erich Oetting reported on the SMC activities of the SSC/SMC working group (minutes in 97-248) and noted that SMC should be ready for forwarding to NCITS shortly after this meeting. (See agenda item 10.2.)

8.10 Multimedia Command Set (MMC) Status (Project 1048-D) [Roberts]

Ron Roberts reported on the working group's actions on two editorial comments relative to MMC (minutes in 97-254).

8.11 SCSI Parallel Interface - 2 (SPI-2) {Project 1142-D} [Penokie]

George Penokie reported that SPI-2 revision 15 is ready for the next committee mailing. He requested an editing meeting in October and additional review time during the November meeting week. He stated his belief that SPI-2 will be ready for T10 letter ballot after the November meeting. This view was contested by Larry Lamers and others, but George remained firm in his conviction.

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

Larry Lamers reported that Bill Ham is working on adding information about LUN bridges to EPI and plans to have a revision of the document in the next committee mailing.

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

Bob Snively reported that an outline of the new content in FCP-2 will be ready for the November meeting. George Penokie asked Bob to contact him regarding flaws in FCP that should be corrected in FCP-2.

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

Peter Johansson gave an oral report to the committee and provided the following electronic report for the minutes:

Since the July T10 plenary in Colorado Springs, CO, the SBP-2 ad hoc working group has met twice, July 22 in San Jose, CA and August 19 in Longmont, CO. Most of the time was spent on review of the draft and discussions about SPC-2 requirements and a new SCSI device type. There was also discussion of STS (see 8.21 below).

The working group recommended that 97-226r2, "SBP-2 Management ORB Time-outs", and 97-232r0, "Configuration ROM at Power Reset", be taken to the Nashua plenary for approval.

The following meeting schedule was agreed:

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September 8 - 9 (Nashua, NH) Working group during T10 week
October 7 (Irvine, CA) Working group
November 3 - 4 (Palm Springs, CA) Working group during T10 week
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Comment on SBP-2 isochronous is solicited from other segments of the industry, such as consumer electronics. The working group believes that existing isochronous features are adequate for disks but that extensions are needed for other targets.

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

Charles Monia reported that SAM-2 has not changed since the May meeting. He stated plans to include the hierarchical addressing model and multi-initiator discussion in a new draft that will be available for internal editorial review by the November meeting. John Lohmeyer and Charles discussed possible future meeting schedules that might support Charles' plans.

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

Bob Snively reported that the professional editor has demonstrated no progress on preparing SES. Alternatives were discussed for getting the editing work completed in a timely fashion.

8.17 High Availability Profile (HAP) Technical Report (Project 1224-DT) [Hagerman]

Doug Hagerman reported the SCSI working group reviewed some changes in HAP. Doug stated his intention to have HAP ready for a T10 letter ballot toward first public review following the November meeting.

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

George Penokie reported that the T10 letter ballot closed and he is working on a comments resolution document. The letter ballot results can be found in 97-029 and the vote tally was 50:1:0:3. George noted that the revised SCC-2 would not be complete in time for the mailing but that will be available in time for consideration at the November meeting.

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

Ron Roberts reported that the NDA covering Mt. Fuji II has been lifted, which allows that work to be incorporated in MMC-2. He indicated that the necessary editing work has been initiated. He said that a review meeting is scheduled for October 6 and 7 in Longmont, CO.

8.20 SCSI Primary Commands - 2 (SPC-2) Status (Project 1236-D) [Weber]

Ralph Weber reported that a first draft of SPC-2 would be in the next committee mailing.

8.21 SCSI-3 Transport *via* SBP-2 Status (STS) {Project 1240-D} [Johansson]

Peter Johansson gave an oral report to the committee and provided the following electronic report for the minutes:

The SBP-2 ad hoc unanimously agreed to re-integrate STS with the SBP-2 draft in the form of two annexes, one normative and the other informative. No formal review of these annexes is scheduled until SBP-2 is balloted for first public review. The editor welcomes informal review at pjohansson@aol.com.

The working group additionally proposes to re-cycle the STS project number for a new project intended to profile the requirements for attachment of certain types of device to Serial Bus *via* SBP-2.

8.22 SCSI Socket/SSL Services Command Set (SSS) {Project 1246-D} [Parker]

In the absence of Keith Parker, no report was available.

9. Old Business

9.1 Resolution of SSC Letter Ballot Comments (97-020r1) [Stephens]

In the absence of Gary Stephens, action on this item was deferred to the November mailing.

9.2 Project Proposal for SBP-2 Device Attachment (97-162r2) [McLean]

Pete McLean described the history behind the proposal for a new command set document. The group discussed and approved of structuring the document much like the MMC-2 document structure. The group agreed on changing the name to Reduced Block Commands (RBC), and other changes to the scope description for the proposed project.

Skip Jones moved that 97-162r3 (97-162r2 as revised at the meeting) be forwarded to NCITS for further processing. Mark Evans seconded the motion. The motion passed 30:0:0:23=53.

Pete McLean took an action item to prepare 97-162r3 for forwarding to NCITS. John Lohmeyer took an action item to forward 97-162r3 (the Reduced Block Commands project proposal) to NCITS for further processing.

9.3 Approval of Contract Editor Quote and Invoice [Lamers]

Since no quotation was received by the time of the meeting, action on this item was deferred to the November meeting.

10. New Business

10.1 Results of Letter Ballots on Forwarding SCC-2 (97-029) [Lohmeyer]

John Lohmeyer reported on the letter ballot results for forwarding SCC-2 to NCITS for first public review. The letter ballot results can be found in 97-031r0. George Penokie asked the resolution of the letter ballot comments be deferred to the November meeting.

10.2 Results of Letter Ballots on Forwarding SMC (97-028) [Lohmeyer]

John Lohmeyer reported on the letter ballot results for forwarding SMC to NCITS for first public review. The letter ballot results can be found in 97-030r0. Erich Oetting reported on the comments resolution, details of which can be found in 97-247.

Erich Oetting moved that T10 accept 97-247r1 as resolving the letter ballot comments on SMC, that SMC revision 10 be accepted as incorporating the resolution to the letter ballot comments, and that T10 approve forwarding SMC revision 10 to NCITS for processing toward first public review. Mark Evans seconded the motion. The motion passed 29:0:0:24=53.

Erich Oetting took an action item to prepare SMC revision 10 for forwarding to NCITS. John Lohmeyer took an action item to forward SMC revision 10 to NCITS for processing toward first public review.

10.3 Actions on Working Group Recommendations

10.3.1 Accept Terminator Current Differences Between SCSI-2 and SPI/Fast-20 for SPI-2 (97-236r1) [Aloisi]

Paul Aloisi described a problem with terminator definitions in SPI-2.

Paul Aloisi moved that page 4 of 97-236r1 be approved for inclusion in the stabilized portion of SPI-2. George Penokie seconded the motion. Paul noted the working group unanimously recommended this change to SPI-2. The motion passed 30:0:0:23=53.

