Unapproved Minutes

IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force Ad Hoc Meeting

Webex Meeting
October 1, 2020
Prepared by Mabud Choudhury

Group Name: IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force
Date/Location: Thursday, October 1, 2020. Webex meeting.
Chair: Robert Lingle, Jr, affiliated with OFS
Recording Secretary: Mabud Choudhury, affiliated with OFS
Meeting Participants: Attendance is listed in Appendix A (38 attendees – based on official IMAT attendance list; 49 Webex attendees)

Call to order:
IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force (TF) Ad Hoc WebEx meeting was convened at 12:02 PM Eastern Daylight Time (EDT/ UTC -4), Thursday, October 1, 2020 by Robert Lingle, Jr., P802.3db TF Chair.

Mr. Lingle welcomed attendees. He asked attendees to use http://imat.ieee.org/ to record attendance, and provided Session Code for the meeting. Attendance record based on IMAT only.

Chair's Presentation:
Title: "Agenda and General Information"
Presenter: Robert Lingle, Jr. (OFS)
lingle_3db_adhoc_01_100120.pdf

Mr. Lingle then proceeded with reviewing the **Agenda** and asked if there any modifications, additions or deletions? There were none.
12:05 PM: The agenda was approved by the Task Force without opposition. **Approved Agenda:**

- Meeting Attendance and Webex
- Approve Agenda
- Reflector and Web
- IEEE
  - Call for Patents. IEEE Patent Policy reminder: http://www.ieee802.org/3/patent.html
  - IEEE Copyright reminder: https://standards.ieee.org/ipr/index.html
  - IEEE Participant reminder: http://www.ieee802.org/devdocs.shtml
- Presentations
  - "In Support of Linear Interface: Measurements / Simulations" - Ryan Latchman (MACOM)
  - "One vs. Two Link Length PMDs for 100 Gb/s per Lane" – Raman Murthy (Broadcom), Vipul Bhatt (II-VI)
- Chair's discussion of next steps
- Future Meetings

Mr. Lingle showed the links to the IEEE P802.3db Task Force webpage, ad hoc page, and the email reflector.

12:07 PM: Chair reviewed **"Call for potential Essential Patent Claims"** slides 5-6 of lingle_3db_adhoc_01_100120.pdf .
IEEE Patent Policy reminder: http://www.ieee802.org/3/patent.html

IEEE SA Copyright Policy: Mr. Lingle provided overview of slide 7 of lingle_3db_adhoc_01_100120.pdf entitled "IEEE SA Copyright Policy"
IEEE Copyright reminder: https://standards.ieee.org/ipr/index.html

IEEE SA Participation Policy: Mr. Lingle showed the participation policy slide 8 of lingle_3db_adhoc_01_100120.pdf .
IEEE Participant reminder: http://www.ieee802.org/devdocs.shtml

Contribution #1:
Title: "In Support of Linear Interface: Updated Measurements / Simulations"
Presenter: Ryan Latchman (MACOM)
latchman_3db_adhoc_01_100120.pdf

- Presentation provided updated measurements and simulations as follow up to author's September 3rd TF ad hoc prior contribution latchman_3db_adhoc_01a_090320.pdf. Rx path measured results and Tx Path simulations were presented.
- Technical discussion followed
- Topics discussed included:
    - Including connector. Connector crosstalk and reflection. Adding crosstalk channel aggressors. Use of SMF source vs. VCSEL source. Emulating a VCSLE transmitter. Measuring stressed sensitivity. Complexity of linear approach relative to .3ck. Linear approach being optional, so .3ck approach can still be used. Reflections bigger issue than crosstalk; more issues with short links. Utilizing host DSP capability. Better design balanced equalizer vs. lots of taps. PRBS or loopback, debugging and performance monitoring.
    - Discussion about impact on timeline if linear approach is included for this project.
- Clarifying questions asked and answered
- Author welcomed feedback from the group and indicated that further work would be done to establish technical feasibility of linear approach for this project.

Contribution #2:
Title: "One vs. Two Link Length PMDs for 100 Gb/s per Lane"
Presenter: Ramana Murty (Broadcom)
murty_3db_adhoc_01a_100120.pdf

- Presented:
    - Define and identify differences between PMDs for two link lengths – PMD1: 30m OM3, PMD2: 100m OM4. Explore if the differences significant.
    -
- Technical discussion followed.
- Topics discussed included:

    - Utilizing updated/correct chromatic dispersion values for OM3 and OM4, while IEC updates those specifications. PMD1 vs. AOC. Expert affiliated with Microsoft end-user perspective on PMD1 vs. AOC. Using PMD2 with linear approach as low-power PMD1 solution. Need for low-power, low-cost solution.
- Author welcomed feedback from the group
- Clarifying questions asked and answered

Chair's discussion about next steps, slide 10-12 of lingle_3db_adhoc_01_100120.pdf :

- Chair's discussion with likely early adopters:
    - Transceivers are desirable for TOR elimination
    - Having multiple suppliers of practical parts is a key to early success for fiber-to-the-server
    - Do not overburden optics for fiber-to-the-server with yield hit or higher relative cost to achieve 100m reach
    - Chair believes a 30m reach over OM3 MMF remains important
- End user contributions are being actively encouraged from the hyperscale & server NIC card community in October
- Next steps:
    - Staffing of key roles
    - We need to produce baseline proposal tables ASAP
    - Key members of our TF want clarity on reach targets before writing tables of parameters
    - Linear Interface – chair believes TF work on this topic requires an explicit objective, approved by TF and WG
    - Straw polls on all topics in October ad hoc telecons
    - Final decisions on adding any objectives not later than 11/12 Interim Telecon
    - Timeline adopted at 11/12 Interim Telecon
    - Full speed ahead
- Chair also indicated that if TF decides to move forward with optional linear approach, a new TF and WG approved objective will be required.

Future meetings:

- See: http://ieee802.org/3/calendar.html and http://ieee802.org/3/interims/index.html

- P802.3db TF Ad Hoc Teleconferences are currently scheduled:
    - Biweekly on Thursdays at 12 Noon to 2 pm Eastern US (EDT/UTC -4): http://www.ieee802.org/3/db/public/adhoc/index.html
    - Next meeting Thursday, October 15, 12 Noon to 2 pm Eastern US (EDT/UTC -4)

- P802.3db TF Interim Teleconference: 10/29 and 11/12 Ad Hocs designated as Interims

- Please note three 802.3 Plenary Meetings in November on web calendar

The Task Force Ad Hoc meeting was adjourned at 2:00 PM EDT/ UTC -4, Thursday, October 1, 2020.

Next Meeting:
Scheduled P802.3db TF ad hoc Webex meeting for Thursday, October 15, 2020 at 12:00 Noon – 2:00 PM EDT/UTC -4.

Appendix A: IMAT Attendance List IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force WebEx Ad Hoc Meeting

38 individuals attended on Thursday, 1 October 2020, 12:02 PM – 2:00 PM EDT/UTC -4

	Last Name, First Name	Employer	Affiliation
1	Abbott, John	Corning Incorporated	Corning Incorporated
2	Akbaba, Enis	Maxim Integrated Products	Maxim Integrated Products
3	Baca, Richard	Microsoft Corporation	Microsoft Corporation
4	Bhatt, Vipul	Finisar Corporation	Finisar Corporation
5	Bruckman, Leon	HUAWEI	HUAWEI
6	Chang, Yongmao	Inphi Corporation	Source Photonics
7	Chen, Chan	Applied Optoelectronics, Inc.	Applied Optoelectronics, Inc.
8	Choudhury, Golam	OFS	OFS
9	Dawe, Piers J G	Mellanox Technologies	Nvidia
10	Deandrea, John	Finisar Corporation	Finisar Corporation
11	Denoyer, Gilles	Maxim Integrated Products	Maxim Integrated Products
12	Ferretti, Vincent	Corning Incorporated	Corning Incorporated
13	Ghiasi, Ali	Ghiasi Quantum LLC	Ghiasi Quantum LLC, Inphi
14	Gustlin, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.
15	Healey, Adam	Broadcom Inc.	Broadcom Inc.
16	Hu, Kangmin	Innogrit	Innogrit
17	Jackson, Kenneth	Sumitomo Electric Device Innovations, USA	Sumitomo Electric Industries, LTD
18	Kim, Inho	Marvell	Marvell
19	Kimber, Eric	Semtech Ltd	Semtech Ltd
20	Latchman, Ryan	MACOM	MACOM
21	Le Cheminant, Greg	Keysight Technologies	Keysight Technologies
22	Lewis, David	Lumentum Inc.	Lumentum Inc.
23	Lingle, Robert	OFS	OFS
24	Lyubomirsky, Ilya	Inphi Corporation	Inphi Corporation
25	Maki, Jeffery	Juniper Networks, Inc.	Juniper Networks, Inc.
26	Malicoat, David	Malicoat Networking Solutions	Malicoat Networking Solutions; SENKO Advanced Components
27	Mellitz, Richard	Samtec, Inc.	Samtec, Inc.
28	Mi, Guangcan	Huawei Technologies Co. Ltd	HUAWEI
29	Murty, Ramana	Broadcom Corporation	Broadcom Corporation
30	Nering, Raymond	Cisco	Cisco Systems, Inc.
31	Palkert, Thomas	EIC	Molex-Macom
32	Parsons, Earl	CommScope, Inc.	CommScope, Inc.
33	Piehler, David	Dell	Dell Technologies
34	Pimpinella, Rick	Panduit Corp.	Panduit Corp.
35	Radhamohan, Rajeshmohan	MAXLINEAR INC	MaxLinear Inc
36	Shubochkin, Roman	OFS	OFS

37	Thompson, Lance	Finisar Corporation	Finisar Corporation
38	Young, James	CommScope, Inc.	CommScope