

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

Doc. No.: T10/02-458r0

Date: November 7, 2002

Reply to: John Lohmeyer

To: T10 Membership
From: Ralph Weber / John Lohmeyer
Subject: Minutes of T10 Plenary Meeting #52 -- November 7, 2002
Huntington Beach, CA

Agenda

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INCITS Secretariat, Information Technology Industry Council (ITI)

1250 Eye Street NW, Suite 200, Washington, DC 20005-3922

Email: incits@itic.org Telephone: 202-737-8888 FAX: 202-638-4922

- 9.4 Allowing TEST UNIT READY through Persistent Reservation (02-304) [Penokie]
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- 12. Liaison Reports
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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 7, 2002. He thanked Skip Jones of QLogic for hosting the meeting.

John said that INCITS subgroup membership forms and the T10 document subscription forms are available on the meeting disk. 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 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.

John Lohmeyer reported that George Penokie has won a Gene Milligan Effective Committee Management Award from INCITS and Ralph Weber has won a Technical Excellence Award from INCITS. Ralph Weber reported that John Lohmeyer has won a Gene Milligan Effective Committee Management Award from INCITS. The committee congratulated John, George, and Ralph.

2. Approval of Agenda

The following additions/changes were made to the draft agenda:

- 11.2.3 SAS New Work Item Proposal to JTC1/SC25 (02-484) [Robinson]
- 10.4.1 SAM-3: LUN value meaning unspecified LU (02-321) [Nixon] {removed}

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 SPC-2 FCD Contribution

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 2003 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 6 organizations informing them that their membership was in jeopardy due to non-attendance (see 02-375r0) and that their membership would be terminated if they did not attend this meeting. The following organizations were in attendance jeopardy:

Congruent Software, Inc.
EMC Corp.
Emulex
Exabyte Corp.
Honda Connectors
Iomega Corp.

All organizations in attendance jeopardy were present except:

Exabyte Corp.
Iomega Corp.

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 44 organizations down from 46 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.

No 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 (02-426r0). Adaptec, Honda, and Storage Technology were in letter ballot jeopardy following the 02-381r0 letter ballot. If any of these organizations do not vote on the 02-421r0 letter ballot, their membership will be changed to advisory.

4. Approval of Minutes - September 2002 Meeting - Minneapolis, MN (T10/02-344r0)

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 in his hands in electronic format by 10:30 a.m. on Thursday November 14, 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.

7. Review of Old 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. *(Complete)*
- 483 Ralph Weber will prepare SAM-2 revision 24, from revision 23v by changing 'working draft' to 'dpANS' and removing all change bars. *(Complete)*
- 484 John Lohmeyer will forward SAM-2 revision 24 to INCITS for processing towards first public review. *(Complete)*
- 485 John Lohmeyer will conduct a letter ballot on PIP revision 3. *(Complete)*
- 486 George Penokie will prepare SPI-5 revision 3. *(Complete)*
- 487 John Lohmeyer will conduct a letter ballot on SPI-5 revision 3. *(Complete)*
- 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. *(Complete)*
- 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. *(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 disk 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.

Terry Nelson reported that INCITS is working to merge with JTC 1 TAG. John Lohmeyer stated that he had been informed that T10 should see no effects from the merger.

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

John Lohmeyer reviewed the history of the FCP-2 balloting at INCITS and reported that the CAP working group has recommended specific resolutions to the INCITS negatives to be voted on under item 9.3.

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

Ralph Weber reported that SAM-2 is in Public Review and that the public review will close on November 18th. He noted that the ANSI editor has completed review of the document and has no changes to request.

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. The SNIA OSD working group is reviewing their security models and preparing changes for revision 7.

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 is approved and published as ANSI NCITS.360:2002.

Bill McFerrin reported that the MMC-3 working group is considering how best to address substantive errors in MMC-3.

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

John Lohmeyer reported that SPI-4 has been approved by INCITS. It will now be sent to ANSI for BSR approval and publication. Publication should occur yet this year as ANSI INCITS 362:2002.

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

In the absence of Erich Oetting no report was available.

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

Cris Simpson reported that the INCITS letter ballot on SRP closes on November 17, meaning that it should be published soon.

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

Ralph Weber reported that SPC-3 revision 10 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 where the following topics will be discussed:

REQUEST SENSE command
REPORT SUPPORTED OPERATIONS command
READ/WRITE ATTRIBUTE commands (MAM)

Additional editorial review meetings held during subsequent meeting weeks will cover the following topics:

Asymmetric logical unit behavior
Well known logical units
Access Controls
Protocol specific data
Persistent Reservations Model
Persistent Reservations Commands
Control mode page

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

Rob Elliott reported that revision 8 was posted last week. There is one proposal that has not been approved yet, so revision 8 will be current until January.

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

Dave Peterson reported on the SSC-2 letter ballot resolution. Outstanding issues are:

- Text specifying tagged command queuing behavior
- Out-of-order processing and behavior
- Medium partition mode page cleanup
- Logical file/set address text
- Residual reporting

The resolution document is 02-081.

Dave stated that a new project proposal for SSC-3 is anticipated for approval at the January meeting.

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

John Lohmeyer reported that the letter ballot on PIP closed on October 17 and the results are available in 02-377r0. He stated that letter ballot resolution is in progress.

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

Peter Johansson reported that the SBP-3 working group met November 5 - 6 in Huntington Beach, CA. Work continues in one remaining area: isochronous facilities. See the working group minutes (02-480) for additional detail.

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

John Lohmeyer reported on the activities of the SSM-2 working group based on an electronic report (02-474r0), provided by Paul Aloisi.

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

Cris Simpson reported that SRP-2 proposals will be discussed during the CAP meeting in January.

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

George Penokie reported that SPI-5 completed letter ballot with 110 comments (report in 02-382r0). He reported on the activities of the SPI-5 working group (minutes in 02-455).

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

George Penokie reported that MSC work will be restarting around March.

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

Bill McFerrin reported on the activities of the MMC-4 working group (minutes in 02-486).

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

Bob Griswold reported on the activities of the ADI working group (minutes in 02-411).

He stated that Paul Entzel will become the editor for ADP and ADT and Rod Wideman will edit ADC. The completion dates for all the ADI projects has been moved to November 2003.

He noted that plans are being made to move ADP content into ADT with appropriate motions to be considered at the January meeting.

Paul Entzel stated that weekly teleconference calls will begin soon.

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

This topic was covered in item 8.19.

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

This topic was covered in item 8.19.

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

Rob Elliott reported that revision 2 was posted last week. A few minor proposals are pending right now and several more new feature proposals anticipated. No new revision is planned prior to the next meeting.

8.23 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.

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

Ralph Weber reported that SAM-3 revision 4 containing all the changes approved this week will be available in time for the mailing.

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

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

Rob Elliott reported on the activities of the SAS working group (minutes in 02-456). All the expected technical proposals have been approved. There will be an editing session later this week. A request for a letter ballot is expected prior to Thanksgiving.

9. Old Business

9.1 Style Guide [Moore]

Dennis Moore reported that a final version will be available for consideration at the January meeting.

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

Peter Johansson requested that this item be removed from future agendas.

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

John Lohmeyer reminded the committee that the history of the FCP-2 issues was reviewed in item 8.2.

Based on the unanimous recommendation of the CAP working group, Dave Peterson moved that 02-440r0 be approved as resolving the INCITS negative comments, 02-267r2 be approved as describing additional necessary FCP-2 changes, that the changes being made in FCP-2 be affirmed as substantive, and that FCP-2 r08 be returned to INCITS as containing the resolution for the INCITS negative comments for a second public review. George Penokie seconded the motion.

The motion passed on a roll call vote of 32:0:0:12=44. Details of the roll call 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.	P	Mr. Bill Galloway	1			
Brocade Comm. Systems, Inc.	P	Mr. Brian Forbes	1			
Cisco Systems, Inc.	P	Mr. David Peterson	1			
Congruent Software, Inc.	P	Mr. Peter Johansson	1			
Crossroads Systems, Inc.	P	Mr. Robert Griswold	1			
Dallas Semiconductor	A	Mr. Titkwan Hui	1			
Dell Computer Corp.						1
EMC Corp.	A	Mr. David Black	1			
Emulex	P	Mr. Robert H. Nixon	1			
ENDL Texas	P	Mr. Ralph O. Weber	1			
FCI	P	Mr. Douglas Wagner	1			
Fujitsu	P	Mr. Mike Fitzpatrick	1			
General Dynamics						1
Hewlett Packard Co.	P	Mr. Rob Elliott	1			
Hitachi Cable Manchester						1
Honda Connectors	P	Mr. Terry Enright	1			
IBM / Tivoli Systems	P	Mr. George O. Penokie	1			
Intel Corp.	P	Mr. Cris Simpson	1			
KnowledgeTek, Inc.						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.	P	Mr. James R. (Bob) Davis	1	
Nishan Systems Inc.	P	Mr. Charles Monia	1	
Ophidian Designs				1
Panasonic Technologies, Inc	P	Dr. Terence J. Nelson	1	
Philips Electronics/CD Edge	P	Mr. William P. McFerrin	1	
Pirus Networks				1
QLogic Corp.				1
Quantum Corp.	P	Mr. Paul Entzel	1	
Seagate Technology	P	Mr. Gerald Houlder	1	
Storage Technology Corp.				1
Sun Microsystems, Inc.	P	Mr. Vit Novak	1	
Texas Instruments	A	Mr. Steve Hemmah	1	
Toshiba America Elec. Comp.	A	Mr. Tasuku Kasebayashi	1	
Madison Cable Corp.				1
UNISYS Corporation	P	Mr. Ron Mathews	1	
Veritas Software	P	Mr. Roger Cummings	1	
Vixel Corp.	P	Mr. Kenneth Hirata	1	
Western Digital Corporation				1

32 0 0 12 = 44

John Lohmeyer took an action item to forward FCP-2 revision 08 to INCITS as resolving the INCITS negative comments containing substantive changes for second public review. John Lohmeyer took an action time to work with INCITS to thank those who submitted INCITS negative comments and to communicate the actions taken by T10.

