

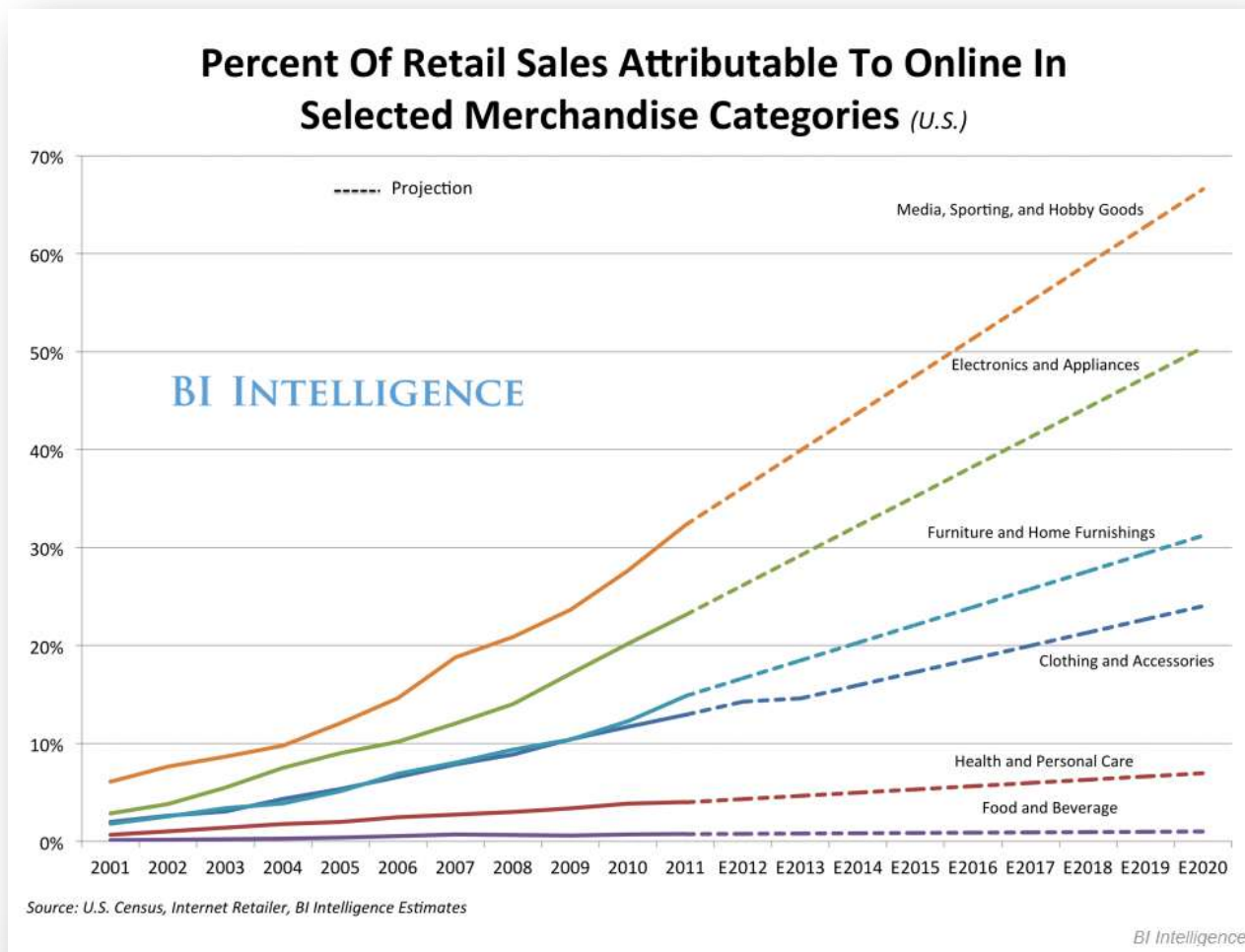


Market Trends Favoring Single-channel 100GbE Adoption

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June 2014

Everything but the toilet is moving online...



