PeerPaper Report

BEST PRACTICES FOR CHOOSING AN HCI SOLUTION

Based on Real User Reviews of HPE SimpliVity

2020

IT Central Station
Unbiased reviews from the tech community

NETWORKWORLD
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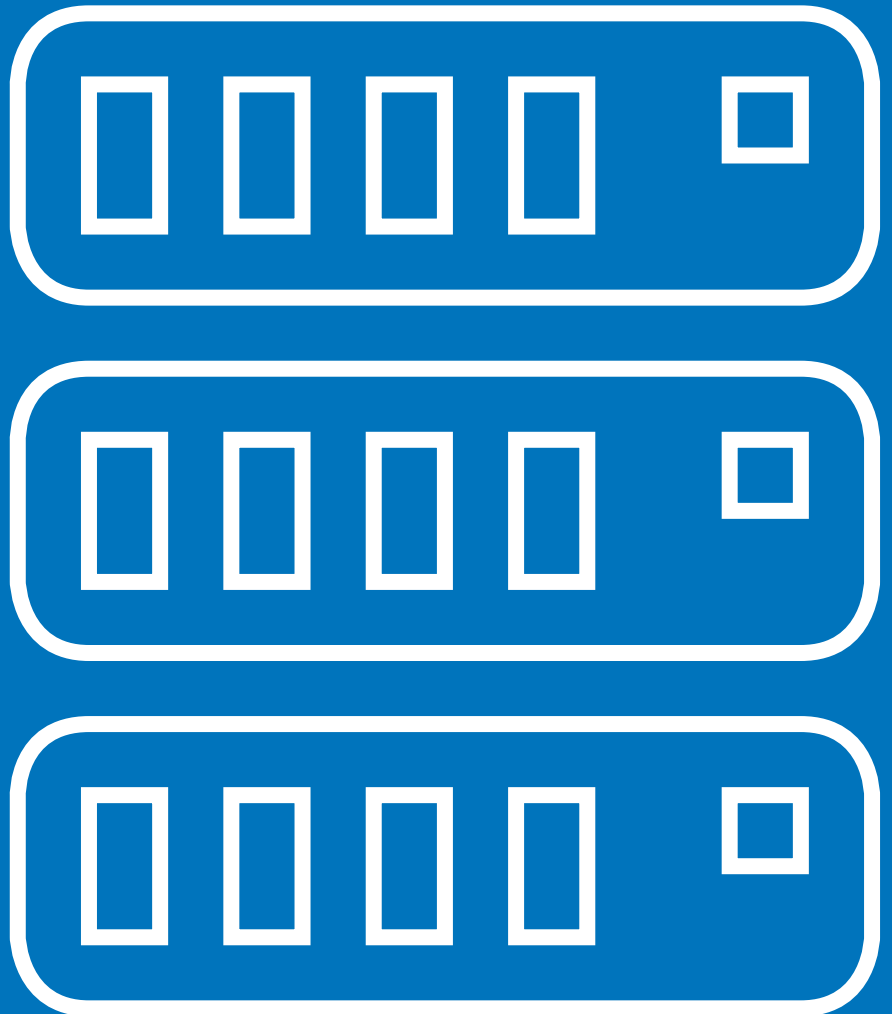
ABSTRACT

IT departments continue to embrace Hyper-Converged Infrastructure (HCI). Software-defined, HCI provides improved flexibility and economics by virtualizing the elements of conventional hardware-defined infrastructure. As the technology matures, infrastructure managers and other stakeholders are developing more sophisticated criteria and best practices for selecting an HCI solution. As users of HPE SimpliVity discussed on IT Central Station, the most effective HCI solutions provide simplicity of management, cloud options, efficiency, high availability, fast backup and restore as well as the consolidation of the data center footprint.

