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

To: T10 Membership
From: Ralph Weber / John Lohmeyer
Subject: Minutes of T10 Plenary Meeting #64 -- November 11, 2004
            Austin, TX

Agenda

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Results of Meeting

1.   Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 9:00 a.m., Thursday November 11, 2004. He thanked Dexter Anderson of Crossroads Systems for hosting the meeting.

John said that INCITS subgroup membership forms and the T10 document subscription forms are available on the meeting web site. He said that people should use these forms to ensure 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. Attendance was taken electronically via the meeting web site.

2.   Approval of Agenda

No additions/changes were made to the draft agenda.

John Lohmeyer moved and Ralph Weber seconded that the agenda be approved. In the absence of any objections, the motion passed unanimously.

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

    11.2.2 FDIS for SPC-2 [Robinson]

3.   Attendance and Membership

The membership requirements were reviewed. INCITS 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 begin voting at the beginning of his/her second meeting.

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

John briefly discussed the mailing fees. Complete pricing information is contained in the 2004 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 9 people from 5 organizations informing them that their membership was in jeopardy due to non-attendance (see 04-324r1) and that their membership would be terminated if they did not attend this meeting. The following organizations were in attendance jeopardy:

Amphenol Interconnect
Pivot3, Inc.
QLogic Corp.
Storage Technology Corp.
UNISYS Corporation

All the organizations in attendance jeopardy were present except:

UNISYS Corporation

For the organizations in jeopardy that failed to attend the meeting, the members from that organization had their membership changed to non-voting status.

No organizations became voting members of T10 at this meeting.

The T10 membership during the meeting was 40 organizations down from the 41 member organizations prior to the meeting. Enclosure (1) is the list of the people present at the meeting and enclosure (2) is the current T10 membership list.

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 noted that no organizations are currently in letter ballot jeopardy. However, four organizations will be in letter ballot jeopardy if they do not vote on the next letter ballot:

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T10 Letter Ballot Jeopardy Report -- 2004/10/25

                              Ballot:  04-109r0      04-241r0      04-326r0
                              Report:  04-110r0      04-242r0      04-327r0
                              Acronym: ADT           SBC-2         SPC-3
Organization
-------------------------------  ------------  ------------  ------------
Agilent Technologies                Yes           No            DNV
General Dynamics                    Yes           DNV           Yes
Hitachi Cable Manchester            Yes           DNV           Yes
Philips Electronics                 Yes           DNV           Yes
QLogic Corp.                        Yes           DNV           DNV         (*)


Key:
Yes     Organization voted Yes
No      Organization voted No
Abs     Organization voted Abstain
DNV     Organization failed to return letter ballot
--      Organization was not a voting member for the letter ballot
(*)     Organization is in letter ballot jeopardy
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4. Approval of Minutes - September 2004 Meeting - Nashua, NH (T10/04-289r0)

John Lohmeyer moved and Ralph Weber seconded that the minutes be approved. In the absence of any objections, the motion passed unanimously.

5. Document Distribution

Members who have any problems with their mailing subscription should deal directly with Parthenia Purnell (ppurnell@itic.org) (202) 626-5741. A subscription form is included on the meeting disk.

John Lohmeyer requested that all documents for the next mailing be uploaded to the T10 web site by 10:30 a.m. on Thursday November 18, 2004. 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

John Lohmeyer explained that 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. The contact for INCITS patent issues is Lynn Barra (lbarra at itic dot org) or (202) 626-5739. 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 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.

Bob Sheffield 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 other responses to the call for patents other than those mentioned above.

7.   Review of Old Action Items

579   Ralph Weber will prepare SPC-3 revision 21. *Complete.*
580   John Lohmeyer will conduct a Letter Ballot on forwarding SPC-3 revision 21 to Public Review. *Complete.*
581   John Lohmeyer will communicate to INCITS that the name of the MSC project has changed to Bridge Controller Commands (BCC). *Complete.*
582   John Lohmeyer will forward MMC-4 revision 3d to INCITS for further processing toward first Public Review. *Complete.*
583   Rod Wideman will prepare ADC revision 7. *Complete.*
584   John Lohmeyer will forward ADC revision 7 to INCITS for further processing toward first Public Review. *Complete.*

585   Ralph Weber will prepare SAM-3 revision 14. *Complete.*
586   John Lohmeyer will forward SAM-3 revision 14 to INCITS for further processing towards first Public Review. *Complete.*
587   John Lohmeyer will forward 04-173r1 to INCITS for further processing as a new project proposal for OSD-2. *Complete.*
588   John Lohmeyer will forward 04-252r0 to INCITS for further processing as a new project proposal for SPC-4. *Complete.*
589   John Lohmeyer will forward 04-279r0 to INCITS for further processing as a new project proposal for SMC-3. *Complete.*
590   John Lohmeyer will forward 04-254r0, an ISO NWIP for SAM-3, to INCITS. *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 on the meeting web site and will be included in the mailing as usual.

