

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 -- July 12, 2006
Colorado Springs, CO

Agenda

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Results of Meeting

1. Opening Remarks

John Lohmeyer called the meeting to order at 9:10 a.m. Wednesday, July 12, 2006. He thanked LSI Logic Corp. for hosting the meeting. As usual, the people present introduced themselves.

2. Approval of Agenda

The draft agenda was approved with no additions or changes.

No items were added/revised 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
Mr. Chris Fore	P	Adaptec, Inc.
Mr. James A. Lott, Jr.	P	Dallas Semiconductor
Mr. Gideon Avida	P	Decru
Mr. Kevin Marks	P	Dell, Inc.
Mr. Gary S. Robinson	P	EMC Corp.
Mr. Robert H. Nixon	P	Emulex
Mr. Ralph O. Weber	P	ENDL Texas
Mr. Walt Hubis	V	Engenio Information Tech.
Mr. Mike Fitzpatrick	P	Fujitsu
Mr. Michael Banther	V	Hewlett Packard Co.
Mr. Rob Elliott	P	Hewlett Packard Co.
Mr. Steven Fairchild	V	Hewlett Packard Co.
Mr. Dan Colegrove	P	Hitachi Global Storage Tech.
Mr. Kevin Butt	A	IBM Corp.
Mr. George O. Penokie	P	IBM Corp.
Mr. Schelto van Doorn	V	Intel Corp
Mr. Robert Sheffield	P	Intel Corp.
Mr. Dennis Moore	P	KnowledgeTek, Inc.
Mr. John Geldman	P	Lexar Media, Inc.
Mr. John Lohmeyer	P	LSI Logic Corp.
Mr. Avraham Shimor	P	M-Systems
Mr. David Geddes	P	Marvell Semiconductor, Inc.
Mr. David Peterson	P	McDATA
Mr. Faisal Faruqui	AV	NeoScale Systems Inc.
Mr. Landon Noll	AV	NeoScale Systems Inc.
Mr. Frederick Knight	A	Network Appliance
Mr. Mark Overby	P	Nvidia Corp.
Mr. Edward A. Gardner	V	Ophidian Designs
Mr. Paul Entzel	P	Quantum Corp.
Dr. Paul Suhler	A	Quantum Corp.
Mr. Gerald Houlder	P	Seagate Technology
Mr. Gary D. Moorhead	V	Seagate Technology
Mr. William Martin	P	Sierra Logic, Inc.
Mr. Stephen Finch	AV	STMicroelectronics
Mr. Vit Novak	P	Sun Microsystems, Inc.
Mr. Curtis Stevens	P	Western Digital
Mr. Jeff Williams	P	Xiotech Corp.
Mr. Rich Ramos	P	Xyratex

38 People Present

Status Key: P - Principal
 A,A# - Alternate
 AV - Advisory Member
 L - Liaison
 V - Visitor

4. SCSI Architecture Model Topics

4.1 Making linked commands obsolete (no document) [Evans]

This topic was covered under agenda item 4.2.

4.2 SAM-4, et al.: making linked commands obsolete (06-259) [Evans]

Mark Evans was unable to attend and Gerry Houlder volunteered to assume ownership of the proposal.

The group reviewed the proposal and provided suggested improvements which Gerry agreed to incorporate in the next revision.

Ralph Weber moved that 06-259r1 (r0 as revised) be 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. John Lohmeyer seconded the motion. In the absence of objections, the motion passed unanimously.

4.3 SAM-4 SPC-4 et al Multiple service delivery subsystem editorial tweaks (06-323) [Elliott]

Rob Elliott presented a proposal to change 'the service delivery subsystem' to 'a service delivery subsystem' in several draft standards (06-323r0). George Penokie raised concerns about there being only one service delivery subsystem in a domain and Rob resolved them.

The group requested several minor changes and Rob agreed to prepare a new revision.

Rob Elliott moved that 06-323r1 (r0 as modified) be recommended for inclusion in SAM-4, SPC-4, SBC-3, SSC-3, SMC-3, SES-2, ADC-2, SAS-2, and FCP-4. Bob Nixon seconded the motion. In the absence of objections, the motion passed unanimously.

