

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

Doc. No.: T10/03-048r0

Date: January 17, 2003

Reply to: John Lohmeyer

To: T10 Membership
From: Ralph Weber / John Lohmeyer
Subject: Minutes of T10 Plenary Meeting #53 -- January 16, 2003
Portland, OR

Agenda

1. Opening Remarks
2. Approval of Agenda
3. Attendance and Membership
4. Approval of Minutes - November 2002 Meeting - Huntington Beach, CA (T10/02-458r0)
5. Document Distribution
6. Call for Patents
7. Review of Old Action Items
8. Project Status Reports
 - 8.1 Project Status Summary and INCITS Liaison [Lohmeyer]
 - 8.1.1 INCITS Antitrust Guidelines
 - 8.2 SCSI Fibre Channel Protocol - 2 (FCP-2) {Project 1144-D} [Peterson]
 - 8.3 SCSI Architecture Model - 2 (SAM-2) {Project 1157-D} [Weber]
 - 8.4 Object-based Storage Devices Commands (OSD) {Project 1355-D} [Weber]
 - 8.5 SCSI Parallel Interface - 4 (SPI-4) {Project 1365-D} [Penokie]
 - 8.6 SCSI Medium Changer Commands - 2 (SMC-2) {Project 1383-D} [Oetting]
 - 8.7 SCSI RDMA Protocol (SRP) {Project 1415-D} [Simpson]
 - 8.8 SCSI Primary Commands - 3 (SPC-3) {Project 1416-D} [Weber]
 - 8.9 SCSI Block Commands - 2 (SBC-2) {Project 1417-D} [Elliott]
 - 8.10 SCSI Stream Commands - 2 (SSC-2) {Project 1434-D} [Peterson]
 - 8.11 SCSI Passive Interconnect Performance (PIP) {Project 1439-D} [Daggett]
 - 8.12 SCSI Serial Bus Protocol -3 (SBP-3) {Project 1467-D} [Johansson]
 - 8.13 SCSI Signal Modeling - 2 (SSM-2) {Project 1514-D} [Aloisi/Manildi]
 - 8.14 SCSI RDMA Protocol - 2 (SRP-2) {Project 1524-D} [Simpson]
 - 8.15 SCSI Parallel Interface - 5 (SPI-5) {Project 1525-D} [Penokie]
 - 8.16 SCSI Management Server Commands (MSC) {Project 1528-D} [Penokie/Elliott]
 - 8.17 MultiMedia Command Set - 4 (MMC-4) {Project 1545-D} [McFerrin]
 - 8.18 Automation/Drive Interface - Physical Layer (ADP) {Project 1556-D} [Entzel/Griswold]
 - 8.19 Automation/Drive Interface - Transport Protocol (ADT) {Project 1557-D} [Entzel/Griswold]
 - 8.20 Automation/Drive Interface - Commands (ADC) {Project 1558-D} [Entzel/Griswold]
 - 8.21 SCSI Enclosure Services - 2 (SES-2) {Project 1559-D} [Elliott]
 - 8.22 Fibre Channel Protocol - 3 (FCP-3) {Project 1560-D} [Peterson]
 - 8.23 SCSI Architecture Model - 3 (SAM-3) {Project 1561-D} [Weber]
 - 8.24 Serial Attached SCSI (SAS) {Project 1562-D} [Elliott]
 - 8.25 Serial Attached SCSI - 2 (SAS-2) {Project 1601-D} [Elliott]
9. Old Business
 - 9.1 Style Guide (03-049r0) [Moore]

*Operating under the procedures of The American National Standards Institute.

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

10. New Business
 - 10.1 Revised Project Proposal for Automation/Drive Interface - Transport Protocol (ADT) (02-009) [Suhler]
 - 10.2 Revised Project Proposal for Automation/Drive Interface - Commands (ADC) (02-008) [Suhler]
 - 10.3 Project Proposal for SSC-3 (03-030) [Peterson]
 - 10.4 Comment Resolution for T10 Letter Ballot on SSM-2 (03-027) [Manildi]
 - 10.5 Actions on Parallel SCSI Working Group Recommendations
 - 10.6 Actions on SAS Working Group Recommendations
 - 10.6.1 SAS PHY recommendations
 - 10.6.2 SAS Protocol recommendations
 - 10.7 Actions on CAP Working Group Recommendations
 - 10.8 Actions on Other Working Group Recommendations
 - 10.9 ANSI INCITS 330-2000 Defect Report (03-021) [Ben Atkinson]
 - 10.10 Resolution of the Public Review comment regarding SPI-5 [Penokie]
 - 10.11 Comment Resolution for T10 Letter Ballot on PIP (03-044) [Ham]
 - 10.12 Make Element Reservations Obsolete in SMC-2 [Oetting]
11. ISO/IEC
 - 11.1 ISO/IEC Report (03-053) [Robinson]
 - 11.2 ISO/IEC Business [Robinson]
 - 11.2.1 NWIP ISO/IEC 14776-115:IT - Small Computer System Interface (SCSI) - Part 115:Parallel Interface-5 (SPI-5)
 - 11.2.2 NWIP ISO/IEC 14776-nnn:IT - Small Computer System Interface (SCSI) - Part nnn:SCSI, Serial Attached SCSI (SAS)
 - 11.2.3 NWIP ISO/IEC 14776-nnn:IT - Small Computer System Interface (SCSI) - Part nnn:SCSI Fibre Channel Protocol-2 (FCP-2)
 - 11.2.4 NWIP ISO/IEC 14776-nnn:IT - Small Computer System Interface (SCSI) - Part nnn:Parallel Interface-4 (SPI-4)
12. Liaison Reports
 - 12.1 T11 Liaison Report (03-037r0) [Snively]
 - 12.2 T13 Liaison Report [Colegrove]
 - 12.3 SFF Industry Group [Allan]
 - 12.4 IEEE 1394 [Johansson]
 - 12.5 SCSI Trade Association (STA) [Jones/Aloisi]
 - 12.6 IETF SCSI over IP [Black/Robinson]
 - 12.7 SNIA [Cummings]
13. Review of Action Items
14. Meeting Schedule
 - 14.1 Authorization of Working Group Meetings
15. Adjournment

Results of Meeting

1. Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 9:05 a.m., Thursday January 16, 2003. He thanked Cris Simpson of Intel 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.

