## Accredited Standards Committee\* National Committee for Information Technology Standards (NCITS)

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 Reply to:
 John Lohmeyer

To:T10 MembershipFrom:Ralph Weber / John LohmeyerSubject:Minutes of T10 Plenary Meeting #33 -- September 16, 1999Huntington Beach, CA

# Agenda

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  - 8.3 SCSI-3 Stream Commands (SSC) Status {Project 997-D} [Peterson]
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- 10. New Business
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    - 10.2.2 Project Proposal for SCSI Signal Modeling TR (99-243r1) [Ham/Wallace]
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    - 10.2.4 Project Proposal for SCSI VI Protocol (SVP) (99-246r1) [Gardner]
    - 10.2.5 SPI-3 integrity check fall back procedure (99-242r2) [Lohmeyer]
    - 10.2.6 Forcing Bus Free from QAS (99-274r0) [Moore]
    - 10.2.7 SAM-2 Tasks and Work (99-232r1) [Weber]

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- 10.2.8 Task Management Handling Changes for SPI-3 (99-227r3) [Penokie]
- 10.2.9 Logical Unit Self Test (99-179r5) [Evans]
- 10.2.10 EXTENDED COPY Support for Persistent Reservations (99-230r1) [Weber]
- 10.2.11 EXTENDED COPY and Abort Task Management Functions (99-231r1) [Weber]
- 10.2.12 Allow WRITE BUFFER when drive is not ready (99-277r0) [Houlder]
- 10.2.13 SCSI Medium Changer Commands -2 (SMC-2) Project Proposal (99-218r1) [Oetting]
- 10.2.14 MCM Additions to Fibre Channel Control Page in FCP-2 (99-206r1) [Penokie]
- 10.3 Project Proposal for SCSI on Scheduled Transfer (SST) (99-239) [Ronald]

11. ISO

- 11.1 ISO Report [Milligan]
- 11.2 ISO Business [Milligan]
  - 11.2.1 Vote to cancel Fast Track on SBC and MMC [Milligan]
  - 11.2.2 Correction to SSC-2--removing extra bytes in two service actions [Penokie]
- 12. Liaison Reports
  - 12.1 T11 Liaison Report [Wanamaker]
  - 12.2 T13 Liaison Report [Milligan]
  - 12.3 SFF Industry Group [Allan]
  - 12.4 IEEE 1394 [Johansson]
  - 12.5 IEEE P1285 Status
  - 12.6 SCSI Trade Association (STA) [Jones/Aloisi]
- 13. Review of Action Items
- 14. Meeting Schedule
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- 15. Adjournment

# **Results of Meeting**

## 1. Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 9:00 a.m., Thursday September 16, 1999. He thanked Skip Jones of QLogic for hosting the meeting.

John said that NCITS Subgroup Membership forms and the T10 Mailing Subscription form were available on the document 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:

- 10.2.2 Project Proposal for SCSI Signal Modeling TR (99-243r1) [Ham/Wallace]
- 10.2.3 Project Proposal for SCSI on Scheduled Transfer (SST) (99-239r1) [Woelz/Allan]
- 10.2.4 Project Proposal for SCSI VI Protocol (SVP) (99-246r1) [Gardner]
- 10.2.5 SPI-3 integrity check fall back procedure (99-242r2) [Lohmeyer]
- 10.2.6 Forcing Bus Free from QAS (99-274r0) [Moore]
- 10.2.7 SAM-2 Tasks and Work (99-232r1) [Weber]

10.2.8 Task Management Handling Changes for SPI-3 (99-227r3) [Penokie]

10.2.9 Logical Unit Self Test (99-179r5) [Evans]

10.2.10 EXTENDED COPY Support for Persistent Reservations (99-230r1) [Weber]

10.2.11 EXTENDED COPY and Abort Task Management Functions (99-231r1) [Weber]

10.2.12 Allow WRITE BUFFER when drive is not ready (99-277r0) [Houlder]

10.2.13 SCSI Medium Changer Commands -2 (SMC-2) Project Proposal (99-218r1) [Oetting]

The following agenda items were added/revised during the course of the meeting:

10.2.14 MCM Additions to Fibre Channel Control Page in FCP-2 (99-206r1) [Penokie]

## 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 apply for membership and begin voting at anytime following adjournment of the first meeting. Typically, the individual applies for membership and start casting votes at the second plenary meeting. Working group and other ad hoc meetings do not count toward attendance requirements.

The option that allows a person attending their first meeting may become a voting member immediately following that meeting, provided their NCITS fees have been paid, permits a new member to vote on letter ballots issued between his/her first and second meetings.

To maintain membership, organizations must pay the NCITS Service Fee (\$300). The ANSI International Program Fee (also \$300) is billed at the same time.

John briefly discussed the mailing fees. Complete pricing information is contained in the 1999 membership form (available at ftp://ftp.t10.org/pub/t10/mem\_form.txt).

There are also minimum attendance requirements to maintain voting membership on T10. If a member organization fails to attend two of the last three T10 meetings, they are warned that failing to attend the next T10 meeting would result in their membership being terminated. The Chair said he had sent letters to 13 people from 7 organizations informing them that their membership was in jeopardy due to non-attendance (see 99-009r0) and that their membership would be terminated if they did not attend this meeting. The following organizations were in attendance jeopardy:

Advansys Ancot Corp. Exabyte Corp. Harting, Inc. of N. America Lasercard Systems Corp. Methode Electronics, Inc. Woven Electronics

All of the organizations were present except:

Exabyte Corp. Harting, Inc. of N. America Lasercard Systems Corp. Methode Electronics, Inc. Woven Electronics 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; additional alternates, if any, were changed to observers).

The following organizations requested new (or reinstated) membership:

**Dell Computer** 

The T10 membership during the meeting was 45 organizations down from 49 organizations following the last meeting. Enclosure (1) is the list of the people present at the meeting and enclosure (2) is the current T10 membership list.

#### 3.1 Voting procedures

John stated that NCITS had recently agreed in principal to make several changes to the NCITS rules. While the exact wording still needs to be created, the two-week rule is being clarified to say the two-week period is measured to the start of the relevant meeting. Also, documents revised at a meeting are not subject to the two-week rule provided the document being modified met the two-week rule. John stated that he will follow the intent of this new rule, allowing documents that were available two-weeks prior to the meeting to be processed even if the document is revised during a working group meeting earlier in the week.

Also the rule about not allowing abstentions on technical issues is being revised to permit abstentions provided a reason is stated. Such abstentions are not considered in calculating whether the motion met the 50% or 2/3rds voting requirements. John stated that he will be allowing abstentions as per the draft rule.

## 4. Approval of Minutes - July '99 Meeting - Colorado Springs, CO (T10/99-202r1)

The minutes were approved as written.

## 5. Document Distribution

Members who have any problems with their mailing subscription should deal directly with Judy Gales (jgales@itic.org) (202) 626-5741.

John Lohmeyer requested that all documents for the next mailing be in his hands in electronic format by 10:30 a.m. on Thursday September 23, 1999. Documents received after this time will go into a subsequent mailing.

John reminded the committee of the requirements for document submission. Since T10 meets its document retention requirements by preparing mailings, documents included in the mailing must be suitable for archiving. This means that native-format and/or Portable Document Format (PDF) electronic originals with proper identification must be submitted.

The electronic copies can be sent directly to John by email (at lohmeyer@t10.org), or they can be transferred by ftp protocol to ftp.t10.org and placed in the /incoming directory. In the latter case, please also send email to John informing him of the file name and location of the file.

Minutes are available on the T10 World Wide Web page (see below), and are distributed to the T10 Reflector.

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

The current document register is enclosure (3). The T10 document register is also available at:

ftp://ftp.t10.org/t10/dr.txt

## 6. Call for Patents

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

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. Section 1.2.11 contains the ANSI patent policy. Amy Marasco manages patent issues for ANSI and can be contacted at amarasco@ansi.org or 212-642-4954.

A call for patents was made. There were no responses.

## 7. Review of Old Action Items

- 312) Ralph Weber will review editorially the second sentence of item c in clause 5.3.2.5.3. *Complete*
- 313) John Lohmeyer will arrange a meeting to discuss changes and updates in the T10 procedures. Complete
- 319) Gene Milligan will submit a NWIP and a CD contribution for RBC to ISO/IEC for consideration. *Carryover*
- 321) Ron Roberts will prepare RBC revision 10a incorporating the ANSI pre-edit for forwarding to second public review. *Complete*
- 322) John Lohmeyer will forward RBC revision 10a to second public review. Complete
- 323) John Lohmeyer will send a letter to Ralph Weber formally responding to his RBC public review comments. *Complete*
- 324) John Lohmeyer will notify NCITS that T10 recommends the withdrawal X3.276:1997 SCSI-3 Controller Commands. *Complete*
- 325) John Lohmeyer will notify NCITS that T10 recommends the withdrawal of X3.253:1995 SCSI-3 Parallel Interface & its Amendment. *Complete*
- 326) John Lohmeyer will notify NCITS that T10 recommends the withdrawal of X3.292:1997 SCSI-3 Interlocked Protocol. *Complete*
- 327) John Lohmeyer will notify NCITS that T10 recommends the withdrawal of X3.277:1996 Fast-20. Complete
- 328) John Lohmeyer and Larry Lamers will provide the SPI-3 editor with the electronic information used to include the dedication in SPI. *Carryover*
- 329) George Penokie will include the SPI dedication in SPI-3. *Complete*
- 330) John Lohmeyer will forward MMC-2 revision 11 to NCITS for processing toward first public review. *Complete*
- 331) John Lohmeyer will forward 99-214r1 to NCITS for processing as a project proposal for a technical report on Domain Validation. *Complete*
- 332) Gene Milligan will handle the international approval of DIS 14776-342 (SCC-2) as presented. Complete
- 333) Gene Milligan will process the international withdrawal of the SIP project. Complete
- 334) Gene Milligan will initiate fast track processing of NCITS:325:1998 (SBP-2). *Carryover*
- 335) Gene Milligan will create an NWI and CD contribution for MMC-2 revision 11. *Carryover*
- 336) Ron Roberts (or John Lohmeyer) will give RBC revision 10a to the IR in source and PDF format. *Carryover*
- 337) Ron Roberts (or John Lohmeyer) will give MMC-2 revision 11 to the IR in source and PDF format. *Carryover*
- 338) Larry Lamers will request minutes for the June CAM-3 review meeting from Bill Dallas. *Carryover*
- 339) Ralph Weber will add an SPC-2 version descriptor for MMC-2 revision 11. Complete

340) Ralph Weber will add an SPC-2 version descriptor for RBC revision 10a. *Complete* 

## 8. Project Status Reports

#### 8.1 Project Status Summary and NCITS Liaison [Lohmeyer]

John Lohmeyer said that the current T10 project status summary was included in the T10 Information Packages distributed prior to the meeting and will be included in the mailing as usual.

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

In the absence of Bill Dallas, no report was presented.

#### 8.3 SCSI-3 Stream Commands (SSC) Status {Project 997-D} [Peterson]

Erich Oetting informed the committee that it is expected that the SSC letter ballots will be resolved by the November meeting.

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

Bob Snively reported that the next FCP-2 meeting will be on Monday of the T11 meeting week. He described 99-247 that contains changes planned for inclusion in FCP-2 revision 3, which will be ready for presentation at the meeting in October. Bob noted that the target date for FCP-2 letter ballot is following the November committee meeting.

