

Agenda and General Information

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

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OFS

Ad Hoc Teleconference, July 30, 2020

Meeting

- Attendance
 - The WebEx tool does not record attendance
 - Please indicate your name and employer/affiliation in an e-mail to the TF recording secretary: Mabud Choudhury (mchoudhury@ofsoptics.com).
- Webex
 - Please mute your lines if you are not speaking
 - *6 to mute/unmute or click on mute button in the WebEx window
 - Noisy, unmuted lines will be muted by the WebEx organizer
 - *6 to unmute if this happens to you

Proposed Agenda

- Meeting Attendance and Webex
- Approve Agenda
- Approve Meeting Minutes for May 7 100GSR SG ad hoc and June 25 P802.3db TF ad hoc
- 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>
- Chair's discussion of Straw Poll results from July 14 interim meeting
- Presentations
 - "100Gbps MMF MDI Specifications" – Steve Swanson
 - "Structured Cabling Polarity Methods" - Rick Pimpinella
 - "Multimode Chromatic Dispersion" – John Abbott (time permitting)
- Future Meetings

Meeting Minutes

- Any updates/corrections/modification to meeting minutes?
- Move to approve meeting minutes for May 7, 2020 IEEE 100GSR Study Group Ad Hoc Telephonic Ad Hoc meeting, and for June 25, 2020 IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force Telephonic Ad Hoc meeting:
 - [unapproved_minutes_100GSR_adhoc_01a_050720.pdf](#)
 - [unapproved_minutes_3db_adhoc_01_062520.pdf](#)

Reflector and Web

- To subscribe to the IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force reflector, send an email to:

ListServ@ieee.org

with the following in the body of the message (do not include “<>”):

subscribe **stds-802-3-100GSR** *<yourfirstname>* *<yourlastname>*

- Send IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force reflector messages to:

STDS-802-3-100GSR@listserv.ieee.org

- Task Force web page URL:

<http://ieee802.org/3/db/index.html>

Participants have a duty to inform the IEEE

- Participants shall inform the IEEE (or cause the IEEE to be informed) of the identity of each holder of any potential Essential Patent Claims of which they are personally aware if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents
- Participants should inform the IEEE (or cause the IEEE to be informed) of the identity of any other holders of potential Essential Patent Claims

**Early identification of holders of potential
Essential Patent Claims is encouraged**

Ways to inform IEEE

- Cause an LOA to be submitted to the IEEE-SA (patcom@ieee.org); or
- Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or
- **Speak up now and respond to this Call for Potentially Essential Patents**

If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair

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Participants in the IEEE-SA “*individual process*” shall act independently of others, including employers

- The [IEEE-SA Standards Board Bylaws](#) require that “*participants in the IEEE standards development individual process shall act based on their qualifications and experience*”
- This means participants:
 - **Shall act & vote** based on their personal & independent opinions derived from their expertise, knowledge, and qualifications
 - **Shall not act or vote** based on any obligation to or any direction from any other person or organization, including an employer or client, regardless of any external commitments, agreements, contracts, or orders
 - **Shall not direct** the actions or votes of other participants or retaliate against other participants for fulfilling their responsibility to act & vote based on their personal & independently developed opinions
- By participating in standards activities using the “*individual process*”, you are deemed to accept these requirements; if you are unable to satisfy these requirements then you shall immediately cease any participation

