WDM-PON

Challenges
- No standard
- Many technology options
- Highest initial investment
- Demand drivers
- Verizon's comments
  - BPON --> GPON --> WDM-PON
    - Need accommodate existing deployments
  - ONU
    - Must be cost competitive

Benefits
- lower total cost of ownership
  - Greener
- Network simplification
  - Merges metro and access
- 1Gbps and greater wavelengths
- Great number of users per PON
  - Up to 16k (BT)
- One PON serves residential and enterprise users

Opportunities
- Europe?
  - No large PON deployments yet
- new markets
  - No legacy

Market status PON subscribers
- Asia Pac
  - 80% global Fibre-to-the-Home (FTTH)/ Building (FTTB)
    - Japan 14.5m
    - South Korea - 6.8m
  - New player: China
    - China Telecom
      - 12m Ethernet PON
    - China Unicom
      - 11m by 2010
    - 95% FTTB
- US
  - Verizon: 300k a quarter
- Europe
  - Laggard
    - 5% of global PON
      - incumbents only 5% of 5%!

PON tech status
Total Telecom article: Nov 2009

- XG-PON (ITU's 10G GPON standard)
  - 2013 deployments at earliest
  - Standard by 2012
    - focus 10Gbps downstream/ 1Gbps upstream
- Move to 10G EPON
  - Japan
    - NTT - going 1Gbps to 10Gbps EPON
    - Since KDDI is deploying 2.5G EPON
  - IEEE standard - Sept 2009
    - 10G downstream/1G upstream & 10G symmetrical

Drivers for 10G PON
- Spoken of for
  - High Definition
    - 10-12 Mbps / channel
    - Then 3D TV
      - 2x bandwidth of HD
  - mobile Backhaul
    - LTE basestations
      - But each BS will need 300Mbps
      - Hence a while yet before 10G PON for backhaul