IEEE P802.3dv 400 Gb/s/lane Signaling Task Force

Closing Report

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November 2026 Plenary Meeting, Bangkok, Thailand

IEEE P802.3 Task Force Information

- Organization
  - Kent Lusted, Chair
  - Mark Nowell, Vice Chair
  - Beth Kochuparambil, Recording Secretary

- Study Group Web and Reflector Information
  - Home Page: https://www.ieee802.org/3/400GPL/index.html
  - Reflector Info: stds-802-3-400GPL@listserv.ieee.org

- Project Documentation
  - PAR: https://www.ieee802.org/3/dv/P802.3dv_PAR.pdf
  - CSD: https://mentor.ieee.org/802-lmsc/dcn/26/lmsc-26-0121-01-LMSC-ieee-p802-3dv-draft-csd.pdf
  - Objectives: https://www.ieee802.org/3/dv/public/project_docs/400GPL_Objectives_260917.pdf

Activities This Week

- Met Monday to Thursday
- 35 presentations on logic/architecture, electrical, optics
- Numerous straw polls on optical and electrical topics
- 1 motion: revise copper cable objective language
    - Unanimous consent

New Objectives (Added Sept 2026)

- Define a single-lane physical layer specification that supports 400 Gb/s operation over electrical backplanes
- Define a two-lane physical layer specification that supports 800 Gb/s operation over electrical backplanes
- Define a four-lane physical layer specification that supports 1.6 Tb/s operation over electrical backplanes

P802.3DV OBJECTIVES

Objectives (1/4)

Non-Rate Specific

- 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 a BER of better than or equal to 10-13 at the MAC/PLS service interface (or the frame loss ratio equivalent)

Objectives (2/4)

400 Gb/s Related

- Support a MAC data rate of 400 Gb/s
- Support optional single-lane 400 Gb/s attachment unit interfaces for chip-to-module and chip-to-chip applications
- Define a physical layer specification that supports 400 Gb/s operation over 1 pair of SMF with lengths up to at least 500 m
- Define a single-lane physical layer specification that supports 400 Gb/s operation over electrical backplanes
- Define a single-lane, 400 Gb/s ~~PHY~~ physical layer specification that supports ~~for~~ operation over twin-axial copper cables with lengths up to at least 1 meter

Objectives (3/4)

800 Gb/s Related

- Support a MAC data rate of 800 Gb/s
- Support optional two-lane 800 Gb/s attachment unit interfaces for chip-to-module and chip-to-chip applications
- Define a physical layer specification that supports 800 Gb/s operation over 2 pairs of SMF with lengths up to at least 500 m
- Define a two-lane physical layer specification that supports 800 Gb/s operation over electrical backplanes
- Define a two-lane, 800 Gb/s ~~PHY~~ physical layer specification that supports ~~for~~ operation over twin-axial copper cables with lengths up to at least 1 meter

Objectives (4/4)

1.6 Tb/s Related

- Support a MAC data rate of 1.6 Tb/s
- Support optional four-lane 1.6 Tb/s attachment unit interfaces for chip-to-module and chip-to-chip applications
- Define a physical layer specification that supports 1.6 Tb/s operation over 4 pairs of SMF with lengths up to at least 500 m
- Define a four-lane physical layer specification that supports 1.6 Tb/s operation over electrical backplanes
- Define a four-lane, 1.6 Tb/s ~~PHY~~ physical layer specification that supports ~~for~~ operation over twin-axial copper cables with lengths up to at least 1 meter

IEEE P802.3dv WG Motion - Objectives

Move that the IEEE 802.3 Working Group approve the IEEE P802.3dv 400 Gb/s/lane objectives, in 2611_3dv_plenary_closing_report slide 6-9

M: Kent Lusted

S: Mark Nowell

(Technical ≥ 75%)

802.3 Voters: Y: N: A:

WG Motion - Liaison

- Move that the IEEE 802.3 Working Group approve IEEE_802d3_to_UEC_OIF_UALink_ITU_INCITS_OCP_3dv_1126_draft_Redacted.pdf and IEEE_802d3_to_OSFP_XPO_3dv_1126_draft_Redacted.pdf with editorial license granted to the Chair (or his appointed agent) as liaison communications from the IEEE 802.3 Working Group to UEC, OIF, UALink, ITU, INCITS, OCP, and OSFP, XPO
  - M: Kent Lusted
  - S: Mark Nowell
  - Technical (>=75%)
  - 802.3 Voters: Y: N: A:

Future Meetings

- See: http://www.ieee802.org/3/interims/index.html

- January 2027 Interim
  - Savannah, Georgia, USA
  - Week of 18 January 2027
- March 2027 Plenary
  - Singapore
  - Week of 15 March 2027

- Electronic teleconference meetings to be announced over the 400GPL email reflector, as needed
  - Dec 10 2026
  - Jan 7 2027

THANK YOU!