Accredited Standards Committee*
National Committee for Information Technology Standards (NCITS)

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Date: November 18, 1998
Reply to: John Lohmeyer

To: T10 Membership
From: Ralph Weber / John Lohmeyer
Subject: SCSI Working Group Meeting -- November 4, 1998
Palm Springs, CA

Agenda

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Results of Meeting

1. Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 9:00 a.m., Wednesday November 4, 1998. He thanked Larry Lamers of Adaptec for hosting the meeting.

As is customary, the people attending introduced themselves and a copy of the attendance list was circulated.

2. Approval of Agenda

The draft agenda was approved with the following additions and changes:

5.2	SAM-2 Precise Ordering [Peterson]	
5.3	FCP-2 [Snively]	
6.12	Obsolete Communications Device Type [Oetting]	
6.13	Obsolete Flag Bit [Snively]	
6.14	Prohibit Write Exclusive in Persistent Reservations for Tapes [Oetting]	

No agenda items were added during the course of the meeting.

3. Attendance and Membership

Attendance at working group meetings does not count toward minimum attendance requirements for T10 member-ship. Working group meetings are open to any person or organization directly and materially affected by T10's scope of work. The following people attended the meeting:

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         Name            S      Organization        Electronic Mail Address
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Mr. Lawrence J. Lamers P  Adaptec, Inc.            ljlamers@ieee.org
Mr. Robert Frey        O  Advansys                 bobf@advansys.com
Mr. Bill Galloway      V  BREA Technologies         billg@breatech.com
Mr. Edward Haske       P  CMD Technology           haske@cmd.com
Mr. Mark Hamel         V  Compaq Computer Co.      mark.w.hamel@compaq.com
Mr. Robert C. Elliott  P  Compaq Computer Corp.    Robert.Elliott@compaq.com
Mr. Tom Jackson        P  Exabyte Corp.            thomasj@exabyte.com
Mr. Ben-Koon Lin       P  Fujitsu (FCPA)           blin@fcpa.fujitsu.com
Mr. Marcos Barrionuevo P  Harting, Inc. of N.      Marcos.Barrionuevo@
                          America                  harting.com
Mr. George Penokie     P  IBM Corp.                gop@us.ibm.com
Mr. Dennis Moore       P  KnowledgeTek, Inc.       dmoore@ix.netcom.com
Mr. John Lohmeyer      P  LSI Logic Corp.          lohmeyer@ix.netcom.com
Mr. Steve Stefek       A# LSI Logic Corp.          steve.stefek@lsil.com
Mr. Ralph O. Weber     A# LSI Logic Corp.          roweber@acm.org
Mr. Robert Bellino     P  Madison Cable Corp.      rbellino@madisoncable.com
Mr. Charley Riegger    O  Maxtor Corp.             charles_reigger@maxtor.
                                                   com
Mr. Jay Neer           A  Molex Inc.               jneer@molex.com
Mr. Martin Ogbuokiri   O  Molex Inc.               mogbuokiri@molex.com
Mr. Chandru Sippy      V  QLogic Corp.             c_sippy@qlc.com
Mr. Mark Evans         P  Quantum Corp.            mark.evans@quantum.com
Mr. Pak Seto           V  Quantum Corp.            pseto@tdh.qntm.com
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Mr. Gene Milligan      P  Seagate Technology       Gene_Milligan@notes.
                                                   seagate.com
Mr. Gerald Houlder     A  Seagate Technology       Gerry_Houlder@notes.
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Mr. Bill Gintz         V  Seus, Inc.               wcgintz@ix.netcom.com
Mr. Dave Guss          P  Silicon Systems, Inc.    dave.guss@tus.ssi1.com
Mr. Janek Rebalski     A  Sony Electronics, Inc.   janek_rebalski@asd.sel.
                                                   sony.com
Mr. Erich Oetting      P  Storage Technology Corp. erich_oetting@stortek.com
Mr. David Peterson     O  StorageTek Network Sys.  dap@network.com
                          Grp
Mr. Robert N. Snively  P  Sun Microsystems         bob.snively@sun.com
                          Computer Co
Mr. Vit Novak          A  Sun Microsystems, Inc.   vit.novak@sun.com
Mr. Paul D. Aloisi     P  Unitrode Corporation     aloisi@unitrode.com
Mr. Donald R. Getty    A  Unitrode Corporation     gettd@unitrode.com
Mr. Liburdi Francesco  O  Wearnes Hollingsworth    liburdif@hollingsworth.
                          Corp.                    com

