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

To: T10 Membership
From: Ralph Weber & John Lohmeyer
Subject: Parallel SCSI Working Group Meeting -- April 29, 2002
            Nashua, NH

Agenda

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    5.2   PIP Report [Ham]
6. New Business
    6.1   Inconsistent use of 'assertion and negation' in SPI-4 (02-114) [Houlder]
    6.2   Public Review Comment #1 on INCITS 362 (SPI-4) (02-129) [Houlder]
    6.3   Link control message correction (02-150) [Galloway]
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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., Monday, April 29, 2002. He thanked Zane Daggett of Hitachi Cable Manchester 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:

    4.5   Ultra640 SCSI, Reduction of Crosstalk Errors During Timing Deskew (02-163) [Brown & Aliahmad]

The following items were added/revised during the course of the meeting:

> 6.5   SPI-5 Wording Changes [Evans]

3.   Attendance and Membership

Attendance at working group meetings does not count toward minimum attendance requirements for T10 member-ship. 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:

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        Name          S      Organization        Electronic Mail Address
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Mr. Ron Roberts       P  Adaptec, Inc.            Ron_Roberts@adaptec.com
Mr. Bill Galloway     P  BREA Technologies, Inc.  billg@breatech.com
Mr. Nicholaos         V  C&M Corp.                nlimberopoulos@
Limberopoulos                                     cmcorporation.com
Mr. Robert C. Elliott P  Compaq Computer Corp.    Robert.Elliott@compaq.com
Dr. William Ham       A  Compaq Computer Corp.    bill_ham@ix.netcom.com
Mr. Steven Fairchild  V  Compaq Computer Corp.    Steve.Fairchild@compaq.
                                                  com
Mr. Titkwan Hui       P  Dallas Semiconductor     tk.hui@dalsemi.com
Mr. Ralph O. Weber    P  ENDL Texas               roweber@acm.org
Mr. Nathan Hastad     P  General Dynamics         nathan.hastad@gd-ais.com
Mr. Zane Daggett      P  Hitachi Cable Manchester zdaggett@hcm.hitachi.com
Mr. George O. Penokie P  IBM / Tivoli Systems     gop@us.ibm.com
Mr. Christopher Ro    V  IBM Corp.
Mr. John Lohmeyer     P  LSI Logic Corp.          lohmeyer@t10.org
Mr. William Petty     A  LSI Logic Corp.          william.petty@lsil.com
Mr. Travis Bradfield  V  LSI Logic Corp.          travis.bradfield@lsil.com
Mr. Dave Gissel       V  LSI Logic Corp.          david.gissel@lsil.com
Ms. Jie Fan           P  Madison Cable Corp.      jie.fan@madisoncable.com
Mr. Mark Evans        P  Maxtor Corp.             mark_evans@maxtor.com
Mr. Russ Brown        V  Maxtor Corp.             russ_brown@maxtor.com
Mr. Jay Neer          P  Molex Inc.               jneer@molex.com
Mr. James R. (Bob)    AV Network Appliance Inc.   bob@netapp.com
Davis
Mr. Charles Monia     P  Nishan Systems Inc.      cmonia@nishansystems.com
Mr. Ting Li Chan      V  QLogic Corp.             ting.chan@qlogic.com
Mr. Gerald Houlder    P  Seagate Technology       gerry_houlder@seagate.com
Mr. Umesh Chandra     V  Seagate Technology       umesh_chandra@seagate.com
Mr. Vit Novak         P  Sun Microsystems, Inc.   vit.novak@sun.com
Mr. Paul D. Aloisi    P  Texas Instruments        Paul_Aloisi@ti.com
Mr. Ron Mathews       AV UNISYS Corporation       ronald.mathews@unisys.com

28 People Present

Status Key:  P    -  Principal
             A,A# -  Alternate
             AV   -  Advisory Member
             L    -  Liaison
             V    -  Visitor
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4. SPI-5 Topics

4.1 SPI-5 Testing [Manildi]

In the absence of Bruce Manildi, Umesh Chandra reported to the group on Ultra 640 testing. He noted that Ultra 320 backplanes appear to work at Ultra 640 and stated that detailed information will be ready for presentation at the next meeting.

4.2 SPI-5 Status [Penokie]

George Penokie reviewed the editor's notes in SPI-5 revision 0 with the result that the group agreed to the editorial changes.

4.3 Messages During Packetized [Bellamy]

This topic was discussed under new business item 6.3.

4.4 Negotiation Issues [Galloway]

This topic was discussed under new business item 6.4.

4.5 Ultra640 SCSI, Reduction of Crosstalk Errors During Timing Deskew (02-163) [Brown & Aliahmad]

Russ Brown presented a discussion of crosstalk issues in SPI-5 (02-163r0). The goal of the presentation was to explain the rational for a modification to the training pattern to compensate for identified crosstalk issues. The group agreed that the proposed modification to the training pattern would better center the resulting compensation with respect to whatever crosstalk effects exist. The complexity of the proposed training pattern changes was discussed and the group agreed that the changes appeared to be practical for most implementations, but some of those present reserved the right to review the detailed proposal.

Based on the agreements reached by the group, Mark Evans offered to prepare a detailed proposal for next time.

5. Old Business

5.1 Project Proposal for SPI-6 (01-145) [Lohmeyer]

John Lohmeyer asked that this item be deferred to the July meeting.

5.2 PIP Report [Ham]

Bill Ham reported that PIP is holding one meeting every two weeks in at attempt to get finished. The goal is to hold a letter ballot in July and to be finished well in advance of SPI-5. Bill offered to review the document personally with anyone who is interested.

6. New Business

6.1 Inconsistent use of 'assertion and negation' in SPI-4 (02-114) [Houlder]

Gerry Houlder asked that this item be covered in combination with item 6.2.

6.2 Public Review Comment #1 on INCITS 362 (SPI-4) (02-129) [Houlder]

After a brief review of the issues raised by the SPI-4 public review comment, Gerry Houlder moved to recommend that T10 accept the public review comment on SPI-4 (02-129r0). Mark Evans seconded the motion.

Mark and Gerry noted that the changes caused by accepting the public review comment affect only the minimum length of time at the beginning of a phase during which a transmitter is required to remain invalid while sending clock signals. The change reduces the minimum time from 200 ns to 100 ns.

Ting Chan asked about whether the 100 ns value is a minimum value or exactly required value. George explained that it is a minimum.

Mark noted that the circumstances resulting in the need for this change are an unfortunate decision to design to a "e.g." example in the dpANS and called upon those present to refrain from designing to examples in the future.

Ting stated his opposition to reducing the value to 100 ns minimum, noting that the only work around is to require training on every new data transfer phase. George and others disagreed with this assessment.

The motion passed on a vote of 9:3:7.

The group unanimously agreed that the change would be substantive.

George noted that the wording in SPI-4 is confusing and that just changing the numbers in SPI-4 (as requested by the public review comment) could lead to additional confusion with the result that some implementations might use 50 ns. He asked the group to consider rolling the SPI-5 wording into SPI-4. He reviewed the SPI-5 wording with the group. Concerns were raised about the lack of review on the SPI-5 material.

George Penokie moved that the editor be instructed to take the SPI-5 r0 wording in subclauses 10.7.4.2.2 10.7.4.2.3 and 10.7.4.3.3 and replace the equivalent subclauses in SPI-4 with that text as a non-substantive change. Bill Galloway seconded the motion. In the absence of any objections, the motion passed unanimously.

6.3 Link control message correction (02-150) [Galloway]

Bill Galloway moved that the group recommend 02-150r0 for inclusion in SPI-5. Gerry Houlder seconded the motion. Rob Elliott questioned text reading "if messages are allowed". George noted that the text should name the specific messages and Bill agreed to prepare a new revision. By agreement of Bill and Gerry, the motion was amended to reference r1. In the absence of any objections, the amended motion passed unanimously.

6.4 Negotiation Corrections (02-151) [Galloway]

Bill Galloway reviewed the proposal in 02-151r0 and corrections were requested.

Bill Galloway moved that 02-151r1 (r0 as modified) be recommended for inclusion in SPI-5. Rob Elliott seconded the motion. In the absence of any objections, the motion passed unanimously.

6.5 SPI-5 Wording Changes [Evans]

Mark Evans discussed editorial wording changes with George Penokie. George agreed to make the changes in the next revision of SPI-5.

7.   Review of Recommendations to the Plenary

Ralph Weber noted that the following recommendations have been made to the T10 plenary:

    Accept the SPI-4 PR comment (02-129r0) [Houlder] {9:3:7 — substantive}
    Link control message correction (02-150r1) [Galloway] {SPI-5, r0 as revised}
    Negotiation Corrections (02-151) [Galloway] {SPI-5, r0 as revised}

8.   Meeting Schedule

The next meeting of the Parallel SCSI Working Group will be Monday July 15, 2002 commencing at 9:00 a.m. in Colorado Springs, CO at the Wyndham Colorado Springs Hotel (719-260-1800).

9.   Adjournment

The meeting was adjourned at 12:30 p.m. on Monday, April 29, 2002.