To: T10 Membership  
From: Ralph Weber / John Lohmeyer  
Subject: Minutes of T10 Plenary Meeting #74 -- July 13, 2006  
Colorado Springs, CO

Agenda

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

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Results of Meeting

1. Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 9:05 a.m., Thursday July 13, 2006. He thanked LSI Logic Corp. for hosting the meeting.

John said that INCITS subgroup membership forms and the T10 document subscription forms are available on the meeting web site. He said that people should use these forms to ensure the INCITS Secretariat has the latest membership information. These forms should be mailed directly to the INCITS Secretariat.

As is customary, the people attending introduced themselves. Attendance was taken electronically via the meeting web site.

2. Approval of Agenda

No additions/changes were made to the draft agenda.

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

No items were added or modified in the agenda during the course of the meeting.

3. Attendance and Membership

The membership requirements were reviewed. INCITS rules permit one vote per organization. An individual from a new organization must attend two out of three consecutive plenary meetings. He/she may apply for voting membership the second meeting via a letter to the Chair of T10. The individual may begin voting at the beginning of his/her second meeting. People who continue to attend T10 meetings are expected to join T10 and to pay INCITS Service Fees.

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

The Chair announced that Maxtor has been acquired by Seagate meaning that Maxtor is not longer entitled to a separate vote.

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 emails to 7 people from 4 organizations informing them that their membership was in jeopardy due to non-attendance (see 06-256r0) and that their membership would be terminated if they did not attend this meeting. The following organizations were in attendance jeopardy:

- M-Systems
- McDATA
- Pivot3, Inc.
- Texas Instruments

All organizations in attendance jeopardy were present.

Had any organizations not been present, their representatives would have been changed to Advisory (non-voting) status.

John Lohmeyer called for requests to join the committee. No organizations joined at this meeting.

The T10 membership during the meeting was 47 organizations, down from the 48 member organizations extant at the time the meeting was convened. 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. The current letter ballot jeopardy status is as shown:

<table>
<thead>
<tr>
<th>Ballot:</th>
<th>05-134r0</th>
<th>06-080r0</th>
<th>06-184r0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report:</td>
<td>05-135r0</td>
<td>06-081r0</td>
<td>06-185r0</td>
</tr>
<tr>
<td>Acronym:</td>
<td>FCP-3</td>
<td>SAT</td>
<td>MMC-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organization</th>
<th>-----------------</th>
<th>----------</th>
<th>---------</th>
<th>-------------</th>
</tr>
</thead>
</table>

Key:
- Yes: Organization voted Yes
- No: Organization voted No
- Abs: Organization voted Abstain
- DNV: Organization failed to return letter ballot
- --: Organization was not a voting member for the letter ballot
- (*): Organization is in letter ballot jeopardy

4. Approval of Minutes - May 2006 - San Jose, CA (T10/06-233r0)

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

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

John Lohmeyer requested that all documents for the next mailing be uploaded to the T10 web site by 10:30 a.m. on Monday July 24, 2006. 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 Portable Document Format (PDF) and/or native-format electronic originals with proper identification must be submitted.

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

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

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

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

To be added to the T10 Reflector, send an e-mail to majordomo@t10.org with the line ‘subscribe t10’ in the message body.

The INCITS Secretariat maintains a World Wide Web page at:

http://www.incits.org/.

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

http://www.t10.org/

There is also a mirror site at:

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

The T10 document register is available at:

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

6. Call for Patents

John Lohmeyer explained that this is a regular agenda item to identify any potential patent issues with developing standards and technical reports.
For additional information on ANSI procedures and the ANSI patent policy, please see the INCITS web page at http://www.incits.org/call.htm. The contact for INCITS patent issues is Lynn Barra (lbarra@itic.org) or (202) 626-5739. Gene Milligan prepared a useful “Handy dandy Technical Committee’s Patents Guide”, which is available at ftp://ftp.t10.org/t10/document.99/99-291r0.pdf.

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

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

John Lohmeyer noted that he had received a patent disclosure letter (06-300r0) from Elwood Parsons of Foxconn Electronics concerning SFF-8482 connectors in SAS-1.1 and SAS-2.

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

There were no other responses to the call for patents other than those mentioned above.

7. Review of Old Action Items

633  John Lohmeyer will forward 06-115r1 to INCITS for further processing as a new project proposal for MMC-6. Complete.

634  Gary Robinson will notify INCITS of the T10 recommendation that ISO SCSI-2 be reaffirmed. Complete.

635  Gary Robinson will notify INCITS that T10 recommends the September SC 25 delegation be: Robert Snively (Head of Delegation), Roger Cummings, Claudio DeSanti, Horst Truestedt, and Mark Overby. Complete.

636  John Lohmeyer will notify INCITS that T10 recommends that ANSI replace the ANSI version of SPC-2 with the ISO version. Complete.

8. Project Status Reports

8.1 Project Status Summary and INCITS Liaison [Lohmeyer]

John Lohmeyer said that the current T10 project status summary was included on the meeting web site and will be included in the mailing as usual.

