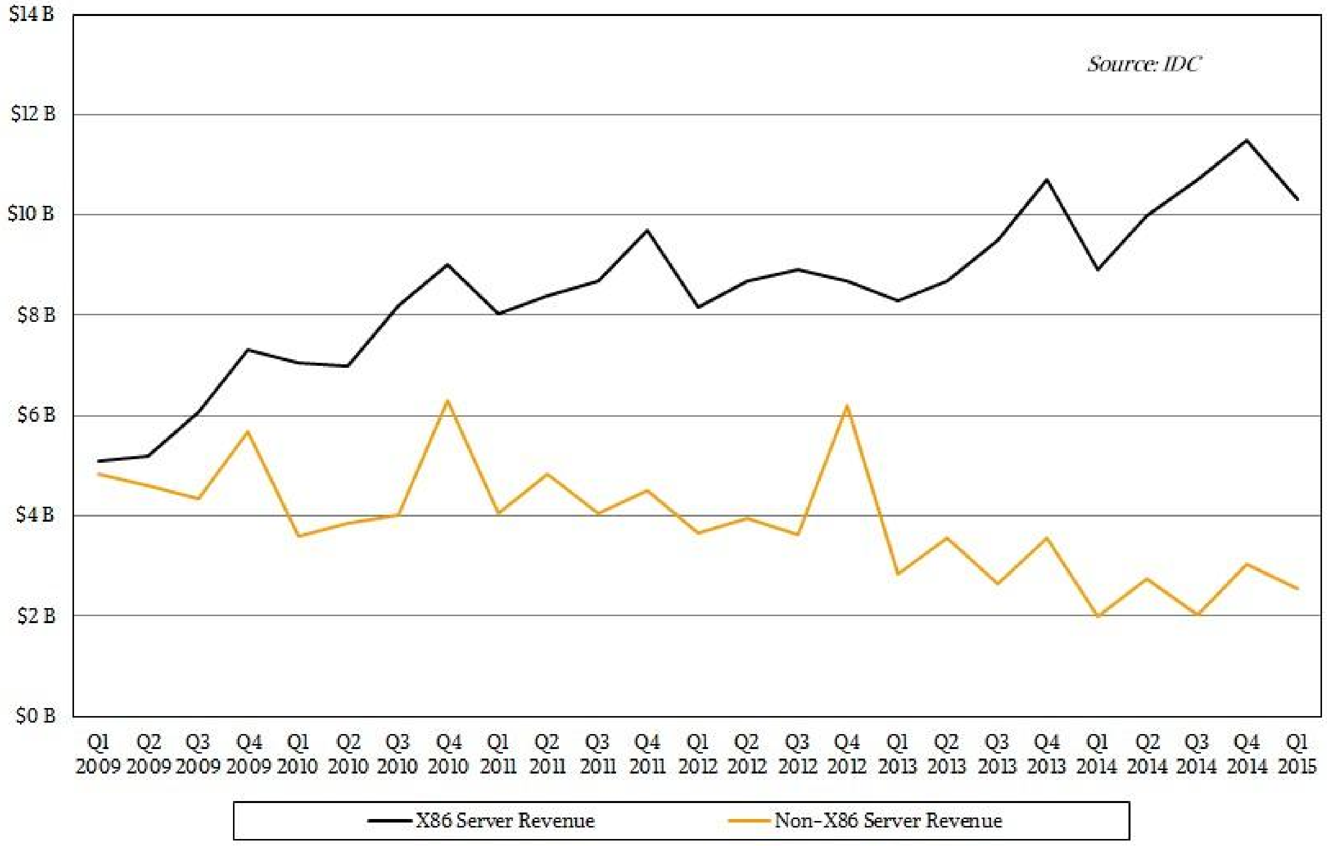
ABTECH TECHNOLOGIES

Where did the midrange UNIX $ystems go?

