Agenda

New FlexFabric/FlexManagement Portfolio

• What did we announce at Interop last month?

• Enabling solutions solving real word problems

• SDN integration

• Helping you building the right solution: HP TS

• Conclusion
New FlexFabric Portfolio

Interop 2013: What did we announce?
Legacy data center networks are at a breaking point
FlexFabric – the future of data center networking

Simple
Up to 75% simpler

Scalable
Up to 2X fabric scaling

Automated
HP Virtual Application Networks
Months to minutes
New FlexFabric software functionality

Simple
- FlexFabric Virtual Switch 5900v with EVB/VEPA
- Intelligent Resilient Fabric
- One license & one OS

Scalable
- Standard multi-pathing TRILL/SPB
- Virtual Services Router
- Most Recent Comware SW

Automated
- OpenFlow
- IMC SDN Manager
- IMC VAN Resource Automation Manager

Services
- Connectivity Transformation Workshop
- IPv6 Roadmap
- Datacenter Care
FlexFabric 12900 switch series – First with TRILL/SPB

Industry’s first OpenFlow 1.3-enabled data center core switch

- 36 Tbps non-blocking fabric\(^1\)
- Up to 768 10 GbE ports\(^1\)
- Up to 256 40 GbE ports\(^1\)
- Supports FCoE & DCB
- Supports in-service software upgrades

Up to \(2\times\) switching capacity\(^2\)

Up to \(3\times\) 40 GbE density\(^3\)

\(^1\)Based on FlexFabric 12916
\(^2\)FlexFabric 12916 compared with Nexus 7018 with F2 modules
\(^3\)FlexFabric 12910 compared with Nexus 7010 with M2 modules
FlexFabric 11908 switch series – First with TRILL/SPB

Industry’s first OpenFlow 1.3-enabled data center aggregation switch

- 7.7 Tbps non-blocking fabric
- Up to 384 10 GbE ports
- Up to 64 40 GbE ports
- Supports FCoE & DCB
- Supports in-service software upgrades

50% lower latency\(^1\)

Up to 31% lower cost per 40 GbE port\(^2\)

Up to 34% higher 40 GbE density\(^3\)

\(^1\)FlexFabric 11908 compared with Nexus 7010 with F2 modules
\(^2\)FlexFabric 11908 compared with Nexus 7010 with M2 modules
\(^3\)FlexFabric 11908 compared with Nexus 7009 with M2 modules
FlexFabric Virtual Switch 5900v with EVB/VEPA

Standards-based automated VM network policy management

• Advances networking beyond basic vSwitch
• Separates switch & server operations
• Extends 5900 features to hypervisor via EVB/VEPA
• Simplifies operations with IMC VAN Server Connect
• Automates mobility of network policies

**Single** policy and management for physical & virtual

**Zero** dedicated management appliances

\(^1\)Compared with Cisco Nexus 1010 Virtual Services Appliance
HSR 6800 router series – Breakthrough performance

Delivering robust routing services

- Comprehensive routing, firewall and VPN
- 2 Tbps backplane, 420 Mpps routing throughput
- High-density WAN router – 32 10 GbE ports
- 40/100 GbE ready
- Carrier-class reliability with IRF – 687 µs recovery

Up to **4900X** faster failure recovery
Up to **7X** higher routing performance
Up to **5X** higher firewall scaling
Up to **3X** higher VPN throughput

1 NetworkTest report reference
2 HSR 6808 vs. Cisco ASR 1000 Series
Virtual Services Router

Industry’s first Network Function Virtualization (NFV) technology

- Deployment flexibility across branch, data center and cloud
- Agile services delivery for faster time to revenue
- Virtualized router for multi-tenant, hosted public clouds
- Extends enterprise routing policies to the cloud

VSR based on Comware 7

10X faster time to revenue

Up to 87% operating cost reduction

50% less power & rack space

1Compared to physical routers

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Virtual Application Networks deliver automation, agility

Industry’s most complete software-defined data center network fabric
IMC Virtual Application Networks SDN Manager
Industry’s first comprehensive SDN management tool

• Completes the SDN architecture with management
• Configuration, monitoring & policy mgmt for all SDN layers
• OpenFlow switch management
• SDN controller performance management
• One application for managing SDN and traditional networks

10X acceleration of SDN deployments\(^1\)
At least 50% less management complexity\(^1\)

\(^1\)HP Internal Research
IMC Virtual Application Networks Resource Automation

Industry’s only policy-based network automation tool for the entire network

- Network resource service profiles for applications
- Service agility and velocity for traditional networks
- Policy-driven resource provisioning from access to core
- Easy to design with drag-and-drop user interface

**200X** faster service deployment\(^1\)

**5X** provisioning accuracy improvement\(^1\)

\(^1\)HP Internal Research
New FlexFabric Portfolio
Enabling solutions solving real world problems
FlexFabric delivers simplicity, scale & automation

Data Center #1
- FlexFabric 5900 Switch
- FlexFabric 11900 Switch
- ProLiant Servers
- FlexFabric Virtual Switch (vSwitch)
- C-Class w/ Virtual Connect

Data Center #2
- FlexFabric 12900 Switch
- HSR 6800 Router
- ProLiant Servers
- FlexFabric Virtual Switch (vSwitch)
- C-Class w/ Virtual Connect

IMC single pane-of-glass management

WAN
- HSR 6800 Router
- FlexFabric 12900 Switch
- FlexFabric 5900 Switch
FlexFabric cloud, virtualized data centers

Architected to optimize highly virtual data centers
Simplified, ultra-low latency accelerating VM mobility
Secure cloud access, service delivery, vCPE flexibility
FlexFabric Big Data, Hadoop use case

Supports compute intensive Big Data requirements

Simplified design supporting low cost and extreme scale out

Architected to optimize application bursting, buffering

HP Network reference design for HP AppSystem for Apache Hadoop
New FlexFabric Portfolio

SDN Integration / Use Cases
Complete SDN solution enabling agility

Service-centric infrastructure for the data center, campus and branch

SDN Architecture

- Application
- Control
- Infrastructure

SDN Architecture

- Virtual Cloud Networks App
- Sentinel Security App
- Load Balancing App
- Virtual Application Networks SDN Controller
- 29 Switches – over 15 million ports
Virtual Cloud Network application

Network virtualization for scalable multitenant data centers

- Scalable cloud automation
- Scalable cloud multitenancy
- Private-public cloud integration
Dynamic WAN Bandwidth Provisioning

Delivering new revenue opportunities for service provider cloud data centers

- Automated provisioning
- On-demand scalability
- Disaster avoidance
Sentinel security application

Enabling real-time threat detection across enterprise campus networks

- Secure BYOD
- Unprecedented Visibility
- Better than Antivirus alone
New FlexFabric Portfolio
How to leverage HP TS?
Connectivity Transformation Experience Workshop

Today’s rigid network
Overprovisioned, Underutilized

Tomorrow’s agile network
Dynamically Responsive

Business Demand
IPv6 Roadmap Service enabling IPv6 transition

Comprehensive coverage:
- Network
- Security
- Infrastructure
- Clients
- Applications
- Governance and Finance
Datacenter Care for Networking

HP’s most flexible support for heterogeneous IT environments

The “power of one” delivering business results
SDN Services – Pragmatic path to achieve SDN

HP Italy Innovation and Transformation Center test case

- Dozens of interactions
- Pre-provisioned
- Rigid, unpredictable
- Expensive, no deprovisioning

Current provision estimate 2 weeks

Provision 5 minutes
De-provision 7 minutes

HP TS patent-pending services provisioning

User-friendly portal request, flexible, predictable

Speeds provisioning times from weeks to minutes
New FlexFabric Portfolio

Conclusion
The future of data center networking

Gartner Data Center Network Infrastructure Magic Quadrant

Figure 1. Magic Quadrant for Data Center Network Infrastructure

Visionaries Quadrant

HP is the highest for ability to execute and furthest right for completeness of vision.

This Magic Quadrant graphic was published by Gartner Inc. as part of a larger research note and should be evaluated in the context of the entire report. The Gartner report is available upon request from HP. Gartner does not endorse any vendor, product or service depicted in its research publications, and does not advise technology users to select only those vendors with the highest ratings. Gartner research publications consist of the opinions of Gartner's research organization and should not be construed as statements of fact. Gartner disclaims all warranties, expressed or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose.

Source: Gartner Magic Quadrant for Data Center Network Infrastructure
February, 2013
ID Number: G00235303
The future of data center networking

The Forrester Wave™ – Data Center Networking Hardware

A Strong Performer based on current offering, strategy, and market presence

Highest ranking in the simplified category of the five S’s framework

The Forrester Wave™ is a graphical representation of Forrester's call on a market and is plotted using a detailed spreadsheet with exposed scores, weightings, and comments. Forrester does not endorse any vendor, product, or service depicted in the Forrester Wave. Information is based on best available resources. Opinions reflect judgment at the time and are subject to change.

Source: Forrester Research, Inc., The Forrester Wave™: Data Center Networking Hardware, Q1 2013
January, 2013
FlexFabric – Future of data center networking

**Simple**
- FlexFabric IRF/TRILL design reduces complexity up to 75%
- FlexFabric 5900 & Virtual Switch 5900v unifies physical, virtual
- Services ease customers data center transformation

**Scalable**
- FlexFabric 12900 delivers double the switching capacity
- FlexFabric 11908 delivers up to 34% higher 40 GbE density
- HSR 6800 delivers 7x routing performance

**Automated**
- Largest installed-base of OpenFlow switches
- Virtual Application Networks automate resource operations
- IMC delivers the first SDN management capabilities

HP Networking  HP FlexFabric  12500  11900  5900  5920  6125  FFRA
Thank you