

IEEE 802.3 Ethernet Working Group
DRAFT Liaison Communication

Source: IEEE 802.3 Working Group¹

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CC: Alpesh Shah Secretary, IEEE-SA Standards Board
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From: David Law Chair, IEEE 802.3 Ethernet Working Group
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Subject: Liaison to OIF, IEEE 802.3dj 800 GbE Coherent PHYs

Approval: Agreed at IEEE 802.3 closing plenary meeting, Denver, CO, USA, 14 March 2024

Dear Mr. Bois and members of the OIF,

The IEEE P802.3dj project will be entering its next stage, as it has completed its baseline selection and will begin the task of developing a technically complete draft.

The latest list of objectives for the IEEE P802.3dj project may be found at https://www.ieee802.org/3/dj/proidoc/objectives_P802d3dj_240314.pdf.

Please note that the IEEE P802.3dj Task Force has adopted the proposal in https://grouper.ieee.org/groups/802/3/dj/public/23_07/nicholl_3dj_02a_2307.pdf (as modified by https://grouper.ieee.org/groups/802/3/dj/public/24_03/huber_3dj_01a_2403.pdf) as the complete logic baseline for the following 800 GbE Coherent PHYs based on OFEC:

Define a physical layer specification that supports 800 Gb/s operation:

- over a single SMF in each direction with lengths up to at least 20 km
- over a single SMF in each direction with lengths up to at least 40 km

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.

The proposal is aligned with the IEEE P802.3dj architecture that specifies an optional 800 Gb/s MII Extender that can be used in a fashion similar to what was done in the OIF's 400ZR Implementation Agreement.

Please be aware that the IEEE 802.3 Ethernet Working Group received a liaison from the Mobile Optical Pluggables Alliance (MOPA). See [https://www.ieee802.org/3/minutes/nov23/incoming/MOPA to IEEE 802p3 231102 Redacted.pdf](https://www.ieee802.org/3/minutes/nov23/incoming/MOPA%20to%20IEEE%20802p3%20231102%20Redacted.pdf).

This liaison expressed concern about how the use of the xMII extender might yield unknown (and un-correctable) latency variation, which would affect the classification of the optical module with respect to PTP time error performance. The OIF is copied on the IEEE 802.3 Ethernet WG's liaison response to MOPA.

This liaison is to explore additional questions with the OIF:

- What is the status of the OIF 800LR IA Project and the OIF 800ZR IA Project?
- Are there drafts that can be shared?
- Does either project utilize the 800GMII Extender? If either does, has the OIF evaluated whether this approach can address supporting Recommendation ITU-T G.8273.2 'Class C' and 'Class D' system time error performance?

As discussed in the liaison to MOPA, the IEEE P802.3dj Task Force is considering this topic. We will communicate any further developments in the future on this issue.

We look forward to the continued collaboration between our two groups.

Sincerely,

David Law
Chair, IEEE 802.3 Ethernet Working Group