- x86 architecture outselling non-x86 systems
    - UNIX apps ported to x86 OSes, Consolidation, Virtualization
- XaaS (SaaS, IaaS, PaaS, DRaaS, etc.)
    - Traditional on-premise apps now in cloud (Oracle, Ellucian)
    - Enterprise apps built for cloud (Workday, Salesforce)
    - Hybrid cloud infrastructure
- Converged/Hyperconverged infrastructure
    - VCE, Cisco UCS, Nutanix, Simplivity, VMware

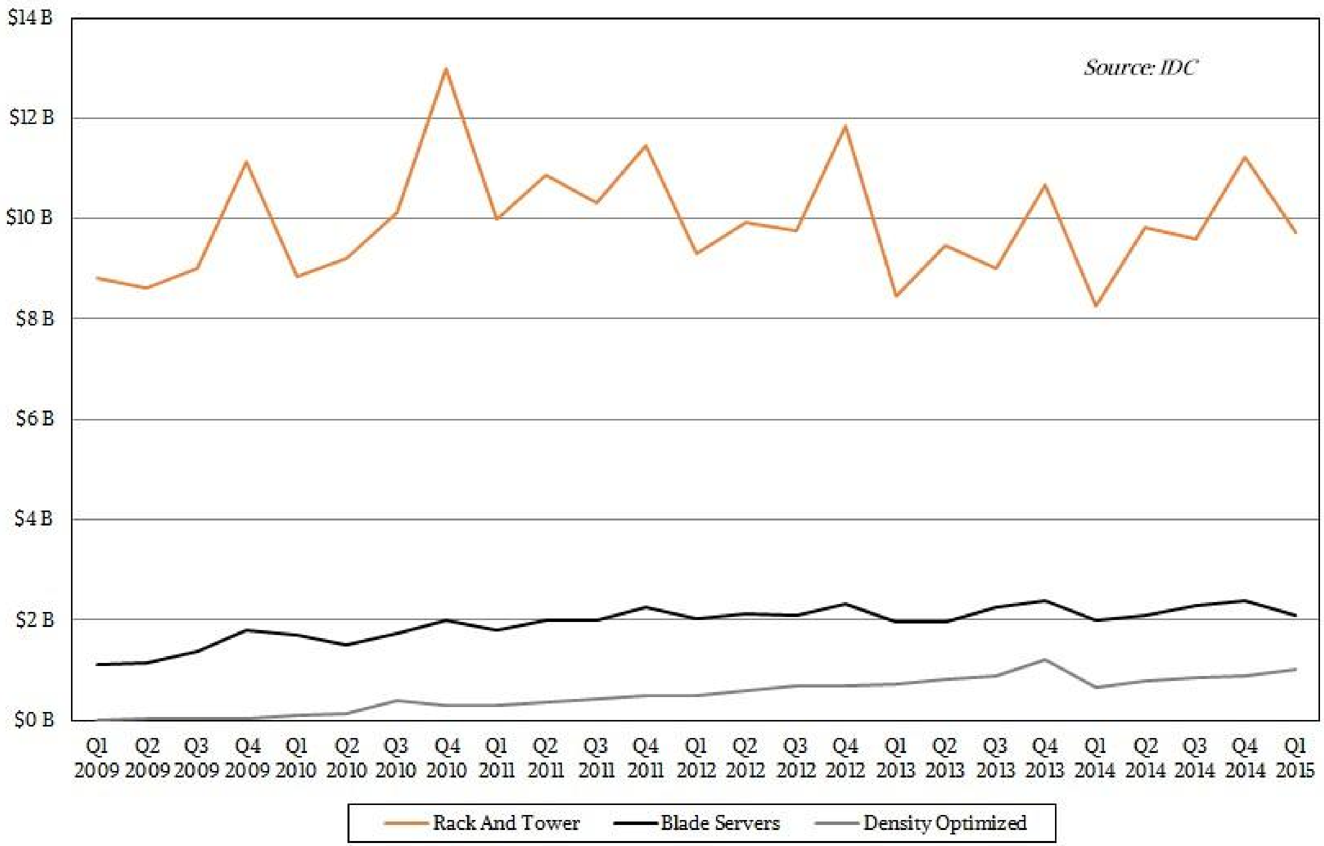
ABTECH TECHNOLOGIES

Goodbye, midrange UNIX…



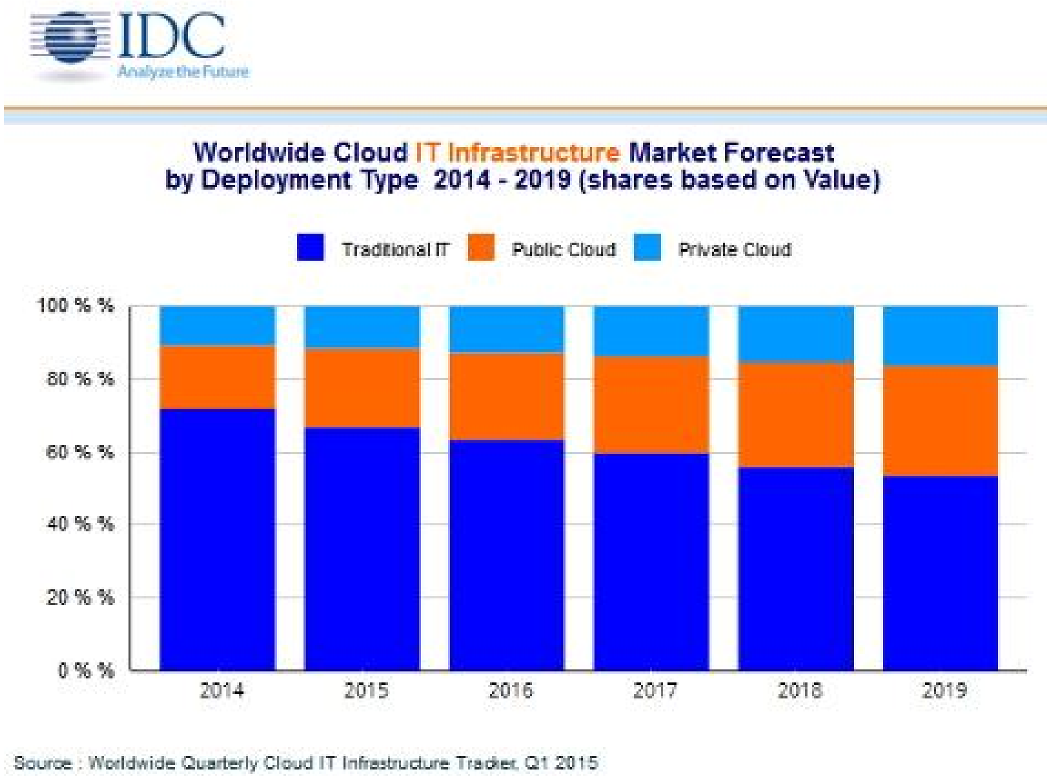
ABTECH TECHNOLOGIES

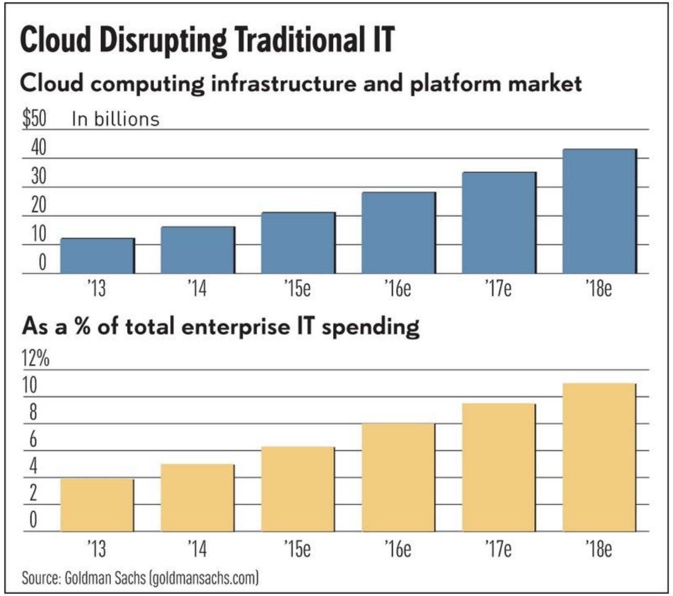
Traditional x86 server sales steady…for now.



