Simplify Your Hybrid IT
HPE SimpliVity Solution

郭裕昇
HPE Hybrid IT 產品協理

We live in a world where everything computes

Technology will be
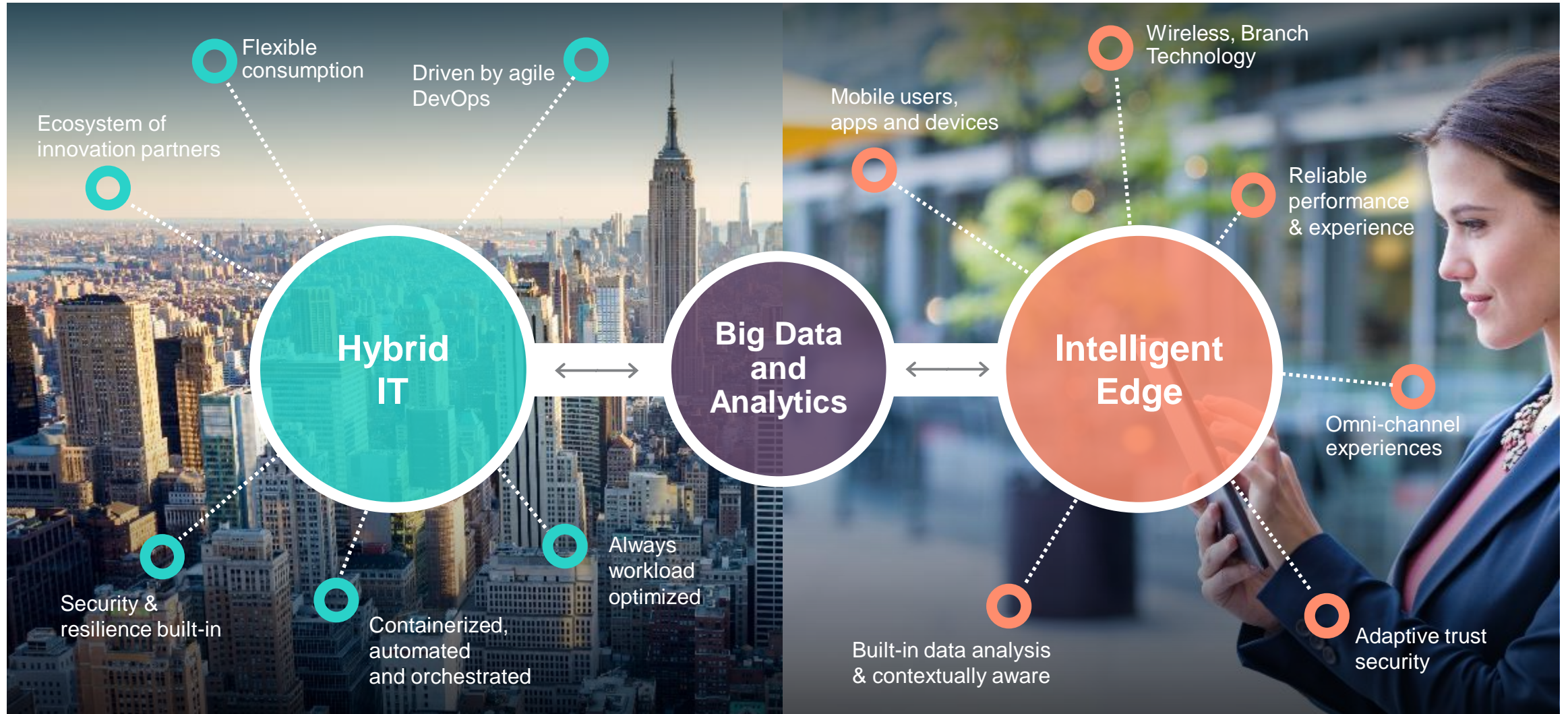embedded everywhere

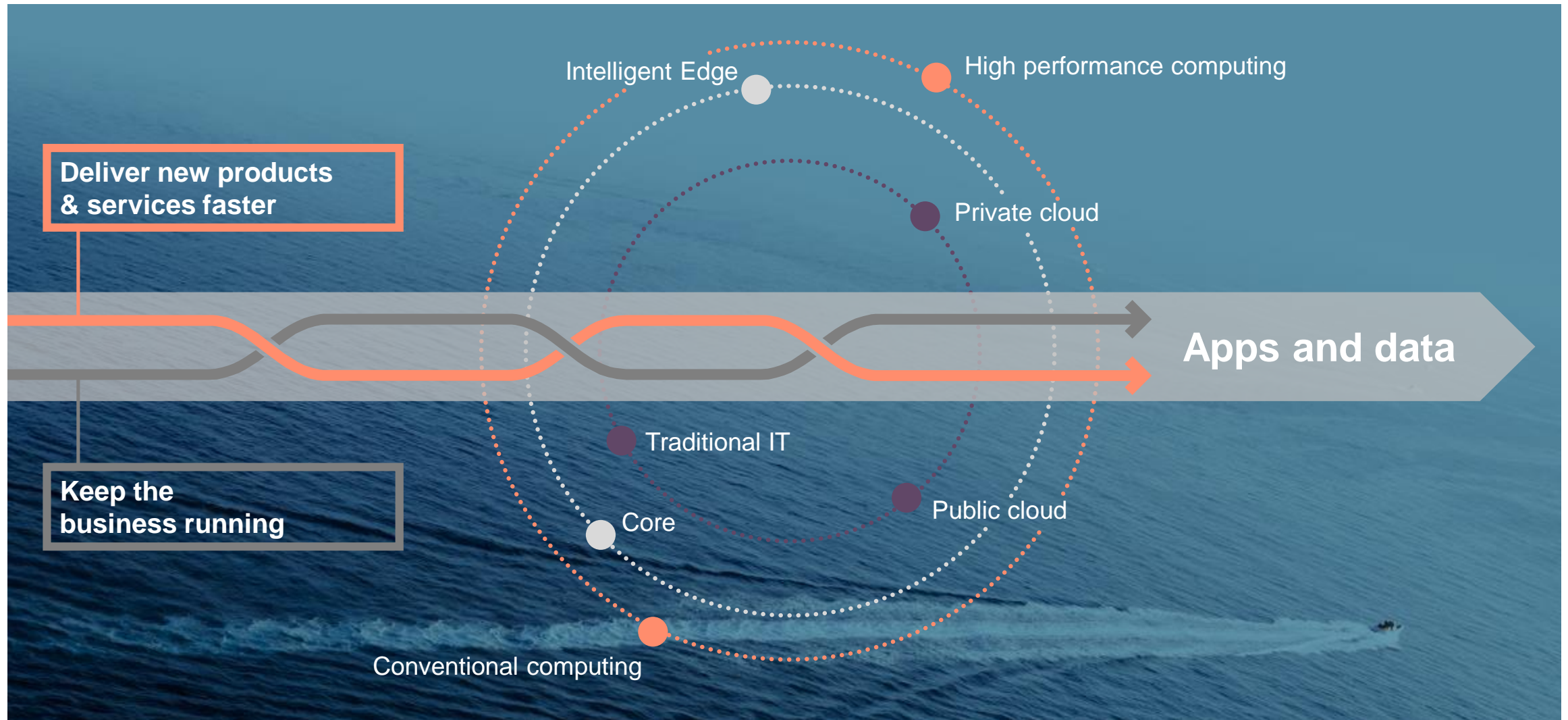Everyone and everything
will be connected
– and learning

Everything
will be understood

Hewlett Packard
Enterprise

Hewlett Packard Enterprise – Accelerating time to value

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

Deliver new products & services faster

Keep the business running

Intelligent Edge

High performance computing

Private cloud

Traditional IT

Public cloud

Core

Conventional computing

Apps and data

Hewlett Packard Enterprise

Introducing HPE's vision to make hybrid IT simple
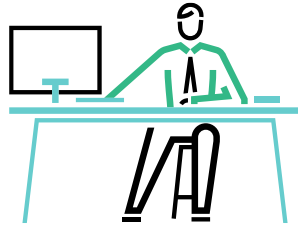
IT Operations

Developers

Line of Business Execs

HPE OneSphere

Comprehensive hybrid IT management platform to seamlessly deploy, operate, and optimize multi-cloud environments through a simple & unified experience

Simple
Compose multi-cloud environments on-demand

Seamless
Develop & optimize apps with governance, without constraints

Insightful
Deliver hybrid IT visibility and business controls

Only HPE simplifies multi-cloud and on-premises environments

Delivered as a service

Simplifies all your public clouds

- **Reference architecture w/ Compliance and Governance**
- **Cost Control**

Simplifies your on-premises

Private clouds, Azure Stack, VMs,

- **Reference architecture w/ Compliance and Governance**

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HPE makes Hybrid IT simple with Software-Defined Infrastructure

Simplify virtual apps and data - accelerate app performance, speed business continuity, lower costs and enable multi-cloud

4.5X
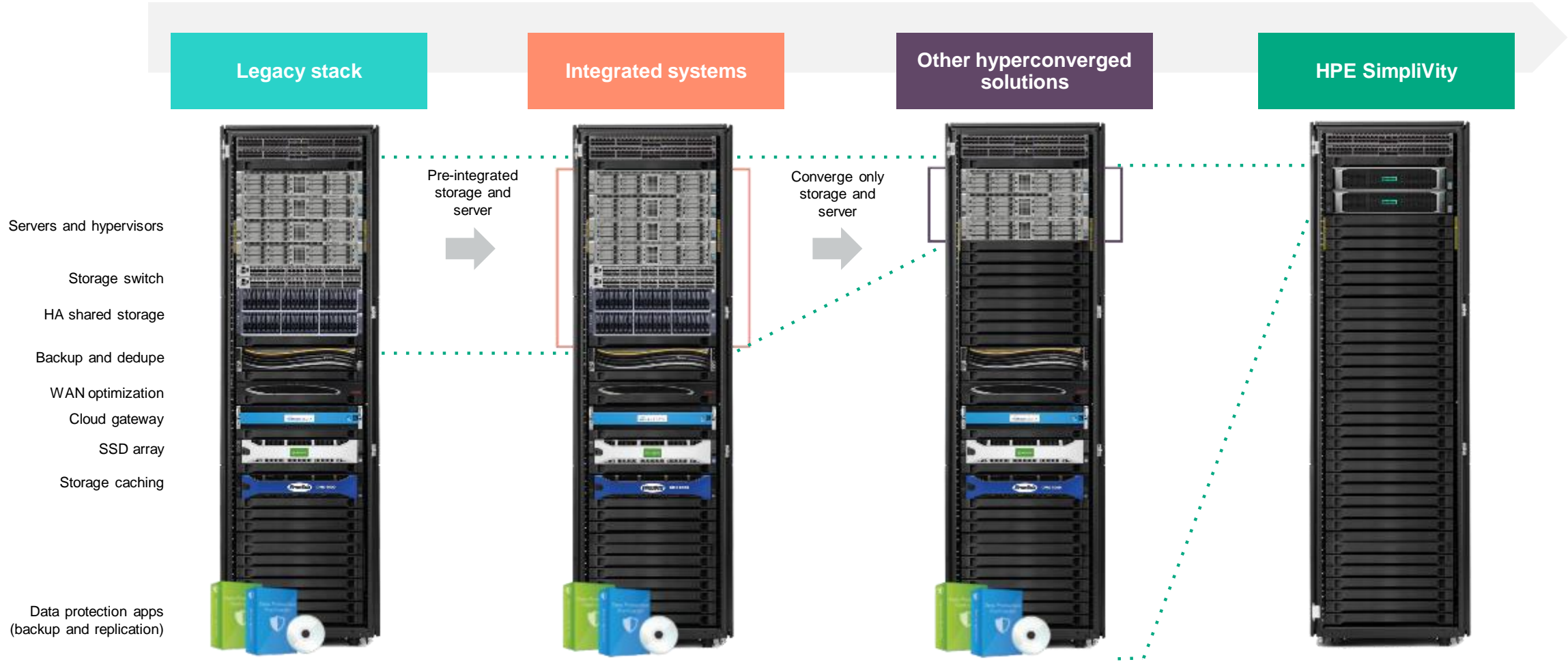Better application performance than traditional IT

<1
Minute to backup and restore a 1TB VM - Guaranteed

69%
Cost savings compared to traditional IT and up to 55% compared to public cloud

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For HPE and Channel Partner

The evolution of hyperconvergence

| Legacy stack | Integrated systems | Other hyperconverged solutions | HPE SimpliVity |

Servers and hypervisors

Pre-integrated storage and server

Converge only storage and server

Storage switch

HA shared storage

Backup and dedupe

WAN optimization

Cloud gateway

SSD array

Storage caching

Data protection apps
(backup and replication)