2. Approval of Agenda

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

- 10.10 Resolution of the Public Review comment regarding SPI-5 [Penokie]
- 10.11 Comment Resolution for T10 Letter Ballot on PIP (03-044) [Ham]
- 10.12 Make Element Reservations Obsolete in SMC-2 [Oetting]
- 11.2.3 NWIP ISO/IEC 14776-nnn:IT - Small Computer System Interface (SCSI) - Part nnn:SCSI Fibre Channel Protocol-2 (FCP-2)
- 11.2.4 NWIP ISO/IEC 14776-nnn:IT - Small Computer System Interface (SCSI) - Part nnn:Parallel Interface-4 (SPI-4)

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:

none

3. Attendance and Membership

Since the last T10 meeting, the membership requirements in the SD-2 have been changed. The revised rule in section 4.2.3.1.4 is as follows:

“A representative of a prospective voting member shall initially attend a meeting of the TC, TG, or SG without voting privileges and reaffirm interest in the work of the TC, TG, or SG. Voting privileges become effective with attendance at one of the next two successive meetings and receipt by the Secretariat of the applicable fees for the membership year. For a new subgroup, all attendees at the formation meeting or second meeting shall be considered voting members, subject to the rules in section 4.2.4 below.”

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 4 organizations informing them that their membership was in jeopardy due to non-attendance (see 02-491r0) and that their membership would be terminated if they did not attend this meeting. The following organizations were in attendance jeopardy:

Dell Computer Corp.
Molex Inc.
Pirus Networks
Western Digital Corporation

Pirus Networks requested that their membership be dropped as they were purchased by Sun Microsystems. Western Digital Corporation's membership was changed to non-voting status on December 20, 2002 for failing to return letter ballots after being warned (see T10/03-019r0).

All remaining organizations in attendance jeopardy were present.

Ophidian Design's membership was changed to non-voting status on December 23, 2002 for failing to return letter ballots after being warned (see T10/03-035r0). On January 2, 2003, Charles Monia requested that the Nishan Systems membership be dropped.

No organizations joined the committee at this meeting.

The T10 membership during the meeting was 40 organizations unchanged from the 40 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 reported on the status of companies that have not voted on recent letter ballots.

4. Approval of Minutes - November 2002 Meeting - Huntington Beach, CA (T10/02-458r0)

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 January 23, 2003. 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 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

- 490 John Lohmeyer will forward FCP-2 rev 08 to INCITS as resolving the INCITS negative comments containing substantive changes for second public review. *Complete.*
- 491 John Lohmeyer will work with INCITS to thank those who submitted INCITS negative comments and communicate the actions taken by T10. *Complete.*
- 492 John Lohmeyer will forward 02-429r1 to INCITS as a new project proposal for SAS-2. *Complete.*
- 493 George Penokie will post SPI-5 rev 5. *Complete.*
- 494 John Lohmeyer will forward SPI-5 rev 5 to INCITS for further processing towards first public review. *Complete.*
- 495 George Penokie will prepare SPI-4 in the ISO style. *Complete.*
- 496 Gary Robinson will contribute SPI-4 Rev 10 to SC25. *Carryover*

- 497 Bill Ham will assure that SSM-2 and PIP have ISO NWIPs generated. *Carryover*
- 498 Gary Robinson will contribute SPC-2 i22 to SC25. *Carryover*
- 499 Gary Robinson will request an FCD contribution for FCP-2 at the January Plenary. *Carryover*
- 500 Gary Robinson will transmit the SPI-5 NWIP (T10/02-469r0). *Complete*
- 501 Gary Robinson will transmit the SAS NWIP (T10/02-484r0). *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.

John reported on the INCITS meeting in Washington, D.C. that he attended in November. He noted that the INCITS Secretariat's offices have excellent meeting facilities for groups of 25 people or less.

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>.

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

John Lohmeyer said that the second public review on FCP-2 closed on 30 December with no comments received. FCP-2 is now at INCITS management review. Publication is anticipated in February or March.

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

Ralph Weber reported that the INCITS letter ballot on approving SAM-2 closes on 23 January. Publication is anticipated before the next meeting.

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

Ralph Weber reported that discussions of OSD security continue in the SNIA OSD working group. No new OSD revision is expected before March.

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

John Lohmeyer reported that SPI-4 has been published as INCITS.362:2002. He congratulated George Penokie for his efforts on the SPI-4 standard.

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

Erich Oetting reported that SMC-2 rev 5a has been posted and rev 5b is expected in time for the next mailing. Two recommendations from the SMC-2 working group are on the agenda for this meeting.

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

Cris Simpson reported that SRP has been published as INCITS.365:2002. John Lohmeyer congratulated Cris and Ed Gardner for their efforts on the SRP standard.

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

Ralph Weber reported that SPC-3 rev 11 incorporating all changes approved by this meeting will be available before the next meeting but not necessarily 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 soon to ready SPC-3 for letter ballot. The plan was to hold the first such meeting this week, but illness of the editor has required pushing first editing meeting back to March.

Topics to be discussed in March are:

- REQUEST SENSE command
- REPORT SUPPORTED OPERATIONS command
- READ/WRITE ATTRIBUTE commands (MAM)
- Well known logical units

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

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

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

Rob Elliott reported that rev 8 is the latest published SBC-2. A few proposals are being approved. The next revision will not be available until after the next meeting.

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

Dave Peterson made an oral report on the activities of the SSC-2 working group (minutes in 03-040).

Dave noted that the working group is requesting no time during March 2003 T10 week (i.e., SSC-2 will be done). Dave stated that the group will be requesting approval of the letter ballot comments resolution (02-081) during the March meeting cycle.

Dave noted that Out-of-order processing behavior continues to be an issue. The lack of ordering capability in the SCSI protocol is a problem for sequential access device types. If ordering capability (see 02-283) is not added to the SCSI protocol, it will most likely be added to the SSC-2 command set.

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

John Lohmeyer reported that the PIP letter ballot resolution has been completed and accepting the result is on the agenda later in this meeting.

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

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

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

John Lohmeyer reported that the letter ballot comment resolution is complete on SSM-2. The committee has an agenda item later in this meeting to accept the resolution and to forward SSM-2 to first public review.

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

Cris Simpson reported that CAP approved one proposal. The next SRP-2 revision will not be available in time for the mailing.

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

George Penokie reported that a comment was received during the public review on SPI-5. Rev 6, which addresses the public review comment, will be available shortly.

