

For 6.3:

PON access systems have been commercially deployed for about two decades. Virtually all deployed PONs have used TDM-PON technology. Throughout this history, commercially deployed TDM-PON bit rates have consistently doubled every two years [16], recently reaching 10 Gb/s.

Historically, at each increase in speed, TDM-PON technologies have needed to overcome ~~three~~ four main challenges without resorting to WDM:

- higher speed optics and electronics;
- higher optical transmit power;
- improved receiver sensitivity;
- mitigation of chromatic dispersion (CD).