

Approved Minutes
IEEE P802.3bs 200 Gb/s and 400 Gb/s Ethernet Task Force
Interim Meeting
May 25-27, 2016
Whistler, BC, Canada

Prepared by John D'Ambrosia, Futurewei, subsidiary of Huawei

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IEEE P802.3bs Task Force Meeting – May 25, 2016:

Prepared by John D'Ambrosia

Convened at 1:00pm, Chaired by John D'Ambrosia

Introductions were made.

Agenda & General Information

By – John D'Ambrosia

See - http://www.ieee802.org/3/bs/public/16_05/agenda_3bs_01_0516.pdf

Chair reviewed the agenda.

Motion #1:

Move to approve the agenda

- Moved by: Thananya Baldwin
- Second by: Mark Gustlin
- Pass by voice vote without opposition

Motion #2:

Move to approve the IEEE P802.3bs Mar 2016 Plenary meeting minutes

- Moved by: Mike Dudek
- Second by: Thananya Baldwin
- Pass by voice vote without opposition

Chair noted that photography and recording not allowed without permission.

Chair called for members of the press or individuals reporting publically on the meeting to identify themselves. Chair noted in his role as Chair of Ethernet Alliance he talks with the press, but only uses published material for his discussions.

Chair continued with the introductory presentation.

Chair reminded attendees to observe decorum rules.

Chair reminded attendees to sign the book and sign into the IEEE Attendance tool.

Goals:

- Create technically complete 400GbE Draft
 - Respond to 84 Comments against D1.3
- 200 GbE Baseline Proposals Selection
- 19 Technical Presentations
- Liaisons & Communications
 - Consideration of proposed liaison to TIA TR-42.13 (kolesar_3bs_02_0316)
 - Consideration of liaison from OIF
- Approve generation of D1.4

Chair displayed the reflector and web page information.

Chair noted that the draft, and any other content, is posted for Task Force review only, and neither the content nor access information should be copied or redistributed to others in violation of document copyrights.

Chair displays the Bylaws and Rules slides.

IEEE Patent Policy: Chair reviewed the Patent related slides on the 5 slides contained in the agenda. Chair calls for potentially essential patents. No one responded. Chair read the Guidelines for IEEE-SA meetings.

Chair advised the TF attendees that:

- The IEEE's patent policy is described in Clause 6 of the *IEEE-SA Standards Board Bylaws*;
- Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged;
- There may be Essential Patent Claims of which the IEEE is not aware. Additionally, neither the IEEE, the WG, nor the WG chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development.

Chair reviewed the ground rules.

Chair reviewed the IEEE 802.3 Standards process.

Chair reviewed the liaisons and communications.

- Paul Kolesar had led ad hoc to review proposed liaison to TIA TR-42.13 RE: Requesting development of a standard for higher return loss MPO-16 plug and corresponding active device receptacle." Chair asked Mr. Kolesar to send the updated proposed liaison to the reflector.
- Update from OIF on CEI-56 Projects. No response is required at this time.

Presentation #1:

Title: 200GbE Logic Baseline proposal

By: Mark Gustlin

See http://www.ieee802.org/3/bs/public/16_05/gustlin_3bs_03_0516.pdf

Presentation #2:

Title: 200GbE Alignment Markers

By: Pete Anslow

See http://www.ieee802.org/3/bs/public/16_05/anslow_3bs_03_0516.pdf

Presentation #3:

Title: A CCAUI C2C and C2M Baseline Proposal for 200G Ethernet

By: Mike Peng Li

See http://www.ieee802.org/3/bs/public/16_05/li_3bs_01_0516.pdf

Presentation #4:

Title: 200GBASE-DR4: A Baseline Proposal for the 200G 500m Objective

By: Brian Welch

See http://www.ieee802.org/3/bs/public/16_05/welch_3bs_01_0516.pdf

Presentation #5:

Title: 50G PAM4 CWDM TDP Measurements

By: Chris Cole

See http://www.ieee802.org/3/bs/public/16_05/cole_3bs_01a_0516.pdf

Presentation #6:

Title: Helen Xu

By: Consideration of 200GE SMF Wavelength Choice for 10km

See http://www.ieee802.org/3/bs/public/16_05/xu_3bs_01c_0516.pdf

Chair asked if there would be any objections to considering Paul Kolesar's proposed liaison if there was time tonight. No objections were raised.