Hewlett Packard Enterprise
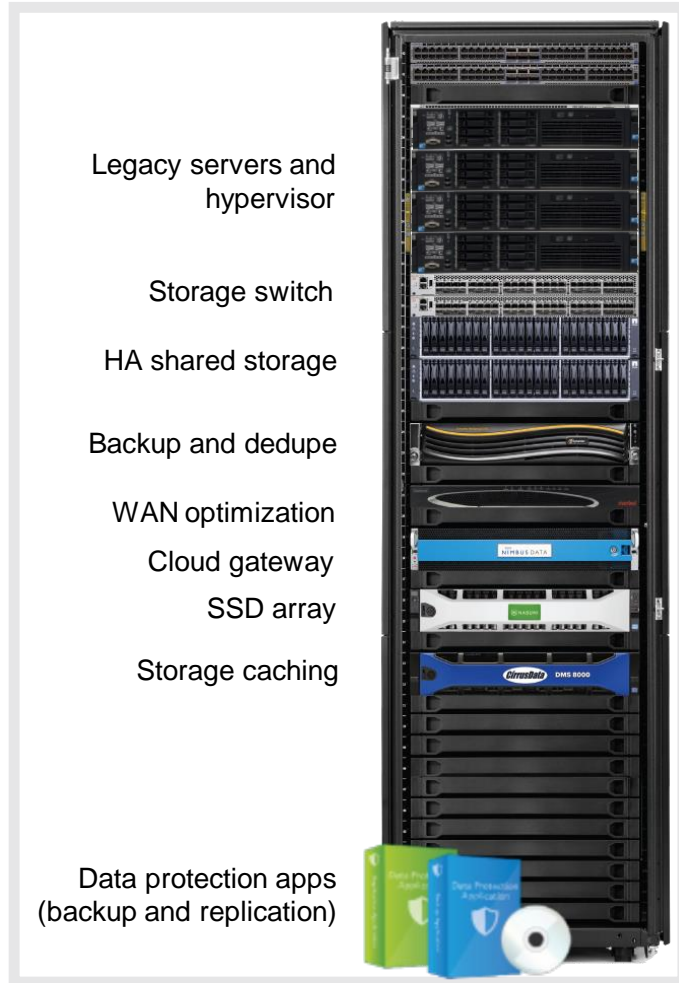
HPE SimpliVity 380: the powerhouse in hyperconvergence

The industry's most powerful hyperconverged platform for enterprise, uniting best-in-class data services with All-Flash portfolio

Legacy servers and hypervisor

Storage switch

HA shared storage

Backup and dedupe

WAN optimization

Cloud gateway

SSD array

Storage caching

Data protection apps (backup and replication)

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- All IT infrastructure and advanced data services in a single building block.

  - Global VM-Centric Management and Mobility

  - Integrated hypervisor runs core apps on x86 resource pool

  - Performance enabled by data locality and inline dedupe, compression

  - Built-in Resiliency, Backup, and DR with ability to rapidly recover

  - Accelerated Data Efficiency

  - Reduced costs compared to legacy IT

  - Multi-cloud ready: Deploy apps in minutes with a few clicks

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HPE Simplifies Applications and Data with HPE SimpliVity

Fast

Innovative VM-centric management and mobility speed deployment and app performance to free IT to focus on their business

- **81% time** freed to focus on apps
  - Effectively run **all virtualized workloads** - SQL Server, VDI , Collaboration, DevOps, Docker
- **88% of customers see dramatic app performance** improvement

Powerful & Efficient

All IT infrastructure and advanced data services for virtualized workloads in a single building block and increase storage efficiency – guaranteed!

- **Under 1 minute** to backup or restore a 1 TB VM
- **Save 90%** capacity across storage and backup combined
- **Reduce costs** by 69%*

Multi-Cloud

Transform your VM environment into an enterprise cloud that delivers cloud-like speed, operations and economics across all your private clouds.

- Support for both VMware and Hyper-V private clouds
- Deploy apps and manage VMs in minutes with **a few clicks**

* HPE SimpliVity versus legacy IT

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Increase admin speed and productivity

Global VM-centric management and mobility

– Policy-based, VM-centric management

– No LUNS, shares, or volumes

– Right-click operations

– Native tool integration

– Single view of all data centers and ROBOs

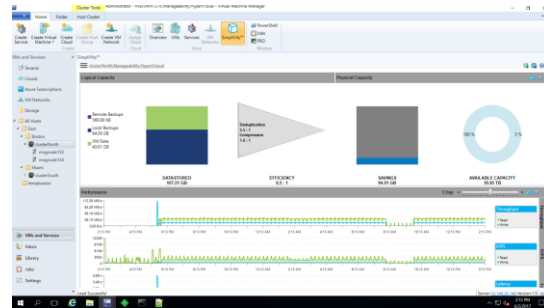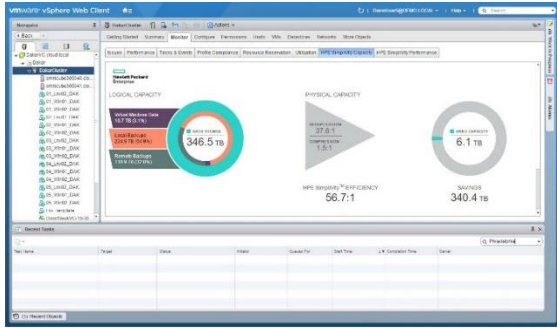– Ability to rapidly move apps and data across sites
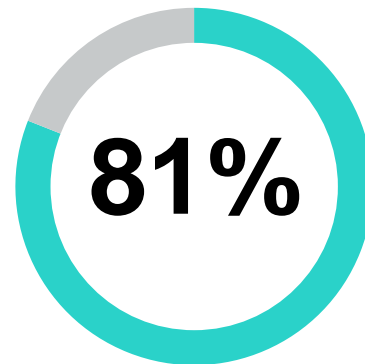
81% **increase** in time available to focus on apps and new projects