9.4 Allowing TEST UNIT READY through Persistent Reservation (02-304) [Penokie]

This item was unanimously recommended for approval by the September CAP WG. However, they recommended that T10 not address it until the November meeting.

George Penokie described the proposal in 02-304r1.

George Penokie moved that 02-3041 be approved for inclusion in SPC-3. Bill Galloway seconded the motion. The motion passed on a vote of 31:0:1:12=44.

10. New Business

10.1 Project proposal for Serial Attached SCSI - 2 (SAS-2) (02-429) [Elliott]

George Penokie described the need for a SAS-2 project. He noted that SAS-2 is not intended to include an increase in speed, just to add enhancements and fix any bugs found as SAS products are developed.

Rob Elliott moved that 02-429r1 (r0 as revised) be approved as a proposal for a new project, SAS-2. Bill Galloway seconded the motion. The motion passed on a vote of 30:0:2:12=44.

John Lohmeyer took an action item to forward 02-429r1 to INCITS as a new project proposal for SAS-2.

10.2 Actions on Parallel SCSI Working Group Recommendations

George Penokie moved that 02-452r2 (r1 as revised) be approved as resolving the SPI-5 letter ballot comments, that SPI-5 rev 5 be approved as incorporating the letter ballot comments resolution, and that SPI-5 rev 5 be forwarded to INCITS for further processing. Mark Evans seconded the motion. The motion passed on a vote of 32:0:0:12=44.

Based on successful resolution of the SPI-5 letter ballot comments, Bill Ham and John Lohmeyer asked that their No votes on the letter ballot be changed to Yes. Jie Fan was not present at the meeting to change the AMP/Tyco No vote.

George Penokie took an action item to post SPI-5 rev5. John Lohmeyer took an action item to forward SPI-5 rev 5 to INCITS for further processing towards first public review.

10.3 Actions on SAS Working Group Recommendations

10.3.1 SAS PHY recommendations

George Penokie reviewed the following recommendations regarding specific proposals from the SAS PHY Working Group:

- o SAS Output Characteristics of the Ready LED signal (02-353r1) [Cox]
- o SAS Definition/Note for Skew (02-354r1) [Cox]
- o SAS compliant jitter test pattern (02-390r3) [Cox] {unanimous}
- o SAS external connector text corrections and signal table modification (02-391r1) [Cox] {unanimous}
- o SAS LED patterns (02-446r1) [Cox] {4:0:2}
- o SAS driver and receiver electrical characteristics additions (02-349r4) [Brown] {r3 as revised, 7:0:4}
- o SAS OOB transmission levels (02-380r1) [Cox] {r0 as revised, 6:0:4}
- o SAS test loads (02-379r4) [Cox] {r3 as revised, unanimous}
- o SAS internal cable configuration (02-482r0) [Cox] {12:0:1}

Ron Roberts moved that 02-353r1, 02-354r1, 02-390r3, 02-391r1, 02-446r1, 02-349r4, 02-380r1, 02-379r4, and 02-482r0 be approved for inclusion in SAS. Mark Evans seconded the motion. The motion passed on a vote of 31:0:2:11=44.

George Penokie reported that the SAS PHY working group had agreed to:

- o accept the SMP REPORT PHY ERROR LOG section as in SAS rev 2a {unanimous, report only}

George Penokie reviewed the following specific SAS changes recommended by the SAS PHY Working Group:

- o that the use of "loss of signal" be dropped in the specification and that no definition be provided (from item 4 in the minutes of the October 14 teleconference, 02-410r0) {unanimous}
- o that SAS be modified to combine Xr/Xt and Ir/It as Xr/Xt and to convert Dr/Dt to Ir/It when naming internal connector interoperability points (from item 3 in the minutes of the October 31 teleconference, 02-468r0) {unanimous}

Mark Evans moved that the SAS editor be instructed to make the changes described in item 4 in the minutes of the October 14 teleconference (02-410r0) and item 3 in the minutes of the October 31 teleconference (02-468r0). Bill Galloway seconded the motion. The motion passed on a vote of 31:0:2:11=44.

10.3.2 SAS Protocol recommendations

George Penokie reviewed the following recommendations regarding specific proposals from the SAS Protocol Working Group:

- o SAS Combined Request-Confirmation List (02-276r3) [Worden] {r2 as revised, unanimous}
- o SAS Port Control State Diagram Update (02-202r4) [Worden] {r3 as revised, unanimous}
- o SAS Data Transfer Rules (02-318r1) [Gardner] {unanimous}
- o Details of SAS Expander Configuration (02-359r3) [Fairchild] {r2 as revised, 4:3:2}
- o SAS Port layer rewrite (02-393r1) [Elliott] {r0 as revised, unanimous}

- o SAS Programmable PPTOV (02-387r2) [Hoglund] {r1 as revised, unanimous}
- o SAS Change Notification Proposal (02-383r2) [Reif] {r1 as revised, unanimous}
- o SAS SPC-3 Protocol Specific log page (02-394r1) [Elliott] {r0 as revised, unanimous}
- o SAS Device Identification VPD page requirements (02-396r2) [Elliott] {r1 as revised, unanimous}
- o Alternate SAS Speed Negotiation State Diagram (02-405r2) [Penokie] {r1 as revised, unanimous}
- o SAS Spinup (02-360r3) [Elliott] {r2 as revised, unanimous}
- o STP Initiators closing connections (02-363r3) [Day] {r2 as revised, unanimous}
- o SAS Protocol Specific Port mode page (02-397r0) [Elliott] {5:3:0}
- o SAS Method to determine Source of Change Primitive (02-409r3) [Besmer] {6:1:2}
- o SAS Additional Port Layer Tweaks (02-424r2) [Worden] {r1 as revised, unanimous}
- o SAS Target and Initiator Names (02-427r1) Penokie] {r0 as revised, unanimous}
- o SAS Link Rate Clarification (02-433r1) [Sheffield and Seto] {r0 as revised, unanimous}
- o SAS SMP Report Phy SATA modifications (02-441r1) [Fairchild] {r0 as revised, 7:0:2}
- o Proposal to change Bit Ordering and CRC diagrams in SAS rev. 2a (02-422r2) [Reif] {r1 as revised, unanimous}
- o Informative Annex on Expanders (02-291r2) [Hoglund] {unanimous}
- o SAS SATA_ERROR primitive definition (02-418r2) [Hoglund] {r1 as revised, unanimous}
- o SAS Interpretation of invalid SAS address (02-444r0) [Elliott] {unanimous}
- o SAS SSP vendor-specific frame types (02-450r0) [Elliott] {6:1:4}
- o SAS bit and byte ordering overview (02-451r1) [Elliott] {r0 as revised, unanimous}
- o SAS wide port IDENTIFY error handling (02-445r0) [Elliott] {unanimous}
- o SAS SATA 1.0e Support (02-437r1) [Sheffield] {12:0:11}
- o SAS Handling Link Rate Not Supported (02-443r2) [Elliott] {r1 as revised, unanimous}
- o SAS Simple Relative Offset (02-449r3) [Galloway] {r2 as revised, 9:3:5}
- o SAS: SSP Link layer state machine rewrite (02-470r1) [Penokie] {r0 as revised, unanimous}
- o SAS Spare Primitives (02-461r1) [Galloway] {r0 as revised, 12:0:3}
- o SAS Zero Length Data Frames (02-462r1) [Galloway] {r0 as revised, unanimous}
- o Processing Unknown Frame Types (02-459r1) [Coomes] {r0 as revised, unanimous}
- o SAS: Make Report General Page Larger (02-476r0) [Besmer] {7:0:10}
- o Remove SMP PHY CONTROL Function ENABLE (02-477r1) [Fairchild] {r0 as revised, 6:1:11}
- o SAS Simplified Support for Multiple STP Initiators (02-430r3) [Sheffield] {r1 as revised twice; unanimous}
- o SAS STP Buffering (02-435r3) [Sheffield] {r1 as revised twice; 7:0:8}
- o SAS SSP Transport Layer State Machine Modification (02-478r0) [Evans] {unanimous}
- o SAS Protocol-Specific mode page - make short format optional (02-472r1) [Elliott] {r0 as revised, unanimous}

Bill Galloway moved that 02-276r3, 02-202r4, 02-318r1, 02-393r1, 02-387r2, 02-383r2, 02-394r1, 02-396r2, 02-405r2, 02-360r3, 02-363r3, 02-409r3, 02-424r2, 02-427r1, 02-433r1, 02-441r1, 02-422r2, 02-291r2, 02-418r2, 02-444r0, 02-451r1, 02-445r0, 02-437r1, 02-443r2, 02-470r1, 02-461r1, 02-462r1, 02-459r1, 02-476r0, 02-477r1, 02-430r3, 02-435r3, 02-472r1, and 02-478r0 be approved for inclusion in SAS. Mark Evans seconded the motion. The motion passed on a vote of 31:0:3:10=44.

Bill Galloway moved that 02-359r3 be approved for inclusion in SAS. John Lohmeyer seconded the motion. John Lohmeyer and George Penokie described the issue with the proposal being the complexity it adds. The motion passed on a vote of 14:0:17:13=44.

Bill Galloway moved that 02-397r0 be approved for inclusion in SAS. John Lohmeyer seconded the motion. Bill Galloway described the problem as being that drive guys do not like margin controls. The motion passed on a vote of 13:3:15:14=44.

Bill Galloway moved that 02-450r0 be approved for inclusion in SAS. John Lohmeyer seconded the motion. George Penokie described the issue with the proposal as being the vendor specific changes. The motion passed on a vote of 7:4:23:10=44.

Bill Galloway moved that 02-449r3 be approved for inclusion in SAS and SPC-3. Mark Evans seconded the motion. George described the proposal as adding a relative offset and John Lohmeyer reviewed the history of the proposal. The motion passed on a vote of 18:2:11:13=44.

