IEEE SA STANDARDS ASSOCIATION

IEEE

P802.3dp

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: P802.3dp
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Project Title: IEEE Standard for Ethernet Amendment: Cabling Restrictions for Single Pair Power over Ethernet (SPoE)

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
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3.1.2 Contact Information for Working Group Vice Chair:
Name: Adam Healey
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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
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3.2.2 Contact Information for Standards Committee Vice Chair:
Name: David Halasz
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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: Nov 2025
4.3 Projected Completion Date for Submittal to RevCom: Jul 2026

5.1 Approximate number of people expected to be actively involved in the development of this project: 10
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~~ This project will specify requirements and restrictions for supporting the IEEE 802.3 'plug-
and-play' interoperability model for Single-Pair Power over Ethernet (SPoE) due to current carrying capacity limitations in cabling ~~(e.g. cabling with a current capacity of less than 2 A per conductor)~~.

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 IEEE 802.3 Working Group (WG) needs to address ~~that~~ the insufficiency of the current carrying capacity of certain cabling installed and proposed for SPoE applications ~~may be insufficient for the IEEE 802.3 'plug-and-play' interoperability model~~.
The IEEE 802.3 WG became aware that ISO/IEC JTC 1/SC 25/WG 3 is drafting standards and technical reports

(e.g. ISO/IEC 11801-1/AMD1 and ISO/IEC TR 11801-9911) that support the use and reuse of balanced multi-pair cabling systems in one pair applications, resulting in a standards-imposed restriction of 0.75 A per conductor. Additionally, they are defining a 23 American Wire Gauge (AWG) single-pair channel that only supports 0.75 A per conductorwhich is insufficient for the IEEE 802.3 'plug-and-play' interoperability model.
5.6 Stakeholders for the Standard: End-users, vendors, system integrators/installers, and providers of systems and components (e.g., cabling, sensors, actuators, instruments, controllers, network infrastructure, and servers) for networks including industrial and building automation, mobile machinery (e.g., construction, agricultural equipment), and nonautomotive 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

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8.1 Additional Explanatory Notes: 5.5: ISO/IEC 11801-1/AMD1 ED1 Information Technology – Generic Cabling for Customer Premises
5.5: ISO/IEC 11801-9911: Guidelines for the use of balanced single pair applications within a balanced 4 pair cabling system