Proposed Objectives – Modified P802.3df PAR

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IEEE P802.3 df Objectives

- **Non-Rate Specific**
  - 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 a BER of better than or equal to 10 -13 at the MAC/PLS service interface (or the frame loss ratio equivalent)
  - Provide support to enable mapping over OTN

- ~~**200 Gb/s Related**~~
  - ~~Support a MAC data rate of 200 Gb/s~~
  - ~~Support optional single-lane 200 Gb/s attachment unit interfaces for chip-to-module and chip-to-chip applications~~
  - ~~Define a physical layer specification that supports 200 Gb/s operation:~~
    - ~~over 1 pair of copper twin-axial cables in each direction with a reach of up to at least 1.0 meter~~
    - ~~over 1 pair of SMF with lengths up to at least 500 m~~
    - ~~over 1 pair of SMF with lengths up to at least 2 km~~

- **400 Gb/s Related**
  - Support a MAC data rate of 400 Gb/s
  - ~~Support optional two-lane 400 Gb/s attachment unit interfaces for chip-to-module and chip-to-chip applications~~
  - Define a physical layer specification that supports 400 Gb/s operation:
    - ~~over 2 pairs of copper twin-axial cables in each direction with a reach of up to at least 1.0 meter~~
    - ~~over 2 pairs of SMF with lengths up to at least 500 m~~
    - over 4 pairs of SMF with lengths up to at least 2 km

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IEEE P802.3 df Objectives

- **800 Gb/s Related**
  - Support a MAC data rate of 800 Gb/s
  - Support optional eight-lane 800 Gb/s attachment unit interfaces for chip-to-module and chip-to-chip applications
  - ~~Support optional four-lane 800 Gb/s attachment unit interfaces for chip-to-module and chip-to-chip applications~~
  - Define a physical layer specification that supports 800 Gb/s operation:
    - ~~over 4 pairs of copper twin-axial cables in each direction with a reach of up to at least 1.0 meter~~
    - over eight lanes of twin axial copper cables with a reach up to at least 2 meters
    - over eight lanes over electrical backplanes supporting an insertion loss ≤ 28dB at 26.56GHz
    - over 8 pairs of MMF with lengths up to at least 50 m
    - over 8 pairs of MMF with lengths up to at least 100 m
    - over 8 pairs of SMF with lengths up to at least 500 m
    - over 8 pairs of SMF with lengths up to at least 2 km
    - ~~over 4 pairs of SMF with lengths up to at least 500 m~~
    - ~~over 4 pairs of SMF with lengths up to at least 2 km~~
    - ~~over 4 wavelengths over a single SMF in each direction with lengths up to at least 2 km~~
    - ~~over a single SMF in each direction with lengths up to at least 10 km~~
    - ~~over a single SMF in each direction with lengths up to at least 40 km~~

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IEEE P802.3 df Objectives

- ~~**1.6 Tb/s Related**~~
  - ~~Support a MAC data rate of 1.6 Tb/s~~
  - ~~Support optional sixteen-lane 1.6 Tb/s attachment unit interfaces for chip-to-module and chip-to-chip applications~~
  - ~~Support optional eight-lane 1.6 Tb/s attachment unit interfaces for chip-to-module and chip-to-chip applications~~
  - ~~Define a physical layer specification that supports 1.6 Tb/s operation:~~
    - ~~over 8 pairs of copper twin-axial cables in each direction with a reach of up to at least 1.0 meter~~
    - ~~over 8 pairs of SMF with lengths up to at least 500 m~~
    - ~~over 8 pairs of SMF with lengths up to at least 2 km~~

CLEAN VERSION

Proposed IEEE P802.3df Objectives

- **Non-Rate Specific**
  - 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 a BER of better than or equal to 10 -13 at the MAC/PLS service interface (or the frame loss ratio equivalent)
  - Provide support to enable mapping over OTN
- **400 Gb/s Related**
  - Support a MAC data rate of 400 Gb/s
  - Define a physical layer specification that supports 400 Gb/s operation:
    - over 4 pairs of SMF with lengths up to at least 2 km
- **800 Gb/s Related**
  - Support a MAC data rate of 800 Gb/s
  - Support optional eight-lane 800 Gb/s attachment unit interfaces for chip-to-module and chip-to-chip applications
  - Define a physical layer specification that supports 800 Gb/s operation:
    - over eight lanes of twin axial copper cables with a reach up to at least 2 meters
    - over eight lanes over electrical backplanes supporting an insertion loss ≤ 28dB at 26.56GHz
    - over 8 pairs of MMF with lengths up to at least 50 m
    - over 8 pairs of MMF with lengths up to at least 100 m
    - over 8 pairs of SMF with lengths up to at least 500 m
    - over 8 pairs of SMF with lengths up to at least 2 km