

# December 10, 2020 IEEE 802.3 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

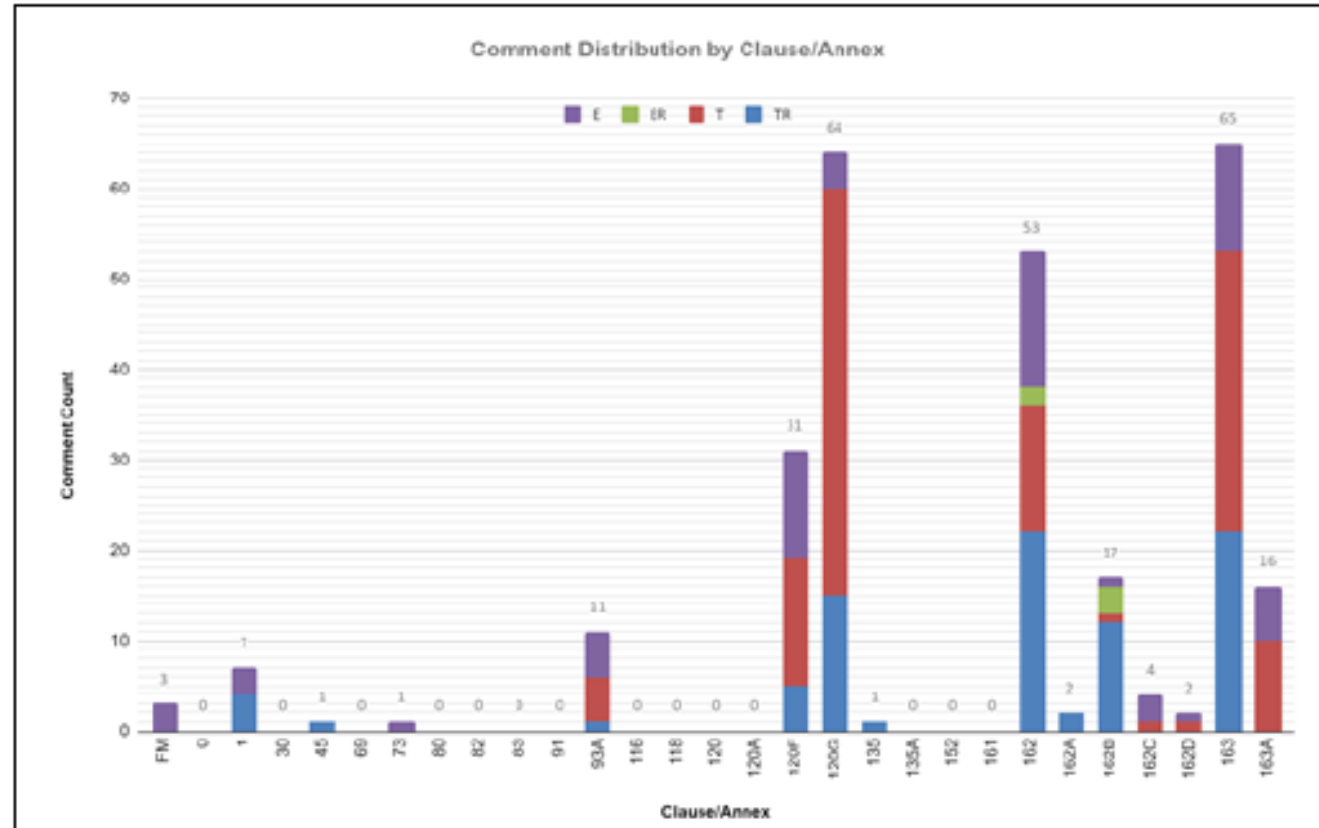
## Adopted Objectives (2 of 2)

