

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

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We live in a world where everything computes

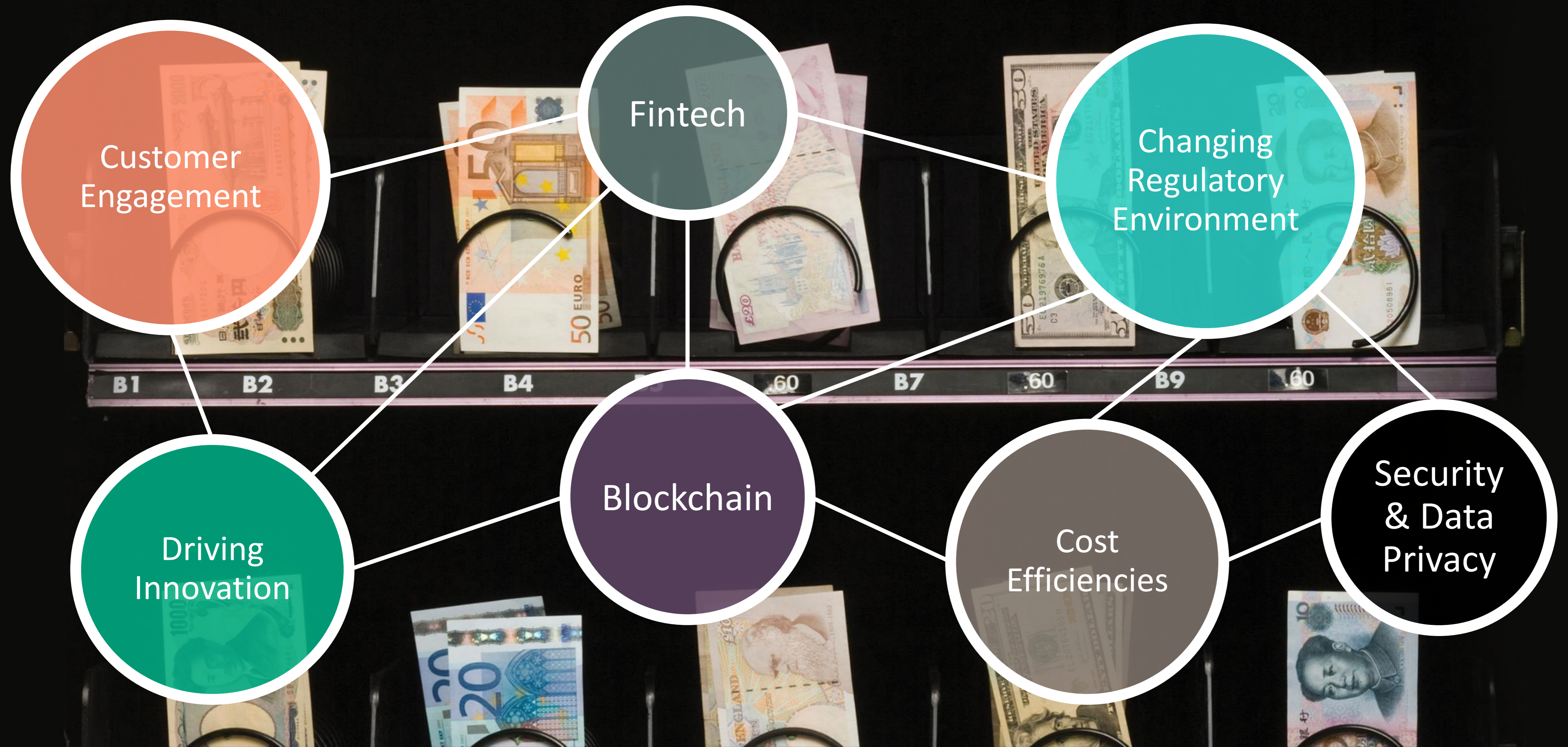


Technology will be
embedded everywhere

Everyone and everything
will be connected

Everything will be
understood

The changing landscape of Financial Services



Digital disruption is reshaping financial services



Retail banking

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

Capital markets

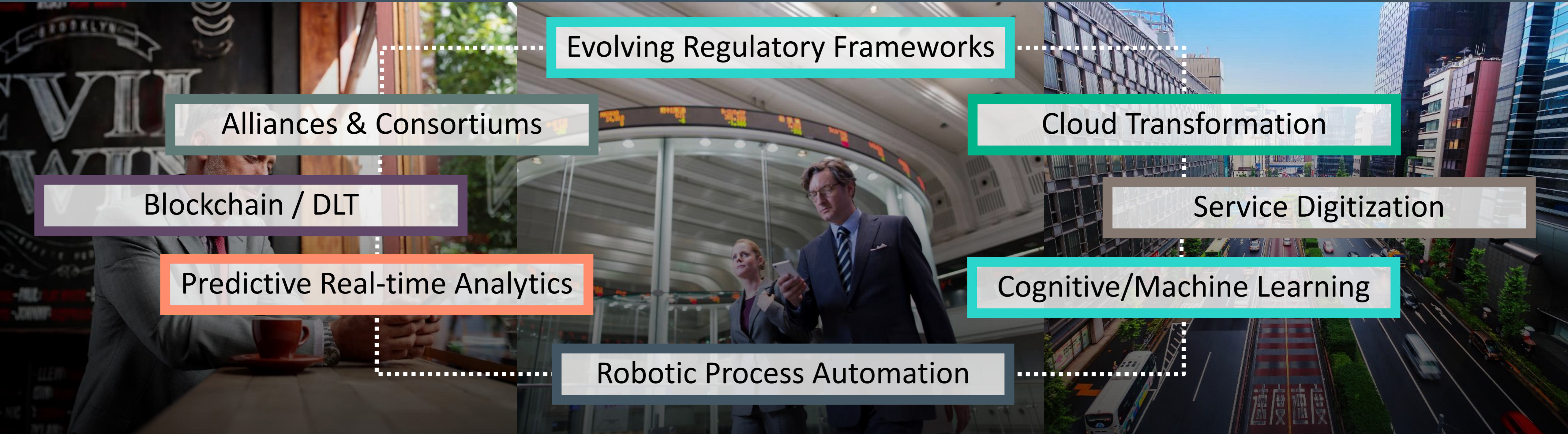
Providing fast, secure, and resilient systems for trading and investment

Insurance

Engaging customers with personalized experiences, while automating processes, and adapting to new models



