IEEE 802.3 Ethernet Working Group
Liaison Communication

Source:	IEEE 802.3 Working Group[1]	
To:	Glenn Parsons	Chair, ITU-T Study Group 15
	Hiroshi Ota	Advisor , ITU-T SG15
	Steve Gorshe	Rapporteur, ITU-T Q11/15
	Bert Klaps	Associate Rapporteur, ITU-T Q11/15
CC:	Konstantinos Karachalios	Secretary, IEEE-SA Standards Board Secretary, IEEE-SA Board of Governors
	Paul Nikolich	Chair, IEEE 802 LMSC
	Adam Healey	Vice-chair, IEEE 802.3 Ethernet Working Group
	Jon Lewis	Secretary, IEEE 802.3 Ethernet Working Group
	John D'Ambrosia	Chair, IEEE P802.3df Task Force
	Mark Nowell	Vice Chair, IEEE P802.3df Task Force
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 at IEEE 802.3 interim teleconference meeting, 19 January 2023	

Dear Mr Parsons and members of ITU-T SG15,

The IEEE 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 IEEE P802.3df draft D1.1 (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.

For your reference, the PCS architecture for 800 GbE is based on two 400 Gb/s flows, as defined in Clause 172 of IEEE P802.3df draft D1.1. As illustrated in Figure 172-2, the 800 GbE

[1] 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.

Medium-Independent Interface is encoded by the PCS into 66-bit blocks (using the same formats as for 100 Gb/s, 200 Gb/s, and 400 Gb/s), which are then distributed to the two 400 Gb/s flows in an alternating pattern. In each flow, the 66-bit blocks are transcoded into 257-bit 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 257-bit blocks. As such, the following note has been added to subclause 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 IEEE 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 IEEE 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