4.4 SAM-4 Response Fence for protocol services (06-341r0) [Elliott]

Rob Elliott presented a proposal to add a 'Response Fence' parameter to the SAM-4 function prototypes that initiate Transport Layer actions (06-314r0). George Penokie questioned how well the details of the proposal fit the current SCSI Architecture Model.

Rob Elliott suggested that 04-072r0 might be a more palatable solution and George concurred with some caveats. Rob agreed to prepare a new revision of 04-072r0 for consideration at the next meeting.

5. Command Set Topics

5.1 SCSI Primary Commands Proposals

5.1.1 SPC-4: Log Command Corrections (05-232) [Penokie]

George Penokie asked that discussion of this topic be deferred to the next meeting.

5.1.2 SPC-4: Self Describing Command Timeouts (05-284) [Butt]

Kevin Butt asked that discussion of this topic be deferred to the next meeting.

5.1.3 SPC-4 Wrapping and saturating counter definitions (06-175) [Elliott]

Rob Elliott presented a proposal to clarify how counters are processed when they reach their maximum values (06-175r1). One minor editorial correction was requested and Rob agreed to prepare a new revision.

Rob Elliott moved that 06-175r2 (r1 as modified) be recommended for inclusion in SPC-4. Vit Novak seconded the motion. In the absence of objections, the motion passed unanimously.

5.1.4 SPC-4 Peripheral device informational identifier (06-221) [Elliott]

Rob Elliott presented a proposal to add administrative identification information to the SET/REPORT DEVICE IDENTIFIER commands (06-221r1). The group requested several changes including changes to the command name. Rob agreed to prepare a new revision of the proposal for consideration at the next meeting.

5.1.5 SPC-4 REQUEST SENSE parameter data clarifications (06-264) [Elliott]

Rob Elliott presented a proposal to clarify REQUEST SENSE command processing in various error cases (06-264r1). The group requested several editorial changes and Rob agreed to prepare a new revision of the proposal.

Rob Elliott moved that 06-264r2 (r1 as modified) be recommended for inclusion in SPC-4. Ralph Weber seconded the motion. In the absence of objections, the motion passed unanimously.

5.1.6 SPC-4 Fix persistence of SET DEVICE IDENTIFIER (06-278) [Entzel]

Paul Entzel presented a proposal to clearly specify that information stored by the SET DEVICE IDENTIFIER command persist across all types of resets, power loss, etc. (06-278r0). Paul Entzel moved that 06-278r0 be recommended for inclusion in SPC-4. Gerry Houlder seconded the motion. In the absence of objections, the motion passed unanimously.

5.1.7 SPC-4 SBC-3 REQUEST SENSE and Stopped power condition (06-274) [Elliott]

Rob Elliott presented a proposal to clarify responses returned by the REQUEST SENSE command when a drive is in the stopped power condition (06-274r0). The group requested substantive changes in the proposal and Rob agreed to prepare a new revision.

Rob Elliott moved that 06-274r1 (r0 as modified) be recommended for inclusion in SPC-4 and SBC-3. Kevin Marks seconded the motion. The motion passed 10:1:10.

5.1.8 SPC-4 WRITE BUFFER clarifications (06-282) [Elliott]

Rob Elliott presented a proposal to clarify when downloaded microcode takes effect (06-282r0). He noted that the proposal included several other editorial changes. Several modified descriptions generated significant confusion in the group. Among other suggestions, Bob Nixon proposed writing a model clause for microcode download as a way to better clarify the microcode download behavior.

Rob collected dozens of other suggestions for improving the proposal. He promised to prepare a revised proposal for consideration at the next meeting.

5.1.9 SPC-4 Persistent Reservations correction (06-298) [Weber]

Ralph Weber presented a proposal to make the SPEC_I_PT bit definition match the persistent reservations model (06-298r0). Ralph Weber moved that 06-298r0 be recommended for inclusion in SPC-4. Bob Nixon seconded the motion. In the absence of objections, the motion passed unanimously.