- 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

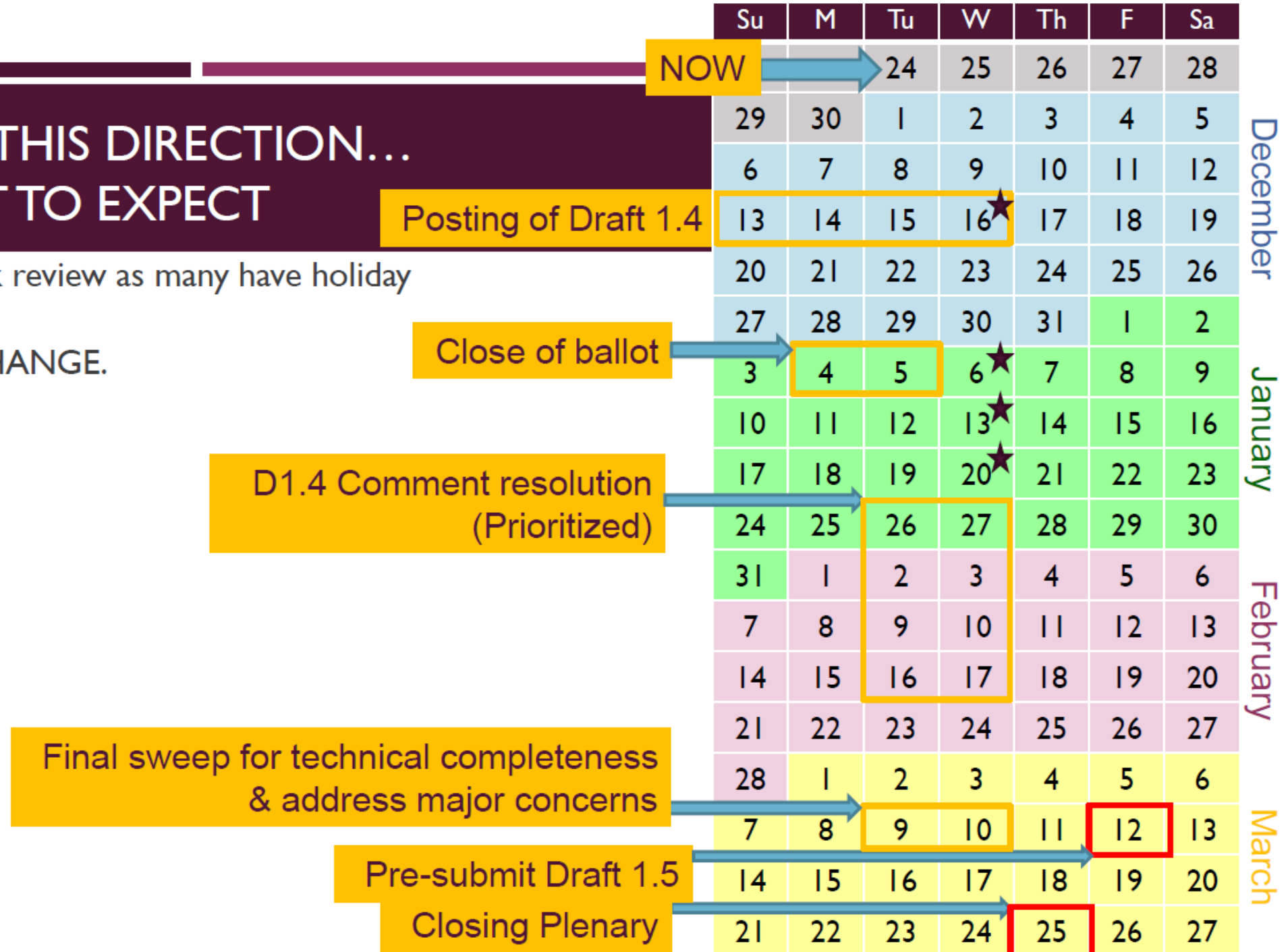


# 802.3ck web site

- 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

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



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

- Task Force Interim meeting (Teleconference) 29 October 2020
  - Meeting Materials: <https://www.ieee802.org/3/db/public/October20/>
  - Meeting Minutes: [https://www.ieee802.org/3/db/public/October20/meeting\\_minutes\\_3db\\_01\\_1020.pdf](https://www.ieee802.org/3/db/public/October20/meeting_minutes_3db_01_1020.pdf)
- Task Force Interim meeting (Teleconference) 5 November 2020
  - Meeting Materials: <https://www.ieee802.org/3/db/public/November-05-2020/>
  - Meeting Minutes: [https://www.ieee802.org/3/db/public/November-05-2020/meeting\\_minutes\\_3db\\_01\\_110520.pdf](https://www.ieee802.org/3/db/public/November-05-2020/meeting_minutes_3db_01_110520.pdf)
- Task Force Plenary meeting (Teleconference) 10 & 12 November 2020
  - Meeting Materials: <https://www.ieee802.org/3/db/public/November20/>
  - Meeting Minutes: [https://www.ieee802.org/3/db/public/November20/unapproved\\_meeting\\_minutes\\_3db\\_01\\_1120.pdf](https://www.ieee802.org/3/db/public/November20/unapproved_meeting_minutes_3db_01_1120.pdf)
- Next scheduled Task Force Interim Meeting: January 2021
- Task Force Ad Hoc meetings: <https://www.ieee802.org/3/db/public/adhoc/index.html>
- TF and WG adopted updated [Objectives](#) at November plenary.
  - Adopted additional objectives for physical layer specification that supports 100 Gb/s operation, 100 m MMF
- TF Adopted [Timeline](#) at November Plenary
  - Target date for Baseline: January 2021
  - Target date for authorizing D1.0: March 2021
  - Target date for Standard: June 2022

