

Accredited Standards Committee*

InterNational Committee for Information Technology Standards (INCITS)

Doc. No.: T10/05-272r0

Date: July 12, 2005

Reply to: John Lohmeyer

To: T10 Membership
From: Ralph Weber and John Lohmeyer
Subject: SAS Protocol WG -- July 11, 2005
Colorado Springs, CO

Agenda

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 - 5.2 SAS 1.1 SSP Transport Response-DATA ACK Timing Issues (05-225) [Stoops]
 - 5.3 SAS 2.0 Allow Zoning Enhancements to Leave Expanders (05-235) [D'Avignon]
 - 5.4 SAS 2.0 Zoning Wide Port Group Assignments (05-236) [D'Avignon]
 - 5.5 Minutes of T10 SAS2 Zoning Conference Call June 16, 2005 (05-250) [Liao]
 - 5.6 SAS 2.0 Ensuring Delivery of Broadcasts In Zoned Expanders (05-258) [D'Avignon, Roberts]
 - 5.7 Minutes: Status Report from SAS 2.0 Zoning Subgroup (05-277r0) [Liao]
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Results of Meeting

1. Opening Remarks

John Lohmeyer called the meeting to order at 9:05 a.m. Monday, July 11, 2005. He thanked LSI Logic for hosting the meeting. As usual, the people present introduced themselves.

2. Approval of Agenda

The draft agenda was approved with the following additions and changes:

- 5.9 Self-Referencing Expanders () [Sheffield]

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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. James A. Lott, Jr.	P	Dallas Semiconductor
Mr. Kevin Marks	P	Dell, Inc.
Mr. David Black	A	EMC Corp.
Mr. Kenneth Hirata	A	Emulex
Mr. Robert H. Nixon	P	Emulex
Mr. Ralph O. Weber	P	ENDL Texas
Mr. David Freeman	V	Finisar
Mr. Mike Fitzpatrick	P	Fujitsu
Mr. Steven Fairchild	V	Hewlett Packard Co.
Mr. Zane Daggett	P	Hitachi Cable Manchester
Mr. Dan Colegrove	P	Hitachi Global Storage Tech.
Mr. Robert Sheffield	P	Intel Corp.
Mr. Dennis Moore	AV	KnowledgeTek, Inc.
Mr. Brad Besmer	V	LSI Logic Corp.
Mr. Brian Day	V	LSI Logic Corp.
Mr. Tim Hoglund	V	LSI Logic Corp.
Mr. Steve Johnson	V	LSI Logic Corp.
Mr. John Lohmeyer	P	LSI Logic Corp.
Mr. William Petty	V	LSI Logic Corp.
Mr. Martin Czekalski	A	Maxtor Corp.
Mr. Mark Evans	P	Maxtor Corp.
Mr. Mark Overby	P	Nvidia Corp.
Mr. Tim Symons	A#	PMC-Sierra
Dr. Steve Gorshe	V	PMC-Sierra, Inc.
Dr. Heng Liao	V	PMC-Sierra, Inc.
Mr. Craig W. Carlson	A	QLogic Corp.
Mr. Greg Elkins	V	QLogic Corp.
Mr. Jim Walch	V	QLogic Corp.
Mr. Jim Walch	T	QLOGIC CORPORATION
Mr. Jim Walch	T	QLOGIC CORPORATION
Mr. Gerald Houlder	P	Seagate Technology
Mr. William Martin	P	Sierra Logic, Inc.
Mr. Tom Skaar	V	Vitesse
Mr. Ed D'Avignon	V	Vitesse Semiconductor
Mr. Gregory Tabor	P	Vitesse Semiconductor

35 People Present

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

4. Old Business

4.1 SAS-2 protocol for changing driver amplitude (03-285) [Evans]

Mark Evans requested that discussion of this topic be deferred to the next meeting.

4.2 SAS-2 More counters (04-172) [Elliott]

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

4.3 SAS-1.1 revision 9 letter ballot comment resolution as of sas1r09b (05-169) [Elliott]

Rob Elliott stated that no Letter Ballot issues need discussion other than those covered elsewhere on the agenda.

4.4 SAS-2 Zoning (05-144) [Liao, Gorshe and Grieff]

Heng Liao presented the revised SAS-2 Zoning proposal (05-144r4).

George Penokie asked that consideration be given to using a name other than Zoning. Several proposals were made but the only one that had any support was 'Traffic Control'.

Steve Fairchild noted that not very many fields are available in the Report General command subsequent to the Zoning changes. Heng agreed to define the Zoning functions in a separate command in the next revision of the proposal.

Zoning SATA devices was discussed. It was agreed that the proposal depends on a SATA timing scenario that is not a SATA required behavior. Mark Overby requested that the SATA Cold Presence Detect feature be used in those cases where it is available.