8.1.1   INCITS Antitrust Guidelines

All T10 members should be aware of the INCITS antitrust guidelines available at http://www.incits.org/natrust.htm.

John reminded committee members that all persons present at a T10 meeting is responsible for identifying potential violations of the antitrust guidelines and reporting them to the chair. Discussions of the following topics are considered sensitive:

   * Any company's prices or pricing policies;
   * Specific R&D, sales and marketing plans;
   * Any company's confidential product, product development or production strategies;
   * Whether certain suppliers or customers will be served;
   * Prices paid to input sources; or
   * Complaints about individual firms or other actions that might tend to hinder a competitor in any market.

8.2 Object-based Storage Devices Commands (OSD) Project 1355-D [Weber]

John Lohmeyer reported that OSD had successfully completed first public review and INCITS management review. It is now at INCITS 30-day letter ballot for approval. Assuming it passes, OSD should be published yet this year.

8.3 SCSI Medium Changer Commands - 2 (SMC-2) Project 1383-D [Oetting]

John Lohmeyer reported that SMC-2 has been approved and published by ANSI as INCITS 382-2004. He congratulated Erich Oetting, the SMC-2 Technical Editor.

8.4 SCSI Primary Commands - 3 (SPC-3) Project 1416-D [Weber]

John Lohmeyer reported that SPC-3 revision 21 had passed forwarding letter ballot 33:5:1:2=41 as documented in 04-327r1. Comments were received from 11 organizations.

Ralph Weber reported that the letter ballot comments resolution document is 04-355. The CAP working group and a special SPC-3 letter ballot comments resolution meeting following this meeting will address as many of the unresolved comments as possible.

8.5 SCSI Block Commands - 2 (SBC-2) Project 1417-D [Elliott]

Rob Elliott reported that the CAP working group had recommended that the proposed letter ballot resolution (04-274r2) be approved and that SBC-2 revision 16 be forwarded to INCITS for first public review.

Rob Elliott moved that 04-274r2 be approved as resolving the SBC-2 letter ballot comments, that SBC-2 revision 16 be accepted as incorporating the SBC-2 letter ballot comments resolutions, and that SBC-2 revision 16 be forwarded to INCITS for further processing towards first public review. Bill Galloway seconded the motion. The motion passed 33:0:0:7=40.

Based on the successful resolution of the letter ballot comments, the following people asked that their organization's No votes be changed to Yes: Pat Thaler, Agilent Technologies; Robert Snively, Brocade; Ralph Weber, ENDL, George Penokie, IBM Corp.; Mark Evans, Maxtor Corp.; and Alvin Cox, Seagate Technology.

John Lohmeyer took an action item to forward SBC-2 revision 16 to INCITS for further processing toward first Public Review.

8.6 SCSI RDMA Protocol - 2 (SRP-2) Project 1524-D [open]

Cris Simpson sent John Lohmeyer an email in which he said that he is no longer able to continue as theh SRP-2 Technical Editor. John said he would issue a call for an SRP-2 Technical Editor on the T10 Reflector. If there is no response by the January meeting, he plans to move that this project be closed.

8.7 Bridge Controller Commands (BCC) Project 1528-D [Elliott]

Rob Elliott reported that BCC r0 was posted after the last meeting. SPC-3 will be assigning a device type code to BCC as part of the letter ballot resolution. Rob reported that a new revision will not be posted following this meeting.

8.8 MultiMedia Command Set - 4 (MMC-4) Project 1545-D [McFerrin]

Bill McFerrin reported that a substantive error had been discovered in MMC-4 during the public review period.