#### 8.5 SCSI Architecture Model - 2 (SAM-2) {Project 1157-D} [Weber]

Ralph Weber reported that SAM-2 revision 11 had been prepared following the July meeting and contained all committee approved changes to that date. SAM-2 revision 12 will be prepared following this meeting in time for the committee mailing. Since the committee plan is to forward SAM-2 for public review in May 2000, Ralph proposed that major SAM-2 enhancements be limited to completion of the SCSI Multi-port Unit definition and that other major SAM-2 plans be deferred to SAM-3, for which Ralph will bring a new project proposal to the November meetings.

#### 8.6 Multimedia Command Set - 2 (MMC-2) Status (Project 1228-D) [Roberts]

Ron Roberts reported that MMC-2 is in public review and the review ends on 24 October. Ron noted that some public review comments are expected to be submitted from the working group.

#### 8.7 SCSI Primary Commands - 2 (SPC-2) Status {Project 1236-D} [Weber]

Ralph Weber reported that SPC-2 revision 11 had been prepared following the July meeting and contained all committee approved changes to that date. SPC-2 revision 12 will be prepared following this meeting in time for the committee mailing. Since the committee plan is to forward SPC-2 for public review in May 2000, Ralph proposed that major SPC-2 enhancements be limited to completion of the EXTENDED COPY command definition and the SCSI Multi-port Unit definition and that other major SPC-2 plans be deferred to SPC-3, for which Ralph will bring a new project proposal to the November meetings. Ralph noted that the major work deferred out of SPC-2 by this proposal would be the read/write attributes commands and the access controls commands.

#### 8.8 Reduced Block Commands (RBC) {Project 1240-D} [McLean]

John Lohmeyer reported that RBC is in second public review closing 7 November.

#### 8.9 SCSI Parallel Interface - 3 (SPI-3) {Project 1302-D} [Penokie]

George Penokie reported that SPI-3 revision 9 was made available a couple of weeks ago. He explained that revision 10 will be made available following this meeting and will contain all changes approved at this meeting. He stated that a letter ballot to approve forwarding to first public review will be conducted on SPI-3 revision 10.

Ralph Weber took an action item to create a version descriptor entry for SPI-3 revision 10 in SPC-2.

#### 8.10 MultiMedia Command Set - 3 (MMC-3) {Project 1363-D} [Roberts]

Ron Roberts reported that MMC-3 has received input from Mt. Fuji-4 on DVD and streaming commands. He stated that the goal is to create a first revision in time for the November meetings. At the November meeting, Mr. McFaran from Philips will take over leadership of the MMC-3 project.

Ralph Weber took an action item to add MMC-3 (project 1363-D) to the version descriptors list in SPC-2.

#### 8.11 Reduced MultiMedia Command Set (RMC) {Project 1364-D} [Roberts]

Ron Roberts reported that RMC takes the 55 commands in MMC and drops them down to 20. He stated that the goal is to create a first revision in time for the November meetings. At the November meeting, Mr. McFerrin from Philips will take over leadership of the RMC project.

Ralph Weber took an action item to add RMC (project 1364-D) to the version descriptors list in SPC-2.

#### 8.12 SCSI Parallel Interface - 4 (SPI-4) {Project 1365-D} [Penokie]

George Penokie reported that the first SPI-4 presentations were made at the SCSI Physical Working Group (minutes in 99-267). He stated that no SPI-4 working draft documents are expected for three to five months, while the proposals are reviewed and refined, unless the needs of the cable working group require a working draft sooner.

Ralph Weber took an action item to add SPI-4 (project 1365-D) to the version descriptors list in SPC-2.

#### 8.13 SCSI Domain Validation Technical Report (SDV) {Project \_\_\_\_\_-DT} [Lamers]

Larry Lamers reported that Tariq Abou-Juyab has volunteered to edit the document. He asked the chair to consider accepting the editor candidate. John Lohmeyer reported that the NCITS web site does not show a project number for SDV yet, but he expects one to be assigned soon.

### 9. Old Business

#### 9.1 SCSI Socket/SSL Services Command Set (99-251) [Parker]

John Lohmeyer reported that Keith Parker made a presentation to the SCSI Working Group (minutes in 99-268).

#### 9.2 Cable Testing Requirements (99-111r6 & 98-219r5) [Daggett/Ham]

John Lohmeyer reported that the working group unanimously recommended that 99-111r6 and 98-219r5 be incorporated in SPI-3. Based on the working group recommendation, Bill Ham moved that 99-111r6 (Recommendations for content in SPI-3 Relating to Cable Performance) and 98-219r5 (Cable Media Performance Testing) be incorporated in SPI-3. Jay Neer seconded the motion. Jie Fan invoked the two-week rule and action on the motion was withdrawn since these documents had not been available two weeks. Bill Ham moved that 99-111r4 (Recommendations for content in SPI-3 Relating to Cable Performance) and 98-219r4 (Cable Media Performance Testing) be incorporated in SPI-3. Ed Gardner seconded the motion. Jie Fan stated that 99-111r4 is not complete and will not match 98-219r4. Bill Ham stated everything since 99-111r4 and 98-219r4 is substantially editorial. Paul Aloisi supported Bill's position. Ed Gardner asked about the history of the revisions and suggested an interpretation of the two-week rule to allow the most recent documents to be voted on. The Chair declined to use Ed's interpretation as he felt it would set a bizarre precident.

Bob Snively questioned the process by which the new revisions were generated. Bill Ham explained that the cable working group received comments from Madison and reviewed the comments. He noted that the group rejected most of the comments. Jie explained that she never received a specific response to the comments. Bill noted that Jie was not present at the working group meeting where the comments were discussed.

Dal Allan questioned the use of procedural methods to block activities of the working groups. Bob Snively stated that he would have to vote against the motion because the documents named in the motion are not the documents recommended by the working group.

The motion to incorporate 99-111r4 and 98-219r4 passed 20:7:3:15=45.

#### 9.3 Resolution of SSC letter ballot comments (99-011r2) [Peterson]

Erich Oetting reported that action on the SSC letter ballot should be deferred to the November meeting.

## 10. New Business

#### 10.1 Report on T10 Procedures Study Group Meeting [Lohmeyer]

John Lohmeyer reported that a procedures study group meeting was held on Monday of this week.

The group spent most of the time available reviewing 99-271r0 (Proposed revision to T10 Electronic Procedures), which John had prepared to supercede 95-146r2, the currently approved T10 Electronic Procedures. John said that 99-271r1 will be on the agenda for the November meetings.

Another T10 Procedures Study Group meeting is requested for Monday morning, November 1, 1999 in Monterey, CA.

#### **10.2 Actions on Working Group Recommendations**

#### 10.2.1 SPI-3 Table Restructuring (99-188r1) [Smith]

Gene Milligan moved that 99-188r1 be approved for inclusion in SPI-3. Larry Lamers seconded the motion. The motion passed 17:1:9:18=45. Paul Aloisi stated that his negative vote was based on the opinion that the restructuring of the information was unnecessary.

#### 10.2.2 Project Proposal for SCSI Signal Modeling TR (99-243r1) [Ham/Wallace]

Larry Lamers requested when the proposal was posted on the web site. Bill Ham explained that the document failed to meet the two week rule. John Lohmeyer asked that consideration be deferred to the November meeting, since the document does not yet exist.

#### 10.2.3 Project Proposal for SCSI on Scheduled Transfer (SST) (99-239r1) [Woelz/Allan]

Neil Wanamaker moved that 99-239r1 be forwarded to NCITS for processing as a new project request for the SCSI on Scheduled Transfer (SST) standard. Dal Allan seconded the motion. The motion passed 32:0:0:13=45.

John Lohmeyer took an action item to forward 99-239r1 to NCITS for processing as a new project request for the SCSI on Scheduled Transfer (SST) standard.

### 10.2.4 Project Proposal for SCSI VI Protocol (SVP) (99-246r1) [Gardner]

Ed Gardner stated that the project proposal would be subject to the two week rule. Larry Lamer invoked the two week rule. Action on the proposal was deferred to the November meeting.

#### 10.2.5 SPI-3 integrity check fall back procedure (99-242r2) [Lohmeyer]

George Penokie reported that the working group recommended approval of the proposal on a vote of 12:1:1. John Lohmeyer described the proposal. Larry Lamers requested that a definition of expander be added to the SPI-3 glossary and George Penokie agreed to added the glossary definition.

John Lohmeyer moved 99-242r2 (SPI-3 integrity check fall back procedure) be approved for inclusion in SPI-3. Gene Milligan seconded the motion. The motion passed 28:0:1:16=45.

#### 10.2.6 Forcing Bus Free from QAS (99-274r0) [Moore]

Rob Elliott described the contents of the proposal, which provides a method for a QAS initiator to force a transition to bus free phase. Rob Elliott moved that 99-274r0 (Forcing a Bus Free from QAS) be approved for inclusion in SPI-3. Larry Lamers seconded the motion. The motion passed 26:0:2:17=45.

#### 10.2.7 SAM-2 Tasks and Work (99-232r1) [Weber]

Ralph Weber moved that 99-232r1 (SAM-2 Tasks and Work) be approved for inclusion in SAM-2. Gene Milligan seconded the motion. The motion passed 28:2:0:15=45.

#### 10.2.8 Task Management Handling Changes for SPI-3 (99-227r3) [Penokie]

George Penokie moved that 99-227r3 (Task Management Handling Changes for SPI-3) be approved for inclusion in SPI-3. Jeff Williams seconded the motion. The motion passed 31:0:0:14=45.

#### 10.2.9 Logical Unit Self Test (99-179r5) [Evans]

Mark Evans moved that 99-179r5 (Logical Unit Self Test) be approved for inclusion in SPC-2. George Penokie seconded the motion. The motion passed 31:0:0:14=45.

#### 10.2.10 EXTENDED COPY Support for Persistent Reservations (99-230r1) [Weber]

Ralph Weber moved that 99-230r1 (EXTENDED COPY Support for Persistent Reservations) be approved for inclusion in SPC-2. Larry Lamers seconded the motion. The motion passed 30:0:0:15=45.

#### 10.2.11 EXTENDED COPY and Abort Task Management Functions (99-231r1) [Weber]

Ralph Weber moved that 99-231r1 (EXTENDED COPY and Abort Task Management Functions) be approved for inclusion in SPC-2. Erich Oetting seconded the motion. The motion passed 31:0:0:14=45.

### 10.2.12 Allow WRITE BUFFER when drive is not ready (99-277r0) [Houlder]

Gene Milligan moved that 99-277r0 (Allow WRITE BUFFER when drive is not ready) be approved for inclusion in SPC-2. Paul Aloisi seconded the motion. The motion passed 27:1:0:17=45. Bob Snively stated that his negative vote was based on concerns over initiators will overwrite microcode without holding a cooperating reservation.

#### 10.2.13 SCSI Medium Changer Commands -2 (SMC-2) Project Proposal (99-218r1) [Oetting]

Ed Gardner noted that the submittal date should be changed to today. Gene Milligan noted that the ISO references should include SMC. Erich Oetting moved that 99-218r2 be forwarded to NCITS for processing as a new project request for the SCSI Medium Changer Commands -2 (SMC-2) standard. Paul Aloisi seconded the motion. The motion passed 30:0:0:15=45.

Erich Oetting took an action item to provide a revised document to John Lohmeyer. John Lohmeyer took an action item to forward 99-218r2 to NCITS for processing as a new project request for the SCSI Medium Changer Commands -2 (SMC-2) standard.