IDC
Analyze the Future

Hewlett Packard
Enterprise

VM-centric management
Alignment of data to VMs managed through VMware vCenter or Microsoft SCVMM

vmware vSphere

Microsoft Hyper-V

Just a few clicks to…

- Backup Virtual Machine…
- Clone Virtual Machine…
- Move Virtual Machine…
- Set Backup Policy…
- Edit Backup Policy…
- View Performance
- Search Backups

Over half (57%) of customers benefitted from an average of

53%

increase in **staff productivity**

IDC *Analyze the Future*

– Simple, intuitive interface

– No LUNs, shares, or volumes

– Empowers IT generalists and VM admins

– Familiar tools and interfaces like VMware vCenter®,vRealize®and Microsoft SCVMM

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SimpliVity integration in HPE OneView Global Dashboard
Provides unified view of SimpliVity systems

– Global Dashboard V1.4

– Supports any version of HPE SimpliVity

– Enumerates all OmniStack Clusters in federation

– Link to SimpliVity UI (vCenter UI)

– Shows cluster storage utilization

Search

○ Cluster1	OmniCube CN-3000	
○ Cluster2	OmniCube CN-3000	
○ HC-Cluster-413350	HPE HC380	
○ HC-Cluster-413351	HPE HC380	

Cluster1

✓ Connected

→ **Open in SimpliVity**

General

Group Info

Managed by Appliance   OmniStackVC-10-144-1-141

Cluster

Datacenter

Model   **OmniCube CN-3000**

Version   **Release 3.7.2.22**

Utilization

0.12 %   Storage

0 %   100 %

Single resource pool, no silos, IT efficiency

HCI supports key apps

– Supports industry standard hypervisor for server virtualization

– Supports industry standard end-user computing and VDI

– Published reference architecture documents

Production workloads running on HPE SimpliVity

Workload	%
Microsoft SQL Server	85%
Microsoft Exchange	50%
Industry-specific applications	49%
Microsoft SharePoint	35%
VDI	32%
Other	21%
Oracle	18%
E-commerce	10%
SAP	7%

TechValidate™

Effectively run all virtualized workloads

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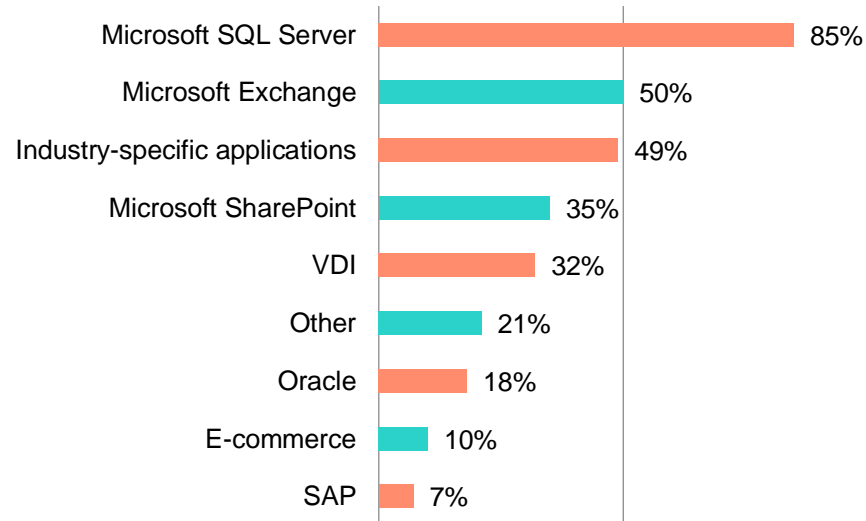
Dramatically faster application performance

VM-centric HCI Architecture

– Data locality shortens hops

– Inline dedupe, compression reduces IO, speeds performance

– Data Virtualization Platform limits network traffic

– All-Flash yields predictable performance with low latency

HPE SimpliVity speeds application performance

■ Greater than 75%—19%

■ 50% to 75%—41%

■ 25% to 50%—28%

■ Up to 25%—12%

TechValidate™
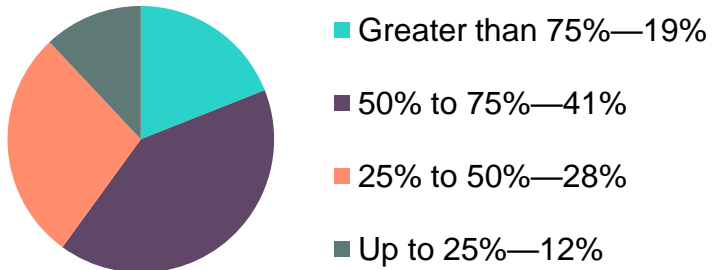
88% of customers see dramatic increases in application response times

HPE SimpliVity gives Red Bull Racing and Simac the speed, agility and scalability that they require

4.5x improved app performance

Nothing matters more in Formula One racing than speed. With HPE SimpliVity 380, post-processing trackside has gone from nine minutes to two minutes.

