Enable your Digital Workplace Transformation with HPE Hyper Converged 380 and Citrix XenDesktop
Agenda

• Transforming the modern workplace
• What is digital transformation
• Introducing HPE Hyper Converged 380 with Citrix XenDesktop
• Optimize your infrastructure for today’s workloads
• Integrating HPE Hyper Converged 380 with Citrix XenDesktop within your data center
The way we work is being transformed
IT managers of all size businesses must respond to end-user needs and expectations to increase productivity

“I need access to my data and applications whether I’m in the office or mobile. I need this experience to be fast, secure, and reliable.”
End user

The IT challenges

- Provide instant, secure access to apps and desktops anywhere, and anytime
- Deliver all types of apps and an exceptional user experience
- Manage and support a wide range of end-user devices
- Meet compliance and regulatory guidelines

“I want to increase my workforce’s productivity. I want to mobilize my workforce and enable BYOD. I want to enable new employees faster”
IT manager
This presents the IT manager with a dilemma

**HOW DO I...**

Radically expand data access to more users, on more devices, from more locations, and meet performance SLAs?

**WHILE I...**

Increase security, protect intellectual property, and meet compliance mandates—all while reducing costs.
The answer: digital transformation

“Digitally transformed businesses typically develop an ecosystem that blur the lines between supply chain, partner, customer, crowd, and employee and both strategy and execution are heavily influenced by this ecosystem.”¹

“Digital transformation is about more than digital products and services; it's also about the processes that create, enable, manage, and deliver them.”²

1 Isaac Sacolick, global CIO and a managing director, Greenwich Associates
Digital business transformation is a game changer
A critical component to your future success

You can:

✓ Enable anywhere, any device access to applications and data
✓ Address security and compliance mandates to protect data
✓ Reduce application and end-user management complexity
✓ Deploy quickly, scale easily, with a predictable cost model

67% of CEOs will have digital transformation at the center of their corporate strategy by the end of 2017.

To compete in the face of digital disruption, your firm must transform...You must enhance your digital customer experience while also driving agility and efficiency through digital operational excellence.


Hyper converged infrastructure creates a platform for digital transformation

Companies of all sizes can benefit from an integrated infrastructure

79% of IT professionals surveyed have either deployed hyper-converged infrastructure or are considering it.

ActualTech Media, Hyper-converged infrastructure in the modern enterprise Dec 2015
Meet the HPE Hyper Converged 380 with Citrix XenDesktop

Created by industry leaders in desktop delivery and infrastructure
HPE Hyper Converged 380 with Citrix XenDesktop

All-in-one compute, software-defined storage, and software-defined intelligence virtualization solution

- **Chassis**
  - DL380 Gen9 24SFF
  - 2-16 homogeneous nodes

- **CPU**
  - 2 x Haswell
  - 12 - 36 cores/node

- **Memory**
  - 128GB - 1.5TB per node

- **Storage**
  - All HDD or Hybrid
  - 3-24 TB/node

- **Network**
  - 10Gb and 1GB
  - SFP+ and RJ45

- **Graphics**
  - K1 and K2 GRID Cards (from NVIDIA)

- **Power**
  - 110V, 220V
  - HPE Power Advisor

- **Software**
  - Citrix® XenDesktop
Simplify your infrastructure with a complete solution

An all-inclusive virtualization solution tuned for Citrix XenDesktop eliminates guesswork

Easy to manage with intuitive user experience management software

Deliver apps and desktops to any device, anywhere, at any time

Streamline IT operations and secure sensitive data

Create a powerful, easy-to-manage environment

Scale to meet your needs, on your timetable
Deliver secure virtual apps and desktops
Citrix XenApp and XenDesktop provide secure remote access to employees while cutting costs.
Reduce cost and complexity of app & desktop admin

- Eliminate costs of moves, adds, and changes
- Reduce application management labor costs by as much as 90%
- Improve success rate of desktop image updates to nearly 100%
- Eliminate CapEx for excess capacity for seasonal workloads and unexpected demand
- Resolve end user issues on the first call and decrease expensive support escalations
Deploy and provision infrastructure faster
HPE Hyper Converged 380 with new HPE OneView User Experience (UX)

Easy to set up
• Answer 8 simple questions and you’re ready
• Integrates with your existing LDAP
• Role-based access

Easy to provision
• Deploy VMs in 5 simple clicks
• Add capacity in 15 minutes

Easy to manage
• Unified view of VMs and infrastructure

Automated one touch updates
• Firmware and drivers
• Configuration backup and restore
Affordable innovation: lowest cost to start, scale, and protect

Lowest cost to start
• Start small and pay-as-you-grow
• 2-16 node choice provides lower CapEx and more flexibility

Lowest cost to scale
• Support more VMs per node = lower HW and SW cost
• Access capacity on any x86 server or StoreVirtual system

Lowest cost to protect
• 62% lower for disaster recovery*

Pay-as-you-go flexibility with HPE Flexible Capacity

* Estimates may change based on final pricing and cost.
Satisfying all users and delivery models

Task Worker
- Call center employees
- Bank tellers
- Text-based
- Little need for graphics
- Limited # of Apps used
- Lower resource-consumption users

Knowledge Worker
- Video streaming
- PDFs
- Microsoft Office Suite & OS
- Photoshop
- Medical Imaging & Stations
- GEO Mapping
- Architecture / CAD Apps

Power User
- Dassault CATIA
- Adobe CS
- Autodesk
- Heavy CAD or graphics needs
- Power Users

Designer
- Video streaming
- PDFs
- Microsoft Office Suite & OS
- Photoshop
- Medical Imaging & Stations
- GEO Mapping
- Architecture / CAD Apps

Session/App Virtualization

Virtual Desktops

Graphics Accelerated VDI

Per User Isolation / Security

Scale/Density

Cost per seat

Highest

Highest

Highest
Uptime and productivity are top of mind with quality service and support

• HPE and Citrix deliver service and support technology services to:
  • Increase uptime
  • Maintain productivity
  • Deliver ROI

• Technical support and experts are available 24/7/365 as a single point-of-contact for all your needs
Simple and flexible solutions without heavy IT overhead

Optimize your infrastructure for today’s workloads

Small to midsize businesses
Remote branch offices
Enterprise LOBs
What’s different this time?
• User-driven migration
• Skipping over Windows 8
• Legacy app testing and delivery
• Multiple devices in the workplace

How Citrix XenDesktop makes it easier
• Test apps with AppDNA for compatibility
• Create a golden image
• Deliver apps and desktops to any device
• Data is kept secure in data center and not on end-user devices

Example: Windows 10 migration
Shift management of hyper converged infrastructure into a cloud service

The fastest and most flexible approach to deploying Citrix technology to any device, anywhere

- Centralized control
- SaaS-style updates
- Lower admin costs
- Less complexity

Deploy Citrix technology → Infrastructure running on HPE Hyper Converged 380 → To any device
Reference Configuration

HPE Hyper Converged 380 with Citrix XenDesktop
Reference configuration scenario
Utilizing the power of the HPE Hyper Converged 380 to support your Citrix environment

MOBILITY USER TYPES

Hosted shared desktop (HSD) user
Dedicated power user
# Hardware configuration

Hyper Converged 380 with Citrix XenDesktop hardware

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>(2) Intel Xeon E5-2690v3 (2.6GHz/12-core) processors</td>
</tr>
<tr>
<td>Memory</td>
<td>HPE 32GB Dual Rank x4 DDR DIMMS, 256GB total</td>
</tr>
<tr>
<td>Networking</td>
<td>1 GB: HPE Ethernet 7ft CAT5e RJ45 M/M cables</td>
</tr>
<tr>
<td></td>
<td>10GB: X240 10G SFP+ SFP+ 3m DAC Cables</td>
</tr>
<tr>
<td>Storage</td>
<td>(12) 1.2TB 12G SAS 10K rpm SFF (2.5-inch) HDD</td>
</tr>
<tr>
<td></td>
<td>(2) 800GB 6G SATA Write Intensive-2 SFF 2.5-in SC SDD</td>
</tr>
<tr>
<td>Rear-cache storage</td>
<td>(2) 240GB 6G SATA Read Intensive-2 SFF 2.5 SSD</td>
</tr>
</tbody>
</table>