10.3.2 Accept Addressing Model for SAM-2 and SPC-2 (97-122r4) [Penokie]

After a brief review of the proposal, George Penokie moved that 97-122r4 be approved for inclusion in SAM-2 and SPC-2. Mark Evans seconded the motion. George noted that the working group recommended the additions to SAM-2 and SPC-2 on a vote of 14 to 1. The motion passed 30:1:0:22=53

10.3.3 Accept Persistent Reservations Corrections for SPC-2 (97-218r2) [Snively]

After a brief review of the proposal, Bob Snively moved that 97-218r2 be approved for inclusion in SPC-2. Mark Evans seconded the motion. Bob noted that the working group unanimously recommended including the proposal in SPC-2. The motion passed unanimously.

10.3.4 Accept Persistent Reservation with Non-Unique Keys for SPC-2 (97-246r2) [Coughlan]

In the absence of Tom Coughlan, Charles Monia presented the proposal and described the revisions made by the working group. Charles Monia moved that 97-246r2 be accepted for inclusion in SPC-2. Mark Evans seconded the motion. The motion passed unanimously.

10.3.5 Accept SCCS Capabilities Bit in SPC-2 (97-234r1) [Weber]

After a brief discussion of the proposal, Ralph Weber moved that 97-234r1 be accepted for inclusion in SPC-2. Mark Evans seconded the motion. Bob Snively noted that additional work might be necessary after the inclusion is accomplished. The motion passed unanimously.

10.3.6 Accept 97-219r1 (REPORT LUNS Commands Requirements) for SAM-2 and SPC-2 [Oetting]

After a brief discussion of the proposal, Erich Oetting moved 97-219r1 be accepted for inclusion in SAM-2 and SPC-2. Mark Evans seconded the motion. The motion passed unanimously.

10.4 Changes/additions to stabilized portions of SBP-2 (97-226r2 & 97-232r0) [Johansson]

Peter Johansson described the proposed changes that the SBP-2 working group unanimously recommended for inclusion in the stabilized portions of SBP-2.

Peter Johansson moved that the recommendations in 97-226r2, "SBP-2 Management ORB Time-outs", and 97-232r0, "Configuration ROM at Power Reset", be accepted as modifications to stabilized parts of SBP-2 and that the changes themselves be stabilized. Mark Evans seconded the motion. The motion passed 27:0:0:26=53.

10.5 Clarification of Web Distribution of Standards (Draft or Approved) [Lohmeyer]

John Lohmeyer described a new NCITS web publication policy, as distributed around the end of August (T10/97-255 and IT/97-0355). He specifically mentioned the electronic protection requirements and copyright requirements in the publication policy. John described his concerns with the new policy.

The almost immediate reaction to John's review of the policy was several calls to withdraw from NCITS. Additional concerns were raised about involving corporate legal departments in every editing and document drafting process, for the purpose of releasing copyrights. Peter Johansson noted that the policy would restrict the distribution of draft standards and reduce the quality of the review of draft standards and the quality of the resultant standards.

After the group discussed the situation briefly, John asked the companies that who have members on NCITS to contact their corporate NCITS representatives to communicate these concerns.

Since John and Larry Lamers were going to the NCITS Secretariat the following day for officer training, John requested that no formal T10 actions be taken at this time. He hoped to gain a better understanding of the reasons the policy had been issued.

Chair's note: On Friday, Kate McMillan explained that the policy had been issued because there were some instances of documents being misrepresented (probably unintentionally); in some cases draft standards were represented as standards and in some cases approved standards were represented as draft standards. There were also concerns that TCs were not being careful about protecting copyrights of other organizations, such as ANSI and ISO. These practices create a legal exposure for NCITS.

After reviewing the policies on the T10 web site, Kate agreed that T10 could continue to post *draft* standards, without password protection, so long as we are careful to include the appropriate copyright statement and to represent the correct status of the draft standards. (We have not posted approved standards on the T10 sites.)

11. ISO

11.1 ISO Report [Milligan]

Gene Milligan was unable to attend this meeting but provided the following written report, which was read to the committee by Ralph Weber.

T10 to date has not made enough progress on the conversion from EIA to IEC component and test requirements in physical standards.

11.2 ISO Business [Milligan]

In the absence of the IR, ISO business was deferred to the November meeting.

12. Liaison Reports

12.1 T11 Liaison Report [Cummings]

Roger Cummings, T11 Chair provided the following electronic report, which was presented to the committee by John Lohmeyer.

Tll met on August 7, 1997 with 92 people in attendance. Cable Design Technologies (CDT), Hewlett Packard Canada, and US Conec lost membership. G2 Networks, Molex and Sony Electronics were added as new member organizations. The membership of Tll is now 83 organizations.

It was announced that projects had been approved for:

- a) Scheduled Transfers (previously called HIPPI Scheduled Transfers (HIPPI-ST) (Project 1245-D)
- b) HIPPI-6400-OPT (subsequently assigned Project 1249-D)

The results of Public Reviews were announced as follows:

- a) The recommendations to withdraw X3.186[R1992], X3.201-1992, A/I 9318-2:1992 closed on 7/8/97, with no comments received (NCITS Letter Ballots now closed 8/25/97);
- b) The first Public Review of NCITS TR-19:199x, FC-PLDA, closed on 7/22/97 with comments from Bob Kembel and Matt Wakeley;
- c) The first Public Review of NCITS TR-20:199x, FC-FLA closed on 7/22/97 with comments from Jeff Stai.

It was reported that expedited NCITS Letter Ballots on the formation of TGs T11.1 and T11.2 closed on 6/30/97 with 19-0-0-7. Also, that the Letter Ballot on HIPPI-MP Withdrawal had passed and the project is withdrawn.

The organizational meeting of Task Group T11.1 (HIPPI) took place on August 6 with a membership of 10 organizations. A recommendation from T11.1 to request withdrawal of Project 1163-D (HIPPI-AC) was approved by a roll call vote of F50-000-DNV33.

The organizational meeting of Task Group T11.2 (Physical Variants) took place on August 5-6, with a membership of 35 organizations. T11.2 recommended Clause 7 of FC-PH-3 as being ready for further processing.

T11 Letter Ballots were approved for FC-PH Amendment #2 and FC-AL-2.

On the basis of an extended period with no activity, and lack of editor due to a job change, a motion to request withdrawal of Project 1239-D (FC-SB Revised) was approved by a rollcall vote of F45-O00-DNV38.

Six project proposals were presented in line with earlier plans to restructure the FC-PH and FC-AL documents. While the structure of these proposals was generally approved, approval of the proposals did not proceed because of a lack of editorial commitment. Editors are solicited for these proposals, and details of their scope (and a cheat sheet allocating existing document sections to the new documents), and be found on the T11 web page @ www.dpt.com/t11.

Three other project proposals, for Loop (FCL), Hub Architecture (FC-HA) & Hub Physical Definition (FC-HPD), were presented, and will be considered at the next meeting.

The Call for a T11 International Representative closed on 7/31/97 with no response. A second Call has been issued, closing on 10/31/97.

The next meeting of T11 is being held during the week of October 6, 1997 at the Doubletree Hotel at Randolph Park, 445 South Alvernon Way, Tucson, AZ 85711. The telephone number is (520)881-4200 or (800)528-0444; fax (520) 323-5225. The group name is the American National Standards Institute Group. The cutoff date for reservations is September 5, 1997, and the room rate is \$110 single/\$120 double/ Executive level \$15 more. Rates include a full breakfast buffet. The host contact is Gary Stephens of FSI, (520) 321-1725; fax (520)321-1326, or Bob Kembel of Connectivity Solutions, (520)881-0877; fax (520)881-0632. Note that the TC T11 Plenary meeting will take place on THURSDAY, August 7.

