

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 -- September 9-10, 2003
Seattle, WA

Agenda

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 - 5.5 PERSISTENT RESERVE OUT SPEC_I_PT additional parameter data (03-210) [Weber]
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 - 5.7 SPC-3: New Inquiry VPD Page - Management Network Address (03-183) [Binford]
 - 5.8 MSC Presentation (03-242) [Penokie]
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 - 5.12 SES-2 Enclosure element status page change for SATAII device/slot correspondence (03-284) [Marks]
 - 5.13 Per-Command Priority Tagging (03-302) [Penokie]
 - 5.14 ADT Protocol Identifier (03-303) [Banther]
 - 5.15 Additional Sense Codes for OSD r08 (03-299) [Weber]
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6. SCSI Protocol Topics
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 - 7.1 End-to-End Data Protection Proposal (03-110, 03-111) [Houlder]
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 - 7.3 End-to-End Error Cases (03-207) [Penokie]
 - 7.4 End-to-End Data Protection justification (03-224) [Holt]
 - 7.5 16-bit CRC polynomial selection (03-290) [Thaler]
 - 7.6 Architecture for End to End Data Protection (03-291) [Snively]
 - 7.7 SBC, 32 Byte Commands for End-to-End Data Protection (03-307) [Coomes]
 - 7.8 End-to-End Data Protection Proposal - Straw Horse for 03-111r1 (03-310) [Holt]
 - 7.9 SBC Default data protection block (03-309) [Coomes]

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- 7.10 SBC/SPC ASC/ASCQ for Protection Information Read Error (03-308) [Coomes]
- 8. Old Business
- 9. New Business
- 10. Review of Documents
 - 10.1 SRP-2 Review (SRP-2) [Simpson]
 - 10.2 OSD Review (OSD) [Weber]
- 11. Review of Recommendations to the Plenary
- 12. Meeting Schedule
- 13. Adjournment

Results of Meeting

1. Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 1:30 p.m., Tuesday September 9, 2003. He thanked Rob Haydt of Microsoft Corp. 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 no additions or changes.

The following agenda items were added/revised during the course of the meeting:

- 7.10 SBC/SPC ASC/ASCQ for Protection Information Read Error (03-308) [Coomes]
- 10.2 OSD Review (OSD) [Weber]

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. Walter Rassbach	V		rassbach@nilenet.com
Mr. Ron Roberts	P	Adaptec, Inc.	rkr Roberts@aol.com
Mr. Tim Symons	A	Adaptec, Inc.	Timothy_Symons@adaptec.com
Ms. Pat Thaler	P	Agilent Technologies	pat_thaler@agilent.com
Mr. Edward McClanahan	V	Brocade Comm	edmc@brocade.com
Mr. Robert Griswold	P	Crossroads Systems, Inc.	rgriswold@crossroads.com
Mr. Kevin Marks	P	Dell, Inc.	kevin_marks@dell.com
Mr. David Black	A	EMC Corp.	black_david@emc.com
Mr. Robert H. Nixon	P	Emulex	bob.nixon@emulex.com
Mr. Ralph O. Weber	P	ENDL Texas	roweber@acm.org
Mr. Mike Fitzpatrick	P	Fujitsu	mfitzpatrick@fcpa.fujitsu.com
Mr. Michael Banther	V	Hewlett Packard Co.	michael_banther@hp.com
Mr. Rob Elliott	P	Hewlett Packard Co.	Elliott@hp.com

Mr. Dan Colegrove	P	Hitachi Global Storage Tech.	daniel.colegrove@hgst.com
Mr. George O. Penokie	P	IBM / Tivoli Systems	gop@us.ibm.com
Mr. Kevin Butt	AV	IBM Corp.	kdbutt@us.ibm.com
Mr. Robert Sheffield	A	Intel Corp.	robert.l.sheffield@intel.com
Mr. Cris Simpson	P	Intel Corp.	cris.simpson@intel.com
Mr. David Allen	V	LSI Logic Corp.	david.allen@lsil.com
Mr. Keith Holt	V	LSI Logic Corp.	keith.holt@lsil.com
Mr. Steve Johnson	V	LSI Logic Corp.	sjohnson@lsil.com
Mr. John Lohmeyer	P	LSI Logic Corp.	lohmeier@t10.org
Mr. Mark Evans	P	Maxtor Corp.	mark_evans@maxtor.com
Mr. Craig W. Carlson	A#	QLogic Corp.	craig.carlson@qlogic.com
Mr. Paul Entzel	P	Quantum Corp.	paul.entzel@quantum.com
Mr. David Peterson	P	SBS Technologies	dap@sbs.com
Mr. Jim Coomes	A	Seagate Technology	jim.coomes@seagate.com
Mr. Gerald Houlder	P	Seagate Technology	gerry.houlder@seagate.com
Mr. Gary D. Moorhead	V	Seagate Technology	gary.moorhead@seagate.com
Dr. Paul Suhler	V	Seagate Technology	Paul.A.Suhler@certance.com
Mr. Erich Oetting	P	Storage Technology Corp.	erich_oetting@stortek.com
Mr. Charles Binford	A	Sun Microsystems, Inc.	Charles.Binford@sun.com
Mr. Vit Novak	P	Sun Microsystems, Inc.	vit.novak@sun.com
Mr. Ron Mathews	P	UNISYS Corporation	ronald.mathews@unisys.com
Mr. Roger Cummings	P	Veritas Software	roger.cummings@veritas.com
Mr. Kenneth Hirata	P	Vixel Corp.	Ken.Hirata@Vixel.com

