

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

Doc. No.: T10/02-457r0

Date: November 7, 2002

Reply to: John Lohmeyer

To: T10 Membership  
From: Ralph Weber and John Lohmeyer  
Subject: SCSI Commands, Architecture, & Protocol Working Group Meeting -- November 6, 2002  
Huntington Beach, CA

## Agenda

1. Opening Remarks
2. Approval of Agenda
3. Attendance and Membership
4. SCSI Architecture Model Topics
  - 4.1 SAM-3 Asynchronous event reporting RPC (02-071) [Elliott]
  - 4.2 Proposal for new arguments for Data-In Delivered and Data-Out Receive (02-366) [Evans]
  - 4.3 Review of I\_T Nexus Lost Incorporation in SAM-3 r03 [Weber]
  - 4.4 SAM-3 Data-In Size and Sense Data Size for Execute Command (02-404) [Elliott]
  - 4.5 SAM-3 SPC-3 Maximum and first burst size and protocol services (02-403) [Elliott]
  - 4.6 SAM-3, SPC-3, and SBC power conditions proposal (02-464) [Evans]
  - 4.7 SAM-3 definitions for SCSI initiator device and SCSI target device (02-466) [Evans]
  - 4.8 SAM-3 SPC-3 SAS FCP-3 SRP-2 Device names and VPD data (02-419) [Elliott]
  - 4.9 SAM-3 Hard reset and multiple port devices (02-473) [Elliott]
  - 4.10 SAS Target and Initiator Names (02-427) [Penokie]
5. Command Set Topics
  - 5.1 Persistent Reserve Out Functionality for Reserve/Release Replacement (02-141) [Peterson]
  - 5.2 WWNs for WLUNs (02-254) [Penokie]
  - 5.3 Ordered SCSI proposal (02-283) [Peterson]
  - 5.4 Allowing TUR through Persistent Reservation (02-304) [Penokie] {previously passed at CAP}
  - 5.5 Media Serial Number [Hill]
  - 5.6 SAS SPC-3 Protocol Specific log page (02-394) [Elliott]
  - 5.7 SPC-3: Target Mode Pages WLUN (02-460) [Penokie]
  - 5.8 SPC-3 Add NAA=2 format to VPD 8 (02-454) [Coomes]
  - 5.9 More on Persistent Reservations (02-483) [Cummings]
6. SCSI Protocol Topics
  - 6.1 Response to FCP-2 negatives at INCITS [Peterson]
  - 6.2 FCP-2: Issues To Resolve (02-267) [Peterson]
  - 6.3 Response to HP INCITS No Vote on FCP-2 (02-440) [Peterson]
7. Old Business
  - 7.1 Project Proposal for AV Direct-access Commands (AVD) (01-337) [Johansson]
8. New Business
9. Review of Documents
  - 9.1 SRP-2 Review [Simpson]
10. Review of Recommendations to the Plenary
11. Meeting Schedule
12. Adjournment

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## Results of Meeting

### 1. Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 9:00 a.m., Wednesday November 6, 2002. He thanked Skip Jones of QLogic 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:

- 4.10 SAS Target and Initiator Names (02-427) [Penokie]
- 5.8 SPC-3 Add NAA=2 format to VPD 8 (02-454) [Coomes]
- 5.9 More on Persistent Reservations (02-483) [Cummings]

No agenda 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	Electronic Mail Address
Mr. Ron Roberts	P	Adaptec, Inc.	Ron_Roberts@adaptec.com
Dr. Claudio DeSanti	P	Andiamo Systems, Inc.	cds@andiamo.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 Griswold	P	Crossroads Systems, Inc.	rgriswold@crossroads.com
Mr. Titkwan Hui	A	Dallas Semiconductor	tk.hui@dalsemi.com
Mr. David Black	A	EMC Corp.	black_david@emc.com
Mr. Ralph O. Weber	P	ENDL Texas	roweber@acm.org
Mr. Mike Fitzpatrick	P	Fujitsu	mfitzpatrick@fcpa. fujitsu.com
Mr. Rob Elliott	P	Hewlett Packard Co.	Elliott@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. Dennis Moore	P	KnowledgeTek, Inc.	dmoore@ix.netcom.com
Mr. John Lohmeyer	P	LSI Logic Corp.	lohmeier@tl0.org
Mr. Mark Evans	P	Maxtor Corp.	mark_evans@maxtor.com
Mr. James R. (Bob) Davis	P	Network Appliance Inc.	bob@netapp.com
Mr. Paul Entzel	P	Quantum Corp.	paul.entzel@quantum.com
Mr. Gerald Houlder	P	Seagate Technology	gerry.houlder@seagate.com
Mr. Jim Coomes	V	Seagate Technology	jim.coomes@seagate.com
Mr. Vit Novak	P	Sun Microsystems, Inc.	vit.novak@sun.com
Mr. Steve Hemmah	A	Texas Instruments	steven_hemmah@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	P	Vixel Corp.	Ken.Hirata@Vixel.com
Mr. Carl Mies	A	Vixel Corp.	Carl.Mies@Vixel.com

27 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 Asynchronous event reporting RPC (02-071) [Elliott]

Rob Elliott made an attempt to present a proposal to define the protocol interfaces for asynchronous event reporting (02-071r0), but was cut short.

Mark Evans moved to recommend that T10 remove asynchronous event reporting from SAM-3. George Penokie seconded the motion. In the absence of objections, the motion passed unanimously.

### 4.2 Proposal for new arguments for Data-In Delivered and Data-Out Receive (02-366) [Evans]

Mark Evans presented a proposal to add response values to the Data-In Delivered and Data-Out Received function prototypes in SAM-3 (02-366r0).

After a brief discussion, Mark Evans moved that 02-366r0 be recommended for inclusion in SAM-3. Ralph Weber seconded the motion. In the absence of any objections, the motion passed unanimously.

#### **4.3 Review of I\_T Nexus Lost Incorporation in SAM-3 r03 [Weber]**

Ralph Weber led an editing review of the new Clause 6 (SCSI events and event notification model) from SAM-3 r03. He noted that the proposal defining the new clause was edited substantially during incorporation and asked that the group provide feedback on the resulting new clause

The group requested several changes and Ralph agreed to incorporate the changes in SAM-3 r04.

#### **4.4 SAM-3 Data-In Size and Sense Data Size for Execute Command (02-404) [Elliott]**

Rob Elliott presented a proposal to add sense data and data-in size parameters to the Execute Command function prototype model (02-404r0). The group discussed the proposal and offered suggestions for aligning it with traditional SCSI concepts.

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

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

Rob Elliott presented a proposal apply first burst size and maximum burst size to SAM-3 data transfer function prototypes (02-403r0). Concerns were raised about introducing first burst size as a function prototype parameter in the architecture model and substantial revisions were recommended.

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

#### **4.6 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 (02-464r0). Concerns were raised about the removal the Power Conditions model subclause in SPC-3.

Mark agreed to prepare a new revision changing that and other minor aspects of the proposal.

#### **4.7 SAM-3 definitions for SCSI initiator device and SCSI target device (02-466) [Evans]**

Mark Evans presented a proposal to enhance the definitions of SCSI initiator device and SCSI target device in SAM-3 (02-466r0).

After a brief discussion, Mark Evans moved that 02-466r0 be recommended for inclusion in SAM-3. Rob Elliott seconded the motion. In the absence of any objections, the motion passed unanimously.

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

Rob Elliott presented a proposal extend the definitions of identifiers and names in the Device Identification VPD page (02-419r0). Concerns were raised about the proposal that target device names be required to use the iSCSI string format. The group made several other recommendations for changes in the proposal.

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

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

Rob Elliott reviewed an issue concerning the effects of a hard reset (02-473r0). The group discussed the options in Rob's proposal and gave Rob advice on how to write a proposal for specific changes.

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

#### **4.10 SAS Target and Initiator Names (02-427) [Penokie]**

After a brief review, George Penokie moved that 02-427r1 be recommended for inclusion in SAM-3. Bill Galloway seconded the motion. The motion passed on a vote of 13:0:1.

### **5. Command Set Topics**

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

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

#### **5.2 WWNs for WLUNs (02-254) [Penokie]**

George Penokie presented a proposal to require logical units, including well-known logical units, to have a name (02-254r4). The group expressed concerns about the details of proposed logical unit name definition in SAM-3. Details of the Association field requirements for the Device Identification VPD page were also questioned.

George agreed to prepare a new revision reflecting the group's concerns.

George Penokie moved that 02-254r5 (r1 as revised) be approved for inclusion in SPC-3. Bob Nixon seconded the motion. In the absence of any objections, the motion passed unanimously.

#### **5.3 Ordered SCSI proposal (02-283) [Peterson]**

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

#### **5.4 Allowing TUR through Persistent Reservation (02-304) [Penokie] {previously passed at CAP}**

In September, CAP unanimously voted that this proposal be recommended for inclusion in SPC-3 with the T10 motion deferred to the November T10 meeting.

Emily Hill reported that no issues had been discovered with the proposal

#### **5.5 Media Serial Number (02-485r0) [Hill]**

Emily Hill presented a draft proposal to define a new 12-byte command to return media serial number. The group advised Emily regarding details of how to write up the proposal and Emily prepared 02-485r0. The group requested additional changes and Emily agreed to prepare a new revision.

Emily Hill moved that 02-485r1 (r0 as revised) be recommended for inclusion in SPC-3. Bill Galloway seconded the motion. In the absence of any objections, the motion passed unanimously.

## 5.6 SAS SPC-3 Protocol Specific log page (02-394) [Elliott]

Rob Elliott presented a proposal to add a protocol specific log page (02-394r2). The group asked Rob to clarify details of the proposal and its usage of well known logical units. Other changes were requested and Rob agreed to prepare a new revision.