#### 10.2.14 MCM Additions to Fibre Channel Control Page in FCP-2 (99-206r2) [Penokie]

George Penokie moved that 99-206r2 (MCM Additions to Fibre Channel Control Page in FCP-2) be approved for inclusion in FCP-2. Ralph Weber seconded the motion. The motion 12:6:12:15=45.

#### 10.3 Project Proposal for SCSI on Scheduled Transfer (SST) (99-239) [Ronald]

This item was handled under agenda item 10.2.3 above.

## 11. ISO

#### 11.1 ISO Report [Milligan]

Gene Milligan reported that the technical editors have fallen an additional two months behind in completing the resolution of comments.

#### 11.2 ISO Business [Milligan]

#### 11.2.1 Vote to cancel Fast Track on SBC and MMC [Milligan]

Larry Lamers moved that T10 request that the JTC1 TAG withdraw the ISO fast tracking of SBC. Erich Oetting seconded the motion. The motion passed 27:1:0:17=45.

Larry Lamers moved that T10 request that the JTC1 TAG cancel the ISO fast tracking of MMC. Bob Snively seconded the motion. The motion passed 22:2:19=45.

#### 11.2.2 Correction to SCC-2--removing extra bytes in two service actions [Penokie]

George Penokie reported that, in SCC-2 table 52, the bytes 6 through 9 labelled reserved should be removed since they are duplicates of the length bytes elsewhere in the table. Similarly, the bytes 6 through 9 labelled reserved in table 47 should be removed.

George Penokie moved that the IR be instructed to submit a U.S. recommended vote approving the SCC-2 DIS with a comment stating that the bytes labelled reserved in tables 47 and 52 should be removed because of the duplicate length bytes elsewhere in the tables. Ralph Weber seconded the motion. The motion passed 26:0:0:19=45.

George Penokie noted that his intent is to substitute the ISO version of SCC-2 for the ANSI version of SCC-2 after the ISO version is approved. This would correct the U.S. version of SCC-2.

## 12. Liaison Reports

#### 12.1 T11 Liaison Report [Wanamaker]

The T11 liaison report was provided to the committee electronically as 99-280r0. Neil Wanamaker presented the report to the committee.

#### 12.2 T13 Liaison Report [Milligan]

Gene Milligan made an oral report to the committee and provided the following electronic report for the minutes.

The T13 August, 1999 meeting was hosted by Pete McLean of Maxtor at the Hotel Boulderado.

The ATA/ATAPI-5 Project 1321D draft was reviewed. Ultra ATA Implementation Guide (D98109r1) was reviewed and will be revised to reflect the suggested changes. ATA/ATAPI-5 will be changed to correct the state of REL after a data transfer in Read DMA and Write DMA and change state diagram pointers for Read and Write DMA.

The self-test description (DST) was changed so that Self-Test may end when the test finds a test element that does not pass the test criteria.

The ATA/ATAPI-5 Draft letter ballot is planned to follow the 10/99 meeting.

The BIOS draft standard EDD v3.0 Project 1386-D revision 1 document was reviewed. Curtis Stevens will turn a revision showing the agreed changes with change bars.

Address Offset Feature Technical Report Project 1407-DT draft revision 0 was distributed for review.

The Method for Booting Reserved Area Boot Code Project 1367-D draft was reviewed. Curtis Stevens will turn a revision with the suggested changes.

The Really Big LBA (D98142r2) proposal was reviewed. Queuing with mixed 28 bit addresses and 64 bit addresses will be prohibited. Various scenarios of register writes and mode switches were discussed.

The AV proposals from Seagate and Western digital (D99123r1 and D99128r0) were discussed.

An expansion of the SMART Error Log (D99121R0) for Log Address 02h in ATA/ATAPI-6 was approved.

Multiword DMA timing diagrams will be reviewed at the October meeting.

Dan Colegrove of IBM has agreed to contribute to an ATA/ATAPI Implementer's Guide.

The 8 bit data ordering will be added back in to ATA/ATAPI-5. An 8 Bit related Set Features will be changed from retired to obsolete in ATA/ATAPI-5. Both of these changes are needed for CFA and other hand held applications. D99126r0 documents reserved codes for future CFA commands, Set Features functions and Identify drive data.

There is a conflict between the way Byte Count is presently specified for ATAPI devices with the way a major operating system uses ATAPI tape devices. This change to the Identify Packet command adds a mode indicator so hosts can determine which way the device is configured. The configuration is controlled by a SCSI command (presently vendor unique) transported by the Packet command.

The group agreed to continue to discuss partition tables at the meetings and on the reflector. Robert Raymond agreed to produce a paper for discussion.

IDEMA is developing a standard on power efficiency in response to Japanese power consumption restrictions on disk drives. A rating based upon Joules per IOPS is being evaluated. The next meeting will be at the IDEMA office in the San Clara on November 5 at 9:30am. For more information contact Kristen Montan <kmontan@idema.org>.

A video issues working group was scheduled for October 1, 1999 in Las Vegas, Nevada. The next plenary meeting of T13 is 19-22 October hosted by Quantum at the Wailea Outrigger Hotel in Wailea, Maui, Hawaii.

#### 12.3 SFF Industry Group [Allan]

Dal Allan provided the following electronic report for the minutes:

The round robin HSS (High Speed Serial) Testing for copper cables at Clariton uncovered a need to make minor changes to the specification.

The issues on HSSDC (High Speed Serial Data Connector) were resolved and the IEC draft and SFF-8420 are now close companions.

The 80-pin Fibre Channel SCA-2 tape connector will be restricted to 5 1/4" form factors only to avoid the risk of damage to existing disk products in the 3 1/2" form factor.

Jerry Kachlic presented a prototype of a 100-pin SCA and the question was raised on the requirement to retain the Advanced Ground Contacts in the guides. A worst case tolerance shows that first contact by the guides is not ensured and an investigation will check on whether the connector worst case plus the guidance requirements does ensure the guides make first contact.

A mismatch between the nominal specs on launch power between FC-PH-3 and the GBIC SFF-8053 will be addressed by Bill Ham and Bob Snively.

#### 12.4 IEEE 1394 [Johansson]

Larry Lamers reported that 1394a has closed its ballot and passed with revisions. Gene Milligan reported that the revisions have been made.

#### 12.5 IEEE P1285 Status

No report.

#### 12.6 SCSI Trade Association (STA) [Jones/Aloisi]

The STA liaison report was provided to the committee electronically as 99-281r0. Paul Aloisi presented the report to the committee.

The committee discussed the STA plans to develop ease of use documents for servers and the desktop.

In response to a question, Paul stated that the STA patent policy will be presented to the STA Board of Directors later in the day.

### **13. Review of Action Items**

- 319) Gene Milligan will submit a NWIP and a CD contribution for RBC to ISO/IEC for consideration.
- 328) John Lohmeyer and Larry Lamers will provide the SPI-3 editor with the electronic information used to include the dedication in SPI.
- 334) Gene Milligan will initiate fast track processing of NCITS:325:1998 (SBP-2).

- 335) Gene Milligan will create an NWIP and CD contribution for MMC-2 revision 11a.
- 336) Ron Roberts (or John Lohmeyer) will give RBC revision 10a to the IR in source and PDF format.
- 337) Ron Roberts (or John Lohmeyer) will give MMC-2 revision 11a to the IR in source and PDF format.
- 338) Larry Lamers will request minutes for the June CAM-3 review meeting from Bill Dallas.
- 341) Ralph Weber took will create a version descriptor entry for SPI-3 revision 10 in SPC-2.
- 342) Ralph Weber will add MMC-3 (project 1363-D) to the version descriptors list in SPC-2.
- 343) Ralph Weber will add RMC (project 1364-D) to the version descriptors list in SPC-2.
- 344) Ralph Weber will add SPI-4 (project 1365-D) to the version descriptors list in SPC-2.
- 345) John Lohmeyer will forward 99-239r1 to NCITS for processing as a new project request for a SCSI on Scheduled Transfer (SST) standard.
- 346) Erich Oetting will provide 99-218r2, a revised new project request for the SCSI Medium Changer Commands -2 (SMC-2), to John Lohmeyer.
- 347) John Lohmeyer will forward 99-218r2 to NCITS for processing as a new project request for a SCSI Medium Changer Commands -2 (SMC-2) standard.

## 14. Meeting Schedule

The next plenary meeting of T10 will be November 4, 1999 in Monterey, CA at the Embassy Suites on Monterey Bay (831-393-1115), hosted by Adaptec. The meeting will begin at 9:00 a.m. on Thursday.

The meeting list for the next plenary week is:

#### November '99 Meeting Map (9/20/99 Version)

Monday 11/1	9 10 11 12 1 2			89	
	T10 Proc. SG   SCSI	Physical WG			(50)
	++=====   T11 Meetings +				(40)
	   Mt. Fuji - 4 WG +			-+	(20)
Tuesday 11/2	9 10 11 12 1 2			89	
	SCSI Physical WG				(50)
	+=====================================				(20)
	+=====+===============================	1.3	OBD_T		(40)
Wednesday 11/3	9 10 11 12 1 2			89	
	SCSI WG +				(50)
		SFF WG   SI	FF		(40)
Thursday 11/4	9 10 11 12 1 2		67	8	
	+======+===+===+===+===+===+===+===+===+===+===+===+===+===+===+===+===+====	A Tech (*)	+		(60/40)
	+=====+===+   STA Marc +======	om	+		(15)
(*) - STA Technical meeting (includes SCSI Harbor) begins 30 minutes after the T10 plenary meeting but not before 1:30 pm					
	9 10 11 12 1 2				
	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.

Other T10-authorized meetings: Meeting Date Location / Contact \_\_\_\_\_ Cable Perf. SG9/28/99 Wed.Chicago, IL / Martin OgbuokiriInterconnect9/29/99 Thur.Chicago, IL / Martin Ogbuokiri Modeling SG 10/06/99 Wed. Fort Lauderdale, FL / T11 T10/T11.3 Joint WG 10/13/99 1:00p Wed Colorado Springs, CO / John Lohmeyer SPI-4 WG 10/14/99 Thur.Colorado Springs, CO / John LohmeyerCable Perf. SG10/26/99 Tue.Huntington Beach, CA / Dean WallaceInterconnect10/27/99 Wed.Huntington Beach, CA / Dean Wallace Modeling SG Cable Perf. SG 11/30/99 Tue. Rochester, MN / Fasig Rochester, MN / Fasig Interconnect 12/01/99 Wed. Modeling SG 12/2-3/99 Wed-Thur. Rochester, MN / Fasig SPI-4 WG Meeting Map Abbreviation Key: Amnd: Amendment Cable Perf.: Cable Performance Testing Common Access Method CAM: CAM-3: Next generation CAM for SCSI-3 EPI: SCSI Enhanced Parallel Interface (Technical Report) 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) Fast-80: Data Transfer at 80 Mega-transfers/second (a.k.a., Ultra3) Fast-solData Transfer at so Mega-transfers/second (a.K.a., b.FC:Fibre ChannelFC-AL:Fibre Channel - Arbitrated Loop (a T11 project)FCLC:Fibre Channel Loop Community (not an NCITS activity)I/F:InterfaceHAP:High Availability Profile (Technical Report)LB:Letter BallotMMC-2:Multimedia Commands - 2 (CD-ROM, DVD, etc.)OBD\_T:Object-Based Device TutorialPH:Physical (Connectors, Cables, Transceivers, etc.) PH: Physical (Connectors, Cables, Transceivers, etc.) Plenary:Full Committee MeetingRAID:Redundant Array of Independent DevicesRBC:Reduced Block Commands SBC: SCSI-3 Block Commands SBP-2: Serial Bus Protocol for IEEE 1394 (2nd generation protocol) SCC-2: SCSI Controller Commands - 2 (2nd generation RAID command set) Small Computer System Interface SCSI: SCSI Enclosure Services SES: SCSI Harbor: A STA project on defining a wrapper for SCSI devices SFF: SFF Industry Group (not an NCITS activity) Study Group SG: SMC: SCSI-3 Medium Changer Commands SMC:SCS1-3 Medium Changer CommandsSPC-2:SCSI Primary Commands - 2 (2nd generation)SPI-2:Second Generation SCSI Parallel InterfaceSPI-3:Third Generation SCSI Parallel InterfaceSSA:Serial Storage InterfaceSSC:SCSI-3 Stream Commands (includes Tape)SSWGs:Specific-Subject Working GroupsSTA:SCSI Trade Association (not an NCITS activity) STA Tech: STA Technical Meeting (T10 members invited) T10: Lower Level Interfaces Technical Committee T10 Proc.: T10 Procedures WG: Working Group (same as Ad Hoc Group)

