

Accredited Standards Committee\*

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

Doc. No.: T10/02-160r0
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Date: May 2, 2002

Reply to: John Lohmeyer

To: T10 Membership  
From: Ralph Weber and John Lohmeyer  
Subject: SCSI Commands, Architecture, & Protocol Working Group Meeting -- May 1, 2002  
Nashua, NH

## Agenda

1. Opening Remarks
2. Approval of Agenda
3. Attendance and Membership
4. SCSI Architecture Model Topics
  - 4.1 Liaison report on SCSI MIB activities (02-043) [Krueger]
  - 4.2 SAM-2 Asynchronous event reporting RPC (02-071) [Elliott]
  - 4.3 SAM-2 Task State Transitions [Weber]
  - 4.4 Reservations & Nexus (02-078) [Chadalapaka & Haagens]
  - 4.5 Results of SAM-2 Letter Ballot (02-123) [Lohmeyer]
  - 4.6 Response to T10 Letter Ballot comments on SAM-2 (02-155) [Weber]
    - 4.6.1 SAM-2 comments (02-152) [Gardner]
    - 4.6.2 Diagrams pertaining to HP comments on sam2r23 (02-153) [Haagens]
  - 4.7 This is not a revision of SAM-3 (02-119) [Weber]
  - 4.8 SAM-2 SPC-3 SBC-2 SSC-2 Clearing effects of I\_T nexus loss (02-134) [Elliott]
5. Command Set Topics
  - 5.1 SCSI Device Memory Export Protocol (00-312) [Barry]
  - 5.2 SMC-2 Proposal: Read Element Status Device Identifier (02-104) [Banther]
  - 5.3 Obsolete Reserve/Release (02-108, 02-141) [Peterson]
  - 5.4 SBC-2, SSC-2, SMC-2 & OSD Support For All Registrants Persistent Reservations (02-130) [Weber]
  - 5.5 SPC-3 AERC clarification (02-145) [Elliott]
  - 5.6 SPC-3 Informational exceptions, linked commands, and CONDITION MET (02-144) [Elliott]
6. SCSI Protocol Topics
7. Old Business
8. New Business
  - 8.1 Project Proposal for AV Direct-access Commands (AVD) (01-337) [Johansson] {July 2002}
  - 8.2 Project Proposal for SAM-3 (02-118) [Lohmeyer]
  - 8.3 Project Proposal for FCP-3 (02-138) [Peterson]
9. Review of Documents
10. Review of Recommendations to the Plenary
11. Meeting Schedule
12. Adjournment

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**INCITS Secretariat, Information Technology Industry Council (ITI)**

1250 Eye Street NW, Suite 200, Washington, DC 20005-3922

Email: incits@itic.org Telephone: 202-737-8888 FAX: 202-638-4922

## Results of Meeting

### 1. Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 9:00 a.m., Wednesday May 1, 2002. 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:

- 5.3 Obsolete Reserve/Release (02-108, 02-141) [Peterson]
- 8.2 Project Proposal for SAM-3 (02-118) [Lohmeyer]

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

- 8.3 Project Proposal for FCP-3 (02-138) [Peterson]

### 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. Bill Galloway	P	BREA Technologies, Inc.	billg@breatech.com
Mr. Brian Forbes	P	Brocade Comm. Systems, Inc.	bforbes@brocade.com
Mr. David Peterson	P	Cisco Systems, Inc.	dap@cisco.com
Mr. Robert C. Elliott	P	Compaq Computer Corp.	Robert.Elliott@compaq.com
Mr. George Eisler	V	Conexant/Mindspeed	geisler@aol.com
Mr. Robert Griswold	P	Crossroads Systems, Inc.	rgriswold@crossroads.com
Mr. John Tyndall	A	Crossroads Systems, Inc.	jtyndall@crossroads.com
Mr. Gary S. Robinson	P	EMC Corp.	robinson_gary@emc.com
Mr. David Black	A	EMC Corp.	black_david@emc.com
Mr. Ralph O. Weber	P	ENDL Texas	roweber@acm.org
Mr. Randy Haagens	P	Hewlett Packard Co.	randy_haagens@hp.com
Mr. Michael Banther	A#	Hewlett Packard Co.	michael_banther@hp.com
Mr. George O. Penokie	P	IBM / Tivoli Systems	gop@us.ibm.com
Mr. Kevin Butt	AV	IBM Corp.	kdbutt@us.ibm.com
Mr. Cris Simpson	P	Intel Corp.	cris.simpson@intel.com
Mr. John Lohmeyer	P	LSI Logic Corp.	lohmeier@t10.org
Mr. Dave Gissel	V	LSI Logic Corp.	david.gissel@lsil.com
Mr. Mark Evans	P	Maxtor Corp.	mark_evans@maxtor.com
Mr. Charles Monia	P	Nishan Systems Inc.	cmonia@nishansystems.com
Mr. Edward A. Gardner	P	Ophidian Designs	eag@ophidian.com
Mr. Paul Entzel	P	Quantum Corp.	paul.entzel@quantum.com
Mr. Gerald Houlder	P	Seagate Technology	gerry_houlder@seagate.com
Mr. Erich Oetting	P	Storage Technology Corp.	erich_oetting@stortek.com