5.1.10 SPC-4 Statistics logging for FUA and FUA_NV (06-320) [Elliott]

Rob Elliott presented a proposal to collect separate logging of commands with the FUA and FUA_NV bits set (06-320r0). The group requested that the new fields be placed in a new, optional log parameter and Rob agreed to modify the proposal.

Rob Elliott moved that 06-320r1 (r0 as modified) be recommended for inclusion in SPC-4. Mark Overby seconded the motion. The motion passed 7:0:16.

5.1.11 SPC-4 Statistics and Performance log pages command cleanup (06-321) [Elliott]

Rob Elliott presented a proposal to clarify several issues with the Statistics and Performance log pages (06-321r0). The group questioned the addition of WRITE SAME to the list of write commands covered by the log page. The handling of the XOR commands could not be fully resolved and George Penokie threatened to invoke the two-week rule when the proposal was modified to remove the XDREAD and XDWRITE commands from the current list.

Rob Elliott moved that 06-321r1 (r0 as modified) be recommended for inclusion in SPC-4. Gerry Houlder seconded the motion. The motion passed 7:0:16.

5.1.12 SPC-4: New ASC/ASCQ for SAT queue cleared condition (06-325) [Overby]

Mark Overby presented a proposal requesting the assignment of an additional sense code for use by SAT (06-325r0). Mark Overby moved that 06-325r0 be recommended for inclusion in SPC-4. Bob Sheffield seconded the motion. In the absence of objections, the motion passed unanimously.

5.1.13 Statistics Group Number inconsistencies in SPC-4, SSC-3, and MMC-5 (06-337) [Weber]

Ralph Weber presented a proposal to remove three commands from the Statistics and Performance log page list of read commands (06-337r0). Ralph Weber moved that 06-337r0 be recommended for inclusion in SPC-4. Rob Elliott seconded the motion. In the absence of objections, the motion passed unanimously.

5.2 SCSI Block Commands Proposals

5.2.1 SBC-3 Physical blocks (06-034) [Elliott]

Rob Elliott presented a proposal to add reporting actual sector size and managing such information using the FORMAT UNIT command, READ CAPACITY command, and related aspects of SBC-3 (06-034r4). The group requested the addition of figures showing the effects of the LBA To Be Aligned values. Several other changes were requested and Rob agreed to prepare a new revision of the proposal.

Rob Elliott moved that 06-034r5 (r4 as revised) be recommended for inclusion in SBC-3. Curtis Stevens seconded the motion. The motion passed 5:4:12.

5.3 SCSI Enclosure Services Proposals

No SES-2 proposals were presented to the group.

5.4 Other Proposals

No other proposals were presented to the group.

6. SCSI Protocol Topics

No SCSI Protocol topics were presented to the group.

7. Old Business

There was no old business.

8. New Business

There was no new business.

9. Review of Working Drafts

No requests were made to review working drafts at this meeting.

10. Review of Recommendations to the Plenary

Ralph Weber noted that the following recommendations have been made to the T10 plenary:

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]

For inclusion in SBC-3:

- 06-034r5 (Physical blocks) [Elliott]

For inclusion in SPC-4 and SBC-3:

- 06-274r1 (REQUEST SENSE and Stopped power condition) [Elliott]

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:

- 06-259r1 (Making linked commands obsolete) [Evans/Houlder/Weber]

For inclusion in SAM-4, SPC-4, SBC-3, SSC-3, SMC-3, SES-2, ADC-2, SAS-2, and FCP-4:

- 06-323r1 (Multiple service delivery subsystem editorial tweaks) [Elliott]

11. Meeting Schedule

The next meeting of the SCSI Commands, Architecture, and Protocols Working Group will be Wednesday, September 14, 2006 from 9 a.m. to 8 p.m. (or until all agenda items are completed). The meeting will be in Nashua, NH at the Crowne Plaza hotel (1-603-886-1200 Reservations: www.crowneplazanashua.com Group Code: HCM) hosted by Hitachi Cable Manchester.

12. Adjournment

The meeting was adjourned at 4:35 p.m. on Wednesday July 12, 2006.