Financial Industry in the Age of Digital Transformation with Hewlett Packard Enterprise

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We live in a world where everything computes

Technology will be embedded everywhere

Everyone and everything will be connected

Everything will be understood
The changing landscape of Financial Services

- Customer Engagement
- Fintech
- Changing Regulatory Environment
- Blockchain
- Driving Innovation
- Cost Efficiencies
- Security & Data Privacy
Digital disruption is reshaping financial services

Retail banking
Delivering secure, omni-channel customer experiences, while optimizing backend processes

Capital markets
Providing fast, secure, and resilient systems for trading and investment

Insurance
Engaging customers with personalized experiences, while automating processes, and adapting to new models
Key trends shaping the banking industry

**Global Fintech** investment overall grew 75% in 2015, exceeding $22 billion in funding.

**Blockchain** technology could reduce infrastructure costs by 30%, or $8-12 billion in annual cost savings.

**Virtual and augmented reality** will make up an $80 billion market by 2025.
Accelerating time to value is priority #1

**Hybrid IT**
- Flexible consumption
- Driven by agile DevOps
- Security & resilience built-in
- Containerized, automated and orchestrated

**Your Apps & Data**
- Always workload optimized
- Mobile banking, apps and devices
- Built-in data analysis & contextually aware

**Intelligent Edge**
- Wireless, Branch Technology
- Reliable performance & experience
- Omni-channel experiences
- Adaptive trust security

Ecosystem of innovation partners

Driven by agile DevOps

Flexible consumption

Wireless, Branch Technology

Reliable performance & experience

Omni-channel experiences

Adaptive trust security
Hybrid IT is the new normal – and it’s complex

Deliver new products & services faster

Keep the business running
How we make Hybrid IT simple

- As-a-service consumption, on your premises
- Platforms from edge to core to cloud
- Invisible IT through automation and AI in the data center
- Ecosystem of partners
- Long-standing expertise to help you bring it all together
- Visibility across your multi-cloud environment
Power your Hybrid IT platforms
HPE ecosystem to deliver your right mix

**Key offerings**

- ProLiant
- 3PAR
- Hyper Converged
- Altoline
- BladeSystem
- Moonshot
- Cloudline
- OneView
- Synergy
- CloudSystem & Converged Systems
- SGI
- Apollo
- Integrity Superdome X
- Integrity NonStop
- Telco Solutions

**Key partnerships**

- CHEF
- SCALITY
- ARISTA
- Microsoft Azure
- MESOSPHERE
- redhat
- ANSIBLE
- vmware
- puppet
- SUSE
- SALTSTACK
- VEEAM
- turbonomic

#1 in Private Cloud infrastructure

#1 in Servers

#1 in Cloud build infrastructure

#1 in Total storage

#2 in External storage

#2 in Integrated platform

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1. IDC CQ2’16 WW Server Tracker by revenue
2. Synergy CQ2’16 WW Cloud Build Tracker (excl. ODMs)
3. IDC CQ2’16 WW External ESS tracker
4. IDC CQ2’16 WW Converged Systems Tracker
Compose resources dynamically with Infrastructure-as-code hardware platform

HPE OneView
Infrastrructure-as-code
Deploy infrastructure at cloud speed
Simplify operations with a unified API

HPE Synergy
Accelerate & automate your workflows
Develop apps faster and smarter
Dynamically provision resources as needed

Software-defined intelligence across your apps and data
The future of IT management is AI-driven from edge to core

- Automatic issue resolution
- Undesirable event recognition and proactive issue reporting
- Eliminates Tier 1 and 2 support
- Predicts capacity needs

Machine learning

- Machine Learning based user and entity behavior analytics
- Supervised and unsupervised machine learning
Building on our momentum to simplify Hybrid IT

Simplify on-premises ➔ Simplify multi-cloud

HPE Software-Defined

- Turn infrastructure into software-defined
- Compose workloads
- Simplify VM environments
- Deliver Microsoft Azure Services on-premises

HPE OneView
900K+ licenses

HPE Synergy
1000+ customers

HPE SimpliVity
4x market growth

HPE ProLiant for Microsoft Azure Stack
Now shipping

HPE Multi-Cloud Management

Deliver Microsoft Azure Services on-premises

Compose workloads

Simplify on-premises

Simplify multi-cloud
Only HPE simplifies multi-cloud and on-premises environments.

HPE OneSphere

**Software as a service**

Simplifies your on-premises

- Private clouds
- Azure Stack
- VMs
- Containers
- Bare metal

Simplifies all your public clouds

- AWS
- Google
- Azure
- Cloud28+
Actionable insights from all of your data

Make time-sensitive decisions at the edge of your network

Create a powerful digital core central learning engine

Protect and manage your data from edge to core

HPE Edgeline & Aruba

HPE High Performance Computing: HPE Apollo, HPE Integrity Superdome

Aruba ClearPass, IntroSpect, Distance deep learning framework
HPE ecosystem to power the Intelligent Edge

### Key Mobility innovations

- Aruba Beacons, Access Points, Controllers, and Sensors
- Aruba ClearPass
- Aruba Meridian
- Aruba Central

### Key IoT innovations

- Rugged High Performance Computing and Storage
- Embedded Industrial Data Acquisition and Control Systems

### Key partnerships

- paloalto
- skyfi.io
- Skype for Business
- VENUENEXT
- intel
- CITRIX
- MobileIron
- ROBIN
- GE
- PREDIX
- NATIONAL INSTRUMENTS
- PTC
- Siemens
- Capgemini
- accenture
- AT&T
- Deloitte
- VMware
- Mahindra
- OSIsoft

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**Leader** in Wired and Wireless Gartner Magic Quadrant

**Most scalable** and **Best NAC** for Wired and Wireless

**#2** in Wired and Wireless market share

**Fastest growing** 11ac Gigabit Wi-Fi in the enterprise

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1. Gartner 2016 Magic Quadrant for Wired and Wireless LAN Infrastructure
2. Frost & Sullivan Global Market Analysis for Network Access Control
3. Dell’Oro Wired and Wireless LAN market reports
Driving innovation into the future: Memory-Driven Computing

Filling the gap with a new, unified high performance architecture from core to edge.

Our ambitions are growing faster than our computers can improve.

Growing capability gap.

Memory-Driven Computing
The future architecture for real-time, data-driven enterprises

Powerful
Abundance of memory enable a quantum leap in performance

Open for innovation
Open architecture, open source software and development tools

Scalable
One architecture from the dense data center to the intelligent edge

Ultimate Composability
Structurally simple, manageable and automatic: “it just works”

What’s next? HPE.com/themachine
Transform performance with Memory-Driven programming
HPE R&D teams are piloting Memory-Driven programming projects today

**In-memory analytics** - 15x faster*
**Similarity search** - 20x faster*
**Large-scale graph inference** - 100x faster*
**Financial models** - 10,000x faster*

*Performance gains achieved using HPE Integrity Superdome X systems

**What’s next?** Engage HPE technologists to explore a MDC pilot today
Accelerating the real-time enterprise with HPE Superdome Flex

The world's most innovative platform for the next decade

Unlock insights for real-time action
Faster queries with today's massive amounts of data with in-memory design

Start small and grow really big
Ultimate flexibility with modular design and unparalleled scale

Ensure continuous digital operations
Safeguard your most critical apps and data
Optimize your Hybrid IT financing and delivery
Business leaders expect to consume IT as-a-service

- Pay as you go
  Economic models aligned to business models

- On your terms
  Tailored to your needs

- When you need it
  Elastic IT
Consume IT in your environment, on your terms with HPE GreenLake

Our next generation of on-premises consumption services

- **Backup**
  - Worry-free backups with capacity that grows with your business

- **Big Data**
  - Enterprise Hadoop, pre-integrated with HPE and partner technology

- **Edge Compute**
  - Scalable IOT technology and services, at the edge

- **Database with EDB Postgres**
  - Secure, enterprise ready and flexible open-source database

- **SAP HANA**
  - Certified and managed infrastructure for your enterprise needs

- **Flex Capacity**
  - Pay as you go, on-premises infrastructure consumption
Cloud economics, on-premises

Pay only for what you use¹

Scale capacity quickly when needed

¹ Subject to a minimum commitment for hardware and software.
HPE GreenLake Flex Capacity options

Monthly payment can include:

- Servers
- Storage
- Networking
- Software
- Services
- Synergy
- 3rd party products
- Software Defined Storage / Hyperconverged
- Flexible VM metering, monitoring, billing
- Containers on demand
- High Performance Compute
- Microsoft Azure and Azure Stack svcs

Variable usage = variable payment

Servers
- Per server, virtual machine (by compute unit) or physical core, container node

Storage
- Per GB

Network
- Per port, per access point

1 Minimums apply below certain usage levels
Using Microsoft Azure Stack
Consume Azure-consistent services from your data center

HPE ProLiant for Azure Stack
Highly configurable

Azure Stack Services
Supported and billed by HPE as your CSP

Operated for you
to free your teams for more valuable contribution

HPE Expertise
Faster time to value: design, implement, train

Optional components

HPE GreenLake
Flex Capacity with Azure Stack

Software
Services
Pay-per-use

Hardware
Key takeaways

**HPE STRATEGY**
Simple and sustainable

**HPE PORTFOLIO**
Evolving with innovation

**HPE CHANNEL**
Best partnership for all business models
Thank you
HPE in Financial Services

HPE solutions touch 2 out of 3 credit card transactions globally

HPE powers 16 Billion transactions globally every year

HPE solutions process over $3 Trillion annually

HPE powers 130 of the world’s largest stock and commodity exchanges

HPE ranks #2 in the Annual Fintech 25 by American Banker & IDC Financial Insights
How to get started with Memory-Driven Computing

• To get the latest updates on The Machine project and Memory-Driven Computing, visit www.hpe.com/themachine
• Join The Machine User Group at https://www.labs.hpe.com/the-machine/user-group
  • For community discussions, sign up to our Slack group #themachineusergroup channel at https://www.labs.hpe.com/slack
  • Subscribe to “The Machine User Group” tab in the “Behind the scenes @ Labs” blog https://community.hpe.com/t5/Behind-the-scenes-Labs/bg-p/BehindthescenesatLabs/label-name/The%20Machine%20User%20Group#.WXZGN4jyscE. Register and click “subscribe to this label”.
  • Questions? Contact themachineusergroup@hpe.com
• Get access to the Memory-Driven Computing Developer Toolkit at https://www.labs.hpe.com/the-machine/developer-toolkit
• Follow us on our Hewlett Packard Labs social handles:
  • Twitter: @HPE_Labs
  • LinkedIn: “Hewett Packard Labs”
  • “Hewlett Packard Enterprise” YouTube page – The Machine and Hewlett Packard Labs channels
  • Instagram: HPE
  • Facebook: Hewlett Packard Enterprise
Periodic table of DevOps tools

The seven rules of strategy

1. Be selfish
2. Make a contribution
3. Observe the customer
4. Know your value proposition
5. Understand the technology at a very deep level
6. Structure follows strategy
7. Know your business model

Source: NonStop: The Inside Story, with Martin Fink, http://youtu.be/xjUdz8fZ5Wg
What great minds say about predictions:

“PREDICTION IS VERY DIFFICULT, ESPECIALLY IF IT’S ABOUT THE FUTURE.”

NIELS BOHR

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