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, October 15, 2020

Meeting

- Attendance
  - Please use http://imat.ieee.org/ to record attendance
  - Session code/password (provided during meeting):
  - Attendance record based on IMAT only
- 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
- Approval of Minutes
- 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
- Presentations
  - “Host to Module Applications and Host Options for Linear I/O” – Tom Palkert (Samtech), Brandon Gore (Samtech), Rich Mellitz (Samtech)
  - “Baseline Linear Physical Interface Proposal” - Ryan Latchman (MACOM)
- Chair’s discussion & straw polls
- Future Meetings

Approve Minutes

- Any modifications, additions, deletions or corrections?
- Move to approve meeting minutes, previously posted, for September 17, 2020 & October 1, 2020 IEEE P802.3db Task Force Ad Hoc Webex meetings:
  - unapproved_minutes_3db_adhoc_01_091720.pdf
  - unapproved_minutes_3db_adhoc_01_100120.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

Contributions

- “Host to Module Applications and Host Options for Linear I/O” – Tom Palkert (Samtech), Brandon Gore (Samtech), Rich Mellitz (Samtech)
  - palkert_3db_adhoc_01_101520.pdf

- "Baseline Linear Physical Interface Proposal " - Ryan Latchman (MACOM)
  - latchman_3db_adhoc_01_101520.pdf

Chair's discussion of next steps (1 of 3)

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 next steps (2 of 3)

- 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 for BMP
- End user contributions are being actively encouraged from the hyperscale & server NIC card community in October. A hyperscale end-user contribution is in preparation for 10/29 Interim

Time Horizon	Likely Application	Reach Requirement	Need
Early Adopter	Hyperscale fiber-to-the-server, TOR elimination	30 to 50m	Tx specs which promote higher yield & low cost in Year One
Second	Big Cloud in China	70 to 100m	Lower cost & power
Longer-term	Large Enterprise DCs	100m	Meet traditional reach targets used in brownfield cable infrastructures

Chair's discussion of next steps (3 of 3)

- TF needs to make any modifications to objectives by 11/12 Interim Telecon, so we can write baselines and move the project forward
- Let's do straw polls on the Linear Interface and Reach Objectives today & 10/29

- At 7/14 TF Ad Hoc, straw poll results to the right suggested that two objectives might be palatable, pending further information on relative costs and end-user input
- A single objective for 80-100m reach had little support, so I am dropping it from my straw poll to focus on more likely outcomes

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

- Note: Assuming our current reach objectives "up to at least 50m over MMF" are applied to OM4 MMF (as is customary), then our current objectives are also equivalent to "up to at least ~30m over OM3 MMF (see parsons_100GSR_adhoc_01_021320.pdf)

Proposed Straw Poll #1

Do you support adding an objective for an un-retimed, linear electrical interface in the IEEE P802.3db project?

- Y
- N
- Need more Information

Proposed Straw Poll #2

I currently believe the IEEE P802.3 db Task Force should

A. Make no change to the current 50 m reach objectives over MMF (customarily assumed to be OM4, which would equate to ~30m over OM3)
B. Have objectives for two reaches, where
   - one is optimized for cost/yield (for example 20 to 30m over OM3 MMF) aimed at server attachment, and
   - one is optimized for longer reach (for example 80 to 100m over OM4 MMF) aimed at traditional SR & SR4 applications
C. No Opinion

A)
B)
C)

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 ad hoc meeting Thursday, November 26, 12 Noon to 2 pm Eastern US (EST/UTC -5)

- P802.3db TF Interim Teleconference:
  - Thursday, October 29, 12 Noon to 2 pm Eastern US (EDT/UTC -4) (next meeting)
  - Thursday, November 12, 12 Noon to 2 pm Eastern US (EST/UTC -5)

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

Thank You!