October 30, 2015

To: David Law and members of the IEEE 802.3 Working Group
    CC: Pete Anslow, 802.3 WG Secretary
Subject: Flex Ethernet Implementation Agreement

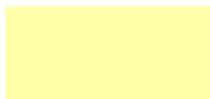From: Nathan Tracy, OIF Technical Committee Chair (ntracy@te.com)

Dear Mr. Law and members of IEEE 802.3,

Thank you for your reply concerning our request for assignment of an "O" code for an ordered set to delineate FlexE overhead carried over Ethernet PHYs. As a reminder of our previous request, we have the need to define a 66B block which can be easily distinguished from any valid Ethernet 66B codeword, but can be assured to be able to traverse any lower layers of the Ethernet stack. Choosing to encode this as an ordered set seems like the most straightforward way to accomplish this. Our current draft has chosen 0x5 as a provisional value to use for the "O" code, which is one of several values which would have a Hamming distance of 2 from either of the two 4-bit "O" codes currently in use by existing technologies. Please advise us if there is a different "O" code you prefer that we use, or if you think there is a better way this information can be encoded which would still traverse the lower layers (including lane distribution, transcoding, RS-FEC in particular) of the 100GBASE-R stack as defined by IEEE 802.3.

In response to your question, first version of the FlexE implementation agreement would send these ordered set blocks only over 100G PHYs using the lower layers as defined by IEEE 802.3. OIF members would expect to extend this implementation agreement in the future to use new Ethernet PHYs with rates greater than 100G, including the 400GbE interfaces under development in the IEEE P802.3bs project. We would not envision the need to send this ordered set over any currently defined Ethernet interface operating at a rate less than 100 Gb/s. As far as advising readers of the use of these codes, it would be helpful to include a note, similar to that for the signal ordered set described in Table 82-1, advising of the value assigned for a FlexE ordered set. We would not currently envision the need to mention this in clause 49.

We would appreciate a response as soon as possible after your November 2015 plenary, as this would allow us to incorporate the confirmed value in our next straw ballot cycle for the FlexE implementation agreement.

Sincerely,

Nathan Tracy,
OIF Technical Committee Chair (ntracy@te.com)