Activity	Contact	Telephone/Email
САМ-3	Bill Dallas	(603) 881-2508
EPI	Bill Ham	
FCP, FCP-2, SES	Robert Snively	
GPP	Gary Stephens	
SBC	Gene Milligan	
MMC, MMC-2, MMC-3, RMC	Ron Roberts	gene_milligan@notes.seagate.com (916) 677-5714
SBP-2 or RBC	Pete McLean	rkroberts@aol.com (303) 678-2149
SBP-2	Peter Johansson	<pre>pete_mclean@maxtor.com (510) 527-3926</pre>
SCC-2, SPI-2, SPI-3, SPI-4	George Penokie	pjohansson@aol.com (507) 253-5208
SMC	Erich Oetting	gop@us.ibm.com
SPC, SPC-2, SAM-2	_	Erich_Oetting@Stortek.com (972) 503-3205 x228
	-	roweber@acm.org
SSA-PH1,-PH2,-TL1,-TL2	Larry Lamers	ljlamers@ix.netcom.com
SSA-S2P & -S3P	John Scheible	Scheible@vnet.ibm.com
SSC	Dave Peterson	(612) 391-1008 dap@network.com
Other Activities	John Lohmeyer	(719) 533-7560 lohmeyer@t10.org

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

#### The long-term T10 meeting week schedule is:

Date	Location	Host/Comments
Sep 13-17, 1999 Nov 1-5, 1999 Jan 10-14, 2000	Huntington Beach, CA Monterey, CA Brisbane, Australia	QLogic Adaptec / dates changed ENDL Pacific Technologies
Mar 6-10, 2000	Dallas, TX	TI/Unitrode
May 15-19, 2000	Nashua, NH	Hitachi Cable / dates changed
Jul 10-14, 2000	Colorado Springs, CO	LSI Logic
Sep 11-15, 2000	Huntington Beach, CA	QLogic
Oct 30-Nov 3, 2000	Monterey, CA	Adaptec / dates changed
Jan 15-19, 2001	(open)	
Mar 5-9, 2001	Dallas, TX	TI {tentative}
May 7-11, 2001	Manchester, NH	Hitachi Cable
Jul 16-20, 2001	Colorado Springs, CO	LSI Logic
Sep 10-14, 2001	Huntington Beach, CA	QLogic
Nov 5-9, 2001	Monterey, CA	Adaptec

Larry Lamers moved that the January 2001 meeting be moved from the week of 15-19 to the week of 22-26. Gene Milligan seconded the motion. The motion failed 4:13:6.

#### 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. 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. Paul Aloisi seconded the motion. The motion passed 18:1:1:25=45. Gene stated that his no vote was based on the schedule conflict between the SPI-4 and NCITS meetings.

Bill Ham asked that authorized ad hoc meetings be given document numbers for minutes upon authorization. John asked that discussion of the topic be deferred to the next procedures study group meeting.

Dal Allan asked the committee to confirm that only two meeting tracks will be needed in January 2000. The following plan for two meeting tracks was discussed by the group.

Tentative	January	00 '	Meeting	Map
( 9	)/16/99 t	/ers:	lon)	

Monday 1/10	9 10 +=====		12	1	2	3	4	5	6	7	8	9	
	T10	Proc.	SG	5	SCSI	Phys	sical	WG					(50)
		Fuji 		WG									(20)
Tuesday 1/11	9 10		12	_	2	3	4	5	6	7	8	9	
	+=====   SCSI +=====	Phys	ical	WG					Ì				(50)
	MMC +=====	WG							Ì				(20)
Wednesday 1/12	9 10	11		1	2	3	4	5	б	7	8	9	
	+=====   SCSI +=====	WG								Ì			(50)
	+   MMC +=====	WG				SF	'F WG	S	FF				(40)
Thursday 1/13	9 10	11	12	1	2	-	-	-	б	7	8		
				Г	710 E	lena	-		Ì				(50)
		t T10	/T11	.3				====	=+				
+==============================+ (*) - STA Technical meeting (includes SCSI Harbor) begins 30 minutes after the T10 plenary meeting but not before 2:30 pm													
Friday 1/14 8	9 10	11	12	1	2	3	4	5					
No Meetings are planned for Friday.													
Meetings marked with == are T10-authorized meetings. Meetings marked with are authorized by other groups and may change													

## 15. Adjournment

without notice.

The meeting was adjourned at 1:15 p.m. on Thursday September 16, 1999.

#### Enclosure(1) -- Meeting Attendees

	Name	S	Organization	Electronic Mail Address
Mr.	Lawrence J. Lamers	Р	Adaptec, Inc.	ljlamers@ieee.org
	Robert Frey	P	Advansys	bobf@advansys.com
	Charles Brill	P	AMP, Inc.	cebrill@ix.netcom.com
	Bill Mable	P	Amphenol Interconnect	bmable@spectra.net
Mr.	Bart Raudebaugh	Ρ	Ancot Corp.	bart@ancot.com
	Gregg Neely	P	Andataco	greggn@andataco.com
	Douglas Wagner	Ρ	Berg Electronics	wagnerdl@bergelect.com
	Dennis Lang	А	Circuit Assembly Corp.	dennisl@circuitassembly.
	-			com
Mr.	Edward Haske	Ρ	CMD Technology	haske@cmd.com
Mr.	Robert C. Elliott	Ρ	Compaq Computer Corp.	Robert.Elliott@compaq.com
Dr.	William Ham	А	Compaq Computer Corp.	bill.ham@digital.com
Mr.	David Rotman	V	Compaq Computer Corp.	david.rotman@compaq.com
Mr.	Neil Wanamaker	Ρ	Crossroads Systems, Inc.	ntw@crossroads.com
Mr.	Charles Tashbook	Ρ	Dallas Semiconductor	charles.tashbook@dalsemi. com
Mr.	Ricardo Dominguez	Ρ	Dell Computer	ricardo_dominguez@dell. com
Mr.	Keith W. Parker	V	Diogenes SCSI	diogenes@europa.com
Mr.	Jack Harwood	V	EMC	jharwood@emc.com
Mr.	I. Dal Allan	Ρ	ENDL	endlcom@ibm.net
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Mr.	George O. Penokie	Ρ	IBM Corp.	gop@us.ibm.com
	Dan Colegrove	A#	IBM Corp.	colegrov@us.ibm.com
Mr.	Louis Grantham	Ρ	Linfinity Micro	lgrantham@linfinity.com
Mr.	John Lohmeyer	Ρ	LSI Logic Corp.	lohmeyer@t10.org
	Ralph O. Weber	А	LSI Logic Corp.	roweber@acm.org
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Mr.	Takeshi Kohda	V	Pioneer Electronics Corp.	-
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	Mark Evans	Ρ	Quantum Corp.	mark.evans@quantum.com
Mr.	Gene Milligan	Ρ	Seagate Technology	Gene_Milligan@notes. seagate.com
Mr.	Ron Roberts	V	Sierra-Pac Technology	rkroberts@aol.com
	Jeffrey Schroeder	0	ST Microelectronics	jeffrey.schroeder@st.com
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• • •		••		

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Mr. Jeffrey L. Williams	P Western Digital Corporation	Jeffrey.L.Williams@wdc. com
Mr. Paul Anderson	0 Western Digital Corporation	paul.m.anderson@wdc.com
Mr. Masahiro Ito	V Yamagata Fujitsu Ltd.	mike@yfl.cs.fujitsu.co.jp
51 People Present		
A,A# -	Principal Alternate Observer	

L - Liaison V - Visitor

#### Enclosure(2) -- T10 Attendance Database

Generated on 1999/09/20 at 13:46:44

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- T10/99-001R0 Date: 1999/03/18 Author: John Lohmeyer Mailing: 1999\_1 Agenda for T10 Meeting #31 (May '99)
- T10/99-001R1 Date: 1999/03/24 Author: John Lohmeyer Mailing: 1999\_1 Agenda for T10 Meeting #31 (May '99)
- T10/99-002R0 Date: 1999/03/18 Author: John Lohmeyer Mailing: 1999\_1 T10 Project Summary - Mar '99
- T10/99-003R0 Date: 1999/03/18 Author: John Lohmeyer Mailing: 1999\_1 Jeopardy letter for May '99 meeting
- T10/99-004R0 Date: 1999/05/14 Author: John Lohmeyer Mailing: 1999\_2 Agenda for T10 Meeting #32 (July '99)
- T10/99-005R0 Date: 1999/05/11 Author: John Lohmeyer Mailing: 1999\_2 T10 Project Summary - May '99
- T10/99-006R0 Date: 1999/05/11 Author: John Lohmeyer Mailing: 1999\_2 Jeopardy letter for July '99 meeting
- T10/99-007R0 Date: 1999/07/23 Author: John Lohmeyer Mailing: 1999\_3 Agenda for T10 Meeting #33 (September '99)
- T10/99-008R0 Date: 1999/07/26 Author: John Lohmeyer Mailing: 1999\_3 T10 Project Summary - July '99
- T10/99-009R0 Date: 1999/07/26 Author: John Lohmeyer Mailing: 1999\_3 Jeopardy letter for September '99 meeting
- T10/99-010R0 Date: 1999/06/03 Author: John Lohmeyer Mailing: 1999\_3 Letter Ballot on forwarding SSC to first public review
- T10/99-011R0 Date: 1999/07/06 Author: John Lohmeyer Mailing: 1999\_3 Results of letter ballot 99-010 on forwarding SSC
- T10/99-011R1 Date: 1999/07/06 Author: John Lohmeyer Mailing: 1999\_3 Results of letter ballot 99-010 on forwarding SSC
- T10/99-011R2 Date: 1999/07/10 Author: John Lohmeyer Mailing: 1999\_3 Results of letter ballot 99-010 on forwarding SSC
- T10/99-101R0 Date: 1998/12/04 Author: Ron Roberts Mailing: 1999\_1 Minutes of MMC-2 Working Group - 11/30 - 12/2/98
- T10/99-102R0 Date: 1998/12/08 Author: Larry Lamers Mailing: 1999\_1 Unexpected Bus Free Timeout Function
- T10/99-102R1 Date: 1999/01/25 Author: Larry Lamers Mailing: 1999\_1 UBF Timeout Function
- T10/99-102R2 Date: 1999/01/27 Author: Larry Lamers Mailing: 1999\_1 Synchronous Transfer Timeout Function
- T10/99-102R3 Date: 1999/01/28 Author: Larry Lamers Mailing: 1999\_1 STT Timeout Function

