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STUDY GROUP 15

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Source: ITU-T Study Group 15

Title: LS on OTN support of Ethernet clients beyond 400 Gb/s

LIAISON STATEMENT

For action to: IEEE 802.3

For comment to:

For information to: -

Approval: ITU-T SG15 (E-meeting, 23 April 2021)

Deadline: 26 July 2021

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In this meeting, ITU-T SG15 received a report from our liaison rapporteur to IEEE 802.3 covering recent events in IEEE 802.3, including the formation and initial meetings of the Beyond 400 Gb/s Ethernet Study Group. In the interest of maintaining the long and productive history of cooperation and technology sharing between ITU-T SG15 and IEEE 802.3 on the evolution of higher speed interfaces for Ethernet we would like to inform you that SG15 has begun discussion including how OTN should support new Ethernet clients faster than 400 Gb/s. While OTN is a technology defined for transparent transport of many different clients, we would note that over the last two decades, the higher speeds of Ethernet have become the most important and most commonly carried clients of the OTN. We would like to take the opportunity to thank IEEE 802.3 for including an objective to provide appropriate support for OTN in numerous previous projects (beginning with 802.3ba), and would note that the IEEE 802.3 decision to identify an 'OTN mapping reference point' (as a consequence of the OTN support objective) has been extremely helpful in several respects, including:

- Providing clarity as to the information that needs to be carried across the OTN so that the signal generated by an Ethernet transmitter connected to the OTN ingress can be properly understood by an Ethernet receiver connected to the OTN egress;
- Allowing only a single OTN mapping to be specified (rather than different mappings per PMD type);
- In wide-area network applications, the distance between the customer equipment and transport equipment may be different at the two ends of the wide-area network. Having a single OTN mapping

reference provides a key benefit of allowing different Ethernet PMD types to be used at the OTN ingress and egress.

Another benefit from the coordination between our groups that follows from the OTN support objective has been the ability to develop a common supply chain for the two markets, in particular, the ability to use the same (or similar) pluggable modules for Ethernet and for OTN client interfaces.

As Ethernet has been a primary client for OTN for many years, we would anticipate that the PHYs defined by any IEEE 802.3 projects that are initiated by the Beyond 400 Gb/s Ethernet Study Group also will be important clients for OTN networks. Once again, establishing an 'OTN mapping reference point' that is common for all new Ethernet PHYs that share a MAC rate would be very helpful to us. We hope that the Beyond 400 Gb/s Ethernet Study Group will consider including an objective to provide appropriate support for OTN.

While we understand your work is in the early stages, we would also be interested to understand what FEC(s) you expect will be used on beyond 400 Gb/s Ethernet PHYs, as we think recent collaboration between our groups on P802.3ct and P802.3cw concerning FEC codes and FEC frame formats has been beneficial.

As our work has just started, we are unable at this time to provide any details about optimizations to OTN that may be desirable when transporting beyond 400 Gb/s Ethernet clients. If there are particular aspects of our work that would be of interest to the Beyond 400 Gb/s Ethernet Study Group, please let us know.

We look forward to continued cooperation with you as the industry begins to specify client mappings and interoperable interfaces operating at speeds beyond 400 Gb/s.

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