INCITS contacted John regarding INCITS/IEEE coordination opportunities. Specifically, they called his attention to in060307, available at:


It identifies four IEEE projects that can present collaboration opportunities:

1. P1667, Standard protocol for authentication in host attachments of transient storage devices. Biometric storage applications can use this standard.
2. P1700, Standard for information system security assurance architecture (ISSAA). This standard contains general system certification requirements.
3. P2600, Standard for information technology: hardcopy system and device security. This standard can apply to INCITS W1 and INCITS biometrics.
4. P1619, Standard for encrypted shared storage media. This standard can apply to INCITS biometrics standards that address encrypted data storage.
John requested volunteers to act as a liaison to one or more of these groups.

Curtis Stevens moved that Avraham Shimor be appointed as the T10 liaison to IEEE P1667 based on Avraham's on-going interest in P1667 activities. Bill Martin seconded the motion. In the absence of any objections, the motion passed unanimously.

John Lohmeyer took an action item to report to INCITS that T10 has appointed Avraham Shimor as the T10 liaison to IEEE P1667. John Lohmeyer took an action item to add an IEEE P1667 liaison report to the next T10 agenda.

8.1.1 INCITS Antitrust Guidelines

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

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

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

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

Rob Elliott reported that there has been no activity on BCC.

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

Rob Elliott reported that no proposals have been approved for SES-2 and no new working draft revision needs to be prepared. Rob noted that he expects a forwarding letter ballot on SES-2 following the July 2008 meeting.

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

John Lohmeyer reported that FCP-3 was approved and published by ANSI as ANSI INCITS 416-2006. He congratulated the project editor, Dave Peterson.

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

John Lohmeyer reported that SAS-1.1 was approved and published by ANSI as ANSI INCITS 417-2006. He congratulated the project editor, Rob Elliott.

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

Dave Peterson reported on the activities of the SSC-3 working group (minutes in 06-338) and provided an electronic report in 06-344r0.

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

Bill McFerrin reported on the activities of the MMC working group (minutes in 06-347).
Bill McFerrin moved that 06-308r0 be approved as resolving the MMC-5 letter ballot comments and that MMC-5 rev 3b, which incorporates the resolutions, be forwarded to INCITS for further processing toward first public review. Curtis Stevens seconded the motion. The motion passed 33:0:4:10=47, meeting the two-thirds rule.

Ralph Weber (ENDL Texas), Rob Elliott (HP), George Penokie (IBM), and Takaharu Ai (Panasonic) said that their letter ballot comments had been resolved satisfactorily and requested that their No votes be changed to Yes.

Bill McFerrin took an action item to produce MMC-5 revision 3b. John Lohmeyer took an action item to forward MMC-5 Rev 3b to INCITS for further processing toward first public review.

8.8 SCSI Architecture Model - 4 (SAM-4) Project 1683-D [Penokie]
George Penokie reported that a new revision will be posted containing changes approved at this meeting; however the new revision may not be posted in time for the mailing.

8.9 SCSI / ATA Translation (SAT) Project 1711-D [Sheffield]
Bob Sheffield reported on the working group’s progress in resolving the comments which are listed in 06-121r2 (minutes in 06-277, 06-287, and 06-317). He stated that 42 comments are not yet resolved. There is a possibility that a second letter ballot will be requested prior to forwarding to first public review.

8.10 Object-Based Storage Devices - 2 (OSD-2) Project 1729-D [Weber]
Ralph Weber reported that the SNIA TWG has recommended that T10 consider buffer structure changes for OSD-2 that would make it easier to transfer OSD data-in and data-out buffers over FCP and SAS. He noted that arrangements are being made to prepare T10 documents that reflect the recommendations.

8.11 SCSI Media Changer Command Set - 3 (SMC-3) Project 1730-D [Banther]
Michael Banther reported on the activities of the SMC-3 working group (minutes in 06-269 and 06-327) and provided an electronic report in 06-343r1.

8.12 SCSI Primary Commands - 4 (SPC-4) Project 1731-D [Weber]
Ralph Weber reported that SPC-4 r06 will be posted in time for the mailing and will incorporate all approved proposals.

8.13 Serial Attached SCSI Driver Interface (SDI) Project 1740-D [Elliott]
Rob Elliott noted that any changes to the SDI will be handled in the CAP working group and that no changes are currently proposed.

8.14 Automation/Drive Interface - Commands - 2 (ADC-2) Project 1741-D [Suhler]
Paul Entzel reported on the activities of the ADI working group (minutes in 06-306) and provided an electronic report in 06-328r0. He noted that a letter ballot on forwarding ADC-2 is planned for after the September meeting week. He noted that a new revision of ADC-2 will be prepared in time for the mailing.

8.15 Automation/Drive Interface - Transport Protocol - 2 (ADT-2) Project 1742-D [Suhler]
Paul Entzel reported on the activities of the ADI working group (minutes in 06-306) and provided an electronic report in 06-328r0. He noted that a new revision of ADT-2 will be prepared in time for the mailing.
8.16 Serial Attached SCSI - 2 (SAS-2) Project 1760-D [Elliott]

Rob Elliott reported that several SAS-2 protocol proposals have been recommended (minutes in 06-290 and 06-316). The SAS-2 physical working group (minutes in 06-348) made no new recommendations. A SAS-2 revision will be posted containing all approved proposals in time for the mailing. There is also a SAS Zoning Management working group meeting following the plenary meeting.

