Approved Minutes

IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force
Telephonic Interim Meeting, October 2020 Interim

WebEx Meeting
October 29, 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 29, 2020. Telephonic meeting.
Chair: Robert Lingle, Jr, affiliated with OFS
Recording Secretary: Mabud Choudhury, affiliated with OFS
Meeting Participants: Attendance is listed in Appendix A (52 attendees – based on official IMAT attendance list – plus direct request; 68 Webex attendees)

Call to order:
IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force (TF) Telephonic Interim meeting was convened at 12:02 PM Eastern Daylight Time (EDT/ UTC -4), Thursday, October 29, 2020 by Robert Lingle, Jr., TF Chair.

Mr. Lingle welcomed attendees. He requested that each attendee indicate your first name, last name, and affiliation via Webex name displayed (preferred) or via chat to everyone.

Chair's Presentation:
Title: "Agenda and General Information"
Presenter: Robert Lingle, Jr. (OFS)
agenda_3db_01a_1020.pdf

Mr. Lingle then proceeded with reviewing the **Agenda** and asked if there any modifications, additions, or deletions? There were none

- Welcome
- Approve agenda
- Attendance
- Approve meeting minutes for July 14 Interim Teleconference
- Reflector and web
- Policies

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

- Contributions

"System considerations with proposed baseline Linear physical interface" - Upen Reddy Kareti (affiliated with CISCO Systems Inc.)
"53 Gbaud VCSEL MMF System Measurements on Impact of Rx C2M Channel Loss in a Linear Interface" - Ariel Nachum, Jennifer Wu, and Ilya Lyubomirsky (all affiliated with Inphi Corp.)
"End to End COM Estimates for 100G Linear Interface with 30 Meters of OM3" - Richard Mellitz, Tom Palkert, Brandon Gore (all affiliated with Samtec)

"Server Network Connectivity" - Kent Lusted (affiliated with Intel)

- Chair's discussion & future meetings
- Adjourn

Motion #1:
Move to approve the Agenda for Interim TF Teleconference,
Slide 3 of agenda_3db_01a_1020.pdf

- M: Mike Dudek
- S: Flavio Marques
- Approved by unanimous consent. (Procedural > 50%)

Agenda approved at 12:06 PM

Attendance: Chair requested that everyone log in to http://imat.ieee.org/
to officially record their attendance. Session code was provided.

Approve Meeting Minutes for July 14 Telephonic Plenary. Mr. Lingle asked if there were any corrections/updates to the posted unapproved meeting minutes. There were none. There was no September TF Interim meeting.

Motion #2:
Move to approve meeting minutes for July 14, 2020 IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force Telephonic Plenary meeting:
unapproved_meeting_minutes_3db_01_0720.pdf

- M: Tom Palkert
- S: Rich Mellitz
- Approved by unanimous consent. (Procedural > 50%)

Reflector and Web: Chair showed the links to the IEEE 802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force page, and the email reflector.

Chair reviewed:

IEEE SA Patent Policy: Mr. Lingle provided overview of slides 8-9 of agenda_3db_01a_1020.pdf.
Chair made call of essential patents at 12:10 PM. No one indicated any essential patents.

IEEE SA Copyright Policy: Mr. Lingle showed slide 10 of agenda_3db_01a_1020.pdf entitled "IEEE SA Copyright Policy" overview

IEEE SA Participation Policy: Mr. Lingle showed the participation policy overview slide 11 of agenda_3db_01a_1020.pdf .

Contribution #1:
Title: – "System considerations with proposed baseline Linear physical interface"

Presenter: Upen Reddy Kareti (affiliated with CISCO Systems Inc.)
kareti_3db_01_1020.pdf

- Presentation provided some system considerations with proposed baseline for Linear Physical Interface. Coverage of ports that can support this linear interface in a simple 1 RU switch.
- Technical discussion followed.
- Topics discussed included: PCB loss values and current availability. Passing all Clause 162, CR cable host requirements. Host budget of 6.875 dB being appropriate pass/fail line. Total system loss requirements. The appropriate loss based on connections to ASIC. Need for retimers for large ASIC implementation to meet Clause 162.
- Clarifying questions asked and answered.
- Author welcomed feedback from the group.
- Chair urged continued discussion of technical topics on TF reflector.

Contribution #2:
Title: "53 Gbaud VCSEL MMF System Measurements on Impact of Rx C2M Channel Loss in a Linear Interface"
Presenter: Ilya Lyubomirsky (Inphi Corp.)
lyubomirsky_3db_01_1020.pdf

- Presented 53 Gbaud PAM4 end-to-end system measurement data, including both optical VCSEL/MMF channel, as well as an electrical channel to emulate the C2M loss at Rx.
- Technical discussion followed.
- Topics discussed included: Slide 3, before or after MMF: before. Off-set coupling: no special coupling, standard coupling. Adding realistic loss on Tx side: next step. 100 m OM4 vs. 30 m OM3: stress system. Why not 7 dB of Rx? VSCSEL bandwidth. DSP capability: fully compliant to CR/KR specs. Any DFE? DFE causing burst errors. Review SM bathtub curves. Need for retimer in host vs. eliminating retimers in every module. For BER floor, hero vs. production. DSP based digitized Rx optimized system.
- Clarifying questions asked and answered.
- Author welcomed feedback from the group.
- Chair urged continued discussion of technical topics on TF reflector.

Contribution #3:
Title: – "End to End COM Estimates for 100G Linear Interface with 30 Meters of OM3"
Presenter: Rich Mellitz (Samtec)
mellitz_3db_01_1020.pdf

- Presentation provided illustration of how much working margin that .3ck 100G KR devices could have using a COM end to end analysis.
- Technical discussion followed
- Topics discussed included: Appropriateness of levering .3ck models, KR/CR, for VCSEL device with non-linear response. Slide 10, appropriateness of the models used. Slide 10, level of margin. Total loss level. KR limit for both optics and KR.
- Clarifying questions asked and answered.
- Author welcomed feedback from the group.
- Chair urged continued discussion of technical topics on TF reflector.

Contribution #4:
Title: "Server Network Connectivity"

Presenter: Kent Lusted (Intel Corporation)
lusted_3db_01_1020.pdf

- Presented server network connectivity – cloud data centers and emerging in enterprise and carrier data centers for various applications, variety of form factors and a wide range of pluggable media.
- Summary:
  - Ensure that the 30m vs 100m PHY types work with same host
  - Don't ask for any unique host budget from servers
- Technical discussion followed.
- Topics discussed included:
  - Need for 100 m for server attachment. Cloud DC vs. enterprise/carrier DC need for server attachment reach. Convergence of cloud and enterprise DCs. Server/compute for 5G/telco. 40G requiring support for both XLAUI and PPI electrical interfaces. No unique specifications. Linear interface, 10G vs. 100G. Server and 30 m PMD, 100 m PMD – both will be utilized by host/server.
- Clarifying questions asked and answered.
- Author welcomed feedback from the group.

Chair's discussion about next steps:

- 11/5 TF Interim meeting
  - Contribution from expert affiliated with hyperscale company on ToR elimination and our TF reach objectives.
  - Straw polls on 1 or 2 PMDs/reach objectives, on linear interface.
- 11/10 TF Plenary meeting
  - As needed/optional meeting
- 11/12 TF Plenary meeting
  - Motions for new objectives, as needed
  - Adopt timeline
  - Start writing baselines after meeting

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 (EST/UTC -5):
http://www.ieee802.org/3/db/public/adhoc/index.html

- P802.3db TF Interim Teleconference:

Thursday, November 5, 12 Noon to 2 pm Eastern US (EST/UTC -5) (next meeting)

- P802.3db TF Plenary Teleconferences:

Tuesday, November 10, 12 Noon to 2 pm Eastern US (EST/UTC -5) [if needed]
Thursday, November 12, 12 Noon to 2 pm Eastern US (EST/UTC -5)

Motion #3:
Move to Adjourn TF Telephonic Interim Meeting

- M: Jim Young
- S: Rich Mellitz
- Approved by unanimous consent. (Procedural > 50%)

The Task Force Telephonic Interim meeting was adjourned at 2:11 PM EDT/ UTC -4, Thursday, October 29, 2020.

Next Meeting:
P802.2db TF Interim Webex meeting for Thursday, November 5, 2020 at 12:00 noon – 2:00 PM EST/UTC -5.

