IEEE P802.3bm Next Generation 40 Gb/s and 100 Gb/s Optical Ethernet

Objectives

✧ Support full-duplex operation only
✧ Preserve the IEEE 802.3 / Ethernet frame format utilizing the IEEE 802.3 MAC
✧ Preserve minimum and maximum FrameSize of current IEEE 802.3 standard
✧ Support a BER better than or equal to $10^{-12}$ at the MAC/PLS service interface
✧ Provide appropriate support for OTN
✧ Define re-timed 4-lane 100G PMA to PMA electrical interfaces for chip to chip and chip to module applications
✧ Define a 40 Gb/s PHY for operation over at least 40 km of SMF
✧ Define a 100 Gb/s PHY for operation up to at least 100 m of MMF
☐ Specify optional Energy Efficient Ethernet (EEE) for 40 Gb/s and 100 Gb/s operation over fiber optic cables.

✧ (approved by 802.3 July 2011)
☐ (approved by 802.3 November 2012)