

IEEE 802.3 Ethernet Working Group  
**DRAFT** Liaison Communication

Source: IEEE 802.3 Working Group<sup>1</sup>

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From: David Law Chair, IEEE 802.3 Ethernet Working Group

Subject: Liaison letter to ITU-T Q11/15 concerning OTN mapping reference point for 800GBASE-R

Approval: Agreed to at IEEE 802.3 interim electronic meeting, 19 January 2023

Dear Mr. Parsons and members of ITU-T SG15,

The P802.3df Task Force has made significant progress toward defining 800 Gb/s Ethernet (800 GbE) PHYs based on 100 Gb/s per lane signaling. The IEEE P802.3df Task Force has completed the first task force review and initiated the second task force review with Draft 1.1 (attached). This draft includes definition of the 800 GbE PCS, which may be of interest, as the location of the OTN mapping reference point has been defined.

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<sup>1</sup> This document solely represents the views of the IEEE 802.3 Working Group, and does not necessarily represent a position of the IEEE, the IEEE Standards Association, or IEEE 802.

For your reference, the PCS architecture for 800 GbE is based on two 400G flows, as defined in Clause 172 of IEEE P802.3df Draft 1.1. As illustrated in Figure 172-2, the 800GbE Medium-Independent Interface is encoded by the PCS into 66b blocks (using the same formats as for 100G, 200G, and 400G), which are then distributed to the two 400G flows in an alternating pattern. In each flow, the 66b blocks are transcoded into 257b blocks.

It is our understanding that it would be beneficial for Q11/15 to have the format of the signal at the OTN mapping reference point be 257b blocks. As such, the following note has been added to 172.2.4.2:

NOTE—The two streams of 257-bit blocks generated by this process, together with the FEC\_degraded\_SER and rx\_local\_degraded bits, should be used as the reference signal for mapping to OTN. The details of how to combine the two streams of 257-bit blocks into a single stream are outside the scope of this document.

We would appreciate your confirmation that this definition of the OTN mapping reference point for 800GBASE-R meets your needs and welcome any feedback you have on this topic. The next meeting of the P802.3df Task Force is 28 February 2023.

We look forward to the continued collaboration between our two groups. Individuals interested in participating in the work of the P802.3df Task Force may find further information at <https://www.ieee802.org/3/df/index.html>.

Sincerely,

David Law

Chair, IEEE 802.3 Ethernet Working Group