Break at 3:10pm

Meeting reconvened at 3:45pm

Chair reminded group about logistics for social event, and noted details for the afternoon.

Presentation #7:

Title: Chris Cole

By: Baseline 200GBASE-FR4 & -LR4 Specification Proposal

See http://www.ieee802.org/3/bs/public/16_05/cole_3bs_02_0516.pdf

Presentation #8:

Title: Peter Stassar

By: Updated baseline proposals for 200GBASE-FR4 and 200GBASE-LR4

See http://www.ieee802.org/3/bs/public/16_05/stassar_3bs_01_0516.pdf

Stassar to update to Slide #6 – removal of last bullet

Straw Poll #1

- I would support adopting the grid from the following proposal for 200GBASE-LR4 (10km SMF)
 - a. cole_3bs_02a_0516.pdf (CWDM)
 - b. "LAN WDM" Proposal from stassar_3bs_01_0516.pdf
 - c. undecided
- Results
 - a) 22
 - b) 33
 - c) 20

Motion #3

- Move that the IEEE P802.3bs Task Force approve the text in “IEEE_802d3_to_TIA_0516_draft.pdf” with editorial license granted to the IEEE 802.3 WG Chair (or his appointed agent) as a liaison to TIA TR-42.13.
- Moved by – Paul Kolesar
- Second by – Brad Booth
- Technical ($\geq 75\%$)
- Results – Motion passes by voice vote without objection

Meeting broke for day at approximately 5:30pm.

IEEE P802.3bs Task Force Meeting – May 26, 2016:

Prepared by John D'Ambrosia

Meeting reconvened at 8:00am

IEEE Patent Policy: Chair reviewed the Patent related slides on the 5 slides contained in the agenda. Chair calls for potentially essential patents. No one responded. Chair read the Guidelines for IEEE-SA meetings.

Chair reviewed plans for the day.

Task Force Review began.

Presentation #1:

Title: Chief Editor's Report

By: Pete Anslow

See http://www.ieee802.org/3/bs/public/16_03/anslow_3bs_01_0316.pdf

It was noted that the track chairs would provide closing reports on Friday morning. Any participants with any issues regarding decisions made during the track meetings, should bring these issues to the attention of the Task Force at the Friday morning meeting. It was also noted that a group of comments for a "bucket" motion was noted on Page 12 of Chief Editor's Report. An opportunity at the Friday morning meeting would be given for individuals to have any of these comments considered.

Break 10:25am

IEEE P802.3bs Logic Track Meeting –

Prepared by Mark Gustlin

Chaired by Mark Gustlin

Convened at 10:50am

Call for patents was made, no one stepped forward.

Logic Track comment resolution started

Closed 14 comments in 45 minutes, 3.2 minutes per comment.

Closed comment #14 to add in FEC degrade monitoring (in the common time)

Closed comments #48/16 which greatly simplify the AM padding

Clause 118 was filled out with PICS, Management, MMD numbering and the FEC degrade

Significant updates to Annex 119A (#17/2/4)

All TBDs are now closed.

Break at 11:35am

IEEE P802.3bs Optical track meeting:

Prepared by Pete Anslow

Convened at 10:54 a.m.,
chaired by Pete Anslow, IEEE P802.3bs Chief Editor

Comment resolution started at 10:56 a.m.

Presentation #1:

Title: TDEC for PAM4 ('TDECQ')

By: Jonathan King

See http://www.ieee802.org/3/bs/public/16_05/king_3bs_01_0516.pdf

Break for lunch at 12:03 a.m.

Reconvened at 1:25 p.m.

Presentation #2:

Title: TDECQ Modeling for 400GBase-DR4

By: Brian Welch

See http://www.ieee802.org/3/bs/public/16_05/welch_3bs_02_0516.pdf

Comment resolution continued.

Break at 3:04 p.m.

Resume at 3:19 p.m.

Comment resolution completed at 3:35 p.m.

Presentation #3

Title: 200GBASE-FR4 & -LR4 Baseline Proposal

By: Chris Cole

See http://www.ieee802.org/3/bs/public/16_05/cole_3bs_03_0516.pdf

Break at 4:00 p.m.

IEEE P802.3bs Electrical track meeting:

Prepared by Andre Szczepanek

Convened at 10:50 a.m.

2016, chaired by Andre Szczepanek, IEEE P802.3bs Annex 120D/E Editor.

Comment resolution started.

Presentation #1:

Title: Comment 43: Module Tx eye Measurement Method Proposal

By: Raj Hegde

See http://www.ieee802.org/3/bs/public/16_05/hegde_3bs_02_0516.pdf

Comment resolution on related comments.

Presentation #2:

Title: Comment 42: CDAUI-8 C2C Jitter Budget Proposal

By: Raj Hegde

See http://www.ieee802.org/3/bs/public/16_05/hegde_3bs_03_0516.pdf

Comment resolution started.

Break for lunch at 12:00 a.m.

Resume at 1:18 p.m.

Presentation #3:

Title: Comment 32: Considerations for the CDAUI-8 chip-to-chip pmax/vf limit

By: Adam Healey

See http://www.ieee802.org/3/bs/public/16_05/healey_3bs_01_0516.pdf

Comment resolution continued.

Break at 3:00 p.m.

Reconvened at 3:30 p.m.

Presentation #4:

Title: Comment 18: T-Coil Model for COM

By: Yasuo Hidaka

See http://www.ieee802.org/3/bs/public/16_05/hidaka_3bs_01a_0516.pdf

Comment resolution continued.

Break at 4:20 p.m.

IEEE P802.3bs Task Force Meeting – May 27, 2016:

Prepared by John D'Ambrosia

Meeting reconvened at 8:30am.

IEEE Patent Policy: Chair reviewed the Patent related slides on the 5 slides contained in the agenda. Chair calls for potentially essential patents. No one responded. Chair read the Guidelines for IEEE-SA meetings.

Chair reminded group that the Task Force is contribution driven.

Pete Anslow noted that there would be a SMF Optics Ad Hoc meeting, Tuesday June 7. Andre Szczepanek indicated he was planning one for the Electrical Interface Ad hoc, and Mark Gustlin – one for the Logic Ad hoc. They will announce it next week.

Strawpoll #2

- I will attend the June 27-28 Interim (Piscataway, NJ)
 - Yes – 12
 - No - 28
 - Maybe 13

Presentation #8:

Title: Logic Track Closing Report

By: Mark Gustlin

See http://www.ieee802.org/3/bs/public/16_05/gustlin_3bs_04_0316.pdf

Presentation #9:

Title: Optical Track Closing Report

By: Pete Anslow

See http://www.ieee802.org/3/bs/public/16_05/anslow_3bs_04_0516.pdf

Presentation #10:

Title: Electrical Interface Closing Report

By: Andre Szczepanek

See http://www.ieee802.org/3/bs/public/16_05/szczepanek_3bs_02_0516.pdf

At 9:12am discussion regarding the topic of Roman versus Arabic based nomenclature that had been raised on the reflector the night before was addressed. Chair asked chief editor to explain the proposed changes from an editorial perspective. The chief editor noted that the change was not a simple “global replace” as some thought, due to the presence of the nomenclature in multiple figures. If such a changed were adopted in this meeting, it would impact the release date of D1.4.

Strawpoll #3

- A consistent nomenclature (e.g. CCMII / CDMII or 200GMII / 400GMII, CCAUI / CDAUI or 200GAUI / 400GAUI, etc) should be selected for implementation in IEEE P802.3bs.
- Results
 - Yes – 55
 - No – 1
 - Abstain - 0

Motion #4

- Move:
 - Use existing roman numeral based nomenclature (i.e. CC or CD) for generation of Draft 1.4
 - Pre-submit Draft 1.5, with nomenclature based on Roman numbers, for consideration to proceed to WG Ballot
 - Direct editorial team to create two “candidate” versions of Draft 2.0, one version with nomenclature based on Roman numbers and one version based on Arabic numbers.
 - Discuss nomenclature @ July 2016 IEEE 802 Plenary and resolve which “candidate” version (nomenclature is based on Roman or Arabic numbers), and present the selected version for consideration to proceed to go to WG Ballot
- Moved by – Pete Anslow
- Second by – Steve Trowbridge
- Procedural (>50%)
- Results –
 - Y - 53
 - N - 0
 - Abstain: 0

Pete Anslow agreed to generate a proposal for the Arabic-based nomenclature definition, for the Task Force to consider. A Task Force ad hoc meeting to be held prior to the June Interim to discuss the proposal. Date is TBD, but will be announced the week of May 30.

