

Accredited Standards Committee\*

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

Doc. No.: T10/05-096r0
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Date: March 9, 2005

Reply to: John Lohmeyer

To: T10 Membership  
From: Ralph Weber and John Lohmeyer  
Subject: SCSI Commands, Architecture, & Protocol Working Group Meeting -- Mar 8-9, 2005  
Dana Point, CA

## Agenda

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10. Review of Recommendations to the Plenary
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## Results of Meeting

### 1. Opening Remarks

John Lohmeyer called the meeting to order at 1:30 p.m. Tuesday, March 8, 2005. He thanked Skip Jones of QLogic for hosting the meeting.

As is customary, the people attending 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. Noud Snelder	V	BDT
Mr. Robert Snively	P	Brocade Comm. Systems, Inc.
Mr. David Peterson	P	CNT
Mr. Kevin Marks	P	Dell, Inc.
Mr. Kenneth Hirata	A	Emulex
Mr. Robert H. Nixon	P	Emulex
Mr. Ralph O. Weber	P	ENDL Texas
Mr. Michael Banther	V	Hewlett Packard Co.
Mr. Rob Elliott	P	Hewlett Packard Co.
Mr. Dan Colegrove	P	Hitachi Global Storage Tech.
Mr. George O. Penokie	P	IBM / Tivoli Systems
Mr. Kevin Butt	A	IBM Corp.
Mr. Robert Sheffield	P	Intel Corp.
Mr. David Hawks	P	Iomega Corp.
Mr. Martin Furuhjelm	A	Lexar Media, Inc.
Mr. Pat LaVarre	AV	Lexar Media, Inc.
Mr. John Lohmeyer	P	LSI Logic Corp.
Mr. Amir Segev	V	m-systems
Mr. Mark Evans	P	Maxtor Corp.
Mr. Mark Overby	P	Nvidia Corp.
Mr. Paul Entzel	P	Quantum Corp.
Dr. Paul Suhler	A	Quantum Corp.
Mr. Gerald Houlder	P	Seagate Technology
Mr. William Martin	P	Sierra Logic, Inc.
Mr. Vit Novak	P	Sun Microsystems, Inc.
Mr. Roger Cummings	P	Veritas Software
Mr. Curtis Stevens	P	Western Digital
Mr. Jeff Williams	AV	Xiotech Corp.
Mr. Rich Ramos	V	Xyratex

29 People Present

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

## 4. SCSI Architecture Model Topics

### 4.1 SAM-4:Converting to UML part 1 (04-023) [Penokie]

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

### 4.2 SAM-4 task management function lifetime (05-081) [Elliott]

Rob Elliott presented a proposal to add task management function lifetime information to indicate that events (e.g., I\_T nexus loss) cause task management functions to be aborted (05-081r0). The group asked that the I\_T NEXUS LOSS OCCURRED additional sense code be mentioned for completeness and Rob agreed to revise the proposal.

Rob Elliott moved that 05-081r1 (r0 as revised) be recommended for inclusion in SAM-4. Mark Evans seconded the motion. In the absence of any objections, the motion passed unanimously.

### 4.3 Overlapped tag handling (05-107) [Elliott]

Rob Elliott presented a proposal to update SAM-4 to allow transport protocols to require tags to be unique for an entire SCSI target device (05-107r0). The group discussed the correctness of having the task router check tags at length, concluding that some of the necessary changes will be made as part of the UML discussions later this year.

Minor changes were requested and Rob agreed to prepare a new revision.

Rob Elliott moved that 05-107r1 (r0 as revised) be recommended for inclusion in SAM-4. Mark Evans seconded the motion. In the absence of any objections, the motion passed unanimously.

## 5. Command Set Topics

### 5.1 Reservations Proposals

No reservations proposals were brought before the group.