4.5 SAS-1.1: BreakWait issue resolution (05-145) [Hoglund]

Tim Hoglund stated that the SAS-1.1 issues have been resolved and a new proposal for SAS-2 will be uploaded with a different document number when appropriate.

4.6 SAS 1.1 - Transport layer retry and argument passing fixes (05-143) [Penokie]

George Penokie presented a proposal the effect of which was a near total rewrite of the SAS-1.1 state machines (05-143r3). The group requested changes and corrections and George agreed to prepare a new revision of the proposal. Rob Elliott requested that the revised proposal be ready in the next few weeks so that it can be incorporated in SAS-1.1 revision 9e.

4.7 SAS-2: New NOTIFY to indicate imminent power failure (05-167) [Penokie]

George Penokie presented a revised proposal to add a NOTIFY primitive to indicate imminent power failure (05-167r4). The group requested changes in the description of how sending the primitive is repeated three times and George agreed to prepare a revised proposal.

George Penokie moved that 05-167r5 (r4 as modified) be recommended for inclusion in SAS-2. Gerry Houlder seconded the motion. He explained that support for this feature requires hardware changes and delays are intolerable in product development schedules. The motion passed 9:0:8.

5. New Business

5.1 SAS-1.1: Clarify STP exceptions to SATA link protocol (05-224) [Sheffield]

Bob Sheffield presented a proposal to move the definition of SATA_CONT handling to the link layer definitions (05-224r0). Rob Elliott stated that moving the text was not an ideal solution and Bob responded with a new revision of the proposal that would only add references and a table.

Bob stated that his developers would prefer to see the text moved.

As the proposal was discussed several changes were requested and Bob agreed to prepare a new revision.

Bob Sheffield moved that 05-224r1 (r0 as modified) be accepted into the Letter Ballot comment resolution for SAS-1.1. Rob Elliott seconded the motion. In the absence of any objections, the motion passed unanimously.

5.2 SAS 1.1 SSP Transport Response-DATA ACK Timing Issues (05-225) [Stoops]

George Penokie reported that the issues raised by 05-225r0 are covered in 05-143 (see agenda item 4.6).

5.3 SAS 2.0 Allow Zoning Enhancements to Leave Expanders (05-235) [D'Avignon]

Ed D'Avignon requested that discussion of this topic be deferred to the next conference call.

5.4 SAS 2.0 Zoning Wide Port Group Assignments (05-236) [D'Avignon]

Ed D'Avignon requested this topic be removed from this and future agendas.

5.5 Minutes of T10 SAS2 Zoning Conference Call June 16, 2005 (05-250) [Liao]

This topic was covered under agenda item 5.7.

5.6 SAS 2.0 Ensuring Delivery of Broadcasts In Zoned Expanders (05-258) [D'Avignon, Roberts]

Ed D'Avignon presented a proposal to increase the reliability of Zoned Broadcasts (05-258r0). The proposal unearthed a plethora of issues related to Zoned Broadcasts. The group agreed to continue the discussion of this topic during the next SAS-2 Zoning teleconference call.

5.7 Minutes: Status Report from SAS 2.0 Zoning Subgroup (05-277r0) [Liao]

Heng Liao presented a status report for the work on SAS Zoning (05-227r0).

5.8 SAS 1.1 r09b issues (05-278r0) [Martin]

Rob Elliott reported that all the issues raised in 05-278r0 have been included in the resolutions for existing SAS-1.1 Letter Ballot comments. Bill Martin agreed that no additional discussion was needed.

5.9 Self-Referencing Expanders () [Sheffield]

Bob Sheffield questioned how routing entries should be handled during Discovery when the reference is to the expander itself. The group discussed whether the existing SAS-1.1 text is sufficient and what, if any, modifications might be appropriate.

Rob Elliott agreed to add a new Intel comment describing the problem for which the resolution will be adding a new sentence stating that an expander that detects a connection from one of its Phys to another should disable both Phys.

Later in the day Bob Sheffield asked that the issue be reconsidered and different changes were agreed upon.

6. Review of Recommendations

The following document was recommended for inclusion in SAS-2 during this meeting:

05-167r5 (SAS-2: New NOTIFY to indicate imminent power failure) [Penokie]

7. Meeting Schedule

A SAS Protocol Working Group meeting is scheduled for:

Monday, September 12, 2005 commencing at 9:00 a.m. in Vancouver, BC at the Vancouver Marriott Pinnacle Downtown Hotel (604-684-1128; Reservations: 800-207-4150), hosted by PMC-Sierra.

Teleconference calls will be announced on the T10 reflector as needed.

8. Adjournment

The meeting was adjourned at 5:20 p.m. on Monday July 11, 2005.