IEEE 802.3 Ethernet Working Group
DRAFT Liaison Communication

Source:	IEEE 802.3 Working Group[1]	
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Subject:	Progress Update on P802.3cw Task Force	
Approval:	Agreed to at IEEE 802.3 Interim Meeting, 24 Sept 2020	

Dear Mr. Frlan and members of OIF,

The IEEE 802.3 Ethernet Working Group would like to inform the OIF and its members of the progress of the IEEE P802.3cw 400 Gb/s over DWDM systems project. Please note that the Task Force's webpage is at the following URL: http://www.ieee802.org/3/cw/index.html.

The Task Force is still in the baseline proposal selection process. The webpage for the September 2020 Interim Task Force meeting may be found at http://www.ieee802.org/3/cw/public/20_09/index.html.

The following is a summary of the baseline decisions that have been made to date:

- 400GBASE-ZR will utilize a DP-16QAM modulation format.
- 400GBASE-ZR will utilize the PCA / PMA proposal detailed in lyubomirsky_3cn_01b_0119.pdf. [URL: https://www.ieee802.org/3/cn/public/19_01/lyubomirsky_3cn_01b_0119.pdf]

[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.

- 400GBASE-ZR will utilize the FEC proposal detailed in lyubomirsky_3cn_02a_1118.pdf (CFEC). [URL: https://www.ieee802.org/3/cn/public/18_11/lyubomirsky_3cn_02a_1118.pdf]
- The grid spacing for 400GBASE-ZR is 75 GHz.
- 400GBASE-ZR is specified for 64 channels, ranging from 191.375 to 196.1 THz.
- The EVM measurement methodology defined by Slides 5-9 of pittala_3ct_01a_0120.pdf was adopted to enable correlation for the definition of a transmitter metric. [URL: https://www.ieee802.org/3/ct/public/20_01/pittala_3ct_01a_0120.pdf]
- The summary of the current adopted 400GBASE-ZR Transmit, Receive, and Black Link characteristics is provided in [URL: https://www.ieee802.org/3/ct/public/tf_interim/20_0917/issenhuth_3cw_01a_200917.pdf]. Please note some items have proposed values, while others have been left "TBD."

Please note that the following 400GBASE-ZR Transmit, Receive, and "Black Link" characteristics have not been adopted, but have been identified for further study for possible inclusion:

- Transmit Characteristics:
    - Spectral excursion (max)
    - Laser relative intensity noise (avg)
    - Laser relative intensity noise (max)
    - Instantaneous I/Q offset (Dither)
    - Tx Clock Phase Noise
    - Transmitter back reflectance tolerance
- Receive Characteristics:
    - Damage Threshold
    - PMD Tolerance
- "Black Link" Characteristics
    - "Black link" transfer function with a well-defined TX spectrum

At this time no baseline proposals for an EVM Specification to add into the draft have been submitted.

NOTE: add caveat that all technical details need to be confirmed by ballot.

At this time the IEEE 802.3 Ethernet Working Group also has the IEEE P802.3ct 100 Gb/s over DWDM systems project. This effort is currently ahead of the IEEE P802.3cw project, and, therefore, it is anticipated that Clause 45 management register specifications developed for the IEEE P802.3ct draft will be the basis for the future IEEE P802.3cw draft. We are happy to provide you with the current copy of IEEE P802.3ct draft D2.2. We request that this be shared only with your membership.

We look forward to continued collaboration with the OIF on 400GBASE-ZR technologies.

Sincerely,

David Law

Chair, IEEE 802.3 Ethernet Working Group