T10/99-102R4 Date: 1999/02/05 Author: Larry Lamers Mailing: 1999\_1 STT Timeout Function T10/99-102R5 Date: 1999/03/10 Author: Larry Lamers Mailing: 1999\_1 STT Timeout Function T10/99-103R0 Date: 1998/12/17 Author: John Lohmeyer Mailing: 1999\_1 Minutes of SPI-3 Working Group - January 26-27, 1999 T10/99-104R0 Date: 1999/01/10 Author: George Penokie Mailing: 1999\_1 Message Information Unit Definition T10/99-104R1 Date: 1999/03/09 Author: George Penokie Mailing: 1999\_1 Message Information Unit Definition T10/99-105R0 Date: 1999/01/06 Author: Stewart Wyatt Mailing: 1999\_1 Minutes of Fibre Channel Tape Profile Meeting - 12/16/98 T10/99-106R0 Date: 1999/01/06 Author: Penman, Mailing: 1999\_1 Mottahedin, Nazir, & Moore Case Study: Fast-80 Setup and Hold Timings T10/99-107R0 Date: 1998/12/10 Author: ISO/IEC JTC 1/SC Mailing: 1999\_1 25 Optical Memory Card Device Commands (SCSI OMC) T10/99-108R0 Date: 1999/01/07 Author: John Lohmeyer Mailing: 1999 1 Clarification of interaction of SDTR/WDTR messages with PPR message T10/99-108R1 Date: 1999/01/27 Author: John Lohmeyer Mailing: 1999\_1 Clarification of interaction of SDTR/WDTR messages with PPR message T10/99-108R2 Date: 1999/02/09 Author: John Lohmeyer Mailing: 1999\_1 Clarification of interaction of SDTR/WDTR messages with PPR message T10/99-108R3 Date: 1999/03/09 Author: John Lohmeyer Mailing: 1999\_1 Clarification of interaction of SDTR/WDTR messages with PPR message T10/99-109R0 Date: 1999/01/07 Author: John Lohmeyer Mailing: 1999\_1 Clarification of MODIFY DATA POINTER message T10/99-110R0 Date: 1999/01/07 Author: Gene Milligan Mailing: 1999\_1 SCSI Version Proposal Flavor Two for SPC-2 T10/99-110R1 Date: 1999/03/04 Author: Gene Milligan Mailing: 1999\_1 SCSI Version Proposal Flavor Two for SPC-2 T10/99-110R2 Date: Author: Gene Milligan Mailing: 1999\_1 SCSI Version Proposal Flavor Two for SPC-2 T10/99-111R0 Date: 1999/01/26 Author: Zane Daggett Mailing: 1999\_1 Recommended changes to SPI-3 Tables T10/99-111R1 Date: 1999/05/11 Author: Zane Daggett Mailing: 1999\_3 Recommended for content in SPI-3 relating to cable performance T10/99-111R3 Date: 1999/06/15 Author: Zane Daggett Mailing: 1999\_3 Recommendations for content in SPI-3 relating to cable performance

- T10/99-111R4 Date: 1999/07/28 Author: Bill Ham Mailing: 1999\_4 Recommendations for content in SPI-3 relating to cable performance
- T10/99-111R5 Date: 1999/08/31 Author: Bill Ham Mailing: 1999\_4 Recommendations for content in SPI-3 relating to cable performance
- T10/99-111R6 Date: 1999/09/13 Author: Bill Ham Mailing: 1999\_4 Recommendations for content in SPI-3 relating to cable performance
- T10/99-112R0 Date: 1999/01/22 Author: Bill Galloway Mailing: 1999\_1 Synchronous ATN timing
- T10/99-112R1 Date: 1999/03/07 Author: Bill Galloway Mailing: 1999\_1 Synchronous ATN timing
- T10/99-112R2 Date: 1999/03/13 Author: Bill Galloway Mailing: 1999\_1 Synchronous ATN timing
- T10/99-113R0 Date: 1999/01/22 Author: Bill Galloway Mailing: 1999\_1 DiffSense Timing
- T10/99-113R1 Date: 1999/03/07 Author: Bill Galloway Mailing: 1999\_1 DiffSense Timing
- T10/99-113R2 Date: 1999/03/13 Author: Bill Galloway Mailing: 1999\_1 DiffSense Timing
- T10/99-114R0 Date: 1999/01/22 Author: Bill Galloway Mailing: 1999\_1 LVD Receiver offset voltage
- T10/99-115R0 Date: 1999/01/22 Author: Keld Simonsen Mailing: 1999\_1 Tips & Techniques for JTC 1 web-based distribution
- T10/99-116R0 Date: 1999/01/22 Author: Jie Fan Mailing: 1999\_1 Cable Testing Requirements
- T10/99-116R1 Date: 1999/01/26 Author: Jie Fan Mailing: 1999\_1 Cable Testing Requirements
- T10/99-117R0
   Date:
   1999/01/22
   Author:
   ISO
   Mailing:
   1999\_1

   ISO's long-range strategies
   1999-2001
   Mailing:
   1999\_1
- T10/99-118R0 Date: 1999/01/25 Author: Jim McGrath Mailing: 1999\_1 Common CRC for DT and Packetized SCSI

T10/99-119R0 Date: 1999/02/26 Author: Jim McGrath Mailing: 1999\_1 Protection for the Asynchronous Information phases (Command, Message, Status)

T10/99-119R1 Date: 1999/03/05 Author: Jim McGrath Mailing: 1999\_1 Protection for the Asynchronous Information phases (Command, Message, Status)

T10/99-119R2 Date: 1999/04/06 Author: Mark Evans and Mailing: 1999\_2 Bruce Leshay Protection for the Asynchronous Information phases (Command, Message, Status) T10/99-119R3 Date: 1999/04/21 Author: Mark Evans and Mailing: 1999\_2 Bruce Leshay

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T10/99-269r1

Protection for the Asynchronous	Informat	ion phases (Comman	d, Message	e, Status)		
T10/99-119R4 Date: 1999/04/23	Author:		Mailing:	1999_2		
Protection for the Asynchronous	Informat	Bruce Leshay ion phases (Comman	d, Message	e, Status)		
T10/99-119R5 Date: 1999/05/28	Author:	Mark Evans and Bruce Leshay	Mailing:	1999_3		
Bruce Lesnay Protection for the Asynchronous Information phases (Command, Message, Status)						
T10/99-119R6 Date: 1999/06/21	Author:	Mark Evans and Bruce Leshay	Mailing:	1999_3		
Protection for the Asynchronous	Informat	-	d, Message	e, Status)		
T10/99-120R0 Date: 1999/01/22 SCSI ATN Timing Sort of Proposal			Mailing:	1999_1		
T10/99-121R0 Date: 1999/02/10 Mt. Fuji Commands for Multimedia		Rob Sims	Mailing:	1999_1		
T10/99-122R0 Date: 1999/01/25 SPI-3 LVD Setup/Hold Time Issues		Frank Gasparik	Mailing:	1999_1		
T10/99-123R0 Date: 1999/01/26 Setup and Hold Time Measurements		Vince Bastiani	Mailing:	1999_1		
T10/99-124R0 Date: 1999/01/24 Packetized CRC Proposal	Author:	Bruce Leshay	Mailing:	1999_1		
T10/99-125R0 Date: 1999/01/27 Minutes of MMC-2 Working Group -			Mailing:	1999_1		
T10/99-126R0 Date: not used	Author:		Mailing:	Missing		
T10/99-127R0 Date: 1999/01/27 Proposed changes to SPI-3 LVD AC		Paul Aloisi diagrams	Mailing:	1999_1		
T10/99-127R1 Date: 1999/01/28 Proposed changes to SPI-3 LVD AC			Mailing:	1999_1		
T10/99-127R2 Date: 1999/03/09 LVD Timing Diagram Correction	Author:	Paul Aloisi	Mailing:	1999_1		
T10/99-127R3 Date: 1999/03/09 LVD Timing Diagram Correction	Author:	Paul Aloisi	Mailing:	1999_1		
T10/99-127R4 Date: 1999/03/09 LVD Timing Diagram Correction	Author:	Paul Aloisi	Mailing:	1999_1		
T10/99-127R5 Date: 1999/05/05 LVD Timing Diagram Correction	Author:	Paul Aloisi	Mailing:	1999_2		
T10/99-127R6 Date: 1999/05/27 LVD Timing Diagram Correction	Author:	Paul Aloisi	Mailing:	1999_3		
T10/99-127R7 Date: 1999/07/12 LVD Timing Diagram Correction	Author:	Paul Aloisi	Mailing:	1999_3		

T10/99-127R8 Date: 1999/07/13 Author: Paul Aloisi Mailing: 1999\_3 LVD Timing Diagram Correction T10/99-128R0 Date: 1999/02/02 Author: Hayden Smith Mailing: 1999\_1 Comments on Draft 14776-381 (SCSI OMC) T10/99-128R1 Date: 1999/03/16 Author: Hayden Smith Mailing: 1999\_1 Comments on Draft 14776-381 (SCSI OMC) T10/99-129R0 Date: 1999/02/02 Author: Ralph Weber & Mailing: 1999\_1 George Penokie Minutes of SPC-2 Working Group - 1/28/99 T10/99-130R0 Date: 1999/02/10 Author: George Penokie Mailing: 1999\_1 Changes to INQUIRY T10/99-130R1 Date: 1999/03/10 Author: George Penokie Mailing: 1999\_1 Changes to INQUIRY T10/99-131R0 Date: 1999/02/05 Author: Tariq Abou-Jeyab Mailing: 1999\_1 / Vince Bastiani Setup and hold time measurements for Ultra 160/m T10/99-132R0 Date: 1999/03/07 Author: Bill Galloway Mailing: 1999\_1 Removing zero length data transfers with CRC T10/99-133R0 Date: 1999/03/07 Author: Bill Galloway Mailing: 1999\_1 Timing for SCSI RST line T10/99-134R0 Date: 1999/03/07 Author: Bill Galloway Mailing: 1999\_1 PPR Protocol options negotiation T10/99-134R1 Date: 1999/03/13 Author: Bill Galloway Mailing: 1999\_1 PPR Protocol options negotiation T10/99-135R0 Date: 1999/03/16 Author: Weber & Lohmeyer Mailing: 1999\_1 Minutes of SPI-3 Working Group - March 9, 1999 T10/99-135R1 Date: 1999/03/23 Author: Weber & Lohmeyer Mailing: 1999\_1 Minutes of SPI-3 Working Group - March 9, 1999 T10/99-136R0 Date: 1999/03/17 Author: Weber & Lohmeyer Mailing: 1999\_1 Minutes of SCSI-3 Working Group - March 10, 1999 T10/99-137R0 Date: 1999/03/17 Author: Weber & Lohmeyer Mailing: 1999\_1 Minutes of T10 Plenary Meeting #30 - March 11, 1999 T10/99-137R1 Date: 1999/03/23 Author: Weber & Lohmeyer Mailing: 1999\_1 Minutes of T10 Plenary Meeting #30 - March 11, 1999 T10/99-138R0 Date: 1999/02/09 Author: Larry Lamers Mailing: 1999\_1 Patent Letter for SPI-3 from Adaptec T10/99-139R0 Date: 1999/03/04 Author: Gene Milligan, Mailing: 1999\_1 George Penokie, & Larry Lamers Packet Protocol Extensions

