

**P802.3cg****Submitter Email:** [david\\_law@ieee.org](mailto:david_law@ieee.org)**Type of Project:** Modify Existing Approved PAR**PAR Request Date:** 27-Jan-2018**PAR Approval Date:****PAR Expiration Date:****Status:** Unapproved PAR, Modification to a Previously Approved PAR for an Amendment**Root PAR:** P802.3cg **Approved on:** 07-Dec-2016**1.1 Project Number:** P802.3cg**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 10 Mb/s Operation and Associated Power Delivery over  
a Single Balanced Pair of Conductors**Changes in title:** Standard for Ethernet Amendment: Physical Layer  
Specifications and Management Parameters for 10 Mb/s Operation  
over ~~and Single Associated Balanced Power Twisted pair Delivery~~  
~~Cabling over and a Associated Single Power Balanced Delivery~~ Pair of  
Conductors**3.1 Working Group:** Ethernet Working Group (C/LM/WG802.3)**Contact Information for Working Group Chair****Name:** David Law**Email Address:** [david\\_law@ieee.org](mailto:david_law@ieee.org)**Phone:** +44 1631 563729**Contact Information for Working Group Vice-Chair****Name:** Adam Healey**Email Address:** [adam.healey@broadcom.com](mailto:adam.healey@broadcom.com)**Phone:** 6107123508**3.2 Sponsoring Society and Committee:** IEEE Computer Society/LAN/MAN Standards Committee (C/LM)**Contact Information for Sponsor Chair****Name:** Paul Nikolich**Email Address:** [p.nikolich@ieee.org](mailto:p.nikolich@ieee.org)**Phone:** 8572050050**Contact Information for Standards Representative****Name:** James Gilb**Email Address:** [gilb@ieee.org](mailto:gilb@ieee.org)**Phone:** 858-229-4822**4.1 Type of Ballot:** Individual**4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot:** 11/2018**4.3 Projected Completion Date for Submittal to RevCom****Note:** Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 08/2019**5.1 Approximate number of people expected to be actively involved in the development of this project:** 50**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:** Specify additions to and appropriate modifications of IEEE Std 802.3 to add 10 Mb/s Physical Layer (PHY) specifications and management parameters for operation, and associated optional provision of power, using a single balanced pair of**Changes in scope of the project:** Specify additions to and appropriate modifications of IEEE Std 802.3 to add 10 Mb/s Physical Layer (PHY) specifications and management parameters for operation, and associated optional provision of power, ~~using~~ a single balanced

conductors.

~~twisted-pair copper~~ of eabling conductors.

**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:** Applications such as those used in automotive and automation industries have begun the transition of legacy networks to Ethernet. This has generated an intrasystem control need for a 10 Mb/s solution which will operate over a single balanced pair of conductors. IEEE 802.3 does not currently support 10 Mb/s over a single balanced pair of conductors, and a reduction in the number of pairs of conductors and interface components required for 10 Mb/s Ethernet will provide a basis for an optimized solution in these applications.

**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 enterprise and data center networking, automotive, other transportation, industrial, and building automation.

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## 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

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**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

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**8.1 Additional Explanatory Notes:** 5.2b - IEEE Std 802.3 - IEEE Standard for Ethernet.

Brief explanation of PAR modifications:

2.1, and 5.2b - Project (title/scope) has been generalized to refer to balanced pairs of conductors rather than to the construction of the media (twisted pairs) to more accurately reflect the nature of the specification.

5.1 - Number of people involved has been updated based on actual attendance.

5.5 - Project need has been generalized to refer to balanced pairs of conductors rather than to the construction of the media (twisted pairs) to more accurately reflect the nature of the specification. Additionally, the need has been expanded to reflect expressed needs for intra-system control applications.

5.6 - Project stakeholders have been expanded to include end-users, system integrators, and providers of systems and components for enterprise and data center networking who have expressed interest in the project for intra-system control applications.