Bill McFerrin moved that T10 approve the substantive changes in MMC-4 revision 5 and that T10 forward MMC-4 revision 5 to INCITS for second public review. Bill Galloway seconded the motion. The motion passed on a roll call motion by 36:0:0:4=40 as follows:

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Organization              Voter                        Vote
Adaptec, Inc.             Tim Symons                   Yes
Agilent Technologies      Pat Thaler                   Yes
Amphenol Interconnect     Brian Miller                 Yes
Brocade                   Robert Snively               Yes
Cisco Systems, Inc.                                    (not present)
CNT                       David Peterson               Yes
Crossroads Systems, Inc.  Dexter Anderson              Yes
Dallas Semiconductor      James A. Lott, Jr.           Yes
Dell, Inc.                Kevin Marks                  Yes
EMC Corp.                 Gary S. Robinson             Yes
Emulex                    Robert H. Nixon              Yes
ENDL                      Ralph O. Weber               Yes
FCI                       Douglas Wagner               Yes
Foxconn Electronics       Elwood Parsons               Yes
Fujitsu                   Mike Fitzpatrick             Yes
General Dynamics                                       (not present)
Hewlett Packard Co.       Rob Elliott                  Yes
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Hitachi Cable Manchester      Zane Daggett                 Yes
Hitachi Global Storage Tech.  Dan Colegrove                Yes
IBM Corp.                     George O. Penokie            Yes
Intel Corp.                   Robert Sheffield             Yes
Iomega Corp.                  David Hawks                  Yes
LSI Logic Corp.               John Lohmeyer                Yes
Maxtor Corp.                  Mark Evans                   Yes
Microsoft Corp.               Emily Hill                   Yes
Molex Inc.                    Jay Neer                     Yes
Panasonic Technologies, Inc   Terence J. Nelson            Yes
Philips Electronics           William P. McFerrin          Yes
Pivot3, Inc.                  Bill Galloway                Yes
PMC-Sierra                    Rachelle Trent               Yes
QLogic Corp.                  Greg Elkins                  Yes
Quantum Corp.                 Paul Entzel                  Yes
Seagate Technology            Jim Coomes                   Yes
Storage Technology Corp.                                   (not present)
Sun Microsystems, Inc.        Vit Novak                    Yes
Texas Instruments             Robert Kando                 Yes
Toshiba                                                    (not present)
TycoElectronics               Ashlie Fan                   Yes
Veritas Software              Roger Cummings               Yes
Western Digital               Curtis Stevens               Yes
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John Lohmeyer took an action item to forward MMC-4 revision 5 to INCITS for further processing toward second Public Review.

8.9 Automation/Drive Interface - Transport Protocol (ADT) Project 1557-D [Entzel]

Paul Entzel reported on the activities of the ADI working group (minutes in 04-385).

Paul Entzel moved that 04-162r2 be approved as resolving the ADT letter ballot comments, that ADT revision 14 be accepted as incorporating the ADT letter ballot comments resolutions, and that ADT revision 14 be forwarded to INCITS for further processing towards first public review. David Hawks seconded the motion. The motion passed 36:0:0:4=40.

Based on the successful resolution of the letter ballot comments, the following people asked that their organization's No votes be changed to Yes: George Penokie, IBM Corp.; John Lohmeyer, LSI Logic Corp.; and Jim Coomes, Seagate Technology.

John Lohmeyer took an action item to forward ADT revision 14 to INCITS for further processing toward first Public Review.

8.10 Automation/Drive Interface - Commands (ADC) Project 1558-D [Entzel/Wideman]

John Lohmeyer reported that the first pubic review on ADC closes on 22 November 2004.

8.11 SCSI Enclosure Services - 2 (SES-2) Project 1559-D [Elliott]

Rob Elliott reported that no proposals have been approved for incorporation in SES-2 so the working draft will remain at revision 9.

8.12 Fibre Channel Protocol - 3 (FCP-3) Project 1560-D [Peterson]

Dave Peterson reported on the activities of the FCP-3 working group (minutes in 04-395).

8.13 SCSI Architecture Model - 3 (SAM-3) Project 1561-D [Weber]

John Lohmeyer reported that the SAM-3 first public review period ends 22 November 2004. So far no comments have been received.

8.14 Serial Attached SCSI - 1.1 (SAS-1.1) Project 1601-D [Elliott]

Rob Elliott reported that SAS-1.1 revision 7 will incorporate all the proposals approved by this meeting. He stated that the target date for the forwarding letter ballot is January 2005.