Interim study and ad hoc meetings have been approved for:

HIPPI 9/9-11 Mountain View, CA FCL Study Group 9/8&9 Nashua, NH

as well as the usual meetings during the T11 Plenary week.

12.2 T13 Liaison Report [Milligan]

In the absence of Gene Milligan, Pete McLean gave an extemporaneous report. ATA-3 currently is at ANSI, going to publication. The enhanced BIOS document has gone to letter ballot toward first public review. The letter ballot closed on 10 September. Likewise, the Tailgate document had a letter ballot that closed on 10 September. The ATA-4 letter ballot will close on 29 September. Because of all the letter ballot activity, the September meeting has been canceled and the next meeting will be 22 to 24 October in Maui, HI.

12.3 SFF Industry Group [Allan]

Dal Allan provided the following written report, which was read to the committee by Ralph Weber.

The specification for VHDCI was approved for publication with editorial corrections to two figures.

The ballots to change the prefix on information specifications to INF passed.

There was a close result that approved SDX as project SFF-8610.

A new project for the SG connector will be in the next mailing. If approved, the emphasis on connectors will move to optical with HSS DB9, Mini_MT and SG (3M Volition a.k.a. Galaxy).

The 80-conductor ATA cable was discussed at length because of a different pinout used by AMP for the assembly. Both pinouts will be defined and the connector bodies will be marked as Odd Ground and Even Ground conductor allocations so that cables are not assembled with a mix of types.

The SCA-2 connector is expected to be balloted in the next mailing.

The next revision of GBIC (Gigabit Interface Converter) is 4.3.

The committee instructed Ralph to make minor typographical corrections to the report.

12.4 IEEE 1394 [Johansson]

Peter Johansson gave an oral report to the committee and provided the following electronic report::

P1394a continues to meet monthly. The October goal for IEEE balloting may be revised at the next meeting in Natick, MA, on Thursday and Friday, September 25 - 26. There is a pending motion to remove the section on the alternate cable and connector, a 4-pin variant sometimes referred to as the AV connector. A significant item of new work, suspend / resume, has attracted considerable interest. If brought within the scope of the document the P1394a schedule is likely to be delayed. Other technical material within the draft continues to be reviewed and a small number of open issues remain.

The most recent revision, P1394a Draft 1.00, is available in PDF from the FTP site. This draft reflects the current scope of P1394a but does not include suspend / resume.

1394 cable power, both its distribution and management, continues to be an engaging problem. Some of the power management work may affect P1394a and some has spun off into a separate power management working group under the aegis of the 1394 Trade Association. The reflector is list@p1394pm.org and it is automated a la Majordomo.

Documents available at the FTP site, ftp://
ftp.symbios.com/pub/standards/io/1394/P1394a. For reflector announcements,
P1394@Sun.com; subscribe by sending a message to Bob.Snively@Sun.com.
P1394b is also meeting monthly and has a new Chair, David Wooten. Two P1394b task
forces are active in the investigation of long-distance (greater than 4.5 meters)
cables, one focused on low-cost, low-speed solutions (e.g., UTP-5 or POF in a home
environment) and the other focused on low-cost, high-speed solutions. The goals of
these task groups may in fact converge.

For reflector announcements, P1394b@FireflyInc.com; subscribe by automated Majordomo services at listserve@FireflyInc.com.

P1394.1 (bridges) is making slow progress; the likely cause is lack of resources because all of the individuals are also heavily involved in the other 1394 standards activities. For reflector announcements, P1394-Bridges@Sun.com; subscribe by sending a message to Bob.Snively@Sun.com. The FTP site is ftp://ftp.symbios.com/pub/standards/io/1394/P1394.1.

12.5 Copy Protection Technical Working Group (CPTWG) [Worrell]

No report was available.

12.6 IEEE P1285 Status

No report was available.

12.7 IEEE P1596.8 Status

Bob Snively had no report.

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

Skip Jones reported on the STA Technical meeting, at which a concept tentatively called SCSI Harbor was discussed. Skip described SCSI Harbor as the packaging around a disk (or other storage device) for its use and installation in servers. Many companies have proprietary [wrappers | canisters | sleds]. This effort would focus on defining a standard packaging method. The goals are to define a standard canister that would address mechanical, electrical, cooling, shock, and vibration issues. The committee found Skip's presentation interesting.

Skip mentioned a tentative meeting on SCSI Harbor October 15th in Denver. Details will be announced.

Issues with connector naming also were discussed; e.g. the VHDCI connector is being called the SCSI-4 connector by some vendors. STA needs to provide guidance on naming issues to avoid market confusion.

13. Review of Action Items

- 228) Larry Lamers will incorporate the pre-edit comments into SPI Amendment #1.
- 229) John Lohmeyer will forwarded the revised SPI Amendment #1 to NCITS for management review.
- 230) John Lohmeyer will forward the revised SES to NCITS for management review.
- 231) Larry Lamers (via professional editor) will prepare SES for forwarding to NCITS for management review.
- 238) Larry Lamers will check Fast-20 for inclusion of the ISO comments.
- 239) Gene Milligan will communicate the T10 endorsement of the SC 25 (Buzios/US) 35 recommendation regarding the JTC 1 re-engineering to the JTC 1 TAG.
- 240) Gene Milligan will communicate the T10 endorsement of his personal recommendations on JTC 1 N 4787 and JTC 1 N 4785 to the JTC 1 TAG.
- 241) Bob Snively will contact the chair of P1596.8 to establish an appropriate liaison.
- 244) Pete McLean will prepare 97-162r3 for forwarding to NCITS.
- John Lohmeyer will forward 97-162r3 (the Reduced Block Commands project proposal) to NCITS for further processing.
- 246) Erich Oetting will prepare SMC revision 10 for forwarding to NCITS.
- 247) John Lohmeyer will forward SMC revision 10 to NCITS for processing toward first public review.

14. Meeting Schedule

The next plenary meeting of T10 will be November 6, 1997 in Palm Springs, CA at the Hyatt Regency Suites (619-322-9000), hosted by Adaptec. The meeting will begin at 1:30 p.m. on Thursday.

The meeting list for the next plenary week is:

November '97 Meeting Map (9/15/97 Version)

Monday 11/3	9 10 11 12 1 2 3 4 5 6 7 8 9	
	+======+ +=====++ Fast-xx SG	(30)
	SBP-2 WG +=======++	(25)
	Fibre Channel WG	(40)
Tuesday 11/4	9 10 11 12 1 2 3 4 5 6 7 8 9	
	+======+	(40)
	+======+==++==++==++ MMC WG	(15)
	SBP-2 WG	(25)
	Fibre Channel WG FC Hub Profile	(40/25)
Wednesday 11/5	9 10 11 12 1 2 3 4 5 6 7 8	
	+======+ SCSI WG /Encl Profile	(40)
	+======++==++ MMC WG	(15)
	+======+==++ SFF SSWGs	(40)
Thursday 11/6	9 10 11 12 1 2 3 4 5 6 7 8	
	++ +==========+ STA Tech T10 Plenary Meeting	(25/70)
	+=======+=++++========+ SSC/SMC WG	(25)
Friday 11/7 8	9 10 11 12 1 2 3 4 5	
+ -	SCSI Trade Association (STA)	(30)

Meetings marked with == are T10-authorized meetings. Meetings marked with -- are authorized by other groups and may change without notice.

