Accredited Standards Committee*
**InterNational Committee for Information Technology Standards (INCITS)**

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**Date:** September 16, 2002
**Reply to:** John Lohmeyer

To:         T10 Membership
From:       Ralph Weber / John Lohmeyer
Subject:    Minutes of T10 Plenary Meeting #51 -- September 12, 2002
            Minneapolis, MN

# Agenda

1.  Opening Remarks
2.  Approval of Agenda
3.  Attendance and Membership
4.  Approval of Minutes - July 2002 Meeting - Colorado Springs, CO (T10/02-273r1)
5.  Document Distribution
6.  Call for Patents
    6.1    HP Patent Position re Automation Drive Interface standards (02-313) [Wilkinson]
7.  Review of Old Action Items
8.  Project Status Reports
    8.1    Project Status Summary and INCITS Liaison [Lohmeyer]
    8.2    SCSI Fibre Channel Protocol - 2 (FCP-2) {Project 1144-D} [Peterson]
    8.3    SCSI Architecture Model - 2 (SAM-2) {Project 1157-D} [Weber]
    8.4    Object-based Storage Devices Commands (OSD) {Project 1355-D} [Weber]
    8.5    MultiMedia Command Set - 3 (MMC-3) {Project 1363-D} [McFerrin]
    8.6    SCSI Parallel Interface - 4 (SPI-4) {Project 1365-D} [Penokie]
    8.7    SCSI Domain Validation Technical Report (SDV) {Project 1378-DT} [Gibbons]
    8.8    SCSI Medium Changer Commands - 2 (SMC-2) {Project 1383-D} [Oetting]
    8.9    SCSI Signal Modeling (SSM) {Project 1414-DT} [Aloisi/Barnes]
    8.10   SCSI RDMA Protocol (SRP) {Project 1415-D} [Simpson]
    8.11   SCSI Primary Commands - 3 (SPC-3) {Project 1416-D} [Weber]
    8.12   SCSI Block Commands - 2 (SBC-2) {Project 1417-D} [Elliott]
    8.13   SCSI Stream Commands - 2 (SSC-2) {Project 1434-D} [Peterson]
    8.14   SCSI Passive Interconnect Performance (PIP) {Project 1439-D} [Daggett]
    8.15   SCSI Serial Bus Protocol -3 (SBP-3) {Project 1467-D} [Johansson]
    8.16   SCSI Signal Modeling - 2 (SSM-2) {Project 1514-D} [Aloisi/Manildi]
    8.17   SCSI RDMA Protocol - 2 (SRP-2) {Project 1524-D} [Simpson]
    8.18   SCSI Parallel Interface - 5 (SPI-5) {Project 1525-D} [Penokie]
    8.19   SCSI Management Server Commands (MSC) {Project 1528-D} [Penokie/Elliott]
    8.20   MultiMedia Command Set - 4 (MMC-4) {Project 1545-D} [McFerrin]
    8.21   Automation/Drive Interface - Physical Layer (ADP) {Project 1556-D} [Suhler/Griswold]
    8.22   Automation/Drive Interface - Transport Protocol (ADT) {Project 1557-D} [Suhler/Griswold]
    8.23   Automation/Drive Interface - Commands (ADC) {Project 1558-D} [Suhler/Griswold]
    8.24   SCSI Enclosure Services - 2 (SES-2) {Project 1559-D} [Elliott]
    8.25   Fibre Channel Protocol - 3 (FCP-3) {Project 1560-D} [Peterson]
    8.26   SCSI Architecture Model - 3 (SAM-3) {Project 1561-D} [Weber]
    8.27   Serial Attached SCSI (SAS) {Project 1562-D} [Elliott]

# Results of Meeting

## 1.   Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 9:00 a.m., Thursday September 12, 2002. He thanked Dave Peterson of Cisco Systems for hosting the meeting.

John said that INCITS Subgroup Membership forms and the T10 Mailing Subscription form were available from the head table. He said that people should use the INCITS forms to insure the INCITS Secretariat has the latest membership information. These forms should be mailed directly to the INCITS 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 no additions/changes.

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

    12.7     SNIA [Cummings]

## 3. Attendance and Membership

The membership requirements were reviewed. INCITS rules permit one vote per organization. An individual from a new organization must attend at least one T10 plenary meeting as an Advisory Member. He/she may apply for voting membership at this meeting, which becomes effective following adjournment of the meeting. Voting privileges begin upon receipt by the INCITS Secretariat of applicable fees for the membership year.

To maintain membership, organizations must pay the INCITS Service Fee ($800).

John briefly discussed the mailing fees. Complete pricing information is contained in the 2002 membership form (available at ftp://ftp.t10.org/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 7 people from 5 organizations informing them that their membership was in jeopardy due to non-attendance (see 02-295r0) and that their membership would be terminated if they did not attend this meeting. The following organizations were in attendance jeopardy:

Andiamo Systems, Inc.
Conexant/Mindspeed
KnowledgeTek, Inc.
Silicon Image
Western Digital Corporation

John noted that George Eisler had requested that the Conexant/Mindspeed membership be dropped.

All other organizations in attendance jeopardy were present except:

Silicon Image

The members from the organizations that failed to attend will have their membership changed to non-voting status.

No organizations joined the committee at this meeting.

The T10 membership during the meeting was 46 organizations down from 48 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.

The following organizations requested membership in T10 to take effect after the meeting:

John Lohmeyer reminded members that failure to vote on two out of the last three letter ballots also would result in membership jeopardy and then reported on the status of companies that have not voted on recent letter ballots. No organizations are currently in letter ballot jeopardy. However, the following organizations will be in letter ballot jeopardy if they fail to return the next letter ballot: Honda Connectors, Iomega Corp., and Molex Inc.

## 4. Approval of Minutes - July 2002 Meeting - Colorado Springs, CO (T10/02-273r1)

The minutes were approved as written.

