

P802.3dw

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: P802.3dw

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Project Title: IEEE Standard for Ethernet Amendment: Ethernet and Fault Managed Power (FMP)

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:

Jul 2029

4.3 Projected Completion Date for Submittal to RevCom: Mar 2030

5.1 Approximate number of people expected to be actively involved in the development of this project: 60

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: The scope of the project is the specification of optional Fault Managed Power (FMP) delivery on Ethernet cabling, and additions and modifications to Physical Layer (including reconciliation sublayer) specifications and management parameters to support FMP.

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: The success of Power over Ethernet (PoE) has created demand for power delivery over Ethernet cabling that exceeds the maximum PoE power of 71.3 W. Updates to safety standards have enabled a new method, FMP, that can deliver up to several kilowatts over appropriate Ethernet Cabling while constraining the energy delivered into a fault. The specification of FMP operation on Ethernet cabling is needed to provide an interoperable method to meet the increased power demands. It is also necessary to

specify concurrent operation between FMP and Ethernet to mitigate potential interference from FMP, which could cause data loss. This interference could occur within the cabling for twisted-pair Ethernet as well as within the port for both twisted-pair and fiber-optic Ethernet.

5.6 Stakeholders for the Standard: Ethernet component providers (e.g., cabling, magnetics, and integrated circuit), system product providers (e.g., switch and end stations), network providers (e.g., installers, network support), and network implementers (e.g., enterprise, building automation, and industrial automation).

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: Item 5.2.b: An Ethernet cable is the electrical or optical Ethernet transmission medium and, optionally, additional electrical conductors (e.g., twisted pairs and/or power-conductor pairs) in a shared outer jacket or sheath. Ethernet cabling is cable(s) and associated components (e.g., connectors) used as an assembly for the transmission of data and optionally the supply of power between Ethernet ports.