Meeting break at 10:00am
Reconvened at 10:15am

Chair asked if anyone wished to review cole_3bs_03_0516.pdf

Motion #5

- Move to adopt gustlin_3bs_03_0516.pdf as the baseline proposal for the “logic” sublayers to support 200 GbE operation
- Moved by – Mark Gustlin
- Second by – Dave Ofelt
- Technical (>=75%)
- Results – passed by voice vote without objection

Motion #6

- Move to adopt li_3bs_01_0516.pdf as the baseline proposal for the chip-to-chip and chip-to-module interfaces objective for 200GbE
- Moved by – Ali Ghiasi
- Second by – Mike Dudek
- Technical ($\geq 75\%$)
- Results – passed by voice vote without objection

Motion #7

- Move to adopt welch_3bs_01a_0516.pdf as the baseline proposal for the 200 GbE 500m of 4-lane parallel SMF objective
- Moved by – Brian Welch
- Second by – Chris Cole
- Technical ($\geq 75\%$)
- Results – passed by voice vote without objection

Motion #8

- Move to adopt cole_3bs_03_0516.pdf as the baseline proposals for
 - the 200 GbE 2 km of SMF objective
 - the 200 GbE 10 km of SMF objective
- Moved by – Chris Cole
- Second by – Peter Stassar
- Technical ($\geq 75\%$)
- Results – passed by voice vote without objection

Motion #9

- Move to:
 - Adopt remaining proposed responses to “bucket” comments detailed on Slide 12 of anslow_3bs_01a_0516.pdf
 - Generate Draft 1.4 for Task Force review from Draft 1.3, closed comments, and adopted baselines for 200 GbE
 - Editors are granted license when implementing the adopted 200 GbE baselines to keep consistent with any changes noted above to D1.3
- Moved by – Pete Anslow
- Second by – Steve Trowbridge
- Technical ($\geq 75\%$)
- Results – passed by voice vote without objection

Presentation #11:

Title: Chief Editor's Closing Report

By: Pete Anslow

See http://www.ieee802.org/3/bs/public/16_05/anslow_3bs_05_0516.pdf

Chair discussed next meetings.

- See: <http://www.ieee802.org/3/interims/index.html>
- June 2016 Interim
 - June 27 - 28
 - Location Piscataway, NJ, USA
- July 2016 Plenary
 - Week of July 24
 - Location San Diego, CA, USA
- Sept 2016 Interim
 - Week of Sept 12
 - Location Ft. Worth, TX, USA
- Nov 2016 Plenary
 - Week of Nov 6
 - San Antonio, TX, USA

Motion #10:

Move to adjourn

- Moved by: Thananya Baldwin
- Second by: Peter Stassar
- Pass by voice vote without opposition

Meeting adjourned at approximately 11:30am.

Meeting Attendees

IEEE P802.3bs 400GbE Task Force			5/25	5/26	5/27
Last Name	First Name	Employer / Affiliation	Wed	Thur	Fri
Anslow	Pete	Ciena Corporation	x	x	x
Baden	Eric	Broadcom	x	x	x
Balan	Vishnu	Nvidia	x		
Balasubramonian	Venu	Marvell	x		
Baldwin	Thananya	Ixia	x	x	x
Braun	Ralf-Peter	Deutsche Telekom	x	x	x
Brooks	Paul	Viavi Solutions	x	x	x
Brown	Matt	Applied Micro		x	
Butter	Adrian	Global Foundries	x	x	x
Caggioni	Francesco	APM	x	x	
Chang	Xin	Huawei	x		x
Chen	David	Applied Optoelectronics	x		x
Cole	Chris	Finisar	x		x
D'Ambrosia	John	Futurewei, subsidiary of Huawei	x	x	x
Dawe	Piers	Mellanox	x	x	x
Dillard	John	Microsemi	x	x	x
Djahanshahi	Hormoz	Microsemi	x	x	x
Donahue	Curtis	UNH-IOL	x	x	
Dudek	Mike	QLogic	x	x	x
Ellison	Jason	The Siemon Company	x	x	
Estes	Dave	Spirent Communications	x	x	x
Fife	James	eTopus Tech	x	x	
Ghiasi	Ali	Ghiasi Quantum	x	x	x
Gong	Zhigang	D-Net	x	x	
Gupta	Atul	MACOM	x	x	
Gustlin	Mark	Xilinx	x	x	x
Hall	Aaron	Ixia	x		
Healey	Adam	Broadcom LTD	x	x	x
Hegde	Raj	Broadcom	x		
Hidaka	Yasuo	Fujitsu Laboratories of America	x	x	x
Huang	Xi	Huawei	x	x	x
Hutchison	Michael	Ixia	x		
Ingham	Jonathan	Foxconn Interconnect Technology		x	x
Isono	Hideki	Fujitsu Ltd.	x	x	x
Issenhuth	Tom	Microsoft	x		
Jackson	Kenneth	Sumitomo	x	x	
Johnson	Stephen	UNH-IOL		x	
Kareti	Upen Reddy	Cisco	x	x	x
Kelsen	Michael	Time Warner Cable		x	
Kim	Yong	Broadcom	x		
Kimber	Mark	Semtech	x	x	x
Kipp	Scott	Brocade	x		
Kolesar	Paul	CommScope	x		
Law	David	HP	x		
LeCheminant	Greg	Keysight Technologies	x		
Lewis	Dave	Lumentum	x	x	x
Li	Mike	Intel	x	x	

Lim	Jane	Cisco	x		
Lin	Yingo	AOI	x	x	x
Lingle, Jr.	Robert	OFS		x	
Liu	Hai-Feng	Intel	x	x	x
Liu	Zhenyu	Credo Semiconductor	x	x	x
Lusted	Kent	Intel	x		
Maki	Jeffery	Juniper Networks	x	x	x
Malicoat	David	Hewlett Packard Enterprise	x	x	x
Matoglu	Erdem	Amphenol		x	
McDermott	Tom	Fujitsu	x	x	x
McDonough	John	NEC America	x	x	
McSorley	Greg	Amphenol		x	
Mehta	Anil	Brocade	x	x	
Mellitz	Richard	Intel	x		
Muir	Ron	JAE	x	x	
Murray	Dale	Light Counting	x		
Nowell	Mark	Cisco		x	
Ofelt	David	Juniper Networks	x	x	x
Palkert	Tom	Luxtera	x		
Pepper	Gerald	Ixia	x	x	x
Pham	Phong	US Conec Ltd	x	x	x
Piehler	David	Dell	x	x	
Rotolo	Salvatore	STM Microelectronics	x	x	x
Sakai	Toshiaki	Socionext	x	x	x
Satake	Toshiaki	US Conect Ltd	x	x	x
Shrikhande	Kapil	Innovium	x	x	x
Slavick	Jeff	Broadcom, Ltd.	x	x	x
Sommers	Scott	Molex	x	x	
Sone	Yoshiaki	NTT	x	x	
Srivastava	Atul	NEL / NTT	x	x	
Stassar	Peter	Huawei	x	x	x
Stephens	Jeremy	Intel	x		
Stone	Rob	Broadcom	x		
Swanson	Steve	Corning	x	x	
Szczepanek	Andre	Inphi	x	x	x
Szeto	William	Xtera	x	x	
Tailor	Bharat	Semtech Corp		x	x
Tamura	Kohichi	Oclaro Japan	x	x	x
Tien	George	AOI		x	x
Toyserkani	Pirooz	Cisco	x	x	
Tracy	Nathan	TE Connectivity	x	x	
Tren	George	AOI	x	x	
Trowbridge	Steve	Alcatel-Lucent	x	x	x
Ulrichs	Ed	Source Photonics	x	x	x
Wahn	Haifel	Huawei			x
Wang	Tongtong	Huawei	x		x
Wang	Xinyuan	Huawei	x		x
Way	Winston	NeoPhotonics	x	x	x
Welch	Brian	Luxtera	x	x	x
Wertheim	Oded	Mellanox	x	x	x
White	Martin	Cavium	x	x	
Winkel	Ludwig	Siemens AG			x
Xu	Yu	Huawei	x		x

Zhuang	Yan	Huawei	x		x
Zivny	Pavel	Tektronix	x	x	x
Zortea	Tony	Multiphy	x	x	