ABTECH TECHNOLOGIES

Traditional IT vs. Cloud



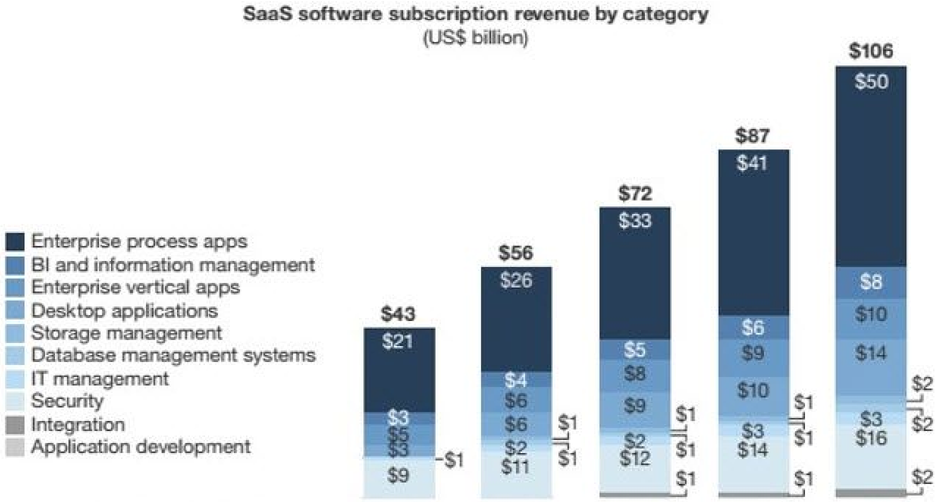


ABTECH TECHNOLOGIES

What’s going to the cloud?

…pretty much everything.

10-3 **SaaS software will equal $106 billion in 2016, with over 20% growth in 2015 and 2016**



% change from prior year	2012	2013	2014*	2015*	2016*
Enterprise process apps	28%	25%	30%	23%	22%
BI and information management	43%	23%	40%	27%	22%
Enterprise vertical apps	22%	29%	29%	16%	15%
Desktop applications	11%	108%	36%	19%	35%
Storage management	29%	29%	40%	40%	30%
Database management systems	112%	55%	40%	40%	30%
IT management	28%	24%	24%	22%	20%
Security	14%	14%	15%	14%	15%
Integration	19%	19%	90%	70%	50%
Application development	19%	19%	30%	30%	25%
Cloud computing software	**24%**	**29%**	**28%**	**21%**	**22%**