## 5. Document Distribution

Members who have any problems with their mailing subscription should deal directly with Parthenia Purnell (ppurnell@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 19, 2002. Documents received after this time may 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.

People can obtain T10 document numbers and revised T10 document numbers by filling out a web form at http://www.t10.org/members/. The assigned T10 document number will be sent to the requestor by e-mail. The requestor may then reply to this email, including the document to be posted as an attachment. The document will be automatically posted on the T10 web site.

T10 members can complete this entire process using their personal T10 password. John explained that members who do not know their password should surf to the above URL and click on the "forgot password" link to have their password sent to them via e-mail.

John noted that non-members can also use the above document number process, but their requests will require approval by an administrator.

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 e-mail to majordomo@t10.org with the line 'subscribe t10' in the message body.

The INCITS Secretariat maintains a World Wide Web page at:

http://www.incits.org/.

LSI Logic maintains a web site on behalf of T10 on a server donated by the SCSI Trade Association at:

http://www.t10.org/

There is also a mirror site at:

http://www.t11.org/t10/

The T10 document register is 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.incits.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. Gene Milligan prepared a useful "Handy dandy Technical Committee's Patents Guide", which is available at ftp://ftp.t10.org/t10/document.99/99-291r0.pdf.

John Lohmeyer presented a foil containing a summary of the ANSI patent policy prepared by Gary Robinson. The summary is also included on the Rules and Procedures (plus Patent Information) page on the T10 web site.

Cris Simpson reminded the committee that a statement of the Intel patent policy can be found in T10/01-041r0.

John asked that anyone who knows of other applicable patents to contact him.

There were no responses to the call for patents other than described above and in 6.1.

### 6.1  HP Patent Position re Automation Drive Interface standards (02-313) [Wilkinson]

John said that he had received 02-313r0, HP Patent Position re Automation Drive Interface standards, from Michael Banther.

## 7.  Review of Old Action Items

479     John Lohmeyer will forward SRP revision 16a to INCITS for processing towards first public review. *Complete*
480     Gary Robinson will report to JTC 1 that T10 has reviewed the new work item proposal, and recommends that the US National Member vote to approve the new work item proposal JTC 1 N 6676, High Performance Serial Bus (IEEE Std. 1394-1995 and 1394a-2000), project 1.25.13.15.01 and that all six questions be answered yes and that Peter Johansson be named as the editor. *Complete*
481     Gary Robinson will prepare a NWIP for IEEE 1212, Standard for Control and Status Register (CSR) Architecture for Microcomputer Busses. *Complete*

## 8.  Project Status Reports

### 8.1  Project Status Summary and INCITS 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.

There is a link to the INCITS antitrust guidelines on the T10 web site at http://www.t10.org/t10_info.htm.

John reported that INCITS is still considering the 'obsolete' standards category requested by T10. He noted that 'withdrawn' standards are available upon request from the INCITS secretariat but that they are not listed on the INCITS web site. John also noted that the INCITS web site contains no recommendation that the INCITS secretariat be contacted if a standard cannot be found.

The committee discussed the status of the effort to make 'withdrawn' standards available and the nature of a recommendation on the issue that could be made to INCITS.

Gerry Houlder moved that the chair be instructed to ask INCITS to post a list of withdrawn standards on the INCITS web site including information on how to obtain them. Mark Evans seconded the motion. In the absence of any objections, the motion passed unanimously.

John Lohmeyer took an action item to ask INCITS to post a list of withdrawn standards on the INCITS web site including information on how to obtain them.

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

John Lohmeyer reported that Dave Peterson has been appointed editor for FCP-2. Dave Peterson reported that a new revision of FCP-2 incorporating agreed changes will be available at least two weeks prior to the next meeting.

The new revision will address at least the negative votes from INCITS. Dave explained that the FCP-2 group considered other critical changes in FCP-2 as well.

John Lohmeyer reported that INCITS negative votes were received from IBM, HP, Panasonic, and ICCP. Oracle abstained. John noted that the Panasonic and ICCP votes referenced the IBM and HP comments, but did not contain additional comments.

Dave explained that the agreement is to incorporate the changes requested by HP and that doing so would also address the IBM comments.

John asked the group to consider whether a T10 letter ballot should be conducted instead of doing a meeting vote. Ed Gardner requested that the document be posted at least three weeks prior to the November meeting if a meeting vote is to be taken instead of a letter ballot.

Dave Peterson suggested that a letter ballot might be a better idea because of the amount of change in the error recovery sections. The committee discussed the mechanics of holding a letter ballot on FCP-2. Dave agreed to consider carefully whether or not a letter ballot would be needed and to keep John informed regarding what should be done to expedite the response to the INCITS negative comments.

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

Ralph Weber reported that resolution of the SAM-2 letter ballot comments had been completed and is available in 02-155r6. Ralph noted that SAM-2 revision 23v showing all the letter ballot comment resolutions applied to SAM-2 with change bars was also available on the T10 web site.

Ralph Weber moved that 02-155r6 be accepted as the resolution of the SAM-2 letter ballot comments and that SAM-2 rev 24, which contains the resolutions to the letter ballot comments, be forwarded to INCITS for further processing toward first public review. Mark Evans seconded the motion. The motion passed on a vote of 31:0:0:15=46.

John Lohmeyer asked the following organizations Cisco Systems, Compaq Computer, Congruent Software, Hewlett Packard, IBM, Intel, Ophidian Designs if they wished to change their No votes to Yes. All organizations present agreed to change their No votes to Yes. Conguent Software and IBM requested that their votes be changed to Yes by email.

Ralph Weber took an action item to prepare SAM-2 revision 24, from revision 23v by changing 'working draft' to 'dpANS' and removing all change bars. John Lohmeyer took an action item to forward SAM-2 revision 24 to INCITS for processing towards first public review.

