

IEEE 802.3dq Pin-Optimized PHY Interface Task Force Closing Report

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IEEE 802.3dq Pin-Optimized PHY Interface Task Force

Task Force information

Task Force Organization

Jason Potterf, IEEE 802.3dq Pin-Optimized PHY Interface Task Force Chair

Jon Lewis, IEEE 802.3dq Pin-Optimized PHY Interface Task Force Secretary

Task Force charter

Move that the IEEE 802.3 Working Group request the formation of a Task Force to develop a Project Authorization Request (PAR) and Criteria for Standards Development (CSD) responses for an Ethernet Media Independent Interface (MII) optimized for an exposed interconnect.

Task Force web and reflector information

Reflector information: <https://www.ieee802.org/3/POPI/reflector.html>

Home page: <https://www.ieee802.org/3/dq/index.html>

IEEE 802.3 Pin-Optimized PHY Interface Task Force Activities This Week

Met Tuesday afternoon during plenary

- Saw four presentations on architectural direction
- Approved updated objectives to submit for working group approval

Motion to follow

OBJECTIVE REVIEW

Basic Objectives

1. Define a scalable logical interface that can support arbitrary port speeds and counts while retaining as many of the features in our Feature Objectives as possible.
2. Define an electrical interface to provide connectivity to a single Ethernet port with 6 or fewer pins operating at MAC data rates up to 100 Mb/s.
 - a) Provide single port connectivity without mandating clock recovery from the data.
3. Define an electrical interface to provide connectivity to 8 ports using 6 or fewer pins, each port with MAC data rates up to 100 Mb/s.
 - a) Provide eight-port connectivity with an electrical interface speed not to exceed 2 Gbps.
4. Do not preclude compatibility between the logical interface and 802.3 PHY types that are specified with GMII or XGMII.

Feature Objectives

1. Provide an extensible communication channel for non-packet data that is carried on the POPI interface pins.
2. Support an error-checked MDIO management interface over the extensible communication channel for non-packet data.
3. Support Energy Efficient Ethernet (EEE).
4. Support half-duplex operation.
5. Support Clause 148 PLCA.
6. Support full-duplex operation.
7. Support auto-negotiation (e.g. Clause 28, Clause 98).

Compatibility Objectives

1. Preserve the Ethernet frame format and content
2. Preserve the preamble and SFD/SMD as presented to the POPI interface
3. Specify a logical and electrical interface between the Media Access Control (MAC)-Physical Signaling Sublayer (PLS), including support for non-MAC clients (e.g., LPI Client), and the following Physical Coding Sublayers specified in:
 1. Clause 96 (100BASE-T1)
 2. Clause 97 (1000BASE-T1)
 3. Clause 146 (10BASE-T1L)
 4. Clause 147 (10BASE-T1S)
 5. Clause 188 (10BASE-T1M)
 6. Clause 190 (100BASE-T1L)
4. Do not preclude support for other existing PHYs specified in 802.3
5. Do not preclude the transmission of packet ingress / egress time data across the interface using in-band data.
6. Do not preclude a logical interface that supports independent transmit and receive data rates.

Motion #n

Move that the IEEE 802.3 Working Group approve the IEEE Pin-Optimized PHY Interface Task Force objectives, as per POPI_Plenary_Closing_Report_2026-07-16_v01.pdf

M:

S:

(Technical $\geq 75\%$)

IEEE 802.3 Pin-Optimized PHY Interface Task Force

Next Steps

Continue architectural discussion in order to move towards baseline text

Next Meeting:

Telephonic interim will be announced if contributions are received

September IEEE 802.3 Interim in Lisbon, Portugal

Questions?

Thank You!