Mr. Vit Novak	P	Sun Microsystems, Inc.	vit.novak@sun.com
Mr. Donald R. Getty	A	Texas Instruments	donald_getty@ti.com
Mr. Ron Mathews	P	UNISYS Corporation	ronald.mathews@unisys.com
Mr. Roger Cummings	P	Veritas Software	roger.cummings@veritas.com
Mr. Kenneth Hirata	AV	Vixel Corp.	Ken.Hirata@Vixel.com

29 People Present

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

## 4. SCSI Architecture Model Topics

### 4.1 Liaison report on SCSI MIB activities (02-043) [Krueger]

The group agreed that this item should be removed from future agendas.

### 4.2 SAM-2 Asynchronous event reporting RPC (02-071) [Elliott]

Rob Elliott asked that the title of this topic be changed to SAM-3 Asynchronous event reporting RPC and that discussion of this topic be deferred to the next meeting.

### 4.3 SAM-2 Task State Transitions [Weber]

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

### 4.4 Reservations & Nexus (02-078) [Chadalapaka & Haagens]

Randy Haagens stated that this item will be covered under the new proposal in item 4.8. Randy asked that this topic be removed from future agendas.

### 4.5 Results of SAM-2 Letter Ballot (02-123) [Lohmeyer]

John Lohmeyer reported that the SAM-2 letter ballot passed 33:7:1:2=43 with comments attached to 13 of the ballots. Details of the letter ballot results can be found in 02-123r1.

### 4.6 Response to T10 Letter Ballot comments on SAM-2 (02-155) [Weber]

Ralph Weber led a discussion of the SAM-2 letter ballot comments resolution (02-155r0).

The group discussed whether or not to remove CRN from SAM-2, per comment Compaq 23). Removing the term "pending task" and several other comments were discussed. Ralph agreed to prepare 02-155r1, reflecting the agreements reached by the group.

#### 4.6.1 SAM-2 comments (02-152) [Gardner]

Ed Gardner, Ralph Weber, George Penokie and several others discussed Ophidian comments 1 through 8. Ed agreed to prepare an additional proposal regarding Ophidian comments 9 through 11.

#### **4.6.2 Diagrams pertaining to HP comments on sam2r23 (02-153) [Haagens]**

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

#### **4.7 This is not a revision of SAM-3 (02-119) [Weber]**

Ralph Weber informed the group that 02-119r0 had been placed on the T10 web site as an example of the shared sources approach he plans to use to keep SAM-3 current while SAM-2 completes letter ballot comment resolution and public review.

#### **4.8 SAM-2 SPC-3 SBC-2 SSC-2 Clearing effects of I\_T nexus loss (02-134) [Elliott]**

Rob Elliott reviewed the latest revision of the clearing effects proposal (02-134r1). The group discussed numerous details of the proposal such as background tasks, deferred errors, and additional sense codes reported.

Substantive changes were requested, including changes in the diagram that shows the relationships between the various clearing effects events and the clearing effects for log pages and mode pages.

Consensus could not be reached on the clearing effects for mode pages. Rob described the importance of agreeing on some SPC-3 changes for SRP and iSCSI standardization efforts.

Ralph Weber moved that 02-134r2 (r1 as revised) be recommended for inclusion in SPC-3 with the exception of all the description concerning mode pages and that the working group further stipulates that all discussion of topics not related to SPC-3 and of mode page topics be deferred to a future meeting and revision of the proposal. Rob Elliott seconded the motion. The motion passed on a vote of 14:1:6.

## **5. Command Set Topics**

### **5.1 SCSI Device Memory Export Protocol (00-312) [Barry]**

Since no revised 00-312 proposal was presented, the operation code for DEVICE LOCKS will be removed from SPC-3 and this item will be removed from future agendas. These actions are in accordance with the motion passed at the March CAP working group (minutes in 02-101).

### **5.2 SMC-2 Proposal: Read Element Status Device Identifier (02-104) [Banther]**

Michael Banther presented the latest revision of the proposal to specify the handling of different length Device Identifiers in the READ ELEMENT STATUS parameter data (02-104r2). Erich Oetting requested editorial changes and Michael agreed to prepare r3.

Erich Oetting moved that 02-104r3 (r2 as revised) be recommended for inclusion in SMC-2. Paul Entzel seconded the motion. In the absence of any objections, the motion passed unanimously.