3x faster database queries

Resource-intensive operations like database queries are easily two or three times faster with HPE SimpliVity.

Efficiency gains from built-in resiliency, back-up and disaster recovery

Built-in resiliency, backup, and disaster recovery

– Full, logical backups with near-zero overhead

– Granular RTOs and RPOs from hours to minutes

– Policy-based automation for backups and retention

– Simple, affordable offsite DR

– RAIN and RAID for superior built-in resiliency

70%
improvement in backup/recovery and DR reported by HPE SimpliVity customers (IDC)[1]

57%
of HPE SimpliVity customers reduced recovery times from days or hours to minutes (TechValidate)[2]

IDC Analyze the Future

TechValidate

<1
Minute to backup or restore a 1 TB VM

[1]IDC white paper, "HPE SimpliVity Hyperconvergence Drives Operational Efficiency and Customers are Benefiting," June 2017
[2]2017 TechValidate survey of HPE SimpliVity infrastructure customers

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Data efficiency improves capacity, speeds recovery

Guaranteed data efficiency

- Always-on deduplication and compression
- All data at inception, globally
- Offloaded to OmniStack Accelerator Card
- Frees CPUs to run business workloads

52:1

Customers average **52:1 efficiency**
> 1/3rd surveyed achieve over 100:1[1]

FORRESTER® **TechValidate**™

Save 90% capacity across storage and backup combined[2]

[1] Reported in Forrester Total Economic Impact Study, 2017; TechValidate survey data

[2] HPE SimpliVity HyperGuarantee applies to current HPE SimpliVity and HPE OmniStack products and the new HPE SimpliVity 380 product.

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Cost efficiencies and streamlined operations versus legacy IT

Superior economic results

– Avoid costs for servers and legacy Storage

– Avoid Software Licensing Costs

– Lower data center power, space, cooling

– Lower Backup/DR Labor

– Reduced system upgrade expenses

Cash Flow Chart (Risk-Adjusted)

Legend:
- Total costs
- Total benefits
- Cumulative net benefits

Cash flows (y-axis): $2.5 M, $2.0 M, $1.5 M, $1.0 M, $0.5 M, -$0.5 M, -$1.0 M

x-axis: Initial, Year 1, Year 2, Year 3

FORRESTER®

Reduce costs by 69%

[1]Reported in Forrester Total Economic Impact Study, 2017

Brigham Young University and Francis Drilling speed business continuity, improve efficiency with HPE SimpliVity 380

22 second failover	50% less data storage

HPE SimpliVity simulated a California to Boston disaster recovery and fail back for BYU in 22 seconds. They were sold!

HPE SimpliVity's inline deduplication, compression at inception is so effective… We planned for 60 TB solution but was able to purchase only 30 TB HPE SimpliVity unit – and, are only using a fraction of the capacity.

BYU
BRIGHAM YOUNG
UNIVERSITY

FDF
Francis Drilling Fluids, Ltd.

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Enables Multi-Cloud via Multiple Hypervisor Support

HPE SimpliVity 380 combines the industry's most complete hyperconverged solution with the best-selling server platform on the market. Designed and optimized for modern virtual environments, HPE SimpliVity delivers all IT infrastructure and advanced data services for virtualized workloads —including compute, storage, built-in data protection, WAN optimization and disaster recovery—in a single, scalable 2U atomic building block.

Multiple Hypervisor Support

vmware vSphere

Microsoft Hyper-V

Key business outcomes include:

– Achieve faster time to market and response times
– Simplify procurement and support of IT resources
– Redirect dedicated FTE's to other initiatives

– Reduce spend on IT infrastructure and licensing
– Reduce data center real estate space
– Improve availability & Achieve greater efficiency

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HPE Hyper Converged Roadmap

Legacy ·· **Current** ································· **Futures**

SimpliVity
OmniCube
Cisco, Dell, Lenovo

HPE SimpliVity 380
OmniStack
All-Flash
Gen 9

HPE SimpliVity 380
OmniStack
All-Flash Series 4000
Gen 10
Hyper-V Beta

HPE SimpliVity 380
OmniStack
All-Flash Series 6000
Additional Capacity Option
Gen 10
Hyper-V

