

Accredited Standards Committee*
InterNational Committee for Information Technology Standards (INCITS)

Doc. No.: T10/03-047r0

Date: January 16, 2003

Reply to: John Lohmeyer

To: T10 Membership
From: Ralph Weber and John Lohmeyer
Subject: SCSI Commands, Architecture, & Protocol Working Group Meeting -- January 15, 2003
Portland, OR

Agenda

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3. Attendance and Membership
4. SCSI Architecture Model Topics
 - 4.1 SAM-3 Data-In Size and Sense Data Size for Execute Command (02-404) [Elliott]
 - 4.2 SAM-3 SPC-3 Maximum and first burst size and protocol services (02-403) [Elliott]
 - 4.3 SAM-3, SPC-3, and SBC power conditions proposal (02-464) [Evans]
 - 4.4 SAM-3 SPC-3 SAS FCP-3 SRP-2 Device names and VPD data (02-419) [Elliott]
 - 4.5 SAM-3 Hard reset and multiple port devices (02-473) [Elliott]
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 - 4.7 SAM-3 Single level LUN formats (03-032) [Elliott]
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 - 5.5 Further Work on Migration to Persistent Reservations (02-483) [Cummings]
 - 5.6 SES-2 Array Status element bypass status enhancement (03-029) [Elliott]
 - 5.7 SBC-2 Block Limits mode page (03-028) [Elliott]
 - 5.8 SBC-2 Enhanced Defect Reporting Method (Reflector message 2002/12/18) [Katata/Mt. Fuji]
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 - 5.10 Remove AEN from SPC-3 (03-051) [Weber]
 - 5.11 E-mail SPC-3 topics [Penokie]
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 - 8.1 Project Proposal for SSC-3 (03-030) [Peterson]
 - 8.2 Remove SPI from SAM-3 and SPC-3 (03-002) [Weber]
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9. Review of Documents
 - 9.1 SRP-2 Review (SRP-2) [Simpson]
10. Review of Recommendations to the Plenary
11. Meeting Schedule

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12. Adjournment

Results of Meeting

1. Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 9:00 a.m., Wednesday January 15, 2003. He thanked Cris Simpson of Intel 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:

- 4.8 E-mail SAM-3 topic [Penokie]
- 5.11 E-mail SPC-3 topics [Penokie]
- 5.12 RBC Defect Report (03-021) [Atkinson]
- 6.1 SRP-2 Immediate Data Proposal (03-057) [Simpson]

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

- 5.13 Vender Identification Assignment (03-060) [Penokie]

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. Ron Roberts	P	Adaptec, Inc.	Ron_Roberts@adaptec.com
Mr. Robert Snively	P	Brocade Comm. Systems, Inc.	rsnively@brocade.com
Mr. David Peterson	P	Cisco Systems, Inc.	dap@cisco.com
Mr. John Gaittens	V	CRN	john_gaittens@logitech.com
Mr. Robert Griswold	P	Crossroads Systems, Inc.	rgriswold@crossroads.com
Mr. Kevin Marks	P	Dell Computer Corp.	kevin_marks@dell.com
Mr. Gary S. Robinson	P	EMC Corp.	robinson_gary@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. Nathan Hastad	P	General Dynamics	nathan.hastad@gd-ais.com
Mr. George O. Penokie	P	IBM / Tivoli Systems	gop@us.ibm.com
Mr. Cris Simpson	P	Intel Corp.	cris.simpson@intel.com
Mr. Robert Sheffield	A	Intel Corp.	robert.l.sheffield@intel.com
Mr. James A. Jones	V	Intel Corp.	james.a.jones@intel.com
Mr. Dennis Moore	P	KnowledgeTek, Inc.	dmoore@ix.netcom.com

Mr. John Lohmeyer	P	LSI Logic Corp.	lohmeier@t10.org
Mr. Mark Evans	P	Maxtor Corp.	mark_evans@maxtor.com
Mr. Rob Haydt	A	Microsoft Corp.	robhay@microsoft.com
Mr. James R. (Bob) Davis	P	Network Appliance Inc.	bob@netapp.com
Mr. Bill Galloway	P	Pivot3, Inc.	billg@pivot3.com
Mr. Keith W. Parker	V	PLOSkit, Inc.	Keith_Parker@PLOSkit.com
Mr. Paul Entzel	P	Quantum Corp.	paul.entzel@quantum.com
Mr. Gerald Houlder	P	Seagate Technology	gerry.houlder@seagate.com
Mr. Vit Novak	P	Sun Microsystems, Inc.	vit.novak@sun.com
Mr. Robert Kando	V	Texas Instruments	Robert.Kando@ti.com
Mr. Roger Cummings	P	Veritas Software	roger.cummings@veritas.com
Mr. Kenneth Hirata	P	Vixel Corp.	Ken.Hirata@Vixel.com

28 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 Data-In Size and Sense Data Size for Execute Command (02-404) [Elliott]

Rob Elliott presented a proposal to add a sense data size parameter to the Execute Command function prototype model (02-404r1). The group requested minor changes and Rob agreed to prepare a revised proposal.

Rob Elliott moved that 02-404r2 (r1 as revised) be recommended for inclusion in SAM-3. Cris Simpson seconded the motion. In the absence of any objections, the motion passed unanimously.

4.2 SAM-3 SPC-3 Maximum and first burst size and protocol services (02-403) [Elliott]

Rob Elliott presented a proposal to apply first burst size and maximum burst size to SAM-3 data transfer function prototypes (02-403r1). The group requested changes in the proposal and Rob agreed to prepare a revised proposal.

Rob Elliott moved that 02-403r2 (r1 as revised) be recommended for inclusion in SAM-3 and SPC-3. Mark Evans seconded the motion. In the absence of any objections, the motion passed unanimously.

4.3 SAM-3, SPC-3, and SBC power conditions proposal (02-464) [Evans]

Mark Evans presented a proposal to make the power conditions consistent between SAM-3, SPC-3, and SBC-2 (02-464r1). The group asked for several substantial changes and Mark agreed to prepare a new revision for consideration at the next meeting.

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

Rob Elliott presented a proposal to extend the definitions of identifiers and names in the Device Identification VPD page (02-419r1). The group requested substantial changes and Rob agreed to prepare a new revision for consideration at the next meeting.

4.5 SAM-3 Hard reset and multiple port devices (02-473) [Elliott]

Rob Elliott reviewed an issue concerning the effects of a hard reset (02-473r1). The group requested that an occurrence of 'it' be replaced with specific text. The group discussed the affects of hard resets on other target ports.

Rob Elliott moved that 02-473r2 (r1 as revised) be recommended for inclusion in SAM-3. Mark Evans seconded the motion. In the absence of any objections, the motion passed unanimously.

4.6 SAM-3 Logical Unit Names (02-488) [Penokie]

George Penokie presented proposal to move the model for well known logical units from SPC-3 to SAM-3 and to define the logical unit name object in SAM-3 (02-448r0). The group requested minor changes and George agreed to prepare a new revision.

Mark Evans moved that 02-488r1 (r0 as revised) be recommended for inclusion in SAM-3 and SPC-3. George Penokie seconded the motion. In the absence of any objections, the motion passed unanimously.

4.7 SAM-3 Single level LUN formats (03-032) [Elliott]

Rob Elliott presented a proposal to clarify the SAM-3 description of single level logical unit number formats (03-032r0). The group requested minor changes and Rob agreed to prepare a revised proposal.

Rob Elliott moved that 03-032r1 (r0 as revised) be recommended for inclusion in SAM-3. Bob Nixon seconded the motion. In the absence of any objections, the motion passed unanimously.

4.8 E-mail SAM-3 topic [Penokie]

George Penokie presented an issue with SAM-3 requiring byte alignment in transfer operations. He noted that most if not all of the serial protocols violate the SAM-3 statement. The group agreed to discuss the change as part of item 8.2.

5. Command Set Topics

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

Dave Peterson requested that this item be deferred until the March 2003 meeting.

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

Dave Peterson requested that this item be deferred until the March 2003 meeting.

5.3 SSC-2:Obsolete Medium Partition mode pages(2-4) (03-031) [Peterson]

Dave Peterson presented a proposal from the SSC-2 working group to obsolete three out of the four Medium Partition mode pages (03-031r0). Even with the single remaining mode page up to 64 partitions can be supported. Dave reported that the SSC-2 working group believes that 64 partitions is sufficient.

Gerry Houlder moved that 03-031r0 be recommended for inclusion in SSC-2 and SPC-3. Dave Peterson seconded the motion. In the absence of any objections, the motion passed unanimously.

5.4 SPC-3: Target Mode Pages WLUN (02-460) [Penokie]

George Penokie reviewed the issues with the proposal to add a well known logical unit to access mode pages (02-460r0). He noted that because there is no way to identify other ports, there is no way to manage the mode

pages for other ports. However, he expressed the belief that a well known logical unit to manage port mode pages would eliminate concerns over which regular logical unit should be used.

Concerns were raised about accidental changes in mode pages via this logical unit due to the lack of either access controls or persistent reservations on the well known logical unit. It was suggested that persistent reservations be added to the commands for the proposed well known logical unit, but George rejected the suggestion.

The group requested other minor changes in the proposal.

George Penokie moved that 02-460r1 (r0 as revised) be recommended for inclusion in SPC-3. Cris Simpson seconded the motion. The motion failed on a vote of 3:5:15.

5.5 Further Work on Migration to Persistent Reservations (02-483) [Cummings]

Roger Cummings reported that no new document was available but that new ideas have been offered in telephone conversations. He stated that there has not been time to formalize the new ideas in the proposal.

At the request of the group, Roger reviewed the status of the effort.

Roger closed by asking anybody with ideas to contact him.

5.6 SES-2 Array Status element bypass status enhancement (03-029) [Elliott]

Rob Elliott presented a proposal to enhance the bypass status capability in the Array Status element (03-029r0).

Rob Elliot moved that 03-029r0 be recommended for inclusion in SES-2. Gerry Houlder seconded the motion. In the absence of any objections, the motion passed unanimously.

5.7 SBC-2 Block Limits mode page (03-028) [Elliott]

Rob Elliott presented a proposal to define a VPD page to return information about optimal and maximum transfer lengths as well as optimal transfer length granularity (03-028r1). The group discussed the definitions of the fields in the proposed VPD page and suggested some changes.

Rob Elliott moved that 03-028r2 (r1 as revised) be recommended for inclusion in SPC-3 and SBC-2. Bill Galloway seconded the motion. In the absence of any objections, the motion passed unanimously.

5.8 SBC-2 Enhanced Defect Reporting Method (Reflector message 2002/12/18) [Katata/Mt. Fuji]

Keiji Katata presented a proposal for software-based defect management in the SBC-2 that would be accomplished via changes in the Read/Write Error Recovery mode page and the VERIFY(10) command.

Concerns were raised about duplication of the feature provided by the READ DEFECT DATA and FORMAT commands.

The group also was confused about whether the proposal intends to modify SBC-2 or MMC-4. Apparently, coordination of the two was a concern so that one bit would not end up having different meanings in the two standards.

The group discussed the mechanics of the proposed changes and whether they might be applicable to SBC-2.

The group agreed to have SBC-2 mark as restricted the Read/Write Error Recovery and command bits used by MMC-4 for this feature. There will be no SBC-2 changes until the MMC-4 group informs this working group exactly what changes have been approved for MMC-4.

5.9 SBC-2 VERIFY (10) Streaming Bit (Reflector message 2002/12/18) [Katata/Mt. Fuji]

This topic was covered under item 5.8.

5.10 Remove AEN from SPC-3 (03-051) [Weber]

Ralph Weber presented a proposal to follow through on the November decision to remove AER from SAM-3 by removing AEN from SPC-3. He noted that changes are required in the abstract and scope because support for AEN is the only justification for the presence of the Processor command set in SPC-3.

He described the two most substantial changes concern the Control mode page (where AER features are enabled) and removal of the Processor command set from SPC-3 because the justification for its presence is gone.

Concerns were raised about where the Processor command set will be documented and Ralph proposed that the Processor command set clauses in SPC-2 be that documentation with an option for starting a Processor command set standards project should there be a desire to modify what appears in SPC-2.

Concerns were raised regarding the Last n Deferred Errors or Asynchronous Events log page clause that was unchanged by 03-051r0. After some discussion, the group agreed that no changes are necessary.

Ralph Weber moved that 03-051r0 be recommended for inclusion in SPC-3. Bill Galloway seconded the motion. The motion passed on a vote of 21:0:1.

5.11 E-mail SPC-3 topics [Penokie]

George Penokie reviewed a collection of proposed SPC-3 changes received via e-mail.

The most contention issue concerned requiring the standard INQUIRY data vendor identification field to be a value from the list in SPC-3 annex C or on the T10 web site. George later addressed this issue in a new proposal (see item 5.13).

Concerns were raised about the relationship between the vendor identification field and the IEEE OUI and it was noted that they are different entities entirely.

George Penokie noted that support for the WRITE ATTRIBUTES command appears to be required in SPC-3. The group agreed that this does not represent the will of the group. Ralph Weber agreed to work with Paul Entzel and other MAM experts to correct the text as an editorial change in the next revision of SPC-3.

5.12 RBC Defect Report (03-021) [Atkinson]

John Lohmeyer reported that a defect report has been received for RBC (03-021r0). He stated that the Ron Roberts has agreed that the errors need to be corrected and that Ron Roberts is working on an amendment document to address the defect report. He stated completion of the amendment is anticipated for the March meeting week.

5.13 Vender Identification Assignment (03-060) [Penokie]

George Penokie presented a proposal to require the standard INQUIRY data field to contain an entry from SPC-3 Annex C or the T10 web site (03-060r0). The group requested minor changes and George agreed to prepare a revised proposal.

George Penokie moved that 03-060r1 (r0 as revised) be recommended for inclusion in SPC-3. Gerry Houlder seconded the motion. The motion passed on a vote of 15:0:3.