### 5.2 SCSI Primary Commands Proposals

#### 5.2.1 Response to T10 Letter Ballot comments on SPC-3 (04-355) [Weber]

Ralph Weber led the group in a review of the remaining unresolved SPC-3 letter ballot comments (04-355r6). All remaining unresolved comments were resolved. Agreed resolutions will be reflected in 04-355r7 and SPC-3 r21e.

Ralph Weber moved that 04-355r7 be recommended as resolving the SPC-3 letter ballot comments. Mark Evans seconded the motion. In the absence of any objections, the motion passed unanimously.

**5.2.2 SPC-3: Log Parameter Subpages (04-389) [Butt]**

Kevin Butt presented a proposal to add log parameter subpages (04-389r2). The group substantially revised the mechanism for specifying pages to be reset and recommended removing the subpage control bit in the LOG SENSE command.

Kevin agreed to revise the proposal for further consideration at the next meeting.

**5.2.3 VPD Page 83 Identifier s/b Designator Changes (05-003) [Weber, Penokie]**

Ralph Weber requested that discussion of this topic be deferred to the next meeting.

**5.2.4 SPC-4: Enable Background Operation Error Reporting Bit (04-371) [Penokie]**

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

**5.2.5 SPC-3 Report target port group transitioning support (05-073) [Elliott]**

Rob Elliott presented a proposal to add a bit indicating that the "in transition" asymmetric access state is supported (05-073r0). The group requested changes and Rob agreed to prepare a new revision of the proposal.

In the absence of objections, it was agreed to incorporate 05-073r1 in SPC-3 as a late letter ballot comment.

**5.2.6 SPC-3 SPC-4 SES-2 SMC-3 Command requirements (05-074) [Elliott]**

Rob Elliott presented a proposal bring consistency to various command implementation requirements (05-074r0). The group noted that SMC-2 cannot be changed because it is already an approved standard. Rob agreed to revise the proposal.

Rob led the group in a discussion of how the parasite command set bits should be set in devices whose type is that of the parasite commands. Additional wording changes were agreed and Rob noted new text for inclusion in the proposal.

Concerns were raised about removing SCC-2 as a parasite command set on SES-2 devices. The group discovered that SCC-2 requires devices that implement SCC-2 and some other command set to return device type of the other command set. Rob agreed revise the proposal further.

Rob Elliott moved that 05-074r1 (r0 as revised) be recommended for inclusion in SPC-4, SES-2, and SMC-3. David Hawks seconded the motion. In the absence of any objections, the motion passed unanimously.

In the absence of objections, it was agreed to incorporate 05-074r1 in SPC-3 as a late letter ballot comment.

**5.2.7 SPC-3 Subclause 5.2 (Mandatory Commands) Rewrite (05-072) [Weber]**

Since 05-072r1 is intended to be used as the resolution for SPC-3 letter ballot comments HP 74), IBM 46), IBM 47), and Veritas 12), it was discussed under agenda item 5.2.1.

**5.2.8 Add WRITE MEDIUM ATTRIBUTES (05-015) [Entzel]**

Paul Entzel presented an ADC-2/SMC-3 proposal that also adds a new MAM attribute to SPC-4 (05-015r2).

Paul Entzel moved that the section of 05-015r2 that applies to SPC-4 be recommended for inclusion in SPC-4. David Hawks seconded the motion. In the absence of any objections, the motion passed unanimously.

### **5.3 SCSI Block Commands Proposals**

#### **5.3.1 Background Media Scan (04-198) [Houlder]**

Gerry Houlder presented a proposal to add background media scan controls to SBC-3 and SPC-4 (04-198r4).

Concerns were raised over the difference between "halting" and "suspending" activities and Gerry agreed to revise the proposal to clarify that "halted" operations can only be restarted from the beginning. Other changes were agreed for the next revision.

Gerry Houlder moved that 04-198r5 (r4 as revised) be recommended for inclusion in SBC-3 and SPC-4. John Lohmeyer seconded the motion. The motion passed 7:0:7.