36 People Present

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

4. SCSI Architecture Model Topics

4.1 SAM-3 SPC-3 SAS FCP-3 SRP-2 Device names and VPD data (02-419) [Penokie]

George Penokie presented a proposal to add SCSI Device Names in all active SCSI standards (02-419r5). The group agreed to allow one binary format SCSI Device Name for each transport protocol plus one string format SCSI Device Name.

Because of the large number of needed changes, George agreed to prepare a new revision of the proposal for consideration at the next meeting.

4.2 Optional INQUIRY command processing before entering task set (03-243) [Penokie]

George Penokie presented a proposal to allow processing of INQUIRY and similar commands that might otherwise be blocked by tasks with the Ordered task attribute (03-243r1). The group requested changes and George agreed to prepare a new revision.

George Penokie moved that 03-243r2 (r1 as modified) be recommended for inclusion in SAM-3, SPC-3 and SBC-2. Dave Peterson seconded the motion. The motion passed 7:2:8.

4.3 SAM-3, new Terminate Data Transfer transport protocol service (03-244) [Evans]

Mark Evans presented a proposal to add transport protocol services for terminating port command processing and terminating port data transfer processing (03-244r1).

Rob Elliott expressed concerns about mechanisms other than task management functions that result in a need for tasks being cleared from initiator ports and the group proposed a modification to the proposal to address that concern. Mark agreed to prepare a new revision of the proposal.

Mark Evans moved that 03-244r2 (r1 as modified) be recommended for inclusion in SAM-3. Ron Roberts seconded the motion. The motion passed 8:1:5.

4.4 SAM-3 SPC-3 Obsolete untagged tasks (03-271) [Elliott]

Rob Elliott presented a proposal to make untagged tasks obsolete (03-271r0).

Kevin Butt expressed concerns about the effects of the proposal on tape devices, where initiators use mostly untagged tasks.

It was noted that the changes in the definition of basic queuing need to be reviewed by Peter Johansson.

The group requested several changes and Rob agreed to revise the proposal for consideration at the next meeting.

5. Command Set Topics

5.1 Ordered SCSI proposal (02-283) [Peterson]

Dave Peterson asked that discussion of this topic be deferred to the next meeting.

5.2 Persistent Reserve Out Functionality for Reserve/Release Replacement (02-141) [Peterson]

Dave Peterson asked that discussion of this topic be deferred to the next meeting.

5.3 Two persistent Reservations Problems - Update & Decision Required (03-231, 03-232, 03-233) [Cummings]

Roger Cummings presented a review of the proposals 03-231r0, 03-232r0, and 03-233r0. (03-321r0 contains the presentation.)

Roger led the group in a detailed review of 03-232r0. The group requested several changes and Roger agreed to prepare a new revision for consideration at the next meeting.

Roger presented a proposal for a Move Persistent Reservations function (03-233r0). Rob Elliott suggested an alternate method and agreed to work with Roger to develop a specific proposal.

5.4 Only if Reserved (OIR) Proposal (03-289) [Cummings]

Roger Cummings presented a proposal to add a Control mode page bit to restrict commands to executing when a reservation is in place (03-289r0). The group requested changes and Roger agreed to prepare a new revision for consideration at the next meeting.

5.5 PERSISTENT RESERVE OUT SPEC_I_PT additional parameter data (03-210) [Weber]

Ralph Weber presented a proposal to address inconsistent usage of TransportIDs by the PERSISTENT RESERVE OUT command (03-210r2). The group requested that the byte number in the last byte of the structures be corrected and Ralph agreed to prepare a new revision.