8.15 SCSI Stream Commands - 3 (SSC-3) Project 1611-D [Peterson]

Dave Peterson reported on the activities of the SSC-3 working group (minutes in 04-390).

8.16 MultiMedia Command Set - 5 (MMC-5) Project 1675-D [McFerrin]

Bill McFerrin reported that the working group reviewed some new proposals for MMC-5 content. The content of r1 was reviewed. New proposals are expected next year from the Mt. Fuji group.

8.17 SCSI Architecture Model - 4 (SAM-4) Project 1683-D [Penokie]

George Penokie reported that work on SAM-4 is awaiting delivery of a stable SAM-3 source.

8.18 SCSI / ATA Translation (SAT) Project 1711-D [Sheffield]

Bob Sheffield provided an electronic report (04-396) on the recent SAT activities and reviewed the activities orally with the committee. He stated a goal of conducting a letter ballot around March or May of next year.

8.19 SCSI Primary Commands - 4 (SPC-4) Project 1729-D [Weber]

Ralph Weber stated that r0 of SPC-4 will not be uploaded until the ANSI Editor's comments on SPC-3 are processed.

8.20 SCSI Media Changer Command Set - 3 (SMC-3) Project 1730-D [open]

Michael Banther reported on the activities of the SMC-3 working group (minutes in 04-386). He noted that a firm deadline of January has been set for identifying an editor.

8.21 Object-Based Storage Devices - 2 (OSD-2) Project 1731-D [Weber]

Ralph Weber reported that OSD-2 r0 is available on the T10 web site and is OSD r10 plus the ANSI Editor's comments on OSD r10. There is no indication that another revision will be produced before the January meeting.

9. Old Business

There was no old business.

10. New Business

10.1 Project Proposal for Automation/Drive Interface - Commands - 2 (ADC-2) (04-306) [Suhler]

Paul Suhler presented the ADC-2 project proposal, 04-306r0. The committee requested minor changes and Paul agreed to prepare a r1. Paul Entzel moved that 04-306r1 be approved as a new project proposal for Automation/Drive Interface - Commands - 2 (ADC-2). Curtis Stevens seconded the motion.

The motion passed on a two-thirds vote of 35:0:0:5=40.

John Lohmeyer took an action item to forward 04-306r1 to INCITS for further processing as a new project proposal for ADC-2.

10.2 Project Proposal for Automation/Drive Interface - Transport Protocol - 2 (ADT-2) (04-307) [Suhler]

Paul Suhler presented the ADT-2 project proposal, 04-307r0. The committee requested minor changes and Paul agreed to prepare a r1. Paul Entzel moved that 04-307r1 be approved as a new project proposal for Automation/Drive Interface - Transport Protocol - 2 (ADT-2). David Hawks seconded the motion.

The motion passed on a two-thirds vote of 35:0:0:5=40.

John Lohmeyer took an action item to forward 04-307r0 to INCITS for further processing as a new project proposal for ADT-2.

10.3 Project proposal for Serial Attached SCSI Driver Interface (SDI) (04-345) [Fairchild and Elliott]

Rob Elliott presented the SDI project proposal, 04-345r1. Emily Hill stated that Microsoft was opposed to the proposal because it specifies an interface that is not the appropriate purview of T10. Mark Overby stated that there are numerous problems with defining IOCTL interfaces. Rob Elliott stated that the proposal allows management and diagnostic tools to gain access to the SMP and STP services that the main driver path is never going to expose.

Rob Elliott moved that 04-345r1 be approved as a new project proposal for Serial Attached SCSI Driver Interface (SDI). Kevin Marks seconded the motion.

The motion passed on a two-thirds vote of 19:6:12:3=40.

Bob Snively stated that his abstention was based on a belief that the resulting standard will gain insufficient acceptance to make the work worthwhile.

John Lohmeyer took an action item to forward 04-345r1 to INCITS for further processing as a new project proposal for SDI.

10.4 Actions on SAS Protocol Working Group Recommendations

The recommendations from the SAS-1.1 working group (minutes in 04-366) were presented to the committee.

George Penokie reviewed the following proposals recommended for inclusion in SAS-1.1:

    03-245r6 (Adding the Terminate Data Transfer protocol service) [Evans]
    04-329r0 (Missing Protocol Identifier field) [Penokie]
    04-357r1 (Another Port Selector Detection Gap) [Sheffield]
    04-339r1 (Remove minimum ALIGN counts from summary table) [Elliott]
    04-341r1 (Do not reset Arbitration Wait Time timer on incoming OPEN) [Elliott]
    04-352r1 (Phy test functions for SMP) [Elliott]
    04-346r0 (SMP initiator state machine corrections) [Elliott]

Rob Elliott moved that 03-245r6, 04-329r0, 04-357r1, 04-339r1, 04-341r1, 04-352r1, and 04-346r0 be approved for inclusion in SAS-1.1. Bill Galloway seconded the motion. The motion passed on a vote of 30:0:3:7=40.

George Penokie reviewed 04-363r0 (DONE Timeout vs ACK NAK Timeout race condition note) a proposal from Rob Elliott.

Rob Elliott moved that 04-363r0 be approved for inclusion in SAS-1.1. Bill Galloway seconded the motion. The motion passed on a vote of 15:4:13:8=40.

10.5 Actions on SAS PHY Working Group Recommendations

The recommendations from the SAS PHY working group (minutes in 04-394) were presented to the committee.

George Penokie and Alvin Cox reviewed the following proposals recommended for inclusion in SAS-1.1:

    04-331r1 (PHY Definitions and Acronyms update) [Ham]
    04-332r1 (PHY jitter MJSQ modifications) [Ham]

Rob Elliott moved that 04-331r1 and 04-332r1 be approved for inclusion in SAS-1.1. Alvin Cox seconded the motion. The motion passed on a vote of 30:0:2:8=40.

Rob Elliott reviewed the 04-222r2 (More phy test patterns). He noted that the changes requested by the SAS Phy group made the proposal more consistent with the SATA BIST (Built-In Self Test) function.

Mark Evans stated that the SAS Protocol working group requested that the SAS Phy group select some specific dwords. He stated that the proposal as written is unrestricted with respect to the dword patterns that can be generated.

Rob Elliott and Jim Coomes stated that the patterns are intended to test components.

John Lohmeyer asked if there would be any objections to remanding the proposal to a joint Phy/Protocol working group. No objections were raised. This topic will be covered beginning at 8:00 a.m. on Tuesday, January 18, 2005.

10.6 Actions on CAP Working Group Recommendations

The recommendations from the CAP working group (minutes in 04-367) were presented to the committee.

George Penokie reviewed 04-376r1 (Task priority cleanup) [Elliott], a proposal recommended for SAM-4 and SAS-1.1. Rob Elliott moved that 04-376r1 be approved for SAM-4 and SAS-1.1. Bill Galloway seconded the motion. The motion passed on a vote of 29:0:1:10=40.

10.7 Actions on Other Working Group Recommendations

George Penokie and Ralph Weber reviewed 04-294r1 (FCP-3 & Optional Headers), a proposal recommended for inclusion in FCP-3. Ralph Weber moved that 04-294r1 be approved for inclusion in FCP-3. Bob Snively seconded the motion. The motion passed on a vote of 30:0:2:8=40.

11. ISO/IEC

11.1 ISO/IEC Report [Robinson]

Gary Robinson presented the ISO/IEC report (04-360r1).

11.2 ISO/IEC Business [Robinson]

11.2.1   NWIP for SAS-1.1 (04-126) [Elliott]

Gary Robinson requested that this agenda item be carried over until the January 2005 meeting since SAS-1.1 has not been sent to letter ballot.

11.2.2   FDIS for SPC-2 [Robinson]

Gary Robinson moved that the IR be instructed to report that T10 has reviewed project ISO/IEC FDIS SPC-2, 1.25.13.11.27, 14776-452, and recommends that the JTC1/SC25 TAG vote to approve said FDIS. Bob Nixon seconded the motion. The motion passed on a roll call motion by 31:0:0:9=40 as follows:

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Organization                 Voter                   Vote
Adaptec, Inc.                Tim Symons              Yes
Agilent Technologies         Pat Thaler              Yes
Amphenol Interconnect        Brian Miller            Yes
Brocade                      Robert Snively          Yes
Cisco Systems, Inc.                                  (not present)
CNT                          David Peterson          Yes
Crossroads Systems, Inc.     Dexter Anderson         Yes
Dallas Semiconductor         James A. Lott, Jr.      Yes
Dell, Inc.                   Kevin Marks             Yes
EMC Corp.                    Gary S. Robinson        Yes
Emulex                       Robert H. Nixon         Yes
ENDL                         Ralph O. Weber          Yes
FCI                          Douglas Wagner          Yes
Foxconn Electronics                                  (not present)
Fujitsu                                              (not present)
General Dynamics                                     (not present)
Hewlett Packard Co.          Rob Elliott             Yes
Hitachi Cable Manchester     Zane Daggett            Yes
Hitachi Global Storage Tech. Dan Colegrove           Yes
IBM Corp.                    George O. Penokie       Yes
Intel Corp.                  Robert Sheffield        Yes
Iomega Corp.                 David Hawks             Yes
LSI Logic Corp.              John Lohmeyer           Yes
Maxtor Corp.                 Martin Czekalski        Yes
Microsoft Corp.              Emily Hill              Yes
Molex Inc.                                           (not present)
Panasonic Technologies, Inc  Terence J. Nelson       Yes
Philips Electronics          William P. McFerrin     Yes
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Pivot3, Inc.                                        (not present)
PMC-Sierra                   Rachelle Trent         Yes
QLogic Corp.                                        (not present)
Quantum Corp.                Paul Entzel            Yes
Seagate Technology           Jim Coomes             Yes
Storage Technology Corp.     Erich Oetting          Yes
Sun Microsystems, Inc.       Vit Novak              Yes
Texas Instruments            Robert Kando           Yes
Toshiba                                             (not present)
TycoElectronics                                     (not present)
Veritas Software             Roger Cummings         Yes
Western Digital              Curtis Stevens         Yes
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Gary Robinson took an action item to communicate to INCITS that T10 recommends that the JTC1/SC25 TAG vote to approve the project ISO/IEC FDIS SPC-2, 1.25.13.11.27, 14776-452 FDIS.

12. Liaison Reports

12.1 T11 Liaison Report [Snively]

Bob Snively presented the T11 liaison report contained in T10/04-361r1.

12.2 T13 Liaison Report [Colegrove]

Dan Colegrove provided an oral report to the committee on the activities of T13. He noted that the principle activity of the committee is the ATA/ATAPI-8 project. For details regarding T13 activities see www.t13.org.

12.3 SFF Industry Group [Allan]

In the absence of Dal Allan, no report was available.

12.4 IEEE 1394 [Johansson]

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

12.5 SCSI Trade Association (STA) [Czekalski]

Marty Czekalski presented an electronic report on the activities of the SCSI Trade Association available in 04-399r0.

12.6 IETF SCSI over IP [Black/Robinson]

Pat Thaler reported that the IPS group is working on iSCSI over RDMA, known as iSER, and various MIBs.

12.7 SNIA [Cummings]

Roger Cummings provided an electronic report on SNIA activities (04-399r0) and reviewed the report for the committee.

12.8 SATA II [Cox/open]

Alvin Cox reported that SATA II does not exist anymore and SATA I/O does not plan to provide a liaison. Alvin requested that this item be removed from future agendas.

12.9 Trusted Computing Group [Fitzpatrick]

Mike Fitzpatrick reported that a definition of trusted computing commands should be coming into T10 next spring.

13. Review of Action Items

591   John Lohmeyer will forward SBC-2 revision 16 to INCITS for further processing toward first Public Review.

592   John Lohmeyer will forward MMC-4 revision 5 to INCITS for further processing toward second Public Review.

593   John Lohmeyer will forward ADT revision 14 to INCITS for further processing toward first Public Review.

594   John Lohmeyer will forward 04-306r1 to INCITS for further processing as a new project proposal for ADC-2.

595   John Lohmeyer will forward 04-307r0 to INCITS for further processing as a new project proposal for ADT-2.

596   John Lohmeyer will forward 04-345r1 to INCITS for further processing as a new project proposal for SDI.

597   Gary Robinson will communicate to INCITS that T10 recommends that the JTC1/SC25 TAG vote to approve the project ISO/IEC FDIS SPC-2, 1.25.13.11.27, 14776-452 FDIS.

14. Meeting Schedule

The next plenary meeting of T10 will be Thursday January 20, 2005 in Las Vegas, NV at the Tropicana Hotel (800-643-4000), hosted by Hitachi GST. The meeting will begin at 9:00 a.m. on Thursday.

The meeting list for the next plenary week is:

```
                        January 2005 Meeting Map
                          (2004/11/11 Version)
Monday 1/17            9   10  11  12  1   2   3   4   5   6   7   8
                       +==============+      +=============+
                       | ADI-2 WG     |      | SMC-3 WG    |              (10)
                       +==============+=====+=============+===+
                       | SAS Protocol WG / SDI WG             |           (40)
                       +=====================================+
                       | Mt. Fuji                             |           (30)
                       +--------------------------------------+

Tuesday 1/18     8   9   10  11  12  1   2   3   4   5   6   7   8
                 +=========================================+
                 | SAS Physical WG                         |             (25)
                 +==================+================+===+
                       |SCSI/ATA Trans WG| CAP WG          |             (40)
                       +==============+-+------------+===+
                       | FCP-3 WG     | STA Marcom *  |                  (20)
                       +--------------+--------------+---+
                       | T11 Ad hoc                     |                (30)
                       +-------------------------------+---+
                       | Mt. Fuji                         |              (30)
                       +--------------------------------------+

Wednesday 1/19         9   10  11  12  1   2   3   4   5   6   7   8
                       +=================================+
                       | CAP WG                           |             (40)
                       +=================================+
                       | MMC WG                           |             (25)
                       +==============+=======+==========+
                       | SSC-3        |       |SFF       |              (30)
                       +==============+-------+-------+---+
                       | STA Plenary * /Adm*/ TCC*     |                (20)
                       +--------------+--------------+---+
                       | T11 Ad hoc                       |             (20)
                       +---------------------------------+

Thursday 1/20    8   9   10  11  12  1   2   3   4   5   6   7   8
                       +==============+====================+
                       | T10 Plenary  |SPC-3 LB/SAS-1.1 Edit|          (45/15)
                       +==============+===========+=========+
                       | FCIA Board Meeting *     |                     (12)
                       +-------------------------+

Friday 1/21      8   9   10  11  12  1   2   3   4   5   6   7   8
                       +================+
                       | SPC-3 LB/SAS-1.1|                              (15)
                       +================+
```

/ means the next meeting starts when the previous meeting concludes
Meetings marked with == are T10-authorized meetings.
Meetings marked with -- are other groups and may change without notice.
Meetings marked with (*) are closed meetings of other groups.

```
 Other T10-authorized meetings:
Meeting         Date                Location / Contact
--------------  ------------------  ------------------------------------
SAS PHY Calls   Weekly              TBA via T10 reflector / Cox
SAT WG Call     Dec 2 9:00 PDT      Notice (TBA) / Bob Sheffield
SSC-3 WG Call   Dec 2 9:30 CST      Dave Peterson
SAT WG          Dec 16-17, 2004     With T13 in Las Vegas / Colegrove
```

```
  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:        SCSI Storage 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
---------------------------- --------------- ------------------------------
ADT                          Paul Entzel     (720) 406-5782
                                             paul.entzel@quantum.com
ADC                          Rod Wideman     (720) 249-5796
                                             rod.wideman@adic.com
SBC-2, SES-2, SAS-1.1, BCC   Rob Elliott     (281) 518-5037
                                             Elliott@hp.com
MMC-4, MMC-5                 Bill McFerrin    (325) 423-1560
                                             billmc@tstar.net
SBP-3                        Peter Johansson (510) 527-3926
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SPC-3, SAM-3, SPC-4, OSD-2   Ralph Weber     (214) 912-1373
                                             roweber@acm.org
SSC-3, FCP-3                 Dave Peterson   (763) 268-6139
                                             david_peterson@cnt.com
Other Activities             John Lohmeyer   (719) 533-7560
                                             lohmeyer@t10.org
```

The long-term T10 meeting week schedule is:

```
Date                Location                 Host/Comments
------------------- ------------------------ ------------------------------
Jan 17-21, 2005     Las Vegas, NV            Hitachi GST
Mar 7-11, 2005      Dana Point, CA           QLogic
May 2-6, 2005       Oklahoma City, OK        Fujitsu
Jul 11-15, 2005     Colorado Springs, CO     LSI Logic
Sep 12-16, 2005     Vancouver, BC            PMC Sierra
Nov 7-11, 2005      Austin, TX               Dell Computer
Approved dates for 2006; proposed locations and hosts:
Jan 9-13, 2006      Phoenix, AZ              Intel Corp.
Mar 6-10, 2006
May 8-12, 2006
Jul 10-14, 2006     Colorado Springs, CO     LSI Logic
Sep 11-15, 2006     Nashua, NH               Hitachi Cable Manchester
Nov 6-10, 2006
Proposed dates for 2007:
Jan 15-19, 2007
Mar 12-16, 2007
May 7-11, 2007
Jul 9-13, 2007
Sep 17-21, 2007 (to avoid conflicts with the Jewish High Holy Days)
Nov 5-9, 2007
```

John Lohmeyer asked people interested hosting one of the above meetings to contact him.