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INTRODUCTION

Hyper-Converged Infrastructure (HCI) offers an attractive alternative to conventional, hardware-defined infrastructure. Software-defined, HCI provides improved flexibility and economics by virtualizing compute, storage and network elements of the infrastructure. As IT departments continue to embrace HCI, prospective users want to know what makes an HCI solution stand out. Infrastructure managers and other stakeholders are thus developing a sophisticated set of criteria and best practices for selecting an HCI solution. On IT Central Station, users of the HPE SimpliVity HCI solution discussed how HCI should provide simplicity of management, efficiency, cloud options, high availability, fast backup and restore as well as the consolidation of the data center footprint.
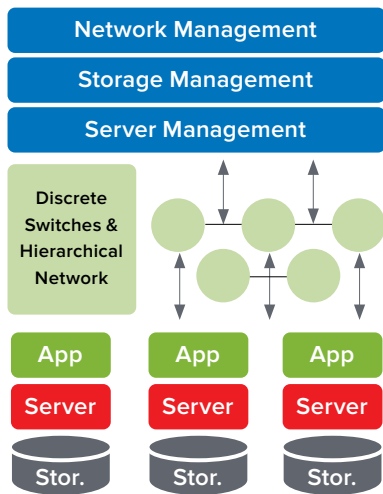
A Brief Overview of HCI

HCI comprises software-defined IT infrastructure. In contrast to traditional hardware-defined infrastructure, HCI relies on virtualization for compute, storage and network. An HCI system typically includes a hypervisor for virtual machines (VMs), a virtual Storage Area Network (SAN) and software-defined networking. An HCI instance can run on commercial "off-the-shelf" (e.g. COTS) server hardware.
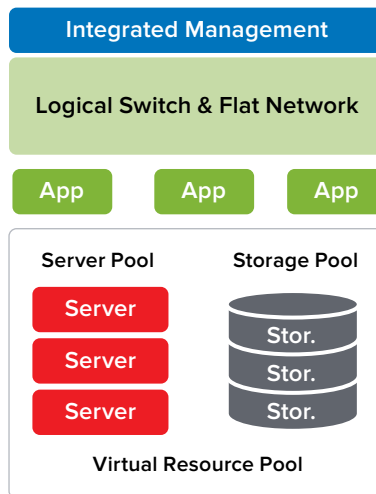
HCI is an iterative outgrowth of Converged

Infrastructure (CI). Unlike CI, HCI is completely virtualized. It abstracts the underlying storage and compute hardware from software-defined controls and functionality. CI systems may employ separate hardware-based storage and compute components. As a result of being software-defined, HCI tends to be less complex and costly to manage. Figure 1 shows simple comparative reference architectures for conventional infrastructure, CI and HCI.

Conventional Hardware-Defined Infrastructure

| Network Management |
| Storage Management |
| Server Management |

Discrete Switches & Hierarchical Network			
App	App	App
Server	Server	Server
Stor.	Stor.	Stor.

Converged Infrastructure (CI)

| Integrated Management |
| Logical Switch & Flat Network |

| App | App | App |

Server Pool   **Storage Pool**

Server	Stor.
Server	Stor.
Server	Stor.

Virtual Resource Pool

Hyper Converged Infrastructure (HCI)

| Integrated Management |
| Logical Switch & Flat Network |

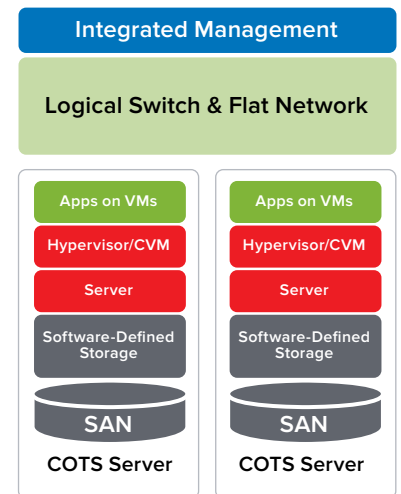| Apps on VMs | Apps on VMs |
Hypervisor/CVM	Hypervisor/CVM
Server	Server
Software-Defined Storage	Software-Defined Storage
SAN	SAN
COTS Server	COTS Server

Figure 1 – Comparing Reference Architectures for Conventional Infrastructure, CI and HCI

Selection Factors for an HCI Solution

IT Central Station members cited many different factors that drove their selection of an HCI solution. Their discussions include an overview of competitive differentiation between various solutions on the market. Acquiring an HCI solution is usually a methodical, focused process. Multiple solutions are reviewed and compared. For example, a Senior Engineer at a retailer with over 1,000 employees explained, "Our shortlist included Dell and Commvault. We chose HPE SimpliVity for the simplicity of the way it works and the true hybrid converged appliance which was there. We didn't have to buy a bunch of equipment. We bought two nodes and were able to do everything with those two nodes." He then elaborated, saying, "If you're a retail company that has a bunch of stores, I would actually highly recommend this for your stores - for the simplicity of it, the ease of the restores, and keeping your environment up and running."