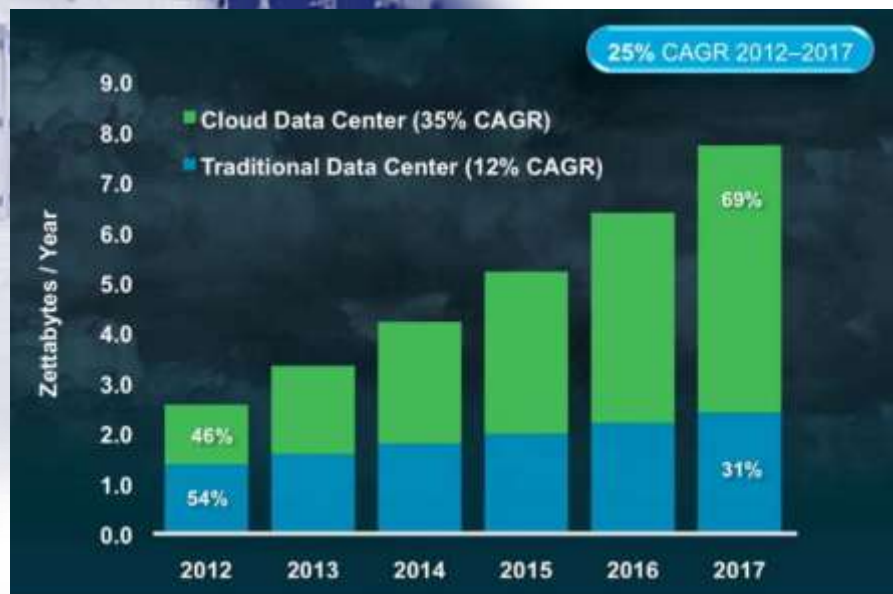
<http://www.businessinsider.com/the-future-of-retail-2014-slide-deck-sai-2014-3>

Business Insider, June 3, 2014, free teaser from subscription report, reused for educational purposes. I own no rights whatsoever.

... causing ridiculous growth in data centers.

"Cloud data center traffic will grow 6-fold from 2011 to 2016 reaching 5 ZB"

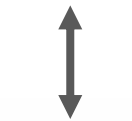
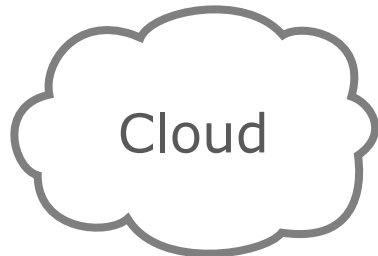
Source: Global Cloud Index 2012, Cisco



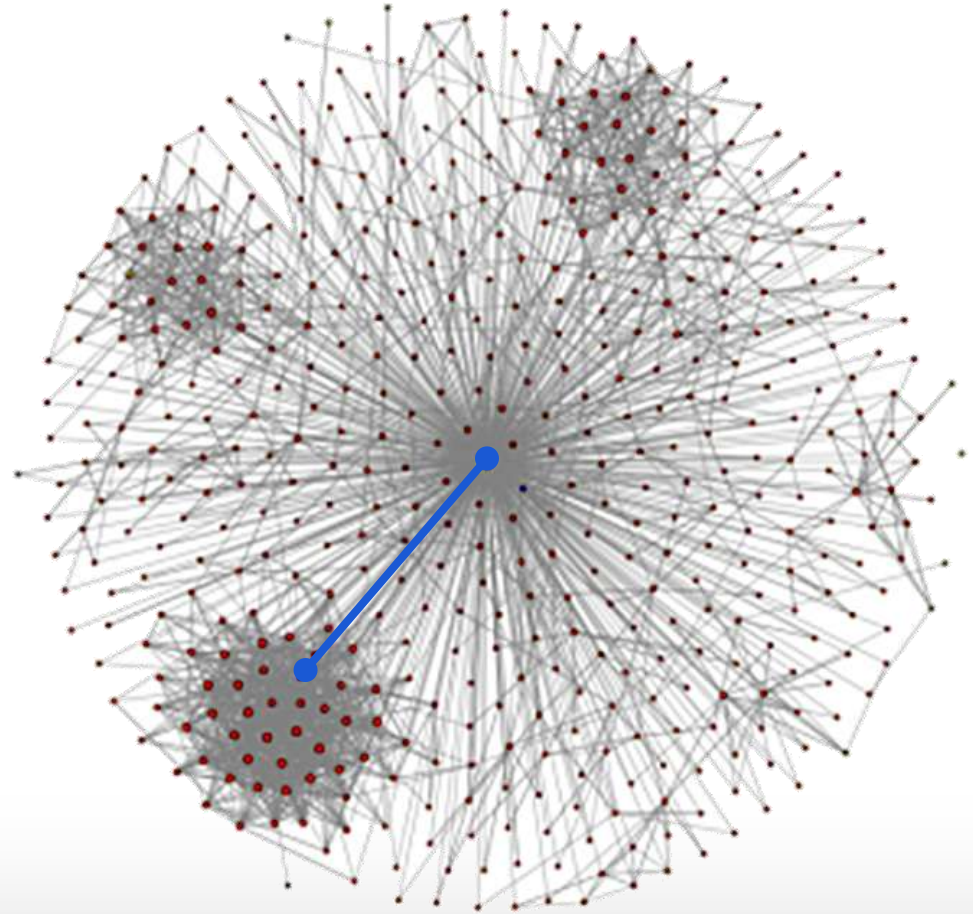
http://www.cisco.com/c/en/us/solutions/collateral/service-provider/global-cloud-index-gci/Cloud_Index_White_Paper.pdf