Key trends shaping the banking industry



Evolving Regulatory Frameworks

Alliances & Consortia

Cloud Transformation

Blockchain / DLT

Service Digitization

Predictive Real-time Analytics

Cognitive/Machine Learning

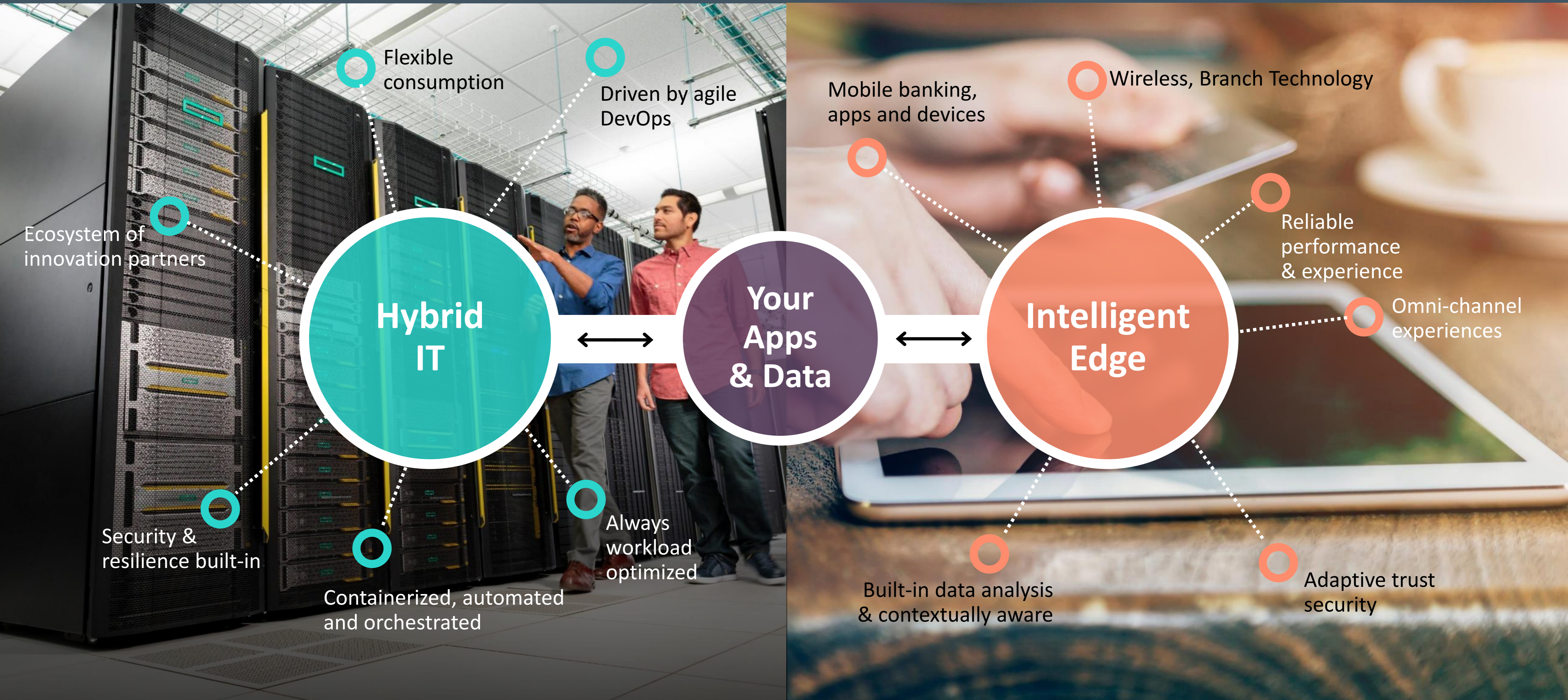
Robotic Process Automation

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

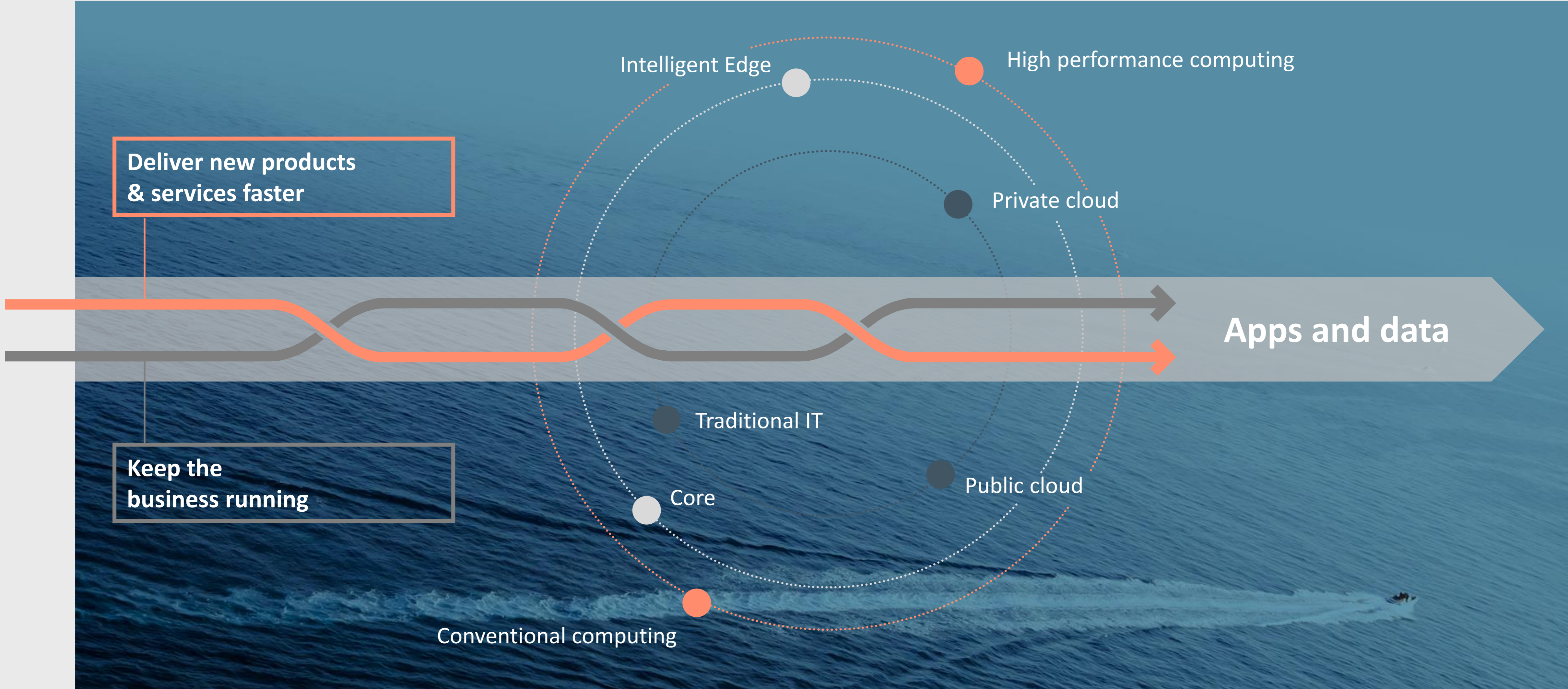
Blockchain technology could reduce infrastructure costs by 30%, or \$8-12 billion in annual cost savings

Virtual and augmented reality will make up an \$80 billion market by 2025

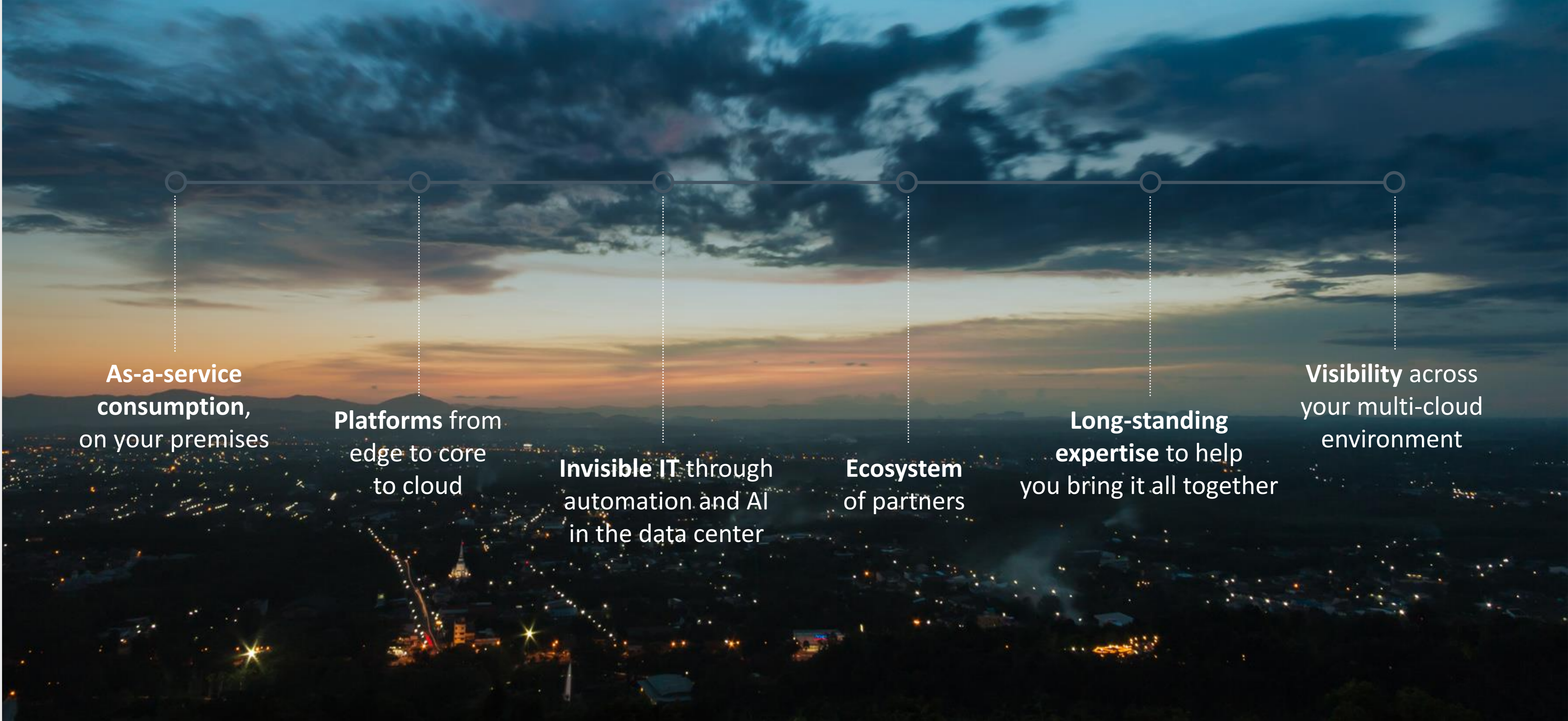
Accelerating time to value is priority #1



Hybrid IT is the new normal – and it's complex



How we make Hybrid IT simple



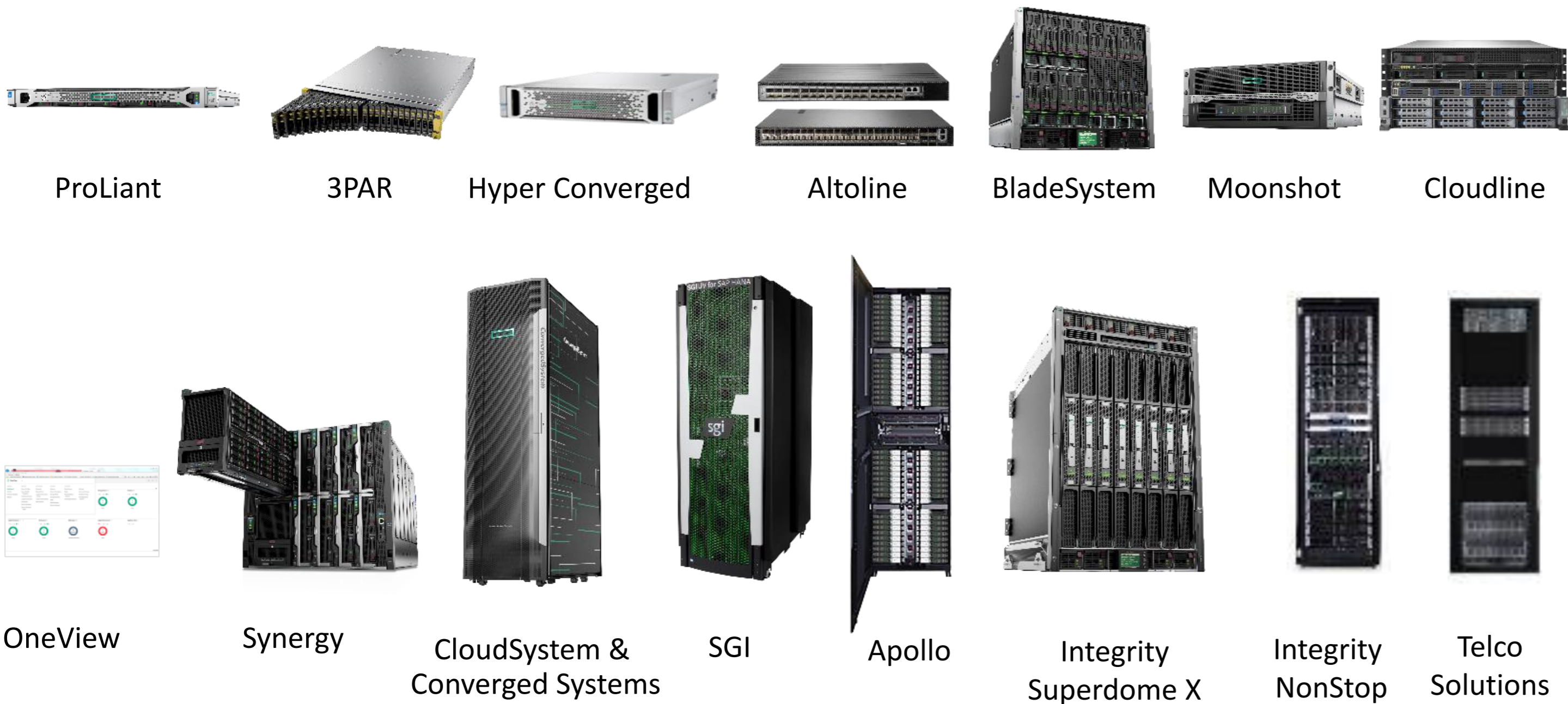


Power your
Hybrid IT platforms

HPE ecosystem to deliver your right mix



Key offerings



Key partnerships



#1 in Private Cloud infrastructure¹

#1 in Servers¹

#1 in Cloud build infrastructure²

#1 in Total storage³

#2 in External storage³

#2 in Integrated platform⁴

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

Infrastructure-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 based user and entity behavior analytics
- Supervised and unsupervised machine learning

**Machine
learning**

Building on our momentum to simplify Hybrid IT



Simplify on-premises → Simplify multi-cloud

HPE Software-Defined

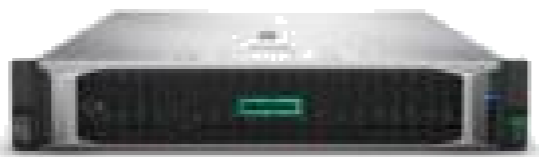
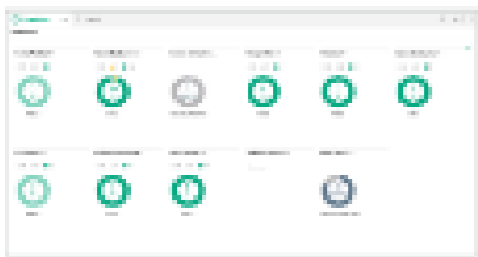
HPE Multi-Cloud Management