George Penokie reviewed the following specific SAS changes recommended by the SAS Protocol Working Group:

- o that a statement be added saying 'STP initiators shall not generate BIST frames' (from item 5.4 in the minutes of the September 17 teleconference, 02-372r0)
- o that the SSP Task IU be changed to 28 bytes to match the command IU by removing the last 4 reserved bytes (from item 5.1 in the minutes of the September 24 teleconference, 02-385r0)
- o that DEVICE TYPE numbers be changed to start at 1 and DEVICE TYPE 0 means no device is attached (from item 5.4 in the minutes of the October 15 teleconference, 02-408r0)
- o that the Fallback and Increment Speed states be removed from the SP state machine (from item 4.10 in the minutes of the October 22 teleconference, 02-417r0)
- o that the SAS SMP margin control function be removed from SAS (from item 4.11 in the minutes of the October 24-25 meeting, 02-428r0) {9:1:2}
- o that in the REPORT PHY SATA function the editor be instructed to change OPEN REJECT (RETRY) to OPEN REJECT (NO DESTINATION) and make other related changes throughout SAS (from item 4.1 in the minutes of the November 4-5 meeting, 02-456r0)

Bill Galloway moved that the SAS editor be instructed to make the changes described in item 5.4 in the minutes of the September 17 teleconference (02-372r0), item 5.1 in the minutes of the September 24 teleconference (02-385r0), item 5.4 in the minutes of the October 15 teleconference (02-408r0), item 4.10 in the minutes of the October 22 teleconference (02-417r0), and item 4.1 in the minutes of the November 4-5 meeting (02-456r0). Mark Evans seconded the motion. The motion passed on a vote of 21:0:9:14=44.

Bill Galloway moved that the SAS editor be instructed to make the changes described in item 4.11 in the minutes of the October 24-25 meeting (02-428r0). Mark Evans seconded the motion. The motion passed on a vote of 13:1:12:18=44.

10.4 Actions on CAP Working Group Recommendations

George Penokie described the following proposals recommended for inclusion in SAM-3:

- o SAM-3: LUN value meaning unspecified LU (02-321r0) [Nixon] {Sept. CAP, unanimous}
- o Proposal for new arguments for Data-In Delivered and Data-Out Receive (02-366r0) [Evans] {unanimous}
- o SAM-3 definitions for SCSI initiator device and SCSI target device (02-466r0) [Evans] {unanimously}
- o SAS Target and Initiator Names (02-427r1) [Penokie] {13:0:1}

Bill Galloway moved that 02-321r0, 02-366r0, 02-466r0, and 02-427r1 be approved for inclusion in SAM-3. Mark Evans seconded the motion. The motion passed on a vote of 28:0:4:12=44.

George Penokie reported that the CAP working group has recommended that asynchronous event reporting be removed from SAM-3.

Mark Evans moved that the editor be instructed to remove asynchronous event reporting from the next revision of SAM-3. Bill Galloway seconded the motion. The motion passed on a vote of 21:1:11:11=44.

George Penokie reported on the following proposals recommended for inclusion in SPC-3:

- o SPC-3 Add NAA=2 format to VPD 83 (02-454r0) [Coomes] {unanimous}
- o WWNs for WLUNs (02-254r5) [Penokie] {r4 as revised, unanimously}
- o SAS SPC-3 Protocol Specific log page (02-394r3) [Elliott] {r2 as revised, unanimous}

- o Media Serial Number (02-485r1) [Hill] {r0 as revised, unanimous}

Ralph Weber noted that the editor has been instructed to ensure that all unused NAA code values are marked reserved during the incorporation of 02-454r0 and that this is considered an editorial change.

Emily Hill moved that 02-454r0, 02-254r5, 02-394r3, and 02-485r1 be approved for inclusion in SPC-3. Charles Monia seconded the motion. The motion passed on a vote of 27:0:4:13=44.

10.5 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 (02-453) [Robinson]

Gary Robinson was unable to attend, but he provided an electronic report in 02-453.

11.2 ISO/IEC Business [Robinson]

John Lohmeyer reported that the letter ballot (T10/02-370r0) on recommending a yes vote on the six questions regarding an NWIP on SPC-2 passed 38:1:1:6=46 as documented in 02-371r0.

11.2.1 SPI-4 FCD Contribution

John Lohmeyer moved and George Penokie seconded that T10 approve contributing SCSI SPI-4 Rev 10 modified to comply with the ISO style to SC25 as an FCD for further processing under project number 1.25.13.11.28. The motion passed 30:0:1:13=44.

George Penokie took an action item to prepare SPI-4 in the ISO style. Gary Robinson took an action item to contribute SPI-4 Rev 10 to SC25.

11.2.2 SPC-2 FCD Contribution

David Black moved and Roger Cummings seconded that T10 approves contributing SPC-2 i22 to SC25 as an FCD for further processing under project number 1.25.13.11.27. The motion passed 31:0:1:12=44.

Gary Robinson was given an action item to contribute SPC-2 i22 to SC25.

11.2.3 SPI-5 New Work Item Proposal to JTC1/SC25 (02-469) [Robinson]

John Lohmeyer moved and George Penokie seconded that T10 recommend that the US approve and forward the NWIP (T10/02-469r0) for SCSI Parallel Interface 5, SPI-5, to JTC1/SC25 for further processing as an international standard project. The proposed Project Editor is Gary S. Robinson.

The motion passed on a roll call vote 32:0:0:12=44. The details of the roll call were:

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.	P	Mr. Peter Johansson	1	
Crossroads Systems, Inc.	P	Mr. Robert Griswold	1	
Dallas Semiconductor	A	Mr. Titkwan Hui	1	
Dell Computer Corp.				1
EMC Corp.	A	Mr. David Black	1	
Emulex	P	Mr. Robert H. Nixon	1	
ENDL Texas	P	Mr. Ralph O. Weber	1	
FCI	P	Mr. Douglas Wagner	1	
Fujitsu				1
General Dynamics				1
Hewlett Packard Co.	P	Mr. Rob Elliott	1	
Hitachi Cable Manchester				1
Honda Connectors	P	Mr. Terry Enright	1	
IBM / Tivoli Systems	P	Mr. George O. Penokie	1	
Intel Corp.	P	Mr. Cris Simpson	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.	P	Mr. James R. (Bob) Davis	1	
Nishan Systems Inc.	P	Mr. Charles Monia	1	
Ophidian Designs				1
Panasonic Technologies, Inc	P	Dr. Terence J. Nelson	1	
Philips Electronics/CD Edge	P	Mr. William P. McFerrin	1	
Pirus Networks				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.				1
Sun Microsystems, Inc.	P	Mr. Vit Novak	1	
Texas Instruments	A	Mr. Steve Hemmah	1	
Toshiba America Elec. Comp.	A	Mr. Tasuku Kasebayashi	1	
Madison Cable Corp.				1
UNISYS Corporation	P	Mr. Ron Mathews	1	
Veritas Software	P	Mr. Roger Cummings	1	
Vixel Corp.	P	Mr. Kenneth Hirata	1	
Western Digital Corporation				1

32 0 0 12 = 44

Gary Robinson was given an action item to transmit the SPI-5 NWIP (T10/02-469r0).

11.2.4 SAS New Work Item Proposal to JTC1/SC25 (02-484) [Robinson]

John Lohmeyer moved and George Penokie seconded that T10 recommend that the US approve and forward the NWIP (T10/02-484r0) for Serial Attached SCSI, SAS, to JTC1/SC25 for further processing as an international standard project. The proposed Project Editor is Gary S. Robinson.

The motion passed on a roll call vote 32:0:0:12=44. The details of the roll call were the same as documented in 11.2.3.

Gary Robinson was given an action item to transmit the SAS NWIP (T10/02-484r0).

12. Liaison Reports

12.1 T11 Liaison Report (02-463r0) [Forbes]

Brian Forbes presented the T11 liaison report contained in T10/02-463r0.

12.2 T13 Liaison Report [Colegrove]

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

12.3 SFF Industry Group [Allan]

Dal Allan provided the following electronic report for the minutes.

A new revision of SFF-8470 Multi Lane Connector which includes jackscrew dimension updates and non-keyed/representations in all figures is now available at the ftp site and will go to technical ballot.

New revisions of SFF-8221 Aligned 2 1/2" drive and SFF-8x23 form factors for the SAS connector will be included in the mailing for technical ballot.

A first revision of SFF-8424 Dual Row HSSDC-2 is anticipated to be included in the mailing for technical ballot.

A letter was sent to Global Engineering after it came to light that they are selling obsolete specifications which have been Expired by the SFF Committee (some as long ago as 1995).

12.4 IEEE 1394 [Johansson]

Peter Johansson reported on IEEE 1394 activities and provided the following electronic report for the minutes.

IEEE Std 1394b-2002, High Performance Serial Bus---Amendment 2 (which extends Serial Bus to speeds in the range of 800 Mbps to 1600 Mbps and provides for fiber-optic media), is an approved standard awaiting publication. IEEE 1394b products have been demonstrated. Contact the Chair, David Wooten (WD@Cypress.com) for details.

The Ballot Response Committee (BRC) for IEEE P1394.1, High Performance Serial Bus Bridges, has resolved, in principal, all of the comments received during Sponsor Ballot. The Editor is incorporating the agreed changes in anticipation of a recirculation ballot this year, with projected approval as an IEEE standard in 2003. Contact the Chair, Peter Johansson (PJohansson@ACM.org) for details.

The BRC for IEEE P1394.3, Peer to Peer Data Transport, a protocol built upon SBP-2, has resolved all Sponsor ballot comments. The Vice Chair, Alan Berkema (Alan_Berkema@HP.com), is expected to initiate a recirculation ballot shortly.

The 1394 Trade Association Wireless working group is developing a "protocol adaptation layer" (PAL) to enable IEEE 1394 applications to interoperate with like applications in IEEE P802.11e devices. Some of the work is active in the IEEE P802.11e (quality of service) working group. Contact John Fuller (JFuller@Computer.org) for details.

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

No report was available. John Lohmeyer noted that a SAS Tutorial will be presented following this meeting.

