# IEEE 802.3
# CU4HDD Study Group – Task Force Meeting Minutes - 20-Dec-2016

Prepared by Dan Smith for Chairman Yong Kim

## Proposed Agenda:

link to agenda, **Agenda & Info**

## Presentations:

William Lo:

Auto Negotiation, **2.5G/5GBASE Backplane Auto-Negotiation Proposal**

2.5G Baseline Proposal, **2.5GBASE Backplane Baseline Proposal**

5G Baseline Proposal, **5GBASE Backplane Baseline Proposal**

Anthony Calbone:

Test Point Proposal, 5GBASE Backplane Baseline Proposal

## Preliminaries:

Meeting began at 9:07 am Atlanta time.

1. The meeting began with an introduction of Adam Healey (802.3 board member) from the Study Group acting chairman, Yong Kim.
2. Adam Healy addressed the committee, stating that we were becoming a "Task Force" with the nomination and election of a chairman. There was a motion and second to nominate Yong Kim as the chairman. Yong stepped out of the room and the remaining participants voted for, and elected, Yong Kim as chairman of the CU4HDD Task force. Y:7, N:0, A:0. Yong rejoined the meeting and Adam put him in charge and left the meeting.
3. Agenda was presented by the new elected Task Force chairman, Yong Kim. (see posting link above)
4. Next order of business, election of additional officers. Dan Smith was nominated by the chair to be Vice Chairman, with a motion, second, and unanimous vote to approve Dan as vice chair.
5. Yong went through the Task Force "decorum"
6. Goals of Task Force were covered with a slide. This included mention of changes on the web page to now incorporate the new, private Task Force area web page. The username and password were displayed. (Contact Yong Kim if you were not at the meeting.)

7.     Attendance sheet was passed. People could also use the attendance tool: https://imat.ieee.org.
8.     IEEE Structure chart was displayed and explained.
9.     Bylaws and Rules of Task Force were shown and explained.
10.    The chairman went through the usual Ground Rules pleasantries:
       IEEE Patent Policy and Meeting Guidelines:
       (http://www.ieee802.org/3/patent.html and
       https://development.standards.ieee.org/myproject/public/mytools/mob/slideset.pdf)
       No response from the meeting participants. Schrodinger and his cat were not there, so other responses went unnoticed.
11.    Study Group logistics are complete! More power to the Task Force.
12.    Task Force Comment Phase was explained with the display of Yong's slide.
13.    Liaison and Communications were explained.
14.    Potential Timeline was briefly displayed with more promised, later in the meeting. What a teaser, we couldn't wait!
15.    Motion was approved to accept the agenda. Whew!

## Presentations/Discussion.

William Lo (Marvell) presented three proposals:

1. Auto Negotiation: (see link above)
   a. based on Clause 73
   b. will not use Clause 37
   c. removed FEC bit
2. 2.5G Baseline: (see link above)
   a. questions about EEE operations with HDD
   b. internal interface renamed to: 2.5GPII

   (these changes could lead to actual inclusion in the bas spec)

3. 5.0G Baseline: (see link above)
   a. features are already in IEEE spec; an easy inclusion

Anthony Calbone (Seagate) presented one proposal:

1. 'BY' spec is similar (Yong)
2. a long discussion about host vs. drive compliance definition.
3. See BJ spec, Annex 93B (page 330) for Electrical Backplane Reference Model that will be a basis for the 'CB' model.
4. Much discussion on test point locations and test types.

5. The discussion also went to crosstalk and noise sources. See Annex 93C (page 331) for explanation of noise sources needed for channel testing.
6. What parts are normative or informative? (Yong)
7. we see the drive as being tested with an adapter.
8. Yong: should we make the connector a "reference", so people can use other types of connectors? (Yong)
9. Rich: the drive is simple; host system is rife with complications, so model needs to be more complex. This led into a discussion of need for reflections, crosstalk, and other noise stimulus, to be modeled entirely.
10. Rich: 10G did a frequency approach.
11. Chip-to-Module spec (??) has reference Rx models, if we choose that route.

