

P802.3db

Submitter Email: david_law@ieee.org

Type of Project: Amendment to IEEE Standard 802.3-2018

PAR Request Date: 20-Jan-2020

PAR Approval Date:

PAR Expiration Date:

Status: Unapproved PAR, PAR for an Amendment to an existing IEEE Standard

1.1 Project Number: P802.3db

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Title: Standard for Ethernet

Amendment: Physical Layer Specifications and Management Parameters for 100 Gb/s, 200 Gb/s, and 400 Gb/s Operation over Optical Fiber using 100 Gb/s Signaling

3.1 Working Group: Ethernet Working Group (C/LM/WG802.3)

Contact Information for Working Group Chair

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3.2 Sponsoring Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee (C/LM)

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4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 11/2021

4.3 Projected Completion Date for Submittal to RevCom

Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 05/2022

5.1 Approximate number of people expected to be actively involved in the development of this project: 30

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 specifies additions to and appropriate modifications of IEEE Std 802.3 and adds Physical Layer specifications and management parameters for 100 Gb/s, 200 Gb/s, and 400 Gb/s Ethernet optical interfaces for server attachment and other intra-data center applications using 100 Gb/s signaling over optical fiber.

5.3 Is the completion of this standard dependent upon the completion of another standard: No

5.4 Purpose: This document will not include a purpose clause.

5.5 Need for the Project: Rapid growth of server, network, and internet traffic is driving the need for higher data rates, higher density, lower

cost fiber optic solutions, including the shortest links in the data center such as server-attachment. To address these needs, advances in technology now enable the specification of 100 Gb/s, 200 Gb/s, and 400 Gb/s Physical Layer types operating over optical interconnects using 100 Gb/s signaling. IEEE Std 802.3 does not currently define operation over multimode fiber using 100 Gb/s signaling.

5.6 Stakeholders for the Standard: Users and producers of systems and components for servers and accelerators, network storage, networking systems, enterprise and cloud-scale data centers, service providers, and high-performance computing.

Intellectual Property

6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No

6.1.b. Is the Sponsor 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 Joint Development

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

8.1 Additional Explanatory Notes: