

Accredited Standards Committee*
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Reply to: John Lohmeyer

To: T10 Membership
From: Ralph Weber and John Lohmeyer
Subject: SCSI Commands, Architecture, & Protocol Working Group Meeting -- May 15&17, 2000
Nashua, NH

Agenda

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3. Attendance and Membership
4. SCSI Architecture Model Topics
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 - 4.2 Comments on SAM multi-port model (rev 8 vs. rev 11) (99-265) [Ericson/Weber]
 - 4.3 Multi-Port Model Discussion [Penokie]
 - 4.4 Target-Controlled Congestion Relief (00-127) [Elliott]
 - 4.5 Task Aborted - SAM changes (00-229) [Binford]
 - 4.6 SAM-2 Task Identifier Readability Enhancements and Addition of Nexus to SAM-2 (00-140r1) [Weber]
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5. SCSI Protocol Topics
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 - 6.2 Adding Read/Write Attribute commands to SPC-3 (99-148) [Jerman]
 - 6.3 A detailed proposal for access control in SPC-3 (99-245, 99-278) [Hafner]
 - 6.4 SCSI Socket Services (99-251, 99-252, 99-253, 99-254, 99-255, 99-256, 99-257) [Parker]
 - 6.5 Object-Based Storage Devices (99-315) [Milligan]
 - 6.6 Corrections to EXTENDED COPY (00-211r2) [Chambliss/Weber]
 - 6.7 Assignments for Variable Length CDB Service Action Codes (00-202) [Weber]
 - 6.8 Describing AEN in the Processor Device Model (00-203) [Weber]
 - 6.9 Beyond Beyond 2TB (00-212r0) [Weber]
 - 6.10 Review of ISO comments on SPC (00-220r0) [Weber]
 - 6.11 SES 'Small' Errors (00-233) [Elliott]
 - 6.12 Asymmetrical SCSI Behavior (00-232) [Snively]
7. New Business
8. Meeting Schedule
9. Adjournment

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Results of Meeting

1. Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 1:40 p.m., Monday, May 15, 2000. He thanked Zane Daggett of Hitachi Cable Manchester 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 changes:

6.12 Asymmetrical SCSI Behavior (00-232) [Snively]

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 membership. 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:

Name	S	Organization	Electronic Mail Address
Mr. Lawrence J. Lamers	P	Adaptec, Inc.	ljlammers@ieee.org
Mr. Ron Roberts	A	Adaptec, Inc.	ljlammers@ieee.org
Mr. Charles Monia	A.	Adaptec, Inc.	cmonia@corp.adaptec.com
Mr. Bill Mable	P	Amphenol Interconnect	mableaipc@aol.com
Mr. Bill Galloway	P	BREA Technologies, Inc.	billg@breatech.com
Mr. Robert Snively	P	Brocade Communications	rsnively@brocade.com
Mr. Edward Haske	P	CMD Technology	haske@cmd.com
Mr. Robert C. Elliott	P	Compaq Computer Corp.	Rob_Elliott@compuserve.com
Mr. Tom Coughlan	V	Compaq Computer Corp.	tom.coughlan@digital.com
Mr. Carl Zeitler	V	Compaq Computer Corp.	carl.zeitler@compaq.com
Mr. Neil Wanamaker	P	Crossroads Systems, Inc.	ntw20@netcom.com
Mr. John Tyndall	A	Crossroads Systems, Inc.	jtyndall@crossroads.com
Mr. Gary S. Robinson	P	EMC	robinson_gary@emc.com
Mr. George Ericson	V	EMC	gericson@clariion.com
Mr. I. Dal Allan	P	ENDL	endlcom@acm.org
Mr. Ralph O. Weber	A	ENDL Texas	roweber@acm.org
Mr. Eugene Lew	P	Fujitsu	elew@fcpa.fujitsu.com
Mr. Stewart Wyatt	P	Hewlett Packard Co.	stewart_wyatt@hp.com
Mr. Zane Daggett	P	Hitachi Cable Manchester, Inc	zdaggett@hcm.hitachi.com
Mr. George O. Penokie	P	IBM Corp.	gop@us.ibm.com
Mr. John P. Scheible	A	IBM Corp.	Scheible@vnet.ibm.com
Dr. Jim Hafner	V	IBM Corp.	hafner@almaden.ibm.com
Mr. Paul Anderson	V	IBM Corp.	pman@us.ibm.com
Mr. David Chambliss	V	IBM Corp.	chamb@us.ibm.com
Mr. John Lohmeyer	P	LSI Logic Corp.	lohmeier@t10.org

Mr. Charles Binford	A	LSI Logic Corp.	Charles.Binford@lsil.com
Ms. Jie Fan	P	Madison Cable Corp.	jfan@madisoncable.com
Mr. Pete McLean	P	Maxtor Corp.	pete_mclean@maxtor.com
Mr. Jay Neer	P	Molex Inc.	jneer@molex.com
Mr. Edward A. Gardner	P	Ophidian Designs	eag@ophidian.com
Mr. Richard L. Romaniec	V	QLogic Corp.	r_romaniec@qlc.com
Mr. Mark Evans	P	Quantum Corp.	mark.evans@quantum.com
Mr. Gene Milligan	P	Seagate Technology	Gene_Milligan@notes.seagate.com
Mr. Gerald Houlder	A	Seagate Technology	gerry_houlder@notes.seagate.com
Mr. Jim Coomes	V	Seagate Technology	jim_coomes@notes.seagate.com
Mr. Erich Oetting	P	Storage Technology Corp.	erich_oetting@stortek.com
Mr. David Peterson	O	StorageTek Network Sys. Grp	dap@network.com
Mr. Kenneth Moe	P	Sun Microsystems, Inc.	kenneth.moe@sun.com
Mr. Paul D. Aloisi	P	Texas Instruments	Paul_Aloisi@ti.com
Mr. Donald R. Getty	A#	Texas Instruments	donald_getty@ti.com
Mr. Roger Cummings	V	Veritas Software	roger.cummings@veritas.com

41 People Present

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

4. SCSI Architecture Model Topics

4.1 SAM-2 Review [Weber]

Ralph Weber stated that no new SAM-2 material requires review at this meeting.

4.2 Comments on SAM multi-port model (rev 8 vs. rev 11) (99-265) [Ericson/Weber]

The group discussed the naming of objects in SCSI devices with multiple ports. George Penokie took information from the discussion as input to his work writing a proposal for specific SAM-2 changes in support such devices.

4.3 Multi-Port Model Discussion [Penokie]

George Penokie asked that discussion of this topic be deferred to a subsequent meeting.

4.4 Target-Controlled Congestion Relief (00-127) [Elliott]

Rob Elliott presented a proposal for targets to return queue slot usage information with other status data (00-127r1). He noted that the proposal in r1 was totally different from the proposal in r0. George Penokie expressed a preference for the r0 proposal. Others expressed the belief that the problem cannot be solved. Rob took notes for a revision of the proposal. Rob agreed to consider bringing a revised proposal the next meeting.

4.5 Task Aborted - SAM changes (00-229) [Binford]

Charles Binford presented a proposal for specific changes in SAM-2 to implement the "command cleared" concept discussed at several previous meetings. Bob Snively expressed concerns about returning the new Task Aborted status for tasks belonging to the initiator that sent the task management function causing the tasks to be aborted. Charles took that and other notes and agreed to bring a revised proposal to the next meeting.

4.6 SAM-2 Task Identifier Readability Enhancements and Addition of Nexus to SAM-2 (00-140r1) [Weber]

Ralph Weber presented a proposal whose dominant effect was reintroduction of the nexus concept in SAM-2. Several corrections and changes were noted and Ralph agreed to prepare a revised proposal for the next meeting. Ralph noted that the revised proposal will be ready for approval at the next meeting and recommended that interested parties read it carefully prior to the meeting.