### 8.4  Object-based Storage Devices Commands (OSD) {Project 1355-D} [Weber]

Ralph Weber reported that OSD revision 6 is available on the T10 web site. OSD revision 6 defines a much more flexible attributes function to support file meta-data. Ralph noted that current plans call for posting of an OSD revision 7 shortly before the November meeting in which the security and capabilities features will be overhauled.

Ralph stated that the target for a letter ballot on OSD is May 2003.

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

John Lohmeyer reported that MMC-3 had been published as NCITS.360:2002. He congratulated Bill McFerrin and the MMC working group.

Bill McFerrin reported that a defect report regarding MMC-3 (02-368r0) has been uploaded to the T10 web site. John informed Bill that the MMC-3 working group should draft an Amendment to MMC-3 correcting the problems described in the defect report. At the next T10 meeting, we can accept the defect report and forward the MMC-3 Amendment #1 to INCITS as a proposed resolution to the defect report.

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

John Lohmeyer reported that SPI-4 is at INCITS for approval. He stated that an INCITS letter ballot is still required meaning that the approval process will not be completed until November.

### 8.7  SCSI Domain Validation Technical Report (SDV) {Project 1378-DT} [Gibbons]

John Lohmeyer reported that SDV has been published as INCITS/TR-28:2002, but there are no links for buying it. John is working with INCITS to get the links setup. He congratulated the SDV working group, Ron Roberts, and Terry Gibbons for preparing the SDV Technical Report.

### 8.8  SCSI Medium Changer Commands - 2 (SMC-2) {Project 1383-D} [Oetting]

Erich Oetting reported that the SMC-2 letter ballot passed on a vote of 39:4:3:1=47. Detailed results of the letter ballot can be found in 02-306r0

Erich stated that letter ballot resolution will be done in the SSC-2 working group meeting. Erich agreed to work with Dave Peterson on scheduling time in the SSC-2 meeting.

### 8.9  SCSI Signal Modeling (SSM) {Project 1414-DT} [Aloisi/Barnes]

John Lohmeyer reported that SSM has been published as INCITS/TR-29:2002. It has the same availability problems as SDV (see item 8.7). He congratulated the SSM working group and Larry Barnes for preparing the SSM Technical Report.

### 8.10 SCSI RDMA Protocol (SRP) {Project 1415-D} [Simpson]

Cris Simpson reported that INCITS public review for SRP closes September 23rd and that as of September 6th no comments have been received.

### 8.11 SCSI Primary Commands - 3 (SPC-3) {Project 1416-D} [Weber]

Ralph Weber reported that SPC-3 revision 9 incorporating all changes approved by this meeting will be available in time for the next mailing.

Ralph Weber reminded the committee that the target letter ballot date for SPC-3 is November 2003. He noted that based on this letter ballot date editing review meetings will begin in January 2003 and that five editing review meetings will be held covering the following topics:

> READ/WRITE ATTRIBUTE commands (MAM)
> Asymmetric logical unit behavior
> Well known logical units
> Access Controls
> Protocol specific data
> Persistent Reservations Model
> Persistent Reservations Commands
> REQUEST SENSE command
> REPORT SUPPORTED OPERATIONS command
> Control mode page

### 8.12 SCSI Block Commands - 2 (SBC-2) {Project 1417-D} [Elliott]

Rob Elliott reported that SBC-2 revision 7 was posted subsequent to the last meeting. Revision 8 will be prepared to include changes approved at this meeting. Revision 8 may not be ready in time for the mailing.

### 8.13 SCSI Stream Commands - 2 (SSC-2) {Project 1434-D} [Peterson]

Dave Peterson reported on the activities of the SSC-2 working group on letter ballot comments resolution (minutes in 02-334). He noted that all technical comments have been resolved. The plan is to complete the resolution of the letter ballot comments in November.

The SSC-2 letter ballot comments resolution document is 02-081.

### 8.14 SCSI Passive Interconnect Performance (PIP) {Project 1439-D} [Daggett]

John Lohmeyer reported that he has been asked to conduct a letter ballot on PIP revision 3.

John Lohmeyer took an action item to conduct a letter ballot on PIP revision 3.

### 8.15 SCSI Serial Bus Protocol -3 (SBP-3) {Project 1467-D} [Johansson]

In the absence of Peter Johansson, there was no report.

### 8.16 SCSI Signal Modeling - 2 (SSM-2) {Project 1514-D} [Aloisi/Manildi]

Paul Aloisi reported on the activities of the SSM-2 working group (minutes in 02-263 and 02-364) and provided an electronic report in 02-362r0. He noted that a letter ballot is expected before the end of the year.

### 8.17 SCSI RDMA Protocol - 2 (SRP-2) {Project 1524-D} [Simpson]

Cris Simpson reported that SRP-2 revision 0 has been posted. Proposals for changes in SRP-2 are being prepared and will be reviewed by the November CAP working group.

### 8.18 SCSI Parallel Interface - 5 (SPI-5) {Project 1525-D} [Penokie]

John Lohmeyer reported on the activities of the SCSI Parallel Working group (minutes in 02-341). He noted that a request has been received to conduct a letter ballot SPI-5 rev 3.

George Penokie was given an action item to prepare SPI-5 revision 3. John Lohmeyer took an action item to conduct a letter ballot on SPI-5 revision 3.

### 8.19 SCSI Management Server Commands (MSC) {Project 1528-D} [Penokie/Elliott]

In the absence of George Penokie, John Lohmeyer reported that MSC work will be restarting toward the end of the year.

### 8.20 MultiMedia Command Set - 4 (MMC-4) {Project 1545-D} [McFerrin]

Bill McFerrin reported on the activities of the MMC-4 working group (minutes in 02-367).

