

**P802.3ca  
Objectives  
[Draft]**

**January 2018**

# Objectives

- ❑ Support subscriber access networks using point to multipoint topologies on optical fiber
- ❑ Provide specifications for physical layers operating over a single SMF strand and supporting symmetric and/or asymmetric MAC data rates of:
  - 25 Gb/s in downstream and less than or equal to 25 Gb/s in upstream
  - 50 Gb/s in downstream and less than or equal to 50 Gb/s in upstream
  - 100 Gb/s in downstream and less than or equal to 100 Gb/s in upstream
- ❑ PHY(s) to have a BER better than or equal to  $10^{-12}$  at the MAC/PLS service interface (or the frame loss ratio equivalent)
- ❑ Support coexistence with 10G-EPON
  - Optical power budgets to accommodate channel insertion losses equivalent to those supported by the 10G-EPON standard
  - Wavelength allocation allowing concurrent operation with 10G-EPON PHYs
- ❑ Wavelength allocation allowing concurrent operation of 25G-EPON and G-PON reduced wavelength set (1290nm-1330nm) PHYs

# Objectives

- ❑ Support subscriber access networks using point-to-multipoint topologies on optical fiber
- ❑ Provide Physical Layer specifications that
  - Operate over a single SMF strand
  - Support symmetric and/or asymmetric MAC data rates of:
    - 25 Gb/s in downstream and less than or equal to 25 Gb/s in upstream (25G-EPON)
    - 50 Gb/s in downstream and less than or equal to 50 Gb/s in upstream (50G-EPON)
    - ~~100 Gb/s in downstream and less than or equal to 100 Gb/s in upstream (100G-EPON)~~
  - Have a BER better than or equal to  $10^{-12}$  at the MAC/PLS service interface (or the frame loss ratio equivalent)
  - Support coexistence with **select legacy PON technologies**
    - Optical power budgets to accommodate channel insertion losses equivalent to **PR20 and PR30, as defined in Clause 75.**
    - Wavelength allocation allowing concurrent operation with 10G-EPON, **XG-PON1, and XGS-PON** PHYs
    - Wavelength allocation allowing concurrent operation of 25G-EPON and G-PON reduced wavelength set (**1480nm-1500nm downstream, 1290nm-1330nm upstream**) PHYs