Meeting	Date	Location / Contact
SBP-2 WG MMC-2 WG SPI-2 Edit	Oct 7 (Tue) Oct 6-7 (Mon-Tue) Oct 14 (Tue)	Irvine / SSI Longmont / Philips Colorado Springs / Symbios Logic

Meeting Map Abbreviation Key: Amendment Amnd: Common Access Method CAM: CAM-3: Next generation CAM for SCSI-3 Diskboys: Industry group studying disk attachment via IEEE 1394 SCSI Enhanced Parallel Interface (Technical Report) EPT: Encl Profile Enclosure Profile Study Group Fast-20: Data Transfer at 20 Mega-transfers/second (a.k.a., Ultra) Fast-40: Data Transfer at 40 Mega-transfers/second (a.k.a., Ultra2) Fibre Channel FC-AL: Fibre Channel - Arbitrated Loop (a Tl1 project) Fibre Channel Loop Community (not an NCITS activity) FCLC: High Availability Profile (Technical Report) HAP: LB: Letter Ballot MMC: SCSI-3 Multimedia Commands (CD-ROM) Physical (Connectors, Cables, Transceivers, etc.) PH: Plenary: Full Committee Meeting RAID: Redundant Array of Independent Devices SBC: SCSI-3 Block Commands Serial Bus Protocol for IEEE 1394 (2nd generation) SBP-2: SCC: SCSI-3 Controller Commands (RAID) Small Computer System Interface SCSI: SCSI Enclosure Services SES: SFF Industry Group (not an NCITS activity) SFF: SFF ATA: SFF ATA Cabling SSWG (not an NCITS activity) SG: Study Group SMC: SCSI-3 Medium Changer Commands SPC: SCSI-3 Primary Commands SPI-2: Second Generation SCSI-3 Parallel Interface SSA: Serial Storage Interface SCSI-3 Stream Commands (includes Tape) SSC: SSWGs: Specific-Subject Working Groups SCSI Trade Association (not an NCITS activity) STA: STA Tech: STA Technical Meeting (T10 members invited) STS: SCSI Transport via SBP-2 T10: Lower Level Interfaces Technical Committee T10.1: SSA Task Group of T10 VHDCI Very High Density Cabled Interconnect Working Group (same as Ad Hoc Group)

The committee discussed moving the plenary meeting to Thursday morning. A straw poll favored moving the plenary to Thursday morning in March 1998 24:3:8. A straw poll regarding moving the plenary to Thursday morning in November 1997 was more ambiguous at 10:8. John agreed to develop a draft meeting map for a Thursday morning plenary (beginning at the March 1998 meeting) to present at the November meeting, but stated that the November plenary will start at 1:30 pm (as is the current practice).

For more information about T10 activities, please contact the following people:

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_		dallas@wasted.enet.dec.com
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GPP & SSC	Gary Stephens	(602) 321-1725
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HAP	Doug Hagerman	(508) 841-2145
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SBC	Gene Milligan	(405) 324-3070
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SBP, MMC, MMC-2		Ron Roberts	(916) 677-5714
SBP-2 & STS		Pete McLean	rkroberts@aol.com (303) 678-2149
C	or	Peter Johansson	, ,
SIP, SCC, SCC-2		George Penokie	pjohansson@aol.com (507) 253-5208
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SSA-S2P & -S3P		John Scheible	ljlamers@aol.com (512) 823-8208
SSS		Keith Parker	Scheible@vnet.ibm.com (503) 255-1035
Other Activities		John Lohmeyer	diogenes@europa.com (719) 533-7560
		- 1	john.lohmeyer@symbios.com

The long-term T10 meeting week schedule is:

Date	Location	Host/Comments
Jan 6-10, 1997 Mar 10-14, 1997	•	Quantum OLogic
May 5-9, 1997	Natick, MA (near Boston)	~ 3
Jul 14-18, 1997		_
Sep 8-12, 1997	Nashua, NH	Unitrode
Nov 3-7, 1997	Palm Springs, CA	Adaptec
Jan 5-9, 1998		meeting canceled
Mar 16-20, 1998	San Diego, CA	QLogic /dates changed
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/dates changed
Jan 11-15, 1999		meeting canceled
Mar 8-12, 1999	Sarasota, FL	AMP
May 3-7, 1999	Manchester, NH	Hitachi Cable
Jul 12-16, 1999	Colorado Springs, CO	Symbios Logic
Sep 13-17, 1999	San Diego, CA	QLogic
Nov 8-12, 1999	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 T10 (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 T10.

Erich Oetting moved that T10 authorize the T10-related meetings and events in the list above. Mark Evans seconded the motion. In the absence of any objections, the motion passed unanimously.

15. Adjournment

The meeting was adjourned at 5:15 p.m. on Thursday September 11, 1997.

Meeting Attendees -- Enclosure (1)

	Name	S	Organization	Electronic Mail Address
Mr.	Lawrence J. Lamers	 Р	Adaptec, Inc.	ljlamers@ix.netcom.com
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Status Key: P - Principal A,A# - Alternate O - Observer L - Liaison V - Visitor

Sep 16, 1997 - T10 Attendance Database - Enclosure (2)

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Minutes of T10 Plenary Meeting #23 in Nashua, NH

T10/97-240r0

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T10/97-001R0 Date: 11/22/96 Author: J. Lohmeyer [SY-97-01]

Agenda for X3T10 Meeting #20 (Mar '97)

T10/97-002R0 Date: 11/22/96 Author: J. Lohmeyer [SY-97-01]

X3T10 Project Summary - Jan '97

T10/97-003R0 Date: 11/22/96 Author: J. Lohmeyer [SY-97-01]

Jeopardy letter for Mar '97 meeting

T10/97-004R0 Date: 11/22/96 Author: J. Lohmeyer [SY-97-01]

Results of X3T10/96-045 Letter Ballot

T10/97-005R0 Date: 11/22/96 Author: J. Lohmeyer [SY-97-01]

Response to 1PR Comment #1 on X3.301-199x (SPC)

T10/97-006R0 Date: 11/22/96 Author: J. Lohmeyer [SY-97-01]

Response to 1PR Comment #2 on X3.301-199x (SPC)

T10/97-007R0 Date: 3/10/97 Author: J. Garner [SY-97-01]

Call for Volunteers - Chairman T10

T10/97-007R1 Date: 3/10/97 Author: J. Garner [SY-97-02]

Second Call for Volunteers - Chairman T10

T10/97-008R0 Date: 1/22/97 Author: J. Lohmeyer [SY-97-02]

Agenda for X3T10 Meeting #21 (May '97)

T10/97-009R0 Date: 1/22/97 Author: J. Lohmeyer []

T10 Project Summary - Mar '97

T10/97-009R1 Date: 1/22/97 Author: J. Lohmeyer [SY-97-02]

T10 Project Summary - Mar '97

T10/97-010R0 Date: 1/22/97 Author: J. Lohmeyer [SY-97-02]