IEEE P802.3db Short Reach Fiber Task Force Approved Project Documents

- PAR

- http://ieee802.org/3/db/P802d3db_PAR.pdf

- CSD Responses

- <https://mentor.ieee.org/802-ec/dcn/20/ec-20-0097-00-ACSD-p802-3db.pdf>

- Objectives

- http://www.ieee802.org/3/db/P802d3db_Objectives_Approved_May_2020.pdf

Scope of IEEE P802.3db is limited by the PAR

- 2.1 Project Title: Standard for Ethernet Amendment: Physical Layer Specifications and Management Parameters for 100 Gb/s, 200 Gb/s, and 400 Gb/s Operation over Optical Fiber using 100 Gb/s Signaling
- 5.2.b: This project specifies additions to and appropriate modifications of IEEE Std 802.3 and adds Physical Layer specifications and management parameters for 100 Gb/s, 200 Gb/s, and 400 Gb/s Ethernet optical interfaces for server attachment and other intra-data center applications using 100 Gb/s signaling over optical fiber.
- 5.5 Need for the Project: Rapid growth of server, network, and internet traffic is driving the need for higher data rates, higher density, lower cost fiber optic solutions, including the shortest links in the data center such as server-attachment. To address these needs, advances in technology now enable the specification of 100 Gb/s, 200 Gb/s, and 400 Gb/s Physical Layer types operating over optical interconnects using 100 Gb/s signaling. IEEE Std 802.3 does not currently define operation over multimode fiber using 100 Gb/s signaling.

IEEE P802.3db Short Reach Fiber Task Force Objectives

1. Support a MAC data rate of 100 Gb/s, 200 Gb/s and 400 Gb/s
2. Support full-duplex operation only
3. Preserve the Ethernet frame format utilizing the Ethernet MAC
4. Preserve minimum and maximum FrameSize of current IEEE 802.3 standard
5. Provide appropriate support for OTN
6. Support a BER of better than or equal to 10^{-12} at the MAC/PLS service interface (or the frame loss ratio equivalent) for 100 Gb/s operation
7. Support a BER of better than or equal to 10^{-13} at the MAC/PLS service interface (or the frame loss ratio equivalent) for 200 Gb/s and 400 Gb/s operation

IEEE P802.3db Short Reach Fiber Task Force Objectives

8. Define a physical layer specification that supports 100 Gb/s operation over 1 pair of MMF with lengths up to at least 50 m
9. Define a physical layer specification that supports 200 Gb/s operation over 2 pairs of MMF with lengths up to at least 50 m
10. Define a physical layer specification that supports 400 Gb/s operation over 4 pairs of MMF with lengths up to at least 50 m

Chair's Discussion of 7/14 Straw Polls

Straw polls from 7/14 3dB Plenary mtg (1 of 2)

Straw Poll #1

- I believe there is a need for a cost/power-optimized PMD for server-attachment applications [for example 20-30m]:
- Y: 34 N: 6 A: 26

Straw Poll #2

- I believe there is a need for a longer, reach-optimized PMD for switch-to-switch applications [for example 80-100m]:
- Y: 26 N: 6 A: 24

Straw polls from 7/14 3dB Plenary mtg (2 of 2)

Straw Poll #3

- I currently believe the IEEE P802.3db TF should:
 - A. make no change to the current 50m objectives,
 - B. modify the current 50m objective to longer reach [for example 80-100m], or
 - C. have two objectives including one optimized for cost/power [for example 20-30m] and one optimized for longer reach [for example 80-100m]
- A: 17 B: 3 C: 31

Chair's observations

- Current objectives are 50m over 1,2,4 pairs MMF (OM4 understood)
- TF members generally believe there is a need for a PMD optimized for server attachment (~6:1 ratio) and switch-switch links (~4:1 ratio)
- It seems unlikely to get 75% support for a reach-optimized PMD as the only PMD (6% support in straw poll)
- However, it may be possible to achieve 75% support for writing two specifications (59% support in straw poll)
- In the meantime, the TF has an obligation to 802.3 to work on the adopted objectives

Discussion

- What work would help TF move forward on following two goals?
 - Building a baseline for the current objectives
 - Deciding whether to act on the expressed interest in optimizing for both
 - lower cost and/or power for server attachment
 - longer reach for switch-to-switch links
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Presentations

- July 30 ad hoc:
 - "100Gbps MMF MDI Specifications" – Steve Swanson (Corning)
 - [swanson_3db_adhoc_01_073020.pdf](#)
 - "Structured Cabling Polarity Methods" - Rick Pimpinella (Panduit)
 - [pimpinella_3db_adhoc_01_073020.pdf](#)
 - Time permitting: "Multimode Chromatic Dispersion" – John Abbott (Corning), Steve Swanson (Corning), Steve Garner (Corning)
 - [abbott_3db_adhoc_01_073020.pdf](#)

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, August 6, 12 Noon to 2 pm Eastern US (EDT/UTC -4)
 - Following the 7/30 meeting, the biweekly meeting notice & calendar invitation will be reset and re-sent, with updated Webex info

Thank You!