

P802.3dg

Type of Project: Amendment to IEEE Standard 802.3-2018

Project Request Type: Initiation / Amendment

PAR Request Date: 26 Jan 2022

PAR Approval Date: 24 Mar 2022

PAR Expiration Date: 31 Dec 2026

PAR Status: Active

Root Project: 802.3-2018

1.1 Project Number: P802.3dg

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Project Title: Standard for Ethernet

Amendment: Physical Layer Specifications and Management Parameters for 100 Mb/s Operation and Associated Power Delivery over a Single Balanced Pair of Conductors

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

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3.2.2 Contact Information for Standards Committee Vice Chair:

Name: James Gilb

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3.2.3 Contact Information for Standards Representative:

Name: James Gilb

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4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot: Sep 2023

4.3 Projected Completion Date for Submittal to RevCom: Apr 2024

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 will specify additions to and appropriate modifications of IEEE Std 802.3 to add 100 Mb/s Physical Layer specifications and management parameters for operation, and associated optional provision of power, using a single balanced pair of conductors.

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: Applications such as those used in automation and process control industries have begun the transition of legacy networks to Ethernet. A reduced number of conductors and interface components supporting greater than 10 Mb/s Ethernet will provide a basis for an optimized solution in these

applications. Growth in traffic and new applications demand greater bandwidth. IEEE Std 802.3 does not currently support greater than 10 Mb/s over a single balanced pair of conductors longer than 40 m.

5.6 Stakeholders for the Standard: End-users, vendors, system integrators, and providers of systems and components (e.g., sensors, actuators, instruments, controllers, network infrastructure, user interfaces, and servers) for networks including industrial and building automation, mobile machinery (e.g., construction, agricultural equipment), and non-automotive transportation (e.g., buses, trains, aircraft, and ships).

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: 5.5: IEEE Std 802.3 - Standard for Ethernet