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

George Penokie reported that MSC work will be restarting around March, or in May for sure.

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

Bill McFerrin reported on the activities of the MMC-4 working group. The group has established a rough deadline of May for new proposals.

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

Bob Griswold reported on the activities of the ADI working group (minutes in 03-041). He reminded the group of changes in document editors announced at the November meeting (minutes in 02-458). He requested that Paul Entzel replace Paul Suhler for reporting on ADI activities at T10.

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

This topic was covered in item 8.18.

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

This topic was covered in item 8.18.

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

Rob Elliott reported that the CAP working group passed one proposal for SES-2 and that rev 3 will be available before the next meeting incorporating the proposal.

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

Dave Peterson reported that FCP-3 rev 0 is available on the T10 web site. Dave requested an hour of meeting time for FCP-3 in March.

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

Ralph Weber reported that SAM-3 rev 05 incorporating all changes approved by this meeting will be available before the next meeting but not necessarily in time for the next mailing.

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

Rob Elliott reported on the activities of the SAS working group (minutes in 03-046). He noted that the SAS working group will be meeting weekly by teleconference and there will be a face-to-face in February at a time and location to be determined.

John Lohmeyer reported that the SAS letter ballot generated in excess of 2,000 comments from a larger than usual number of organizations. John thanked all the organizations that contributed substantially to the success of the SAS letter ballot and commended Rob for his willingness to undertake the daunting task of resolving the comments.

8.25 Serial Attached SCSI - 2 (SAS-2) {Project 1601-D} [Elliott]

Rob Elliott reported that no work will be done on SAS-2 until the SAS letter ballot is resolved.

9. Old Business

9.1 Style Guide (03-049r0) [Moore]

Dennis Moore reported that the style guide is uploaded as 03-049r0. He stated the style guide is completed.

Ralph Weber moved that 03-049r0 be accepted as the T10 Style Guide. Roger Cummings seconded the motion. The motion passed on a vote of 27:0:0:13=40.

John Lohmeyer thanked Dennis Moore for all his hard work in preparing the T10 Style Guide.

10. New Business

10.1 Revised Project Proposal for Automation/Drive Interface - Transport Protocol (ADT) (02-009) [Suhler]

Robert Griswold reported that the former ADP and ADT documents are being merged into a single document to be called ADT. He noted that changes in the project proposals are required to achieve this and that the ADI group also desires to change the completion dates for both the revised ADT and ADC drafts. Revised project proposals to accomplish this were presented in November with the understanding that they would be voted upon at this meeting.

Robert Griswold moved that 02-009r1 be forwarded to INCITS as a revised project proposal for ADT, that 02-008r1 be forwarded to INCITS as a revised project proposal for ADC, and that T10 recommend that project 1556-D (ADP) be closed. Erich Oetting seconded the motion. The motion passed on a vote of 27:0:0:13=40.

John Lohmeyer took an action item to forward 02-009r1 to INCITS for processing as a revised project proposal for ADT. John Lohmeyer took an action item to forward 02-008r1 to INCITS for processing as a revised project proposal for ADC. John Lohmeyer took an action item to report to INCITS that T10 recommends that project 1556-D be closed.

10.2 Revised Project Proposal for Automation/Drive Interface - Commands (ADC) (02-008) [Suhler]

This item was handled under agenda item 10.1.

10.3 Project Proposal for SSC-3 (03-030) [Peterson]

Dave Peterson moved that 03-030r1 be approved as a new project proposal for SSC-3. Paul Entzel seconded the motion. The motion passed on a vote of 33:0:0:7=40.

John Lohmeyer took an action item to forward 03-030r1 to INCITS for processing as a new project proposal for SSC-3.

10.4 Comment Resolution for T10 Letter Ballot on SSM-2 (03-027) [Manildi]

John Lohmeyer reported that the results of the SSM-2 letter ballot are in 02-421r0. The comments resolution document is 03-027r0. SSM-2 rev 5a has been prepared containing the resolution for the letter ballot comments.

John Lohmeyer moved that 03-027r0 be accepted as resolving the SSM-2 letter ballot comments and that SSM-2 rev 05a, containing the resolution to the letter ballot comments, be forwarded to INCITS for processing toward first public review. The motion passed on a vote of 25:0:1:14=40.

Based on the successful resolution of the letter ballot comments, John Lohmeyer requested that the LSI no vote on the letter ballot be changed to a yes.

John Lohmeyer took an action item to forward SSM-2 rev 05a to INCITS for processing toward first public review.

10.5 Actions on Parallel SCSI Working Group Recommendations

The recommendations from the Parallel SCSI working group concerned the SPI-5 public review comment (see item 10.10), resolution of the T10 letter ballot on SSM-2 (see item 10.4), and resolution of the T10 letter ballot on PIP (see item 10.11).

10.6 Actions on SAS Working Group Recommendations

10.6.1 SAS PHY recommendations

Since SAS is in the process of resolving letter ballot comments, no recommendations were made to the plenary.

10.6.2 SAS Protocol recommendations

Since SAS is in the process of resolving letter ballot comments, no recommendations were made to the plenary.

10.7 Actions on CAP Working Group Recommendations

John Lohmeyer described the following proposals recommended for inclusion in SAM-3:

- SAM-3 Sense Data Size for Execute Command (02-404r2) [Elliott] {r1 as modified, unanimous}
- SAM-3 Hard reset and multiple port devices (02-473r2) [Elliott] {r1 as modified, unanimous}
- SAM-3 Single level LUN formats (03-032r1) [Elliott] {r0 as modified, unanimous}

Rob Elliott moved that 02-404r2, 02-473r2, and 03-032r1 be approved for inclusion in SAM-3. Bill Galloway seconded the motion. In the absence of any objections, the motion passed unanimously.

John Lohmeyer described the following proposals recommended for inclusion in SPC-3:

- SBC-2 Block Limits mode page (03-028r1) [Elliott] {r0 as modified, unanimous}
- Remove AEN from SPC-3 (03-051r0) [Weber] {21:0:1}
- Vender Identification Assignment (03-060r1) [Penokie] {r0 as modified, unanimous}

Mark Evans moved that 03-028r1, 03-051r0, and 03-060r1 be approved for inclusion in SPC-3. Bill Galloway seconded the motion. In the absence of any objections, the motion passed unanimously.