HPE SimpliVity 380
OmniStack
All-Flash Series 4000 and 6000
Multi Hypervisor

HPE HC380
StoreVirtual VSA
Gen 9

HPE HC250
for VMware
StoreVirtual VSA
Gen 9

HPE SimpliVity 2600
OmniStack
All-Flash Series 4000 and 6000
Gen 10
Hyper-V & ESX

**Additional
Platform On-Prem
and
Public Cloud
Expansion**

**HPE SimpliVity
on Synergy**

HPE SimpliVity 380: All-Flash portfolio

Unite best-in-class data services with All-Flash

Size

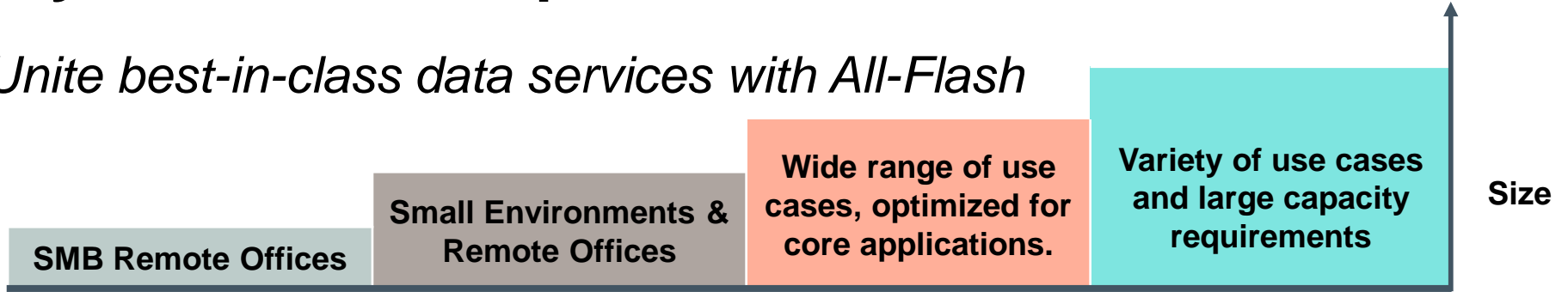|	Extra Small	Small	Medium	Large/Extra Large
	SMB Remote Offices	Small Environments & Remote Offices	Wide range of use cases, optimized for core applications.	Variety of use cases and large capacity requirements
CPU	Latest Intel Xeon Scalable Processor Family spanning single, dual socket and multi-cores			
Memory	HPE Smart Memory DDR4 spanning various configurations up to 1436 GB			
Effective Capacity	3 – 6 TB	6 – 12 TB	12 - 25 TB	Large: 20 - 40 TB Extra Large: 40 - 80 TB
Storage Configurations*†	5 x 960 GB SSD RAID-5	5 x 1.92 TB SSD RAID-5	9 x 1.92 TB SSD RAID-6	Large: 12 x 1.92 TB SSD Extra Large: 12 x 3.84 TB RAID-6
New Common Options	GPU Accelerator for VDI , End User Computing* Data at Rest Encryption for Data Privacy RapidDR for DR automation* FlexCapacity consumption options			
Common Features	Accelerated Inline Dedupe/Compression, High Availability, Redundant Power, VM-centric Policy-based Backup/Recovery/DR, Replication, VM Mobility, Integrated Management via hypervisor (VMware, MSFT SCVMM)			

* For VMware, available in two versions, 6000-series and 4000-series except for Extra Large 4000-series
† For Microsoft Hyper-V, available for 4000-series in Small, Medium configurations
  6000-series is best for high performance, IO intensive mixed workloads
  4000-series is best for typical workloads (heavy reads/lower ratio of writes) at lower cost than the 6000-series.

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HPE SimpliVity 380: Support for Microsoft Hyper-V

Model	CPU configuration	Memory	Storage configuration	Effective storage capacity	RAID configuration
Small	1P Intel Xeon 8-14, 16-22 Cores	87–711 GB	5 x 1.92 TB SSD*	6–12 TB	RAID 5
	2P Intel Xeon 8-14, 16-22 Cores	156–1436 GB			
Medium	1P Intel Xeon 8-14, 16-22 Cores	87–711 GB	9 x 1.92 TB SSD*	12–25 TB	RAID 6
	2P Intel Xeon 8-14, 16-22 Cores	156–1436 GB			

HPE SimpliVity 2600 supported models

Server models	CPU configuration	Memory	Storage configuration	Effective storage capacity	RAID configuration
HPE SimpliVity 170	2P Intel Xeon 12-22 Cores per socket	384–768 GB	6 x 1.92 TB SSD*	5–10 TB	RAID 1+0
	Minimum of 2 and Maximum of 3 servers per chassis				
HPE SimpliVity 190	2P Intel Xeon 12-22 Cores per socket	384–768 GB	6 x 1.92 TB SSD*	5–10 TB	RAID 1+0
	2 servers per chassis				

*Available for 4000-series only at launch.
Two optional PCIe GPU or NIC supported with HPE SimpliVity 190 models

Recognized Market Leadership & Award Winner

More than 10,000 systems shipped globally across all segments

Global 2000	Healthcare	Consumer	Government and higher education	FSI	Other

Consumer
Top 5 Global Consumer Electronics

Leading Luxury Brand

Government and higher education
Top 5 US Government Agency

FSI
Leading Indian Bank
Global 50 Financial Firm

Company logos shown include: Capgemini, Assured Guaranty, Deutsche Telekom, Toray, NXP, Yamaha, Klepierre, Vale, Bidvest, Petrobras, Arrow Electronics Inc. (Global 2000); St. John's Riverside Hospital, Oregon Medical Group, Altrecht, PCHC Penobscot Community Health Care, Bone & Joint Capital Region Orthopaedics, Weeks Medical Center, Practimed, EFS, Neil Medical Group (Healthcare); Major League Baseball, Blundstone, BRG Sports, Woodman's Markets, Princess House, totes, GoodLife Fitness (Consumer); UCLA, BYU, City of Arvada, Colby, Town of Newington Connecticut, Worcester County Sheriff's Office, Town of Vail, Båstads Kommun, Leighland Christian School, Saddleback Valley Unified School District, Saint Kentigern (Government and higher education); King Price Insurance, Oak Hill Capital Partners, Central One Federal Credit Union, Credit & Investments Ombudsman, Altamaha Bank & Trust, Landmark Partners, The Cooperative Bank (FSI); Aston Martin, Red Bull Racing, nuh, Guelph Hydro Inc., KHD Humboldt Wedag, Northern California Carpenters Regional Council, Genia, FDF Francis Drilling Fluids Ltd., Whitt & Company Inc., Coughlan Companies, Vollrath, HighCotton, Pitt Ohio, Marketing Innovators, abba Technologies, NewPage, Neenan archistruction, Thames Valley Housing, gigas (Other)

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Customer Use Case – 聯合報系

Challenge :
- 維運成本增加
- 資料中心空間不足

Benefit :
- 軟體定義強化基礎架構管理
- 快速備份及復原能力
- 資料壓縮及重複資料刪除技術
- 穩定的 ProLiant 伺服器

Next :
- 利用 HPE 平台導入 AI 技術, 強化數位編輯能力

聯合報系集團選擇 HPE Simplivity 構建次世代虛擬化平台

1951 年發行第一份報紙，聯合報系在台灣媒體界有著舉足輕重的影響力，隨著多年來的發展與資訊科技演進，聯合報系除了起家時的報紙業務外，亦有跨足出版、數位媒體、電子商務與資訊服務等產業，同時致力於數位匯流、強化內容產物，並持續以正派辦報的精神努力讓台灣更美好。

虛擬平台硬體屆齡除役，基礎維護升級成重大挑戰

以紙本媒體起家，聯合報系的資訊化程度非常高，聯經數位總經理兼聯合報系資訊管理部總經理何銘傑表示，身為台灣第一家自主開發、應用「數位化新聞編印系統」的媒體業者，聯合報系投入在資訊科技的心力非常多，除了聯合報內部的資訊團隊，亦有成立聯經數位協助系統開發與維護。「聯合報系內有超過三分

聯經數位總經理兼聯合報系資訊管理部總經理何銘傑

Customer Use Case – 飛捷科技

Challenge :
- 設備老舊, 維運成本增加
- 資料備份與還原

Benefit :
- 資料壓縮及重複資料刪除技術
- 強大的擴充能力
- 完整的異地備援功能
- 容易上手的管理介面

Next :
- 建立多點機房備援功能

HPE SimpliVity 超融合架構 助力飛捷科技精簡虛擬化平台

專 精 POS 系統與互動式資訊服務站的飛捷科技成立於 1984 年,以強調產品設計為重心,不斷推出各種高品質設備,讓企業保有最佳的核心競爭力。近年來,飛捷科技以服務性製造業的角度出發,跳脫傳統製造業的定位,讓旗下產品更臻完整,接連獲得國際市場的肯定與青睞。

伺服器面臨汰換升級,
服務不停頓為首要挑戰

隨著公司長年下來的營運發展,內湖總部的資訊部轄下累積了許多應用服務,在資訊技術不斷更迭之下,飛捷科技的基礎系統也面臨到升級汰換的壓力。飛捷科技管理處資

飛捷科技管理處資訊部資深經理漳英科(左)及技術經理李日揚

Hewlett Packard
Enterprise

THANK YOU