T10/99-139R1 Date: 1999/03/10 Author: Gene Milligan, Mailing: 1999\_1

	George Penokie, & Larry Lamers					
Packet Protocol Extensions						
T10/99-139R2 Date: 1999/03/10 Author:	Gene Milligan, George Penokie, & Larry Lamers	Mailing:	1999_1			
Packet Protocol Extensions						
	Gene Milligan, George Penokie, & Larry Lamers	Mailing:	1999_1			
Packet Protocol Extensions						
T10/99-139R4 Date: 1999/04/08 Author:	Gene Milligan, George Penokie, & Larry Lamers	Mailing:	1999_2			
Packet Protocol Extensions						
T10/99-140R0 Date: 1999/02/28 Author: Project Proposal for SCSI Parallel Inte:	-	Mailing:	1999_1			
T10/99-140R1 Date: 1999/03/24 Author: Project Proposal for SCSI Parallel Inter	-	Mailing:	1999_1			
T10/99-140R2 Date: 1999/05/06 Author: Project Proposal for SCSI Parallel Inte	-	Mailing:	1999_2			
T10/99-140R3 Date: 1999/05/06 Author: Project Proposal for SCSI Parallel Inter	-	Mailing:	1999_2			
T10/99-141R0 Date: 1999/02/26 Author: A Common CRC Method for Packetized and D	-	Mailing:	Missing			
T10/99-142R0 Date: 1999/09/08 Author: Flow Control	Larry Lamers	Mailing:	1999_4			
T10/99-143R0 Date: 1999/03/02 Author: Extended Copy Command	Steve Wilson	Mailing:	1999_1			
T10/99-143R1 Date: 1999/04/02 Author: Extended Copy Command	Steve Wilson	Mailing:	1999_2			
T10/99-144R0 Date: 1999/03/01 Author: Suggested changes to REPORT LUNS command	-	Mailing:	1999_1			
T10/99-144R1 Date: 1999/03/15 Author: Suggested changes to REPORT LUNS command	-	Mailing:	1999_1			
T10/99-145R0 Date: 1999/03/01 Author: Minutes of Joint T11/T10 FC-TAPE Meeting	-	Mailing:	1999_1			
T10/99-146R0 Date: 1999/03/02 Author: Correction in interaction of persistent	-	-	1999_1			
T10/99-146R1 Date: 1999/03/15 Author: Correction in interaction of persistent	-	Mailing: ations	1999_1			
T10/99-147R0 Date: 1999/03/05 Author:	Bob Snively	Mailing:	1999_1			

Make CT and TTD obsolete T10/99-148R0 Date: 1999/03/18 Author: Ian 'Sid' Mailing: 1999\_1 Crighton Memory in Cartridge proposal T10/99-148R1 Date: 1999/05/19 Author: Ian 'Sid' Mailing: 1999\_3 Crighton Proposal for Storage and Access of Data on Media Auxiliary Memory T10/99-148R2 Date: 1999/09/08 Author: Ian 'Sid' Mailing: 1999\_4 Crighton Proposal for Storage and Access of Data on Media Auxiliary Memory T10/99-149R0 Date: 1999/03/08 Author: Bill Ham Mailing: 1999\_1 Revised SPI-3 Timing Diagram T10/99-150R0 Date: 1999/03/08 Author: Richard Mailing: 1999\_1 Tomaszewski, Tom Grieff, & Rob Elliott Justification for asynchronous information phase protection T10/99-151R0 Date: 1999/03/04 Author: Gene Milligan, Mailing: 1999\_1 George Penokie, and Larry Lamers Packet Protocol Extensions Illustrations (see 99-139r3) T10/99-152R0 Date: 1999/03/09 Author: Ron Roberts Mailing: 1999\_1 Minutes of MMC-2 Working Group - 3/9-10/99 T10/99-153R0 Date: 1999/05/06 Author: Ron Roberts Mailing: 1999\_2 Project Proposal for MMC-3 T10/99-153R1 Date: 1999/05/06 Author: Ron Roberts Mailing: 1999\_2 Project Proposal for MMC-3 T10/99-153R2 Date: 1999/05/06 Author: Ron Roberts Mailing: 1999\_2 Project Proposal for MMC-3 T10/99-154R0 Date: 1999/05/06 Author: Ron Roberts Mailing: 1999\_2 Project Proposal for RMC T10/99-154R1 Date: 1999/05/06 Author: Ron Roberts Mailing: 1999\_2 Project Proposal for RMC T10/99-154R2 Date: 1999/05/06 Author: Ron Roberts Mailing: 1999\_2 Project Proposal for RMC T10/99-155R0 Date: 1999/03/09 Author: Gene Milligan Mailing: 1999\_1 Timing Diagram T10/99-156R0 Date: 1999/03/09 Author: Bill Ham and Mailing: 1999 1 Zane Daggett Report from the SCSI Cable Testing Ad hoc -- March 2, 1999 T10/99-157R0 Date: 1999/03/10 Author: Bruce Leshay Mailing: 1999\_1

T10/99-157R0 Date: 1999/03/10 Author: Bruce Leshay Mailing: 1999\_J Proposed edit to SPI-3 on P\_CRCA transitions during DT transfers T10/99-157R1 Date: 1999/03/17 Author: Bruce Leshay Mailing: 1999\_2 Proposed edit to SPI-3 on P\_CRCA transitions during DT transfers T10/99-158R0 Date: 1999/03/10 Author: Bob Snively Mailing: 1999\_1 Very long CDBs in FCP-2 and SPI-3 T10/99-158R1 Date: 1999/03/15 Author: Bob Snively Mailing: 1999\_1 Very long CDBs in FCP-2 and SPI-3 T10/99-158R2 Date: 1999/03/17 Author: Bob Snively Mailing: 1999\_1 Very long CDBs in FCP-2 and SPI-3 T10/99-158R3 Date: 1999/03/17 Author: Bob Snively Mailing: 1999\_2 Very long CDBs in FCP-2 and SPI-3 T10/99-158R4 Date: 1999/04/28 Author: Bob Snively Mailing: 1999\_2 Very long CDBs in FCP-2 and SPI-3 T10/99-159R0 Date: 1999/03/09 Author: Dale LaFollette Mailing: 1999\_1 Joint T10/T11 FC-TAPE / SSC / FCP-2 Liaison Report T10/99-160R0 Date: 1999/04/01 Author: Rob Elliott & Mailing: 1999\_2 Gerry Houlder Arbitration Fairness Control (in SPC-2/SPI-3/FCP-2) T10/99-160R1 Date: 1999/04/21 Author: Rob Elliott & Mailing: 1999\_2 Gerry Houlder Arbitration Fairness Control (in SPC-2/SPI-3/FCP-2) T10/99-160R2 Date: 1999/05/05 Author: Rob Elliott & Mailing: 1999\_2 Gerry Houlder Arbitration Fairness Control (in SPC-2/SPI-3/FCP-2) T10/99-160R3 Date: 1999/06/27 Author: Rob Elliott Mailing: 1999\_3 Normal Arbitration Fairness Control in SPI-3 T10/99-161R0 Date: 1999/03/11 Author: Larry Lamers Mailing: 1999\_1 Meeting Notice - SPI-3 Working Group 4/7-8/99 T10/99-162R0 Date: 1999/03/15 Author: Stewart Wyatt Mailing: 1999\_1 Minutes of Joint T11/T10 FC-TAPE Meeting - 3/9/99 T10/99-163R0 Date: 1999/05/01 Author: Ralph Weber Mailing: 1999\_2 Comments on Extended Copy T10/99-163R1 Date: 1999/05/13 Author: Ralph Weber Mailing: 1999\_2 EXTENDED COPY command for SPC-2 T10/99-163R2 Date: 1999/07/22 Author: Ralph Weber Mailing: 199932 EXTENDED COPY command for SPC-2 T10/99-164R0 Date: 1999/03/11 Author: Gene Milligan Mailing: 1999\_1 ISO Report for March 1999 T10/99-165R0 Date: 1999/03/22 Author: Lamers and Mailing: 1999\_1 Lohmeyer CONTINUE TASK Message T10/99-166R0 Date: 1999/03/24 Author: Larry Lamers Mailing: 1999\_1 Enabling Upper Byte Hamming

- T10/99-166R1 Date: 1999/03/26 Author: Larry Lamers Mailing: 1999\_2 Enabling Upper Byte Hamming
- T10/99-166R2 Date: 1999/03/31 Author: Larry Lamers Mailing: 1999\_2 Enabling Upper Byte Hamming
- T10/99-166R3 Date: 1999/04/07 Author: Larry Lamers Mailing: 1999\_2 Enabling Upper Byte Hamming
- T10/99-167R0 Date: 1999/04/08 Author: John Lohmeyer Mailing: 1999\_2 Minutes of SPI-3 Working Group - April 7-8, 1999
- T10/99-167R1 Date: 1999/04/13 Author: John Lohmeyer Mailing: 1999\_2 Minutes of SPI-3 Working Group - April 7-8, 1999
- T10/99-168R0 Date: 1999/03/15 Author: Bob Snively Mailing: 1999\_2 FCP-2 changes from revision 0 to revision 1
- T10/99-168R1 Date: 1999/03/31 Author: Bob Snively Mailing: 1999\_2 FCP-2 changes from revision 0 to revision 1
- T10/99-168R2 Date: 1999/04/27 Author: Bob Snively Mailing: 1999\_2 FCP-2 changes from revision 0 to revision 1
- T10/99-169R0 Date: 1999/03/31 Author: Larry Lamers & Mailing: 1999\_2 Vince Bastiani
- Groundwork for Expander Communication
- T10/99-169R1 Date: 1999/04/08 Author: Larry Lamers & Mailing: 1999\_2 Vince Bastiani
- Groundwork for Expander Communication
- T10/99-170R0 Date: 1999/04/04 Author: Bill Galloway Mailing: 1999\_2 Packetized cleanup and improvements
- T10/99-170R1 Date: 1999/04/09 Author: Bill Galloway Mailing: 1999\_2 Packetized cleanup and improvements
- T10/99-171R0 Date: 1999/04/07 Author: Bill Ham Mailing: Missing Implied Assumptions in SPI-3 Timing Budget
- T10/99-172R0 Date: 1999/04/07 Author: Bill Ham & Zane Mailing: 1999\_2 Daggett
- Report on April 6th Cable Performance meeting
- T10/99-173R0 Date: 1999/04/08 Author: Bill Galloway Mailing: 1999\_2 Restrict QAS to Packetized
- T10/99-174R0 Date: 1999/04/12 Author: George Penokie Mailing: 1999\_2 Annex A Modification
- T10/99-175R0 Date: 1999/05/07 Author: Weber & Lohmeyer Mailing: 1999\_2 Minutes of SPI-3 Working Group - May 2-3, 1999
- T10/99-175R1 Date: 1999/05/20 Author: Weber & Lohmeyer Mailing: 1999\_2 Minutes of SPI-3 Working Group - May 2-3, 1999