4.7 SAM-2 Byte Count That's Really Buffer Size (00-213r0) [Weber]

Ralph Weber presented a proposal to rename and redefine the SAM-2 object named Command Byte Count. The group requested several changes and Ralph agreed to bring a revised proposal to the next meeting.

5. SCSI Protocol Topics

5.1 FCP-2 Letter Ballot Comments Resolution (00-150) [Snively]

Bob Snively reviewed FCP-2 letter ballot comments and proposed resolutions starting with the Seagate comment identified as 6.61 in T10/00-150r3.

The discussion of the Seagate comments identified as 6.68, 6.69, and 6.70 in T10/00-150r3 concerned whether to adopt the policy described in FCP or the policy described in PLDA (private loop direct attach) regarding when ABTS (abort sequence) is sent after target reset and similar events and whether the target or initiator sends the ABTS. In the absence of any objections, the group unanimously recommended adopting the PLDA policy in FCP-2. Bob noted that this is a substantial change between FCP and FCP-2, he also noted that the change places the full burden for sending the ABTS on the initiator. The response to these issues was that the changes being proposed by Charles Binford (see item 4.5) offer the initiator an optional mechanism to avoid them.

Bob requested that the group study issues relating to the Sun comment identified as 9.21 in T10/00-150r3 and come to the next Joint T10/T11.3 working group meeting (in June) prepared to recommend a resolution.

At the end of the letter ballot comments review, Bob stated that all technical comments have been discussed at least once. He noted that several technical comments have yet to be resolved. For the June meeting, Bob agreed to prepare 00-150r4 containing the results of this meeting. He noted that work on an FCP-2 revision 5 will be started but that it will not be available for discussion at the June Joint T10/T11.3 working group meeting.

5.2 SVP Review [Gardner]

Ed Gardner presented a series of issues with mapping SVP objects to SAM-2 objects (00-240r0). The group discussed these issues but did not reach a conclusion. Ed reviewed the content of the latest SVP draft.

5.3 Margin Control (99-264) [Lamers]

George Penokie reported on plans to cover this topic in the SDV (domain validation) working group and raised concerns that it might need a wider review.

5.4 Flow Control & Read Streaming (00-142) [Lamers]

This topic was covered under agenda item 5.6.2 in the Parallel SCSI Working Group meeting (minutes in 00-205), where it was recommended for inclusion in SPI-4.

5.5 PPR Message Enhancements (99-283) [Lamers]

This topic was covered under agenda item 5.6.3 in the Parallel SCSI Working Group meeting (minutes in 00-205), where further work on the subject was dropped.

6. Command Set Topics

6.1 Device locks command (98-225) [Houder]

Gerry Houder reported on the status of the device locks proposal. He noted that development of a model section for the proposal is proceeding slowly. John asked Gerry to obtain a 00 document number for the next revision of the device locks proposal and Gerry agreed.

6.2 Adding Read/Write Attribute commands to SPC-3 (99-148) [Jerman]

Steve Jerman moved that 99-148r7 be recommended for inclusion in SPC-3, SSC-2, and SMC-2. Gerry Houder seconded the motion. The motion passed on a vote of 7:0:3.

6.3 A detailed proposal for access control in SPC-3 (99-245, 99-278) [Hafner]

Jim Hafner presented a review of the changes in the access controls proposal since 99-245r5 (see 99-278r4). He noted that, as the result of two teleconferences since the last meeting, the proposal is now at 99-245r8. Roger Cummings and Charles Binford asked for changes. Jim Hafner moved that 99-245r9 (r8 as revised) be recommended for inclusion in SPC-3, SAM-2, FCP-2, SPI-4, SBC-2, MMC-3, and a future version of RBC. Rob Elliott seconded the motion. The motion passed on a vote of 9:0:4.