8.17 SCSI Block Commands - 3 (SBC-3) Project 1799-D [Penokie]

George Penokie reported that a new revision will be posted containing changes approved at this meeting; however maybe not in time for the mailing.

8.18 SCSI / ATA Translation - 2 (SAT-2) Project 1826-D [Overby]

Mark Overby reported that work will begin on SAT-2 after the remaining SAT letter ballot issues have been resolved.

8.19 Fibre Channel Protocol - 4 (FCP-4) Project 1828-D [Peterson]

David Peterson reported on the activities of the FCP-4 working group (minutes in 06-340) and provided an electronic report in 06-345r0.

8.20 MultiMedia Command Set - 6 (MMC-6) Project 1836-D [McFerrin]

Bill McFerrin reported on the activities of the MMC working group (minutes in 06-347). He noted that the group is planning to make several features obsolete in MMC-6 and a list of said features appears in the 06-347 minutes.

9. Old Business

There was no old business.

10. New Business

10.1 Actions on SAS Protocol Working Group Recommendations

The recommendations from the SAS protocol working group (minutes in 06-290 and 06-316) were presented to the committee.

George Penokie, Rob Elliott, Kevin Marks, and Ralph Weber reviewed the following proposals recommended for inclusion in SAS-2:

- 06-197r3 (Add expander change count to all SMP functions) [Elliott]
- 06-208r2 (Restrict access to SMP write functions) [Elliott]
- 06-213r2 (REPORT GENERAL additions for zoning and self configuration) [Johnson]
- 06-037r7 (SMP Lists (DISCOVER LIST)) [Johnson]
- 06-078r3 (Expander Routing Table (REPORT EXPANDER ROUTE TABLE)) [Johnson]
- 05-322r4 (Wide SSP target port simultaneous connection rules) [Elliott]
- 06-273r1 (Bus Inactivity Timeout Timer Is Broken) [Finch]
- 06-187r2 (Self-configuring expander status) [Elliott]
- 06-302r1 (Multiple Broadcasts on Reset) [Penokie]
- 06-189r3 (Allow table-to-table expander attachment) [Elliott]
- 06-304r2 (SMP Function Result Priority) [Darnell]
- 06-210r4 (Reporting ZONE PARTICIPATING CAPABLE in the IDENTIFY address frame) [Marks]
Rob Elliott moved that 06-197r3, 06-208r2, 06-213r2, 06-078r3, 05-322r4, 06-273r1, 06-187r2, 06-302r1, 06-189r3, 06-304r2, and 06-210r4 be approved for inclusion in SAS-2. Tim Symons seconded the motion. The motion passed on a vote of 31:0:7:9=47.


George Penokie reviewed 06-332r1 (PL_PM3 fixes) [Penokie] a proposal for SAS-2 that was approved in its r0 revision but which needed to be revised subsequent to the SAS-2 working group to correct a typographical error.

George Penokie moved that 06-332r1 be approved for inclusion in SAS-2. Gerry Houlder seconded the motion. The motion passed on a vote of 28:0:10:9=47.

10.2 Actions on SAS PHY Working Group Recommendations

There were no recommendations made by the SAS physical working group (minutes in 06-348).

10.3 Actions on SAT Working Group Recommendations

No recommendations were presented from the SAT working group (minutes in 06-317).

10.4 Actions on CAP Working Group Recommendations

The recommendations from the CAP working group (minutes in 06-318) were presented to the committee.

George Penokie reviewed the following proposals recommended for inclusion in SPC-4:

- 06-175r2 (Wrapping and saturating counter definitions) [Elliott]
- 06-278r0 (Fix persistence of SET DEVICE IDENTIFIER) [Entzel]
- 06-264r2 (REQUEST SENSE parameter data clarifications) [Elliott]
- 06-325r0 (New ASC/ASCQ for SAT queue cleared condition) [Overby]
- 06-298r0 (Persistent Reservations correction) [Weber]
- 06-320r1 (Statistics logging for FUA and FUA_NV) [Elliott]
- 06-337r0 (Statistics Group Number inconsistencies in SPC-4, SSC-3, and MMC-5) [Weber]
- 06-321r1 (Statistics and Performance log pages command cleanup) [Elliott]

George Penokie invoked the two-week rule to block consideration of 06-321r1.

Mark Overby moved that 06-175r2, 06-278r0, 06-264r2, 06-325r0, 06-298r0, 06-320r1, and 06-337r0 be approved for inclusion in SPC-4. Bob Sheffield seconded the motion. The motion passed on a vote of 30:0:4:13=47.

George Penokie reviewed 06-034r5 (Physical blocks) [Elliott] a proposal recommended for inclusion in SBC-3.

Curtis Stevens moved that 06-034r5 be approved for inclusion in SBC-3. Mark Overby seconded the motion. The motion failed on a vote of 8:10:19:10=47.