12.6 IETF SCSI over IP [Black/Robinson]

David Black reported that iSCSI is about to go to an IETF Last Call. Most of the IPS working group work is nearing completion. There will be a meeting in Atlanta on November 18, 1:00 to 3:00 p.m., for meeting details see the IETF web site www.ietf.org.

12.7 SNIA [Cummings]

Roger Cummings reported to the committee and provided the following electronic report:

A SNIA symposium was held 9/14-17 in San Jose, CA, and all major Technical Working Groups met except Backup. The Backup TWG has little ongoing activity, and ideas for new work items are solicited. The Security TWG had 21 people in attendance, and is resolving how they will work with the new Storage Security Industry Forum. The SMI work proceeding apace, a roadmap has been created, a first draft of the Rev 1.0 spec made available, and a target completion date for Revision 1.0 spec set as March 2003. The Formation meeting of Storage Management Forum was also held.

Storage Networking World was held 10/27-30 in Orlando, FL. 16 SNIA tutorials were held on Sunday afternoon, and a 62 page booklet version of Storage Network Security tutorial was made available. A major CIM-SAN demonstration was held with 32 products from 19 vendors and over 100 points of interoperation, and was a major success.

A Storage Management Summit will be held @ Cheyenne Mountain Resort in Colorado Springs, CO on December 3-5, 2002. This is a detailed technical conference on CIM, SMI etc., and includes detailed Technical Tutorials on key technologies of CIM, WBEM, and Bluefin/SMIS taught by leading experts in the industry. A demo showcase will also be included, following on from SNW. Speakers include Harris Miller, President of the Information Technology Association of America (ITAA), and Carolyn DiCenzo, Chief Analyst, Storage Management Software, of Gartner Dataquest. The URL for registration for the Forum is: http://www.snia.org/news/events/management_summit/register/. An early bird discount of \$100 is available for registration by 11/20.

An "IP Storage Works!" event follows in February 4-6, 2003

The next SNIA symposium (Working Groups and some Forum meetings) will be held on Jan 27-31 in San Jose, CA. See www.snia.org for details of this and all other items.

13. Review of Action Items

- 490 John Lohmeyer will forward FCP-2 revision 08 to INCITS as resolving the INCITS negative comments containing substantive changes for second public review.
- 491 John Lohmeyer will work with INCITS to thank those who submitted INCITS negative comments and communicate the actions taken by T10.
- 492 John Lohmeyer will forward 02-429r1 to INCITS as a new project proposal for SAS-2.
- 493 George Penokie will post SPI-5 rev 5.
- 494 John Lohmeyer will forward SPI-5 rev 5 to INCITS for further processing towards first public review.
- 495 George Penokie will prepare SPI-4 in the ISO style.
- 496 Gary Robinson will contribute SPI-4 Rev 10 to SC25.
- 497 Bill Ham will assure that SSM-2 and PIP have ISO NWIPs generated.
- 498 Gary Robinson will contribute SPC-2 i22 to SC25.
- 499 Gary Robinson will request an FCD contribution for FCP-2 at the January Plenary.
- 500 Gary Robinson will transmit the SPI-5 NWIP (T10/02-469r0).
- 501 Gary Robinson will transmit the SAS NWIP (T10/02-484r0).

14. Meeting Schedule

The next plenary meeting of T10 will be Thursday January 16, 2002 in Portland, OR at the Embassy Suites - Washington Square (503-644-4000), hosted by Intel. The meeting will begin at 9:00 a.m. on Thursday.

The meeting list for the next plenary week is:

January 2003 Meeting Map

Monday 1/13	9	10	11	12	1	2	3	4	5	6	7	8			
	+=====+														
	SSC-2 / SMC-2 WG												(10)		
	+=====+														
	SAS Protocol WG												(40)		
	+=====+														
	Par. SCSI WG					SAS PHY WG								(25)	
	+=====+														
Tuesday 1/14	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)		
	+=====+-----+														
	T11 Ad hocs													(15)	
	+-----+														
Wednesday 1/15	9	10	11	12	1	2	3	4	5	6	7	8			
	+=====+														
	SCSI Commands, Arch., & Protocol WG													(35)	
	+=====+														
	MMC WG												(10)		
	+=====+														
												SFF mtgs		(20)	
												+-----+			
												STA (closed mtg)		(20)	
	+-----+														
Thursday 1/16	8	9	10	11	12	1	2	3	4	5	6	7	8		
	+=====+														
	T10 Plenary												(45)		
	+=====+														
												SPC-3 Editing			(10)
	+=====+														
	STA (closed meeting)													(20)	
	+-----+														
Friday 1/17	8	9	10	11	12	1	2	3	4	5	6	7	8		
	+=====+														
	SAS LB Resolution												(10)		
	+=====+														

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

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
ADI Calls	three before 1/1/03	To be announced via T10 reflector
PIP Edit	11/12/02	Shrewsbury, MA / Hewlett Packard
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
SBP-3 WG	1/20-21/03	Wailea, HI / Johansson

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 lohmeier@t10.org

The long-term T10 meeting week schedule is:

Date	Location	Host/Comments
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	Chandler, AZ	Intel
Mar 8-12, 2004	(open)	
May 3-7, 2004	Monterey, CA	Brocade
Jul 12-16, 2004	Colorado Springs, CO	LSI Logic
Sep 13-17, 2004	Portland, OR	Intel
Nov 8-12, 2004	Austin, TX	Crossroads

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.

Charles Monia moved that T10 authorize the T10-related meetings and events in the list above that had not previously been approved through the end of February 2003. Gerry Houlder seconded the motion. The motion passed on a vote of 25:0:1:18=44, meeting the two-thirds rule required for the Wailea, HI location.

Bill Galloway moved that the 2004 hosts and locations shown above be approved. Mark Evans 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. The motion passed unanimously. The meeting was adjourned at 12:05 a.m. on Thursday November 7, 2002.

Enclosure(1) -- Meeting Attendees

Name	S	Organization	Electronic Mail Address
Mr. Ron Roberts	P	Adaptec, Inc.	Ron_Roberts@adaptec.com
Dr. Claudio DeSanti	P	Andiamo Systems, Inc.	cds@andiamo.com
Mr. Bill Galloway	P	BREA Technologies, Inc.	billg@breatech.com
Mr. Brian Forbes	P	Brocade Comm. Systems, Inc.	bforbes@brocade.com
Mr. David Peterson	P	Cisco Systems, Inc.	dap@cisco.com
Mr. Peter Johansson	P	Congruent Software, Inc.	PJohansson@ACM.org
Mr. Robert Griswold	P	Crossroads Systems, Inc.	rgriswold@crossroads.com
Mr. Titkwan Hui	A	Dallas Semiconductor	tk.hui@dalsemi.com
Mr. David Black	A	EMC Corp.	black_david@emc.com
Mr. Robert H. Nixon	P	Emulex	bob.nixon@emulex.com
Mr. Ralph O. Weber	P	ENDL Texas	roweber@acm.org
Mr. Douglas Wagner	P	FCI	dwagner@fciconnect.com
Mr. Mike Fitzpatrick	P	Fujitsu	mfitzpatrick@fcpa.fujitsu.com
Mr. Rob Elliott	P	Hewlett Packard Co.	Elliott@hp.com
Dr. William Ham	A	Hewlett Packard Co.	bill_ham@ix.netcom.com
Mr. Werner Glinka	AV	Hitachi America	werner.glinka@attglobal.net
Mr. Zane Daggett	P	Hitachi Cable Manchester	zdaggett@hcm.hitachi.com
Mr. Hitoshi Ogawa	AV	Hitachi Ltd.	h-ogawa@gm.str.hitachi.co.jp
Mr. Terry Enright	P	Honda Connectors	tenright@hondaconnectors.com
Mr. George O. Penokie	P	IBM / Tivoli Systems	gop@us.ibm.com
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.	lohmeier@tl0.org
Mr. Mark Evans	P	Maxtor Corp.	mark_evans@maxtor.com
Ms. Emily Hill	P	Microsoft Corp.	emhill@microsoft.com
Mr. James R. (Bob) Davis	P	Network Appliance Inc.	bob@netapp.com
Mr. Charles Monia	P	Nishan Systems Inc.	cmonia@nishansystems.com
Dr. Terence J. Nelson	P	Panasonic Technologies, Inc	terry@tjnelson.com
Mr. William P. McFerrin	P	Philips Electronics/CD Edge	bill.mcferrin@cdedge.com
Mr. Skip Jones	P	QLogic Corp.	skip.jones@qlogic.com
Mr. Paul Entzel	P	Quantum Corp.	paul.entzel@quantum.com
Mr. Gerald Houlder	P	Seagate Technology	gerry.houlder@seagate.com
Mr. Vit Novak	P	Sun Microsystems, Inc.	vit.novak@sun.com
Mr. Steve Hemmah	A	Texas Instruments	steven_hemmah@ti.com
Mr. Hiroshi Suzuki	P	Toshiba	hiroshi.suzuki@tais.toshiba.com
Mr. Tasuku Kasebayashi	A	Toshiba	task.kasebayashi@tais.toshiba.com
Mr. Ron Mathews	P	UNISYS Corporation	ronald.mathews@unisys.com
Mr. Roger Cummings	P	Veritas Software	roger.cummings@veritas.com
Mr. Kenneth Hirata	P	Vixel Corp.	Ken.Hirata@Vixel.com

39 People Present

Status Key: P - Principal
 A,A# - Alternate

AV - Advisory Member
L - Liaison
V - Visitor

Enclosure(2) -- T10 Attendance Database

Generated on 2002/11/07 at 19:36:34

Mr. Ron Roberts (P) Phone: (408) 957-5640
Adaptec, Inc. Fax: (530) 677-1218
691 S. Milpitas Blvd. Email: Ron_Roberts@adaptec.com
Milpitas, CA 95035

Mr. Ram Rangarajan (AV) Phone: (408) 383-5719
Advansys Fax: (408) 383-9612
1150 Ringwood Ct. Email: rrangarajan@advansys.com
San Jose, CA 95131