### 8.21 Automation/Drive Interface - Physical Layer (ADP) {Project 1556-D} [Suhler/Griswold]

In the absence of Bob Griswold, Paul Entzel reported on the activities of the ADI working group (minutes in 02-328). John Lohmeyer reported that the ADI forwarding dates may be revised at the next meeting.

### 8.22 Automation/Drive Interface - Transport Protocol (ADT) {Project 1557-D} [Suhler/Griswold]

This topic was covered in item 8.21.

### 8.23 Automation/Drive Interface - Commands (ADC) {Project 1558-D} [Suhler/Griswold]

This topic was covered in item 8.21.

### 8.24 SCSI Enclosure Services - 2 (SES-2) {Project 1559-D} [Elliott]

Rob Elliott reported that SES-2 revision 1 was posted following the last meeting. He noted that a proposal should be approved at this meeting and that SES-2 revision 2 incorporating that proposal should be available in time for the mailing.

### 8.25 Fibre Channel Protocol - 3 (FCP-3) {Project 1560-D} [Peterson]

Dave Peterson reported that activity on FCP-3 will commence after work on FCP-2 is concluded.

### 8.26 SCSI Architecture Model - 3 (SAM-3) {Project 1561-D} [Weber]

Ralph Weber reported that SAM-3 revision 2 will be available on the T10 web site by the end of the day. SAM-3 revision 2 incorporates all the SAM-2 letter ballot changes from SAM-2 revision 23v.

He stated that revision 3 will be prepared prior to the next mailing and will include the changes approved by this meeting.

Ralph stated that the target for a letter ballot on SAM-3 is May 2004.

### 8.27 Serial Attached SCSI (SAS) {Project 1562-D} [Elliott]

John Lohmeyer reported on the activities of the SAS working group (minutes in 02-342).

Ron Roberts reported that the minutes for the SAS STP meeting are in 02-369.

John noted that a letter ballot is planned for SAS following the November meeting.

Rob Elliott noted that the current revision is 1b and that revision 2 will be prepared after this meeting.

## 9. Old Business

### 9.1 Style Guide [Moore]

Dennis Moore reported that a new revision of the style guide had been posted and a meeting to review it follows the T10 plenary meeting.

### 9.2 A/V Direct-Access Project Proposal (01-337) [Johansson]

In the absence of Peter Johansson, this topic was deferred to the next meeting.

### 9.3 Negative votes and comments on ITLB 4490 approving INCITS 350 (FCP-2) (02-262) [Donovan]

John Lohmeyer asked that discussion of this topic be deferred to the next meeting.

## 10. New Business

### 10.1 Actions on Parallel SCSI Working Group Recommendations

John Lohmeyer, Mark Evans, and Paul Aloisi reviewed the following proposals recommended for approval by the SPI working group:

  o Proposed modifications to SPI-5 timing clause (02-339r1) [Evans]
  o Proposed changes for SPI-5 (02-325r1) [Aloisi]

Mark Evans moved that 02-339r1 and 02-325r1 be approved for inclusion in SPI-5. Ron Roberts seconded the motion. In the absence of any objections, the motion passed unanimously.

### 10.2 Actions on SAS Working Group Recommendations

### 10.2.1 SAS PHY recommendations

John Lohmeyer and Mark Evans reviewed the following proposals recommended for approval by the SAS PHY working group:

  o SAS - OOB and DWS state machines update (02-300r2) [Grieff] {state machine changes only}
  o Incorporate 02-354r0 to define skew values
  o Incorporate 02-352r0 to update "area of impedance dip"

Mark Evans moved that 02-300r2 (state machine changes only), 02-354r0, and 02-352r0 be approved for inclusion in SAS. Ron Roberts seconded the motion. In the absence of any objections, the motion passed unanimously.

### 10.2.2 SAS Protocol recommendations

John Lohmeyer, Mark Evans, and Ron Roberts reviewed the following proposals recommended for approval by the SAS working group:

  o SAS COMMAND ID Removal (02-259r1) [Day]
  o Proposal for SAS phy error log page (02-338r1) [Evans]
  o SAS Expander Update (02-355r1) [Hoglund]
  o Time before OOB signals (02-350r1) [Penokie]

  o SAS-Multiple Connections on Wide Ports (02-335r2) [Penokie]
  o SAS - CRC Bit Order figure replacement (02-347r1) [Coomes]
  o SAS SSP transport layer state machines (02-307r2) [Evans]

Mark Evans moved that 02-259r1, 02-338r1, 02-355r1, 02-350r1, 02-335r2, 02-347r1, and 02-307r2 be approved for inclusion in SAS. Ron Roberts seconded the motion. In the absence of any objections, the motion passed unanimously.

John Lohmeyer reported that the SAS working group recommended approving changes 1 through 13 in 02-279r4 (Initiator based discovery and configuration of the SAS topology).

Mark Evans moved that changes 1 through 13 in 02-279r4 (Initiator based discovery and configuration of the SAS topology) be approved for inclusion in SAS. Ron Roberts seconded the motion. The motion passed on a vote of 29:0:2:15=46.

John Lohmeyer reported that the SAS working group recommended that the SAS editor be instructed modify SAS to require targets to not send a response frame for a command until all data associated with any outstanding XFER_RDY for that command have been received.

Mark Evans moved that the SAS editor be instructed to modify SAS to require targets to not send a response frame for a command until all data associated with any outstanding XFER_RDY for that command have been received. Ron Roberts seconded the motion. In the absence of any objections, the motion passed unanimously.

John Lohmeyer reported that the SAS working group recommended that the SAS editor be instructed to modify SAS so that the open originator shall start rate matching on the next dword after the OPEN address frame has been transmitted.

Mark Evans moved that the SAS editor be instructed to modify SAS so that the open originator shall start rate matching on the next dword after the OPEN address frame has been transmitted. Charles Monia seconded the motion. The motion passed on a vote of 28:0:2:16=46.

