

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

Doc. No.: T10/08-208r0

Date: May 5, 2008

Reply to: John Lohmeyer

To: T10 Membership
From: Ralph Weber and John Lohmeyer
Subject: SAS Protocol WG -- May 5, 2008
San Jose, CA

Agenda

1. Opening Remarks
2. Approval of Agenda
3. Attendance and Membership
4. Miscellaneous topics
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 - 5.2 SAS-2 Redundant primitive sequence error handling (07-089) [Elliott]
 - 5.3 SAS-2 SPC-4 Differentiate between ACK NAK timeout reasons (08-064) [Elliott]
 - 5.4 SAS-2 Add device slot numbering fields to DISCOVER (08-183) [Elliott]
 - 5.5 SAS2.0 - Retry to Open Limit timer fix (08-216) [Day]
6. Zoning topics
7. Non-zoning Expander topics
8. SAS-2.1 topics
 - 8.1 SAS-2 Far-end retimed loopback phy test function (07-119) [Elliott]
 - 8.2 White paper on existing SCSI low power modes (08-100) [Houlder]
 - 8.3 SAS: Add low power transceiver options (08-015) [Houlder]
 - 8.4 Review of new SAS Project Proposals (08-110, 08-117, 08-118) [Elliott and Butt]
 - 8.5 SAS-2+, low power transceiver options, phy and link states (08-206r0) [Evans]
9. New Business
10. Review of Recommendations
11. Meeting Schedule
12. Adjournment

Results of Meeting

1. Opening Remarks

John Lohmeyer called the meeting to order at 9:05 a.m. Monday, May 5, 2008. He thanked Mark Overby of Nvidia for hosting the meeting. As usual, the people present introduced themselves.

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2. Approval of Agenda

The draft agenda was approved with no additions and changes.

No additions and changes were made 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. William Martin	P	Emulex
Mr. Ralph O. Weber	P	ENDL Texas
Mr. David Freeman	P	Finisar Corp.
Mr. Geoffrey Hibbert	A	Finisar Corp.
Mr. Yamini Shastry	V	Finisar Corp.
Mr. Mike Fitzpatrick	P	Fujitsu
Mr. Nathan Hastad	P	General Dynamics
Mr. Rob Elliott	P	Hewlett Packard Co.
Mr. Dan Colegrove	P	Hitachi Global Storage Tech.
Mr. Pak Seto	V	Intel Corp.
Mr. Dennis Moore	P	KnowledgeTek, Inc.
Mr. John Geldman	P	Lexar Media, Inc.
Mr. Brad Besmer	A	LSI Corp.
Mr. Brian Day	A	LSI Corp.
Mr. John Lohmeyer	P	LSI Corp.
Mr. George Penokie	A	LSI Corp.
Mr. Gregory Tabor	P	Maxim Integrated Products
Mr. Chris Fore	A	NetApp
Mr. Frederick Knight	P	NetApp
Mr. Mark Overby	P	Nvidia Corp.
Mr. Tim Symons	P	PMC-Sierra
Mr. Gerald Houlder	P	Seagate Technology
Mr. Bill Pagano	V	Seagate Technology
Mr. Tom Skaar	V	Seagate Technology
Mr. Greg Alvey	V	Solution Technology
Mr. Stephen Finch	P	STMicroelectronics, Inc.
Mr. Mark Evans	P	Western Digital
Mr. Curtis Stevens	A	Western Digital
Mr. Alan Westbury	V	Xyratex

29 People Present

Status Key: P - Principal
 A - Alternate
 AV - Advisory Member
 E - Emeritus
 L - Liaison
 V - Visitor

4. Miscellaneous topics

No miscellaneous topics were presented to the group.

5. SAS-2 letter ballot comment resolution topics

5.1 SAS-2 revision 14 letter ballot comment resolution as of sas2r14 (08-212) [Elliott]

Rob Elliott led the group through a discussion of the letter ballot comments against SAS-2 (08-212r1). Rob noted that he had 82 specific comments for the group to review. About two-thirds of the specific comments on Rob's list were reviewed and the resolutions were agreed upon for the majority of them.

5.2 SAS-2 Redundant primitive sequence error handling (07-089) [Elliott]

Rob Elliott asked that discussion of a proposal to correct a number of error cases for which the recipient's Redundant Primitive detection rules are unclear, especially in light of the 6 Gbs usage of Decision Feedback Equalization (07-089r1), be deferred to the next meeting.

5.3 SAS-2 SPC-4 Differentiate between ACK NAK timeout reasons (08-064) [Elliott]

Rob Elliott asked that discussion a proposal to define new additional sense codes to indicate when different time-outs have been detected (08-064r0) be deferred to the next meeting.

5.4 SAS-2 Add device slot numbering fields to DISCOVER (08-183) [Elliott]

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

5.5 SAS2.0 - Retry to Open Limit timer fix (08-216) [Day]

As part of the SAS-2 letter ballot comment resolution, Brian Day presented a proposal to change the relationship between Open Limit timer(s) and transport layer events (08-216r0). The group suggested different relationships that would achieve the same effect with what appeared to be lower overhead.

6. Zoning topics

No zoning topics were presented to the group.

7. Non-zoning Expander topics

No non-zoning expander topics were presented to the group.

8. SAS-2.1 topics

8.1 SAS-2 Far-end retimed loopback phy test function (07-119) [Elliott]

Rob Elliott asked that discussion of the proposal to define a far-end loopback testing mechanism for SAS (07-119r4) be deferred to the next meeting.

8.2 White paper on existing SCSI low power modes (08-100) [Houlder]

Gerry Houlder asked that this topic be removed from future agendas.

8.3 SAS: Add low power transceiver options (08-015) [Houlder]

Gerry Houlder asked that discussion of his document whose purpose was building consensus regarding the SAS protocol efforts to lower power consumption on inactive SAS links or SAS links with reduced activity (08-015r2) be deferred to the next meeting.

8.4 Review of new SAS Project Proposals (08-110, 08-117, 08-118) [Elliott and Butt]

Due to the late hour, discussion of the several SAS-2.1 project proposals was deferred to the next meeting.

8.5 SAS-2+, low power transceiver options, phy and link states (08-206r0) [Evans]

Due to the late hour, Mark Evans asked that discussion of 08-206r0 be deferred to the next meeting.

9. New Business

There was no new business.

10. Review of Recommendations

The following documents were recommended for consideration by the Plenary:

For inclusion in SAS-2: None

11. Meeting Schedule

A SAS Protocol Working Group meeting is scheduled for:

Monday, July 14, 2008 commencing at 9:00 a.m. in Anchorage, AK at the Sheraton Anchorage Hotel (Reservations: 907-276-8700) hosted by Emulex.

The group discussed adding a series of teleconference calls on Wednesday mornings to continue work on letter ballot comments. The teleconference calls will be announced on the T10 reflector as needed.

12. Adjournment

The meeting was adjourned at 6:05 p.m. on Monday May 5, 2008.