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

- SAM-3 SPC-3 Maximum and first burst size and protocol services (02-403r2) [Elliott]
{r1 as modified, unanimous}
- SAM-3 Logical Unit Names (02-488r1) [Penokie] {r0 as modified, unanimous}
- Remove SPI from SAM-3 and SPC-3 (03-002r3) [Weber] {r2 as modified, unanimous}

Mark Evans moved that 02-403r2, 02-488r1, and 03-002r3 be approved for inclusion in SAM-3 and SPC-3. Bill Galloway seconded the motion. The motion passed on a vote of 23:0:1:16=40.

George Penokie described the following proposal recommended for inclusion in SPC-3 and SSC-2:

- SSC-2:Obsolete Medium Partition mode pages(2-4) (03-031r0) [Peterson] {unanimous}

Mark Evans moved that 03-031r0 be approved for inclusion in SPC-3 and SSC-2. Bill Galloway seconded the motion. The motion passed on a vote of 23:0:1:16=40.

George Penokie described the following proposal recommended for inclusion in SBC-2:

- SBC-2 Block Limits VPD page (03-028r2) [Elliott] {r1 as modified, unanimous}

Mark Evans moved that 03-028r2 be approved for inclusion in SBC-2. Bill Galloway seconded the motion. The motion passed on a vote of 23:0:1:16=40.

George Penokie described the following proposal recommended for inclusion in SES-2:

- SES-2 Array Status element bypass status enhancement (03-029r0) [Elliott] {unanimous}

Cris Simpson moved that 03-029r0 be approved for inclusion in SES-2. Bill Galloway seconded the motion. The motion passed on a vote of 23:0:1:16=40.

George Penokie described the following proposal recommended for inclusion in SRP-2:

- SRP-2 Immediate Data Proposal (03-057r1) [Simpson] {r0 as modified, unanimous}

Cris Simpson moved that 03-057r1 be approved for inclusion in SRP-2. Bill Galloway seconded the motion. The motion passed on a vote of 23:0:1:16=40.

10.8 Actions on Other Working Group Recommendations

George Penokie described the following proposal recommended for inclusion in SMC-2:

- Make Read Element Status fields related to the SCSI bus obsolete

Erich Oetting moved that the Read Element Status fields specified in the SMC-2 minutes (03-040) be made obsolete. Bill Galloway seconded the motion. The motion passed on a vote of 23:0:1:16=40.

10.9 ANSI INCITS 330-2000 Defect Report (03-021) [Ben Atkinson]

John Lohmeyer said that an email (T10/03-021r0) was received by Ben Atkinson pointing out some defects in the RBC standard. He had forwarded the defect report to Ron Roberts, who agreed to prepare a draft amendment to correct the defects.

John Lohmeyer took an action item to write a letter or e-mail to Mr. Atkinson acknowledging that T10 is working to produce an amendment to correct the problems.

Ron Roberts took an action item to prepare an amendment for RBC.

10.10 Resolution of the Public Review comment regarding SPI-5 [Penokie]

John Lohmeyer moved that the committee accept the public review comment regarding SPI-5 and that SPI-5 rev 06 be forwarded to INCITS as containing substantive changes resolving the public review comment. Mark Evans seconded the motion. The motion passed on a roll call vote of 24:0:0:16=40: The 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	P	Mr. Michael Wingard	1			
Andiamo Systems, Inc.						1
Brocade Comm. Systems, Inc.						1
Cisco Systems, Inc.						1
Congruent Software, Inc.						1
Crossroads Systems, Inc.						1
Dallas Semiconductor						1
Dell Computer Corp.						1
EMC Corp.						1
Emulex	P	Mr. Robert H. Nixon	1			
ENDL Texas	P	Mr. Ralph O. Weber	1			
FCI						1
Fujitsu						1
General Dynamics	P	Mr. Nathan Hastad	1			
Hewlett Packard Co.	P	Mr. Rob Elliott	1			
Hitachi Cable Manchester						1
Honda Connectors						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			
Panasonic Technologies, Inc	P	Dr. Terence J. Nelson	1			
Philips Electronics/CD Edge	P	Mr. William P. McFerrin	1			
Pivot3, Inc.	P	Mr. Bill Galloway	1			
QLogic Corp.						1
Quantum Corp.	P	Mr. Paul Entzel	1			
Seagate Technology	P	Mr. Gerald Houlder	1			
Storage Technology Corp.	P	Mr. Erich Oetting	1			
Sun Microsystems, Inc.	P	Mr. Vit Novak	1			
Texas Instruments	A	Mr. Robert Kando	1			
Toshiba	P	Mr. Hiroshi Suzuki	1			
Madison Cable Corp.						1
UNISYS Corporation						1
Veritas Software	P	Mr. Roger Cummings	1			
Vixel Corp.	P	Mr. Kenneth Hirata	1			

24 0 0 16 = 40

George Penokie took an action item to prepare SPI-5 rev 06.

John Lohmeyer took an action item to forward SPI-5 rev 06 to INCITS for second public review to resolve the first public review comment.

10.11 Comment Resolution for T10 Letter Ballot on PIP (03-044) [Ham]

John Lohmeyer reported that the SCSI parallel working group recommended accepting the PIP letter ballot comment resolution.

Bill Ham moved that 03-044r0 be accepted as resolving the PIP letter ballot comments, that PIP rev 04 be approved as the resolution to the letter ballot comments, and that PIP rev 04 be forward to INCITS for processing toward first public review. Vit Novak seconded the motion. The motion passed on a vote of 25:0:1:14=40.

Based on the successful resolution of the letter ballot comments, Bill Ham requested that the HP no vote on the letter ballot be changed to yes, John Lohmeyer requested that the LSI no vote on the letter ballot be changed to a yes, Bob Kando requested that the Texas Instruments no vote on the letter ballot be changed to a yes, Mike Wingard requested that the Amphenol no vote on the letter ballot be changed to a yes, by telephone call Zane Daggett requested that the Hitachi Cable Manchester no vote on the letter ballot be changed to a yes, and George Penokie requested that the IBM no vote on the letter ballot be changed to a yes. By email, Jie Fan requested that the Madison Cable no vote on the PIP letter ballot be changed to yes.

John Lohmeyer took an action item to forward PIP rev 04 to INCITS for processing toward first public review.