*Forrester forecast

115771

ABTECH TECHNOLOGIES

Hyperconverged Infrastructure

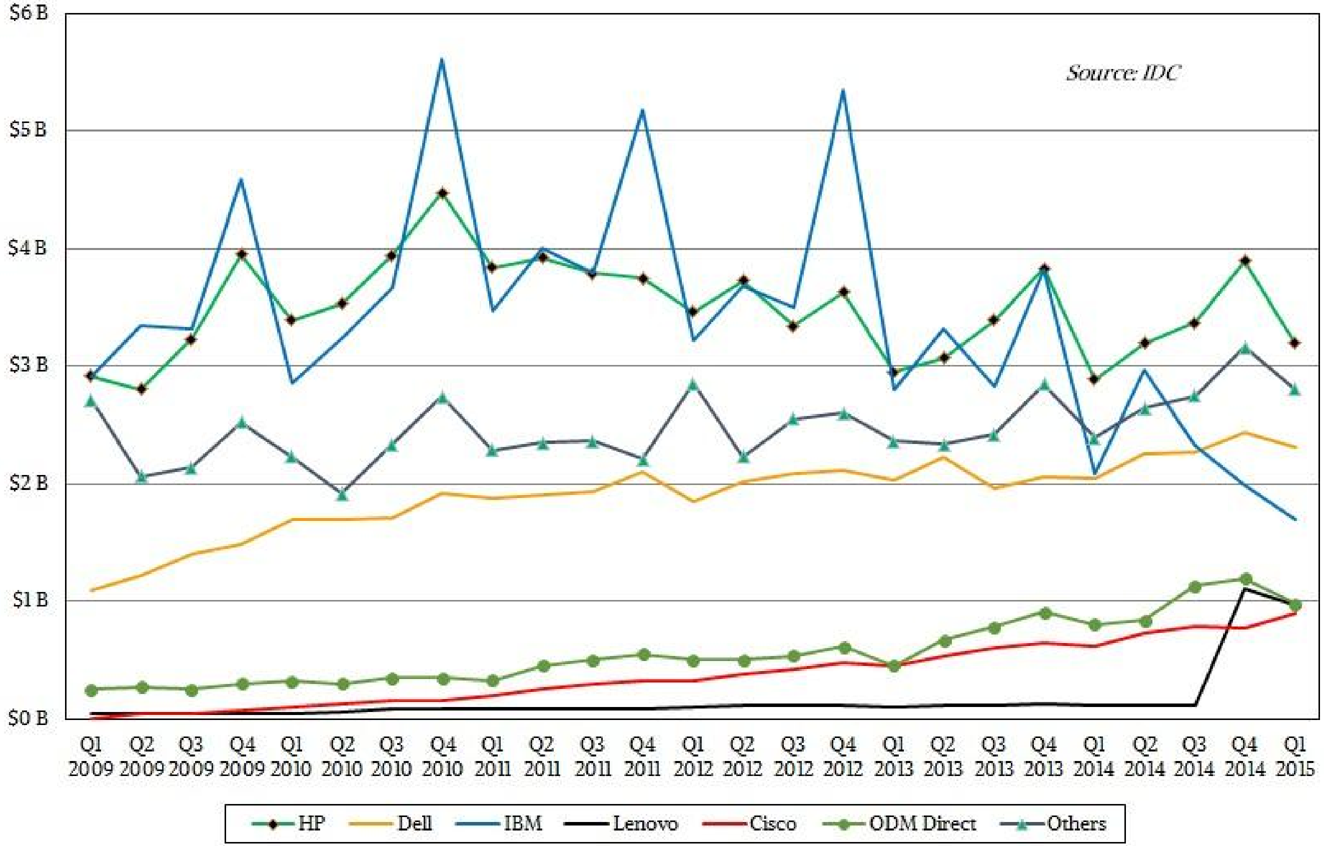
“Dell was the number one overall supplier of total internal and external storage capacity shipped for 2014 …shipping more than 10.85 exabytes to be exact. <u>As the lines between traditional servers and external storage continue to blur, Dell sits in the sweet spot and not by accident.”</u>

ABTECH TECHNOLOGIES

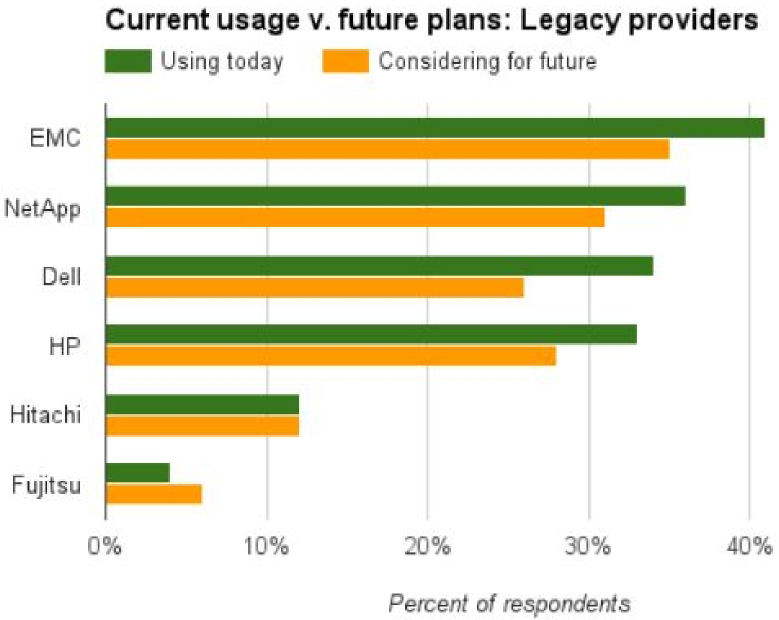
(Hyper)converged Infrastructure is…

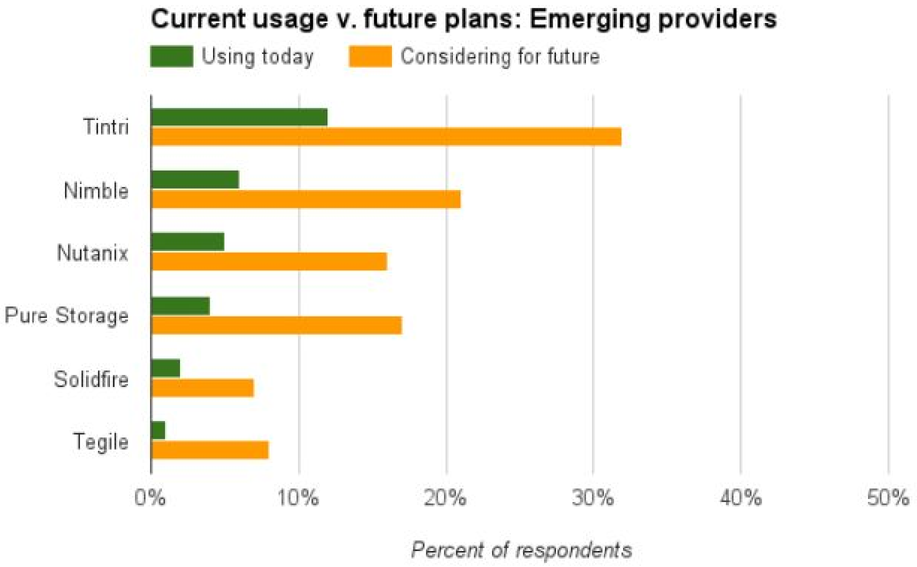
- Combined datacenter components (servers, storage, virtualization, networking) delivered through modular, clustered “nodes”.
- Hardware building block (converged) vs. software defined services + hardware building blocks (hyperconverged).
- A node is generally a beefy server with a lot of RAM and disk storage, getting rid of the need for a SAN.
- Highly redundant & scalable. More appliances = more performance.
- Reduce complexity via centralized management, getting rid of legacy hardware siloes, and easy capacity upgrades by simply plugging in another node.

Cisco and ODM Eating Market Share



Are traditional storage vendors safe?





Data source: Tintri

ABTECH TECHNOLOGIES

As heard in the field…

"I'm a big Nutanix fan and just rolled out 50 nodes. I can't wait to tell my storage vendors "sorry guys, I just don't need you anymore". If I need more storage I just buy another node, click a few buttons, and I'm done."

-CIO at a large pharma and Abtech client

ABTECH TECHNOLOGIES

Hyperconverged Challenge

- Hyperconverged software only for authorized hardware:
  - Nutanix (Dell and Super Micro, HP to follow)
  - Simplivity (Dell and Cisco)
  - Vmware EVO:RAIL (EMC, NetApp, HDS, Dell, Super Micro), VSAN
- Potential of OEM vendor tie-in for support by requiring software LTU & updates
  - Simplivity: "A single vendor design, delivery, and support."
- Will end-users jeopardize the support of the hyperconverged framework on which the entire environment is built to save money on maintenance?

Today's Discussion

Big margin midrange servers & storage are replaced by:

- Low margin x86 servers with reasonable redundancy
- Hyperconverged systems reducing SANs & increasing OEM lock-in
- Rapid cloud adoption reducing end-user need to buy hardware

Where are the opportunities for TPMs to grow?

- Ride out traditional TPM business for next 5-10 years with slow adopters of new technology?
- ???
- Profit!

ABTECH TECHNOLOGIES

Dana Collins, President
dcollins@abtechtechnologies.com
https://www.linkedin.com/in/danacollins2