P802.3dq

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

2.1 Project Title: IEEE Standard for Ethernet Amendment: Physical Layer Specifications and Management Parameters for a Pin Optimized Interface Between a MAC and a PHY

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
Email Address: david_law@ieee.org
3.1.2 Contact Information for Working Group Vice Chair:
Name: Adam Healey
Email Address: adam.healey@broadcom.com
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
Email Address: gilb_ieee@tuta.com
3.2.2 Contact Information for Standards Committee Vice Chair:
Name: David Halasz
Email Address: dave.halasz@ieee.org
3.2.3 Contact Information for Standards Representative:
Name: George Zimmerman
Email Address: george@cmephyconsulting.com

4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot: Jan 2028
4.3 Projected Completion Date for Submittal to RevCom: Sep 2028

5.1 Approximate number of people expected to be actively involved in the development of this project: 20
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 the project is the specification of additions and modifications to IEEE Std 802.3 to add one or more new interfaces between a MAC and a PHY optimized for exposed interconnects. Each interface may support connections between a single MAC and a single-port PHY or between multiple MACs and a multiport PHY.

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 growing body of IEEE 802.3 electrical physical layer devices operating at speeds below 1 Gb/s has intensified the demand for a modern, optimized interface between MACs and PHYs. 10BASE-T1L, 10BASE-T1S, proposed 100BASE-T1L, proposed 10BASE-T1M, and potentially other PHYs

would see benefit in both single and multi-port implementations. Such an effort may afford reduced pin count and implementation complexity while enabling data for multiple ports on a single interface and support for features such as Physical Layer Collision Avoidance (PLCA) and integrated Station Management. Most importantly, it could provide a modern alternative interface for PHYs that would otherwise use various industry specifications not currently in IEEE Std 802.3.

5.6 Stakeholders for the Standard: Providers of systems and components (e.g., processors, controllers, stand-alone MACs, as well as Ethernet PHY chip and IP developers) for networked devices, vendors, system integrators, and end-users that benefit from further adoption of Ethernet.

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

---

8.1 Additional Explanatory Notes: 5.2B - The interface between the MAC and PHY is commonly known as the Media Independent Interface ("MII" or "xMII"). However, the common usage differs from the specific definition in IEEE Std 802.3 and may include other aspects such as the Reconciliation Sublayer, Extender Sublayers, and Station Management.