George Penokie reviewed 06-274r1 (REQUEST SENSE and Stopped power condition) [Elliott] a proposal recommended for inclusion in SPC-4 and SBC-3.

George Penokie reviewed 06-259r1 (Making linked commands obsolete) [Evans/Houlder/Weber] a proposal recommended for inclusion in SAM-4, SPC-4, SBC-3, SSC-3, SMC-3, MMC-6, SES-2, OSD-2, ADC-2, SAS-2, FCP-4, ADT-2, and SAT.

Rob Elliott moved that 06-274r1 be approved for inclusion in SPC-4 and SBC-3; that 06-259r1 be approved for inclusion in SAM-4, SPC-4, SBC-3, SSC-3, SMC-3, MMC-6, SES-2, OSD-2, ADC-2, SAS-2, FCP-4, ADT-2, and SAT; and that 06-323r1 be approved for inclusion in SAM-4, SPC-4, SBC-3, SSC-3, SMC-3, SES-2, ADC-2, SAS-2, and FCP-4. John Lohmeyer seconded the motion. The motion passed on a vote of 28:0:6:13=47.

10.5 Actions on Other Working Group Recommendations

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

11. ISO/IEC

11.1 ISO/IEC Report [Robinson]

Gary Robinson presented the ISO/IEC report (06-311).

Gary Robinson announced that in the absence of a response confirming an editor for SBP-3 a motion will be made in September to terminate the ISO SBP-3 project. Bob Snively asked that further attempts be made to contact Peter Johansson.

Gary Robinson took an action item to contact the SBP-3 editor regarding the ISO status of SBP-3 and prepare a motion for T10 action in September.

11.2 ISO/IEC Business [Robinson]

11.2.1 Addition to SC 25/WG 4 Delegation

Gary Robinson moved and Mark Overby seconded to recommend adding David Peterson to the delegation for the SC 25 meeting in September. The motion passed 32:0:1:14=47.

Gary Robinson took an action item to notify INCITS that T10 recommends that David Peterson be added the September SC 25 delegation, making the delegation: Robert Snively (Head of Delegation), Roger Cummings, Claudio DeSanti, Horst Truestedt, Mark Overby, and David Peterson.

11.2.2 FCD responsive Link FCD24740, 25n1164 (06-342) [Robinson]

Bob Snively moved that T10 recommends that the JTC1/SC25 TAG vote to approve ISO/IEC FCD 24740: 25n1164, Information technology - Responsive Link, project 1.25.13.10.14. Gary Robinson seconded the motion.

The motion passed on a roll call vote of 34:0:0:13=47.

The details of the roll call vote were as follows:

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<thead>
<tr>
<th>Organization</th>
<th>Voter</th>
<th>Vote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptec, Inc.</td>
<td>Chris Fore</td>
<td>Yes</td>
</tr>
<tr>
<td>AMCC</td>
<td>Paul von Stamwitz</td>
<td>Yes</td>
</tr>
<tr>
<td>Amphenol Interconnect</td>
<td></td>
<td>(not present)</td>
</tr>
<tr>
<td>Broadcom Corp.</td>
<td></td>
<td>(not present)</td>
</tr>
<tr>
<td>Brocade</td>
<td>Robert Snively</td>
<td>Yes</td>
</tr>
<tr>
<td>Dallas Semiconductor</td>
<td></td>
<td>(not present)</td>
</tr>
<tr>
<td>Dell, Inc.</td>
<td>Kevin Marks</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Gary Robinson took an action item to notify INCITS that T10 recommends that the JTC1/SC25 TAG vote to approve ISO/IEC FCD 24740: 25n1164, Information technology - Responsive Link, project 1.25.13.10.14.

12. Liaison Reports

12.1 T11 Liaison Report [Snively]

Bob Snively presented an electronic liaison report (06-315).

12.2 T13 Liaison Report [Colegrove]

Dan Colegrove provided an oral report to the committee on the activities of T13. The group is working almost exclusively on the ATA-8 command set. For details regarding T13 activities see www.t13.org.
12.3 SFF Industry Group [Allan]

In the absence of Dal Allan, no SFF Industry Group liaison report was available.

12.4 SCSI Trade Association (STA) [Czekalski]

Marty Czekalski presented an electronic report (06-346) on the activities of the SCSI Trade Association.

12.5 IETF SCSI over IP [Black/Robinson]

In the absence of David Black, who was attending the IETF meeting week which conflicted with the T10 meeting week, no report was made.

12.6 SNIA [open]

No report was made.

12.7 Trusted Computing Group [Cummings/Fitzpatrick]

Mike Fitzpatrick reported on the TCG activities. In addition to the specifications, the TCG is working on a preview presentation showing how storage devices work with TCG.

In response to a question from the floor, Mike reported that the specifications of interest to T10 will not complete internal review until September and various procedural steps must be completed after that before the specifications are made available to the public.