Ralph Weber moved that 03-210r3 (r2 as modified) be recommended for inclusion in SPC-3. Cris Simpson seconded the motion. In the absence of any objections, the motion passed unanimously.

5.6 RBC Defect Report (03-021) (RBC-A) [Atkinson, Roberts]

John Lohmeyer reported that the RBC amendment is in first Public Review closing on 29 September. He explained that if no Public Review comments are received, the amendment probably will be published in November.

5.7 SPC-3: New Inquiry VPD Page - Management Network Address (03-183) [Binford]

Charles Binford presented a proposal to add a VPD page containing network address information for management applications (03-183r2). The group requested several changes and Charles agreed to prepare a new revision for consideration at the next meeting.

David Black reported that a proposal to define an SNMP URL (<http://www.ietf.org/internet-drafts/draft-black-snmplib-00.txt>) is working its way through the IETF development and approval process.

5.8 MSC Presentation (03-242) [Penokie]

George Penokie reported no change in the status of MSC. He noted that the project will be cancelled in November unless proposals are received before then.

5.9 Queue algorithm modifier default [Weber]

Ralph Weber asked that discussion of this topic be removed from this and future agendas.

5.10 SPC-3 Queue Algorithm Modifier default value (03-257) [Elliott]

Rob Elliott presented a proposal to eliminate specification of the default for the queue algorithm modifier in the Control mode page (03-257r0).

Rob Elliott moved that 03-257r0 be recommended for inclusion in SPC-3. Dave Peterson second the motion. The motion passed 11:0:2.

5.11 Obsolete the Control mode page Disable queuing bit (03-254) [Weber]

Ralph Weber presented a proposal to make the Disable queuing bit obsolete in the Control mode page (03-254r0). The group discussed how the bit might be redefined to be consistent with SAM-3 but found no acceptable definition.

Ralph Weber moved that 03-254r0 be recommended for inclusion in SPC-3. Gerry Houlder seconded the motion. In the absence of any objections, the motion passed unanimously.

5.12 SES-2 Enclosure element status page change for SATAII device/slot correspondence (03-284) [Marks]

Kevin Marks presented a proposal enhance the SES-2 element status page to identify SATA II support (03-284r0).

Rob Elliott suggested the use of a protocol-specific device element status page and Kevin agreed to prepare a revised proposal in cooperation with Rob for consideration at the next meeting.

5.13 Per-Command Priority Tagging (03-302) [Penokie]

George Penokie presented a proposal to add command priorities to SBC-2 commands (03-302r0). The group requested numerous changes and George agreed to prepare a new revision of the proposal.

5.14 ADT Protocol Identifier (03-303) [Banther]

Michael Banther presented a request for the assignment of a protocol identifier value for ADT (03-303r0).

Michael Banther moved that 03-303r0 be recommended for inclusion in SPC-3. Paul Entzel seconded the motion. In the absence of any objections, the motion passed unanimously.

5.15 Additional Sense Codes for OSD r08 (03-299) [Weber]

Ralph Weber presented a proposal to define new additional sense codes for OSD r08 and add OSD to the additional sense codes tables.

Ralph Weber moved that 03-299r0 be recommended for inclusion in SPC-3. Cris Simpson seconded the motion. In the absence of any objections, the motion passed unanimously.

5.16 SPC-3 Mode Page Policy mode page (03-316) [Elliott]

Rob Elliott presented a proposal to define a way to inform application clients of the mode page sharing policy (03-316r0). Bob Nixon proposed defining a wildcard so that the information could be presented as a common case with exceptions. George Penokie suggested that the information be presented in a VPD page because it should not be changeable.

Rob agreed to prepare a revised proposal for consideration at the next meeting.

6. SCSI Protocol Topics

No SCSI protocol topics were brought to the group.

7. End-to-End Data Protection Topics

7.1 End-to-End Data Protection Proposal (03-110, 03-111) [Houlder]

Gerry Houlder asked that this topic be deferred to the next meeting.

7.2 Simplified End-to-End Data Protection (03-176) [Penokie]

George Penokie led the group in a review of the latest simplified end-to-end data protection proposal (03-176r5).

Pat Thaler moved that the data block application tag not be covered by the CRC. Walter Raussbach seconded the motion.

Craig Carlson moved to add a requirement that the DATA BLOCK APPLICATION TAG field be moved to after the DATA BLOCK GUARD field. George Penokie seconded the motion to amend.

The motion to amend passed 9:3:10. The amended motion passed 14:0:10.

George agreed to modify the proposal based on the results of the amended motion.