An IT Manager at a mining and metals company similarly shared, "We also looked at Dell EMC and Cisco. We chose HPE based on its technology and cost." An IT Transformation Manager at a large consumer packaged goods (CPG) company noted, "We are primarily an HPE shop with most of our storage, networking equipment, and servers. We did a review on Dell EMC and Lenovo. However, it would have been a bigger stretch for us to switch than to stick with HPE." A Chief Technology Officer at a financial services firm added, "Nutanix was on the list. We chose HPE SimpliVity - and this was about three years ago - based upon the simple deployment and interconnectivity ability."
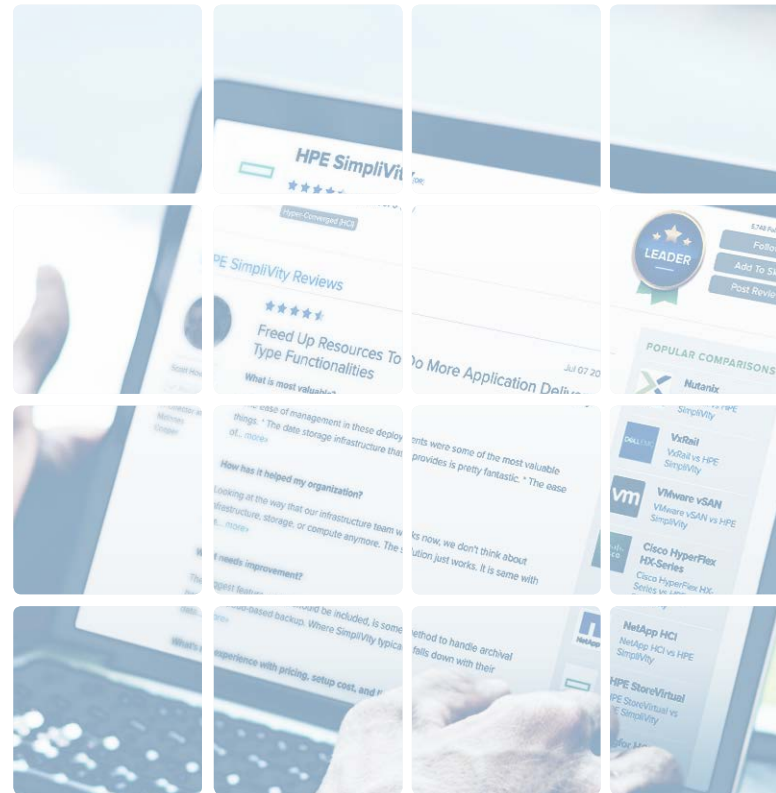
> **We chose HPE SimpliVity for the simplicity of the way it works and the true hybrid converged appliance which was there.**

Simplicity

HCI system owners look for simplicity in a solution. It's one of the major selling points of HCI in general. As background, HPE SimpliVity enables simplicity through the functioning of solution components like HPE InfoSight, which uses telemetry and machine learning to simplify the experience with predictive resource planning and support wellness that anticipates and corrects infrastructure problems. Some of the following customer quotes refer to this capability.

> **❝ [HPE SimpliVity] provides an entire solution in a single box and offers a single management platform for the entire staff.**

"It's very simple to manage," declared a pleased Senior IM Manager. A Systems Analyst at an insurance company with over 500 employees shared, "It is a very nice solution. Very simple to use. It is a very interesting platform, because the operation is very easy. It is integrated with the interfaces which we use every day in all of our platforms. We think it could be a huge advantage for us."

