

# IEEE P802.3dh Timeline Issues

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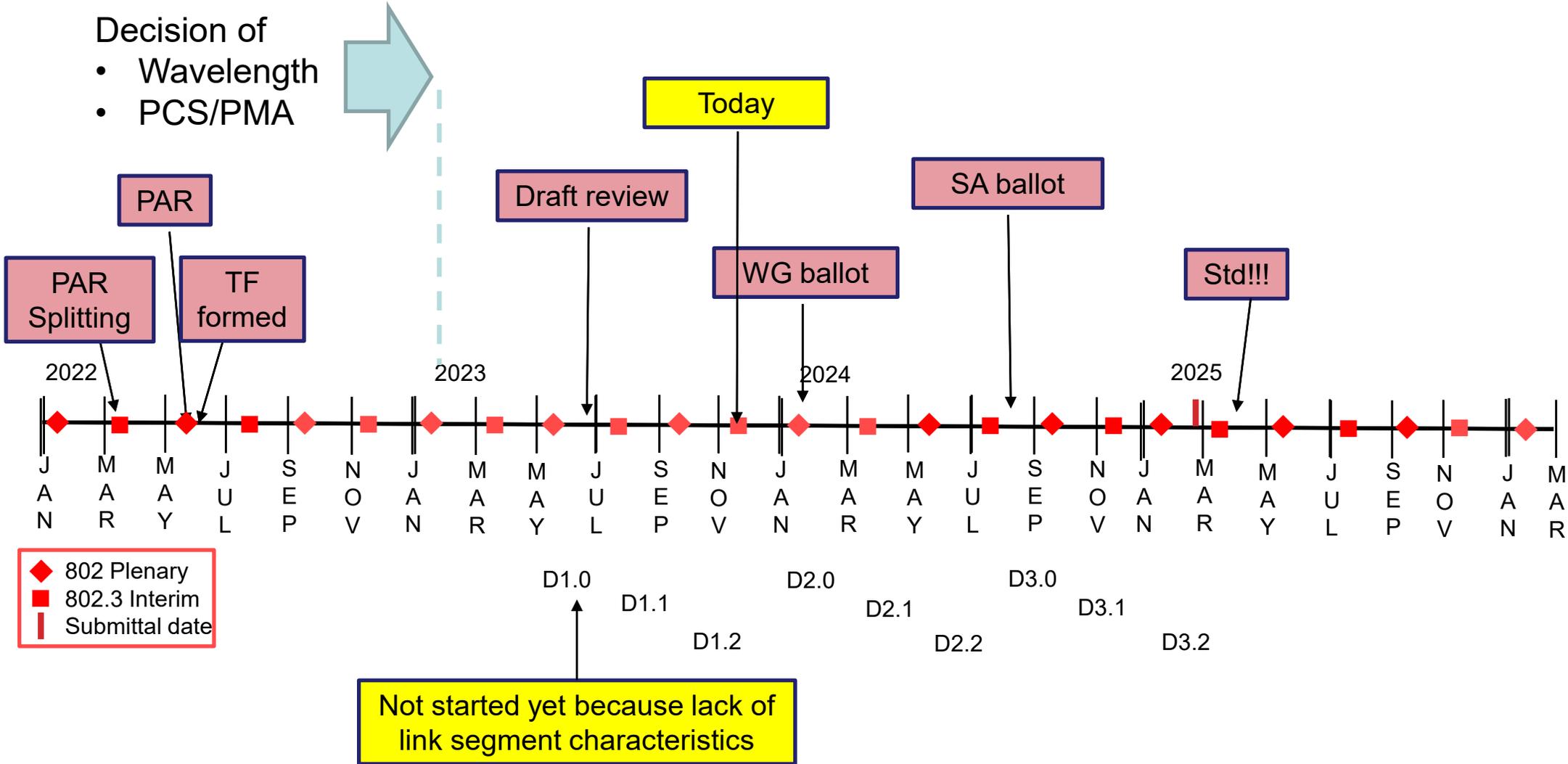
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# Current (unapproved) 802.3dh timeline



# Current status

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- Contributions about GI-POF presented until now are consistent with Study Group goals, but don't yet address Task Force needs
  - Multiple incompatible fiber structures proposed, e.g., 55  $\mu\text{m}$ , 80  $\mu\text{m}$  core diameters
  - Multiple non-standard measurement methods, which do not use commonly accepted Encircled Flux nor Differential Mode Delay techniques.
  - Samples not available today; Round Robin testing denied
  - Inconclusive data:
    - Very small number of samples and measurements today
    - Link segment measurements do not include inline connectors, e.g., mode coupling not considered
    - Attenuation is the only characteristic reported after aging tests, e.g., modal dispersion change is not reported
- The steps necessary to initiate PMD specification (see next slides) were already agreed at TF level more than a year ago, with no progress since then
- Therefore, PMD sublayer cannot be specified

# Steps required to start PMD specification (1/2)

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## 1. TF objectives to be confirmed

- 15m + 3 inline connectors for 2.5, 5, and 10 Gb/s
- 15m + 2 inline connectors for 25 Gb/s

## 2. Wavelength still to be defined

- Impact on measurements result is still open
- For PHY implementations in the market to be compatible with 802.3cz, 980 nm should be included

## 3. Fiber construction to be defined

- IEEE P802.3dh project is contingent on IEC standard defining fiber construction per PAR
- For PHY implementations in the market to be compatible with 802.3cz, similar core diameter may be required

# Steps required to start PMD specification (2/2)

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4. Frequency response test methodology to be defined
  - The transmitter launching condition is measured by Encircled Flux (EF) standard (IEC 61280-1-4)
  - The transmitter and fiber modal distortion is measured by Differential Mode Delay (DMD) per IEC 60793-1-49, which guarantee interoperability with all the transmitters compliant with EF
  - Is DMD test methodology valid for GI-POF? If not, a new test methodology needs to be specified in IEC
  - Is Effective Modal Bandwidth (EMB) the right Figure of Merit?
  - Based on some contributions, GI-POF frequency response is far from being considered Gaussian; therefore, EMB is not valid
5. Gather Link segment data using complete measurement conditions
  - Temperature cycling, macrobending, humidity, inline connection effects
  - Multiple link segment samples, multiple measurements.

## Time extrapolation for each step (assuming GI-POF fiber samples availability)

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1. TF objectives (DONE)
2. Wavelength still to be defined
  - Contingent on steps 4 and 5
3. Fiber construction definition (1 year, minimum)
  - IEC standard defining fiber construction is needed
  - At least two IEC meetings are required
4. Frequency response test methodology definition (Between 1.5 and 2.5 years)
5. Link segment measurement conditions (1 year)

Estimated required time to start PMD specification:

Between 2.5 and 3.5 years

assuming GI-POF samples availability today

## Final remarks

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- PMD specification cannot be started without link segment characteristics
- IEEE 802.3 WG is requesting to progress P802.3dh, but such progress is contingent, per P802.3dh PAR Sec. 5.3, on external standardization in IEC (fiber construction, test methods)
- All activities until end 2025 – beginning 2026 need to be conducted in other standardization bodies (i.e., IEC, TIA)
- The P802.3dh PAR expires by end 2026

# Thanks!