Attendance:

Mr. Ziad Matni	Agere Systems
Mr. Ken Paist	Agere Systems
Mr. Bernhard Laschinsky	Agere Systems
Mr. Paul von Stamwitz	AMCC
Mr. Kevin Marks	Dell
Ms. David Freeman	Finisar
Mr. Barry Olawsky	Hewlett Packard Co.
Mr. Rob Elliott	Hewlett Packard Co.
Dr. Mark Seidel	Intel Corp.
Mr. Schelto van Doorn	Intel Corp.
Mr. Harvey Newman	Infineon Technology
Mr. Praveen Viraraghavan	LSI Logic Corp.
Mr. Brian Day	LSI Logic Corp.
Mr. Gabriel Romero	LSI Logic Corp.
Mr. Mike Jenkins	LSI Logic Corp.
Mr. Paul Wassenberg	Marvell Semiconductor, Inc.
Mr. Galen Fromm	Molex
Mr. Hock Seow	NEC Electronics America, Inc
Mr. Amr Wassal	PMC-Sierra
Mr. Yuriy Greshishchev	PMC-Sierra
Mr. Henry Wong	PMC-Sierra
Mr. Alvin Cox	Seagate Technology
Ms. Judy Westby	Seagate Technology
Mr. Stephen Finch	STMicroelectronics
Mr. Benoit Mercier	STMicroelectronics
Mr. Kevin Witt	Vitesse Semiconductor

26 in attendance

Agenda:

1. Speed negotiation sequence: Long burst versus COMWAKE.

Reference proposals:
SAS-2 SNW-3 Definition (06-355) [Wassal & Watson]
http://www.t10.org/ftp/t10/document.06/06-355r1.pdf

SAS-2 Start-up training sequence [Newman]
http://www.t10.org/ftp/t10/document.05/05-397r6.pdf

Current discussion:
A Look At COMWAKE For Use In SNW3 [Finch]
http://www.t10.org/ftp/t10/document.06/06-365r1.pdf

This proposal claims there is no timing issue when RCDT precedes the first COMWAKE. It did not include SSC in the uncertainty calculation in r0, but that analysis has been included in r1. The uncertainty concern was when there is a long idle time, but the additional analysis based on 32 bits shows no issue.

5000 OOBI Burst Analysis [Newman]
http://www.t10.org/ftp/t10/document.06/06-375r0.pdf

There was a question of "shall detect" and "may detect" since there are back-to-back bits possible. It was determined that these were not necessary since the signal is not bursts/gaps like this nomenclature had applied to in the OOB patterns.

There still needs to be some definition as to how to detect the long bursts, such as a defined time for a valid sampling window. It was also stated that these requirements are already defined for COMWAKE, so there is less standards work involved to with regards to defining the requirements if COMWAKE is used and there is already experience with how to detect them, so implementation issues should be minimal.

We discussed the concern of COMWAKE crosstalk to a SATA device. It was determined that this was no different than the possibility that COMRESET may be transmitted by a SAS drive, so there is no additional risk than what is already present in the system.

The 3.33uS basically allows one more distinct OOB pattern for the future. The use of COMWAKE does not introduce this restriction.

We voted on COMWAKE versus Long Burst method for transmitting data in SNW3. COMWAKE was selected by a vote of 7/4/4 as indicated below. It should be noted that it was determined that either method could be implemented, but if there was any preference for one version over the other by the voting company, they should choose that method rather than abstain.

COMWAKE: AMCC, Dell, LSI, PMC, Seagate, ST Microelectronics, Vitesse
Long burst: Agere, Finisar, Intel, Infineon
Abstain: HP, Marvell, Molex, NEC

With using only 32 bits of the approximately 70 bits available with COMWAKE, the remaining time should be idle to the end of the SNW3 window. This allows the possibility of additional bits in the future if needed.

2. Information transfer.

SAS-2 SNW-3 bit definitions
http://www.t10.org/ftp/t10/document.06/06-363r2.pdf

Not reviewed on the 8/24. Rob incorporated changes discussed on last call. Please review and comment as necessary.

3. Review of SNW windows and final speed negotiation window details.

SAS-2 Modifications to the SAS Speed Negotiation [Amr Wassal]
http://www.t10.org/ftp/t10/document.06/06-324r1.pdf

Reviewed the proposal and several comments were made regarding figures. Maximum train time may not be required (completed early), so Figure 124 needs to be updated. Other various changes were identified with other figures and tables.

Final SNW window:

Start of window:
Standard RCDT before training starts.

During training:
Seed value?
In a previous teleconference Seagate suggested that the 0 seed not be required with every window. Intel also expressed support for this method. PMC indicated that this concept would be added in the 06-324 update

Completion of window:
How is the final speed negotiation window completed?

We discussed the training completion and what determines a successful TRAINDONE primitive detection. Should there be 6 primitives with a certain number of them detected? The completion of training will be a major item on the next call.

Reference:

SAS-2 Start-up training sequence [Newman]
http://www.t10.org/ftp/t10/document.05/05-397r6.pdf

Next conference call Aug 31, 2006

Agenda:
- TRAINDONE and training completion rules
- State machines review
- Other SNW4 issues

PARTICIPANT INFORMATION:

Toll Free Dial in Number: (866) 279-4742
International Access/Caller Paid Dial In Number: (309) 229-0118
PARTICIPANT CODE: 3243413

Webex information:
https://seagate.webex.com/seagate
Topic: SAS-2 PHY WG
Date: Thursday, Aug 31, 2006
Time: 10:00 am, Central Daylight Time (GMT -05:00, Chicago)
Meeting number: 826 515 680
Meeting password: 6gbpsSAS