Jeopardy letter for May '97 meeting

T10/97-011R0 Date: 1/22/97 Author: J. Lohmeyer [SY-97-02]

Results of T10/96-046 Letter Ballot on forwarding SSA-PH2 to 1PR

T10/97-012R0 Date: 1/22/97 Author: J. Lohmeyer [SY-97-02]

Results of T10/96-047 Letter Ballot on forwarding SSA-TL2 to 1PR

T10/97-013R0 Date: 1/22/97 Author: J. Lohmeyer [SY-97-02]

Results of T10/96-048 Letter Ballot on forwarding SSA-S3P to 1PR

T10/97-014R0 Date: 3/18/97 Author: J. Lohmeyer [SY-97-02]

Response to Public Review Comment #1 on X3.304 (MMC) (see 97-127)

Letter Ballot on forwarding SSC to 1PR

T10/97-016R0 Date: 4/8/97 Author: J. Lohmeyer [SY-97-03]

Agenda for T10 Meeting #22 (July '97)

T10/97-017R0 Date: 4/8/97 Author: J. Lohmeyer [SY-97-03]

T10 Project Summary - May '97

T10/97-018R0 Date: 4/8/97 Author: J. Lohmeyer [SY-97-03]

Jeopardy letter for May '97 meeting

T10/97-019R0 Date: 4/8/97 Author: J. Lohmeyer []

(not used)

T10/97-020R2 Date: 5/15/97 Author: J. Lohmeyer [SY-97-03]

Results of T10/97-015 Letter Ballot on forwarding SSC to 1PR

T10/97-021R0 Date: 4/8/97 Author: J. Lohmeyer [SY-97-03] Letter forwarding SCSI World Wide Names description to IEEE

T10/97-022R0 Date: 4/8/97 Author: J. Lohmeyer [SY-97-03] T10 Annual Report for 1996

T10/97-023R0 Date: 5/27/97 Author: J. Lohmeyer [SY-97-04] Agenda for T10 Meeting #23 (Sept '97)

T10/97-024R0 Date: 5/27/97 Author: J. Lohmeyer [SY-97-04] T10 Project Summary - July '97

T10/97-025R0 Date: 5/27/97 Author: J. Lohmeyer [SY-97-04] Jeopardy letter for July '97 meeting

T10/97-026R0 Date: 5/27/97 Author: G. Milligan [SY-97-04] Letter Ballot on approving DIS 14776-411 SAM

T10/97-027R0 Date: 6/5/97 Author: J. Lohmeyer [SY-97-04] Results of Letter Ballot on approving DIS 14776-411 SAM (97-026r0)

T10/97-028R0 Date: 7/22/97 Author: J. Lohmeyer [SY-97-04] Letter Ballot on Forwarding SMC to First Public Review

T10/97-029R0 Date: 7/22/97 Author: J. Lohmeyer [SY-97-04] Letter Ballot on Forwarding SCC-2 to First Public Review

T10/97-030R0 Date: 9/4/97 Author: J. Lohmeyer [SY-97-05] Results of Letter Ballot 97-028 on Forwarding SMC to 1PR

T10/97-031R0 Date: 9/4/97 Author: J. Lohmeyer [SY-97-05] Results of Letter Ballot 97-029 on Forwarding SCC-2 to 1PR

T10/97-032R0 Date: 9/5/97 Author: J. Lohmeyer [SY-97-05] Agenda for T10 Meeting #24 (Nov '97)

T10/97-033R0 Date: 9/5/97 Author: J. Lohmeyer [SY-97-05] T10 Project Summary - Sept '97

T10/97-034R0 Date: 9/5/97 Author: J. Lohmeyer [SY-97-05] Jeopardy letter for Sept '97 meeting

T10/97-101R1 Date: 1/2/97 Author: R. Snively [SY-97-01] Draft tutorial for IEEE company_id based SCSI identifiers

T10/97-101R2 Date: 1/2/97 Author: R. Snively [SY-97-04] Draft tutorial for IEEE company_id based SCSI identifiers

T10/97-102R0 Date: 1/2/97 Author: R. Roberts [SY-97-01] MMC-2 Additional Definitions

T10/97-103R0 Date: 1/2/97 Author: R. Roberts [SY-97-01] MMC-2 DVD MODEL

T10/97-104R0 Date: 1/2/97 Author: R. Roberts [SY-97-01] MMC-2 CD MODEL

T10/97-105R0 Date: 1/2/97 Author: R. Roberts [SY-97-01] MMC-2 CHANGER MODEL

T10/97-106R0 Date: 1/2/97 Author: R. Roberts [SY-97-01] MMC-2 DVD POWER MANAGEMENT

T10/97-107R0 Date: 1/2/97 Author: R. Roberts [SY-97-01] MMC-2 FEATURE SETS

T10/97-124R0

T10/97-125R1

Do Read Long and Write Long have a Secure Future?

T10/97-108R0 Date: 1/2/97 Author: R. Roberts [SY-97-01] MMC-2 Packet Commands for C/DVD Devices T10/97-109R0 Date: 1/2/97 Author: R. Roberts [SY-97-01] Minutes of MMC 2 Working Group - 1/97 Date: 1/6/97 Author: Weber/Lohmeyer [SY-97-01] Minutes of SPI-2 Working Group - 1/97 Date: 1/6/97 Author: Weber/Lohmeyer [SY-97-01] Minutes of SCSI Working Group - 1/97 Date: 1/6/97 Author: Weber/Lohmeyer [SY-97-01] Minutes of X3T10 Plenary Meeting #19 T10/97-113R0 Date: 1/6/97 Author: G. Penokie [SY-97-01] Minutes of SCC Working Group - 1/97 T10/97-114R0 Date: 1/6/97 Author: B. Ham [SY-97-01] Test Results on LVD T10/97-115R0 Date: 1/6/97 Author: L. Lamers [SY-97-01] Report on SPI-2 Editing Session T10/97-115R1 Date: 4/22/97 Author: L. Lamers [SY-97-03] Report on SPI-2 Editing Session Date: 1/6/97 Author: B. Ham [SY-97-02] T10/97-116R0 Bus Set Delay for Domain Expanders T10/97-117R0 Date: 1/6/97 Author: R. Roberts [SY-97-01] MMC-2 Commands specific to CD Media Only T10/97-118R0 Date: 1/6/97 Author: R. Roberts [SY-97-01] MMC-2 ATAPI Implementation Notes T10/97-119R0 Date: 1/6/97 Author: R. Roberts [SY-97-01] MMC-2 SCSI Implementation Notes T10/97-120R0 Date: 1/6/97 Author: R. Roberts [SY-97-01] MMC-2 DVD-R and DVD-RAM Date: 1/8/97 Author: D. Wallace [SY-97-05] T10/97-121R0 Annex on Universal Backplane T10/97-122R0 Date: 1/8/97 Author: G. Penokie [SY-97-01] Addressing Model for SAM-2 T10/97-122R1 Date: 1/8/97 Author: G. Penokie [] Addressing Model for SAM-2 T10/97-122R2 Date: 5/6/97 Author: G. Penokie [sy-97-03] Addressing Model for SAM-2 T10/97-122R3 Date: 7/27/97 Author: G. Penokie [] Addressing Model for SAM-2 Date: 7/27/97 Author: G. Penokie [SY-97-04] T10/97-122R4 Addressing Model for SAM-2 Date: 1/8/97 Author: G. Milligan [SY-97-01] T10/97-123R0 SBC X3T10 Letter Ballot Comment Resolution