T10/99-176R0 Date: 1999/05/10 Author: Weber & Lohmeyer Mailing: 1999\_2 Minutes of SCSI-3 Working Group - May 5, 1999

- T10/99-177R0 Date: 1999/05/12 Author: Weber & Lohmeyer Mailing: 1999\_2 Minutes of T10 Plenary Meeting #31 - May 6, 1999
- T10/99-177R1 Date: 1999/05/20 Author: Weber & Lohmeyer Mailing: 1999\_2 Minutes of T10 Plenary Meeting #31 - May 6, 1999
- T10/99-178R0 Date: 1999/04/20 Author: Stewart Wyatt Mailing: 1999\_2 Minutes of Joint T11/T10 FC-Tape Working Group - April 14-15, 1999
- T10/99-179R0 Date: 1999/04/26 Author: Mark Evans Mailing: 1999\_2 Hard Drive Self Tests
- T10/99-179R1 Date: 1999/05/14 Author: Mark Evans Mailing: 1999\_2 Hard Drive Self Tests
- T10/99-179R2 Date: 1999/07/08 Author: Mark Evans Mailing: 1999\_3 Logical Unit Self Tests
- T10/99-179R3 Date: 1999/07/23 Author: Mark Evans Mailing: 1999\_4 Logical Unit Self Tests
- T10/99-179R4 Date: 1999/07/29 Author: Mark Evans Mailing: 1999\_4 Logical Unit Self Tests
- T10/99-179R5 Date: 1999/09/15 Author: Mark Evans Mailing: 1999\_4 Logical Unit Self Tests
- T10/99-180R0 Date: 1999/04/22 Author: Gerry Houlder Mailing: 1999\_2 Application Client Log Page proposal
- T10/99-180R1 Date: 1999/07/15 Author: Gerry Houlder Mailing: 1999\_3 Application Client Log Page proposal
- T10/99-181R0 Date: 1999/04/23 Author: Rob Elliott and Mailing: 1999\_2 Carl Zeitler
- SSC Compression Algorithm default values
- T10/99-182R0 Date: 1999/04/27 Author: Tom Coughlan Mailing: 1999\_2 Still more on Persistent Reservations
- T10/99-182R1 Date: 1999/05/05 Author: Tom Coughlan Mailing: 1999\_2 Still more on Persistent Reservations
- T10/99-183R0 Date: 1999/04/27 Author: Gene Milligan Mailing: 1999\_2 Slow DT Timing Revision Proposal for SPI-3
- T10/99-183R1 Date: 1999/05/02 Author: Gene Milligan Mailing: 1999\_2 Slow DT Timing Revision Proposal for SPI-3
- T10/99-184R0 Date: 1999/04/29 Author: George Penokie Mailing: 1999\_2 Miscellaneous SPI-3 Technical Changes
- T10/99-184R1 Date: 1999/04/29 Author: George Penokie Mailing: 1999\_2 Miscellaneous SPI-3 Technical Changes
- T10/99-185R0 Date: 1999/05/01 Author: Rob Elliott & Mailing: 1999\_2

Keith Childs Change CRC timing values T10/99-185R1 Date: 1999/05/10 Author: Rob Elliott & Mailing: 1999\_2 Keith Childs Change CRC timing values T10/99-185R2 Date: 1999/06/25 Author: Rob Elliott & Mailing: 1999\_3 Keith Childs Change CRC timing values T10/99-186R0 Date: 1999/05/03 Author: Gene Milligan Mailing: 1999\_2 ISO Report for May 1999 T10/99-187R0 Date: 1999/05/10 Author: John Lohmeyer Mailing: 1999\_2 Proposal to change MSE High-Z Current Specification in SPI-3 T10/99-187R1 Date: 1999/06/18 Author: John Lohmeyer Mailing: 1999\_3 Proposal to change MSE high-impedance current specification in SPI-3 T10/99-187R2 Date: 1999/07/12 Author: John Lohmeyer Mailing: 1999\_3 Proposal to change MSE high-impedance current specification in SPI-3 T10/99-188R0 Date: 1999/05/04 Author: Dan Smith Mailing: 1999\_3 SPI-3, rev 7, Section 7 Table and Figure Clarification T10/99-188R1 Date: 1999/07/13 Author: Dan Smith Mailing: 1999\_3 SPI-3, rev 7, Section 7 Table and Figure Clarification T10/99-189R0 Date: 1999/05/05 Author: Gerry Houlder Mailing: 1999\_2 SBC-2: Clarification of ECC Correction Span Field (>255 bits) T10/99-190R0 Date: Mailing: Missing Author: (not used) T10/99-191R0 Date: 1999/05/12 Author: Richard Moore Mailing: 1999\_2 Release Glitch Management for QAS T10/99-191R1 Date: 1999/07/13 Author: Richard Moore Mailing: 1999\_3 Release Glitch Management for QAS T10/99-192R0 Date: 1999/05/11 Author: Barry Blount Mailing: 1999\_2 Compaq patent position re US Patent 5,586,272 pertaining to SPI-2 T10/99-193R0 Date: 1999/05/11 Author: Stewart Wyatt Mailing: 1999\_2 Minutes of Joint T10/T11 FC\_TAPE Meeting - May 4, 1999 T10/99-194R0 Date: 1999/05/21 Author: Larry Lamers Mailing: 1999\_3 Meeting Notice - CAM-3 Working Group - June 29-30, 1999 T10/99-195R0 Date: Author: Mailing: Missing (not used) T10/99-196R0 Date: 1999/06/01 Author: Paul Aloisi Mailing: 1999\_3 SPI-3 Assumptions for receiver and driver levels T10/99-197R0 Date: 1999/05/28 Author: Rob Elliott Mailing: 1999\_3 REPORT LUNS and small allocation lengths

Mailing: 1999\_3 T10/99-198R0 Date: 1999/06/06 Author: Ralph Weber / Deborah Donovan Public Review Comment #1 on NCITS 330:199x (RBC) T10/99-199R0 Date: 1999/06/22 Author: Tom Coughlan and Mailing: 1999\_3 John Meneghini Persistent Reservation: Register and Ignore Existing Key T10/99-200R0 Date: 1999/07/20 Author: Weber & Lohmeyer Mailing: 1999\_3 Minutes of SPI-3 Working Group - July 12-13, 1999 T10/99-200R1 Date: 1999/07/26 Author: Weber & Lohmeyer Mailing: 1999\_3 Minutes of SPI-3 Working Group - July 12-13, 1999 T10/99-201R0 Date: 1999/07/21 Author: Weber & Lohmeyer Mailing: 1999\_3 Minutes of SCSI Working Group - July 14, 1999 T10/99-201R1 Date: 1999/07/26 Author: Weber & Lohmeyer Mailing: 1999\_3 Minutes of SCSI Working Group - July 14, 1999 T10/99-202R0 Date: 1999/07/23 Author: Weber & Lohmeyer Mailing: 1999\_3 Minutes of T10 Plenary Meeting #32 - July 15, 1999 T10/99-202R1 Date: 1999/08/12 Author: Weber & Lohmeyer Mailing: 1999\_4 Minutes of T10 Plenary Meeting #32 - July 15, 1999 T10/99-203R0 Date: 1999/06/16 Author: Paul Aloisi Mailing: 1999\_3 Modeling LVD Terminators T10/99-204R0 Date: 1999/06/18 Author: Dean Wallace Mailing: Missing Simulation Document T10/99-205R0 Date: 1999/06/21 Author: Dean Wallace Mailing: 1999\_3 Minutes of SCSI signal modeling study group - June 16, 1999 T10/99-206R0 Date: 1999/06/24 Author: George Penokie Mailing: 1999\_3 MCM Additions to Fibre Channel Control page in FCP-2 T10/99-207R0 Date: 1999/07/04 Author: Ralph Weber Mailing: 1999\_3 SAM-2 Changes for queuing T10/99-208R0 Date: 1999/06/09 Author: Rob Elliott Mailing: 1999\_3 MRIE behavior with TEST bit asserted T10/99-209R0 Date: 1999/07/06 Author: Ron Roberts Mailing: 1999\_3 Resolution of Public Review Comments on RBC T10/99-210R0 Date: 1999/07/06 Author: Jeff Williams Mailing: 1999\_3 ASC/ASCQ for CRC errors during DT transfer T10/99-210R1 Date: 1999/07/06 Author: Jeff Williams Mailing: 1999\_3 ASC/ASCQ for CRC errors during DT transfer T10/99-211R0 Date: 1999/07/04 Author: Bob Snively Mailing: 1999\_3 FCP-2 changes between revision 1 and revision 2 T10/99-212R0 Date: 1999/07/07 Author: George Penokie Mailing: 1999\_3 Packetized error handling changes for SPI-3

- T10/99-212R1 Date: 1999/07/07 Author: George Penokie Mailing: 1999\_3 Packetized error handling changes for SPI-3
- T10/99-212R2 Date: 1999/07/14 Author: George Penokie Mailing: 1999\_3 Packetized error handling changes for SPI-3
- T10/99-213R0 Date: 1999/07/08 Author: William Petty Mailing: 1999\_3 SCSI out of band communications method
- T10/99-214R0 Date: 1999/07/15 Author: Larry Lamers Mailing: 1999\_3 Project Proposal for SCSI Domain Validation Technical Report
- T10/99-214R1 Date: 1999/07/15 Author: Larry Lamers Mailing: 1999\_3 Project Proposal for SCSI Domain Validation Technical Report
- T10/99-215R0 Date: 1999/07/14 Author: Paul Aloisi Mailing: 1999\_3 Crosstalk Issues with 99-111r3
- T10/99-215R1 Date: 1999/09/13 Author: Paul Aloisi Mailing: 1999\_4 Crosstalk Issues with 99-111r5
- T10/99-216R0 Date: 1999/07/14 Author: Gene Milligan Mailing: 1999\_3 ISO Report for July 1999
- T10/99-217R0 Date: 1999/07/13 Author: Rob Elliott Mailing: 1999\_3 Expansion of ASCQs for ASC 5Dh
- T10/99-218R0 Date: 1999/09/16 Author: Erich Oetting Mailing: 1999\_4 Project Proposal for SMC-2 Standard
- T10/99-218R1 Date: 1999/09/13 Author: Erich Oetting Mailing: 1999\_4 Project Proposal for SMC-2 Standard
- T10/99-218R2 Date: 1999/09/16 Author: Erich Oetting Mailing: 1999\_4 Project Proposal for SMC-2 Standard
- T10/99-219R0 Date: 1999/07/15 Author: Tom Coughlan Mailing: 1999\_3 Persistent Reservations Conflict Behavior
- T10/99-220R0 Date: 1999/07/15 Author: Gene Milligan Mailing: 1999\_3 Information about US Patent # 4,633,350
- T10/99-221R0 Date: 1999/07/14 Author: Kumar Malavalli Mailing: 1999\_3 T11 Liaison Report
- T10/99-222R0 Date: 1999/07/15 Author: Paul Aloisi Mailing: 1999\_3 SCSI Trade Association Report - July 1999
- T10/99-223R0 Date: 1999/07/13 Author: Steve Jerman Mailing: 1999\_3 Proposal for Storage and Access of Data on Media Auxiliary Memory
- T10/99-223R1 Date: 1999/08/04 Author: Sid Crighton Mailing: 1999\_4 Proposal for Storage and Access of Data on Media Auxiliary Memory
- T10/99-223R2 Date: 1999/09/15 Author: Steve Jerman Mailing: 1999\_4 Proposal for Storage and Access of Data on Media Auxiliary Memory
- T10/99-224R0 Date: 1999/07/13 Author: Stewart Wyatt Mailing: 1999\_3 Minutes of T10/T11 FC-Tape Joint Working Group - July 1999

T10/99-224R1 Date: 1999/07/22 Author: Stewart Wyatt Mailing: 1999\_3 Minutes of T10/T11 FC-Tape Joint Working Group - July 1999

- T10/99-225R0 Date: 1999/08/28 Author: Rob Elliott Mailing: 1999\_4 QAS Arbitration Fairness
- T10/99-226R0 Date: 1999/08/04 Author: Jim Coomes Mailing: 1999\_4 Mode Page 19h DSA bit Clarification in FCP-2
- T10/99-227R0 Date: 1999/08/04 Author: George Penokie Mailing: 1999\_4 Task management handling changes for SPI-3
- T10/99-227R1 Date: 1999/08/18 Author: George Penokie Mailing: 1999\_4 Task management handling changes for SPI-3
- T10/99-227R2 Date: 1999/08/27 Author: George Penokie Mailing: 1999\_4 Task management handling changes for SPI-3
- T10/99-228R0 Date: 1999/08/04 Author: Dave Peterson Mailing: 1999\_4 Proposed response to SSC letter ballot comments
- T10/99-228R1 Date: 1999/09/13 Author: Dave Peterson Mailing: 1999\_4 Proposed response to SSC letter ballot comments
- T10/99-229R0 Date: 1999/08/15 Author: Ralph Weber Mailing: 1999\_4 Restricting Mode Page Code Usage
- T10/99-230R0 Date: 1999/08/15 Author: Ralph Weber Mailing: 1999\_4 Extended Copy Support for Persistent Reservations
- T10/99-230R1 Date: 1999/09/16 Author: Ralph Weber Mailing: 1999\_4 Extended Copy Support for Persistent Reservations
- T10/99-231R0 Date: 1999/08/18 Author: Ralph Weber Mailing: 1999\_4 EXTENDED COPY and Abort Task Management Functions
- T10/99-231R1 Date: 1999/09/16 Author: Ralph Weber Mailing: 1999\_4 EXTENDED COPY and Abort Task Management Functions
- T10/99-232R0 Date: 1999/08/21 Author: Ralph Weber Mailing: 1999\_4 SAM-2 Tasks and Work
- T10/99-232R1 Date: 1999/09/15 Author: Ralph Weber Mailing: 1999\_4 SAM-2 Tasks and Work
- T10/99-233R0 Date: 1999/08/21 Author: Ralph Weber Mailing: 1999\_4 SAM-2 TASK SET FULL Clarifications
- T10/99-234R0 Date: 1999/08/18 Author: Ralph Weber Mailing: 1999\_4 SMU Note for SPC-2
- T10/99-235R0 Date: 1999/08/06 Author: Ralph Weber Mailing: Missing SMU task management functions changes
- T10/99-236R0 Date: 1999/08/12 Author: Dean Wallace Mailing: 1999\_4 Minutes of SCSI signal modeling study group (draft) - July 29, 1999
- T10/99-236R1 Date: 1999/09/09 Author: Dean Wallace Mailing: 1999\_4

Minutes of SCSI signal modeling study group (approved) - July 29, 1999

- T10/99-237R0 Date: 1999/08/13 Author: ISO/IEC Mailing: 1999\_4 Draft IS on SCSI Controller Commands - 2 (SCC-2)
- T10/99-238R0 Date: 1999/08/18 Author: John Lohmeyer Mailing: 1999\_4 Response to NCITS 330 (RBC) 1PR comment #1 from Ralph Weber
- T10/99-239R0 Date: 1999/08/19 Author: Roger Ronald Mailing: 1999\_4 Project Proposal for SCSI on Scheduled Transfer (SST)
- T10/99-239R1 Date: 1999/09/16 Author: Roger Ronald Mailing: 1999\_4 Project Proposal for SCSI on Scheduled Transfer (SST)
- T10/99-240R0 Date: 1999/08/23 Author: Stewart Wyatt Mailing: 1999\_4 Minutes of Joint T11/T10 Tape ad hoc Meeting - Aug 4, 1999
- T10/99-241R0 Date: 1999/08/28 Author: Rob Elliott Mailing: 1999\_4 SPI-3 Setup and Hold Timings text changes
- T10/99-242R0 Date: 1999/09/01 Author: John Lohmeyer Mailing: 1999\_4 Proposed addition to SPI-3 integrity check fall back procedure
- T10/99-242R1 Date: 1999/09/01 Author: John Lohmeyer Mailing: 1999\_4 Proposed addition to SPI-3 integrity check fall back procedure
- T10/99-242R2 Date: 1999/09/13 Author: John Lohmeyer Mailing: 1999\_4 Proposed addition to SPI-3 integrity check fall back procedure
- T10/99-243R0 Date: 1999/09/01 Author: Bill Ham Mailing: 1999\_4 Project Proposal for SCSI Signal Modeling (SSM)
- T10/99-243R1 Date: 1999/09/16 Author: Bill Ham Mailing: 1999\_4 Project Proposal for SCSI Signal Modeling Technical Report (SSM)
- T10/99-244R0 Date: 1999/09/01 Author: Bill Ham Mailing: 1999\_4 References to signal integrity publications
- T10/99-245R0 Date: 1999/09/09 Author: Jim Hafner Mailing: 1999\_4 A detailed proposal for access controls (in SPC-2)
- T10/99-246R0 Date: 1999/09/02 Author: Ed Gardner Mailing: 1999\_4 Project Proposal for SCSI VI Protocol (SVP)
- T10/99-246R1 Date: 1999/11/04 Author: Ed Gardner Mailing: 1999\_4 Project Proposal for SCSI VI Protocol (SVP)
- T10/99-247R0 Date: 1999/09/08 Author: Bob Snively Mailing: 1999\_4 FCP-2 changes from revision 02 to revision 03
- T10/99-248R0 Date: 1999/09/10 Author: Vince Bastiani Mailing: 1999\_4 Ultra N Proposal / Adaptec
- T10/99-249R0 Date: 1999/09/14 Author: Charles Monia Mailing: 1999\_4 Parallel SCSI Extended Addressing Proposal
- T10/99-249R1 Date: 1999/09/14 Author: Charles Monia Mailing: 1999\_4 Parallel SCSI Extended Addressing Proposal

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T10/99-250R0 Date: 1999/09/14 Author: Charles Monia / Mailing: 1999\_4 Larry Lamers Proposal for Increasing the Addressability of Parallel SCSI T10/99-250R1 Date: 1999/09/14 Author: Charles Monia / Mailing: 1999 4 Larry Lamers Proposal for Increasing the Addressability of Parallel SCSI T10/99-251R0 Date: 1999/09/03 Author: Keith Parker Mailing: Missing SSS - SCSI Socket Services Overview T10/99-252R0 Date: 1999/09/03 Author: Keith Parker Mailing: Missing SSS Applied to SCSI Storage Devices & Systems T10/99-253R0 Date: 1999/09/03 Author: Keith Parker Mailing: Missing SSS Applied to SCSI Communication Devices & Systems T10/99-254R0 Date: 1999/09/03 Author: Keith Parker Mailing: Missing SSS Applied to SCSI Peripheral Modules T10/99-255R0 Date: 1999/09/03 Author: Keith Parker Mailing: Missing SSS Applied to SCSI Processor Modules T10/99-256R0 Date: 1999/09/03 Author: Keith Parker Mailing: Missing SSS Applied to SCSI Application Modules T10/99-257R0 Date: 1999/09/03 Author: Keith Parker Mailing: Missing SSS Academic Evaluation and Develoment T10/99-258R0 Date: 1999/09/07 Author: George Penokie Mailing: 1999\_4 List lengths that exceed maximum allocation length T10/99-259R0 Date: 1999/09/09 Author: George Penokie Mailing: 1999\_4 Beyond 2 Tbytes T10/99-260R0 Date: 1999/09/09 Author: William Petty Mailing: 1999\_4 SPI-4 ISI reduction via transmit pre-compensation T10/99-261R0 Date: 1999/09/09 Author: William Petty Mailing: 1999\_4 SPI-4 timing budget utilizing receiver signal deskew method T10/99-262R0 Date: 1999/09/09 Author: William Petty Mailing: 1999\_4 SPI-4 REQ/ACK ISI removal via qualified clocking method T10/99-263R0 Date: 1999/09/08 Author: Paul Suhler Mailing: 1999\_4 SSC Proposal to Support Partial Loading & Unloading T10/99-264R0 Date: 1999/08/12 Author: Larry Lamers Mailing: 1999\_4 Margin Control T10/99-265R0 Date: 1999/09/09 Author: George Ericson Mailing: 1999\_4 Comments on SAM multi-port model (rev 8 vs. rev 11) T10/99-266R0 Date: 1999/09/11 Author: Ralph Weber Mailing: 1999\_4 Description Lengths for 5D ASC/ASCQs T10/99-267R0 Date: 1999/09/20 Author: Weber & Lohmeyer Mailing: 1999\_4 Minutes of SCSI Physical Working Group - Sept 13-14, 1999

- T10/99-268R0 Date: 1999/09/09 Author: Weber & Lohmeyer Mailing: Missing Minutes of SCSI Working Group Sept 15, 1999
- T10/99-269R0 Date: 1999/09/09 Author: Weber & Lohmeyer Mailing: Missing Minutes of T10 Plenary Meeitng #33 Sept 16, 1999
- T10/99-270R0 Date: 1999/09/09 Author: Bill Ham Mailing: 1999\_4 Minutes of SCSI signal modeling study group (draft) - Sept 1, 1999
- T10/99-271R0 Date: 1999/09/10 Author: John Lohmeyer Mailing: 1999\_4 Proposed revision to T10 Electronic Procedures
- T10/99-271R1 Date: 1999/09/13 Author: John Lohmeyer Mailing: 1999\_4 Proposed revision to T10 Electronic Procedures
- T10/99-272R0 Date: 1999/09/15 Author: John Lohmeyer Mailing: 1999\_4 T10 Annual Report for 1999
- T10/99-273R0 Date: 1999/09/10 Author: Gene Milligan Mailing: 1999\_4 Address Assignment Pins on SCA and Three-in-one SFF 8009 connectors
- T10/99-274R0 Date: 1999/09/13 Author: Richard Moore Mailing: 1999\_4 Forcing Bus Free from QAS -- Initiator Method
- T10/99-275R0 Date: 1999/09/13 Author: Donald Woelz Mailing: 1999\_4 Presentation on the project proposal for SCSI on Scheduled Transfer
- T10/99-276R0 Date: 1999/07/27 Author: Don Woelz Mailing: 1999\_4 proposed draft for SCSI on Scheduled Transfer
- T10/99-277R0 Date: 1999/09/15 Author: Gerry Houlder Mailing: 1999\_4 Allow WRITE BUFFER when drive not ready
- T10/99-278R0 Date: 1999/09/15 Author: Jim Hafner Mailing: Missing Presentation: A proposal for Access Control
- T10/99-279R0 Date: 1999/09/15 Author: Keith Parker Mailing: Missing SSS SCSI Socket Services Report 9/15/99
- T10/99-280R0 Date: 1999/09/16 Author: Neil Wanamaker Mailing: 1999\_4 T11 liaison report to September T10 Plenary