

Accredited Standards Committee*
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Reply to: John Lohmeyer

To: T10 Membership
From: Ralph Weber & John Lohmeyer
Subject: Parallel SCSI Working Group Meeting -- October 31, 2000
Seaside, CA

Agenda

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 - 4.1.2 Proposal to replace the TBDs for Fast 160 in SPI-4 and to winnow options (00-389) [Milligan]
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 - 4.1.4 Receiver Response Requirements (00-332) [Ham]
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 - 4.1.11 First Pulse and Attenuation Data (00-348) [Manildi]
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 - 4.1.13 Worst Case Signal Amplitude Calculations Spreadsheet (00-350) [Manildi]
 - 4.1.14 Comparison of Precomp and AAF (00-351) [Manildi]
 - 4.1.15 Attention setup correction (00-401) [Galloway]
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 - 4.2.5 Proposed changes to SPI IU exception handling (00-384) [Srinivasan]
 - 4.2.6 Task Status after PPR (00-403) [Galloway]
 - 4.2.7 Reporting Training Values (00-392) [Elliott]
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 - 4.2.9 Reporting Currently Negotiated Settings (00-397) [Elliott]
 - 4.3 SPI-4 working draft review [Penokie]
 - 4.3.1 Proposed content for SPI-4 rev 1 (00-378) [Penokie]
5. Expanders and Domain Validation Topics
 - 5.1 Report on the SCSI Domain Validation Meeting (00-376) [Lohmeyer]
6. New Business
7. Meeting Schedule
8. 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., Tuesday, October 31, 2000. He thanked Larry Lamers of Adaptec 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.

- 4.1.5 Proposal for Ultra320 AAF receiver input signal specification for SPI-4 (00-400 & 00-408) [Brown]
- 4.1.12 Attenuation in Actual Subsystems (00-349) [Manildi]
- 4.1.13 Worst Case Signal Amplitude Calculations Spreadsheet (00-350) [Manildi]
- 4.1.14 Comparison of Precomp and AAF (00-351) [Manildi]
- 4.1.15 Attention setup correction (00-401) [Galloway]
- 4.1.16 Update on Quantum's AAF for Ultra320 SCSI (00-409) [Evans]
- 4.2.4 PPR/MESSAGE REJECT implied agreement (00-337) [Elliott]
- 4.2.5 Proposed changes to SPI IU exception handling (00-384) [Srinivasan]
- 4.2.6 Task Status after PPR (00-403) [Galloway]
- 4.2.7 Reporting Training Values (00-392) [Elliott]
- 4.2.8 Mode Page Equivalent of ECP (00-396) [Elliott]
- 4.2.9 Reporting Currently Negotiated Settings (00-397) [Elliott]

No 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. Lawrence J. Lamers	P	Adaptec, Inc.	ljlammers@ieee.org
Mr. Ron Roberts	A	Adaptec, Inc.	Ron_Roberts@adaptec.com
Mr. Wally Bridgewater	V	Adaptec, Inc.	wally@eng.adaptec.com
Mr. Lee Hearn	V	Adaptec, Inc.	lee_hearn@corp.adaptec.com
Mr. Richard Mcmillan	V	Adaptec, Inc.	richard_mcmillan@adaptec.com
Mr. Bill Mable	P	Amphenol Interconnect	mableaipc@aol.com
Mr. Vince Bastiani	V	Bass Technology Consulting	bass.tech@gte.net
Mr. Robert Snively	P	Brocade Comm. Systems, Inc.	rsnively@brocade.com
Mr. Edward Haske	P	CMD Technology	haske@cmd.com
Mr. Robert C. Elliott	P	Compaq Computer Corp.	Rob_Elliott@compuserve.com

Dr. William Ham	A	Compaq Computer Corp.	bill_ham@ix.netcom.com
Mr. Titkwan Hui	A.	Dallas Semiconductor	tk.hui@dalsemi.com
Mr. Ronald Stockford	P	Dell Computer Corp.	ron_stockford@dell.com
Mr. Kevin Marks	A	Dell Computer Corp.	kevin_marks@dell.com
Mr. Ralph O. Weber	P	ENDL Texas	roweber@acm.org
Mr. Douglas Wagner	P	FCI	dwagner@fciconnect.com
Mr. Eugene Lew	P	Fujitsu	elew@fcpa.fujitsu.com
Mr. Nathan Hastad	P	General Dynamics	nathan.j.hastad@gd-is.com
Mr. Sam Ray	V	IBM	str@us.ibm.com
Mr. George O. Penokie	P	IBM / Tivoli Systems	gpenokie@tivoli.com
Mr. Bill Troop	V	IBM Corp.	troop@us.ibm.com
Mr. John Lohmeyer	P	LSI Logic Corp.	lohmeier@tl10.org
Mr. William Petty	A	LSI Logic Corp.	william.petty@lsil.com
Mr. Larry Barnes	V	LSI Logic Corp.	larry.barnes@lsil.com
Mr. Travis Bradfield	V	LSI Logic Corp.	travis.bradfield@lsil.com
Mr. Chuck Grant	A#	Madison Cable Corp.	cgrant@madisoncable.com
Mr. Jay Neer	P	Molex Inc.	jneer@molex.com
Mr. Richard Moore	A#	QLogic Corp.	r_moore@qlc.com
Mr. Ting Li Chan	V	QLogic Corp.	t_chan@qlc.com
Mr. Richard L. Romaniec	V	QLogic Corp.	r_romaniec@qlc.com
Mr. Tim Hsia	V	QLogic Corp.	t_hsia@qlc.com
Mr. Henry Kuo	V	QLogic Corp.	h_kuo@qlc.com
Mr. Mark Evans	P	Quantum Corp.	mark.evans@quantum.com
Mr. Russ Brown	V	Quantum Corp.	russ.brown@quantum.com
Mr. Richard Uber	V	Quantum Corp.	duber@tdh.qntm.com
Mr. Gene Milligan	P	Seagate Technology	Gene.Milligan@seagate.com
Mr. Gerald Houlder	A	Seagate Technology	gerry_houlder@notes. seagate.com
Mr. Daniel (Dan) F. Smith	O	Seagate Technology	daniel_f_smith@notes. seagate.com
Mr. Umesh Chandra	V	Seagate Technology	umesh_chandra@notes. seagate.com
Mr. John Masiewicz	V	Seagate Technology	john_masiewicz@notes. seagate.com
Mr. Mayank R. Patel	V	Seagate Technology	mayank_r_patel@notes. seagate.com
Mr. Bill Gintz	V	Seus, Inc.	wcgintz@ix.netcom.com
Mr. Erich Oetting	P	Storage Technology Corp.	erich_oetting@stortek.com
Mr. Kenneth Moe	P	Sun Microsystems, Inc.	kenneth.moe@sun.com
Mr. Paul D. Aloisi	P	Texas Instruments	Paul_Aloisi@ti.com
Mr. Donald R. Getty	A#	Texas Instruments	donald_getty@ti.com
Mr. Mike Kosco	V	Texas Instruments	mike@chipcraft.com
Mr. Ciro Milazzo	V	Texas Instruments Inc.	ciro_milazzo@ti.com

48 People Present

Status Key: P - Principal
 A,A# - Alternate
 O - Observer
 L - Liaison
 V - Visitor

4. SPI-4 Topics

4.1 SPI-4 Physical Topics

4.1.1 Calculated Signal Losses (00-382, 00-246) [Aloisi]

Paul Aloisi reviewed the signal loss spreadsheet (00-382r1) and followed that presentation with assumptions and requirements proposed for SPI-4 (00-246r5).

It was noted that the specification for the weak driver levels had not been revised because it was one of the things rejected at the September plenary. Gene Milligan agreed to bring a specific proposal to correct that to the next meeting.

Paul stated that the specific proposed changes cannot be considered until the weak driver level is established. He stated that revised versions of the spreadsheet and proposal will be brought to the next meeting.

4.1.2 Proposal to replace the TBDs for Fast 160 in SPI-4 and to winnow options (00-389) [Milligan]

Gene Milligan presented a proposal for what he thought were agreeable changes to eliminate several undefined areas in SPI-4. Issues were raised about what really was being changed and comparisons between the proposal and SPI-4 revision 0 were discussed. Several other problems surfaced and Gene agreed to revise the proposal to address issues raised by the group.

Gene Milligan moved that 00-389r1 (r0 as modified) be approved for inclusion in SPI-4. Ron Roberts seconded the motion. Gene asked that consideration of the motion be deferred until the other presentations on this topic have been completed or 1:37 pm which ever occurs first. In the absence of any objections consideration was deferred.

When the motion later came up for consideration, George Penokie proposed a friendly amendment that the masks be labeled "precompensation enabled". Gene agreed to the amendment.

Concerns were raised about the weak driver levels in the proposal, Gene displayed the proposal text and George noted that the numbers in Gene's proposal were those that got rejected in September.

The motion passed on a vote of 11:2:3.

4.1.3 Actual precomp and nonprecomp data (00-406) [Masiewicz]

John Masiewicz presented laboratory data from actual SPI-4 silicon relevant to the proposal presented in 4.1.2. Mark Evans was concerned that all the without-precomp data appeared to pass the eye diagram requirements.

4.1.4 Receiver Response Requirements (00-332) [Ham]

Bill Ham presented a proposal for testing AAF (Adjustable Active Filter) systems without specifying the internal behavior of the receiver (00-322r1). Questions were raised about the usefulness of the proposal. The 2 ns pulse width in the proposal was characterized as excessively large and Bill agreed to reduce it. Bill stated that a new revision will be presented to the next meeting.

4.1.5 Proposal for Ultra320 AAF receiver input signal specification for SPI-4 (00-400 & 00-408) [Brown]

Russ Brown presented a proposal for the AAF (Adjustable Active Filter) signaling method in SPI-4. Several issues were raised and Russ agreed to bring a revised proposal to the next meeting.

4.1.6 Periodic structures on SCSI buses (00-352) [Barnes]

Larry Barnes used the Matlab program to walk the group through bus modeling issues.

4.1.7 Vn for OR-Tied Signals (00-320) [Moore]

On the assumption that Gene's proposal survives the plenary, Richard Moore requested this item be removed from future agendas.

4.1.8 Ultra320 First Pulse Noise Margin (00-346) [Uber]

Mark Evans requested that this item be dropped from future agendas.

4.1.9 SPI-4 Spec Proposal for Ultra320 (00-347) [Uber]

Mark Evans requested that this item be dropped from future agendas.

4.1.10 Proposal for Ultra320 SCSI timing skew specification for SPI-4 (00-399) [Brown]

Russ Brown presented a proposal for a new way of specifying skew requirements. Several issues were raised and Russ agreed to bring a revised proposal to the next meeting.

4.1.11 First Pulse and Attenuation Data (00-348) [Manildi]

John Masiewicz asked that this item be dropped from future agendas.

4.1.12 Attenuation in Actual Subsystems (00-349) [Manildi]

John Masiewicz asked that this item be dropped from future agendas.

4.1.13 Worst Case Signal Amplitude Calculations Spreadsheet (00-350) [Manildi]

John Masiewicz asked that this item be dropped from future agendas.

4.1.14 Comparison of Precomp and AAF (00-351) [Manildi]

John Masiewicz asked that this item be dropped from future agendas.

4.1.15 Attention setup correction (00-401) [Galloway]

Bill Petty presented Bill Galloway's proposal to make ATN setup handling like other signals (00-401r0). In the absence of any objections, the group unanimously recommended that 00-401r0 be included in SPI-4.

4.1.16 Update on Quantum's AAF for Ultra320 SCSI (00-409) [Evans]

Mark Evans reviewed the history of AAF (Adjustable Active Filter) noting that past Quantum presentations have shown that precompensation will not work correctly in all configurations of Ultra320. He reviewed the current status of AAF efforts at Quantum.

4.2 SPI-4 Protocol Topics

4.2.1 QAS without IU in SPI-4 (00-252) [Elliott]

Rob Elliott presented a revised proposal to allow non-packetized devices to participate in QAS arbitration (00-252r2). Minor problems were identified in the proposal and Rob agreed to make changes. It was also noted that the SPI-4 editor needs to be given license to make corrections in related tables while incorporating the proposal. In the absence of any objections, the group unanimously recommended that 00-252r3 (r2 as modified) be approved for inclusion in SPI-4.

4.2.2 QAS signal correction (00-402) [Galloway]

George Penokie presented a proposal from Bill Galloway to correct conflicting requirements over QAS handling (00-402r0). In the absence of any objections, the group unanimously recommended that 00-402r0 be approved for inclusion in SPI-4.

4.2.3 Bi-directional data transfers in SPI-4 (00-314) [Elliott]

Rob Elliott presented a proposal to enhance SPI-4 so that bi-directional data transfers are permitted (00-314r2). He noted that, after considering the September working group's recommendation to restrict bi-directional transfers to Information Unit transfers, he decided to continue to describe all types of data transfers in the bi-directional proposal. In the absence of any objections, the group unanimously recommended that 00-314r2 be approved for inclusion in SPI-4.

4.2.4 PPR/MESSAGE REJECT implied agreement (00-337) [Elliott]

Rob Elliott presented a proposal to describe the initiator's response to getting a PPR message rejected (00-337r1). In the absence of any objections, the group unanimously recommended that 00-337r1 be approved for inclusion in SPI-4.

4.2.5 Proposed changes to SPI IU exception handling (00-384) [Srinivasan]

John Lohmeyer asked that discussion of this topic be deferred to the next meeting.

4.2.6 Task Status after PPR (00-403) [Galloway]

George Penokie presented Bill Galloway's proposal that all tasks be aborted when a PPR message switches between packetized and non-packetized (00-403r0). Larry Lamers noted that according to this proposal every domain validation will abort all outstanding tasks. Concerns were also raised about how the task aborting actions were cross-referenced in SPI-4 and how the change relates to the TASK ABORTED status. George agreed to inform Bill Galloway of the issues so that Bill can decide what to bring to the next meeting.

4.2.7 Reporting Training Values (00-392) [Elliott]

Rob Elliott presented a proposal to use another port control mode subpage (see item 4.2.8) to report training information from the target to the initiator (00-392r1). In the absence of any objections the group unanimously recommended 00-392r1 for inclusion in SPI-4.

4.2.8 Mode Page Equivalent of ECP (00-396) [Elliott]

Rob Elliott presented a proposal to communicate ECP (Expander Communication Protocol) information to targets using an overloading of the port control mode page (00-396r0). The proposed usage of subpage codes surfaced several problems and Rob agreed to work on a new proposal with Ralph Weber, Gerry Houlder, and others for presentation at the CAP meeting on Wednesday.

George Penokie asked if there was any objections to the concepts described in the proposal and no objections were heard.

4.2.9 Reporting Currently Negotiated Settings (00-397) [Elliott]

Rob Elliott presented a proposal describing a mechanism for the target to report it's PPR (Parallel Protocol Request) negotiated settings (00-397r1). Rob Elliott moved that 00-397r1 be approved for inclusion in SPI-4. Gerry Houlder seconded the motion. The motion passed on a vote of 8:2:2.

4.3 SPI-4 working draft review [Penokie]

4.3.1 Proposed content for SPI-4 rev 1 (00-378) [Penokie]

George Penokie reviewed the content of 00-378r0.

Mark Evans moved that 00-378r0 be recommended for acceptance as SPI-4 revision 1. George Penokie seconded the motion. The motion passed on a vote of 5:3:1.

5. Expanders and Domain Validation Topics

5.1 Report on the SCSI Domain Validation Meeting (00-376) [Lohmeyer]

John Lohmeyer requested that this item be dropped from future agendas and the group agreed.

6. New Business

No new business was brought before the meeting.

7. Meeting Schedule

The next meeting of the Parallel SCSI Working Group will be Tuesday January 16, 2001 commencing at 9:00 a.m. in Lake Buena Vista, FL.

8. Adjournment

The meeting was adjourned at 7:45 p.m. on Tuesday, October 31, 2000.