John Lohmeyer reported that the SAS working group recommended that the SAS editor be instructed to remove AEN support from SAS.

Mark Evans moved that the SAS editor be instructed to remove AEN support from SAS. Gerry Houlder seconded the motion. The motion passed on a vote of 28:0:4:14=46.

John Lohmeyer reported that the SAS working group recommended that the SAS editor be instructed to modify SAS so that the discover function be numbered 10h instead of 00h and that the PHYSICAL LINK RATE in the IDENTIFY address frame be marked 'ignored'.

Ron Roberts moved that the SAS editor be instructed to modify SAS so that the discover function be numbered 10h instead of 00h and that the PHYSICAL LINK RATE in the IDENTIFY address frame be marked 'ignored'. Mark Evans seconded the motion. In the absence of any objections, the motion passed unanimously.

John Lohmeyer reported that the SAS working group recommended that the SAS editor be instructed to Change the Rate Change Delay from 480 UIs to 750,000 UIs.

Mark Evans moved that the SAS editor be instructed to Change the Rate Change Delay from 480 UIs to 750,000 UIs. John Lohmeyer seconded the motion. The motion passed on a vote of 14:0:17:15=46.

**10.3 Actions on CAP Working Group Recommendations**

John Lohmeyer and Ralph Weber described 02-348r0 (SAM-3 Names and identifiers for iSCSI revision 16) a proposal recommended by the CAP working group for inclusion in SAM-3.

Ron Roberts moved that 02-348r0 be approved for inclusion in SAM-3. Brian Forbes seconded the motion. The motion passed on a vote of 22:0:3:21=46.

Ralph Weber described 02-232r2 (SAM-3 SPC-3 SBC-2 Clearing effects of I_T nexus loss) a proposal recommended by the CAP working group for inclusion in SAM-3, SPC-3, and SBC-2.

Ron Roberts moved that 02-232r2 be approved for inclusion in SAM-3, SPC-3, and SBC-2. Brian Forbes seconded the motion. The motion passed on a vote of 23:0:1:22=46.

Ralph Weber described each of the following proposals that the CAP working group recommended for inclusion in SPC-3:

   o SPC-3: Inquiry Command Parameter Length Increase (02-303r1) [Penokie]
   o Change ASC for truncated parameter in SPC-3 for LOG SELECT command (02-308r1) [Entzel]
   o Report Supported Task Management Functions (02-346r1) [Novak]

Erich Oetting moved that 02-303r1, 02-308r1, and 02-346r1 be approved for inclusion in SPC-3. Vit Novak seconded the motion.

Gerry Houlder asked that 02-346r1 be divided from the motion and the request was granted by unanimous consent.

In the absence of any objections, the motion to approve 02-303r1 and 02-308r1 for inclusion passed unanimously.

The motion to approve 02-346r1 for inclusion in SPC-3 passed on a vote of 24:1:2:19=46.

Rob Elliott described 02-189r1 (SES-2 SPC-3 Vendor-specific diagnostic pages) a proposal that the CAP working group recommended for inclusion in SES-2 and SPC-3.

Rob Elliott moved that 02-189r1 be approved for inclusion in SES-2 and SPC-3. Gerry Houlder seconded the motion. The motion passed on a vote of 23:0:4:19=46.

John Lohmeyer noted that the CAP working group recommended 02-304r0 (Allowing TEST UNIT READY through Persistent Reservation) be voted on for inclusion in SPC-3 by the November plenary.

**10.4 Actions on Other Working Group Recommendations**

No recommendations from other working groups were brought before the committee.


# 11.  ISO/IEC

**11.1 ISO/IEC Report [Robinson]**

In the absence of Gary Robinson no report was available.

### 11.2 ISO/IEC Business [Robinson]

### 11.2.1   JTC 1 N6801 Proposal for a NWI on Fibre Channel Protocol for SCSI, Second Version (FCP-2)

Ron Roberts moved that the IR be instructed to report to JTC 1 that T10 has reviewed the new work item proposal, and recommends that the US National Member vote to approve the new work item proposal JTC 1 N 6801, Fibre Channel Protocol for SCSI, Second Version (FCP-2), project 1.25.13.11.18 and that all six questions be answered yes and Gary Robinson be named as the editor. Erich Oetting seconded the motion. The motion passed on a two-thirds roll call vote of 29:1:0:16=46. Details of the vote were as follows:

| Organization | Stat | Name | Yes | No | Abs | NP |
|---|---|---|---|---|---|---|
| Adaptec, Inc. | P | Mr. Ron Roberts | 1 | | | |
| Amphenol Interconnect | | | | | | 1 |
| Andiamo Systems, Inc. | P | Dr. Claudio DeSanti | 1 | | | |
| BREA Technologies, Inc. | | | | | | 1 |
| Brocade Comm. Systems, Inc. | P | Mr. Brian Forbes | 1 | | | |
| Cisco Systems, Inc. | P | Mr. David Peterson | 1 | | | |
| Congruent Software, Inc. | | | | | | 1 |
| Crossroads Systems, Inc. | | | | | | 1 |
| Dallas Semiconductor | P | Mr. James A. Lott, Jr. | 1 | | | |
| Dell Computer Corp. | | | | | | 1 |
| EMC Corp. | | | | | | 1 |
| Emulex | | | | | | 1 |
| ENDL Texas | P | Mr. Ralph O. Weber | 1 | | | |
| Exabyte Corp. | | | | | | 1 |
| FCI | P | Mr. Douglas Wagner | 1 | | | |
| Fujitsu | P | Mr. Mike Fitzpatrick | 1 | | | |
| General Dynamics | A | Mr. Tim Mackley | 1 | | | |
| Hewlett Packard Co. | P | Mr. Rob Elliott | 1 | | | |
| Hitachi Cable Manchester | | | | | | 1 |
| Honda Connectors | | | | | | 1 |
| IBM / Tivoli Systems | | | | | | 1 |
| Intel Corp. | P | Mr. Cris Simpson | 1 | | | |
| Iomega Corp. | | | | | | 1 |
| KnowledgeTek, Inc. | P | Mr. Dennis Moore | 1 | | | |
| LSI Logic Corp. | P | Mr. John Lohmeyer | 1 | | | |
| Maxtor Corp. | P | Mr. Mark Evans | 1 | | | |
| Microsoft Corp. | P | Ms. Emily Hill | 1 | | | |
| Molex Inc. | | | | | | 1 |
| Network Appliance Inc. | | | | | | 1 |
| Nishan Systems Inc. | | | | | | 1 |
| Ophidian Designs | P | Mr. Edward A. Gardner | | 1 | | |
| Panasonic Technologies, Inc | P | Dr. Terence J. Nelson | 1 | | | |
| Philips Electronics/CD Edge | P | Mr. William P. McFerri | 1 | | | |
| Pirus Networks | P | Mr. Charles Binford | 1 | | | |
| QLogic Corp. | A# | Mr. Craig W. Carlson | 1 | | | |
| Quantum Corp. | P | Mr. Paul Entzel | 1 | | | |
| Seagate Technology | P | Mr. Gerald Houlder | 1 | | | |
| Storage Technology Corp. | P | Mr. Erich Oetting | 1 | | | |
| Sun Microsystems, Inc. | P | Mr. Vit Novak | 1 | | | |
| Texas Instruments | P | Mr. Paul D. Aloisi | 1 | | | |
| Toshiba America Elec. Comp. | P | Mr. Tasuku Kasebayashi | 1 | | | |
| Madison Cable Corp. | P | Ms. Jie Fan | 1 | | | |
| UNISYS Corporation | | | | | | 1 |
| Veritas Software | P | Mr. Roger Cummings | 1 | | | |
| Vixel Corp. | P | Mr. Kenneth Hirata | 1 | | | |
| Western Digital Corporation | P | Mr. Tom Hanan | 1 | | | |

```
                                            29  1   0  16 = 46
```

Ed Gardner stated that his reason for voting No was that the overhead of developing international standards is not worth the effort.

Gary Robinson was given an action item to report to JTC 1 that T10 has reviewed the new work item proposal, and recommends that the US National Member vote to approve the new work item proposal JTC 1 N 6801, Fibre Channel Protocol for SCSI, Second Version (FCP-2), project 1.25.13.11.18 and that all six questions be answered yes and Gary Robinson be named as the editor.

### 11.2.2   JTC 1 N6802 Proposal for a NWI on SCSI Parallel Interface-4 (SPI-4)

Ron Roberts moved that the IR be instructed to report to JTC 1 that T10 has reviewed the new work item proposal, and recommends that the US National Member vote to approve the new work item proposal JTC 1 N 6802, SCSI Parallel Interface-4 (SPI-4), project 1.25.13.11.28 and that all six questions be answered yes and Gary Robinson be named as the editor. Erich Oetting seconded the motion. The motion passed on a two-thirds roll call vote of 29:1:0:16=46. Details of the vote were the same as under agenda item 11.2.1.

Ed Gardner stated that his reason for voting No was that the overhead of developing international standards is not worth the effort.

Gary Robinson was given an action item to report to JTC 1 that T10 has reviewed the new work item proposal, and recommends that the US National Member vote to approve the new work item proposal JTC 1 N 6802, SCSI Parallel Interface-4 (SPI-4), project 1.25.13.11.28 and that all six questions be answered yes and Gary Robinson be named as the editor.


## 12.  Liaison Reports

### 12.1 T11 Liaison Report (02-337r0) [Forbes]

Brian Forbes presented the T11 liaison report contained in T10/02-337r0.

### 12.2 T13 Liaison Report [Colegrove]

In the absence of Dan Colegrove, no report was available.

### 12.3 SFF Industry Group [Allan]

In the absence of Dal Allan, Bill Ham reported on the SFF activities including issues regarding the use of keys on the high speed serial connector that SAS plans to use for external connections.

### 12.4 IEEE 1394 [Johansson]

In the absence of Peter Johansson, no report was available.

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

Paul Also reported on the activities of STA and provided an electronic report that can be found in 02-361r0.

### 12.6 IETF SCSI over IP [Black/Robinson]

In the absence of David Black, no report was available.

**12.7 SNIA [Cummings]**

Roger Cummings reported on the Storage Management Initiative at SNIA. He noted that the work is developing a specification on how RAID arrays are managed via CIM.

Roger also described the Security Summit at the SNIA Technology Center in Colorado Springs.


# 13. Review of Action Items

482     John Lohmeyer will ask INCITS to post a list of withdrawn standards on the INCITS web site including information on how to obtain them.
483     Ralph Weber will prepare SAM-2 revision 24, from revision 23v by changing 'working draft' to 'dpANS' and removing all change bars.
484     John Lohmeyer will forward SAM-2 revision 24 to INCITS for processing towards first public review.
485     John Lohmeyer will conduct a letter ballot on PIP revision 3.
486     George Penokie will prepare SPI-5 revision 3.
487     John Lohmeyer will conduct a letter ballot on SPI-5 revision 3.
488     Gary Robinson will report to JTC 1 that T10 has reviewed the new work item proposal, and recommends that the US National Member vote to approve the new work item proposal JTC 1 N 6801, Fibre Channel Protocol for SCSI, Second Version (FCP-2), project 1.25.13.11.18 and that all six questions be answered yes and Gary Robinson be named as the editor.
489     Gary Robinson will report to JTC 1 that T10 has reviewed the new work item proposal, and recommends that the US National Member vote to approve the new work item proposal JTC 1 N 6802, SCSI Parallel Interface-4 (SPI-4), project 1.25.13.11.28 and that all six questions be answered yes and Gary Robinson be named as the editor.