Mr. Steven P. Ego (AV) Phone: (512) 258-2303
Aeronics Inc. Fax: (512) 258-4392
12741 Research Blvd #500 Email:
Austin, TX 78759

Mr. Bernhard Laschinsky (AV) Phone: (610) 712-7937
Agere Systems Fax: (610) 712-4574
Room 12D-225B Email: blaschinsky@agere.com
1110 American Parkway NE
Allentown, PA 18109-9138

Mr. Ken Paist (AV) Phone: (610) 712-3265
Agere Systems Fax:
Room 12D-225B Email: paist@agere.com
1110 American Parkway NE
Allentown, PA 18109-9138

Mr. Litko Chan (AV) Phone: (408) 970-3020
Agilent Technologies Fax:
3175 Bowers Ave., MS 88R Email: lito_chan@agilent.com
Santa Clara, CA 95054

Mr. Matt Wakeley (AV) Phone: (916) 788-5670
Agilent Technologies Fax:
1101 Creekside Ridge Dr #100 Email: matt_wakeley@agilent.com
P.O. Box 619051
Roseville, CA 95661-9051

Mr. Michael Wingard (P) Phone: (607) 786-4241
Amphenol Interconnect Fax: (607) 786-4311
20 Valley St. Email: mikwingard@aol.com
Endicott, NY 13760

Mr. John Majernik (A) Phone: (607) 786-4249
Amphenol Interconnect Fax: (607) 786-4311
20 Valley St. Email: john.majernik@aipce.com
Endicott, NY 13760

Mr. Bart Raudebaugh (AV) Phone: (415) 322-5322
Ancot Corp. Fax: (415) 322-0455

1024 Hamilton Court
Menlo Park, CA 94025

Email: bart@ancot.com

Mr. Ward Winburn (AV)
Ancot Corp.
1024 Hamilton Court
Menlo Park, CA 94025

Phone: (650) 322-5322
Fax: (650) 322-0455
Email: ward@ancot.com

Dr. Claudio DeSanti (P)
Andiamo Systems, Inc.
375 E. Tasman Dr.
San Jose, CA 95134

Phone: (408) 853-9172
Fax: (408) 853-9172
Email: cds@andiamo.com

Mr. Fabio Maino (A)
Andiamo Systems, Inc.
375 E. Tasman Dr.
San Jose, CA 95134

Phone: (408) 853-7530
Fax: (408) 853-7530
Email: fmaino@andiamo.com

Mr. Harlan Andrews (AV)
Apple Computer
6 Infinite Loop MS 306-2MS
Cupertino, CA. 95014

Phone: (408) 974-6430
Fax: (408) 862-7577
Email: hea@apple.com

Mr. James R. Bergsten (AV)
Ark Research Corp.
1190 Saratoga Ave. #110
San Jose, CA 95129-3433

Phone: (408) 260-5900
Fax: (408) 260-5908
Email: bergsten@arkres.com

Mr. Brian A. Berg (AV)
Berg Software Design
P.O. Box 3488
14500 Big Basin Way, Suite F
Saratoga, CA 95070

Phone: (408) 741-5010
Fax: (408) 741-5234
Email: bberg@bswd.com

Mr. Bill Galloway (P)
BREA Technologies, Inc.
14902 Mesita Dr.
Houston, TX 77083

Phone: (281) 530-3063
Fax: (281) 988-0358
Email: billg@breatech.com

Mr. Brian Forbes (P)
Brocade Comm. Systems, Inc.
1745 Technology Drive
San Jose, CA 95110

Phone: (408) 501-8796
Fax:
Email: bforbes@brocade.com

Mr. Robert Snively (A)
Brocade Comm. Systems, Inc.
1745 Technology Drive
San Jose, CA 95110

Phone: (408) 487-8135
Fax: (408) 392-6676
Email: rsnively@brocade.com

Mr. Joseph Basista (AV)

Phone: (607) 687-1044

C&M Corp.
49 Middle Road
Owego, NY 13827

Fax: (607) 687-7534
Email: joebasista@aol.com

Mr. Gerry Johnsen (AV)
Ciprico Inc.
2800 Campus Dr. Suite 60
Plymouth, MN 55441

Phone: (612) 551-4000
Fax: (612) 551-4002
Email: gerry@ciprico.com

Mr. Leroy Fong (AV)
Circuit Assembly Corp.
18 Thomas St.
Irvine, CA 92618

Phone: (949) 855-7887
Fax: (949) 837-8660
Email: leroyf@circuitassembly.com

Mr. Dennis Lang (AV)
Circuit Assembly Corp.
18 Thomas St.
Irvine, CA 92618

Phone: (949) 855-7887
Fax: (949) 855-4298
Email: dennisl@circuitassembly.com

Mr. Ian Morrell (AV)
Circuit Assembly Corp.
18 Thomas St.
Irvine, CA 92718-2703

Phone: (949) 598-1780
Fax: (949) 855-4298
Email: ianm@circuitassembly.com

Mr. Ben Chang (AV)
Cirrus Logic Inc.
3100 W. Warren Ave.
Fremont, Ca 94538

Phone: (510) 226-2394
Fax:
Email: ben@corp.cirrus.com

Mr. David Peterson (P)
Cisco Systems, Inc.
6450 Wedgwood Road
Maple Grove, MN 55311

Phone: (612) 802-3299
Fax: (763) 398-1001
Email: dap@cisco.com

Mr. Peter Johansson (P)
Congruent Software, Inc.
98 Colorado Avenue
Berkeley, CA 94707

Phone: (510) 527-3926
Fax: (510) 527-3856
Email: PJohansson@ACM.org

Mr. Robert Griswold (P)
Crossroads Systems, Inc.
8300 N. Mopac Blvd.
Austin, TX 78759

Phone: (512) 928-7272
Fax: (512) 928-7403
Email: rgriswold@crossroads.com

Mr. John Tyndall (A)
Crossroads Systems, Inc.
8300 North Mopac Expressway
Austin, TX 78749

Phone:
Fax:
Email: jtyndall@crossroads.com

Mr. James A. Lott, Jr. (P) Phone: (972) 371-4939
Dallas Semiconductor Fax: (972) 371-4370
4401 S. Beltwood Pkwy. Email: jim.lott@dalsemi.com
Dallas, TX 75244-3292

Mr. Titkwan Hui (A) Phone: (972) 371-4340
Dallas Semiconductor Fax: (972) 371-4370
4401 S. Beltwood Pkwy. Email: tk.hui@dalsemi.com
Dallas, TX 75244-3292

Mr. Bill Anderson (AV) Phone: (408) 980-8344
DDK Electronics Fax: (408) 980-9750
3001 Oakmead Village Dr. Email: bill_anderson@ddkconnectors.com
Santa Clara, CA 95051

Mr. Kevin Marks (P) Phone: (512) 723-8784
Dell Computer Corp. Fax: (512) 723-6657
One Dell Way Email: kevin_marks@dell.com
Round Rock, TX 78682

Mr. Ronald Stockford (A) Phone: (512) 728-2636
Dell Computer Corp. Fax: (512) 289-1111
One Dell Way Email: ron_stockford@dell.com
MS 8530
Round Rock, TX 78682

Mr. James Benfer (AV) Phone: (301) 498-0200
Digi-Data Corp. Fax:
8580 Dorsey Run Road Email:
Jessup, MD 20794

Mr. Robert Reisch (AV) Phone: (716) 588-0573
Eastman Kodak Co. Fax: (716) 588-2624
460 Buffalo Road Email: reisch@kodak.com
Rochester, NY 14652-3816

Mr. Terry Maezawa (AV) Phone: (404) 487-5815
Electronic&Ind. Enterprises Fax:
Suite 216 Email:
21 Eastbrook Bend
Peachtree City, GA 30269

Mr. Bob Gannon (AV) Phone: (860) 537-6800
Electronica Pantera Fax: (509) 278-7661
300 Carli Blvd. Email: rgannon@jpmco.com
Colchester, CT 06415

Mr. Gary S. Robinson (P) Phone: (617) 300-7242
EMC Corp. Fax:
228 South St. Email: robinson_gary@emc.com
Hopkinton, MA 01748

Mr. David Black (A) Phone: (508) 293-7953
EMC Corp. Fax: (508) 293-7786
176 South St. Email: black_david@emc.com
Hopkinton, MA 01748

Mr. Robert H. Nixon (P) Phone: (714) 513-8117
Emulex Fax: (714) 513-8265
3535 Harbor Blvd Email: bob.nixon@emulex.com
Costa Mesa, CA 92626

Mr. Dave Baldwin (A) Phone: (714) 513-8176
Emulex Fax: (714) 513-8265
3535 Harbor Blvd Email: Dave.Baldwin@Emulex.Com
Costa Mesa, CA 92626

Mr. I. Dal Allan (A) Phone: (408) 867-6630
ENDL Fax: (408) 867-2115
14426 Black Walnut Ct. Email: endlcom@acm.org
Saratoga, CA 95070

Mr. Ralph O. Weber (P) Phone: (214) 912-1373
ENDL Texas Fax: (972) 596-2775
Suite 102#178 Email: roweber@acm.org
18484 Preston Rd.
Dallas, TX 75252

Mr. Alan Johnson (AV) Phone:
Eurologic Systems Ltd. Fax: 43 53 1 206 1200
South County Business Park Email: ajohnson@eurologic.com
Leopardstown
County Dublin Ireland

Mr. Joe Breher (AV) Phone: (303) 417-5897
Exabyte Corp. Fax: (303) 417-7829
1685 38th Street Email: joebre@exabyte.com
Boulder, CO 80301

Mr. Carl Mazingo (AV) Phone:
Exabyte Corp. Fax:
1685 38th Street Email: carlm@exabyte.com
Boulder, CO 80301

Mr. Douglas Wagner (P) Phone: (805) 498-0325
FCI Fax: (805) 498-0702
472 Delwood Ct. Email: dwagner@fciconnect.com
Newbury Park, CA 91320-4819

Mr. Jim Koser (A) Phone: (717) 938-7679
FCI Fax: (717) 938-7991
825 Old Trail Road Email: jkoser@fciconnect.com
Etters, PA 17319

