

Approved Minutes
IEEE P802.3cm 400 Gb/s over Multimode Fiber Task Force Ad Hoc Web/Teleconference
April 25, 2019

Group Name: IEEE P802.3cm 400 Gb/s over Multimode Fiber Task Force Ad Hoc

Date/Location: Thursday, April 25, 2019. Web/Teleconference

Chair: Robert Lingle, Jr., P802.3cm TF Chair

Recording Secretary: Mabud Choudhury

Meeting Participants:

	Name	Employer	Affiliation
1	Adrian Young	Leviton Mfg.	Leviton Mfg.
2	David Law	Hewlett Packard Enterprise	Hewlett Packard Enterprise
3	David Piehler	Dell EMC	Dell EMC
4	Dean Wallace	Marvell	Marvell
5	Flavio Marques	Furukawa Electric LatAm	Furukawa Electric LatAm
6	Greg McSorley	Amphenol	Amphenol
7	James Young	CommScope	CommScope
8	John Abbott	Corning Inc	Corning Inc
9	John Kamino	OFS	OFS
10	Jonathan Ingham	Foxconn Interconnect Technology	Foxconn Interconnect Technology
11	Mabud Choudhury	OFS	OFS
12	Mark Nowell	Cisco	Cisco
13	Mike Dudek	Marvell	Marvell
14	Paul Kolesar	CommScope	CommScope
15	Piers Dawe	Mellanox	Mellanox
16	Rakesh Sambaraju	Nexans	Nexans
17	Ramana Murty	Broadcom	Broadcom
18	Raymond Nering	Cisco	Cisco
19	Robert Lingle, Jr.	OFS	OFS
20	Stephen Didde	Keysight Technologies	Keysight Technologies
21	Steve Swanson	Corning Inc	Corning Inc

21 attendees participated in the April 25, 2019 web call. If you participated in the meeting but are not listed or if you attended and company employer/affiliation is incorrect, please email Mabud Choudhury, mchoudhury@ofsoptics.com with a correction.

Call to order/Meeting Start Time: 12:05 pm Eastern Daylight Time/EDT (UTC -4)

Chair's remarks:

- Reminder for participants to record their attendance along with employer/affiliation to Mabud Choudhury at mchoudhury@ofsoptics.com
- Reviewed Agenda,
 - Slide 3 of http://www.ieee802.org/3/cm/public/adhoc/lingle_3cm_adhoc_02_042519.pdf

- Piers Dawe asked to review material from a previous IEEE P802.3cm contribution after the scheduled contributions

Approval of agenda: Agenda was approved.

- Participation in IEEE 802 Meetings and Guidelines for IEEE-SA Meetings, including Patent Policy, reviewed (Slides 4 - 8 of link above). No one indicated being unfamiliar with these policy slides.
- Approved previously posted Unapproved Minutes for April 4th, 2019 ad hoc meeting: http://www.ieee802.org/3/cm/public/adhoc/unapproved_minutes_3cm_adhoc_01_040419.pdf
- Following information was included in the "Agenda & Preparation for the May Interim" slides, http://www.ieee802.org/3/cm/public/adhoc/lingle_3cm_adhoc_02_042519.pdf but not covered (slides 12 and 13 not covered) during the meeting due to time constraint:
 - TF meeting dates during Salt Lake City Interim:
 - **Monday May 20th, 2019, 08:00 – 18:00** Mountain Daylight Time (MDT, UTC-6)
 - (If necessary) **Tuesday, May 21th, 2019, 08:00 – 12:00** MDT/UTC-6
 - Preparation and goals for March Plenary TF meetings:
 - Primary focus:
 - The focus of the IEEE P802.3cm Task Force meeting at Salt Lake City May Interim TF meeting shall be comment resolution against D2.0
 - Motions for TF and WG to authorize D2.1
 - Deadlines for requesting agenda time and submitting presentations (Slide 13 of above link):
 - Request time from Chair, rlingle@ofsoptics.com by midnight **THURSDAY, MAY 9th, 2019 11:59pm (AoE)**
 - Submit presentation to Chair, rlingle@ofsoptics.com by midnight **WEDNESDAY, MAY 15th, 2019 11:59pm (AoE)**

Technical Topics/Contributions:

1. Editors' update – Jonathan Ingham, Chief Editor:

- Slide 10 of http://www.ieee802.org/3/cm/public/adhoc/lingle_3cm_adhoc_02_042519.pdf:
 - Draft 2.0 Ballot:
 - Opened Saturday 23rd March 2019
 - Closed Sunday 21st April 2019 23:59 AOE
 - 58 comments received:
 - 15 TR, 8 T, 3 ER, 32 E comments
 - by Clause: http://www.ieee802.org/3/cm/comments/P802d3cm_D2p0_comments_received_by_clause.pdf
 - by ID: http://www.ieee802.org/3/cm/comments/P802d3cm_D2p0_comments_received_by_ID.pdf
 - Editorial team will provide proposed responses to comments prior to Salt Lake City Interim TF meeting
 - There will be a proposed list of comment responses in the "Bucket"
 - Comments will be resolved at Salt Lake City Interim TF meeting, week of May 20, 2019

- WG Chair David Law provided results for the successful completion of WG Ballot D2.0. WG Chair also summarized recirculation ballot need and process based on whether or not there are substantive changes and/or required comments.
2. **“Proposed change to 400GBASE-SR4.2 specification” – Jonathan Ingham, Carlo Mariotti:**
 - http://www.ieee802.org/3/cm/public/adhoc/ingham_3cm_adhoc_01_042519.pdf
 - Updated presentation based on discussion and feedback from April 4th, 2019 ad hoc presentation on the proposal.
 - Emphasis on maximizing component re-use between the 400GBASE-SR4.2 specification and large and growing installed base of 100G BiDi.
 - Discussion topics included component commonality vs. overall compatibility, yield, testing, and possibility of combing this proposal with proposed potential increase in MN penalty contributions.
 - General discussion. Clarifying questions were asked and answered.
 3. **“Additional detail on pepeljugoski_01_0108 modal noise calcs” – Robert Lingle, Jr.:**
 - http://www.ieee802.org/3/cm/public/adhoc/lingle_3cm_adhoc_01_042519.pdf
 - Contribution provides additional data from 2008 work by Pepeljugoski *et al.* (http://www.ieee802.org/3/ba/public/jan08/pepeljugoski_01_0108.pdf) to support further analysis of modal noise penalty allocation. This fulfills a request by the Task Force during discussion at the Vancouver Plenary.
 - General discussion. Clarifying questions were asked and answered.
 - Petar Pepeljugoski was thanked for supplying this data to the IEEE P802.3cm Task Force.
 4. **“Curve fitting to Petar Pepeljugoski’s modal noise simulations” – Paul Kolesar:**
 - http://www.ieee802.org/3/cm/public/adhoc/kolesar_3cm_adhoc_01_042519.pdf
 - The unobscured data for MPNk = 0.1 presented in http://www.ieee802.org/3/cm/public/adhoc/lingle_3cm_adhoc_01_042519.pdf (above) was curve-fit and presented. Based on projected curve-fit data and utilizing analysis from http://www.ieee802.org/3/cm/public/March19/king_3cm_01_0319.pdf, 0.2 dB of additional power budget was proposed.
 - General discussion. Clarifying questions were asked and answered.
 - Chair noted that group needs to balance the impulse to make a detailed technical re-evaluation of the modal noise allocation with the need to maintain Task Force schedule. Plugging the new information into the methodology used in recent Ethernet projects, and comparing against experiments, may strike the right balance, within the error bars, on this topic.
 5. **Walk-on item: Piers Dawe reviewed his prior proposal/presentation “400GBASE-SR4.2 optical penalties” originally presented during October 11, 2018 ad hoc meeting:**
 - http://www.ieee802.org/3/cm/public/adhoc/dawe_3cm_adhoc_01_101118.pdf
 - Emphasis on the penalties, not so much about the budget. Proposal to have equations/formulas for noise so as not to penalize good transmitters.
 - Discussion on potentially combining noise penalty proposals from Dawe with Ingham/ Mariotti proposal for change in specification for component commonality with 100G BiDi, http://www.ieee802.org/3/cm/public/adhoc/ingham_3cm_adhoc_01_042519.pdf
 - General discussion. Clarifying questions were asked and answered.

TF Chair strongly encouraged off-line consensus building on the topics covered today, prior to the next Ad Hoc call in two weeks and the Salt Lake City meeting.

Meeting closed: 2:00 pm Eastern Daylight Time/EDT (UTC -4)

Next Meeting:

- Thursday, May 09, 2019, 12 noon – 2:00 pm (12:00 – 14:00) Eastern Daylight Time/EDT (UTC -4), 400G over MMF TF Ad Hoc Web/Teleconference