Turn infrastructure into software-defined

Compose workloads

Simplify VM environments

Deliver Microsoft Azure Services on-premises

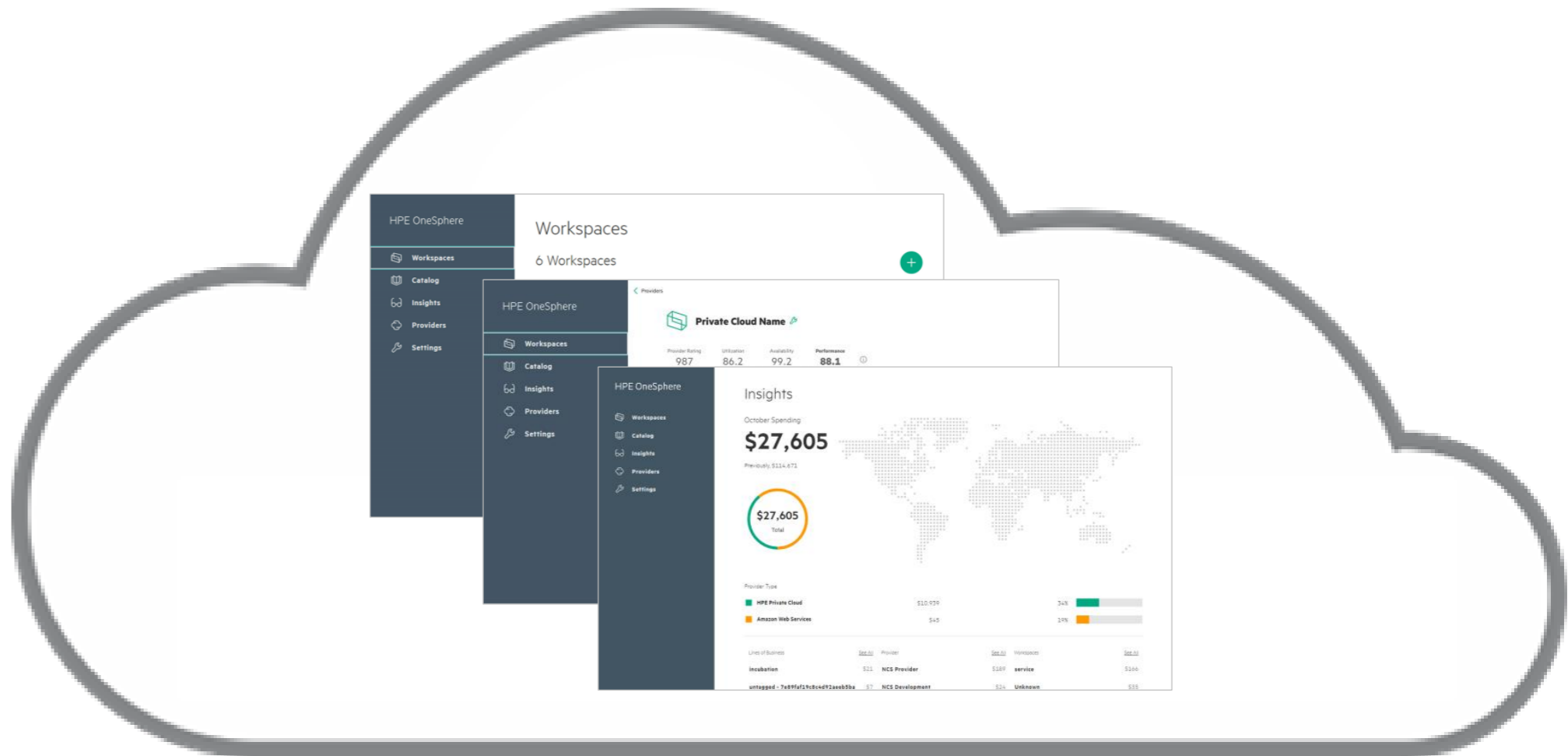


HPE OneView
900K+ licenses

HPE Synergy
1000+ customers

HPE SimpliVity
4x market growth

HPE ProLiant for Microsoft
Azure Stack
Now shipping



Only HPE simplifies multi-cloud and on-premises environments



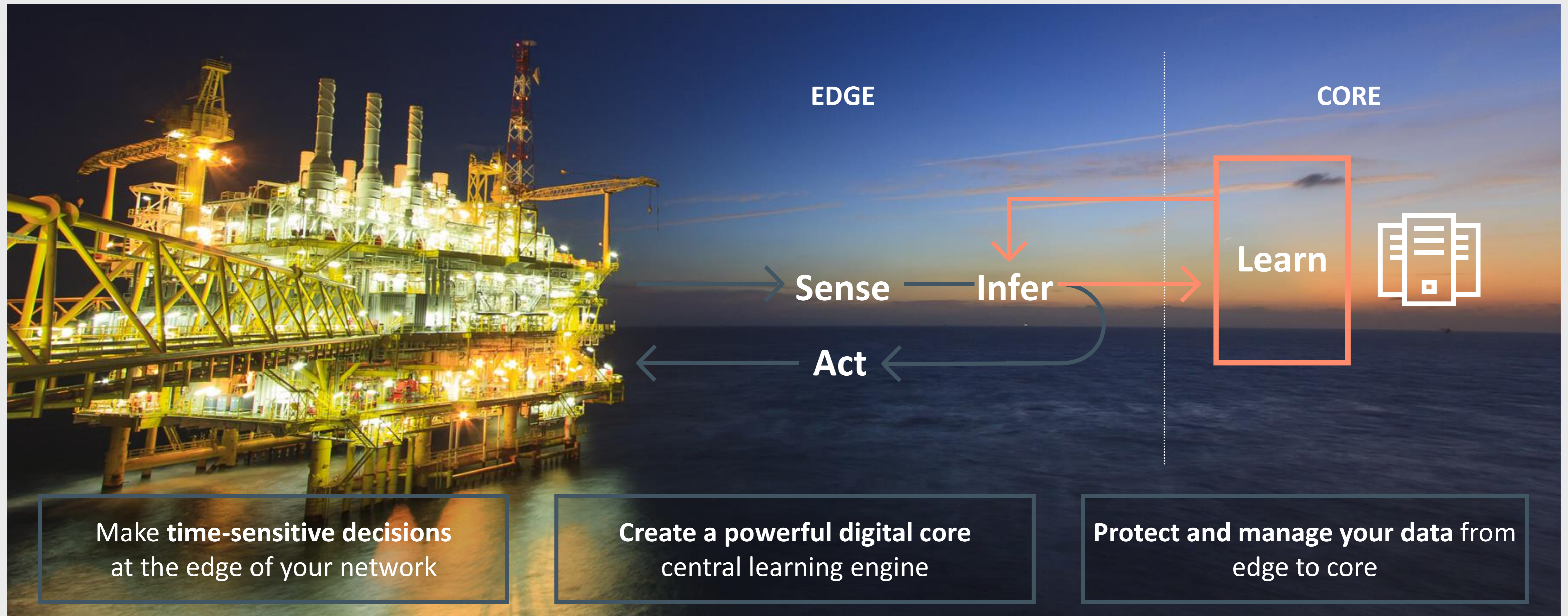
Simplifies all your public clouds



Simplifies your on-premises



Actionable insights from all of your data



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 partnerships



Key IoT innovations



Rugged High Performance Computing and Storage



Embedded Industrial Data Acquisition and Control Systems

Key partnerships



Leader in Wired and Wireless
Gartner Magic Quadrant¹

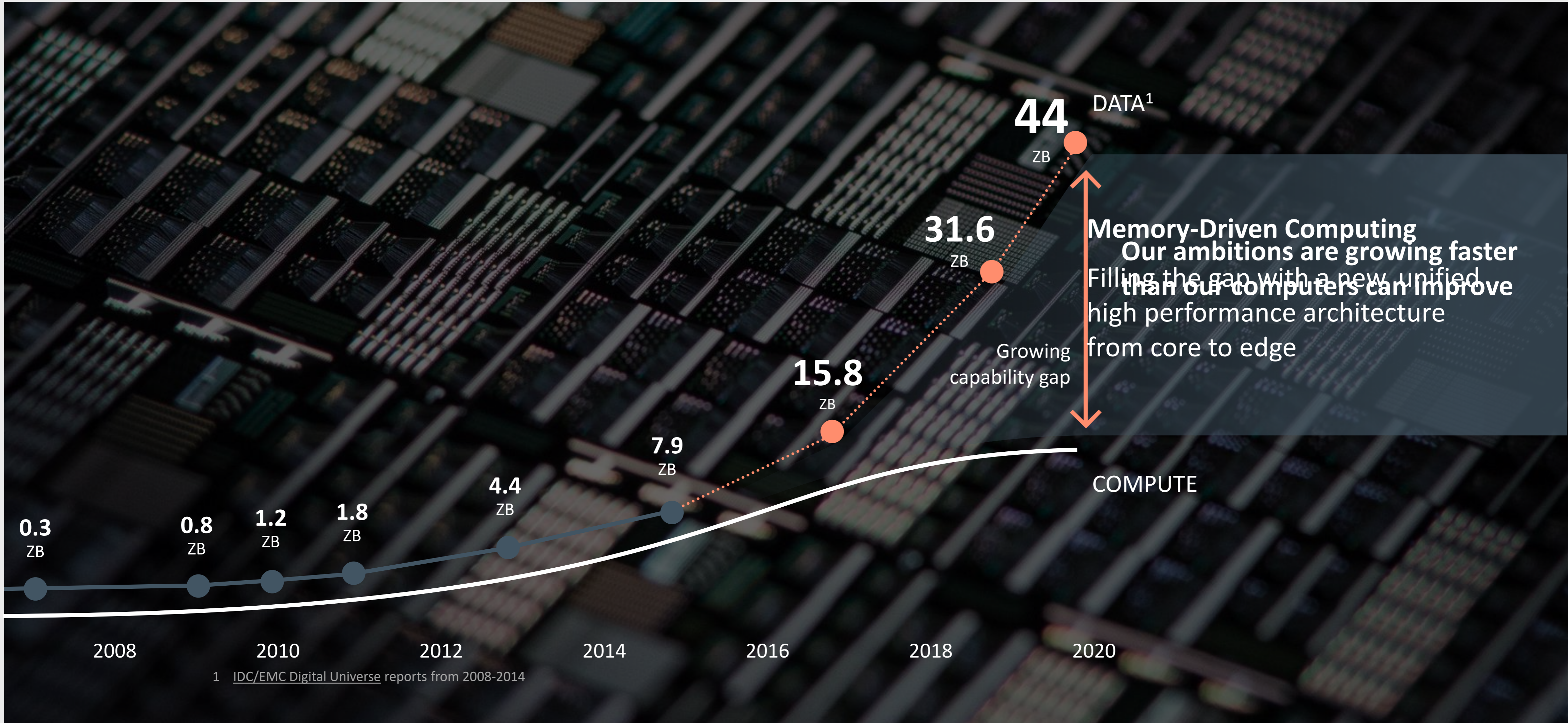
Most scalable and
Best NAC for Wired and Wireless²

