

# Oct. 8 2020 IEEE liaison report

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# P802.3ck 100 Gb/s per lane Electrical Task Force

## Adopted Objectives (1 of 2)

- Support a MAC data rate of 100 Gb/s, 200 Gb/s, and 400 Gb/s
- Support full-duplex operation only
- Preserve the Ethernet frame format utilizing the Ethernet MAC
- Preserve minimum and maximum FrameSize of current IEEE 802.3 standard
- Support the existing bit error ratios (BERs) at the MAC/PLS service interface (or the frame loss ratio equivalent) for 100 Gb/s, 200 Gb/s, and 400 Gb/s Ethernet
  
- Define a single-lane 100 Gb/s Attachment Unit interface (AUI) for chip-to-module applications, compatible with PMDs based on 100 Gb/s per lane optical signaling
- Define a single-lane 100 Gb/s Attachment Unit Interface (AUI) for chip-to-chip applications
- Define a single-lane 100 Gb/s PHY for operation over electrical backplanes supporting an insertion loss  $\leq 28$  dB at 26.56 GHz.
- Define a single-lane 100 Gb/s PHY for operation over twin-axial copper cables with lengths up to at least 2m

# P802.3ck 100 Gb/s per lane Electrical Task Force

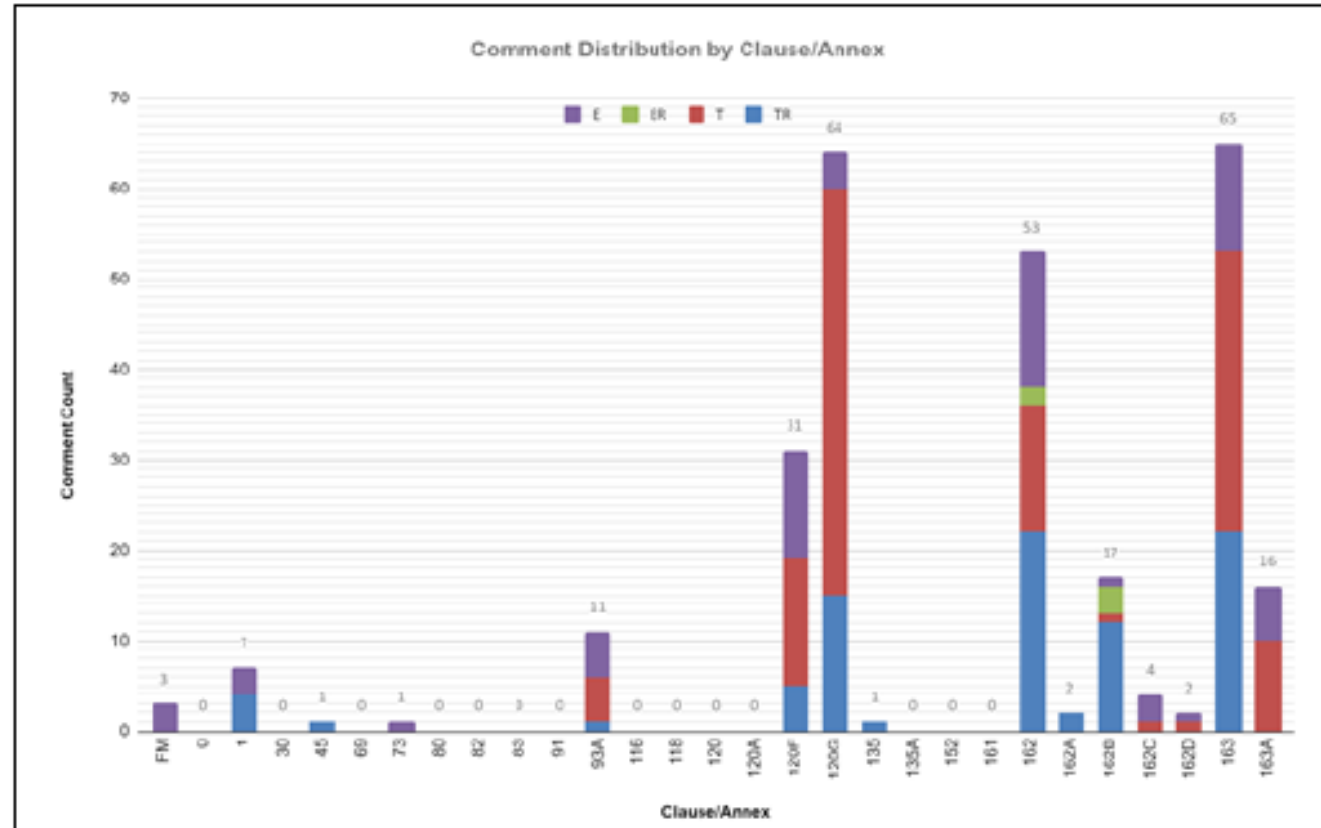
## Adopted Objectives (2 of 2)