10.12 Make Element Reservations Obsolete in SMC-2 [Oetting]

Erich Oetting stated that the SMC-2 working group has recommended making element reservations obsolete in SMC-2 and requested that final action on the recommendation be deferred to the March meeting.

11. ISO/IEC

11.1 ISO/IEC Report (03-053) [Robinson]

Gary Robinson presented the ISO/IEC report and provided an electronic report in 03-053.

11.2 ISO/IEC Business [Robinson]

11.2.1 NWIP ISO/IEC 14776-115:IT - Small Computer System Interface (SCSI) - Part 115:Parallel Interface-5 (SPI-5)

Gary Robinson moved that T10 recommend that the US National Member vote to approve the new work item proposal for SCSI Parallel Interface-5 (SPI-5) in JTC1/SC25, 14776-115 [SC25 n819], answering the six questions 'Yes' and offering Gary Robinson as project editor. John Lohmeyer seconded the motion. The motion passed on a roll call vote of 30:0:0:10=40. 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.						1
Brocade Comm. Systems, Inc.	P	Mr. Robert Snively	1			
Cisco Systems, Inc.						1
Congruent Software, Inc.						1
Crossroads Systems, Inc.	P	Mr. Robert Griswold	1			
Dallas Semiconductor	P	Mr. James A. Lott, Jr.	1			

Dell Computer Corp.	P	Mr. Kevin Marks	1	
EMC Corp.	P	Mr. Gary S. Robinson	1	
Emulex	P	Mr. Robert H. Nixon	1	
ENDL Texas	P	Mr. Ralph O. Weber	1	
FCI				1
Fujitsu	P	Mr. Mike Fitzpatrick	1	
General Dynamics	P	Mr. Nathan Hastad	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	
Panasonic Technologies, Inc	P	Dr. Terence J. Nelson	1	
Philips Electronics/CD Edge	P	Mr. William P. McFerrin	1	
Pivot3, Inc.	P	Mr. Bill Galloway	1	
QLogic Corp.				1
Quantum Corp.	P	Mr. Paul Entzel	1	
Seagate Technology	P	Mr. Gerald Houlder	1	
Storage Technology Corp.	P	Mr. Erich Oetting	1	
Sun Microsystems, Inc.	P	Mr. Vit Novak	1	
Texas Instruments	A	Mr. Robert Kando	1	
Toshiba	P	Mr. Hiroshi Suzuki	1	
Madison Cable Corp.				1
UNISYS Corporation				1
Veritas Software	P	Mr. Roger Cummings	1	
Vixel Corp.	P	Mr. Kenneth Hirata	1	

30 0 0 10 = 40

Gary Robinson took an action item to request the US National Member vote to approve the new work item proposal for SCSI Parallel Interface-5 (SPI-5) in JTC1/SC25, 14776-115 [SC25 n819].

11.2.2 NWIP ISO/IEC 14776-nnn:IT - Small Computer System Interface (SCSI) - Part nnn:SCSI, Serial Attached SCSI (SAS)

Gary Robinson moved that T10 recommend that the US National Member vote to approve the new work item proposal for Serial Attached SCSI (SAS) in JTC1/SC25, 14776-nnn [SC25 n820], answering the six questions 'Yes' and offering Gary Robinson as project editor. John Lohmeyer seconded the motion. The motion passed on a roll call vote of 30:0:0:10=40. Details of the roll call vote were the same as in 11.2.1.

Gary Robinson took an action item to request the US National Member vote to approve the new work item proposal for Serial Attached SCSI (SAS) in JTC1/SC25, 14776-nnn [SC25 n820].

11.2.3 NWIP ISO/IEC 14776-nnn:IT - Small Computer System Interface (SCSI) - Part nnn:SCSI Fibre Channel Protocol-2 (FCP-2)

Gary Robinson moved that T10 recommend that the US National Member vote to approve the new work item proposal for SCSI Fibre Channel Protocol-2 (FCP-2) in JTC1/SC25, 14776-nnn [SC25 n829], answering the six questions 'Yes' and offering Gary Robinson as project editor. John Lohmeyer seconded the motion. The motion passed on a roll call vote of 30:0:0:10=40. Details of the roll call vote were the same as in 11.2.1.

Gary Robinson took an action item to request the US National Member vote to approve the new work item proposal for SCSI Fibre Channel Protocol-2 (FCP-2) in JTC1/SC25, 14776-nnn [SC25 n829].

11.2.4 NWIP ISO/IEC 14776-nnn:IT - Small Computer System Interface (SCSI) - Part nnn:Parallel Interface-4 (SPI-4)

Gary Robinson moved that T10 recommend that the US National Member vote to disapprove the new work item proposal for SCSI Parallel Interface-4 (SPI-4) in JTC1/SC25, 14776-nnn [SC25 n830] because the work will be superseded by SPI-5 in a short time. John Lohmeyer seconded the motion. The motion passed on a roll call vote of 30:0:0:10=40. Details of the roll call vote were the same as in 11.2.1.

Gary Robinson took an action item to request the US National Member vote to disapprove the new work item proposal for SCSI Parallel Interface-4 (SPI-4).

12. Liaison Reports

12.1 T11 Liaison Report (03-037r0) [Snively]

Bob Snively presented the T11 liaison report contained in T10/03-037r0.

12.2 T13 Liaison Report [Colegrove]

Pete McLean, T13 Chair, provided the following electronic report:

T13 Liaison Report - December 19, 2002

T13 met last in Newport Beach, CA on December 17 through 18 with 21 people present. Membership is currently 21 voting organizations.

ATA/ATAPI Host Adapter Standard, T13/1510D, letter ballot passed. Letter ballot comments were resolved and the draft standard is being forwarded to INCITS for further processing.

The ATA/ATAPI-7, T13/1532D, is in development. The Serial ATA working group offered to forward their SERIAL ATA 1.0 specification to T13 for inclusion. T13 voted unanimously to accept the Serial ATA 1.0 specification and include it in ATA/ATAPI-7. It is recognized that this will delay the publishing of ATA/ATAPI-7 and this delay will be assessed at the February plenary when a draft of ATA/ATAPI-7 with Serial ATA included is available.

Minutes of the meeting are available at
<<http://www.t13.org/docs2002/e02149r0.pdf>>.

Pacific Digital will host the next plenary meeting February 18-29, 2003 in Irvine, CA. The meeting will start at 9 AM.

For further T13 information access <ftp.t13.org> or www.t13.org.