Mr. Steve Wong (A#) Phone: (562) 356-2527
FCI Fax: (562) 356-2520
5700 Warland Dr. Email: sywong@fciconnect.com
Cypress, CA 90630

Mr. Gene Whetstone (AV) Phone: (714) 890-8694
Foxconn Electronics Fax:
836 Cimarron Lane Email: gene.whetstone@foxconn.com
Corona, CA 92879

Mr. Julian Ferry (AV) Phone: (717) 502-0784
Foxconn I/O Fax: (717) 502-1474
140 Coffeetown Rd. Email: julferry@aol.com
Dillsburg, PA 17019

Mr. Don Soracco (AV) Phone: (978) 649-9997
Foxconn I/O Fax: (978) 649-9797
60 Pond St. Email:
Dunstable, MA 01827

Mr. Mike Fitzpatrick (P) Phone: (405) 755-7177
Fujitsu Fax: (405) 755-8073
2904 Orchard Pkwy. Email: mfitzpatrick@fcpa.fujitsu.com
San Jose, CA 95134

Mr. Ben-Koon Lin (A) Phone: (408) 894-3979
Fujitsu Fax: (408) 894-3908
2904 Orchard Pkwy. Email: blin@fcpa.fujitsu.com
San Jose, CA 95134

Mr. Sumi Puri (A) Phone:
Fujitsu Fax:
2904 Orchard Pkwy. Email:
San Jose, CA 95134

Mr. Kazuo Nakashima (AV) Phone: (408) 894-3849
Fujitsu Computer Products,Am Fax: (408) 894-3907
2904 Orchard Parkway Email: knakashima@fcpa.fujitsu.com
San Jose, CA 95134

Mr. Bob Thornton (AV) Phone: (408) 745-4932
Fujitsu Takamisawa America Fax: (408) 745-4971
250 E. Caribbean Dr. Email: bthornto@fta.fujitsu.com
Sunnyvale, CA 94089

Mr. Nathan Hastad (P) Phone: (952) 921-6635
General Dynamics Fax: (952) 921-6345
8800 Queen Ave. S. Email: nathan.hastad@gd-ais.com

Bloomington, MN 55431

Mr. Tim Mackley (A)
General Dynamics
8800 Queen Ave. S.
Bloomington, MN 55431

Phone: (952) 921-6866
Fax:
Email: timothy.a.mackley@gd-ais.com

Mr. Donald Woelz (AV)
Genroco, Inc.
255 Info Highway
Slinger, WI 53086

Phone: (262) 644-2505
Fax: (262) 644-6667
Email: don@genroco.com

Mr. Pak Chan (AV)
Gigalabs Inc.
290 Santa Ana Court
Sunnyvale, CA 94086

Phone: (408) 481-3030
Fax: (408) 481-3045
Email: pchan@giglabs.com

Ms. Liza Hunt (XO)
Global Engineering Documents
15 Inverness Way East
Englewood, CO 80112-5704

Phone:
Fax:
Email:

Mr. Rodger Burke (AV)
Harting, Inc. of N. America
1370 Bowes Road
Elgin, IL 60123

Phone: (847) 741-1500 x286
Fax: (847) 741-8257
Email: Rodger.Burke@harting.com

Mr. Rob Elliott (P)
Hewlett Packard Co.
MC150801
PO Box 692000
Houston, TX 77269-2000

Phone: (281) 518-5037
Fax: (281) 518-7135
Email: Elliott@hp.com

Mr. Michael Banther (A#)
Hewlett Packard Co.
Filton Road
Stoke Gifford
Bristol BS34 8QZ England

Phone: (44 117) 312-9503
Fax: (44 117) 312-9978
Email: michael_banther@hp.com

Mr. Randy Haagens (A#)
Hewlett Packard Co.
8000 Foothills Blvd. MS 5668
Roseville, CA 95747

Phone: (916) 785-4578
Fax: (916) 785-0391
Email: randy_haagens@hp.com

Dr. William Ham (A)
Hewlett Packard Co.
SHR3-2/W04
334 South Street
Shrewsbury, MA 01545

Phone: (978) 828-9102
Fax: (508) 841-5266
Email: bill_ham@ix.netcom.com

Mr. Bill Hooper (A#)
Hewlett Packard Co.

Phone: (916) 785-5135
Fax: (916) 785-4176

8000 Foothills Blvd.
Roseville, CA 95747

Email: bill_hooper@hp.com

Ms. Marjorie Krueger (A#)
Hewlett Packard Co.
8000 Foothills Blvd.
MS 5668
Roseville, CA 95747

Phone: (916) 785-2656
Fax:
Email: marjorie_krueger@hp.com

Mr. Brad Culp (AV)
Hewlett Packard Co.
700 71st. Ave.
Greeley, CO 80631

Phone: (970) 350-4592
Fax: (970) 352-3524
Email: brad-culp@hp.com

Mr. Martin Goldstein (AV)
Hewlett Packard Co.
10944 Tantau Ave.
M/S 4153
Cupertino, CA 95014

Phone: (408) 873-5677
Fax:
Email: martin_goldstein@hp.com

Mr. Werner Glinka (AV)
Hitachi America
214 Swett Rd.
Woodside, CA 94062

Phone: (650) 851-5909
Fax:
Email: werner.glinka@attglobal.net

Mr. Zane Daggett (P)
Hitachi Cable Manchester
900 Holt Ave.
Manchester, NH 03109

Phone: (603) 669-4347 x236
Fax: (603) 669-9621
Email: zdaggett@hcm.hitachi.com

Mr. Randy Wasylak (A)
Hitachi Cable Manchester
900 Holt Ave.
Manchester, NH 03109-5604

Phone: (603) 669-4347 x349
Fax: (603) 669-9621
Email: rwasylak@hcm.hitachi.com

Mr. Hitoshi Ogawa (AV)
Hitachi Ltd.
Data Storage Systems Div.
2880 Kozu, Odawara-shi,
Kanagawa-ken, Japan

Phone: +81-465-48-1111(Ext:2899)
Fax: +81-465-48-5089
Email: h-ogawa@gm.str.hitachi.co.jp

Mr. Anthony Yang (AV)
Hitachi Storage Products
1971 Milmont Drive
Milpitas, CA 95035

Phone: (408) 941-7048
Fax: (408) 946-1062
Email: anthony.yang@hal.hitachi.com

Mr. Terry Enright (P)
Honda Connectors
960 Corporate Woods Parkway
Vernon Hill, IL 60061

Phone: (847) 913-9566
Fax: (847) 913-9587
Email: tenright@hondaconnectors.com

Mr. David McFadden (A)

Phone: (847) 913-9566

Honda Connectors
960 Corporate Woods Parkway
Vernon Hills, IL 60061

Fax: (847) 913-9587
Email: dmcfadden@hondaconnectors.com

Mr. George O. Penokie (P)
IBM / Tivoli Systems
MS 2C6
3605 Highway 52 N.
Rochester, MN 55901

Phone: (507) 253-5208
Fax: (507) 253-2880
Email: gop@us.ibm.com

Mr. John P. Scheible (A)
IBM Corp.
Bldg 815 MS 4051
11400 Burnett Rd.
Austin, TX 78758

Phone: (512) 918-3187
Fax: (512) 823-0758
Email: Scheible@vnet.ibm.com

Mr. Kevin Butt (AV)
IBM Corp.
M/S 9032-2 65U
9000 S. Rita Rd.
Tucson, AZ 85744

Phone: (520) 799-5280
Fax:
Email: kdbutt@us.ibm.com

Mr. Bill Troop (AV)
IBM Corp.
3039 Cornwallis Rd.
MS: FROA/B205
RTP, NC 27709

Phone: (919) 254-2695
Fax:
Email: troop@us.ibm.com

Mr. Cris Simpson (P)
Intel Corp.
2111 N.E. 25th Ave.
JF5-355
Hillsboro, OR 97124

Phone: (503) 712-4333
Fax: (503) 712-2200
Email: cris.simpson@intel.com

Mr. Robert Sheffield (A)
Intel Corp.
5000 W. Chandler Blvd.
Chandler, AZ 85226-3699

Phone: (480) 554-8597
Fax: (480) 554-6617
Email: robert.l.sheffield@intel.com

Mr. Tim Bradshaw (AV)
Iomega Corp.
1821 Iomega Way
Roy, UT 84067

Phone: (801) 332-4262
Fax: (801) 778-4170
Email: bradshat@iomega.com

Mr. Dennis Moore (P)
KnowledgeTek, Inc.
7230 West 119th Pl, Suite C
Broomfield, CO 80020

Phone: (303) 465-1800
Fax: (303) 426-1350
Email: dmoore@ix.netcom.com

Mr. Hayden Smith (AV)
Lasercard Systems Corp.
2644 Bayshore Parkway
Mountain View, CA 94043

Phone: (650) 969-4428
Fax: (650) 967-6524
Email: hsmith@lasercard.com

Mr. Louis Grantham (AV) Phone: (972) 396-7002
Linfinity Micro Fax: (972) 396-7533
101 W. McDermott Email: lgrantham@linfinity.com
Allen, TX 75013

Mr. John Lohmeyer (P) Phone: (719) 533-7560
LSI Logic Corp. Fax: (719) 533-7183
4420 ArrowsWest Dr. Email: lohmeier@t10.org
Colorado Springs, CO 80907

Mr. William Petty (A) Phone: (719) 533-7461
LSI Logic Corp. Fax: (719) 533-7180
4420 ArrowsWest Dr. Email: william.petty@lsil.com
Colorado Springs, CO 80907

Ms. Jie Fan (P) Phone: (508) 752-2884 x306
Madison Cable Corp. Fax: (508) 752-4230
125 Goddard Memorial Dr. Email: jie.fan@madisoncable.com
Worcester, MA 01603

Mr. Chuck Grant (A) Phone: (508) 752-2884 x725
Madison Cable Corp. Fax: (508) 752-4230
125 Goddard Memorial Drive Email: cgrant@madisoncable.com
Worcester, MA 01603