Rob Elliott moved 02-394r3 (r2 as revised) be recommended for inclusion in SPC-3. George Penokie seconded the motion. In the absence of any objections, the motion passed unanimously.

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

George Penokie presented a proposal to add a well known logical unit to access mode pages (02-460r0). Concerns were raised about how mode pages for other ports could be affected by the proposed well known logical unit.

George agreed to revise the proposal for consideration at the next meeting.

## 5.8 SPC-3 Add NAA=2 format to VPD 83 (02-454) [Coomes]

Jim Coomes presented proposal to add Fibre Channel NAA format 2 to the Device Identification VPD page (02-454r0). Concerns were raised about the presence of vendor-specific bits before the OUI, however the group agreed that the proposal should not be changed.

Jim Coomes moved that 02-454r0 be recommended for inclusion in SPC-3 with instructions to the editor that the NAA table be modified to reserve all unused code values. Dave Peterson seconded the motion. The motion passed on a vote of 17:0:1.

## 5.9 More on Persistent Reservations (02-483) [Cummings]

Roger Cummings presented two issues relating to using Persistent Reservations as a replacement for Reserve/Release (02-483r0). The group suggested improvements to the ideas Roger presented.

Roger agreed to prepare a detailed proposal for consideration at the next meeting.

# 6. SCSI Protocol Topics

## 6.1 Response to FCP-2 negatives at INCITS [Peterson]

John Lohmeyer reported a concern with how PRLI effects have changed in the revised FCP-2. He noted that the concerned party was considering a request for a T10 letter ballot on the revised FCP-2. The group agreed that the review offered by a public review would be sufficient.

Dave Peterson presented the resolutions for FCP-2 to all the HP INCITS negative comments (02-440r0). He noted that 02-440r0 enumerates the changes made in FCP-2 to resolve the HP issues. George Penokie noted that resolving the HP issues also resolves the issues raised by IBM in an INCITS negative comment.

Dave stated that FCP-2 r08 has been prepared incorporating the changes described in 02-440r0.

Dave turned to an FC-FS letter ballot comment that requests removing text concerning ABTS in FCP-2. He recommended that addressing the matter be deferred to FCP-3. Dave noted that the FC-FS issue was not mentioned in any of the INCITS negative votes.

Dave raised concerns about the phrase 'zero modulo 4' and recommended changing the phrase to wording be changed to something more people will understand. The group asked Dave to delay making the change until FCP-3, instead of FCP-2.

Dave noted that a second document (02-267r2) describes additional changes agreed by the FCP-2 working group in September and already incorporated in FCP-2 r08.

Dave Peterson moved that the group recommend 02-440r0 as resolving the INCITS negative comments, recommend 02-276r2 as describing additional approved FCP-2 changes, affirm that the changes made in FCP-2 are substantive, and recommend that FCP-2 r08 be returned to INCITS for a second public review. Cris Simpson seconded the motion. In the absence of any objections, the motion passed unanimously.

## **6.2 FCP-2: Issues To Resolve (02-267) [Peterson]**

This topic was discussed under item 6.1.

## **6.3 Response to HP INCITS No Vote on FCP-2 (02-440) [Peterson]**

This topic was discussed under item 6.1.

## **7. Old Business**

### **7.1 Project Proposal for AV Direct-access Commands (AVD) (01-337) [Johansson]**

Based on discussions with Peter Johansson, John Lohmeyer requested that this item be removed from future agendas.

## **8. New Business**

No new business was brought before the meeting.

## **9. Review of Documents**

### **9.1 SRP-2 Review [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:

Proposal for new arguments for Data-In Delivered and Data-Out Receive (02-366r0) [Evans] {unanimous}  
SAM-3 definitions for SCSI initiator device and SCSI target device (02-466r0) [Evans] {unanimously}  
SAS Target and Initiator Names (02-427r1) [Penokie] {13:0:1}  
that asynchronous event reporting be removed from SAM-3

For inclusion in SPC-3:

SPC-3 Add NAA=2 format to VPD 83 (02-454r0) [Coomes] {unanimous; editor instructed to reserve all unused NAA code values}  
WWNs for WLUNs (02-254r5) [Penokie] {r4 as revised, unanimously}  
SAS SPC-3 Protocol Specific log page (02-394r3) [Elliott] {r2 as revised, unanimous}  
Media Serial Number (02-485r1) [Hill] {r0 as revised, unanimous}

## 11. Meeting Schedule

The next meeting of the SCSI Commands, Architecture, and Protocols Working Group will be Wednesday, January 15, 2003 from 9 a.m. to 7 p.m. (or until all agenda items are completed). The meeting will be in Portland, OR at the Embassy Suites Hotel (503-644-4000), hosted by Intel.

## 12. Adjournment

The meeting was adjourned at 6:45 p.m. on Wednesday November 6, 2002.

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