P802.3bq

Submitter Email: david_law@ieee.org
Type of Project: Modify Existing Approved PAR
PAR Request Date: 18-Jul-2015
PAR Approval Date: 03-Sep-2015
PAR Expiration Date: 31-Dec-2017
Status: Modification to a Previously Approved PAR for an Amendment
Root PAR: P802.3bq **Approved on:** 10-May-2013
Root Project: 802.3-2012

1.1 Project Number: P802.3bq
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Title: Standard for Ethernet Amendment: Physical Layer and Management Parameters for 25 Gb/s and 40 Gb/s Operation, Types 25GBASE-T and 40GBASE-T

Changes in title: ~~IEEE~~ Standard for Ethernet Amendment: Physical Layer and Management Parameters for 25 Gb/s and 40 Gb/s Operation, ~~Type~~Types 25GBASE-T and 40GBASE-T

3.1 Working Group: Ethernet Working Group (C/LM/WG802.3)
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3.2 Sponsoring Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee (C/LM)
Contact Information for Sponsor Chair
Name: Paul Nikolich
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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: 01/2016
4.3 Projected Completion Date for Submittal to RevCom: 08/2016

5.1 Approximate number of people expected to be actively involved in the development of this project: 40
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 25 Gb/s and 40 Gb/s on balanced twisted-pair copper cabling, using existing Media Access Control, and with extensions to the appropriate physical layer management parameters.

Changes in scope of the project: Specify ~~a~~ Physical ~~Layer~~Layers (~~PHY~~PHYs) for operation at 25 Gb/s and 40 Gb/s on balanced twisted-pair copper cabling, using existing Media Access Control, and with extensions to the appropriate physical layer management parameters.

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: With continued growth of server capabilities, network and Internet traffic, datacenters continue to require higher data rates for equipment interconnections. The IEEE 802.3 BASE-T family of technologies allows for seamless upgrade between older rates and newer rates. Currently, IEEE Std 802.3 does not support 25 Gb/s or 40 Gb/s BASE-T operation. There is a market need for low cost 25 Gb/s and 40 Gb/s BASE-T solutions with auto-negotiation capability for datacenter applications.

5.6 Stakeholders for the Standard: Stakeholders identified to date includes but are not limited to: users and producers of systems and components for servers, network storage, networking systems and data centers.

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 (Item Number and Explanation): Item #2.1, item #5.2.b. and item #5.5: Since the IEEE P802.3bq 40GBASE-T PAR for a project supporting 40 Gb/s Ethernet operation over twisted-pair cabling was originally approved, 25 Gb/s has emerged as another speed of operation for Ethernet in the Data Centre, and hence there is a need to support 25 Gb/s Ethernet over twisted-pair cabling. Technical studies have shown that the technology in the 40GBASE-T draft specification currently under development could be easily adapted to support 25 Gb/s Ethernet operation over twisted-pair cabling (25GBASE-T), such as by reducing the signalling speed used. This PAR modification request adds 25Gb/s operation to the project scope (item #5.2.b). It also adds 25Gb/s operation and 25GBASE-T to the title (item #2.1), and updates the Need for the Project (item #5.5) to explain the need for both 25 Gb/s and 40 Gb/s operation over twisted-pair cabling.