6.4 SCSI Socket Services (99-251, 99-252, 99-253, 99-254, 99-255, 99-256, 99-257) [Parker]

The group agreed to remove this item from future agendas. Charles Monia asked if the documents listed in the agenda item were available on the web site and John Lohmeyer responded that the document numbers were requested but no documents were ever provided.

6.5 Object-Based Storage Devices (99-315) [Milligan]

Gene Milligan reported that 99-315r1 was distributed in early April. Resolutions for the HP comments were included in r1. Gene stated that an additional review and revision of the proposal/draft will be made to discover and correct formatting problems. Gene moved that 99-315r1 be recommended for acceptance as the working document for project 1355-D. Erich Oetting seconded the motion. The motion passed on a vote 11:0:0.

George Penokie asked that a OSD review meeting be scheduled for the Thursday afternoon of the next meeting week. Gene agreed and the host agreed to attempt to schedule a room.

6.6 Corrections to EXTENDED COPY (00-211r2) [Chambliss/Weber]

David Chambliss presented a review of the corrections proposed for the EXTENDED COPY command (00-241r0). Ed Gardner moved that 00-211r2 be recommended for inclusion in SPC-2. David Chambliss seconded the motion. The motion passed on a vote of 14:0:1.

6.7 Assignments for Variable Length CDB Service Action Codes (00-202) [Weber]

Ralph Weber reviewed the current assignment of service action code ranges in SPC-2 Annex C. The group requested changes in the assignments including the provision for a vendor-specific code range. Ralph agreed to make the changes. In the absence of any objections, the SPC-2 editor was authorized to make the non-technical changes in SPC-2 (the tables in question are in an informative annex).

6.8 Describing AEN in the Processor Device Model (00-203) [Weber]

Ralph Weber presented a proposal to more carefully define AEN and its relationship to AER in SPC-2. The group asked that the proposal be withdrawn and Ralph agreed.

6.9 Beyond Beyond 2TB (00-212r0) [Weber]

Ralph Weber presented a proposal to enhance the MODE SENSE (10) command to notify the target whether the initiator accepts parameter data with the LONGLBA bit set. The group requested changes in the proposal and Ralph agreed to prepare a new revision. Ralph Weber moved that 00-212r1 (r0 as modified) be recommended for inclusion in SPC-2. George Penokie seconded the motion. The motion passed on a vote of 14:0:0.

6.10 Review of ISO comments on SPC (00-220r0) [Weber]

Ralph Weber reviewed comments from the ISO review of SPC as they apply to SPC-2. All of the comments still requiring changes in SPC-2 were agreed to be editorial. In the absence of any objections, the SPC-2 editor was authorized to make the editorial changes described as needed in SPC-2 by 00-220r0. Ralph agreed to prepare a revision 1 of 00-220 showing the actual changes made.

6.11 SES 'Small' Errors (00-233) [Elliott]

Rob Elliott reviewed several errors in SES (00-233r0). The group discussed how to document the errors and corrections and agreed to prepare an amendment and to correct the problems during the ISO processing of SES. Rob agreed to be the editor for the amendment.

6.12 Asymmetrical SCSI Behavior (00-232) [Snively]

Bob Snively presented a proposal to add support for multiple path asymmetric access to logical units (00-232r0). The group requested several changes and Bob agreed to bring a new revision to the next meeting.

7. New Business

No new business was brought before this meeting.

8. Meeting Schedule

The next meeting of the SCSI Commands, Architecture, and Protocols Working Group will be Monday, July 10, 2000 from 1:30 p.m. to 6 p.m., then reconvening Wednesday, July 12, 2000 from 9 a.m. to 7 p.m. (or until all agenda items are completed). The meeting will be at the Antlers Adam's Mark Hotel in Colorado Springs, CO (719) 473-5600, hosted by LSI Logic Corp.

9. Adjournment

The meeting was adjourned at 7:00 p.m. on Wednesday May 17, 2000.