Bob Davis of Network Appliance provided a brief oral report.

The group discussed the fact that SATA has been offered to T13 as the basis for a new standard.

12.3 SFF Industry Group [Allan]

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

Vit Novak reported on an SFF proposal to define a single-voltage disk drive.

12.4 IEEE 1394 [Johansson]

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

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

George Penokie reported that STA just voted to take Ultra-640 off the roadmap. Rob Elliott reported that the SAS logo has changed.

12.6 IETF SCSI over IP [Black/Robinson]

Roger Cummings reported that all of the IPS working group drafts have completed working group last call. The IESG has lodged comments against the iSCSI draft and resolution of the issue is in process.

12.7 SNIA [Cummings]

Roger Cummings reported on the activities of the SNIA (03-063r0).

13. Review of Action Items

- 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 rev i22 to SC25.
- 499 Gary Robinson will request an FCD contribution for FCP-2 at the January Plenary.
- 502 John Lohmeyer will forward 03-030r1 to INCITS for processing as a new project proposal for SSC-3.
- 503 John Lohmeyer will forward 02-009r1 to INCITS for processing as a revised project proposal for ADT.
- 505 John Lohmeyer will forward 02-008r1 to INCITS for processing as a revised project proposal for ADC.
- 506 John Lohmeyer will report to INCITS that T10 recommends that project 1556-D be closed.
- 507 John Lohmeyer will forward SSM-2 rev 05a to INCITS for processing toward first public review.
- 508 John Lohmeyer will write a letter or e-mail to Mr. Atkinson acknowledging that T10 is working to produce an amendment to correct the RBC problems he reported.
- 509 Ron Roberts will prepare an amendment for RBC.
- 510 George Penokie will prepare SPI-5 rev 06.
- 511 John Lohmeyer will forward SPI-5 rev 06 to INCITS as containing substantive changes to resolve the public review comment.
- 512 John Lohmeyer will confirm that Madison Cable is willing to change their no vote on the PIP letter ballot to yes. *Complete.*
- 513 John Lohmeyer will forward PIP rev 04 to INCITS for processing toward first public review.
- 514 Gary Robinson will request the US National Member vote to approve the new work item proposal for SCSI Parallel Interface-5 (SPI-5) in JTC1/SC25, 14776-115 [SC25 n819].
- 515 Gary Robinson will request the US National Member vote to approve the new work item proposal for Serial Attached SCSI (SAS) in JTC1/SC25, 14776-115 [SC25 n820].
- 516 Gary Robinson will request the US National Member vote to approve the new work item proposal for SCSI Fibre Channel Protocol-2 (FCP-2) in JTC1/SC25, 14776-115 [SC25 n829].
- 517 Gary Robinson will request the US National Member vote to disapprove the new work item proposal for SCSI Parallel Interface-4 (SPI-4).

14. Meeting Schedule

The next plenary meeting of T10 will be Thursday March 13, 2003 in Dallas, TX at the Crowne Plaza Suites (972-233-7600), hosted by Texas Instruments. The meeting will begin at 9:00 a.m. on Thursday.

The meeting list for the next plenary week is:

		March 2003 Meeting Map												
		(2003/01/16 Version)												
Monday 3/10		9	10	11	12	1	2	3	4	5	6	7	8	
		+-----+												
		SMC-2/FCP-3 WG		ADI WG										(10)
		+-----+												
		Par SCSI / SAS Protocol WG												(40)
		+-----+												
							SAS PHY WG							(25)
		+-----+												
Tuesday 3/11	8	9	10	11	12	1	2	3	4	5	6	7	8	
		+-----+												
		SAS Protocol WG												(40)
		+-----+												
		SAS PHY WG										(25)		
		+-----+												
		ADI WG										(15)		
		+-----+												
		T11 Ad hocs												(15)
		+-----+												
							STA (closed mtg)							(20)
		+-----+												
Wednesday 3/12		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 meeting)												(20)
		+-----+												
Thursday 3/13	8	9	10	11	12	1	2	3	4	5	6	7	8	
		+-----+												
		T10 Plenary												(45)
		+-----+												
							SPC-3 Editing							(10)
		+-----+												
Friday 3/14	8	9	10	11	12	1	2	3	4	5	6	7	8	
		+-----+												
		SPC-3 Editing												
		+-----+												

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
ADI Calls	Bi-weekly	To be announced via T10 reflector
SAS Prot Calls	Weekly Tuesday am	To be announced via T10 reflector
SAS PHY Calls	Weekly Monday pm	To be announced via T10 reflector
SAS WG	Feb 24-25	Chandler, AZ / Bob Sheffield

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
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
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	(available)	
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
Approved 2005 dates:		
Jan 17-21, 2005		
Mar 7-11, 2005		
May 2-6, 2005		
Jul 11-15, 2005		
Sep 12-16, 2005		
Nov 7-11, 2005		

Bob Snively moved that the committee approve the possible relocation of the May, 2004 meeting to Toronto, Montreal, or Ontario. Mark Evans seconded the motion. The 2/3rds motion passed on a vote 21:1:0:18=40.

John Lohmeyer presented proposed dates for the 2005 T10 meeting weeks (shown above). John Lohmeyer moved and Erich Oetting seconded that T10 approve the dates shown. The motion passed 23:0:0:17=40.

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.

Bill Galloway moved that T10 authorize the T10-related meetings and events in the list above that had not previously been approved through the end of April 2003. Erich Oetting 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 p.m. on Thursday January 16, 2003.