33 People Present

Status Key:  P   -  Principal
             A,A# -  Alternate
             O   -  Observer
             L   -  Liaison
             V   -  Visitor
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4. Physical Topics

4.1 Domain Validation (98-184r2, -228r0) [Lamers]

Larry Lamers presented a proposal to add a logical buffer concept to the READ BUFFER and WRITE BUFFER commands (98-184r2). The group discussed detecting hung bus phases and how the condition can best be recovered, including the use of time-outs in the target. The group also discussed margin testing. The complexity of the topics produced a lengthy discussion and many opportunities for further discussion. Larry noted that he would build a new proposal with a "richer" set of tools that could be useful for a wider variety of domain validation functions.

4.2 Bus Width Determination (98-236r0) [Sippy]

Chandru Sippy presented a proposal that two bits be added to the standard Inquiry data to indicate the cable currently connected to the target. Questions were raised about how the target can know for sure the cable connected to it. Chandru agreed to arrange a presentation of how the cable information can be determined.

5. Protocol Topics

5.1 SAM-2 Review [Weber]

Ralph Weber reported that he was unable to generate a revision of SAM-2 for this meeting, as such there was nothing to discuss.

5.2 SAM-2 Precise Ordering [Peterson]

Dave Peterson described a problem that arose out of the Command Reference Number (CRN) capability in FC-Tape and how that capability is to become incorporated in FCP-2. He expressed the belief that changes would be necessary in SAM-2 to reflect the capability. Bob Snively provided a review of the FCP-2 conditions related to the problem. The issue relates to precise ordering of command delivery.

The group discussed the uses of CRN and how those uses might need to be reflected in SAM-2 and FCP-2. It was agreed that control over CRN belongs in FCP-2. The group also seriously considered the additional need for a representation of CRN in SAM-2 as a capability that can be enabled or disabled separately for each command sent to the service delivery subsystem.

Ralph Weber felt that he would be unable to draft an acceptable proposal for specific changes to SAM-2. Bob Snively and Dave Peterson agreed to prepare a proposal for specific changes to SAM-2.

5.3 FCP-2 [Snively]

Bob Snively reviewed the status of development work on FCP-2, with emphasis on the specific changes between FCP and FCP-2 as listed in 97-266r4. He noted that the first draft of FCP-2 is about three-quarters complete. The group provided Bob with several corrections to the planned FCP-2 work and Bob agreed to make some requested changes.

Concerns were raised about FCP response packets. Are the length fields of the response always present? Does the Valid bit cover just the Length field in the response packet, or does it cover all the information in the response packet? Bob agreed to review and clarify these issues. Larry Lamers noted that the SBP-2 project editor should be informed about these issues.

Gene Milligan asked if the FCP-2 project should be transferred to T11. Bob felt that T11 lacks the knowledge and bandwidth to become the owner of the FCP-2 project. Gene and George Penokie expressed a strong desire to see the first draft of FCP-2 as soon as possible. Bob stated that the draft will be ready for the next T10 committee mailing.

6.   Command Set Topics

6.1 SCSI Socket Services (SSS) Rev 0 Review [Parker]

John Lohmeyer reported that Keith Parker was unable to attend this meeting. Through an e-mail message to John, Keith informed the committee that he will be attending the March meeting. Keith indicated that work on SSS will begin anew in the near future.

6.2 QErr Recovery in HAP (97-187) []

Based on the minutes of the March meeting (98-126), Ralph Weber reported that the issue in this area is a specific QErr code value, believed to be 01b, that should not be used in multi-initiator environments. Since this issue will become moot should the HAP project be dropped (see next item), no further action was taken.

6.3 High-Availability Profile (HAP) [open]

John Lohmeyer reported that no one has volunteered to edit the HAP Technical Report. He stated an intention to introduce a motion at T10 requesting that this project be withdrawn.

6.4 GET CONFIGURATION command and feature descriptions for SPC-2 (98-169 and 98-170) [Sims]

Ralph Weber reported that Rob Sims had informed him that the GET CONFIGURATION command is in MMC-2 and there will be no further efforts to add it to SPC-2.

