

Accredited Standards Committee*

InterNational Committee for Information Technology Standards (INCITS)

Doc. No.: T10/02-408r0

Date: October 15, 2002

Reply to: John Lohmeyer

To: T10 Membership
From: John Lohmeyer
Subject: SAS Protocol Teleconference -- October 15, 2002

Agenda

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2. Approval of Agenda
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 - 4.3 SAS Data Corruption Problem (02-323) [Gardner]
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 - 5.4 Renumbering DEVICE TYPEs to start at 1 rather than 0 (reflector message) [Elliott]
 - 5.5 SAS Expander Change Count Proposal (02-409) [Besmer]
 - 5.6 Close on CLOSE [Worden]
 - 5.7 What happens to low priority open requests? [Penokie]
 - 5.8 Remove SAS SMP margin control functions? (reflector message) [Elliott]
6. Review of Recommendations to the Plenary
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Results of Meeting

1. Opening Remarks

John Lohmeyer called the meeting to order at 9:00 a.m. MDT, Tuesday, October 15, 2002. He thanked George Penokie for hosting the call and John Worden for hosting the WebEx session.

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2. Approval of Agenda

The draft agenda was approved with the following changes:

- 5.5 SAS Expander Change Count Proposal (02-409) [Besmer]
- 5.6 Close on CLOSE [Worden]
- 5.7 What happens to low priority open requests? [Penokie]

The following item was added during the course of the meeting:

- 5.8 Remove SAS SMP margin control functions? (reflector message) [Elliott]

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. John Packer	V	Adaptec, Inc.	
Mr. Kyle Sterling	V	Adaptec, Inc.	ksterlin@corp.adaptec.com
Mr. Bill Galloway	P	BREA Technologies, Inc.	billg@breatech.com
Mr. Lafe Moon	V	Data Transit Corp.	lafe@data-transit.com
Mr. David Freeman	V	Data Transit Corp.	davidf@data-transit.com
Mr. Rob Elliott	P	Hewlett Packard Co.	Elliott@hp.com
Mr. Steven Fairchild	V	Hewlett Packard Co.	Steve.Fairchild@hp.com
Mr. Thomas Grieff	V	Hewlett Packard Co.	Thomas.Grieff@hp.com
Mr. Jim Reif	V	Hewlett Packard Co.	jim.reif@hp.com
Mr. Matt Otto	V	I-TECH Corp.	matt_otto@i-tech.com
Mr. Steven Wirtz	V	I-TECH Corp.	steve_wirtz@i-tech.com
Mr. George O. Penokie	P	IBM / Tivoli Systems	gop@us.ibm.com
Mr. Pak Seto	V	Intel	pak-lung.seto@intel.com
Mr. Robert Sheffield	A	Intel Corp.	robert.l.sheffield@intel.com
Mr. John Lohmeyer	P	LSI Logic Corp.	lohmeier@t10.org
Mr. Tim Hoglelund	V	LSI Logic Corp.	tim.hoglelund@lsil.com
Mr. Brad Besmer	V	LSI Logic Corp.	brad.besmer@lsil.com
Mr. Steve Johnson	V	LSI Logic Corp.	sjohnson@lsil.com
Mr. Mark Evans	P	Maxtor Corp.	mark_evans@maxtor.com
Mr. Steve Byan	V	Maxtor Corp.	stephen_byan@maxtor.com
Mr. Ting Li Chan	V	QLogic Corp.	ting.chan@qlogic.com
Mr. Arie Krantz	V	QLogic Corp.	l_krantz@qlc.com
Mr. John Worden	V	Seagate Technology	john.worden@seagate.com
Mr. Scott Younger	V	Seagate Technology	Scott.Younger@seagate.com

24 People Present

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

4. Old Business

4.1 SAS Working Draft Review [Elliott]

This item was deferred due to the late hour.

4.2 SAS Relative Offset (02-319) [Gardner]

In the absence of Ed Gardner, this item was deferred.

4.3 SAS Data Corruption Problem (02-323) [Gardner]

In the absence of Ed Gardner, this item was deferred.

4.4 SAS Spinup (02-360) [Elliott]

Rob Elliott presented 02-360r1, SAS Spinup. He received input and agreed to revise his proposal.

4.5 SAS Disconnect-Reconnect Mode Parameters (02-324) [Gardner]

In the absence of Ed Gardner, this item was deferred.

4.6 STP Initiators closing connections (02-363) [Day]

In the absence of Brian Day, this item was deferred.

4.7 Informative Annex on Expanders (02-291) [Hoglund]

Tim Hoglund asked that this item be deferred.

4.8 SAS Programmable PPTOV (02-387) [Hoglund]

Tim Hoglund presented 02-387r1, SAS Programmable PPTOV. He received input and agreed to revise his proposal. Tim Hoglund moved and Bill Galloway seconded that 02-387r2 (r1 as revised) be recommended for inclusion in SAS. The motion passed unanimously.

4.9 SAS Change Notification Proposal (02-383) [Reif]

Jim Reif discussed his 02-383r1 proposal on changes to the CHANGE notification. He received input and agreed to revise his proposal. Jim Reif moved and Bill Galloway seconded that 02-383r2 (r1 as revised) be recommended for inclusion in SAS. The motion passed unanimously.

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

Rob Elliott presented 02-394r0, SAS SPC-3 Protocol Specific log page. Rob noted that both SAS and CAP will need to approve this proposal since it affects both SAS and SPC-3. He received input and agreed to revise his proposal. Rob Elliott moved and Bill Galloway seconded that 02-394r1 (r0 as revised) be recommended for inclusion in SAS. The motion passed unanimously.

4.11 CRC on Frame Header [Roberts]

In the absence of Ron Roberts, this item was deferred.

5. New Business

5.1 SAS Device Identification VPD page requirements (02-396) [Elliott]

Rob Elliott presented 02-396r0, SAS Device Identification VPD page requirements. He received input and agreed to revise his proposal.

George Penokie noted that some people at Seagate might have an issue with requiring an NAA of 5h or 6h for the logical unit name since they currently use an NAA of 2h on their Fibre Channel products. Since Jim Coomes was not present, we deferred this issue.

5.2 Alternate SAS Speed Negotiation State Diagram (02-405) [Penokie]

George Penokie presented 02-405r0, Alternate SAS Speed Negotiation State Diagram. He received input. There was controversy on whether the other OOB state diagrams should be revised per George's approach. We did agree that the Output boxes should be removed. We also agreed that if the state transitions are retained, the conventions used (~, + &) need to be documented. Consideration of the proposal was deferred.

5.3 SAS Protocol Specific Port mode page (02-397) [Elliott]

Rob Elliott presented 02-397r0, SAS Protocol Specific Port mode page. He received input and agreed to revise his proposal. Some of the people present from drive companies were negative about including this proposal in SAS. We agreed to defer consideration.

5.4 Renumbering DEVICE TYPEs to start at 1 rather than 0 (reflector message) [Elliott]

John Worden moved and Bill Galloway seconded that DEVICE TYPE numbers be changed to start at 1 and DEVICE TYPE 0 means no device is attached be recommended for included in SAS. The motion carried unanimously.

5.5 SAS Expander Change Count Proposal (02-409) [Besmer]

Brad Besmer presented 02-409r0, SAS Expander Change Count Proposal. He received input (mostly on standardese) and agreed to revise the proposal.

5.6 Close on CLOSE [Worden]

Jim Coomes asked John Worden to make sure that this item be covered as soon as possible since it affects hardware. The question was which type of primitive should CLOSE be: single, triple, or redundant? It is currently the only triple primitive. It has been suggested that CLOSE be changed to single or redundant to eliminate the triple state machine in hardware. Most people agreed that if any change is made, we should change CLOSE to redundant. After considering the options, the group agreed to leave CLOSE as a triple primitive.

5.7 What happens to low priority open requests? [Penokie]

George Penokie discussed and received input on open address frames crossing in the night. He said he will review the wording in SAS to see if any changes are necessary.

5.8 Remove SAS SMP margin control functions? (reflector message) [Elliott]

Since Ron Roberts was not present on the call, the topic was deferred.

6. Review of Recommendations to the Plenary

John Lohmeyer noted that the following recommendations were made during this meeting:

- that 02-387r2 (r1 as revised) be recommended for inclusion in SAS.
- that 02-383r2 (r1 as revised) be recommended for inclusion in SAS.
- that 02-394r1 (r0 as revised) be recommended for inclusion in SAS.
- that DEVICE TYPE numbers be changed to start at 1 and DEVICE TYPE 0 means no device is attached be recommended for included in SAS.

The following recommendation was made on the October 1st conference call:

- that 02-359r3 (r2 as revised) be recommended for inclusion in SAS. [4:3:2]
- that 02-393r1 (r0 as revised) be recommended for inclusion in SAS.

The following recommendation was made on the September 24th conference call:

- that 02-318r1 be recommended for inclusion in SAS.
- that 02-202r4 (r3 as revised) be recommended for inclusion in SAS.
- that 02-276r3 (r2 as revised) be recommended for inclusion in SAS.
- that we recommend to T10 that the SSP Task IU be changed to 28 bytes to match the command IU by removing the last 4 reserved bytes.

The following recommendation was made on the September 17th conference call:

- that a statement saying STP initiators shall not generate BIST frames be recommended for inclusion in SAS.

7. Meeting Schedule

SAS Protocol Working Group meetings are scheduled for:

Thursday-Friday, October 24-25, 2002 in Las Vegas in conjunction with the T13 meeting.

Monday-Tuesday, November 4-5, 2002 commencing at 1:00 p.m. on Monday and ending at 5:00 p.m. on Tuesday in Huntington Beach, CA at the Hilton Waterfront Hotel (714-960-7873).

George Penokie agreed to host a SAS Protocol teleconference October 22nd. The first half of this meeting will be technical and the second half will be an editorial review. Call details are:

Tuesday October 22, 2002
11:00 am -- 2:00 pm EDT
10:00 am -- 1:00 pm CDT
9:00 am -- noon MDT
8:00 am -- 11:00 am PDT

USA Toll Free Number: 877-921-6914
Toll Number: +1-712-923-0332
Participant Passcode: 338024

WebEx Session: <http://seagate.webex.com/>
Meeting Name: SAS Protocol teleconference
Password: Carol22

An editing meeting is planned for November 7-8, 2002 in Huntington Beach, CA. The meeting will start following the plenary meeting and run through 1:00 pm on Friday.

8. Adjournment

The meeting was adjourned at 1:12 p.m. MDT on Tuesday, October 15, 2002.