Minutes of SAS PHY Working Group conference call April 5, 2007

Attendance:

Mr. Paul von Stamwitz  AMCC
Mr. Greg McSorley  Amphenol
Mr. Kevin Witt  Dallas Semiconductor
Mr. Kevin Marks  Dell, Inc.
Mr. Douglas Wagner  FCI
Mr. Barry Olawsky  Hewlett Packard Co.
Mr. Rob Elliott  Hewlett Packard Co.
Mr. Michael Jenkins  LSI Logic Corp.
Mr. Gabriel Romero  LSI Logic Corp.
Mr. Brian Day  LSI Logic Corp.
Mr. Paul Wassenberg  Marvell Semiconductor, Inc.
Mr. John Sawdy  Merritec
Mr. Galen Fromm  Molex Inc.
Mr. Hock Seow  NEC Electronics America, Inc.
Mr. Tim Symons  PMC-Sierra
Mr. Rick Hernandez  PMC-Sierra
Mr. Joseph Chen  Samsung
Mr. Edward Chang  Samsung
Mr. Alvin Cox  Seagate Technology
Mr. Stephen Finch  STMicroelectronics
Mr. Kees Propstra  Tektronix, Inc.
Mr. Mahbubul Bari  Vitesse Semiconductor
Mr. Larry McMillan  WDC
Mr. Ramya Dissanayake  WDC
Mr. Greg Rice

25 in attendance

Agenda:

1) Number of taps for the reference receiver model:

Mike provided additional data.

The straw man pole on the number of taps for the reference receiver model:

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<thead>
<tr>
<th>Taps</th>
<th>Number</th>
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<tr>
<td>2</td>
<td>6</td>
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<tr>
<td>3</td>
<td>4</td>
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<td>Abstain</td>
<td>5</td>
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Distribution: end-users and IC suppliers split on 2-tap, versus 3-tap, drive manufactures supported 2-tap, abstains primarily connector companies and test equipment manufacturers.

2) Jitter discussion:

Test patterns, values, and measurement methodology.

These are 8G Fibre Channel documents describing test patterns which he would like to propose for consideration in the 6G SAS spec. The motivation for new patterns is that scrambling made previous patterns far too pessimistic. Even in the unlikely event that a CJTPAT-like pattern did occur, scrambling which includes the frame header would now ensure that it did not repeat.
The 1st presentation describes what is now termed JSPAT, a 500-bit, spectrally rich payload pattern for TX jitter testing. The 2nd presentation describes JTSPAT, a pattern with sequences like CJTPAT but within the 1e-12 probability of occurrence.


Both of these patterns have been voted into the 8GFC draft spec.

SAS concerns:

- The size of the patterns.
- These patterns depend on negative starting disparity which FCAL has, but SAS and SATA do not. That would make a SAS implementation twice as large if the starting running disparity is not forced to negative for this test.
- CJTPAT is already used and built into designs. Is there really a need to change?

Please look at these patterns versus those already used. Some comments from the discussion:
Would these patterns pass a unit that might fail using CJTPAT?
Would the wider spectral density fail a unit that CJTPAT doesn’t?
Should this type of pattern be used as an alternate to CJTPAT for SAS-2 to provide a transition path for the future?

3) Agenda for face-to-face (in order of discussion unless new items are provided):

Zero-length test load parameters
Transmitter specification
Receiver specification
  Physical TCTF
  Short cable and nearline applications results
  DFE performance model
Cable specification
  How do we specify a buildable 10-meter cable?
Channel specification (reference transmitter and receiver plus simulation?)

During joint session: 07-119 SAS-2 Far-end loopback phy test functions [Elliott]

No teleconference on 4/12.

T10 INTERIM APRIL 2007 MEETINGS ANNOUNCEMENT
17-19 April 2007
Hosted by Amphenol and HP

Meeting schedule:
Tuesday 17 April 2007  9am-6pm  SCSI Security (CAP WG)
Tuesday 17 April 2007  9am-6pm  SAS Physical WG
Wednesday 18 April 2007  9am-12pm  SAS Physical WG
Wednesday 18 April 2007  1pm-2pm  Joint SAS Physical/Protocol WG
Wednesday 18 April 2007  2pm-6pm  SAS Protocol WG
Thursday 19 April 2007  9am-6pm  SAS Protocol WG

Please RSVP on http://www.zoomerang.com/survey.zgi?p=WEB226A8XLW9RE

Location
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Houston Marriott North at Greenspoint
Room Rate
=========
Group Name: HP T10
Online group code: HTTHTTA  (for booking on http://www.marriott.com)
Group rate: $149.00 plus 17% tax (includes $40 meeting fee)
Please use the group name/group code when making reservations and confirm
the group rate
Cut-off date: Friday 30 March 2007

Host contacts
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Rob Elliott, HP
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