

Unapproved Meeting Minutes: IEEE 2.5Gb/s and 5Gb/s Backplane and Short Reach Copper Study Group

September 17-18, 2015

Bonita Springs, Florida

Prepared by Anthony Calbone

IEEE 2.5Gb/s and 5Gb/s Backplane and Short Reach Copper Study Group meeting convened at 9:04AM, Thursday, September 17, 2015

**Appointment of recording Secretary:** Anthony Calbone volunteered.

**Motion #1:** Confirm Yong Kim as the IEEE 2.5Gb/s and 5Gb/s Backplane and Short Read Copper Study Group chair

**M:** Scott Sommers      **S:** Scott Kipp

**Y:** 13, **N:**0, **A:**0

**Motion is approved**

**Administrative:**

**Presentation:** [CU4HDD Study Group agenda 2015-09.pdf](#)

Presenter: Yong Kim, Chair

Yong Kim reviewed agenda, including a late submission.

The late submission was noted as copyrighted material and David Law noted that he has received a permission letter for this previously presented copyrighted material.

**Motion #2:** Approve agenda, including late submission

**M:** Ron Nordin, **S:** Tom Skaar

**Y:** 13, **N:**0, **A:**0

**Motion is approved**

Yong reviewed study group decorum, goals for study group, patent policy, and overview of IEEE 802.3 Standard Process, and the guidelines for PAR, CSD, and objectives.

Yong reviewed the attendance procedure for recording attendance.

**Presentations:**

**Title:** [Architecture Ad Hoc Report](#)

**Presenter:** Yong Kim

**Title:** [CSD DRAFT for considerations 2.5G/5G Ethernet Backplane & Copper](#)

**Presenter:** Yong Kim

**Title:** [PAR for considerations 2.5G/5G Ethernet Backplane & Copper](#)

**Presenter:** Yong Kim

**Title:** [Objectives for Considerations for 2.5G\5G Backplane and Copper Cable](#)

**Presenter:** Yong Kim

**Liaison Request:**

Liaison request from SFF-8601 to 802.3 was presented.

12:12pm break for lunch

**Presentations:**

**Title:** [CU4HDD BER Requirements](#)

**Presenter:** Anthony Calbone

**Title:** [5G PCS Options and Scrambling for Ethernet Backplane](#)

**Presenter:** William Lo

**Title:** [SAS Backplane Channel References](#)

**Presenter:** Anthony Calbone

**Title:** [Will SSD replace HDD?](#)

**Presenter:** Scott Kipp

**Title:** [Storage Networking Roadmaps](#)

**Presenter:** Scott Kipp

**Title:** [Object Drives: A New Architectural Partitioning](#)

**Presenter:** Marty Czekalski

**Title:** [Leverage existing IEEE 802.3 technology for 2.5/5GBASE backplane](#)

**Presenter:** William Lo

**Motion #3: Approve liaison letter for SFF-8601**

**M: William Lo S: Larry McMillian**

**Y: 17, N:0, A:0**

**Motion is approved**

**Big Ticket Items:**

-Objectives: Are cables needed in the objectives.

-Objectives: Backplane Definition

-CSD: Economic Feasibility: Need contributions for system cost.

Meeting ended on Thursday Seeptember 17<sup>th</sup> at 5:15pm.

IEEE 2.5Gb/s and 5Gb/s Backplane and Short Reach Copper Study Group meeting convened at 9:05AM, Friday, September 18, 2015

Discussion on tutorial for November plenary

Reviewed future meeting schedules and locations.

Reviewed voting and attendance rules of an IEEE member.

**Straw Poll #1: CU4HDDPHY and Channel Preferences**

**Chicago Rule: #1\_7, #2\_3, Abstain\_5**

**Choose one: #1\_6, #2\_1, Abstain\_4**

**Motion #4: [Move to approve "IEEE 802d3 to SFF- 8601 0915 draft.pdf" as shown, with a request for further editorial changes as deemed desired by the IEEE 802.3 Working Group Chair.](#)**

**M: William Lo S: Larry McMillan**

**Y: 17, N:0, A:0**

**Motion is approved**

**Motion #5: [Approve IEEE 802 tutorial request for November 2015 be made on the topic of Object Storage and this study group work.](#)**

**M: Larry McMillian, Western Digital S: Tom Skaar, Seagate**

**Y: 13, N:0, A:0**

**Motion is approved**

**Motion #6: [Move to approve "Managed Objects" in CSD as presented \(as modified\) in CU4HDD SG-CSD-v1- 1.PDF](#)**

**M: William Lo S: Jacky Chang**

**Y: 13, N:0, A:0**

**Motion is approved**

**Motion #7:** [Move to approve "Coexistence" in CSD as presented \(as modified\) in CU4HDD SG-CSD-v1-1.PDF](#)

**M:** Larry McMilliam    **S:** Thomas Skaar

**Y:** 13, **N:**0, **A:**0

**Motion is approved**

**Motion #8:** [Move to approve "Broad Market Potential" in CSD as presented \(as modified\) in CU4HDD SG-CSD-v1- 1.PDF](#)

**M:** Larry McMillan    **S:** Marty Czekalski

**Y:** 13, **N:**0, **A:**0

**Motion is approved**

**Motion #9:** [Move to approve "Compatibility" in CSD as presented and modified in CU4HDD SG-CSD-v1- 1.PDF](#)

**M:** William Lo    **S:** Rita Horner

**Y:** 13, **N:**0, **A:**0

**Motion is approved**

**Motion #10:** [Move to approve "Distinct Identity" in CSD as presented \(as modified\) in CU4HDD SG-CSD-v1- 1.PDF](#)

**M:** Larry McMillan    **S:** Tom Skaar

**Y:** 13, **N:**0, **A:**0

**Motion is approved**

**Motion #11:** [Move to approve "Technical Feasibility" in CSD as presented \(as modified\) in CU4HDD SG-CSD-v1- 1.PDF](#)

**M:** William Lo    **S:** Marty Czekalski

**Y:** 13, **N:**0, **A:**0

**Motion is approved**

Motion #12: [Move to approve “Economic Feasibility” as presented \(as modified\) in CU4HDD SG-CSD-v1- 1.PDF](#)

M: Tom Skaar S: Larry McMillan

Y: 13, N:0, A:0

Motion #13: [Move to approve the contents of Project Authorization Request \(PAR\) as modified in CU4HDD SG-PAR-v1- 1.PDF, and grant the study group chair and the work group chair editorial rights to fill out \(e.g. cut-&-paste and format\) IEEE-SA form.](#)

M: Tom Skaar S: Alon Regev

Y: 13, N:0, A:0

Motion is approved

Motion #14: [Move to adopt the slide 1 of objectives as modified in CU4HDD SG-Objectives-v1-1.PDF.](#)

M: Curtis Donahue S: Marty Czekalski

Y: 14, N:0, A:0

Motion #15: [Move to adopt the following objective:](#)

- Support a BER better than or equal to  $10E-12$  at the MAC/PLS service interface (or the frame loss ratio equivalent)

M: Larry McMillan S: Tom Skaar

Y: 13, N:0, A:0

Motion #16: [Move to adopt the following objective:](#)

- Define a single lane 2.5 Gb/s PHY that supports operation over defined 2.5 Gb/s backplane and twinaxial copper cable channels.

- Define a single lane 5 Gb/s PHY that supports operation over defined 5 Gb/s backplane and twinaxial copper cable channels.

M: Larry McMillan S: Marty Czekalski

Y: 12, N:0, A:0

Meeting ended on Friday, September 18<sup>th</sup> at 11:55 a.m.

**Attendees:**

<b>Last Name</b>	<b>First Name</b>	<b>Affiliation</b>	<b>Thursday (17-Sep-15)</b>	<b>Friday (18-Sep-15)</b>
Calbone	Anthony	Seagate	X	X
Chalupsky	David	Intel	X	
Chang	Jacky	Hewlett-Packard	X	X
Cibula	Pete	Intel	X	
Czekalski	Marty	HGST	X	X
Donahue	Curtis	UNH-IOL	X	X
Flatman	Alan	Lan Technologies	X	
Horner	Rita	Synopsys	X	X
Kim	Yong	Broadcom	X	X
Kipp	Scott	Brocade	X	
Klempa	Michael	UNH-IOL	X	
Lo	William	Marvell	X	X
Marris	Arthur	Cadence	X	
McMillan	Larry	Western Digital	X	X
Nadoliny	Jim	Samtech	X	
Nordin	Ron	Pandvit	X	
Regev	Alon	IXIA		X
Skaar	Tom	Seagate	X	X
Sommers	Scott	Molex	X	
Thaler	Pat	Broadcom	X	X
Wang	Roy	Hewlett-Packard	X	X
Zemach	Rami	Marvell	X	X