Some final conclusions for the day.

1. Model all parts and assemble it with COM. (Informative?)
2. Measure entire system at the drive connector (Normative.)
3. We need both the model and the measurement to fully define this newish channel.

Next: (last items before we quit for the day)

1. Ad Hoc Report
   a. Dan Smith will become the acting chair for the Ad Hoc calls. (Poor guy is being 'groomed'.)
   b. Ad Hoc call details: same time, but different station. Dan to provide new Webex for the next set of Ad Hoc calls. (He promises – I think I believe him. Poor slob will still be secretary too. Any takers?)
   c. Ad Hoc calls to continue weekly, unless otherwise notified.
2. Editing: we believe we have most of the content from BZ for our draft.
   (fast track: baseline by Plenary, China. Really?!!)
3. Yong: Can Rich put together recommendations for a motion?
2. Stuff for tomorrow's meeting:
   a. Nominal Timeline: vote on it in Thurs meeting.
   b. Vote on 3 proposals from William Lo.
   c. Vote on Anthony's proposal.
   d. 2 presentations (tentative) from Rich Mellitz. Rich will try to put together a presentation/s to further explain TESTING.

Adjourned at 3:30 pm Atlanta time.

Meeting closed – 3:30 pm, Atlanta time.

Next Meeting: Thursday, 21-Jan-2016, 9:00 am, local time. Oh…. that's tomorrow.

## Attendees (attended F2F meeting)

| Name | Affiliation | Attended 1/20/2016 | Attended 1/21/2016 |
| --- | --- | --- | --- |
| Calbone, Anthony | Seagate | X | |
| Carlson, Mark | Toshiba | | |
| Chalupsky, David | Intel | | |
| Chandrian, Ajith | Cisco | | |
| Chang, Jacky | HP | | |
| Cox, Alvin | Seagate | | |
| Czekalski, Marty | HGST | X | |
| D'Ambrosia, John | DELL | | |
| Feyh, German | Broadcom | | |
| Ghani, Abbas | Ericsson | | |
| Healey, Adam | Avago | X | |
| Horner, Rita | Synopsys | X | |
| Jones, Peter | Cisco | | |
| Kim, Yong | Broadcom | X | |
| Kipp, Scott | Brocade | | |
| Law, David | HP | | |
| Lo, William | Marvell | X | |
| McCarthy, Mick | Analog Devices | X | |
| McMillan, Larry | Western Digital | X | |
| McSorley, Greg | Amphenol | X | |
| Mellitz, Rich | Intel | X | |
| Poh, Ed | Molex | | |
| Rahman, Hamza | Dell | | |
| Schoenhals, Mark | Marvell | | |
| Sedarat, Hossein | Aquantia | | |
| Sinha, Santanu | Broadcom | | |
| Skaar, Tom | Seagate | X | |
| Smith, Dan | Seagate | X | |
| Sommers, Scott | Molex | | |
| Souvignier, Tom | Broadcom | | |
| Suhler, Paul | HGST | | |
| Sun, Phil | Marvell | | |
| Svensen, Justin | LIT | X | |
| Telang, Vivek | Broadcom | | |
| Tenea, Bogdan | Ixia | | |

| Name | Affiliation | Attended 1/20/2016 | Attended 1/21/2016 |
|------|-------------|--------------------|--------------------|
| Tracy, Nathan | TE Connectivity | | |
| Tran, Paul | Marvell | | |
| Walker, Dylan | Walker | | |
| Wassenberg, Paul | Marvell | | |
| Wu, Peter | Marvell | X | |
| Zemach, Rami | Marvell | | |
| Zhang, Jin | Marvell | | |
| Zimmerman, George | CME Consulting, Inc. | | |
| Zimmerman, Yaron | Marvell | | |
| *Attendee Count:* | | 14 | |