P802.3dv

Type of Project: Amendment to IEEE Standard 802.3-2022
Project Request Type: Initiation / Amendment
PAR Request Date:
PAR Approval Date:
PAR Expiration Date:
PAR Status: Draft
Root Project: 802.3-2022

1.1 Project Number: P802.3dv
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Project Title: IEEE Standard for Ethernet Physical Layers and Management Parameters for 400 Gb/s, 800 Gb/s, and 1.6 Tb/s Electrical and Single-Mode Fiber (SMF) Optical Interfaces Based on 400 Gb/s/lane Signaling Amendment:

3.1 Working Group: Ethernet Working Group(C/LAN/MAN/802.3 WG)
3.1.1 Contact Information for Working Group Chair:
Name: David Law
Email Address: david_law@ieee.org
3.1.2 Contact Information for Working Group Vice Chair:
Name: Adam Healey
Email Address: adam.healey@broadcom.com
3.2 Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee(C/LAN/MAN)
3.2.1 Contact Information for Standards Committee Chair:
Name: James Gilb
Email Address: gilb_ieee@tuta.com
3.2.2 Contact Information for Standards Committee Vice Chair:
Name: David Halasz
Email Address: dave.halasz@ieee.org
3.2.3 Contact Information for Standards Representative:
Name: George Zimmerman
Email Address: george@cmephyconsulting.com

4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot: Sep 2028
4.3 Projected Completion Date for Submittal to RevCom: Sep 2029

5.1 Approximate number of people expected to be actively involved in the development of this project: 100
5.2.a Scope of the complete standard: This standard defines Ethernet local area, access and metropolitan area networks. Ethernet is specified at selected speeds of operation; and uses a common media access control (MAC) specification and management information base (MIB). The Carrier Sense Multiple Access with Collision Detection (CSMA/CD) MAC protocol specifies shared medium (half duplex) operation, as well as full duplex operation. Speed specific Media Independent Interfaces (MIIs) provide an architectural and optional implementation interface to selected Physical Layer entities (PHY). The Physical Layer encodes frames for transmission and decodes received frames with the modulation specified for the speed of operation, transmission medium and supported link length. Other specified capabilities include: control and management protocols, and the provision of power over selected twisted pair PHY types.
5.2.b Scope of the project: This project is to specify additions to, and appropriate modifications of, IEEE Std 802.3 to add Physical Layer specifications and Management Parameters for 400 Gb/s, 800 Gb/s and 1.6 Tb/s using 400 Gb/s/lane signaling for electrical interconnects and single-mode fiber optical interconnects with reaches up to 500 meters

5.3 Is the completion of this standard contingent upon the completion of another standard? No
5.4 Purpose: This document will not include a purpose clause.
5.5 Need for the Project: Networks that enable the scaling of Artificial Intelligence and Machine-Learning (AI/ML) infrastructure deployments require high-radix, high-bandwidth interconnections. Traditional Ethernet

data center use cases can also leverage high-radix, high-bandwidth interconnections. Defining interfaces based on 400 Gb/s/lane signaling will address the bandwidth density, cost, and power requirements of these markets.

5.6 Stakeholders for the Standard: Stakeholders include users and producers of Ethernet systems and components for high-bandwidth applications, such as networks for compute clusters used in AI data centers, AI servers, AI accelerators, network storage, networking systems, enterprise and cloud-scale data centers, service providers, and high-performance computing.

6.1 Intellectual Property

6.1.1 Is the Standards Committee aware of any copyright permissions needed for this project? No

6.1.2 Is the Standards Committee aware of possible registration activity related to this project? No

---

7.1 Are there other standards or projects with a similar scope? No

7.2 Is it the intent to develop this document jointly with another organization? No

---

8.1 Additional Explanatory Notes: