Cisco 10GbE historical PMD adoption rates

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Preface

- Customer segmentation:
  1. Service Providers
  2. Public Sector: municipalities, school districts, healthcare, government etc.
  3. Enterprise: organization above >= 1500 employees
  4. Commercial: organizations below <1500 employees

- 1G vs. 10G data organization:
  Single mode/Multimode Mix
  Customer mix
  Single mode and Multimode customer mix
  Single mode PMD mix and customer adoption rates
  Multimode PMD mix and customer adoption rates
Cisco Transceivers Media Mix

- Single-Mode fiber represents the majority of the applications in the 10 GbE early adopter market → 10GbE adoptions started from the core of the networks.
Cisco Transceivers Customer Mix

- **1GbE (mature)**: SP share is ~20%
- **10GbE (growth)**: SP share is ~55% and declining.
- 10 GbE early adopters: SPs and large Enterprise customers.
1GbE (mature): SP share is ~30-40%
10GbE (growth): SP share is ~50%.
Multimode PMDs Customer Mix

- SP vs. non-SP customer mix on multimode is ~20% for both 1GbE and 10GbE.
Singlemode PMDs and customer mix

- At 10G 10km optics is split 40/60 between SP/non-SP
- Above 10km almost 80% of the units go to SPs both at 1GbE and 10GbE

- 10km optics represents about 85% of the singlemode mix.
• Although shrinking LX4 is a critical PMD showing the traction of 10G in Campus networks (characterized by 62.5um long reach MMF).
• A MMF PMD for very short reaches would not meet the majority of the requirements for early HSE adopters.
SONET/SDH Transceiver market by Reach

Source LightCounting: Q1-2006 Transceiver Market Survey Results

- Reaches <= 7 km represent less than 20% of the volumes.
- Up to 10km covers 70% of the SONET/SDH applications. (At 10GbE 85+% of the *single mode* optics is up to 10km).
Summary

- Early adoption for 10GbE started from the core of the networks: Metro/Data Center/Enterprise where distances require single mode fiber.

- In 2006 still the 10GbE market cannot be considered mature as 50% of the volumes are on single-mode fibers vs. just 20% for the 1GbE market.

- It is plausible that the early-adopters market phase for HSE will last several years and SPs and large Enterprise will drive initial volumes. It is important to prioritize the PMD selection for the needs of early adopters.

- HSE should be expected to have the same adoption trends. If the SONET/SDH market is an indication anything less than 7km could significantly reduce the applications for HSE.

- Multimode solutions are expected to be required for data center applications, but in data centers customers also have the most flexibility in picking the transmission medium. A single mode PMD is a viable option even for Data Centers particularly for early adopters.

- In summary: a 10 km single mode fiber would ensure the highest coverage of the HSE market in the first few years. It should be made highest priority among the various PMD options.