#2 in Wired and Wireless
market share³

Fastest growing
11ac Gigabit Wi-Fi in the enterprise³

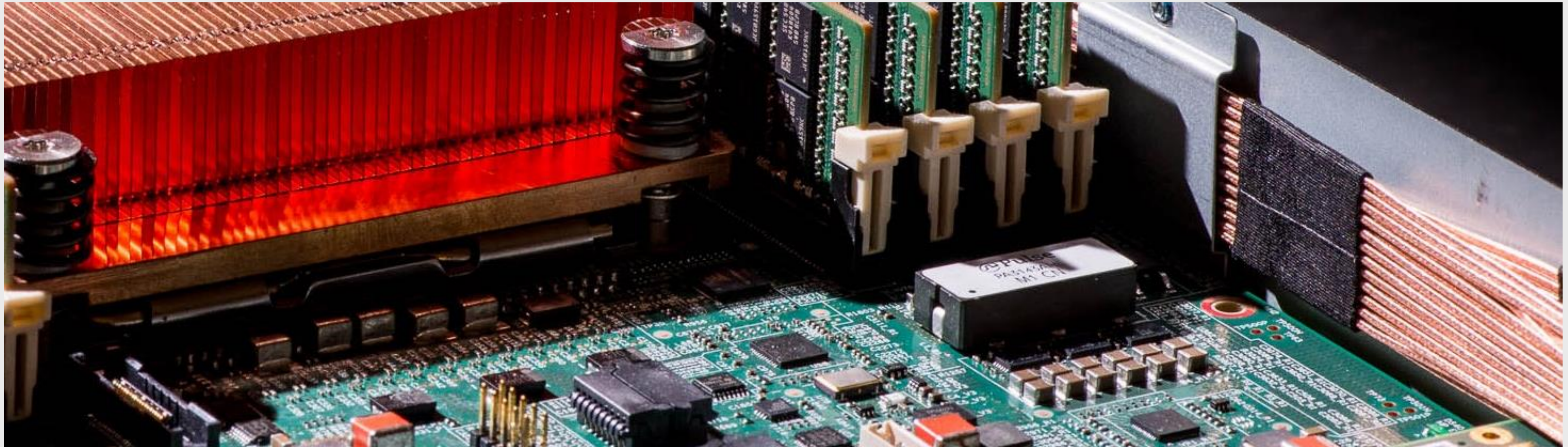
1. Gartner 2016 Magic Quadrant for Wired and Wireless LAN Infrastructure
2. Frost & Sullivan Global Market Analysis for Network Access Control
3. Dell'Oro Wired and Wireless LAN market reports

Driving innovation into the future: Memory-Driven Computing



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"

Transform performance with Memory-Driven programming

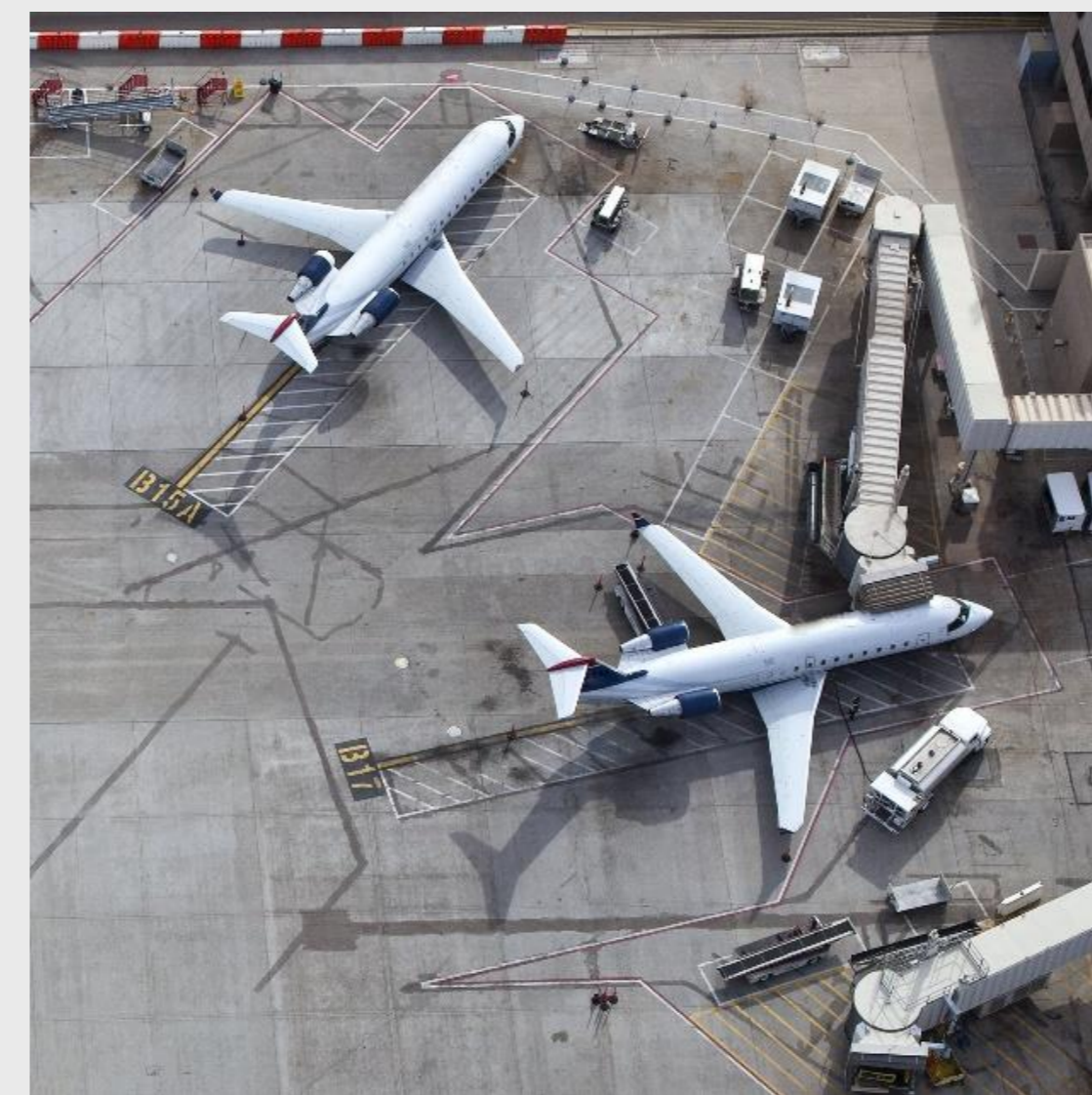
HPE R&D teams are piloting Memory-Driven programming projects today



Modify existing frameworks

New algorithms

Completely rethink



In-memory analytics

Similarity search

Large-scale graph inference

Financial models

15x faster*

20x faster*

100x faster*

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



**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

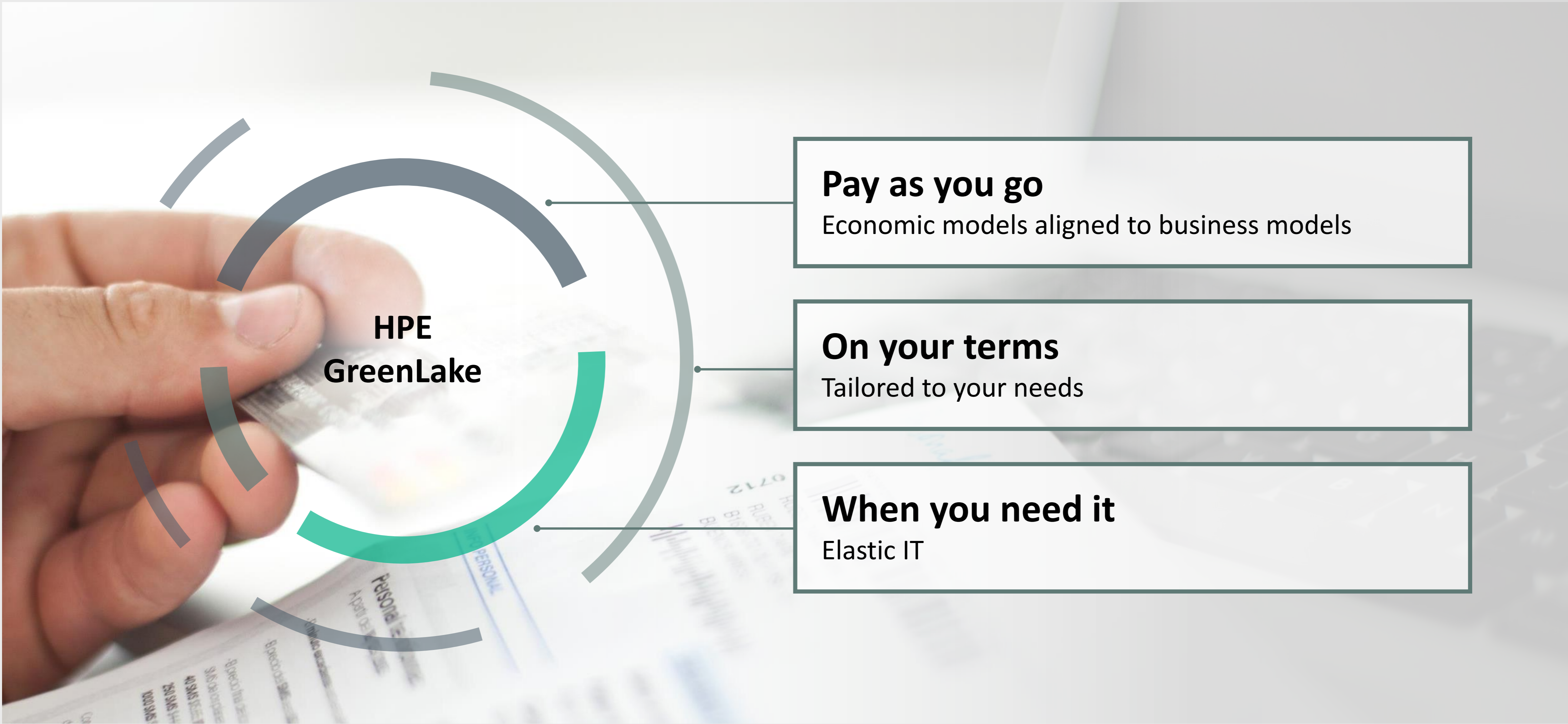
**Ensure continuous
digital operations**

Safeguard your most critical apps and data

Optimize your Hybrid IT financing and delivery



Business leaders expect to consume IT as-a-service



**HPE
GreenLake**

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

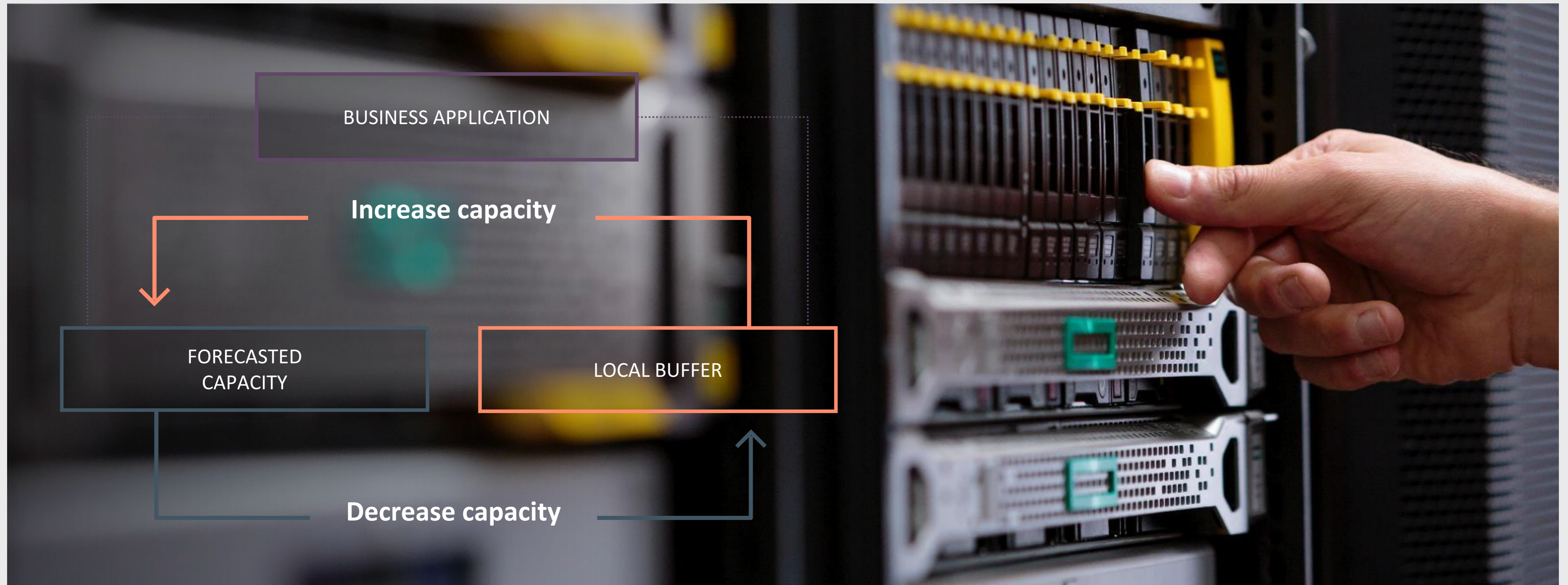
Certified and
managed
infrastructure for
your enterprise
needs

Flex Capacity

Pay as you go,
on-premises
infrastructure
consumption

Consume infrastructure with HPE GreenLake Flex Capacity

Cloud economics with on-premises hardware



**Cloud economics,
on-premises**

**Pay only for what
you use¹**

**Scale capacity
quickly when needed**

¹Subject to a minimum commitment for hardware and software.

