資料中心邁向軟體定義
基礎架構
HPE 利用 HYBRID IT 強化軟體
定義資料中心

郭裕昇
Hewlett Packard Enterprise
Hybrid IT – 數位轉型的基石

- Easily scale to handle half a billion digital files for every movie
- Expand operations and shift cloud platforms with no disruption
- Real-time sensor data powers machine learning to predict and prevent downtime
- Launch a resource-intensive venture while minimizing capital needs and business risk
定义 Hybrid IT 策略
your Hybrid IT strategy

高效率的平台
your Hybrid IT platforms

资源的优化
your Hybrid IT consumption and delivery
Create and deliver services dynamically – so you can accelerate and pivot with the business

Compose, teardown, recompose resources as needed

Repurpose resources dynamically from one workload to another

Infinitely scale resources
次世代的超融合架構
大幅提升部署速度與管理效率

預測分析提升系統穩定性

混合雲整合容器化技術
縮短應用程式部署速度

HPE SimpliVity
42% increase in staff productivity
81% increase in time spent on new projects and innovation

HPE InfoSight
86% of issues automatically predicted and resolved
99.9999% of proven availability

HPE Docker Ready Servers / VCF
ready node
Reduce software build time by more than 50%

1 TechValidate independent survey of SimpliVity customers
2 IDC survey of SimpliVity customers, 2016
3 hpe.com/storage/nimblestorage
4 https://www.nimblestorage.com/redefining-the-standard-for-system-availability/
5 Actual results from an internal HPE Docker project: as described in the "Optimize Dev/Ops with Docker and HPE BladeSystems" Reference Guide
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5. Actual results from an internal HPE Docker project; as described in the "Optimize Dev/Ops with Docker and HPE BladeSystems" Reference Guide
Traditional Network Limitations

**SEPARATE NETWORKS?**
Do you have an FC SAN and/or IB network for separate purposes?

**IN RACK-JAIL?**
Can you freely move apps and data across the data center?

**POOR TROUBLESHOOTING?**
Is lack of end-to-end visibility causing you headaches when trying to haunt down faults?

**UNDERUTILIZED RESOURCES?**
Are certain apps running slow while network bandwidth is available elsewhere?

**OVERPROVISIONING**
Are you forced to buy more than you need and waste precious budget dollars?
次世代的超融合架構

Diverged resources

Hyperconverged

HPE SimpliVity with Composable Fabric

Past

2013

Now

HYPERCONVERGED COMPUTE and STORAGE

HYPERCONVERGED COMPUTE, STORAGE and NETWORKING
One Smart Fabric
Complete workload-driven network

**INTEGRATION**
- Plexxi Web GUI
- Plexxi Shell

**USER INTERFACE**

**EVENT-BASED AUTOMATION**
- Affinity Model
- Network Topography
- Algorithmic Fitting Engine

**TOPOLOGY CONTROL**

**HYPERCONVERGED NETWORK**

**PLEXXI CONNECT**
- Plexxi Web GUI
- Plexxi Shell

**PLEXXI CONTROL**
- Affinity Model
- Network Topography
- Algorithmic Fitting Engine

**PLEXXI SWITCH**

HPE Restricted - For HPE and Partner Training Purposes Only
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HPE InfoSight – Using AI to Simplify IT Operations

Self-managing

Self-healing

Self-optimizing

Storage

Servers

Networking

Converged

Powered by HPE InfoSight: AI for the Data Center
次世代的超融合架構
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動態的資源組合

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
Design concept
Your infrastructure as code

**Fluid resource pools**
- Single infrastructure of disaggregated resource pools
- Physical, virtual, and containers
- Auto-integrating of resource capacity

Unified API
- Single line of code to abstract every element of infrastructure
- Full infrastructure programmability
- Bare metal interface for Infrastructure as a Service

**Software-defined intelligence**
- Template-driven workload composition
- Frictionless operations

**Composable infrastructure**
HPE Synergy + VMware Cloud Foundation: Better Together
HPE Synergy 已經完成 VMware Cloud Foundation 認證

HPE Synergy as a VCF ReadyNode as part of VCF 2.3.1 release

What is Certified?

<table>
<thead>
<tr>
<th>Composable</th>
<th>HPE Synergy 12000 Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame</td>
<td></td>
</tr>
<tr>
<td>Compute</td>
<td>HPE Synergy 480 Gen 10</td>
</tr>
<tr>
<td>HPE Synergy 660 Gen 10</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>HPE Synergy Storage Module</td>
</tr>
<tr>
<td>Fabric</td>
<td>HPE Virtual Connect Fabric Modules</td>
</tr>
<tr>
<td>Management</td>
<td>HPE Synergy Composer powered by HPE OneView</td>
</tr>
</tbody>
</table>

How to Consume

Certified Ready Nodes

Software Deployment

Assembled and Imaged by customer (with help from partner or VMware PSO)
HPE Synergy + Cloud Foundation Deployment

- Configuration based on qualified VSAN ReadyNodes

- Leverage OneView templates to instantiate individual server profiles, assembling ratios of compute, storage and fabric

- Leverage VIA to install and configure the initial ESXi hosts and SDDC manager
Build Your SDDC with HPE Synergy and VMware Cloud Foundation

VMware Cloud Foundation

- Intrinsic Security
- Cloud Management
- Compute
- Storage
- Networks
- Lifecycle Automation

VMware Installation Appliance

HPE Synergy

- Composer
  - Integrated software-defined intelligence to self-discover, auto integrate, provision and scale from pools to racks
- Composable Frame
  - Everything needed to run applications, so IT can be quickly setup and consumed
  - Auto-scaling makes scaling simple and automated at runtime scale
- Composable Compute
  - Scalability, density optimization, and configurability flexibility
- Composable Fabric
  - Rack-scale multi-fabric connectivity eliminates standalone TOR switches
- Composable Storage
  - High-density integrated storage to compose any compute with any storage (SSD, DAS, SAN)

OneView Templates

SDDC Manager

- Install Software
- Configure Environment
- Provision Infrastructure Pools

Architecture

HPE Confidential – For Customer Use Only
POSSIBLE BEGINS WITH YOU