Date: 1/8/97 Author: T. Coughlan [SY-97-01]

Date: 1/9/97 Author: E. Oetting [SY-97-01]

Minutes of SCC/SMC Working Group - 1/97

T10/97-126R0 Date: 1/16/97 Author: R. DeKoning [SY-97-01] Comments on IEEE Registration

T10/97-127R0 Date: 1/16/97 Author: R. Reisch [SY-97-01] Public Review Comment #1 on X3.304 (MMC)

T10/97-128R1 Date: 1/22/97 Author: P. Johansson [] Transport Status for SBP-2

T10/97-128R2 Date: 1/22/97 Author: P. Johansson [SY-97-02] Transport Status for SBP-2

T10/97-129R0 Date: 1/29/97 Author: Keith W. Parker [] SCSI Socket/SSL Services (SSS) Command Set Proposal

T10/97-129R1 Date: 1/29/97 Author: Keith W. Parker [] SCSI Socket/SSL Services (SSS) Command Set Proposal

T10/97-129R2 Date: 1/29/97 Author: Keith W. Parker [SY-97-02] Project Proposal for SCSI Socket/SSL Services (SSS) Command Set

T10/97-130R0 Date: 2/6/97 Author: J. Scheible [SY-97-02] Letter Ballot Comment Resolution on SSA-PH2

T10/97-131R0 Date: 2/6/97 Author: J. Scheible [] Letter Ballot Comment Resolution on SSA-TL2

T10/97-131R1 Date: 2/6/97 Author: J. Scheible [SY-97-02] Letter Ballot Comment Resolution on SSA-TL2

T10/97-132R0 Date: 2/6/97 Author: J. Scheible [SY-97-02] Letter Ballot Comment Resolution on SSA-S3P

T10/97-133R0 Date: 2/9/97 Author: P. Johansson [SY-97-02] REQUEST ABORTED Response Status in SBP-2

T10/97-134R0 Date: 2/9/97 Author: P. Johansson [] Unsolicited Status Handshake in SBP-2

T10/97-134R1 Date: 2/9/97 Author: P. Johansson [SY-97-02] Unsolicited Status Handshake in SBP-2

T10/97-135R0 Date: 2/13/97 Author: P. McLean [SY-97-02] Minutes of SBP-2 Working Group - 2/12-13/97

T10/97-136R0 Date: 2/24/97 Author: P. Johansson [SY-97-02] Task management event matrix

T10/97-137R0 Date: 3/3/97 Author: Weber/Lohmeyer [SY-97-02] Minutes of SPI-2 Working Group - 3/97

T10/97-138R0 Date: 3/3/97 Author: Weber/Lohmeyer [] Minutes of SCSI Working Group - 3/97

T10/97-138R1 Date: 3/3/97 Author: Weber/Lohmeyer [SY-97-02] Minutes of SCSI Working Group - 3/97

T10/97-139R0 Date: 3/3/97 Author: Weber/Lohmeyer [SY-97-02] Minutes of T10 Plenary Meeting #20

T10/97-139R1 Date: 3/3/97 Author: Weber/Lohmeyer [SY-97-02] Minutes of T10 Plenary Meeting #20

T10/97-140R0 Date: 3/3/97 Author: G. Penokie [SY-97-02] Additional Device Types for ASC/ASCQ

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T10/97-141R0
                      Date: 3/3/97 Author: G. Penokie []
Message Issues
                      Date: 3/3/97 Author: G. Penokie []
T10/97-141R1
Message Issues
T10/97-141R2
                      Date: 3/3/97 Author: G. Penokie []
Message Issues
T10/97-141R3
                      Date: 3/3/97 Author: G. Penokie [SY-97-02]
Message Issues
T10/97-142R0
                      Date: 3/3/97 Author: G. Penokie []
Reserve/Release Issues
T10/97-142R1
                      Date: 3/3/97 Author: G. Penokie [SY-97-02]
Reserve/Release Issues
T10/97-143R0
                      Date: 3/5/97 Author: C. Monia [SY-97-02]
Digital Equipment Corp. SCAM Patent Disclosure
T10/97-144R0
                      Date: 3/10/97 Author: B. Ham [SY-97-02]
LVD Hot Plugging Results - 3/10/96
T10/97-145R0
                      Date: 3/10/97 Author: Keith W. Parker [SY-97-02]
Presentation on SCSI Socket/SSL Services
                      Date: 3/10/97 Author: V. Bastiani [SY-97-02]
Presentation on LVD/Ultra-3
T10/97-147R0
                      Date: 3/10/97 Author: G. Penokie [SY-97-02]
Minutes of SCC Working Group - 3/97
T10/97-148R1
                      Date: 3/11/97 Author: Eric Oetting [SY-97-02]
SMC Device Identification
T10/97-149R0
                      Date: 3/11/97 Author: P. McLean [SY-97-02]
Minutes of SBP-2 Working Group - 3/97
T10/97-150R0
                      Date: 3/11/97 Author: J. McGrath [SY-97-02]
Parallel SCSI Performance
                      Date: 3/12/97 Author: C. Monia [SY-97-02]
T10/97-151R0
Status of SCSI Error Recovery
                      Date: 3/12/97 Author: R. Roberts [SY-97-02]
T10/97-152R0
MMC-1 Public Review Comments Resolution
                      Date: 3/12/97 Author: R. Roberts [SY-97-02]
T10/97-153R0
Minutes of the MMC Working Group - 3/97
T10/97-154R0
                      Date: 3/13/97 Author: E. Oetting [SY-97-02]
Minutes of SMC Working Group - 3/97
T10/97-155R1
                      Date: 3/24/97 Author: D. Hagerman [SY-97-02]
Tapes in FC PLDA
T10/97-155R2
                      Date: 3/24/97 Author: D. Hagerman []
Tapes in FC PLDA
T10/97-155R3
                      Date: 3/24/97 Author: D. Hagerman [SY-97-04]
Tapes in FC PLDA
                      Date: 3/28/97 Author: Kate McMillan [SY-97-02]
Proposed New SD3 Project Proposal Guide
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T10/97-157R0 Date: 4/15/97 Author: J. Fuller [SY-97-04] Notify bit for management orbs T10/97-158R1 Date: 4/15/97 Author: J. Fuller [] SBP-2 Enhanced Page Tables Date: 4/15/97 Author: J. Fuller [SY-97-03] T10/97-158R2 SBP-2 Enhanced Page Tables T10/97-159R0 Date: 4/15/97 Author: D. Steele / F. Gasparik [SY-97-03] FAST-40 Rebuttal T10/97-160R1 Date: 4/15/97 Author: Weber/Lohmeyer [SY-97-03] Minutes of SPI-2 Working Group - 4/18/97 T10/97-161R0 Date: 4/15/97 Author: P. McLean [SY-97-03] Minutes of the SBP-2 Working Group - 4/10/97 T10/97-162R0 Date: 4/15/97 Author: P. McLean [SY-97-03] Project proposal for command definition for mass storage on 1394 T10/97-162R1 Date: 8/19/97 Author: P. McLean [] Project proposal for command definition for mass storage on 1394 T10/97-162R2 Date: 8/26/97 Author: P. McLean [SY-97-05] Project proposal for command definition for mass storage on 1394 Date: 4/18/97 Author: M. LoBue [SY-97-03] T10/97-163R0 STA Recommendations on Ultra-3 T10/97-164R0 Date: 4/18/97 Author: V. Bastiani [SY-97-03] Presentation on Test Results for Ultra-3 T10/97-165R0 Date: 4/18/97 Author: W. Bridgewater [SY-97-03] First Pulse Measurements T10/97-166R0 Date: 4/18/97 Author: F. Gasperik [SY-97-03] Analysis of Data presented Date: 4/18/97 Author: L. Barnes [] SCSI Universal Backplane Microstrip Configuration Date: 4/18/97 Author: L. Barnes [SY-97-04] SCSI Universal Backplane Microstrip Configuration T10/97-168R0 Date: 4/18/97 Author: B. Ham [sy-97-04] FAST 40 AND FAST 80 DATA FROM MULTIMODE BACKPLANES T10/97-169R0 Date: 4/22/97 Author: K. Gingerich [SY-97-03] Simplified AC Model of the LVD SCSI Bus T10/97-170R1 Date: 4/26/97 Author: G. Penokie [SY-97-03] Additional Device Types for ASC/ASCQs for SCC-2 Date: 4/26/97 Author: G. Penokie [SY-97-03] T10/97-171R0 Minutes of the SCC-2 working group - 5/96 T10/97-172R0 Date: 4/28/97 Author: V. Bastiani [SY-97-03] Analysis of Driver/Reciever Response T10/97-173R0 Date: 5/1/97 Author: P. McLean [SY-97-04] Mass Storage Profile for 1394 presentation Date: 5/1/97 Author: P. Aloisi [SY-97-05] T10/97-174R0 Single Ended Termination Issues T10/97-175R1 Date: 5/5/97 Author: Weber/Lohmeyer [SY-97-03]