# 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



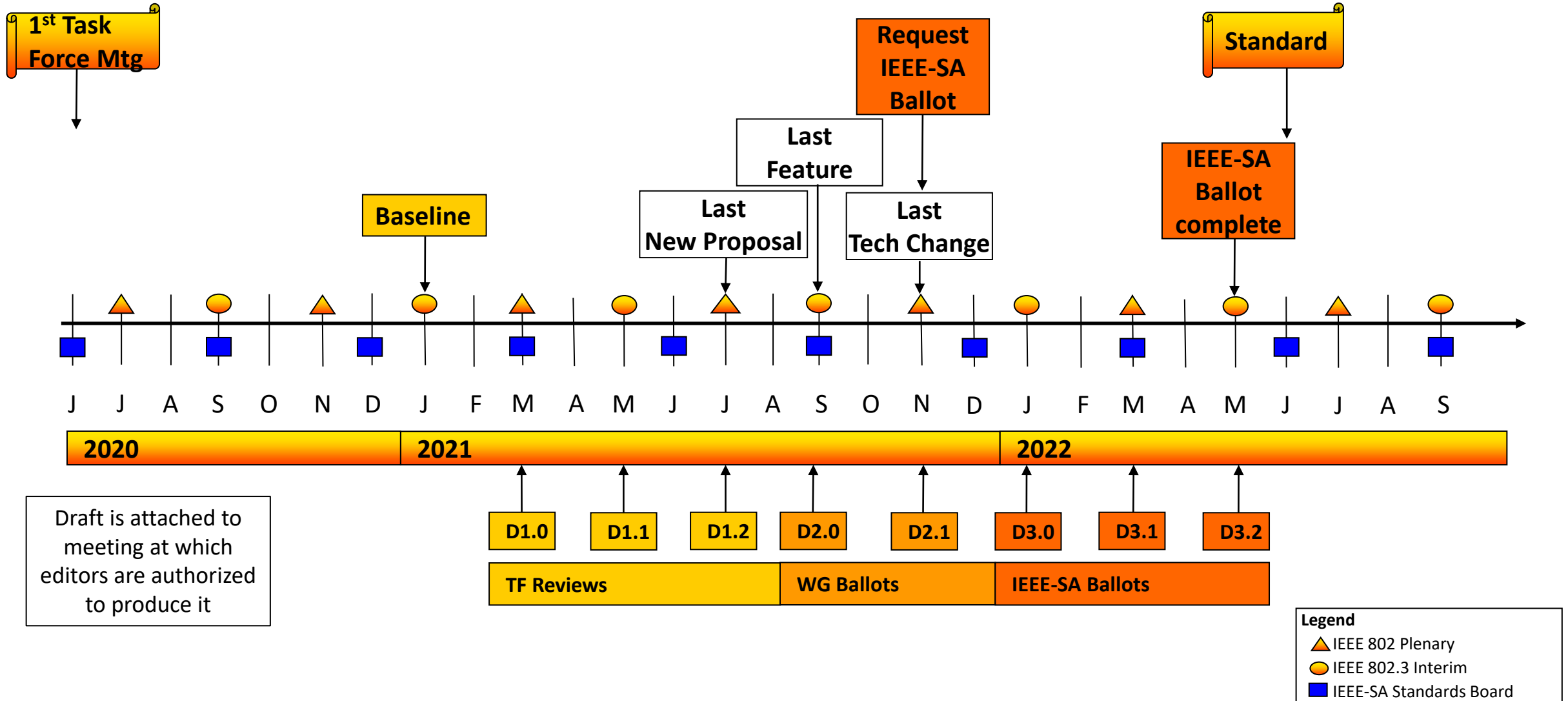
# P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force

## 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. 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
11. Define a physical layer specification that supports 100 Gb/s operation over 1 pair of MMF with lengths up to at least 100 m
12. Define a physical layer specification that supports 200 Gb/s operation over 2 pairs of MMF with lengths up to at least 100 m
13. Define a physical layer specification that supports 400 Gb/s operation over 4 pairs of MMF with lengths up to at least 100 m

# IEEE P802.3db Task Force Timeline

Adopted by TF November 2020



# 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 802.3 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>