Cisco Global Cloud Index: Forecast and Methodology, 2012-2017, free whitepaper from website. Figure 3 reused for educational purposes. I own no rights whatsoever.

The macroscopic trend driving our growth, and the reality of cloud connectivity.



User



DC Needs Different than Telecom, so we should stop force fitting technology.



Telecom

- OpEx dominates
- 20+ year depreciation
- Optical Performance
- 99.999%, "5 Nines"
- Wide temp range, -5C
- Bits/s/km/Hz
- Mid-span access
- Rings

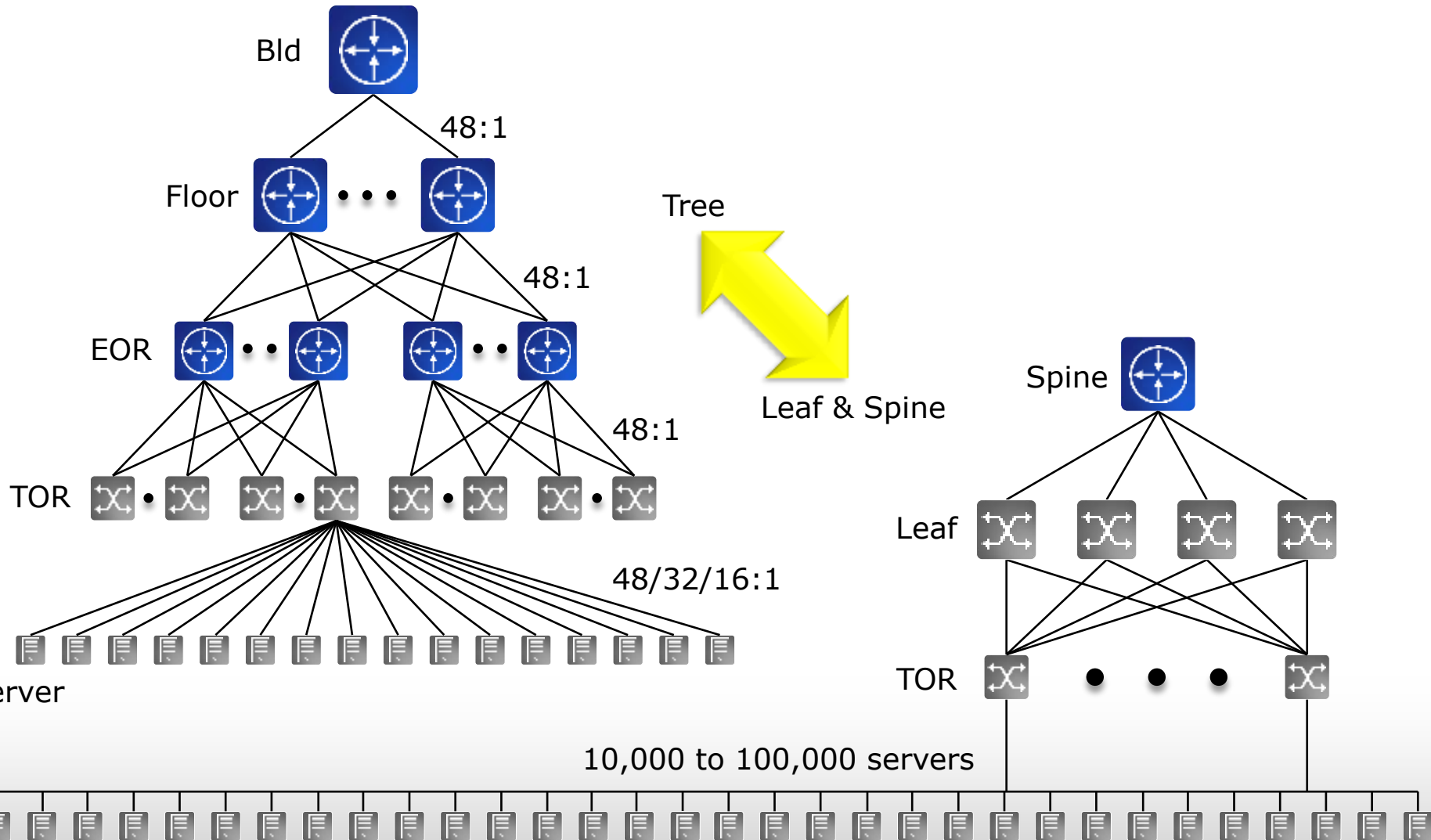


Datacom

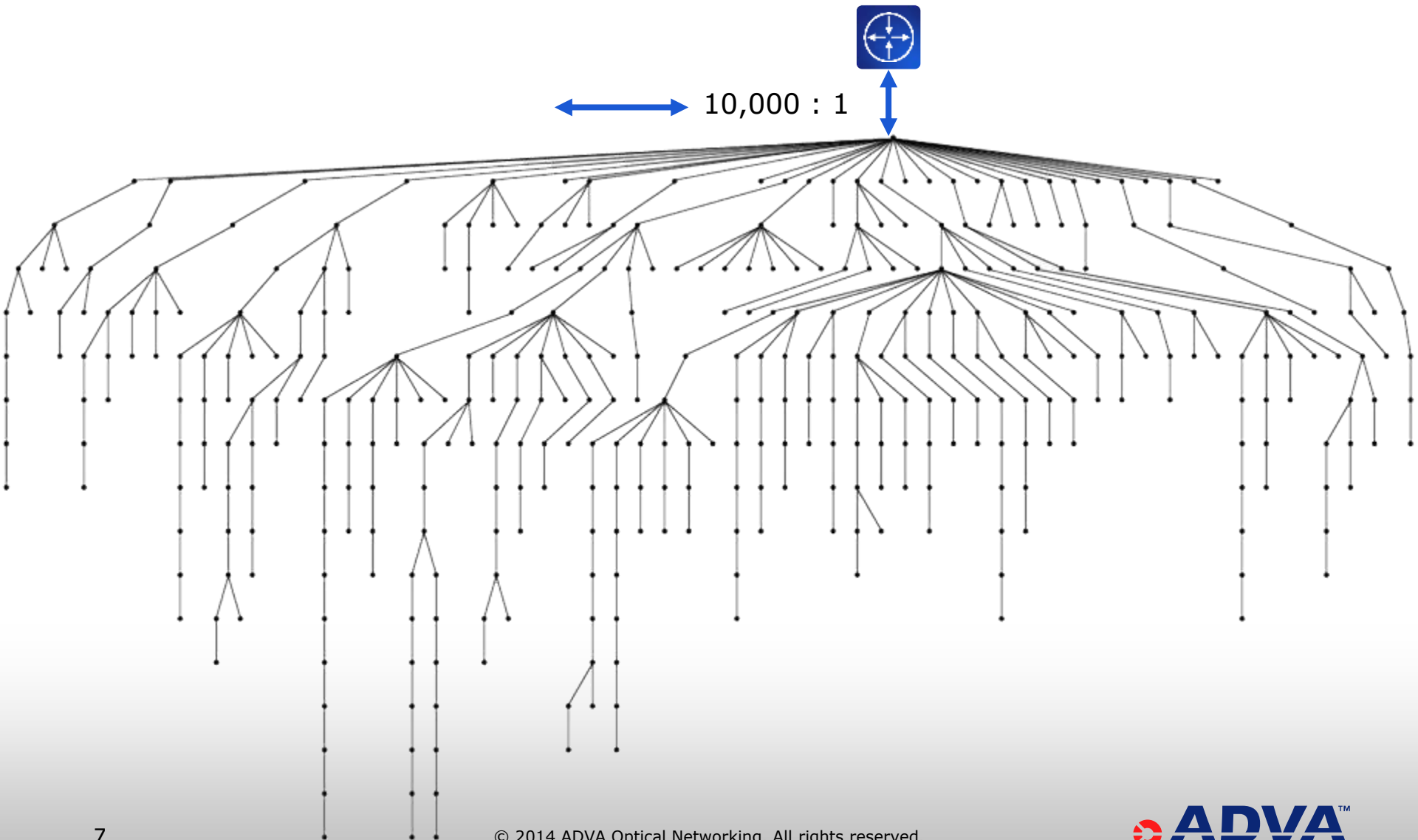
- CapEx dominates
- 3 year technology cycle
- Power, Footprint, Volume
- 3 nines "good enough"
- Narrow temp range, runs hot
- Bits/s/port
- "Bookended" Amps
- Point-to-Point



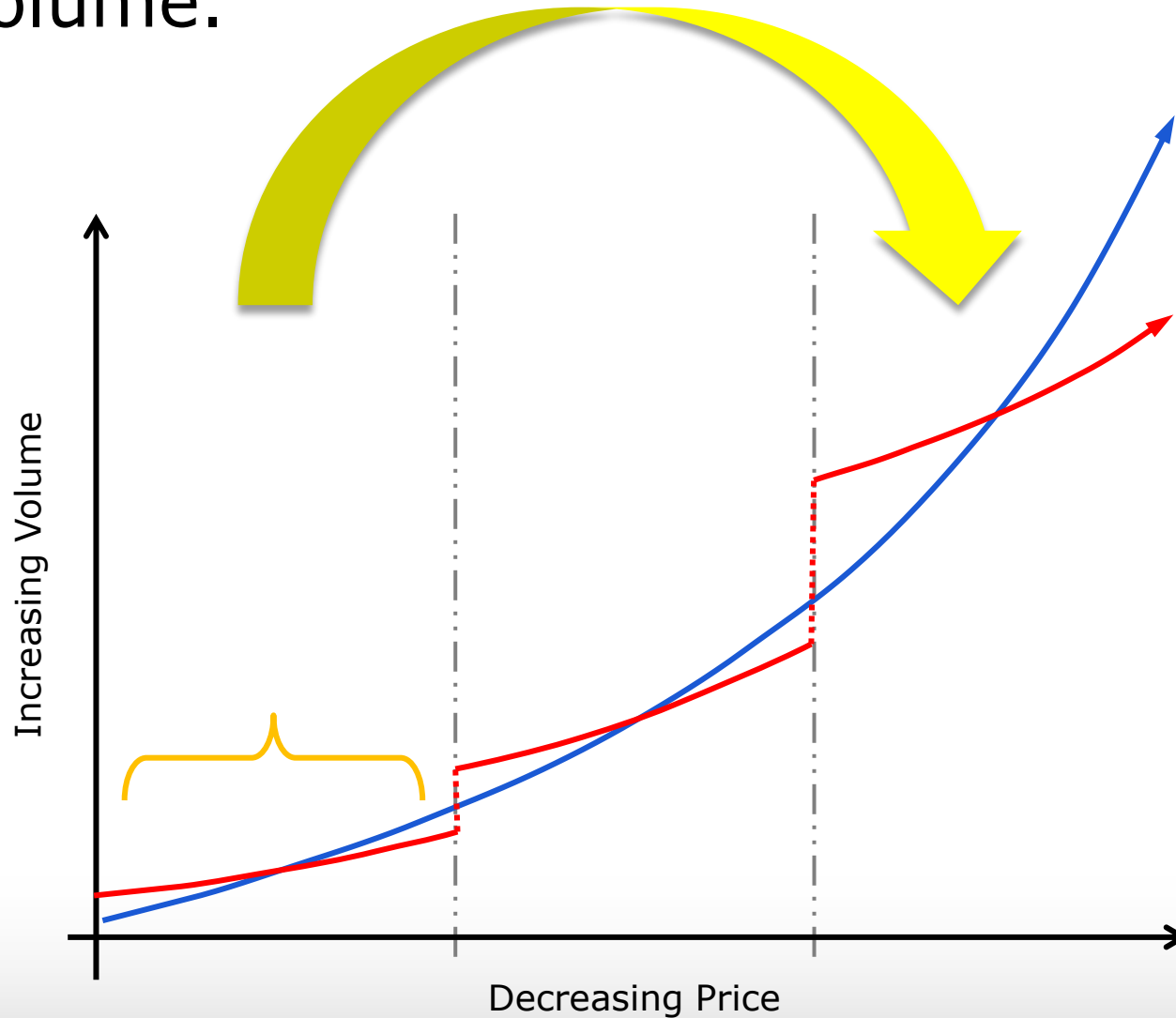
Data Center Architectures are Becoming Flatter, More Horizontal



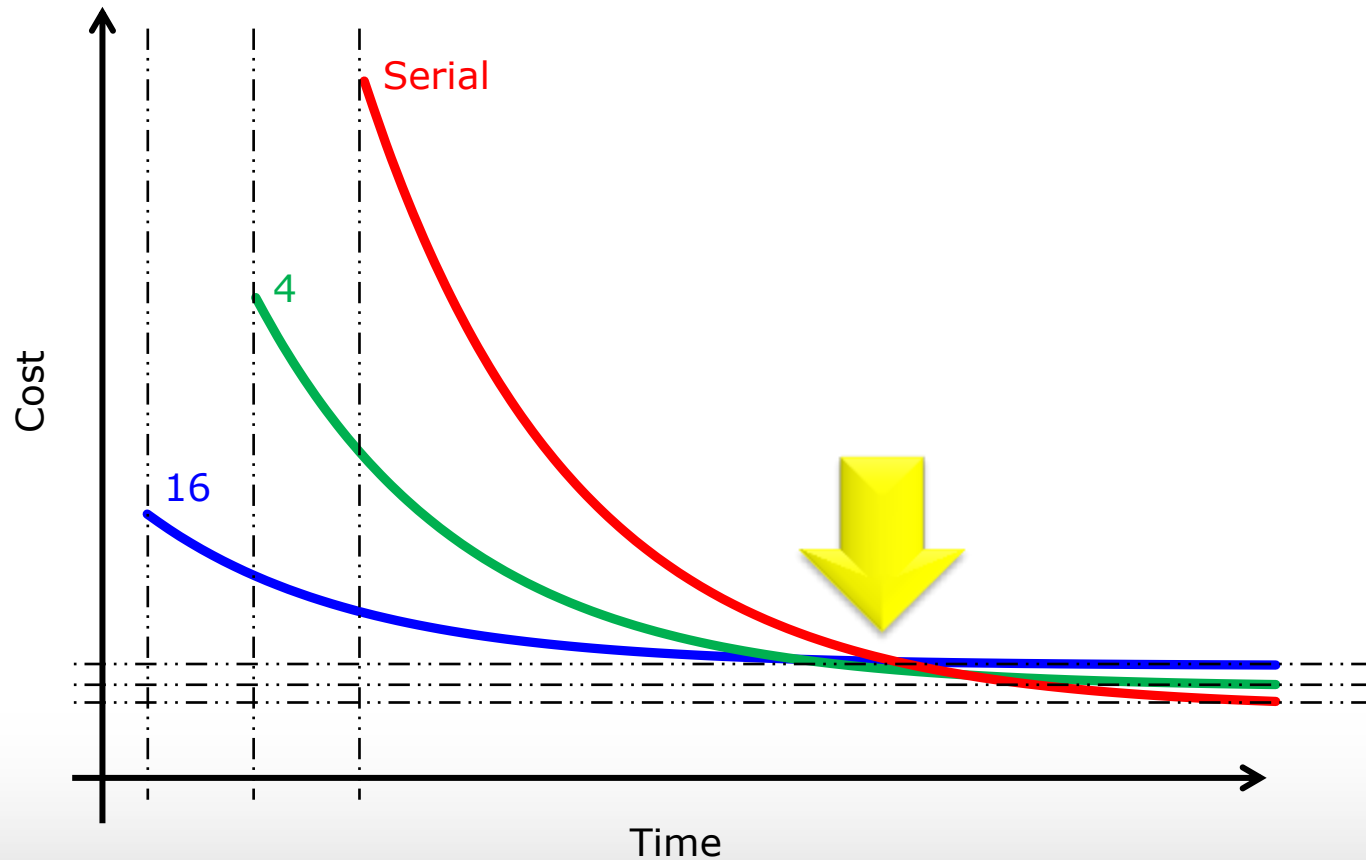
Facebook: Ratio of Horizontal to Vertical server traffic is $> 10,000:1$



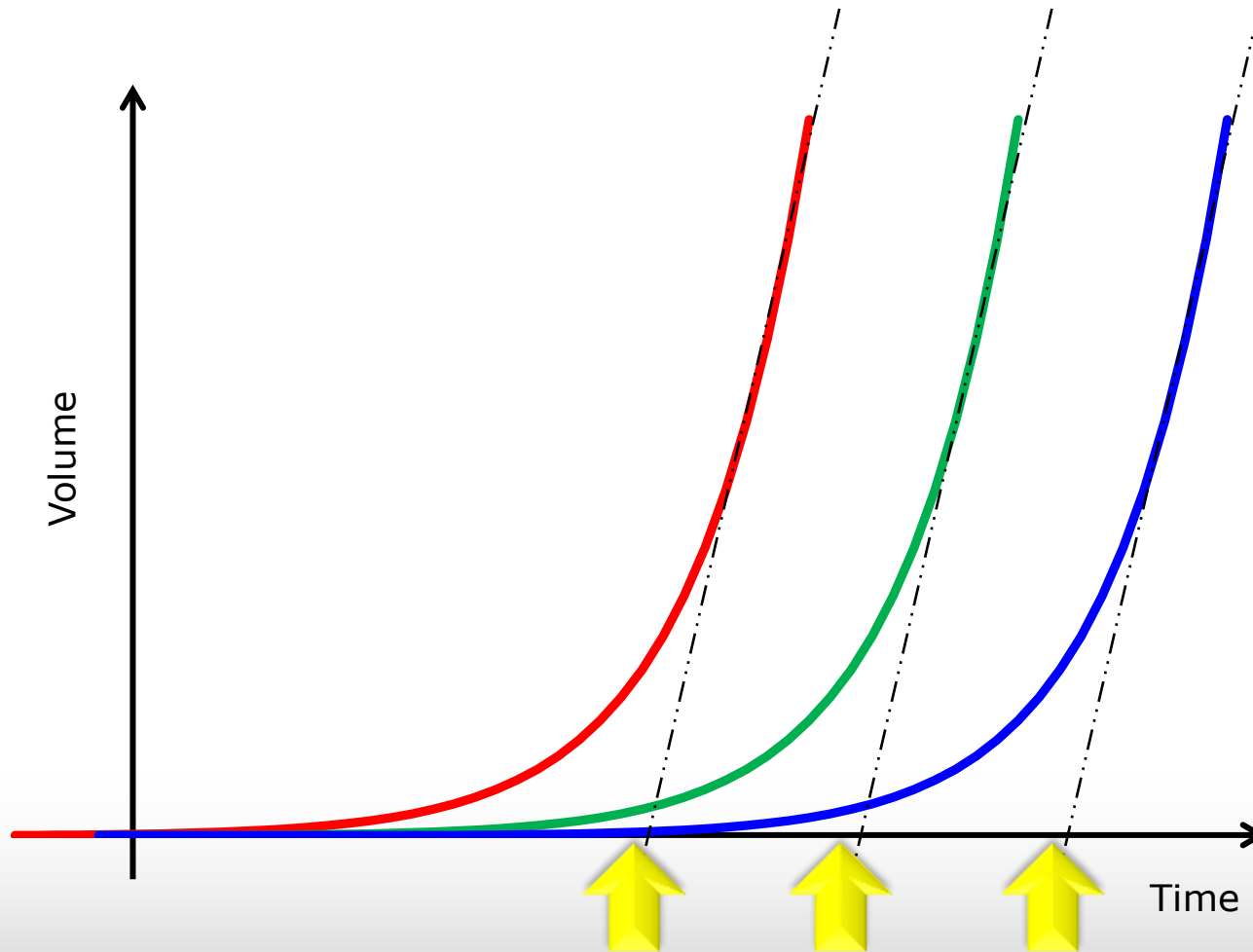
Dramatic price reductions do drive jumps in volume.



Serial might start out more expensive, but in long run the price floor is lower.



Rapid market adoption of each speed step can be traced to serial availability.



To Summarize:



- It doesn't appear the growth is going to stop anytime soon.
- Prepare for a future of selling more Cobalts than Caddys.
- Now that Data Center is a larger piece of the market, their unique needs must be considered.
- Massive flattening of DC architectures has a profound impact on optical interfaces.
- Better in the long run to spend more time and money up front, and set the bar high.

Conclusion:

Plenty of market drivers for 100GbE single-channel interconnects for data center networks!



Thank You

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