- Define a two-lane 200 Gb/s Attachment Unit interface (AUI) for chip-to-module applications, compatible with PMDs based on 100 Gb/s per lane optical signaling
  - Define a two-lane 200 Gb/s Attachment Unit Interface (AUI) for chip-to-chip applications
  - Define a two-lane 200 Gb/s PHY for operation over electrical backplanes supporting an insertion loss  $\leq 28$  dB at 26.56 GHz.
  - Define a two-lane 200 Gb/s PHY for operation over twin-axial copper cables with lengths up to at least 2m
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- Define a four-lane 400 Gb/s Attachment Unit interface (AUI) for chip-to-module applications, compatible with PMDs based on 100 Gb/s per lane optical signaling
  - Define a four-lane 400 Gb/s Attachment Unit Interface (AUI) for chip-to-chip applications
  - Define a four-lane 400 Gb/s PHY for operation over electrical backplanes supporting an insertion loss  $\leq 28$  dB at 26.56 GHz.
  - Define a four-lane 400 Gb/s PHY for operation over twin-axial copper cables with lengths up to at least 2m

# 802.3ck Task Force Update

- Draft 1.3 review closed!
  - <https://www.ieee802.org/3/ck/comments/index.html>
  - 280 comments by 19 commenters
    - New version uploaded to the website with comments #279 & 280 as only modification.

120G = Chip to Module  
(Fibre Channel delta point)  
120F = Chip to Chip  
162 = Copper Cables  
163 = Backplane



# 802.3ck web site

- The TF web page is here: –  
<http://www.ieee802.org/3/ck/index.html>
- Next draft:
  - Leadership would like comments to focus on technical completeness
    - Technical gaps
    - TBDs
    - Postpone editorial comments and ‘tweaking’ of numbers

IF WE GO IN THIS DIRECTION...  
HERE'S WHAT TO EXPECT

Posting of Draft 1.4

- Targeting 3-week review as many have holiday during this time.
- SUBJECT TO CHANGE.

**THIS DIRECTION...  
TO EXPECT**

review as many have holiday

CHANGE.

	Su	M	Tu	W	Th	F	Sa	
	NOW		24	25	26	27	28	
	29	30	1	2	3	4	5	December
	6	7	8	9	10	11	12	
Posting of Draft 1.4	13	14	15	16★	17	18	19	
	20	21	22	23	24	25	26	
	27	28	29	30	31	1	2	January
Close of ballot	3	4	5	6★	7	8	9	
	10	11	12	13★	14	15	16	
	17	18	19	20★	21	22	23	
D1.4 Comment resolution (Prioritized)	24	25	26	27	28	29	30	February
	31	1	2	3	4	5	6	
	7	8	9	10	11	12	13	
	14	15	16	17	18	19	20	
	21	22	23	24	25	26	27	March
Final sweep for technical completeness & address major concerns	28	1	2	3	4	5	6	
	7	8	9	10	11	12	13	
Pre-submit Draft 1.5	14	15	16	17	18	19	20	
Closing Plenary	21	22	23	24	25	26	27	

