



100G and above



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Data Continues to Grow

- Applications continue to grow
 - Video
 - Voice
 - High-Speed Data, Internet
 - Over-the-Top Content providers—i.e., YouTube
- Household Bandwidth Needs in 2010 (U.S.):
 - Applications: HDTV + SDTV + PVRs + HSD + VoIP-Phones
- Higher Data rates are needed to address this growth
 - 10 Gig networks will begin to feel the strain
 - Need to move to higher data rates 40 Gig, 100 Gig and above.
 - These higher data rates must operate over existing networks

100G Technology choice

- Coherent transmission is the right technology
 - Allows to reach performances comparable to 10G
 - Allows to completely avoid Dispersion Compensation and fiber characterization
- 100G technology is not only a way to have a faster network as it opens the door to new architecture in optical system:
 - Use of local oscillator to avoid RX Optical filter

100G Industry Status

Priority

- **Near-term industry focus** on 100Gb
- Invest in 400Gb and 1Tb
- Balance Time-to-Market and Time-to-Value

Quality

- Supply Chain Stability: **Multi-source for sub-components**. Module-level dual-sourcing not interoperable.
- Apply quality diligence to component selection

Performance

- Implement **techniques for compensation in DSP** which maximize LH performance (Less Regen, More Channels, Smaller Guardband)

The way to 1 Tbps

- Now is the time for technology scouting for 400G and 1Tbps
- Multiple experiments shows the fact that it is technically feasible to transmit 1Tbps channels
- FlexSpectrum technology as a MUST to HAVE as 1Tbps will not fit in a ITU-T G.694.1 wavelength
- Market will define when it is the right time to have this technology developed