John Lohmeyer moved that T10 approve the November 2005 meeting location and host, the 2006 meeting locations and identified hosts, and the 2007 meeting dates. Mark Evans seconded the motion. In the absence of any objections, the motion passed unanimously.

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.

Bob Snively 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 2004. Bill Galloway seconded the motion. In the absence of any objections, the motion passed unanimously.

15. Adjournment

John Lohmeyer moved and Ralph Weber seconded that the meeting be adjourned. In the absence of any objections, the motion passed unanimously. The meeting was adjourned at 11:55 a.m. on Thursday November 11, 2004.

Enclosure(1) -- Meeting Attendees

```
            Name                  S         Organization
----------------------------------- -- -----------------------------------
Mr. Tim Symons                     P  Adaptec, Inc.
Ms. Pat Thaler                     P  Agilent Technologies
Mr. Brian Miller                   A  Amphenol Interconnect
Mr. Noud Snelder                   V  BDT
Mr. Paul Griffith                  AV Broadcom Corp.
Mr. Robert Snively                 P  Brocade Comm. Systems, Inc.
Mr. David Peterson                 P  CNT
Mr. Dexter Anderson                P  Crossroads Systems, Inc.
Mr. James A. Lott, Jr.             P  Dallas Semiconductor
Mr. Kevin Marks                    P  Dell, Inc.
Mr. Gary S. Robinson               P  EMC Corp.
Mr. Robert H. Nixon                P  Emulex
Mr. Ralph O. Weber                 P  ENDL Texas
Mr. Douglas Wagner                 P  FCI
Mr. Elwood Parsons                 P  Foxconn Electronics
Mr. Mike Fitzpatrick               P  Fujitsu
Mr. Michael Banther                V  Hewlett Packard Co.
Mr. Rob Elliott                    P  Hewlett Packard Co.
Mr. Zane Daggett                   P  Hitachi Cable Manchester
Mr. Dan Colegrove                  P  Hitachi Global Storage Tech.
Mr. George O. Penokie              P  IBM / Tivoli Systems
Mr. Robert Sheffield               P  Intel Corp.
Mr. David Hawks                    P  Iomega Corp.
Mr. John Lohmeyer                  P  LSI Logic Corp.
Mr. Martin Czekalski               A  Maxtor Corp.
Mr. Mark Evans                     P  Maxtor Corp.
Ms. Emily Hill                     P  Microsoft Corp.
Mr. Jay Neer                       P  Molex Inc.
Mr. Mark Overby                    V  Nvidia Corp.
Dr. Terence J. Nelson              P  Panasonic Technologies, Inc
Mr. William P. McFerrin            P  Philips Electronics/CD Edge
Mr. Bill Galloway                  P  Pivot3, Inc.
Ms. Rachelle Trent                 P  PMC-Sierra
Mr. Craig W. Carlson               A  QLogic Corp.
Mr. Greg Elkins                    V  QLogic Corp.
Mr. Paul Entzel                    P  Quantum Corp.
Mr. Jim Coomes                     A  Seagate Technology
Mr. Alvin Cox                      V  Seagate Technology
Dr. Paul Suhler                    V  Seagate Technology
Mr. William Martin                 V  Sierra Logic
Mr. Erich Oetting                  P  Storage Technology Corp.
Mr. Vit Novak                      P  Sun Microsystems, Inc.
Mr. Robert Kando                   A  Texas Instruments
Ms. Ashlie Fan                     P  TycoElectronics
Mr. Dan Gorenc                     A  TycoElectronics
Mr. Roger Cummings                 P  Veritas Software
Mr. David Allen                    AV Vitesse Semiconductor
Mr. Curtis Stevens                 P  Western Digital


48 People Present


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

Enclosure(2) -- T10 Attendance Database
     Generated on 2004/11/17 at 08:42:49

```
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