13. Review of Action Items

637 John Lohmeyer will report to INCITS that T10 has appointed Avraham Shimor as the T10 liaison to IEEE P1667.

638 John Lohmeyer will add an IEEE P1667 liaison report to the next T10 agenda.

639 Bill McFerrin will produce MMC-5 revision 3b.

640 John Lohmeyer will forward MMC-5 Rev 3b to INCITS for further processing toward first public review.

641 Gary Robinson will notify INCITS that T10 recommends that the JTC1/SC25 TAG vote to approve ISO/IEC FCD 24740: 25n1164, Information technology - Responsive Link, project 1.25.13.10.14

642 Gary Robinson will notify INCITS that T10 recommends that David Peterson be added the September SC 25 delegation, making the delegation: Robert Snively (Head of Delegation), Roger Cummings, Claudio DeSanti, Horst Truestedt, Mark Overby, and David Peterson.

643 Gary Robinson will contact the SBP-3 editor regarding the ISO status of SBP-3 and prepare a motion for T10 action in September.

14. Meeting Schedule

The next plenary meeting of T10 will be Thursday September 14, 2006 in Nashua, NH at the Crowne Plaza hotel (1-603-886-1200 Reservations: www.crowneplazanashua.com Group Code: HCM) hosted by Hitachi Cable Manchester. The meeting will begin at 9:00 a.m. on Thursday.

The meeting list for the next plenary week is:
September 2006 Meeting Map

Monday 9/11

9 10 11 12 1 2 3 4 5 6 7 8

+---------------------------------------------------------+
| SMC-3 WG / ADI-2 WG | (15) |
| SAS Protocol WG | (40) |
| TCG * | (20) |
+---------------------------------------------------------+

Tuesday 9/12

9 10 11 12 1 2 3 4 5 6 7 8

+---------------------------------------------------------+
| SAS Physical WG | (45) |
| SAT WG | (20) |
| STA Marcom * | (20) |
+---------------------------------------------------------+

Wednesday 9/13

9 10 11 12 1 2 3 4 5 6 7 8

+---------------------------------------------------------+
| CAP WG | (40) |
| SAT WG | (20) |
| SFF | (25) |
| STA Plenary / TCC* | (20) |
+---------------------------------------------------------+

Thursday 9/14

9 10 11 12 1 2 3 4 5 6 7 8

+---------------------------------------------------------+
| T10 Plenary | SAS-2 Zone Mgmt WG | (50/25) |
+---------------------------------------------------------+

Friday 9/15

9 10 11 12 1 2 3 4 5 6 7 8

No meetings planned for Friday.

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

Other T10-authorized meetings:

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Date</th>
<th>Location / Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAS Protocol Call(s)</td>
<td>TBA</td>
<td>TBA via T10 reflector / Elliott</td>
</tr>
<tr>
<td>SAS Zoning Calls</td>
<td>TBA</td>
<td>TBA via T10 reflector / Lohmeyer</td>
</tr>
<tr>
<td>SAS PHY Calls</td>
<td>Weekly Thu 10a CDT</td>
<td>TBA via T10 reflector / Cox</td>
</tr>
<tr>
<td>SAT WG</td>
<td>Mon Aug 21 9a-5p</td>
<td>Seattle with T13 / Frank Shu (Microsoft)</td>
</tr>
<tr>
<td>MMC WG</td>
<td>Sep 12, 13, or 14</td>
<td>Tokyo, Japan / McFerrin</td>
</tr>
</tbody>
</table>
Map Abbreviation Key:
ad hoc: a.k.a., working group
ADI: Automation Drive Interface (tape library interface)
Amnd: Amendment
CAP: Commands, Architecture, and Protocols
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
Lock SG: Study Group to examine need for Locking removable storage devices
MMC: Multimedia Commands (CD-ROM, DVD, etc.)
OSD: Object-based Storage Device
PH or PHY: Physical (Connectors, Cables, Transceivers, etc.)
Prot: Protocol
Plenary: Full Committee Meeting
Res: Resolution
SAS: Serial Attached SCSI
SAT: SCSI / ATA Translation
SBC-2: SCSI Block Commands - 2
SCSI: Small Computer System Interface
SDI: Serial Attached SCSI Driver Interface
SES: SCSI Enclosure Services
SFF: SFF Industry Group (not an INCITS activity)
SG: Study Group
SMC-3: SCSI Medium Changer - 3 Commands
SPC-4: SCSI Primary Commands - 4 (4th generation)
SSC-3: SCSI Stream Commands - 2 (includes Tape)
STA: SCSI Trade Association (Closed meeting -- not an INCITS activity)
STA Marcom: STA Marketing Communications (Closed meeting -- not an INCITS activity)
STP: Serial ATA Tunneled Protocol
T10: SCSI Storage Interfaces Technical Committee
T11: Device Level Interfaces Technical Committee
WG: Working Group (same as Ad Hoc Group)
For more information about T10 activities, please contact the following people:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Contact</th>
<th>Telephone/Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADT, ADC, ADT-2, ADC-2</td>
<td>Paul Entzel</td>
<td>(720) 406-5782 <a href="mailto:paul.entzel@quantum.com">paul.entzel@quantum.com</a></td>
</tr>
<tr>
<td>SBC-2, SES-2, SAS-1.1, SAS-2, BCC, SDI</td>
<td>Rob Elliott (281) 518-5037 <a href="mailto:Elliott@hp.com">Elliott@hp.com</a></td>
<td></td>
</tr>
<tr>
<td>MMC-4, MMC-5, MMC-6</td>
<td>Bill McFerrin</td>
<td>(325) 423-1560 <a href="mailto:billmc@tstar.net">billmc@tstar.net</a></td>
</tr>
<tr>
<td>SBP-3</td>
<td>Peter Johansson</td>
<td>(510) 527-3926 <a href="mailto:PJohansson@ACM.org">PJohansson@ACM.org</a></td>
</tr>
<tr>
<td>SAM-4, SBC-3</td>
<td>George Penokie</td>
<td>(507) 253-5208 <a href="mailto:gop@us.ibm.com">gop@us.ibm.com</a></td>
</tr>
<tr>
<td>SAT</td>
<td>Bob Sheffield</td>
<td>(480) 554-8597 <a href="mailto:robert.l.sheffield@intel.com">robert.l.sheffield@intel.com</a></td>
</tr>
<tr>
<td>SAT-2</td>
<td>Mark Overby</td>
<td>(425) 417-9412 <a href="mailto:moverby@nvidia.com">moverby@nvidia.com</a></td>
</tr>
<tr>
<td>SMC-2</td>
<td>Erich Oetting</td>
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<tr>
<td>SMC-3</td>
<td>Noud Snelder</td>
<td>+31408446108 <a href="mailto:Noud.snelder@bdt.de">Noud.snelder@bdt.de</a></td>
</tr>
<tr>
<td>SPC-3, SAM-3, SPC-4, OSD-2</td>
<td>Ralph Weber</td>
<td>(214) 912-1373 <a href="mailto:roweber@acm.org">roweber@acm.org</a></td>
</tr>
<tr>
<td>SSC-3, FCP-3, FCP-4</td>
<td>Dave Peterson</td>
<td>(763) 268-6139 <a href="mailto:david.peterson@mcdata.com">david.peterson@mcdata.com</a></td>
</tr>
<tr>
<td>Other Activities</td>
<td>John Lohmeyer</td>
<td>(719) 533-7560 <a href="mailto:lohmeyer@t10.org">lohmeyer@t10.org</a></td>
</tr>
</tbody>
</table>

