

5.7 ~~Outside~~ Optical Distribution Network

It is expected that NG-EPON can coexist with 1G-EPON and/or 10G-EPON (EPON) on the same ODN. It is necessary for the NG-EPON to operate over the same single mode fiber used by EPON today, i.e.: IEC 60793–2 B1.1 and B1.3, ITU–T G.652, and/or ITU-T G.657 in any combination. Moreover, NG-EPON is expected to operate over the same passive splitters/couplers and other passive elements of the ODN, including connectors, splices, etc.

Given the large number of deployed PON ODNs following requirements established for EPON, the wavelength allocation plan selected for NG-EPON should not require ~~requalification-replacement~~ of existing ODN elements ~~or their replacement~~. This is especially critical for operators with already deployed EPON infrastructure, where any changes to the ODN are labor intensive and typically very expensive.

EPON ODN is deployed today in different architectures (see section 3.3 for more details), depending on the redundancy requirements, fiber trunk availability, and operator preferences. It is expected that NG-EPON operates over already deployed EPON ODN architectures and does not put additional requirements for a specific ODN architecture to operate properly.