

P802.3cb

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Type of Project: Amendment to IEEE Standard 802.3-2015

PAR Request Date: 28-Sep-2015

PAR Approval Date:

PAR Expiration Date:

Status: Unapproved PAR, PAR for an Amendment to an existing IEEE Standard

1.1 Project Number: P802.3cb

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Title: Approved Draft Standard for Ethernet

Amendment: Physical Layer Specifications and Management Parameters for 2.5 Gb/s and 5 Gb/s Operation over Backplane and Copper Cables

3.1 Working Group: Ethernet Working Group (C/LM/WG802.3)

Contact Information for Working Group Chair

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3.2 Sponsoring Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee (C/LM)

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4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 12/2017

4.3 Projected Completion Date for Submittal to RevCom: 10/2018

5.1 Approximate number of people expected to be actively involved in the development of this project: 15

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 this project is to specify additions to and appropriate modifications of IEEE Std 802.3 to add 2.5 Gb/s and 5 Gb/s Physical Layer (PHY) specifications and management parameters for operation over channels such as backplanes and twinaxial copper cables [consistent with current storage interconnect applications within a single rack](#).

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: There is a greater bandwidth need than the current 1 Gb/s Ethernet connectivity over backplane and copper cable that serves rotational storage devices ("Hard Disk Drives", HDDs). The object based HDD market is expected to grow significantly to meet the growing cloud storage demand and the existing 1 Gb/s solution is already bandwidth limited. While existing 10 Gb/s and higher speed

solutions fulfill the bandwidth need for HDD's, they do not lend themselves to optimized system cost. The sustained bandwidth needs for HDD are on the order of 2.5 Gb/s to 5 Gb/s and this new standard will provide an optimized system cost vs. performance solution in this growing market segment.

5.6 Stakeholders for the Standard: Users and producers of systems and components for the Ethernet enterprise, cloud, and storage networks.

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

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

8.1 Additional Explanatory Notes (Item Number and Explanation):