The long-term T10 meeting week schedule is:

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Host/Comments</th>
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<tbody>
<tr>
<td>Sep 11-15, 2006</td>
<td>Nashua, NH</td>
<td>Hitachi Cable Manchester</td>
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<tr>
<td>Nov 6-10, 2006</td>
<td>Las Vegas, NV</td>
<td>Hitachi GST</td>
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Approved dates for 2007:

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<tr>
<td>Jan 15-19, 2007</td>
<td>Orlando, FL</td>
<td>Symantec</td>
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<td>Mar 12-16, 2007</td>
<td>TBD</td>
<td>SCSI Trade Association</td>
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<td>May 7-11, 2007</td>
<td>Seattle, WA</td>
<td>Microsoft Corp.</td>
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<tr>
<td>Jul 9-13, 2007</td>
<td>Colorado Springs, CO</td>
<td>LSI Logic</td>
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<tr>
<td>Sep 17-21, 2007</td>
<td>Vancouver, BC Canada</td>
<td>PMC-Sierra</td>
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<td>Nov 5-9, 2007</td>
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Approved dates for 2008:

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<td>Mar 10-14, 2008</td>
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<td>May 5-9, 2008</td>
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<td>Jul 14-18, 2008</td>
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<td>Sep 8-12, 2008</td>
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<tr>
<td>Nov 3-7, 2008</td>
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</table>

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

### 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. Working groups should strive to achieve consensus prior to bringing issues to T10.
Bob Snively moved that T10 authorize the T10-related meetings and events in the list above that had not previously been approved through the end of August 2006. Jay Neer seconded the motion. In the absence of any objections, the motion passed unanimously.

15. Adjournment

John Lohmeyer moved and Ralph Weber seconded that the meeting be adjourned. In the absence of any objections, the motion passed unanimously. The meeting was adjourned at 11:10 a.m. on Thursday July 13, 2006.
Enclosure(1) -- Meeting Attendees