Mr. Himmeler Themistocle (A#) Phone: (508) 752-2884
Madison Cable Corp. Fax: (508) 752-4230
125 Goddard Memorial Dr. Email: hthemistocle@madisoncable.com
Worcester, MA 01603

Mr. Takaharu Ai (AV) Phone: +81-6-6906-2330
Matsushita Elec. Indust. Co. Fax: +81-6-906-1549
4-16-12 Email: aiai@dsd.mei.co.jp
Matsuo-cho
Kadoma, Osaka 571-8504 Japan

Mr. Hiroshi Ueda (AV) Phone: +81-6-6900 9259
Matsushita Electric Fax:
1006 Kadoma Kadoma-shi Email: hueda@isl.mei.co.jp
Osaka, Japan

Mr. Mark Evans (P) Phone: (408) 894-5310
Maxtor Corp. Fax: (408) 324-7432
500 McCarthy Blvd. Email: mark_evans@maxtor.com
Milpitas, CA 95035

Mr. Lance Flake (A#) Phone: (303) 702-3802
Maxtor Corp. Fax:
2190 Miller Dr. Email: lance_flake@maxtor.com
Longmont, CO 80501

Mr. Pete McLean (A)
Maxtor Corp.
2190 Miller Dr.
Longmont, CO 80501

Phone: (303) 678-2149
Fax: (303) 678-2165
Email: pete_mclean@maxtor.com

Mr. Charley Riegger (A#)
Maxtor Corp.
510 Cottonwood Dr.
Milpitas, CA 95035

Phone: (408) 432-4571
Fax: (408) 432-4432
Email: charles_riegger@maxtor.com

Mr. LeRoy Leach (AV)
Maxtor Corp.
2190 Miller Dr.
Longmont, CO 80501-6744

Phone: (303) 678-2828
Fax: (303) 678-2308
Email: leroy_leach@maxtor.com

Mr. Randy Banton (AV)
Mercury Computer
199 Riverneck Road
Chelmsford, MA 01824

Phone: (508) 256-1300 x134
Fax:
Email:

Mr. Joe Llorens (AV)
Methode Electronics
7444 West Wilson Ave
Chicago, IL 60706

Phone: (708) 867-6777
Fax: (708) 867-3149
Email: jlllorens@methode.com

Mr. John Daly (AV)
Methode Electronics, Inc.
7447 West Wilson Avenue
Chicaco, IL 60706-4548

Phone: (708) 457-3272
Fax: (708) 867-3149
Email: jdaly@methode.com

Ms. Emily Hill (P)
Microsoft Corp.
1 Microsoft Way
Redmond, WA 98052

Phone: (425) 705-9595
Fax: (425) 936-7329
Email: emhill@microsoft.com

Mr. Rob Haydt (A)
Microsoft Corp.
1 Microsoft Way
Redmond, WA 98052

Phone: (425) 705-7639
Fax: (425) 936-7329
Email: robhay@microsoft.com

Mr. Nathan Obr (A#)
Microsoft Corp.
One Microsoft Way
Redmond, WA 98052-6399

Phone: (425) 705-9157
Fax: (425) 936-7329
Email: natobr@microsoft.com

Mr. Jay Neer (P)
Molex Inc.
399 W. Camino Gardens Blvd.
Suite 103

Phone: (561) 447-2907
Fax: (561) 447-2908
Email: jneer@molex.com

Boca Raton, FL 33432

Mr. Joe Dambach (A)
Molex Inc.
2222 Wellington Court
Lisle, IL 60532
Phone: (708) 527-4546
Fax: (708) 969-1352
Email: jdambach@molex.com

Mr. Dan Dawiedczyk (A#)
Molex Inc.
2222 Wellington Court
Lisle, IL 60532
Phone: (630) 718-5945
Fax: (630) 969-1352
Email: ggriessler@molex.com

Mr. Jerry Kachlic (A#)
Molex Inc.
2216 Wellington Court
Lisle, IL 60532
Phone: (630) 718-5991
Fax: (630) 512-8622
Email: jkachlic@molex.com

Mr. Richard Wagner (AV)
Montrose/CDT
28 Sword Street
Auburn, MA 01501
Phone: (508) 791-3161
Fax: (508) 798-8353
Email: rwagner@montrose-cdt.com

Mr. Dave Ford (AV)
Network Appliance
375 Tatted Pond Rd.
Waltham, MA 02454
Phone: (781) 895-4949 x236
Fax: (781) 895-1195
Email: dford@orca.com

Mr. James R. (Bob) Davis (P)
Network Appliance Inc.
495 E. Java Drive
Sunnyvale, CA 94089
Phone: (408) 822-6089
Fax: (408) 822-4573
Email: bob@netapp.com

Mr. Charles Monia (P)
Nishan Systems Inc.
3850 North First St.
San Jose, CA 95134
Phone: (408) 519-3986
Fax: (408) 435-8385
Email: cmonia@nishansystems.com

Mr. Joshua Tseng (A)
Nishan Systems Inc.
3850 North First Street
San Jose, CA 95134
Phone: (408) 519-3749
Fax: (408) 435-8385
Email: jtseng@NishanSystems.com

Mr. Gregg Neely (AV)
NSTOR
10140 Mesa Rim Rd.
San Diego, CA 92121
Phone: (858) 453-9696
Fax: (858) 453-9294
Email: greggn@nstor.com

Mr. Edward A. Gardner (P)
Ophidian Designs
1262 Hofstead Terrace
Phone: (719) 593-8866
Fax: (719) 593-8989
Email: eag@ophidian.com

Colorado Springs, CO 80907

Dr. Terence J. Nelson (P) Phone: (908) 464-1652
Panasonic Technologies, Inc Fax: (908) 464-0149
167 Maple St. Email: terry@tjnelson.com
New Providence, NJ 07974

Mr. Rudolf Vitti (A) Phone: (201) 348-7064
Panasonic Technologies, Inc Fax: (201) 348-7807
One Panasonic Way Email: vittir@panasonic.com
Panazip 1E-6
Secaucus, NJ 07094

Mr. Randall C. Hines (A) Phone: (303) 651-5406
Philips Electronics Fax: (303) 682-3029
1860 Lefthand Circle Email: hinesr@worldnet.att.net
Longmont, CO 80501

Mr. William P. McFerrin (P) Phone: (720) 320-0790
Philips Electronics/CD Edge Fax:
841 Rocky Mtn Place Email: bill.mcferrin@cdedge.com
Longmont, CO 80501

Mr. Frank Fang (AV) Phone: (408) 991-3348
Philips Semiconductors Fax: (408) 991-2600
811 E. Argues Ave. Email: frank.fang@philips.com
Sunnyvale, CA 94088-3409

Mr. Charles Binford (P) Phone: (316) 315-0382 x222
Pirus Networks Fax: (509) 756-4425
3450 N. Rock Rd., Suite 301 Email: charles.binford@pirus.com
Wichita, KS 67226

Mr. Milan J. Merhar (A) Phone: (978) 206-9124
Pirus Networks Fax:
43 Nayog Park Email: milan@pirus.com
Acton, MA 01720

Mr. Skip Jones (P) Phone: (949) 389-6368
QLogic Corp. Fax: (949) 389-6114
26600 Laguna Hills Dr. Email: skip.jones@qlogic.com
Aliso Viejo, CA 92656

Mr. Craig W. Carlson (A#) Phone: (952) 932-4064
QLogic Corp. Fax:
6321 Bury Drive Email: craig.carlson@qlogic.com
Eden Prairie, MN 55346

Mr. Greg Casey (A#) Phone: (952) 932-4098
QLogic Corp. Fax:

6321 Bury Drive
Eden Prairie, MN 55346

Email: greg.casey@qlogic.com

Mr. Richard Moore (A#)
QLogic Corp.
26600 Laguna Hills Dr.
Aliso Viejo, CA 92656

Phone: (949) 389-6232
Fax: (949) 389-6121
Email: richard.moore@qlogic.com

Mr. Dean Wallace (A)
QLogic Corp.
26600 Laguna Hills Dr.
Aliso Viejo, CA 92656

Phone: (949) 389-6480
Fax: (949) 389-6128
Email: dean.wallace@qlogic.com

Mr. Paul Entzel (P)
Quantum Corp.
4001 Discovery Dr.
Boulder, CO 80303

Phone: (720) 406-5782
Fax: (720) 406-5762
Email: paul.entzel@quantum.com

Mr. Jim Jones (A)
Quantum Corp.
4001 Discovery Dr., # 2100
Boulder, CO 80303

Phone: (720) 406-5611
Fax:
Email: jim.jones@quantum.com

Mr. John A. Fobel (AV)
Rancho Technology, Inc.
10783 Bell Court
Rancho Cucamonga, CA 91730

Phone: (909) 987-3966
Fax: (909) 989-2365
Email: johnf@rancho.com

Mr. Gregory Fry (AV)
Roxio Inc.
15188 NW Central Dr. #205
Portland, OR 97229

Phone: (503) 629-8874
Fax:
Email: gfry@roxio.com

Mr. Yau-Ting Mau (AV)
Roxio, Inc.
461 S. Milpitas Blvd.
Milpitas, CA 95035

Phone: (408) 631-8177
Fax:
Email: mau@roxio.com

Mr. Yasuyuki Suemori (AV)
Sanyo
900 N Arlington Heights Rd.
Suite 300
Itasca, IL 60143

Phone: (630) 875-3513
Fax:
Email: ysue@sanyosales.com

Mr. Ken-Ichi Kojima (AV)
Sanyo Electric Co., Ltd.
180 Ohmori Anpachi-Cho
Anpachi-Gun
Gifu-Ken 503-01 Japan

Phone: 584-64-4399
Fax: 584-64-5096
Email:

Mr. Gerald Houlder (P)

Phone: (952) 402-2869

Seagate Technology
Mailstop SHK231
1280 Disc Drive
Shakopee, MN 55379-1863

Fax: (952) 402-3471
Email: gerry.houlder@seagate.com

Mr. A. Bruce Manildi (A)
Seagate Technology
4585 Scotts Valley Dr.
Scotts Valley, CA 95067

Phone: (831) 439-7229
Fax: (831) 438-8608
Email: bruce.manildi@seagate.com

Mr. Jon P. Baker (AV)
Seagate Technology
10323 W. Reno Ave.
Oklahoma City, OK 73116

Phone: (405) 324-3591
Fax:
Email: jon.baker@seagate.com

Mr. Daniel F. Smith (AV)
Seagate Technology
4585 Scotts Valley Dr.
Scotts Valley, CA 95066-4544

Phone: (831) 439-7146
Fax: (831) 439-7546
Email: daniel.f.smith@seagate.com

Mr. Paul Sweazey (AV)
Seagate Technology
4585 Scotts Valley Dr.
Scotts Valley, CA 95066-4544

Phone: (831) 439-7490
Fax:
Email: sweazey@cdg.stsv.seagate.com

Mr. Van T. Ton (AV)
Seagate Technology, LLC
4585 Scotts Valley Dr.
Mailstop: SV15D1
Scotts Valley, CA 95066

Phone: (831) 439-7005
Fax: (831) 439-7541
Email: Van.T.Ton@seagate.com

Mr. Yasunori Hiyoshi (AV)
Seiko Epson Corp.
Corporate Res & Dev
3-3-5 Owa Suma-Shi
Nagano-Ken 392-8502 Japan

Phone:
Fax:
Email: yasunori.hiyoshi@exc.epson.co.jp

Mr. Erhard Weiss (AV)
Siemens Nixdorf
Department: SNI PC SB ESW
Burgermeister-Ulrich-St
D-86199 Augsburg Germany

Phone: 49-821-804-3602
Fax: 49-821-804-2910
Email: weiss.abg@sni.de

Mr. Edward Haske (AV)
Silicon Image
9501 Jeronimo Rd.
Irvine, CA 92618-2032

Phone: (949) 699-3206
Fax:
Email: haske@siliconimage.com

Mr. Mark O'Dell (AV)
Silicon Image
9501 Jeronimo
Irvine, CA 92618

Phone: (949) 454-0800
Fax: (949) 454-0542
Email: odell@siliconimage.com

Mr. Greg Alvey (AV) Phone: (408) 338-4285
Solution Technology Fax: (408) 338-4374
P.O. Box 104 Email: kd6hnm@aol.com
Boulder Creek, CA 95006

Mr. Joe A. Maciel (AV) Phone: (408) 955-5547
Sony Electronic Fax:
3300 Zanker Rd. SJ2E2 Email: joe.maciel@am.sony.com
San Jose, CA 95134-1901

Mr. Dennis Pak (AV) Phone: (408) 955-5247
Sony Electronics, Inc. Fax: (408) 955-5066
3300 Zanker Rd. MS# SJ-3B2 Email: dennis_pak@asd.sel.sony.com
San Jose, CA 95134

Mr. Michael Jensen (AV) Phone: (612) 669-3579
ST Microelectronics Fax: (952) 835-3555
3300 Edinborough Way Email: michael.jensenr@st.com
Edina, MN 55435

Mr. Rich Wahler (AV) Phone: (516) 435-6174
Standard Microsystems Corp. Fax: (516) 724-1505
300 Kennedy Drive Email:
Hauppauge, NY 11788

Mr. Erich Oetting (P) Phone: (303) 673-2178
Storage Technology Corp. Fax: (303) 673-8196
2270 South 88th St. Email: erich_oetting@stortek.com
Louisville, CO 80028-0268

Mr. Dennis Appleyard (A) Phone: (303) 673-6685
Storage Technology Corp. Fax:
One StorageTek Dr. Email: dennis_appleyard@stortek.com
Louisville, CO 80028

Mr. Vit Novak (P) Phone: (510) 936-3284
Sun Microsystems, Inc. Fax: (510) 936-2527
MS NWK16-211 Email: vit.novak@sun.com
7777 Gateway Blvd.
Newark, CA 94560

Mr. Pete Tobias (A#) Phone: (408) 285-9913
Tandem, a Compaq Company Fax: (408) 285-9924
Loc 100-03 Email: tobias_pete@tandem.com
10555 Ridgeview Ct.
Cupertino, CA 95014-0789

Mr. Ken Plourde (AV) Phone: (508) 839-5987
Temp Flex Cable, Inc. Fax: (508) 839-4128
11 Depot St. Email: kplourde@templex.com
S. Grafton, MA 01560

Mr. Paul D. Aloisi (P) Phone: (603) 222-8687
Texas Instruments Fax: (603) 222-8700
50 Phillippe Cote St. Email: Paul_Aloisi@ti.com
Manchester, NH 03101

Mr. Steve Hemmah (A) Phone: (603) 222-8561
Texas Instruments Fax: (603) 222-8700
50 Phillippe Cote St. Email: steven_hemmah@ti.com
Manchester, NH 03101

Mr. Jerry Rossman (AV) Phone: (570) 524-8546
The JPM Co. Fax: (570) 524-5660
155 North 15 St. Email: jrossman@jpmco.com
Lewisburg, PA 17837

Ms. Dora M. Deivert (AV) Phone: (408) 952-3510
The JPM Company Fax: (408) 435-9775
2135 Ringwood Ave. Email: dmdeivert@jpmsj.com
San Jose, CA 95131

Ms. Valentina Grigorieva (AV) Phone: (570) 524-8535
The JPM Company Fax: (570) 524-5660
155 N. 15th Street Email: vgrigoriev@jpmco.com
Lewisburg, PA 17837

Mr. Bill Youngman (AV) Phone: (408) 952-3503
The JPM Company Fax: (408) 435-1109
2135 Ringwood Ave. Email: byoungman@jpmsj.com
San Jose, CA 95131

Ms. Tanya Huynh (AV) Phone: (949) 707-2290
Thomas & Betts Corp. Fax:
76 Fairbanks Email: tanya_Huynh@tycoelectronics.com
Irvine, CA

Mr. Hiroshi Suzuki (P) Phone: (949) 462-7588
Toshiba Fax: (949) 581-1170
9740 Irvine Blvd. Email: hiroshi.suzuki@tais.toshiba.com
Irvine, CA 92618

Mr. Tasuku Kasebayashi (A) Phone: (949) 462-7551
Toshiba Fax: (949) 458-7815
35 Hammond Email: task.kasebayashi@tais.toshiba.com
Irvine, CA 92618-1607

Mr. Rick Casaly (AV) Phone: (805) 367-2738
Troika Networks, Inc. Fax:
2829 Townsgate Rd. Suite 200 Email: rcasaly@troikanetworks.com
Westlake, CA 91361

Mr. William C. Terrell (AV) Phone: (805) 371-1377
Troika Networks, Inc. Fax: (805) 371-1344
2829 Townsgate Rd. Suite 200 Email: terrell@TroikaNetworks.com
Westlake, CA 91361

Mr. Michael Wamsley (A#) Phone: (717) 985-2835
TycoElectronics Fax:
Mail Stop 128-089 Email: mjwalmsl@tycoelectronics.com
PO Box Box 3608
Harrisburg, PA 17105-3608

Mr. Ron Mathews (P) Phone: (949) 380-5077
UNISYS Corporation Fax: (949) 380-5858
MV201 Email: ronald.mathews@unisys.com
25725 Jeronimo Road
Mission Viejo, CA 92691

Mr. Phil Shelton (A) Phone: (949) 380-5111
UNISYS Corporation Fax: (949) 380-5858
MV201 Email: phil.shelton@unisys.com
25725 Jeronimo Road
Mission Viejo, CA 92691

Mr. Marq Elliott (AV) Phone: (408) 662-7900
Verisys Fax:
335-H Spreckels Dr. Email:
Aptos, CA 95003

Mr. Roger Cummings (P) Phone: (407) 357-7257
Veritas Software Fax:
400 International Parkway Email: roger.cummings@veritas.com
Heathrow, FL 32746

Mr. Ron Martin (A) Phone: (407) 531-7621
Veritas Software Fax: (407) 531-7720
400 International Parkway Email: ron.martin@veritas.com
Heathrow, FL 32746

Mr. Kenneth Hirata (P) Phone: (949) 450-6100
Vixel Corp. Fax:
15245 Alton Parkway Email: Ken.Hirata@Vixel.com
Suite 100
Irvine, CA 92618-2618

Mr. Carl Mies (A) Phone: (425) 806-4079
Vixel Corp. Fax: (425) 806-4050
11911 Northcreek Pkwy South Email: Carl.Mies@Vixel.com
Bothell, WA 98011-8009

Mr. Michael G. Kaminski (AV) Phone: (408) 945-7766
Volex Inc. Fax: (408) 945-4360
835 Sinclair Frontage Road Email: Mike_Kaminski@volex.com

Milpitas, CA 95035

Mr. Tom Hanan (P)
Western Digital Corporation
8105 Irvine Ctr. Dr.
Irvine, CA 92718

Phone: (949) 672-5679
Fax:
Email: tom.hanan@wdc.com

Mr. Ben Chen (AV)
Wieson Electronic Co. Ltd.

Phone:
Fax:
Email:

Mr. Tom Browning (AV)
Woven Electronics
1001 Old Sage Rd.
Simpsonville, SC 29681

Phone: (864) 967-1759
Fax:
Email: tom.browning@wovenelectronics.com

Mr. Doug Piper (AV)
Woven Electronics
PO Box 189
Mauldin, SC 29662

Phone: (864) 967-1751
Fax: (864) 963-1761
Email: doug.piper@wovenelectronics.com

Mr. Larry Aszmann (AV)
Xiotech Corp.
#200
6509 Flying Cloud Dr.
Eden Prairie, MN 55344

Phone: (612) 828-5978
Fax: (612) 828-5990
Email: laszmann@xiotech.com

Mr. Arnold Limjoco (AV)
Yamaichi Electronics
2235 Zanker Rd.
San Jose, CA 95131

Phone: (408) 456-0797 x134
Fax: (408) 456-0799
Email: arnold.l@yeu.com