[Diagram showing 4 nodes with labels: Mgmt VM, App, App, App, App, StoreVirtual (VSA), HPE Hyper Converged 380 nodes, SSD, SSD, citrix, XenDesktop]
## Software configuration

Hyper Converged 380 with Citrix XenDesktop software

<table>
<thead>
<tr>
<th>Management Software</th>
<th>Application software</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPE OneView InstantOn</td>
<td><strong>Citrix® XenDesktop</strong></td>
</tr>
<tr>
<td>HPE StoreVirtual Centralized Management Console (CMC)</td>
<td>PVS</td>
</tr>
<tr>
<td>HPE StoreVirtual Virtual SAN appliance</td>
<td>VMware vSphere 6.0</td>
</tr>
<tr>
<td>HPE OneView Plugin for vCenter</td>
<td>VMware vCenter Server 6.0</td>
</tr>
<tr>
<td>HPE OneView User Experience (UX)</td>
<td>SQL Server</td>
</tr>
<tr>
<td>HPE OneView</td>
<td>Microsoft Windows Server</td>
</tr>
</tbody>
</table>

Diagram:
- **Mgmt VM**
- 4 nodes
- **StoreVirtual (VSA)**
- **Citrix® XenDesktop**
- **HPE Hyper Converged 380 nodes**
- **SSD**
- **SSD**
## HPE Reference Configuration: Storage

HPE Hyper Converged 380 not only provides compute and memory but also clustered storage using HPE StoreVirtual VSAs.

### Mixed workload storage allocation

<table>
<thead>
<tr>
<th>Datastore</th>
<th>Size</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>600 GB</td>
<td>Created by HPE Hyper Converged 380 during installation to hold the management VMs required to support the HPE Hyper Converged 380</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>2 TB</td>
<td>Contains all XenDesktop infrastructure VMs</td>
</tr>
<tr>
<td>Dedicated 1 datastore</td>
<td>5 TB</td>
<td>Contains 25 dedicated power users VMs</td>
</tr>
<tr>
<td>Dedicated 2 datastore</td>
<td>5 TB</td>
<td>Contains 25 dedicated power users VMs</td>
</tr>
<tr>
<td>PVS</td>
<td>1 TB</td>
<td>Contains PVS master image vhds</td>
</tr>
<tr>
<td>Profiles</td>
<td>5 TB</td>
<td>Contains user profiles and user data</td>
</tr>
<tr>
<td>HSD datastore</td>
<td>5 TB</td>
<td>Contains the Hosted Shared Desktops and overflow cache files</td>
</tr>
</tbody>
</table>
Make the most of your investment in infrastructure

Deploy and manage a virtualized client environment with one fully integrated, pre-tested solution

Deliver the best client virtualization outcomes

- Intuitive—no manuals needed
- Affordable—low cost
- Smart—integrated analytics
- Federated—data mobility
- Reliable—tested and validated
- Flexible—support any workload

HPE Hyper Converged 380

Built on the HPE ProLiant DL380 Server platform the world’s best-selling server
Simply add new HPE Hyper Converged 380 nodes to scale

No additional network switches or hardware required

Grow from 2 nodes to 16 in the same rack

Support 20-25 users per virtual machine

Each new node will support ~100-120 hosted desktop users or 25 dedicated power users

No changes to Citrix environment required to add more users
Deploy and provision infrastructure faster

SCALE EASILY
Grow from 2-16 nodes per cluster without changing your Citrix environment

800 task workers or 510 task workers & 50 power users

FAST & POWERFUL
1 ms average latency

100% data stays behind firewall
99.99% uptime

SECURE & AVAILABLE

100% data stays behind firewall
99.99% uptime
HPE Hyper Converged 380 with Citrix XenDesktop

• Deliver next-generation infrastructure and a high-definition user experience
• Access, manage, and support any device, app, and cloud
• Easy to configure, maintain, and expand
• Simplify security and management to streamline operations
Questions
For more information

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Thank you