<table>
<thead>
<tr>
<th>Name</th>
<th>S</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Chris Fore</td>
<td>P</td>
<td>Adaptec, Inc.</td>
</tr>
<tr>
<td>Mr. Paul von Stamwitz</td>
<td>P</td>
<td>AMCC</td>
</tr>
<tr>
<td>Mr. Robert Snively</td>
<td>P</td>
<td>Brocade Comm. Systems, Inc.</td>
</tr>
<tr>
<td>Mr. James A. Lott, Jr.</td>
<td>P</td>
<td>Dallas Semiconductor</td>
</tr>
<tr>
<td>Mr. Gideon Avida</td>
<td>P</td>
<td>Decru</td>
</tr>
<tr>
<td>Mr. Kevin Marks</td>
<td>P</td>
<td>Dell, Inc.</td>
</tr>
<tr>
<td>Mr. Gary S. Robinson</td>
<td>P</td>
<td>EMC Corp.</td>
</tr>
<tr>
<td>Mr. Robert H. Nixon</td>
<td>P</td>
<td>Emulex</td>
</tr>
<tr>
<td>Mr. Ralph O. Weber</td>
<td>P</td>
<td>ENDL Texas</td>
</tr>
<tr>
<td>Mr. Douglas Wagner</td>
<td>P</td>
<td>FCI</td>
</tr>
<tr>
<td>Mr. Elwood Parsons</td>
<td>P</td>
<td>Foxconn Electronics</td>
</tr>
<tr>
<td>Mr. Mike Fitzpatrick</td>
<td>P</td>
<td>Fujitsu</td>
</tr>
<tr>
<td>Mr. Michael Banther</td>
<td>V</td>
<td>Hewlett Packard Co.</td>
</tr>
<tr>
<td>Mr. Rob Elliott</td>
<td>P</td>
<td>Hewlett Packard Co.</td>
</tr>
<tr>
<td>Mr. Dan Colegrove</td>
<td>P</td>
<td>Hitachi Global Storage Tech.</td>
</tr>
<tr>
<td>Mr. James Rockrohr</td>
<td>V</td>
<td>IBM</td>
</tr>
<tr>
<td>Mr. George O. Penokie</td>
<td>P</td>
<td>IBM Corp.</td>
</tr>
<tr>
<td>Mr. Robert Sheffield</td>
<td>P</td>
<td>Intel Corp.</td>
</tr>
<tr>
<td>Mr. Dennis Moore</td>
<td>P</td>
<td>KnowledgeTek, Inc.</td>
</tr>
<tr>
<td>Mr. John Geldman</td>
<td>P</td>
<td>Lexar Media, Inc.</td>
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<tr>
<td>Mr. John Lohmeyer</td>
<td>P</td>
<td>LSI Logic Corp.</td>
</tr>
<tr>
<td>Mr. Avraham Shimor</td>
<td>P</td>
<td>M-Systems</td>
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<tr>
<td>Mr. David Geddes</td>
<td>P</td>
<td>Marvell Semiconductor, Inc.</td>
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<tr>
<td>Mr. David Peterson</td>
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<td>McA DATA</td>
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<tr>
<td>Mr. David Walp</td>
<td>A#</td>
<td>Microsoft Corp</td>
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<tr>
<td>Mr. Jay Neer</td>
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<td>MoLex Inc.</td>
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<tr>
<td>Mr. Faisal Faruqui</td>
<td>AV</td>
<td>NeoScale Systems Inc.</td>
</tr>
<tr>
<td>Mr. Landon Noll</td>
<td>AV</td>
<td>NeoScale Systems Inc.</td>
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<tr>
<td>Mr. Frederick Knight</td>
<td>A</td>
<td>Network Appliance</td>
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<tr>
<td>Mr. Mark Overby</td>
<td>P</td>
<td>Nvidia Corp.</td>
</tr>
<tr>
<td>Mr. Edward A. Gardner</td>
<td>V</td>
<td>Ophidian Designs</td>
</tr>
<tr>
<td>Mr. Takaharu Ai</td>
<td>A</td>
<td>Panasonic AVC Networks Co.</td>
</tr>
<tr>
<td>Mr. William P. McFerrin</td>
<td>P</td>
<td>Philips Electronics/CD Edge</td>
</tr>
<tr>
<td>Mr. Thomas Grieff</td>
<td>A</td>
<td>Pivot3, Inc.</td>
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<tr>
<td>Mr. Tim Symons</td>
<td>P</td>
<td>PMC-Sierra</td>
</tr>
<tr>
<td>Mr. Paul Entzel</td>
<td>P</td>
<td>Quantum Corp.</td>
</tr>
<tr>
<td>Mr. Alvin Cox</td>
<td>A</td>
<td>Seagate Technology</td>
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<tr>
<td>Mr. Martin Czekalski</td>
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</tr>
<tr>
<td>Mr. Gerald Houlder</td>
<td>A</td>
<td>Sierra Logic, Inc.</td>
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<tr>
<td>Mr. William Martin</td>
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<tr>
<td>Mr. Stephen Finch</td>
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<td>STMicroelectronics</td>
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<tr>
<td>Mr. Vit Novak</td>
<td>P</td>
<td>Sun Microsystems, Inc.</td>
</tr>
<tr>
<td>Mr. Robert Kando</td>
<td>A</td>
<td>Texas Instruments</td>
</tr>
<tr>
<td>Ms. Ashlie Fan</td>
<td>P</td>
<td>TycoElectronics</td>
</tr>
<tr>
<td>Mr. Dan Gorenc</td>
<td>A</td>
<td>TycoElectronics</td>
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<tr>
<td>Mr. Gregory Tabor</td>
<td>P</td>
<td>Vitesse Semiconductor</td>
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<tr>
<td>Mr. Curtis Stevens</td>
<td>P</td>
<td>Western Digital</td>
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<tr>
<td>Mr. Jeff Williams</td>
<td>P</td>
<td>Xiotech Corp.</td>
</tr>
<tr>
<td>Mr. Rich Ramos</td>
<td>P</td>
<td>Xyratex</td>
</tr>
</tbody>
</table>

