
P802.3dk

Type of Project: Amendment to IEEE Standard 802.3-2022

Project Request Type: Initiation / Amendment

PAR Request Date: 26 Sep 2022

PAR Approval Date: 03 Dec 2022

PAR Expiration Date: 31 Dec 2026

PAR Status: Active

Root Project: 802.3-2022

1.1 Project Number: P802.3dk

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Project Title: Standard for Ethernet

Amendment: Greater than 50 Gb/s Bidirectional Optical Access PHYs

3.1 Working Group: Ethernet Working Group(C/LM/802.3 WG)

3.1.1 Contact Information for Working Group Chair:

Name: David Law

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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/LM)

3.2.1 Contact Information for Standards Committee Chair:

Name: Paul Nikolich

Email Address: p.nikolich@ieee.org

3.2.2 Contact Information for Standards Committee Vice Chair:

Name: James Gilb

Email Address: gilb@ieee.org

3.2.3 Contact Information for Standards Representative:

Name: James Gilb

Email Address: gilb@ieee.org

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot:

Jul 2024

4.3 Projected Completion Date for Submittal to RevCom: May 2025

5.1 Approximate number of people expected to be actively involved in the development of this project: 20

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: Define physical layer specifications and management parameters for symmetric bidirectional operation at greater than 50 Gb/s over a single strand of single mode fiber of at least 10 km.

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: Bidirectional optical access PHYs are needed for point-to-point applications where the availability of fibers is limited. Bidirectional PHYs require half the number of fibers as dual-fiber duplex PHYs.

5.6 Stakeholders for the Standard: Fixed access providers, wireless access providers, communication

systems vendors, municipal and independent operators, optical device manufacturers, and subscribers.

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? Yes

Explanation: While there are no other IEEE standards or projects with a similar scope, the ITU-T SG15 is amending G.9806 to include greater than 50 Gb/s bidirectional operation. This ITU-T project is part of the optical Access Network Transport. This IEEE project is needed to specify greater than 50 Gb/s bidirectional Ethernet. As there is an opportunity for common components, as was the case with the development of IEEE Std 802.3cp-2021 Bidirectional 10 Gb/s, 25 Gb/s, and 50 Gb/s Optical Access PHYs where there was close cooperation with a similar ITU-T project, this project is expected to coordinate with the ITU-T G.9806 Amd.3 project.

7.1.1 Standards Committee Organization: ITU-T

Project/Standard Number: G.9806 Amd.3

Project/Standard Date: 09 Sep 2022

Project/Standard Title: Higher-speed bidirectional, single fibre, point-to-point optical access system (HS-PtP)

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

8.1 Additional Explanatory Notes: