

Future Ethernet Data Center TEF 2016

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Market Factors: Cloud / Hybrid Cloud

Markets and Markets:

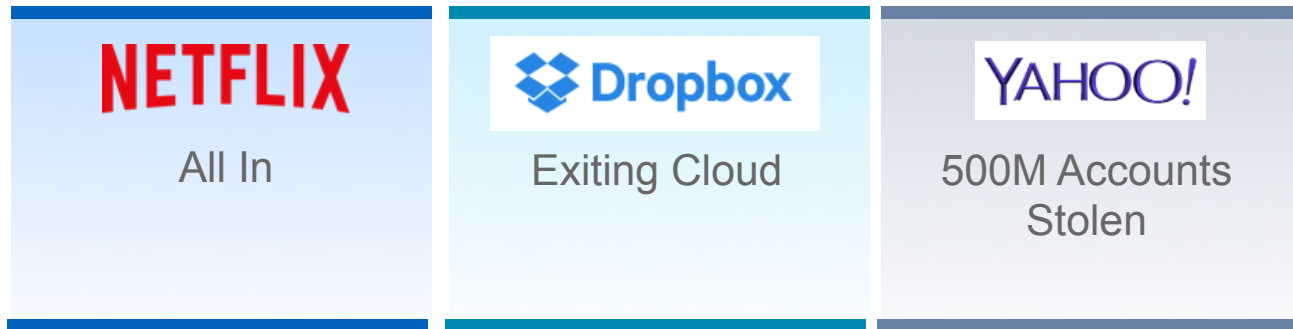
- \$25 billion in 2014
- \$85 billion by 2019
- CAGR of 27%

Gartner survey:

- 75% of large enterprise plan for hybrid IT deployments by 2015

Solarwinds:

- Only 40% - 1/2 or more of workloads in 3 – 5 years
- 60% unlikely the company would be all cloud



WSJ

CIO Journal

Special Report – CIO's Say Hybrid Cloud Takes Off

<http://blogs.wsj.com/cio/2015/10/20/special-report-cios-say-hybrid-cloud-takes-off/?cb=logged0.0887791622042493>



IT Trends Report 2016 - The hybrid evolution

<http://it-trends.solarwinds.com/>



High Performance Foundation



Multi-Speed



Hyper-Converged
Fabric



End-to-End Visibility and
Security

Key Building Blocks

ASICs/ Switches/ Routers



Multi-Speed

- 1/10/25 -> 10/25/50
- 40/100 -> 40/100/400

Pervasive visibility

- Flow table

Security

- Segmentation
- Encryption

Adaptive capacity and congestion control

- Smart Buffering
- Dynamic Fabric Load Balancing

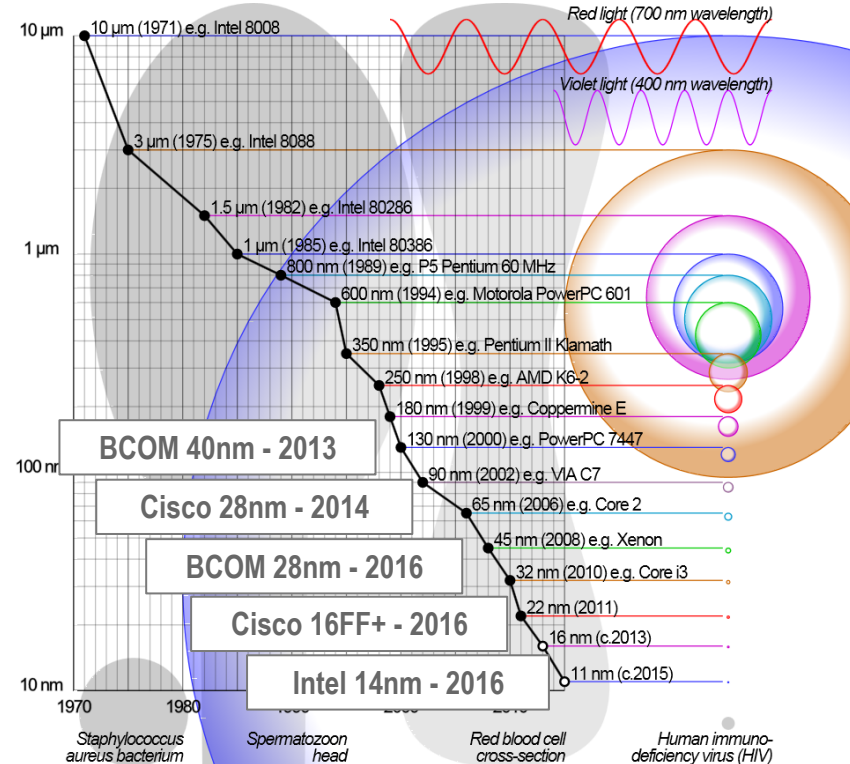
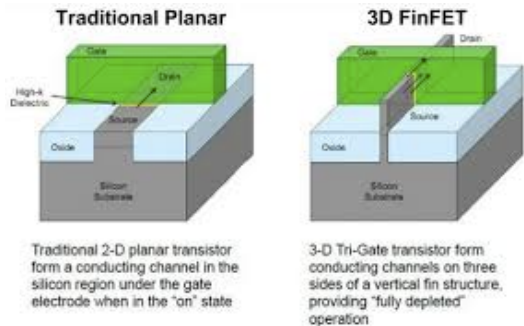
Focus on Simplicity of Design, Power, Cost

Moore's Law

It's all about the Economics

- Increased function, efficiency
- Reduced costs, power
- ~ 1.6 x increase in gates between process nodes

State of the Art – 16nm FF ASICs



http://en.wikipedia.org/wiki/Semiconductor_device_fabrication

Roadmap

- 36p 100G single ASIC switch (16nm)
- 10/25G and 40/100G convergence
- Integrated line rate flow sensors
- 100G optics at 2-4x of switch port

Now

- 64p 100G single ASIC switch (16nm)
- Encryption at line rate
- QSFP DD – 10/40/100/2x100/400G
- Dual Fiber 100G optics at 1 - 2x of switch port

2016-2020

- 50/400G ASICs (10/7nm)
- Pluggable Coherent Optics
- Pluggable DWDM tunable optics (100/400G)

2021-2025