### **5.3 Obsolete Reserve/Release (02-108, 02-141) [Peterson]**

George Penokie noted that 02-108r0 is already on the T10 plenary agenda, due to a motion approved at the last meeting.

Dave Peterson presented a description of how to implement persistent reservations as a replacement for RESERVE/RELEASE (02-141r0).

The group discussed whether the features described in the proposal should be made mandatory in SPC-3. It was agreed that, since SPC-3 does not make RESERVE/RELEASE mandatory, there is no need to make any part of persistent reservations mandatory in SPC-3, such issues can be dealt with in the individual command set documents.

The group also discussed making the proposal's content an informative annex in SPC-3. Although no straw poll was taken, making an annex seemed generally agreeable.

Dave noted that change requests are anticipated for 02-141 from the EXTENDED COPY development community and agreed to bring a new revision of the proposal next meeting.

#### **5.4 SBC-2, SSC-2, SMC-2 & OSD Support For All Registrants Persistent Reservations (02-130) [Weber]**

Ralph Weber described the purpose of the proposal as making the other command set documents consistent with changes already present in SPC-3, and then reviewed the content of the proposal. Ralph Weber moved that 02-130r0 be recommended for inclusion in SBC-2, SSC-2, SMC-2 and OSD. Roger Cummings seconded the motion. In the absence of any objections, the motion passed unanimously.

#### **5.5 SPC-3 AERC clarification (02-145) [Elliott]**

Rob Elliott presented a proposal to clarify the definition of the AERC bit in the Standard INQUIRY data (02-145r0).

Rob Elliott moved that 02-145r0 be recommended for inclusion in SPC-3. Bill Galloway seconded the motion. In the absence of any objections, the motion passed unanimously.

#### **5.6 SPC-3 Informational exceptions, linked commands, and CONDITION MET (02-144) [Elliott]**

Rob Elliott presented a proposal to make informational exceptions work with linked commands (02-144r0).

The group discussed the operation linked commands and the operation of informational exceptions.

Rob Elliott moved that 02-144r0 be recommended for inclusion in SPC-3. George Penokie seconded the motion. In the absence of any objections, the motion passed unanimously.

## **6. SCSI Protocol Topics**

No SCSI Protocol topics were brought before the meeting.

## **7. Old Business**

All old business was handled on the topic scheduled agenda.

## **8. New Business**

### **8.1 Project Proposal for AV Direct-access Commands (AVD) (01-337) [Johansson] {July 2002}**

Peter Johansson asked that discussion of this topic be deferred to the next meeting.

## 8.2 Project Proposal for SAM-3 (02-118) [Lohmeyer]

John Lohmeyer reviewed the project proposal for SAM-3 (02-118r0). The group noted that the document number was incorrect and John agreed to prepare a new revision.

George Penokie moved that 02-118r1 (r0 as revised) be recommended as a project proposal for SAM-3. Ed Gardner seconded the motion. In the absence any objections, the motion was approved unanimously.

## 8.3 Project Proposal for FCP-3 (02-138) [Peterson]

John Lohmeyer and Dave Peterson led a review of the project proposal for FCP-3 (02-138r0). The group asked that the reference to SAM-2 be changed to SAM-3 and requested other changes.

Ed Gardner moved that 02-138r1 (r0 as revised) be recommended as a project proposal for FCP-3. Charles Monia seconded the motion. In the absence any objections, the motion was approved unanimously.

## 9. Review of Documents

No documents were brought before the working group to review.

## 10. Review of Recommendations to the Plenary

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

- SMC-2 Proposal: Read Element Status Device Identifier (02-104r3) [Banther] {r2 as revised}
- SBC-2, SSC-2, SMC-2 & OSD Support For All Registrants Persistent Reservations (02-130r0) [Weber]
- SPC-3 AERC clarification (02-145r0) [Elliott]
- SPC-3 Informational exceptions, linked commands, and CONDITION MET (02-144r0) [Elliott]
- SPC-3 Clearing effects of I\_T nexus loss (02-134r2) [Elliott] {14:1:6, r1 as revised, SPC-3 only & no mode page changes}

## 11. Meeting Schedule

The next meeting of the SCSI Commands, Architecture, and Protocols Working Group will be Wednesday, July 17, 2002 from 9 a.m. to 7 p.m. (or until all agenda items are completed). The meeting will be in Colorado Springs, CO at the Wyndham Colorado Springs Hotel (719-260-1800), hosted by LSI Logic.

The group agreed to schedule time specifically for SAM-2 letter ballot comment resolution on Thursday afternoon (after the T10 Plenary) and Friday morning from 9 to 11 am. In consideration for taking the SRP meeting time, it was agreed to provide 1 hour of CAP agenda time to a SRP-2 requirements discussion.

## 12. Adjournment

The meeting was adjourned at 7:30 p.m. on Wednesday May 1, 2002.