#### **5.3.2 SBC-2: Proposal for USB Solid State Drive Mode Sense specification (04-362) [LaVarre]**

Pat LaVarre requested that discussion of this topic be deferred to the next meeting.

#### **5.3.3 SBC-2 Validation of Protection Information (05-101r0) [Martin]**

Bill Martin reviewed an apparent conflict in the SBC-2 protection information definitions related to verify commands (05-101r0). The essence of the proposal was that a table footnote in two tables needed to be added to a third.

The group recommended that the definition of the logical block application tag field be corrected instead of any of the changes in the proposal.

Bill agreed to prepare a new revision of the proposal for consideration at the next meeting.

### **5.4 SCSI Enclosure Services Proposals**

#### **5.4.1 SES-2: Audible Alarm Element Addition (05-005) [Marks]**

Kevin Marks presented a proposal to disable the audible alarm element and detect when it is disabled (05-005r1). Two choices were offered for detecting when the audible alarm is disabled. The group selected the 'disabled' bit definition choice and requested some minor editorial changes. Kevin agreed to prepare a new revision.

Kevin Marks moved that 05-005r2 (r1 as revised) be recommended for inclusion in SES-2. Vit Novak seconded the motion. In the absence of any objections, the motion passed unanimously.

#### **5.4.2 SES-2 Display element enhancements (05-011) [Elliott]**

Rob Elliott requested that discussion of this topic be deferred to the next meeting.

#### **5.4.3 SES-2 Additional Element Status diagnostic page Valid bit (05-064) [Elliott]**

Rob Elliott presented a proposal allow fixed format data to be returned in the Additional Element Status page (05-064r0). The group requested changes and Rob agreed to prepare a new revision.

Rob Elliott moved that 05-064r1 (r0 as revised) be recommended for inclusion in SES-2. Gerry Houlder seconded the motion. In the absence of any objections, the motion passed unanimously.

### **5.5 Other Proposals**

No other proposals were brought before the group.

## **6. SCSI Protocol Topics**

### **6.1 Fibre Channel Protocol**

The working group identified no Fibre Channel protocol topics as needing consideration.

### **6.2 SAS Discover Process Informative Annex Update (05-114r0) [Fairchild]**

The group reviewed an informative annex for SAS-1.1 that contained entirely C code (05-114r0).

Rob Elliott moved that 05-114r0 be recommended for inclusion in SAS-1.1. Gerry Houlder seconded the motion. In the absence of any objections, the motion passed unanimously.

## **7. Old Business**

## **8. New Business**

### **8.1 Style Guide (05-085) [Penokie]**

George Penokie led the group in a review of the T10 Style Guide (05-085r1). George noted necessary changes and agreed to revise the document.

## **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 SES-2 SMC-3:  
05-074r1 (Command requirements) [Elliott]

For SAM-4:  
05-081r1 (Task management function lifetime) [Elliott]  
05-107r1 (Overlapped tag handling) [Elliott]

For inclusion in SPC-4 and SBC-3:  
04-198r5 (Background Media Scan) [Houlder]

For inclusion in SES-2:  
05-005r2 (Audible Alarm Element Addition) [Marks]  
05-064r1 (Additional Element Status diagnostic page Valid bit) [Elliott]

For inclusion in SPC-4:  
05-015r2 (Add WRITE MEDIUM ATTRIBUTES) [Entzel]

Resolving SPC-3 Letter Ballot comments:  
04-355r7 (Response to T10 Letter Ballot comments on SPC-3) [Weber]

## **11. Meeting Schedule**

The next meeting of the SCSI Commands, Architecture, and Protocols Working Group will be Wednesday, May 4, 2005 from 9 a.m. to 6 p.m. (or until all agenda items are completed). The meeting will be in Oklahoma City, OK at the Sheraton Oklahoma City Hotel (405-235-2780), hosted by Fujitsu.

## **12. Adjournment**

The meeting was adjourned at 6:00 p.m. on Wednesday March 9, 2004.