PAR DRAFT for considerations
2.5G/5G Ethernet Backplane & Copper

Following the guideline in

https://mentor.ieee.org/etools_documentation/dcn/12/etools_documentation-12-0006-MYPR-new-par-form-blank.docx

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2.1 Project Title

IEEE Standard for Ethernet Amendment:

Media Access Control Parameters, Physical Layers and Management Parameters for 2.5 Gb/s and 5 Gb/s Operation, Types 2.5GBASE-KR, 5GBASE-KR, 2.5GBASE-CR, and 5GBASE-CR.

Other PAR Fields (1)

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: 12/2018

5.1 Approximate number of people expected to be actively involved in the development of this project: 20

5.2 Scope: <next slide>

5.3 Is the completion of this standard dependent upon the completion of another standard: No.

If yes, explain:

5.4 Purpose: No, This document will not include purpose clause

5.2 Scope (a) & (b)

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 Physical Layers (PHYs) for operation at 2.5 Gb/s and 5 Gb/s on backplane and copper cable, using existing Media Access Control (MAC), and extensions to the appropriate physical layer management parameters.

5.5 Need for the Standard

- 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 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.

Other PAR Fields (2)

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

6.1 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: No.

8.1 Additional Explanatory Notes (Item Number and Explanation) :