Appendix A: Attendees at the IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force Telephonic Interim Meeting, 29 October 2020.
52 individuals signed in to IMAT (plus direct request) on Thursday, 29 October 2020, 12:02 PM – 2:11 PM EDT/UTC -4

	Name	Employer	Affiliation
1	Abbott, John	Corning Incorporated	Corning Incorporated
2	Akbaba, Enis	Maxim Integrated Products	Maxim Integrated Products
3	Bhatt, Vipul	II-VI	II-VI Incorporated
4	Bruckman, Leon	HUAWEI	HUAWEI
5	Chang, Yongmao	Inphi Corporation	Source Photonics
6	Choudhury, Golam	OFS	OFS
7	Dawe, Piers J G	Mellanox Technologies	Mellanox Technologies
8	Dudek, Michael	Marvell	Marvell
9	Ferretti, Vincent	Corning Incorporated	Corning Incorporated
10	Ghiasi, Ali	Ghiasi Quantum LLC	Ghiasi Quantum LLC, Inphi
11	Gustlin, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.
12	Healey, Adam	Broadcom Inc.	Broadcom Inc.
13	Hidaka, Yasuo	Credo Semiconductor	Credo Semiconductor
14	Hoser, Mirko	II-VI	II-VI Incorporated
15	Hu, Kangmin	Innogrit	Innogrit
16	Ingham, Jonathan	Foxconn Interconnect Technology	INDEPENDENT
17	Jackson, Kenneth	Sumitomo Electric Device Innovations, USA	Sumitomo Electric Industries, LTD
18	Kareti, Upen	Cisco Systems, Inc.	Cisco Systems, Inc.
19	Kim, Inho	Marvell	Marvell
20	Klempa, Michael	University of New Hampshire InterOperability Laboratory (UNH-IOL)	Amphenol Corporation
21	Koleva, Vera	II-VI	II-VI Incorporated
22	Latchman, Ryan	MACOM	MACOM
23	Ledentsov, Nikolay	VI Systems GmbH	VI Systems GmbH
24	Lewis, David	Lumentum Inc.	Lumentum Inc.
25	Lim, Jane	Cisco Systems, Inc.	Cisco Systems, Inc.
26	Lingle, Robert	OFS	OFS
27	Lusted, Kent	Intel Corporation	Intel Corporation
28	Lyubomirsky, Ilya	Inphi Corporation	Inphi Corporation
29	Maki, Jeffery	Juniper Networks, Inc.	Juniper Networks, Inc.

30	Malicoat, David	Malicoat Networking Solutions	Malicoat Networking Solutions; SENKO Advanced Components
31	Marques, Flavio	FURUKAWA ELECTRIC	FURUKAWA ELECTRIC
32	Mellitz, Richard	Samtec, Inc.	Samtec, Inc.
33	Mitcheltree, Tom	US Conce, Ltd.	US Conec, Ltd.
34	Murty, Ramana	Broadcom Corporation	Broadcom Corporation
35	Nering, Raymond	Cisco	Cisco Systems, Inc.
36	Palkert, Thomas	EIC	Samtec-Macom
37	Parsons, Earl	CommScope, Inc.	CommScope, Inc.
38	Piehler, David	Dell	Dell EMC
39	Pimpinella, Rick	Panduit Corp.	Panduit Corp.
40	She, Qingya	Fujitsu Network Communications	Fujitsu Network Communications
41	Sorbara, Massimo	GLOBALFOUNDRIES	GLOBALFOUNDIRES
42	Stassar, Peter	Huawei Technologies Co. Ltd	Huawei Technologies Co., Ltd
43	Sun, Junqing	Credo Semiconductor	Credo Semiconductor
44	Sun, Yi	OFS	OFS
45	Swanson, Steven	Corning Incorporated	Corning Incorporated
46	Thompson, lance	II-VI	II-VI Incorporated
47	Tracy, Nathan	TE Connectivity	TE Connectivity
48	Ulrichs, Ed	Source Photonics	Intel
49	Wang, Ruoxu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
50	Wang, Xinyuan	Huawei Technologies Co. Ltd	Huawei Technologies Co., Ltd
51	Young, James	CommScope, Inc.	CommScope
52	Zhang, Bo	Inphi Corporation	Inphi Corporation