HPE GreenLake Flex Capacity options



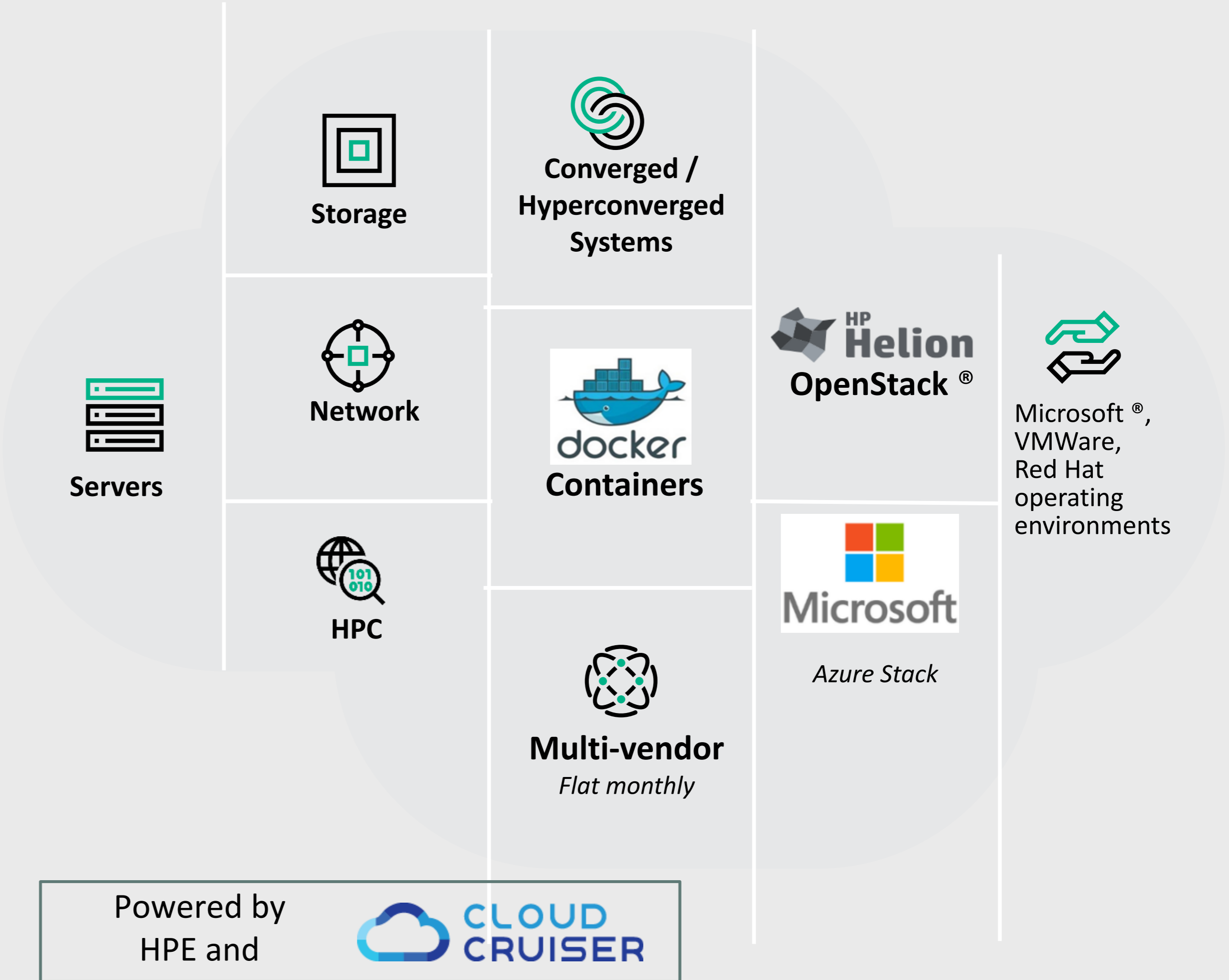
Monthly payment can include¹

- 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

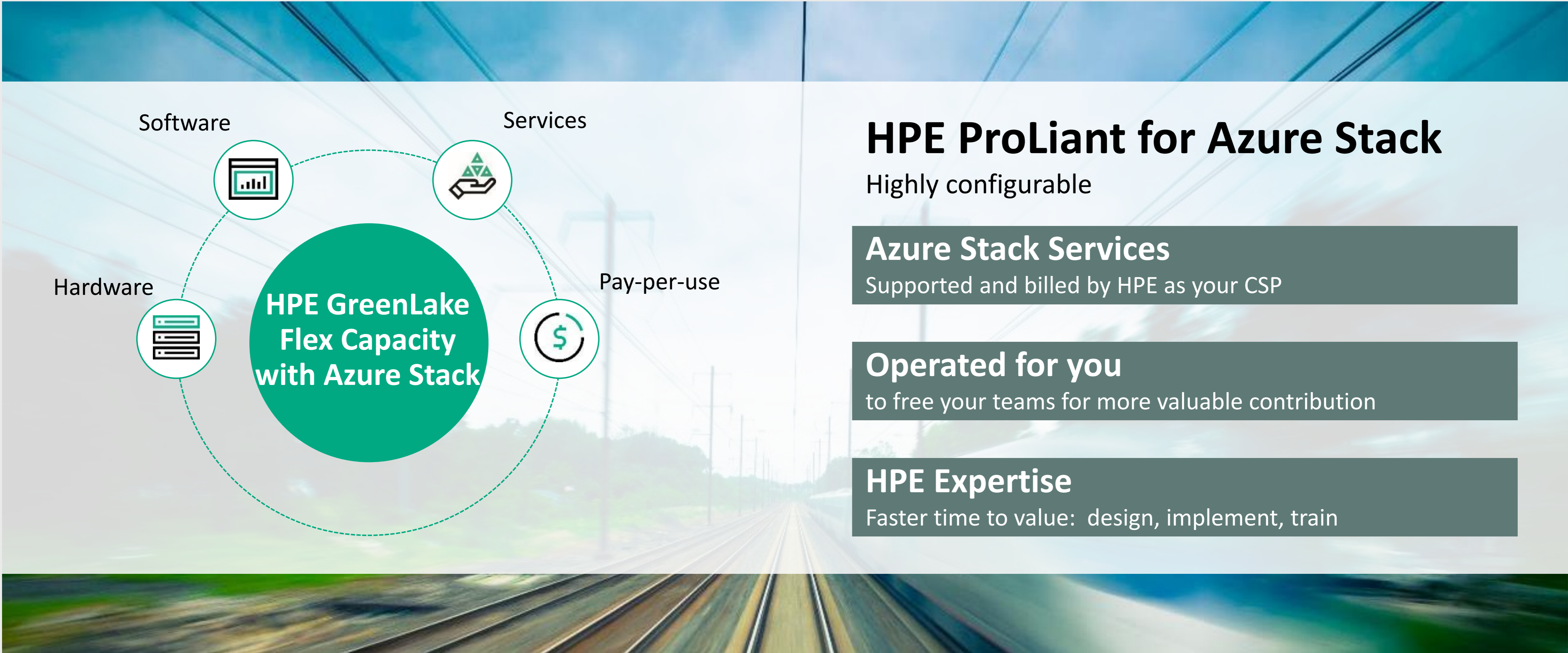
- Servers**
- Per server, virtual machine (by compute unit) or physical core, container node
- Storage**
- Per GB
- Network**
- Per port, per access point

¹ Minimums apply below certain usage levels



Using Microsoft Azure Stack

Consume Azure-consistent services from your data center



Optional components



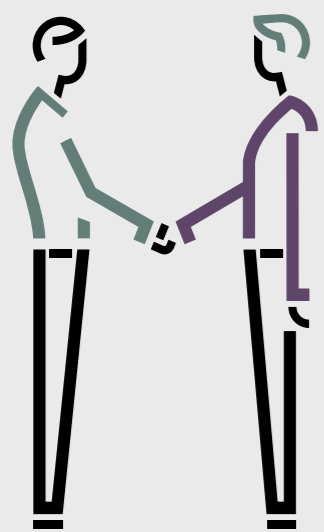
HPE STRATEGY

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: “Hewlett 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

PERIODIC TABLE OF DEVOPS TOOLS (V2)

