

User Perspective on 850 nm Variants

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Sep 11, 2000

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User Perspective On SW Variant

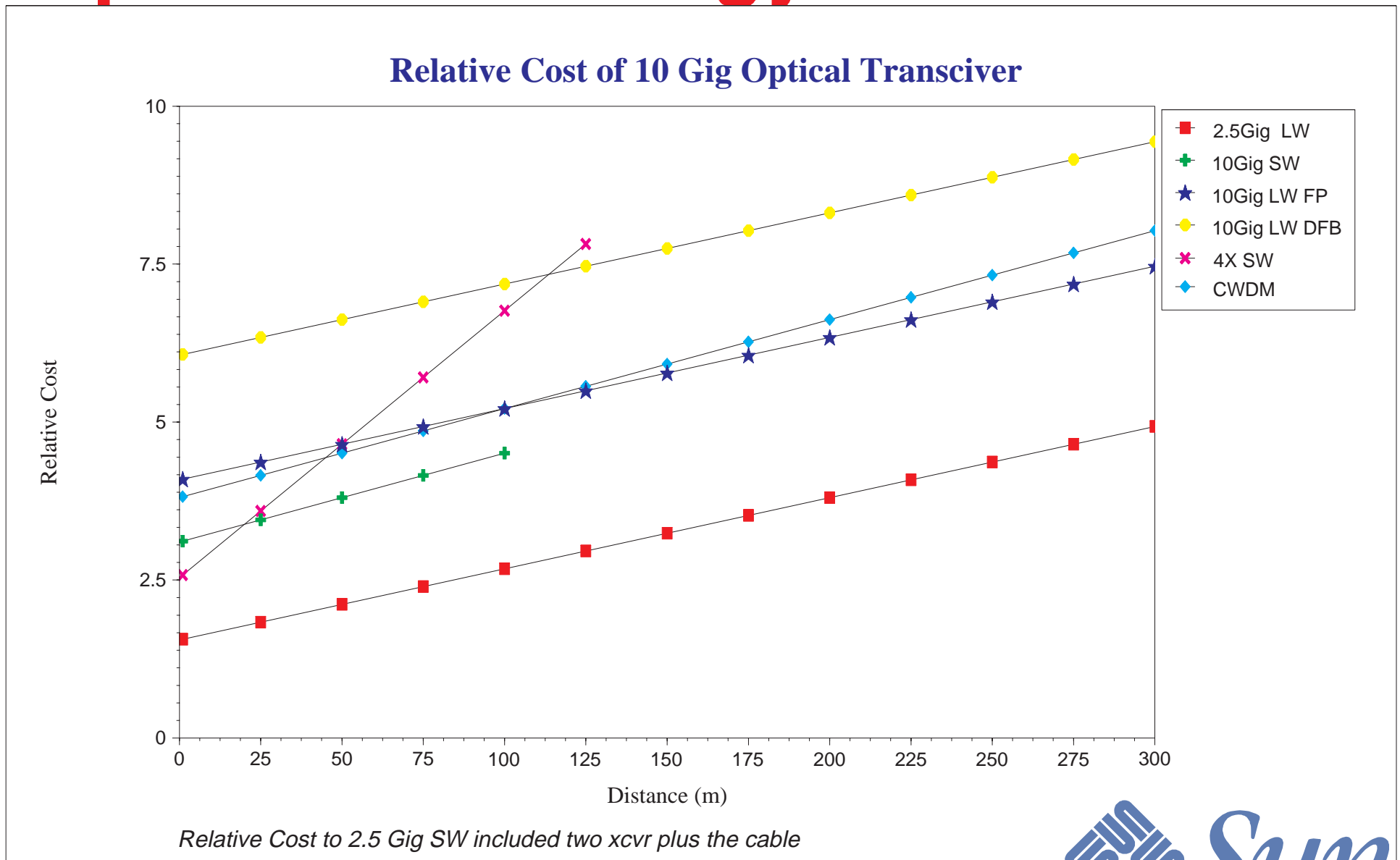
- All 3 short wave variants have the potential to reach 300 m mark.
- What we really need in addition to the LW variant "*a cost optimized data center link with max distance of 100m*".
- What matter is the size and power so we can get the BW of the board.
- About 50% of applications will be under 100m.
- At least one optical variant must be low cost, low risk, and available today.



Pro and Cons of 850 nm Variants

- 850 nm Serial
 - ⇒ Pro- Commonality / leverage 1300 nm serial.
 - ⇒ Cons- Higher speed, power, and size.
- Parallel Optics
 - ⇒ Pro- Low risk, power, and size.
 - ⇒ Cons- Cable cost for distance >25 m.
- 850 nm CWDM
 - ⇒ Pro- XAUI and can reach 300 m on existing fiber.
 - ⇒ Cons- Manufacture, reliability, and ~5dB of excess loss.

Optical Technology Relative Cost



Conclusions

- Parallel optics lowest cost at <25m and impractical for >100m due to cable cost.
- Serial optics has the promise of low cost, but will be higher power and bigger.
- CWDM at 850 nm has higher cost than serial and with potential risk.
- My Recommendation are:
 - ⇒ 1st:accept Parallel Optics as low risk data center variant "*it is just a jumper*".
 - ⇒ 2nd:accept serial 850 nm to provide commonality to serial 1300nm, promise to reach 300m, and use existing fiber plant.