6. SCSI Protocol Topics

6.1 SRP-2 Immediate Data Proposal (03-057) [Simpson]

Cris Simpson presented a proposal to add immediate write data support to SRP-2 (03-057r0). The group requested that the immediate data login parameter be expressed in terms of dwords instead of bytes and Cris Simpson agreed to revise the proposal.

Concerns were expressed regarding the relationship between the login immediate parameters and equivalent values in the Disconnect-Reconnect mode page and Cris agreed to make additional changes in the revised proposal.

Rob Elliott was concerned about the use of 'immediate data' as the name of the feature and Cris agreed to modify the proposal to use the preferred 'first burst size' terminology.

Cris Simpson moved that 03-057r1 (r0 as modified) be recommended for inclusion in SRP-2. George Penokie seconded the motion. In the absence of any objections, the motion passed unanimously.

7. Old Business

No old business was brought before the group.

8. New Business

8.1 Project Proposal for SSC-3 (03-030) [Peterson]

Dave Peterson presented a project proposal for SSC-3 (03-030r0). The group requested minor wording changes and Dave agreed to revise the proposal. Concerns were raised about the proposed completion date and Dave agreed to add six months. The usual questions were raised about the related standard projects and Dave agreed to modify that section of the project proposal.

Dave Peterson moved that 03-030r1 (r0 as modified) be recommended as a project proposal for SSC-3. Bob Nixon seconded the motion. The motion passed on a vote of 16:0:2.

8.2 Remove SPI from SAM-3 and SPC-3 (03-002) [Weber]

Ralph Weber presented a proposal to remove the SCSI parallel bus concepts from SAM-3. He noted that the proposal removes contingent allegiance completely. The group requested minor changes including text to resolve the issue described in item 4.8 and Ralph agreed to prepare a new revision.

Ralph Weber moved that 03-002r3 (r2 as revised) be recommended for inclusion in SAM-3 and SPC-3. Mark Evans seconded the motion. In the absence of any objections, the motion passed unanimously.

8.3 Remove TARGET RESET from SAM-3 and SPC-3 (03-001) [Weber]

Due to the late hour, discussion of this topic was deferred to the next meeting.

9. Review of Documents

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

Cris Simpson asked that discussion of this topic be deferred to the next 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 SAM-3:

SAM-3 Sense Data Size for Execute Command (02-404r2) [Elliott] {r1 as modified, unanimous}

Remove SPI from SAM-3 and SPC-3 (03-002r3) [Weber] {r2 as modified, unanimous}

SAM-3 SPC-3 Maximum and first burst size and protocol services (02-403r2) [Elliott] {r1 as modified, unanimous}

SAM-3 Logical Unit Names (02-488r1) [Penokie] {r0 as modified, unanimous}

SAM-3 Hard reset and multiple port devices (02-473r2) [Elliott] {r1 as modified, unanimous}

SAM-3 Single level LUN formats (03-032r1) [Elliott] {r0 as modified, unanimous}

For inclusion in SPC-3:

SAM-3 SPC-3 Maximum and first burst size and protocol services (02-403r2) [Elliott] {r1 as modified, unanimous}

Remove SPI from SAM-3 and SPC-3 (03-002r3) [Weber] {r2 as modified, unanimous}

SAM-3 Logical Unit Names (02-488r1) [Penokie] {r0 as modified, unanimous}

SSC-2:Obsolete Medium Partition mode pages(2-4) (03-031r0) [Peterson] {unanimous}

SBC-2 Block Limits mode page (03-028r1) [Elliott] {r0 as modified, unanimous}

Remove AEN from SPC-3 (03-051r0) [Weber] {21:0:1}

Vender Identification Assignment (03-060r1) [Penokie] {r0 as modified, unanimous}

For inclusion in SBC-2:

SBC-2 Block Limits mode page (03-028r2) [Elliott] {r1 as modified, unanimous}

For inclusion in SSC-2:

SSC-2:Obsolete Medium Partition mode pages(2-4) (03-031r0) [Peterson] {unanimous}

For inclusion in SES-2:

SES-2 Array Status element bypass status enhancement (03-029r0) [Elliott] {unanimous}

For inclusion in SRP-2:

SRP-2 Immediate Data Proposal (03-057r1) [Simpson] {r0 as modified, unanimous}

Project Proposals:

Project Proposal for SSC-3 (03-030r1) [Peterson] {r0 as modified, unanimous}

11. Meeting Schedule

The next meeting of the SCSI Commands, Architecture, and Protocols Working Group will be Wednesday, March 12, 2003 from 9 a.m. to 7 p.m. (or until all agenda items are completed). The meeting will be in Dallas, TX at the Crowne Plaza Suites Hotel (972-233-7600), hosted by Texas Instruments.

12. Adjournment

The meeting was adjourned at 7:10 p.m. on Wednesday January 15, 2003.