Minutes of SPI working group - 05/97

T10/97-176R1 Date: 5/5/97 Author: Weber/Lohmeyer [SY-97-03]

Minutes of SCSI working group - 05/97

T10/97-177R1 Date: 5/5/97 Author: Weber/Lohmeyer [SY-97-03]

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T10/97-178R0 Date: 5/5/97 Author: V. Bastiani [SY-97-03]

Presentation on Ultra-3 - 05/97

T10/97-179R0 Date: 5/5/97 Author: B. Ham [SY-97-03]

TEST RESULTS WITH ASYMMETRICAL DRIVERS, BIAS TERMINATORS, AND COMPLEX LOADS

T10/97-180R0 Date: 5/5/97 Author: P. Aloisi [SY-97-03]

Terminator Specifications

T10/97-181R0 Date: 5/5/97 Author: W. Bridgewater [SY-97-03]

Presentation on LVD testing

T10/97-182R1 Date: 5/6/97 Author: V. Novak [SY-97-04]

REQ/ACK Mismatch

T10/97-183R0 Date: 5/6/97 Author: Tom Coughlin [SY-97-03]

Persistent Reservation-What if the keys are not unique?

T10/97-184R0 Date: 5/6/97 Author: Doug Hagerman [SY-97-03]

Use of Class 2 for Fibre Channel Topics

T10/97-184R1 Date: 5/6/97 Author: Doug Hagerman [SY-97-04]

Use of Class 2 for Fibre Channel Topics

T10/97-185R0 Date: 5/6/97 Author: P. McLean [SY-97-03]

SBP-2 Error senarios

T10/97-186R1 Date: 5/6/97 Author: C. Monia [SY-97-03]

Request for Interpretation - Multiple-byte fields

T10/97-187R0 Date: 5/6/97 Author: C. Monia [SY-97-03]

Error Recovery Policy Requirements for Command Queueing

T10/97-188R0 Date: 5/8/97 Author: Eric Oetting [SY-97-03]

Minutes of SSC/SMC Working Group - 5/97

T10/97-189R0 Date: 5/8/97 Author: Brian Smith [SY-97-03]

Class 3 Error Detection and Recovery

T10/97-189R2 Date: 6/12/97 Author: Brian Smith []

Class 3 Error Detection and Recovery

T10/97-189R3 Date: 7/15/97 Author: Brian Smith [SY-97-04]

Class 3 Error Detection and Recovery

T10/97-190R0 Date: 5/8/97 Author: Rob Reisch [SY-97-03]

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T10/97-191R1 Date: 5/14/97 Author: Pete McLean [SY-97-03]

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T10/97-192R0 Date: 5/15/97 Author: Mike Bryan [SY-97-03]

Login Query move

T10/97-193R0 Date: 5/15/97 Author: Mike Bryan [SY-97-03]

Login modifications

T10/97-194R0 Date: 5/15/97 Author: Tarl Neustaedter [SY-97-04]

Proposal to add Unit_Model_Id to IEEE 1212 Config ROM

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T10/97-195R0
                      Date: 6/5/97 Author: P. Johansson [SY-97-04]
Configuration ROM - Power Reset andd Security
                      Date: 6/10/97 Author: P. Johansson [SY-97-04]
SBP-2 and 1394-1995 Transaction Errors
T10/97-197R0
                      Date: 6/17/97 Author: T. Asami [SY-97-04]
SCSI LFP - CRC Attach
                      Date: 9/3/97 Author: T. Asami [SY-97-04]
T10/97-197R1
SCSI LFP - CRC Attach
T10/97-198R0
                      Date: 6/17/97 Author: T. Asami [SY-97-04]
SCSI LFP - Status / Message Simplification
                      Date: 6/17/97 Author: M. Kosco [SY-97-04]
T10/97-199R0
SCSI LFP - Ouick Arbitrate & Select
                      Date: 9/2/97 Author: M. Kosco [SY-97-04]
T10/97-199R1
SCSI LFP - Quick Arbitrate & Select
T10/97-200R0
                      Date: 6/19/97 Author: M. Kosco [SY-97-04]
SCSI LFP - Broadcast Command Packet
T10/97-200R1
                      Date: 9/3/97 Author: M. Kosco [SY-97-04]
SCSI LFP - Broadcast Command Packet
                      Date: 6/19/97 Author: K. Parker [SY-97-04]
SCSI Socket/SSL Services (SSS) Review 97-07-16
                      Date: 6/24/97 Author: P. McLean [SY-97-04]
Minutes of SBP-2 Working Group - 6/97
T10/97-203R0
                      Date: 6/24/97 Author: G. Penokie []
Warning/PFA ASC Reporting Selection
T10/97-203R1
                      Date: 7/8/97 Author: G. Penokie []
Warning/PFA ASC Reporting Selection
T10/97-203R2
                      Date: 7/16/97 Author: G. Penokie [SY-97-04]
Warning/PFA ASC Reporting Selection
                      Date: 7/3/97 Author: Ted Lappin [SY-97-04]
T10/97-204R0
Response to Letter Ballot Comments on SSC
T10/97-205R0
                      Date: 7/3/97 Author: J. Lohmeyer [SY-97-04]
Comments on 97-198r0 Status/Message Simplification
                      Date: 7/9/97 Author: A. Wilson [SY-97-04]
T10/97-206R0
Performance Estimates for LFP
T10/97-207R0
                      Date: 7/14/97 Author: B. Gintz [SY-97-04]
Ultra 3 Amplitude & Skew Budgets - 25 Meter Point To Point
T10/97-208R0
                      Date: 7/14/97 Author: V. Bastiani [SY-97-04]
Proposal On 80 Mega Transfers
                      Date: 7/14/97 Author: Weber/Lohmeyer [SY-97-04]
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Minutes of Fast-xx Study Group and SPI-2 Working Group
                      Date: 7/14/97 Author: Weber/Lohmeyer [SY-97-04]
Minutes of SCSI Working Group - 7/97
                      Date: 7/14/97 Author: L. Lamers [SY-97-04]
Minutes of SCSI Protocol Study Group - 7/97
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T10/97-230R0