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

- First Task Force Interim meeting (Teleconference) 11 June 2020
  - Meeting Materials: <http://www.ieee802.org/3/db/public/June20/>
  - Meeting Minutes: [http://www.ieee802.org/3/db/public/June20/unapproved\\_meeting\\_minutes\\_3db\\_01a\\_0620.pdf](http://www.ieee802.org/3/db/public/June20/unapproved_meeting_minutes_3db_01a_0620.pdf)
- 2<sup>nd</sup> Task Force Interim meeting (Teleconference) 14 July 2020
  - Meeting Materials: <http://www.ieee802.org/3/db/public/July20/>
  - Meeting Minutes: [http://www.ieee802.org/3/db/public/July20/unapproved\\_meeting\\_minutes\\_3db\\_01\\_0720.pdf](http://www.ieee802.org/3/db/public/July20/unapproved_meeting_minutes_3db_01_0720.pdf)
- Next scheduled Task Force Interim Meetings: 29 October 2020 and 12 November 2020
- Task Force Ad Hoc meetings: <https://www.ieee802.org/3/db/public/adhoc/index.html>
- Adopted a [PAR](#), [CSD](#), and [Objectives](#) at January interim, intending to ask for 802.3 approval at the March plenary. Rules changes needed to advance the PAR absent a face-to-face plenary meeting. Motions were passed in the May 802.3 teleconference to adopt the objectives and forward the PAR, CSD onward for EC and NesCom approval.
- Adopted Clause 119 as the PCS/FEC and Clause 120 as the PMA for all 200G and 400G PHYs in the project. Adopted Clause 82 as the PCS and Clause 91 RS(544) as the FEC, and Clause 135 as the PMA for all 100G PHYs in the project.
- 25 June ad hoc meeting contribution “Towards technical feasibility of 100 Gb/s per lane optical PMDs supporting 100 m OM4 MMF”  
[ingham\\_3db\\_adhoc\\_01a\\_062520.pdf](#)
- 3 September ad hoc meeting contribution “In Support of Low Cost/Power 100G SR: Linear Architecture Review”  
[latchman\\_3db\\_adhoc\\_01a\\_090320.pdf](#)
- Existing approved objectives are for physical layer specification that supports 100 Gb/s operation, 50 m MMF
- Goal is to have Task Force consider/potentially adopt 100 m MMF (and possibly 30 m MMF) reach objectives, and to consider/potentially adopt optional linear architecture objectives by November 2020. Goal to have baseline by November 2020.

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

## Adopted Objectives (1 of 2)

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

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

## Adopted Objectives (2 of 2)

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. Support full-duplex operation only
10. Define a physical layer specification that supports 200 Gb/s operation over 2 pairs of MMF with lengths up to at least 50 m
11. Define a physical layer specification that supports 400 Gb/s operation over 4 pairs of MMF with lengths up to at least 50 m

# New Ethernet Applications (NEA) Ad Hoc

- The IEEE 802 LMSC Executive Committee has chartered a Study Group under the IEEE 802.3 Ethernet Working Group to develop a Project Authorization Request (PAR) and Criteria for Standards Development (CSD) responses for:
  - (1) Beyond 400 Gb/s Ethernet
  - (2) Physical Layer specifications for existing Ethernet rates based on Physical Layer specifications for beyond 400 Gb/s Ethernet.
- Call for interest Consensus presentation:
- [https://www.ieee802.org/3/ad\\_hoc/ngrates/public/calls/20\\_1029/CFI\\_Beyond400GbE\\_Rev7\\_201029.pdf](https://www.ieee802.org/3/ad_hoc/ngrates/public/calls/20_1029/CFI_Beyond400GbE_Rev7_201029.pdf)

# Future Meetings

Meeting	Location	Dates
IEEE 802 plenary	Virtual	2-12 November 2020
IEEE 802.3 interim	Virtual	18-22 January 2021
IEEE 802 plenary	Virtual	14-18 March 2021
IEEE 802.3 interim	TBD	17-21 May 2021
IEEE 802 plenary	Madrid	12-15 July 2021
IEEE 802.3 interim	TBD	13-17 September 2021
IEEE 802 plenary	Vancouver	15-18 November 2021

Upcoming meeting details at: <http://ieee802.org/3/interims/index.html>