49 People Present

Status Key: P - Principal  L - Liaison
A,A# - Alternate  V - Visitor
AV - Advisory Member
Enclosure(2) -- T10 Attendance Database
Generated on 2006/07/14 at 13:56:56

Mr. Chris Fore  (P)               Phone: (919) 287-2024
Adaptec, Inc.                       Fax: (919) 287-2099
523 Davis Drive, Suite 500        Email: chris_fore at adaptec dot com
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Orlando, FL 32826

Mr. Ziad Matni  (AV)              Phone: 610-712-3569
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Allentown, PA 18109

Mr. Ken Paist  (AV)               Phone: (610) 712-3265
Agere Systems                      Fax:
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Allentown, PA

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AMCC                               Fax: (408) 542-8605
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Sunnyvale, CA 95089

Mr. Brian Miller  (A)             Phone: (281) 340-6500 x130
Amphenol AssembleTech             Fax: (281) 340-6501
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Stafford, TX 77477

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Amphenol Interconnect             Fax: (607) 786-4311
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Endicott, NY 13760

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Broadcom Corp.                     Fax:                          Email: griffith at broadcom dot com
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Mr. Robert Snively  (P)           Phone: (408) 333-8135
Brocade Comm. Systems, Inc.       Fax:                          Email: rsnively at brocade dot com
1745 Technology Drive             San Jose, CA 95110

Mr. Steven Wilson  (A)            Phone: (408) 333-8128
Brocade Comm. Systems, Inc.       Fax: (408) 392-6655
San Jose, CA 95134

<table>
<thead>
<tr>
<th>Name</th>
<th>Company/Address</th>
<th>Phone</th>
<th>Fax</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Erhard Weiss</td>
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<td>49-821-804-3602</td>
<td>49-821-804-2910</td>
<td>weiss dot abg at sni dot de</td>
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<tr>
<td></td>
<td>Department: SNI PC SB ESW</td>
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<td></td>
<td>Burgermeister-Ulrich-St D-86199 Augsburg</td>
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</tr>
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<td></td>
<td>Germany</td>
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<tr>
<td>Mr. Bob Thornton</td>
<td>Fujitsu Takamisawa America</td>
<td>(408) 745-4932</td>
<td>(408) 745-4971</td>
<td>bthornto at fta dot fujitsu dot com</td>
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<td>250 E. Caribbean Dr.</td>
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<td></td>
<td>Sunnyvale, CA 94089</td>
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<tr>
<td>Mr. Nathan Hastad</td>
<td>General Dynamics</td>
<td>(952) 921-5237</td>
<td>(952) 956-5445</td>
<td>nathan dot hastad at gd-ais dot com</td>
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<td></td>
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<td></td>
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<td></td>
<td>Bloomington, MN 55431</td>
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<td>Mr. Tim Mackley</td>
<td>General Dynamics</td>
<td>(952) 921-6866</td>
<td></td>
<td>timothy dot mackley at gd-ais dot com</td>
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<td></td>
<td>8800 Queen Ave. S.</td>
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<tr>
<td>Ms. Liza Hunt</td>
<td>Global Engineering Documents</td>
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<tr>
<td></td>
<td>15 Inverness Way East</td>
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<tr>
<td></td>
<td>Englewood, CO 80112-5704</td>
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<tr>
<td>Mr. Rob Elliott</td>
<td>Hewlett Packard Co.</td>
<td>(281) 518-5037</td>
<td>(281) 518-7135</td>
<td>Elliott at hp dot com</td>
</tr>
<tr>
<td></td>
<td>MC140801</td>
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<tr>
<td></td>
<td>PO Box 692000</td>
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<td></td>
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<tr>
<td></td>
<td>Houston, TX 77269-2000</td>
<td></td>
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<tr>
<td>Dr. William Ham</td>
<td>Hewlett Packard Co.</td>
<td>(978) 828-9102</td>
<td>(978) 470-0321</td>
<td>bill_ham at ix dot netcom dot com</td>
</tr>
<tr>
<td></td>
<td>92 Wildwood Road</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Andover, MA 01810</td>
<td></td>
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<tr>
<td>Mr. Zane Daggett</td>
<td>Hitachi Cable Manchester</td>
<td>(603) 669-4347</td>
<td>(603) 669-9621</td>
<td>zdaggett at hcm dot hitachi dot com</td>
</tr>
<tr>
<td></td>
<td>900 Holt Ave.</td>
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<tr>
<td></td>
<td>Manchester, NH 03109</td>
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<tr>
<td>Mr. Mike Guzman</td>
<td>Hitachi Cable Manchester</td>
<td>(603) 669-4347</td>
<td>(603) 669-9621</td>
<td>mguzman at hcm dot hitachi dot com</td>
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<tr>
<td></td>
<td>900 Holt Ave.</td>
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