T10/97-212R0 Date: 7/14/97 Author: Weber/Lohmeyer [SY-97-04] Minutes of T10 Plenary Meeting #22 - 7/97 T10/97-213R0 Date: 7/14/97 Author: Roers/Daggett [SY-97-04] Attenuation of SCSI Cables at Extended Frequencies Date: 7/14/97 Author: Wally Bridegwater [] Bias and Minimum Drive T10/97-214R1 Date: 7/14/97 Author: Wally Bridegwater [SY-97-04] Bias and Minimum Drive T10/97-215R0 Date: 7/15/97 Author: B. Ham [SY-97-04] Proposal for Glitch Filtering in SPI-2 Date: 7/15/97 Author: Ham/Guss [SY-97-04] Latching and Counting Proposal T10/97-217R0 Date: 7/16/97 Author: R. DeKoning [SY-97-04] Storage Management Profille Presentation T10/97-218R0 Date: 7/16/97 Author: R. Snively [SY-97-04] Review of Persistent Reservation T10/97-218R2 Date: 9/4/97 Author: R. Snively [SY-97-05] Review of Persistent Reservation Date: 7/17/97 Author: E. Oetting [SY-97-04] T10/97-219R0 LUN Discovery T10/97-219R1 Date: 9/10/97 Author: E. Oetting [] LUN Discovery Date: 9/10/97 Author: E. Oetting [SY-97-05] T10/97-219R2LUN Discovery T10/97-220R0 Date: 7/16/97 Author: E. Oetting [SY-97-04] Minutes of SSC/SMC Working Group - 7/97 Date: 7/17/97 Author: R. Reisch [SY-97-04] Minutes of MMC Working Group - 7/97 T10/97-222R2 Date: 7/17/97 Author: E. Oetting [SY-97-04] SMC Devices with no storage elements T10/97-223R0 Date: 7/17/97 Author: B. Ham [SY-97-04] Motion to change bus_set_delay in SPI-2 T10/97-224R0 Date: 7/17/97 Author: Robert Palasek [SY-97-04] Invoice on SPI-2 Figures Date: 7/18/97 Author: G. Milligan [SY-97-05] T10/97-225R0 Proposal for Contingent Allegience / ACA Date: 7/22/97 Author: P. Johansson [SY-97-04] T10/97-226R0 SBP-2 Management ORB Time-outs T10/97-227R0 Date: 7/22/97 Author: Poulsen/Redford [SY-97-04] REMOVABLE / RE-WRITABLE MEDIA SPECIFICATION T10/97-228R0 Date: 7/24/97 Author: R. Bellino [SY-97-04] LOWER ATTENUATION SCSI CABLES Date: 7/30/97 Author: P. McLean [SY-97-05] T10/97-229R0 Minutes SBP-2 working group - 7/97

Date: 8/18/97 Author: G. Penokie [SY-97-05]

Packetizing SPI

T10/97-231R0 Date: 8/19/97 Author: P. Johansson [SY-97-05] Proposed Annex for SBP-2: SCSI Transport via SBP-2

T10/97-232R0 Date: 8/19/97 Author: P. Johansson [SY-97-05] Configuration ROM at power-on

T10/97-233R0 Date: 8/20/97 Author: P. McLean [SY-97-05] Minutes of SBP-2 Working Group - 8/97

T10/97-234R0 Date: 8/20/97 Author: R. Weber [SY-97-05] LUN_Z Capabilities Bit in SPC-2

T10/97-235R0 Date: 8/27/97 Author: B. Ham [SY-97-05] Modifications for interconnect specifications in SPI-2 that force specific construction implementation details

T10/97-236R0 Date: 8/27/97 Author: P. Aloisi [SY-97-05] SPI-2 Issues For the September working Group and Plenary Vote

T10/97-237R0 Date: 9/2/97 Author: Weber/Lohmeyer [SY-97-05] Fast-XX and SPI-2 Working Group - 9/97

T10/97-238R0 Date: 9/2/97 Author: Weber/Lohmeyer [SY-97-05] Minutes of SCSI Working Group - 9/97

T10/97-239R0 Date: 9/2/97 Author: L. Lamers [SY-97-05] Minutes of Protocol Study Group - 9/97

T10/97-240R0 Date: 9/2/97 Author: Weber/Lohmeyer [SY-97-05] Minutes of T10 Plenary Meeting #23 - 9/97

T10/97-241R0 Date: 9/4/97 Author: L. Lamers [SY-97-05] LFP INQUIRY and MODE SENSE data format

T10/97-242R0 Date: 9/5/97 Author: R. Snively [SY-97-05] Additional Persistent Reservation Type

T10/97-243R0 Date: 9/8/97 Author: G. Kapraun [SY-97-05] LVD Differential Skew Testing

T10/97-244R0 Date: 9/9/97 Author: P. Johansson [SY-97-05] Regarding ORBS

T10/97-245R0 Date: 9/9/97 Author: P. Johansson [SY-97-05] No Title

T10/97-246R1 Date: 9/9/97 Author: Tom Coughlan [SY-97-05] Persistant Resrvation with Non-Unique Keys

T10/97-247R0 Date: 9/10/97 Author: E. Oetting [SY-97-05] SMC Comment Resolution

T10/97-248R0 Date: 9/10/97 Author: E. Oetting [SY-97-05] Minutes of SMC/SSC Working Group - 9/97

T10/97-249R0 Date: 9/10/97 Author: P. McLean [SY-97-05] Minutes of SBP-2 Working Group - 9/97

T10/97-250R1 Date: 9/9/97 Author: C. Monia [SY-97-05] Multi-Port Changes for SAM-2

T10/97-251R0 Date: 9/10/97 Author: B. Galloway [SY-97-05] Performance Analysis

T10/97-252R0 Date: 9/10/97 Author: Ralph Weber [SY-97-05]

Minutes of T10 Plenary Meeting #23 in Nashua, NH

T10/97-240r0

Enclosure Profile Outline

T10/97-253R0 Date: 9/10/97 Author: Ralph Weber [SY-97-05] ANSI Editorial Changes to SPC

T10/97-254R0 Date: 9/11/97 Author: Rob Reisch [SY-97-05] Minutes of MMC-2 Working Group - 9/97

T10/97-255R0 Date: 9/11/97 Author: Monica Vago [SY-97-05] Clarification of Web Distribution of Standards (Draft or Approved)