Enclosure(1) -- Meeting Attendees

Name	S	Organization	Electronic Mail Address
Mr. Ron Roberts	P	Adaptec, Inc.	Ron_Roberts@adaptec.com
Mr. Michael Wingard	P	Amphenol Interconnect	mikwingard@aol.com
Mr. Robert Snively	P	Brocade Comm. Systems, Inc.	rsnively@brocade.com
Mr. David Peterson	P	Cisco Systems, Inc.	dap@cisco.com
Mr. Robert Griswold	P	Crossroads Systems, Inc.	rgriswold@crossroads.com
Mr. James A. Lott, Jr.	P	Dallas Semiconductor	jim.lott@dalsemi.com
Mr. Kevin Marks	P	Dell Computer Corp.	kevin_marks@dell.com
Mr. Gary S. Robinson	P	EMC Corp.	robinson_gary@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. Nathan Hastad	P	General Dynamics	nathan.hastad@gd-ais.com
Mr. Rob Elliott	P	Hewlett Packard Co.	Elliott@hp.com
Dr. William Ham	A	Hewlett Packard Co.	bill_ham@ix.netcom.com
Mr. Dan Colegrove	AV	Hitachi Global Storage Tech.	dcolegro@us.ibm.com
Mr. Hitoshi Ogawa	AV	Hitachi Ltd.	h-ogawa@gm.str.hitachi. co.jp
Mr. Terry Enright	P	Honda Connectors	tenright@hondaconnectors. com
Mr. Steven Wirtz	V	I-TECH Corp.	steve_wirtz@i-tech.com
Mr. George O. Penokie	P	IBM / Tivoli Systems	gop@us.ibm.com
Mr. Cris Simpson	P	Intel Corp.	cris.simpson@intel.com
Mr. Hiromichi Oribe	AV	Iomega Corp.	oribe@iomega.com
Mr. Dennis Moore	P	KnowledgeTek, Inc.	dmoore@ix.netcom.com
Mr. John Lohmeyer	P	LSI Logic Corp.	lohmeier@t10.org
Mr. Mark Evans	P	Maxtor Corp.	mark_evans@maxtor.com
Ms. Emily Hill	P	Microsoft Corp.	emhill@microsoft.com
Mr. Rob Haydt	A	Microsoft Corp.	robhay@microsoft.com
Mr. Jay Neer	P	Molex Inc.	jneer@molex.com
Mr. James R. (Bob) Davis	P	Network Appliance Inc.	bob@netapp.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. Keith W. Parker	V	PLOSkit, Inc.	Keith_Parker@PLOSkit.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. Erich Oetting	P	Storage Technology Corp.	erich_oetting@stortek.com
Mr. Vit Novak	P	Sun Microsystems, Inc.	vit.novak@sun.com
Mr. Robert Kando	A.	Texas Instruments	Robert.Kando@ti.com
Mr. Hiroshi Suzuki	P	Toshiba	hiroshi.suzuki@tais. toshiba.com
Mr. Roger Cummings	P	Veritas Software	roger.cummings@veritas. com
Mr. Kenneth Hirata	P	Vixel Corp.	Ken.Hirata@Vixel.com

41 People Present

Status Key: P - Principal

A,A# - Alternate
AV - Advisory Member
L - Liaison
V - Visitor

Enclosure(2) -- T10 Attendance Database

Generated on 2003/01/17 at 13:19:13

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. 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 Email: bart@ancot.com
Menlo Park, CA 94025

Mr. Ward Winburn (AV) Phone: (650) 322-5322
Ancot Corp. Fax: (650) 322-0455

1024 Hamilton Court
Menlo Park, CA 94025

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. Robert Snively (P)
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)
C&M Corp.
49 Middle Road
Owego, NY 13827

Phone: (607) 687-1044
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)

Phone: (949) 855-7887

Circuit Assembly Corp.
18 Thomas St.
Irvine, CA 92618

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: (512) 928-7282
Fax:
Email: jtyndall@crossroads.com

Mr. James A. Lott, Jr. (P)
Dallas Semiconductor
4401 S. Beltwood Pkwy.
Dallas, TX 75244-3292

Phone: (972) 371-4939
Fax: (972) 371-4370
Email: jim.lott@dalsemi.com

Mr. Titkwan Hui (A)
Dallas Semiconductor
4401 S. Beltwood Pkwy.
Dallas, TX 75244-3292

Phone: (972) 371-4340
Fax: (972) 371-4370
Email: tk.hui@dalsemi.com

Mr. Bill Anderson (AV)
DDK Electronics
3001 Oakmead Village Dr.
Santa Clara, CA 95051

Phone: (408) 980-8344
Fax: (408) 980-9750
Email: bill_anderson@ddkconnectors.com

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 Mozingo (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)
Foxconn I/O
60 Pond St.
Dunstable, MA 01827

Phone: (978) 649-9997
Fax: (978) 649-9797
Email:

Mr. Mike Fitzpatrick (P)
Fujitsu
2904 Orchard Pkwy.
San Jose, CA 95134

Phone: (405) 755-7177
Fax: (405) 755-8073
Email: mfitzpatrick@fcpa.fujitsu.com

Mr. Ben-Koon Lin (A)
Fujitsu
2904 Orchard Pkwy.
San Jose, CA 95134

Phone: (408) 894-3979
Fax: (408) 894-3908
Email: blin@fcpa.fujitsu.com

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

Phone:
Fax:
Email:

Mr. Kazuo Nakashima (AV)
Fujitsu Computer Products, Am
2904 Orchard Parkway
San Jose, CA 95134

Phone: (408) 894-3849
Fax: (408) 894-3907
Email: knakashima@fcpa.fujitsu.com

Mr. Bob Thornton (AV)
Fujitsu Takamisawa America
250 E. Caribbean Dr.
Sunnyvale, CA 94089

Phone: (408) 745-4932
Fax: (408) 745-4971
Email: bthornto@fta.fujitsu.com

Mr. Nathan Hastad (P)
General Dynamics
8800 Queen Ave. S.
Bloomington, MN 55431

Phone: (952) 921-6635
Fax: (952) 921-6345
Email: nathan.hastad@gd-ais.com

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

Phone: (952) 921-6866
Fax:
Email: timothy.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

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

Sunnyvale, CA 94086

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

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. 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. Dan Colegrove (AV)
Hitachi Global Storage Tech.