6.5 Considerations for mode pages common to several LUNs (98-187r2) [Houlder]

Gerry Houlder briefly reviewed the history of the target-wide mode page. Bob Snively requested changes in the proposal, based on the addition of Command Reference Number controls to the mode page. This caused the group to identify concerns about the inclusion of per-LUN and per-port values in a single mode page. The group tentatively agreed to assign mode page code 18h to Fibre Channel LUN control mode page and to keep the existing assignment (19h) to the Fibre Channel Port control mode page.

6.6 Method for defining very long command blocks (98-188r2) [Houlder]

Gerry Houlder presented a specific proposal for defining long CDBs, using the 7Fh operation code. While reviewing how to implement the new CDB format in packetized protocols, changes were suggested in the proposed CDB structure. Gerry agreed to bring a revised proposal to the next committee meeting.

6.7 Persistent Reservations (98-203r9, -164r1) [Penokie/Snively]

George Penokie described the history of 98-203r8, how 98-203r5 (discussed at the last meeting) was revised several times over the past weeks to produce 98-203r8. It was noted that the information formerly contained in 98-164 has been incorporated in 98-203r8. The group reviewed 98-203r8 in detail. Many corrections were proposed and accepted.

The group unanimously recommended that T10 accept 98-203r9 (rev 8 as revised) for inclusion in SPC-2.

6.8 Changing Persistent Reserve Service Action Codes (reflector messages) [Weber]

In light of the version identification capabilities in the standard Inquiry data, Ralph Weber requested that this topic be withdrawn from consideration.

6.9 Device locks command (98-225r1) [Houlder]

Gerry Houlder presented a specific proposal for definition of a device locks command (with service action codes) for inclusion in SPC-2. Gerry gave an overview of the structure of the proposal, additions to the device model, command definitions, etc. Gerry noted that the proposal is in a preliminary draft stage and changes are antici-pated. He also accepted several comments for corrections and enhancements to the proposal.

The group discussed the assignment of a mode page code and decided that the mode page code need not be available for use by all device types. Based on this decision, several acceptable page code values were given to Gerry along with associated restrictions. Gerry agreed to choose from the page codes provided.

Gerry agreed to bring a revised proposal to the next meeting.

6.10 ASCQ for resource conflicts (98-229r0) [Penokie]

George Penokie presented a request for a new ASCQ under the SYSTEM RESOURCE FAILURE (55h) ASC. Concerns were raised about the proposed usage of the ASCQ. In response to comments from the group, the text description was changed to INSUFFICIENT RESOURCES. On a vote of 15:0:2, the group recommended that the plenary approve 98-229r0, as revised (98-229r1), in SPC-2.

6.11 Machine readable version control in SPC-2 (reflector messages) [Milligan]

Gene Milligan described the history of the version byte in the standard Inquiry data and the limitations of the mechanism. The group discussed Gene's past proposal for machine readable version information. Several suggestions were made regarding the content of such a proposal, should one be written. Gene agreed to bring a specific proposal to the next meeting.

6.12 Obsolete Communications Device Type [Oetting]

Erich Oetting led a discussion of whether the communications device type should be made obsolete in SSC. He described the concerns of the SSC letter ballot review meeting that resulted in the proposal that the communications device type be made obsolete. The group expressed the desire to review the proposal within their organizations and to make an industry-wide public announcement of the proposal on the T10 reflector.

6.13 Obsolete Flag Bit (98-241r0) [Snively]

Bob Snively presented a proposal that the Flag bit be made obsolete. John Lohmeyer asked Bob to distribute the proposal in ASCII text on the T10 reflector, and Bob took an action item to do so. Bob received tentative approval to leave the Flag bit out of FCP-2 provided he includes an editor's note indicating the tentative nature of the change.

The group agreed to make no other changes in other standards regarding the Flag bit pending an industry review of the proposal to make the Flag bit obsolete.

6.14 Prohibit Write Exclusive in Persistent Reservations for Tapes [Oetting]

The group agreed that the tape device model (in SSC) can put N/A in columns of the reservation conflicts table that do not apply to the tape device model.

7.   Other Topics

7.1   Optical Memory Card International Issues (98-151) [Smith]

Gene Milligan reported that no action is necessary at this time because Japan has not sent a revised document for review.

8.   Meeting Schedule

The next meeting of SCSI Working Group will be Wednesday, March 10, 1999 in Harrisburg, PA hosted by AMP, Inc. at a location to be determined. The meeting will begin on Wednesday morning at 9 a.m. until 7 p.m. (or until all agenda items are completed).

9.   Adjournment

The meeting was adjourned at 10:50 p.m. on Wednesday November 4, 1998.