1 Fm Gh Github																			2 Fm Aws AmazonWeb Services				
3 Os Gt Git	4 En Dm DBmaestro																	5 En Ch Chef	6 En Pu Puppet	7 Os An Ansible	8 Os Sl Salt	9 Os Dk Docker	10 Pd Az Azure
11 Fm Bb Bitbucket	12 Os Lb Liquibase																	13 Os Ot Otto	14 En Bl BladeLogic	15 Os Va Vagrant	16 Fr Tf Terraform	17 Os Rk rkt	18 En Gc Google Cloud Platform
19 Os Gl GitLab	20 En Rg Redgate	21 Os Mv Maven	22 Os Gr Gradle	23 Os At ANT	24 Os Fn FitNesse	25 Fr Se Selenium	26 Os Ga Gatling	27 Fr Dh Docker Hub	28 Os Jn Jenkins	29 Pd Ba Bamboo	30 Os Tr Travis CI	31 Pd Gd Deployment Manager	32 Os Sf SmartFrog	33 Os Cn Consul	34 Os Bc Bcfg2	35 Os Mo Mesos	36 En Rs Rackspace						
37 Os Sv Subversion	38 En Dt Datical	39 Os Gt Grunt	40 Os Gp Gulp	41 Os Br Broccoli	42 Fr Cu Cucumber	43 Os Cj Cucumber.js	44 Fr Qu Qunit	45 Os Npm npm	46 Fm Cs Codeship	47 Pd Vs Visual Studio	48 Fm Cr CircleCI	49 Fr Cp Capistrano	50 Fr Ju JuJu	51 Os Rd Rundeck	52 Os Cf CFEngine	53 Fr Ds Swarm	54 Os Op OpenStack						
55 Os Hg Mercurial	56 En Dp Delphix	57 Fr Sb sbt	58 Os Mk Make	59 Os Ck CMake	60 Fr Jt JUnit	61 Fr Jm JMeter	62 Fr Tn TestNG	63 Os Ay Artifactory	64 Fm Tc TeamCity	65 Fm Sh Shippable	66 Os Cc CruiseControl	67 En Ry RapidDeploy	68 Fm Cy CodeDeploy	69 En Oc Octopus Deploy	70 En No CA Nolio	71 Os Kb Kubernetes	72 Fm Hr Heroku						
73 En Cw ISPW	74 En Id Idera	75 Os Msb MSBuild	76 Os Rk Rake	77 Fr Pk Packer	78 Os Mc Mocha	79 Fr Km Karma	80 Os Jm Jasmine	81 Os Nx Nexus	82 Os Co Continuum	83 Fm Ca Continua CI	84 Pd So Solano CI	85 En Xld XL Deploy	86 En Eb ElasticBox	87 Fm Dp Deploybot	88 En Ud UrbanCode Deploy	89 Os Nm Nomad	90 En Os OpenShift						

Os	Open Source	SCM	Database Mgmt	Build
Fr	Free	CI	Repo Mgmt	Testing
Fm	Freemium	Deployment	Config / Provisioning	Containerization
Pd	Paid	Cloud / IaaS / PaaS	Release Mgmt	Collaboration
En	Enterprise	BI / Monitoring	Logging	Security

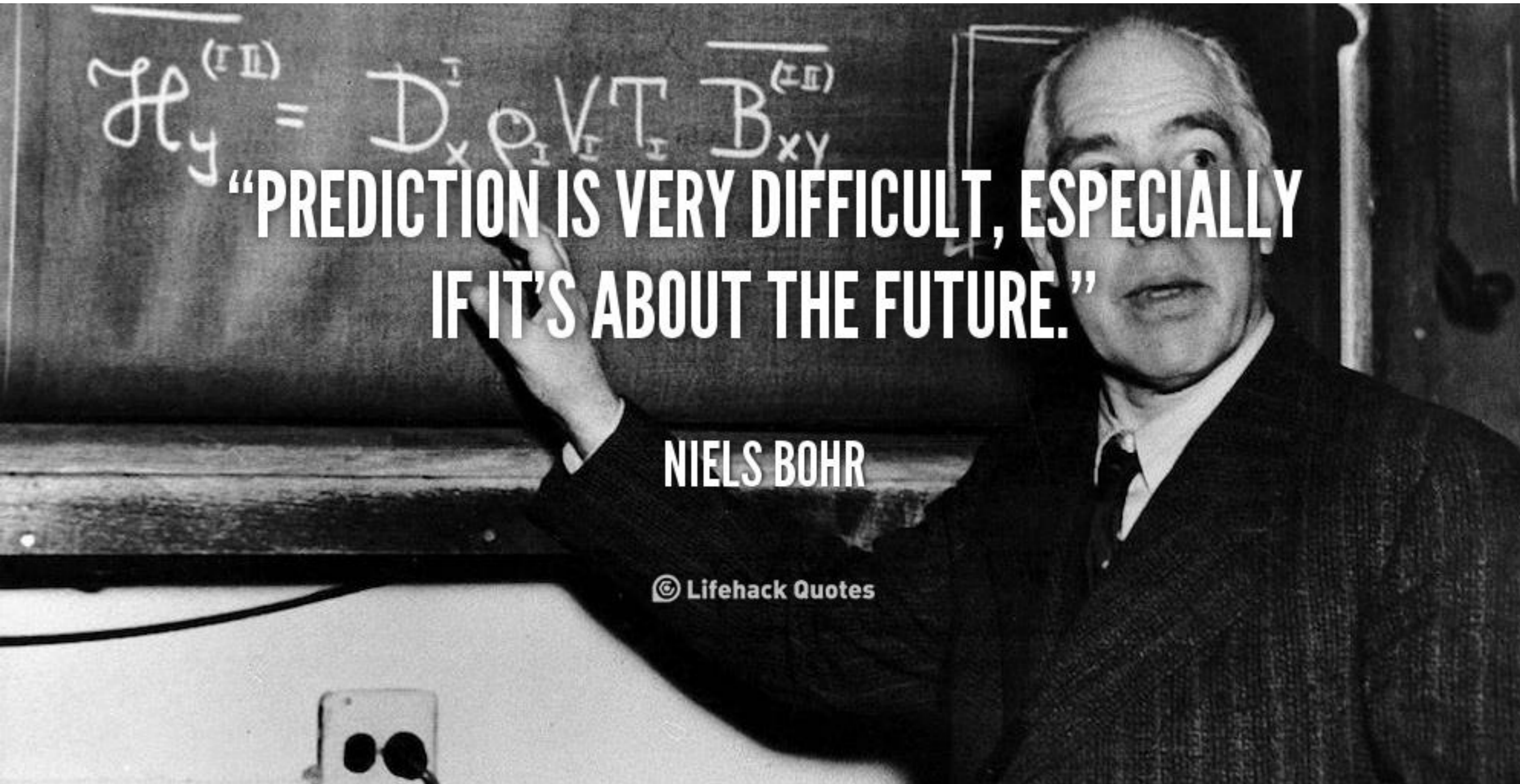
91 En Xlr XL Release	92 En Ur UrbanCode Release	93 En Bm BMC Release Process	94 En Hp HP Codar	95 En Au Automic	96 En Pl Plutora Release	97 En Sr Serena Release	98 Pd Tfs Team Foundation	99 Fm Tr Trello	100 Pd Jr Jira	101 Fm Rf HipChat	102 Fm Sl Slack	103 Fm Fd Flowdock	104 Pd Pv Pivotal Tracker	105 En Sn ServiceNow
106 Os Ki Kibana	107 Fm Nr New Relic	108 En Dt Dynatrace	109 Os Ni Nagios	110 Os Zb Zabbix	111 En Dd Datadog	112 Os EI Elasticsearch	113 Fm Ad AppDynamics	114 En Sp Splunk	115 Fm Le Logentries	116 Fm Sl Sumo Logic	117 Os Ls Logstash	118 Os Sn Snort	119 Os Tr Tripwire	120 En Ff Fortify

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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