IEEE 802.3cd
50 Gb/s Ethernet over a Single Lane and Next Generation 100 Gb/s and 200 Gb/s Ethernet Task Force

Objectives
(updated after May 2016 interim)

Objectives 1 of 2

- Support full-duplex operation only
- Preserve the Ethernet frame format utilizing the Ethernet MAC
- Preserve minimum and maximum FrameSize of current IEEE 802.3 standard
- Support optional Energy-Efficient Ethernet operation
- Provide appropriate support for OTN
- Support a MAC data rate of 50 Gb/s and 100 Gb/s
- Support a BER of better than or equal to 10^{-12} at the MAC/PLS service interface (or the frame loss ratio equivalent) for 50 Gb/s and 100 Gb/s operation
- Support a MAC data rate of 200 Gb/s
- Support a BER of better than or equal to 10^{-13} at the MAC/PLS service interface (or the frame loss ratio equivalent) for 200 Gb/s operation

Objectives 2 of 2

50 Gb/s Ethernet PHYs

- Define single-lane 50 Gb/s PHYs for operation over
    - copper twin-axial cables with lengths up to at least 3m.
    - printed circuit board backplane with a total channel insertion loss of <= 30dB at 13.28125 GHz.
    - MMF with lengths up to at least 100m
    - SMF with lengths up to at least 2km
    - SMF with lengths up to at least 10km

100 Gb/s Ethernet PHYs

- Define a two-lane 100 Gb/s PHY for operation over
    - copper twin-axial cables with lengths up to at least 3m.
    - printed circuit board backplane with a total channel insertion loss of <= 30dB at 13.28125 GHz.
    - MMF with lengths up to at least 100m
    - SMF with lengths up to at least 500m
- Define a 100 Gb/s PHY for operation over SMF with lengths up to at least 2 km

200 Gb/s Ethernet PHYs

- Define four-lane 200 Gb/s PHYs for operation over
    - copper twin-axial cables with lengths up to at least 3m.
    - printed circuit board backplane with a total channel insertion loss of <= 30dB at 13.28125 GHz.
- Define 200 Gb/s PHYs for operation over MMF with lengths up to at least 100m