# 14. Meeting Schedule

John Lohmeyer moved that the July 2003 meeting dates be moved from July 14-18 to July 7-11. Ron Roberts seconded the motion. John explained that the change was needed to accommodate the host hotel schedule. In the absence of any objections, the motion passed unanimously.

The next plenary meeting of T10 will be Thursday November 7, 2002 in Huntington Beach, CA at the Hilton Waterfront Hotel (714-960-7873), hosted by QLogic Corp. The meeting will begin at 9:00 a.m. on Thursday.

The meeting list for the next plenary week is:

```
                    November 2002 Meeting Map
                      (2002/09/12 Version)
Monday 11/4         9   10  11  12  1   2   3   4   5   6   7   8
                    +=======================================+
                    | SSC-2 / SMC-2 WG                      |        (20)
                    +==============+========================+
                    | SAS STP SG   | SAS Protocol WG        |        (40)
                    +==============+========================+
                    | Par. SCSI WG | SAS PHY WG             |        (25)
                    +==============+========================+

Tuesday 11/5    8   9   10  11  12  1   2   3   4   5   6   7   8
                    +=========================================+
                    | SAS Protocol WG                         |      (40)
                    +================================+========+
                    | SAS PHY WG                     |               (25)
                    +==============================+
                    | ADI WG (tape library)        |                 (15)
                    +==============================+
                    | SBP-3 WG                     |                 (10)
                    +==============================+---+
                    | T11 Ad Hocs                      |             (15)
                    +----------------------------------+

Wednesday 11/6      9   10  11  12  1   2   3   4   5   6   7   8
                    +==========================================+
                    | SCSI Commands, Arch., & Protocol WG      |     (35)
                    +================================+=========+
                    | SBP-3 WG                       |               (10)
                    +==============================+
                    | MMC WG                       |                 (10)
                    +======================+======+-------+
                                           | SFF mtgs      |         (20)
                                           +---------------+

Thursday 11/7       9   10  11  12  1   2   3   4   5   6   7   8
                    +================+
                    | T10 Plenary    |                               (50)
                    +================+

Friday 11/8         9   10  11  12  1   2   3   4   5   6   7   8
              (no meetings planned for Friday)


Meetings marked with == are T10-authorized meetings.
Meetings marked with -- are other groups and may change without notice.
SCSI Trade Association meetings on Wednesday and Thursday are not shown
(see www.scsita.org for information on these meetings).
```

```
 Other T10-authorized meetings:
Meeting         Date               Location / Contact
--------------  -----------------  ------------------------------------
SAS Prot Calls  Weekly Tuesday am  To be announced via T10 reflector
SAS PHY Calls   Weekly Monday pm   To be announced via T10 reflector
SAS Edit        10/3-4/02          Houston, TX / Elliott
SSM Edit        10/15/02           Worcester, MA / Tyco/Madison
SSM WG          10/16/02           Worcester, MA / Tyco/Madison
PIP WG          10/17/02           Worcester, MA / Tyco/Madison
SAS WG          10/24-25/02        Las Vegas, NV / Fujitsu
SAS STP SG      10/24/02 5-8pm     Las Vegas, NV / Fujitsu
PIP Edit        12/03/02           Guadalajara, MX / Electronica Pantera
PIP WG          12/04/02           Guadalajara, MX / Electronica Pantera
SSM WG          12/05/02           Guadalajara, MX / Electronica Pantera


 Map Abbreviation Key:
ADI:        Automation Drive Interface (tape library interface)
Amnd:       Amendment
CAP:        Commands, Architecture, and Protocols
Fast-80:    Data Transfer at 80 Mega-transfers/sec. (a.k.a., Ultra3,Ultra160)
Fast-160:   Data Transfer at 160 Mega-transfers/sec. (a.k.a., Ultra320)
FC:         Fibre Channel
I/F:        Interface
IETF:       Internet Engineering Task Force (the group that sets
            Internet standards)
iFC:        Internet Fibre Channel
IPS:        Internet Protocol SCSI
iSCSI:      Internet SCSI
LB:         Letter Ballot
MMC:        Multimedia Commands (CD-ROM, DVD, etc.)
OSD:        Object-based Storage Device
Par.:       Parallel (e.g., SPI-n)
PH or PHY:  Physical (Connectors, Cables, Transceivers, etc.)
PIP:        (SCSI) Passive Interconnect Performance
Plenary:    Full Committee Meeting
Res:        Resolution
SAS:        Serial Attached SCSI
SBC-2:      SCSI Block Commands - 2
SBP-3:      Serial Bus Protocol - 3
SCSI:       Small Computer System Interface
SES:        SCSI Enclosure Services
SFF:        SFF Industry Group (not an INCITS activity)
SG:         Study Group
SMC-2:      SCSI Medium Changer - 2 Commands
SPC-3:      SCSI Primary Commands - 2 (3rd generation)
SPI-4:      Fourth Generation SCSI Parallel Interface
SPI-5:      Fifth Generation SCSI Parallel Interface
SRP:        SCSI RDMA Protocol (was SVP)
SRP-2:      SCSI RDMA Protocol (2nd generation)
SSC-2:      SCSI Stream Commands - 2 (includes Tape)
SSM-2:      SCSI Signal Modeling (2nd generation)
SSWGs:      Specific-Subject Working Groups
STA:        SCSI Trade Association (Closed meeting -- not an INCITS activity)
STA Marcom: STA Marketing Communications (Closed meeting -- not an INCITS activity)
STA Tech:   STA Technical Meeting (T10 members invited)
STP:        Serial ATA Tunneled Protocol
T10:        Lower Level Interfaces Technical Committee
T11:        Device Level Interfaces Technical Committee
WG:         Working Group (same as Ad Hoc Group)
```

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

```
Activity                    Contact         Telephone/Email
--------------------------- --------------  -----------------------------
ADP, ADT, ADC               Bob Griswold    (512) 928-7272
                                            rgriswold@crossroads.com
PIP, PIP-2                  Zane Daggett    (603) 669-4347 x236
                                            zdaggett@hcm.hitachi.com
SBC-2, SES-2, SAS           Rob Elliott     (281) 518-5037
                                            Robert.Elliott@compaq.com
MMC-2, MMC-3, MMC-4         Bill McFerrin   (303) 651-5400
                                            bill.mcferrin@cdedge.com
SBP-2 or RBC                Pete McLean     (303) 678-2149
                                            pete_mclean@maxtor.com
SBP-2, SBP-3                Peter Johansson (510) 527-3926
                                                   PJohansson@ACM.org
SCC-2, SPI-4, SPI-5, MSC    George Penokie  (507) 253-5208
                                            gpenokie@tivoli.com
SMC, SMC-2                  Erich Oetting   (303) 673-2178
                                            Erich_Oetting@Stortek.com
SPC-3, SAM-2, SAM-3, OSD    Ralph Weber     (214) 912-1373
                                            roweber@acm.org
SSC, SSC-2, FCP-2, FCP-3    Dave Peterson   (612) 802-3299
                                            dap@cisco.com
SRP, SRP-2                  Cris Simpson    (503) 712-4333
                                            cris.simpson@intel.com
SSM-2                       Paul Aloisi     (603) 222-8687
                                            paul_aloisi@ti.com
Other Activities            John Lohmeyer   (719) 533-7560
                                            lohmeyer@t10.org
```

The long-term T10 meeting week schedule is:

```
Date                Location                 Host/Comments
------------------  ------------------------ ----------------------------
Nov  4-8, 2002      Huntington Beach, CA     QLogic
Jan 13-17, 2003     Portland, OR             Intel
Mar 10-14, 2003     Dallas, TX               T.I.
May 5-9, 2003       Nashua, NH               Hitachi Cable
Jul 7-11, 2003      Colorado Springs, CO     LSI Logic [Dates Changed]
Sep 8-12, 2003      Seattle, WA              Microsoft
Nov 3-7, 2003       Austin, TX               Crossroads
Jan 12-16, 2004
Mar 8-12, 2004
May 3-7, 2004
Jul 12-16, 2004
Sep 13-17, 2004
Nov 8-12, 2004
```

### 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.

Paul Aloisi moved that T10 authorize the T10-related meetings and events in the list above that had not previously been approved through the end of December 2002. Ron Roberts seconded the motion. In the absence of any objections, the motion passed unanimously.

## 15. Adjournment

The meeting was adjourned at 11:35 a.m. on Thursday September 12, 2002.

**Enclosure(1) -- Meeting Attendees**

```
         Name          S      Organization        Electronic Mail Address
----------------------  --  ------------------------  ------------------------
Mr. Ron Roberts         P   Adaptec, Inc.             Ron_Roberts@adaptec.com
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Mr. Brian Forbes        P   Brocade Comm. Systems,    bforbes@brocade.com
                            Inc.
Mr. David Peterson      P   Cisco Systems, Inc.       dap@cisco.com
Mr. James A. Lott, Jr.  P   Dallas Semiconductor      jim.lott@dalsemi.com
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Mr. Douglas Wagner      P   FCI                       dwagner@fciconnect.com
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                                                      fujitsu.com
Mr. Tim Mackley         A   General Dynamics          timothy.a.mackley@gd-ais.
                                                      com
Mr. Rob Elliott         P   Hewlett Packard Co.       Elliott@hp.com
Dr. William Ham         A   Hewlett Packard Co.       bill_ham@ix.netcom.com
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                                                      net
Mr. Cris Simpson        P   Intel Corp.               cris.simpson@intel.com
Mr. Dennis Moore        P   KnowledgeTek, Inc.        dmoore@ix.netcom.com
Mr. John Lohmeyer       P   LSI Logic Corp.           lohmeyer@t10.org
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Mr. Rob Haydt           A   Microsoft Corp.           robhay@microsoft.com
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Mr. Edward A. Gardner   P   Ophidian Designs          eag@ophidian.com
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                            Inc
Mr. William P.          P   Philips Electronics/CD    bill.mcferrin@cdedge.com
McFerrin                    Edge
Mr. Charles Binford     P   Pirus Networks            charles.binford@pirus.com
Mr. Skip Jones          P   QLogic Corp.              skip.jones@qlogic.com
Mr. Craig W. Carlson    A#  QLogic Corp.              craig.carlson@qlogic.com
Mr. Paul Entzel         P   Quantum Corp.             paul.entzel@quantum.com
Mr. Gerald Houlder      P   Seagate Technology        gerry_houlder@seagate.com
Mr. Erich Oetting       P   Storage Technology Corp.  erich_oetting@stortek.com
Mr. Vit Novak           P   Sun Microsystems, Inc.    vit.novak@sun.com
Mr. Paul D. Aloisi      P   Texas Instruments         Paul_Aloisi@ti.com
Mr. Tasuku Kasebayashi  P   Toshiba America Elec.     task.kasebayashi@tais.
                            Comp.                     toshiba.com
Mr. Roger Cummings      P   Veritas Software          roger.cummings@veritas.
                                                      com
Mr. Kenneth Hirata      P   Vixel Corp.               Ken.Hirata@Vixel.com
Mr. Tom Hanan           P   Western Digital           tom.hanan@wdc.com
                            Corporation
```

36 People Present

```
Status Key:  P    -  Principal
             A,A# -  Alternate
             AV   -  Advisory Member
             L    -  Liaison
             V    -  Visitor
```

**Enclosure(2) --  T10 Attendance Database**
      Generated on 2002/09/16 at 12:22:56

```
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