Phone: (702) 614-6119
Fax: (702) 614-7955

2903 Carmelo Dr.
Henderson, NV 89052

Email: dcolegro@us.ibm.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)
Honda Connectors
960 Corporate Woods Parkway
Vernon Hills, IL 60061

Phone: (847) 913-9566
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)

Phone: (480) 554-8597

Intel Corp.
5000 W. Chandler Blvd.
Chandler, AZ 85226-3699

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. Hiromichi Oribe (AV)
Iomega Corp.
1821 Iomega Way
Roy, UT 84067

Phone: (801) 332-5360
Fax: (801) 332-4667
Email: oribe@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)
Linfinity Micro
101 W. McDermott
Allen, TX 75013

Phone: (972) 396-7002
Fax: (972) 396-7533
Email: lgrantham@linfinity.com

Mr. John Lohmeyer (P)
LSI Logic Corp.
4420 ArrowsWest Dr.
Colorado Springs, CO 80907

Phone: (719) 533-7560
Fax: (719) 533-7183
Email: lohmeier@t10.org

Mr. William Petty (A)
LSI Logic Corp.
4420 ArrowsWest Dr.
Colorado Springs, CO 80907

Phone: (719) 533-7461
Fax: (719) 533-7180
Email: william.petty@lsil.com

Ms. Jie Fan (P)
Madison Cable Corp.
125 Goddard Memorial Dr.
Worcester, MA 01603

Phone: (508) 752-2884 x306
Fax: (508) 752-4230
Email: jie.fan@madisoncable.com

Mr. Chuck Grant (A)
Madison Cable Corp.
125 Goddard Memorial Drive
Worcester, MA 01603

Phone: (508) 752-2884 x725
Fax: (508) 752-4230
Email: cgrant@madisoncable.com

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) Phone: (303) 678-2149
Maxtor Corp. Fax: (303) 678-2165
2190 Miller Dr. Email: pete_mclean@maxtor.com
Longmont, CO 80501

Mr. Charley Riegger (A#) Phone: (408) 432-4571
Maxtor Corp. Fax: (408) 432-4432
510 Cottonwood Dr. Email: charles_riegger@maxtor.com
Milpitas, CA 95035

Mr. LeRoy Leach (AV) Phone: (303) 678-2828
Maxtor Corp. Fax: (303) 678-2308
2190 Miller Dr. Email: leroy_leach@maxtor.com
Longmont, CO 80501-6744

Mr. Randy Banton (AV) Phone: (508) 256-1300 x134
Mercury Computer Fax:
199 Riverneck Road Email:
Chelmsford, MA 01824

Mr. Joe Llorens (AV) Phone: (708) 867-6777
Methode Electronics Fax: (708) 867-3149
7444 West Wilson Ave Email: jlllorens@methode.com
Chicago, IL 60706

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
Boca Raton, FL 33432
Phone: (561) 447-2907
Fax: (561) 447-2908
Email: jneer@molex.com

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

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

Mr. Edward A. Gardner (AV) Phone: (719) 593-8866
Ophidian Designs Fax: (719) 593-8989
1262 Hofstead Terrace 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. Bill Galloway (P) Phone: (281) 530-3063
Pivot3, Inc. Fax: (281) 988-0358
14902 Mesita Dr. Email: billg@pivot3.com
Houston, TX 77083

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 Email: greg.casey@qlogic.com
Eden Prairie, MN 55346

Mr. Richard Moore (A#) Phone: (949) 389-6232
QLogic Corp. Fax: (949) 389-6121
26600 Laguna Hills Dr. Email: richard.moore@qlogic.com
Aliso Viejo, CA 92656

Mr. Dean Wallace (A) Phone: (949) 389-6480
QLogic Corp. Fax: (949) 389-6128
26600 Laguna Hills Dr. Email: dean.wallace@qlogic.com
Aliso Viejo, CA 92656

Mr. Paul Entzel (P) Phone: (720) 406-5782
Quantum Corp. Fax: (720) 406-5762
4001 Discovery Dr. Email: paul.entzel@quantum.com
Boulder, CO 80303

Mr. Jim Jones (A) Phone: (720) 406-5611
Quantum Corp. Fax:
4001 Discovery Dr., # 2100 Email: jim.jones@quantum.com
Boulder, CO 80303

Mr. John A. Fobel (AV) Phone: (909) 987-3966
Rancho Technology, Inc. Fax: (909) 989-2365
10783 Bell Court Email: johnf@rancho.com
Rancho Cucamonga, CA 91730

Mr. Gregory Fry (AV) Phone: (503) 629-8874
Roxio Inc. Fax:
15188 NW Central Dr. #205 Email: gfry@roxio.com
Portland, OR 97229

Mr. Yau-Ting Mau (AV) Phone: (408) 631-8177
Roxio, Inc. Fax:
461 S. Milpitas Blvd. Email: mau@roxio.com
Milpitas, CA 95035

Mr. Yasuyuki Suemori (AV) Phone: (630) 875-3513
Sanyo Fax:

900 N Arlington Heights Rd.
Suite 300
Itasca, IL 60143

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

Phone: (952) 402-2869
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: sweazeyp@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)

Phone: (949) 699-3206

Silicon Image
9501 Jeronimo Rd.
Irvine, CA 92618-2032

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)
Solution Technology
P.O. Box 104
Boulder Creek, CA 95006

Phone: (408) 338-4285
Fax: (408) 338-4374
Email: kd6hnm@aol.com

Mr. Joe A. Maciel (AV)
Sony Electronic
3300 Zanker Rd. SJ2E2
San Jose, CA 95134-1901

Phone: (408) 955-5547
Fax:
Email: joe.maciel@am.sony.com

Mr. Dennis Pak (AV)
Sony Electronics, Inc.
3300 Zanker Rd. MS# SJ-3B2
San Jose, CA 95134

Phone: (408) 955-5247
Fax: (408) 955-5066
Email: dennis_pak@asd.sel.sony.com

Mr. Michael Jensen (AV)
ST Microelectronics
3300 Edinborough Way
Edina, MN 55435

Phone: (612) 669-3579
Fax: (952) 835-3555
Email: michael.jensenr@st.com

Mr. Rich Wahler (AV)
Standard Microsystems Corp.
300 Kennedy Drive
Hauppauge, NY 11788

Phone: (516) 435-6174
Fax: (516) 724-1505
Email:

Mr. Erich Oetting (P)
Storage Technology Corp.
2270 South 88th St.
Louisville, CO 80028-0268

Phone: (303) 673-2178
Fax: (303) 673-8196
Email: erich_oetting@stortek.com

Mr. Dennis Appleyard (A)
Storage Technology Corp.
One StorageTek Dr.
Louisville, CO 80028

Phone: (303) 673-6685
Fax:
Email: dennis_appleyard@stortek.com

Mr. Vit Novak (P)
Sun Microsystems, Inc.
MS NWK16-211
7777 Gateway Blvd.
Newark, CA 94560

Phone: (510) 936-3284
Fax: (510) 936-2527
Email: vit.novak@sun.com

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. 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) 282-6800
Vixel Corp. Fax: (949) 282-6801
10 Faraday Email: Ken.Hirata@Vixel.com
Suite 200
Irvine, CA 92618

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 (AV)
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