The group proposed numerous other corrections and changes in the proposal.

George took a straw poll on the value that the initiator should put in the DATA BLOCK APPLICATION TAG field when the target owns the DATA BLOCK APPLICATION TAG field. The straw poll favored specifying 0 and the vote count was 6:1.

George agreed to prepare a new revision for consideration at the next meeting.

7.3 End-to-End Error Cases (03-207) [Penokie]

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

7.4 End-to-End Data Protection justification (03-224) [Holt]

Keith Holt asked that discussion of this topic be deferred to the next meeting.

7.5 16-bit CRC polynomial selection (03-290) [Thaler]

Pat Thaler noted that the concepts in 03-290r0 have been incorporated in 03-176r5. Therefore, she asked that discussion of this topic be removed from future agendas.

7.6 Architecture for End to End Data Protection (03-291) [Snively]

Ed McClanahan presented 03-291 for Bob Snively who was unable to attend.

Ed presented an overview of end-to-end protection requirements (03-291r0).

One requirement, that the data block reference tag not be a derivative of the LBA, would be met by the proposal identified in item 7.1.

7.7 SBC, 32 Byte Commands for End-to-End Data Protection (03-307) [Coomes]

Jim Coomes presented a proposal detailing the changes from 03-176r4 needed to support application specified data block reference tag values (03-307r0).

The group requested several changes in the proposal and Jim agreed to prepare a new revision for consideration at the next meeting.

7.8 End-to-End Data Protection Proposal - Straw Horse for 03-111r1 (03-310) [Holt]

Keith Holt presented the concepts for an end-to-end data protection proposal that is a replacement for 03-111r0 (03-310r0). He noted that the new proposal probably would be identified as 03-111r1.

The group discussed how to resolve the differences between the 03-176 (see item 7.2) and 03-111 regarding the data integrity field ordering. No widely agreeable procedure for resolving the issue was identified.

7.9 SBC Default data protection block (03-309) [Coomes]

Jim Coomes presented a proposal to specify the contents of data protection data during format and legacy write operations (03-309r0). The proposal was written in the form of a modification to 03-176r4.

Jim asked for a straw poll for all those in favor of pursuing a default data protection field. The poll favored continuing work on the proposal 6:0. Jim agreed to bring a revised proposal to the next meeting.

7.10 SBC/SPC ASC/ASCQ for Protection Information Read Error (03-308) [Coomes]

Jim Coomes presented a proposal requesting the assignment of a specific additional sense code for information protection errors detected during reads (03-308r0).

The group requested changes in the proposal and Jim agreed to prepare a new revision for consideration at the next meeting.

8. Old Business

All old business was covered under specific agenda items.

9. New Business

There was no new business.

10. Review of Documents

10.1 SRP-2 Review (SRP-2) [Simpson]

Cris Simpson requested that reviewing SRP-2 be deferred to the next meeting.

10.2 OSD Review (OSD) [Weber]

Ralph Weber announced that OSD is preparing to request a Letter Ballot on forwarding after the November meeting week.

It was agreed to have a 30 to 45 minute presentation on OSD during the November CAP meeting and an OSD editing meeting on Friday of the November meeting week.

11. Review of Recommendations to the Plenary

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

For inclusion in SAM-3, SPC-3, and SBC-2:

Optional INQUIRY command processing before entering task set (03-243r2) [Penokie] {r1 as modified, 7:2:8}

For inclusion in SAM-3:

SAM-3, new Terminate Data Transfer transport protocol service (03-244r2) [Evans] {r1 as modified, 8:1:5}

For inclusion in SPC-3:

ADT Protocol Identifier (03-303r0) [Banther] {unanimous}

PERSISTENT RESERVE OUT SPEC_I_PT additional parameter data (03-210r3) [Weber] {r2 as modified, unanimous}

SPC-3 Queue Algorithm Modifier default value (03-257r0) [Elliott] {11:0:2}

Obsolete the Control mode page Disable queuing bit (03-254r0) [Weber] {unanimous}

Additional Sense Codes for OSD r08 (03-299r0) [Weber] {unanimous}

12. Meeting Schedule

The next meeting of the SCSI Commands, Architecture, and Protocols Working Group will be Tuesday, November 4, 2003 commencing at 1:30 p.m. and continuing Wednesday, November 5, 2003 from 9 a.m. to 7 p.m. (or until all agenda items are completed). The meeting will be in Austin, TX at the Driskill Hotel (512-474-5911), hosted by Crossroad Systems.

13. Adjournment

The meeting was adjourned at 6:00 p.m. on Wednesday September 10, 2003.