For a Technical Architect at a tech services company with more than 10,000 employees, simple management was a point of value for HPE SimpliVity, as was its globally federated architecture. He said, "The simple management comes in handy since a standard VMware admin can manage it." This mattered because it enabled "simpler operations and no more monolithic SANs," along with "No SAN switches and having a native backup is pretty cool." Other recommendations for simplicity included:

- "Provides an entire solution in a single box and offers a single management platform

for the entire staff" - Solution Architect at a manufacturing company with more than 10,000 employees

- "Software upgrades and scalability can be done during normal business hours with no downtime." - Systems Engineer III at a logistics company with over 1,000 employees

- "It has lessened our burden on multiple different products, so they are under one umbrella. This has been economically good." - IT Director at a pharma/biotech company with more than 5,000 employees

- "Simple, scalable, and comes with good tech support We use it for VDI." - VMware Administrator at an energy/utilities company with over 1,000 employees

Manageability

"We chose HPE SimpliVity over Nutanix because OmniCube [now called HPE SimpliVity] is architected with inline dedupe and compression," explained a VP/Chief Technology Officer at an energy/utilities company with over 500 employees. For him, manageability emerged as a critical factor in HCI selection. He shared, "This includes simple backup and data protection for all our VMs, and can be managed centrally from one login and interface through VMware vCenter."

An IT Engineer at a local government agency similarly praised HPE SimpliVity for its "ability to do frequent full VM backups in seconds." The IT Transformation Manager at the CPG company felt that "the integration with our VMware was pretty sweet." He added, "We have a very dispersed environment and were looking to centralize. We were using traditional VMware farms, standalone servers, etc."

Efficiency

HCI solutions should drive efficiency in IT operations and resource utilization. That's the conclusion reached by IT Central Station members. As the tech services Technical Architect put it, "Our clients have been very happy with the data efficiency features (HPE OmniStack accelerator card) and the HPE SimpliVity HyperGuarantee, which is unique. For one of our clients who needed backup capability but did not want to invest in a dedicated backup tool, HPE SimpliVity native backup with app consistency came in handy. When you do this across more than 80 sites, the savings is significant and the WAN bandwidth efficiency is

> **❝ It's allowed us to be more efficient in disk space usage with a reduction... in hard drive space.**

impressive." He further noted, "HPE SimpliVity also brings capacity savings." The Chief Technology Officer at the financial services firm commented, "It's allowed us to be more efficient in disk space usage with a reduction of 47 to 1 in hard drive space."

Faster, More Highly Available Applications

Having all of the infrastructure running on a software-defined basis, with a unified point of management, translates into faster and more highly available applications. Or, at least, it should. "I was searching for a high availability system that could replace our traditional SAN and be responsible for computer configuration and backup," said a Solutions Architect at a manufacturing company with over 1,000 employees. He found it in HPE SimpliVity. "This solution was an easy way for us to ensure high availability along with offsite backup

of data," he added. "It has made offsite recovery a faster process than in the past."

A Platforms Engineer was pleased with HPE SimpliVity, citing its "sheer speed and the sheer power." For the CPG IT Transformation Manager, "Scaling is piece of cake. We even are doing site-to-site replication of certain systems that we need to have high availability on." Other notable insights included:

- "Versatile and provides more velocity in our applications." Gerente de ingenier (Engineering manager)

- "As an early adopter of HPE SimpliVity hyper-converged infrastructure, we have seen significant benefits to the solution, increasing our application delivery performance by 75 percent. It lowered our operational costs in a major way." - VP/Chief Technology Officer at an energy/utilities company with over 500 employees

- "Speed and recovery are its most valuable features." - Senior Systems Engineer - Midrange Hardware Standards at a transportation company with more than 10,000 employees

- "I would recommend the product. It is good technology. The time and response of applications embrace the productivity of our enterprise." - IT Manager at a mining and metals company

Fast Backup and Restore

Many IT Central Station members use HCI for backup and restore function. The ability to handle these workloads figured prominently into selection of a solution. "We can backup with more frequency and minimize RPO and RTO," said an IT solution Specialist at a small company. For him, HPE SimpliVity "Improves backup time" with deduplication and compression. "It helps us save on the cost of storage and improves the backup and DR solution."

A Network Manager at a marketing services firm found, "We can get backups faster. We have a

smaller footprint for hardware, which takes up less space. So, we use less electricity and floor space." A Manager-Information Technology at a construction company with more than 5,000 employees felt the accelerator card was "a lifesaver for speeding up backups." He said, "My day-to-day experiences are better now that my backups are no longer running into production."

66 **It helps us save on the cost of storage and improves the backup and DR solution.**

"The way it does backups is its most valuable feature," explained a Senior Engineer at a financial services firm with more than 5,000 employees. "It replicates snapshots with very low bandwidth. We only have a 50 megabit link to that site, and it doesn't really use much of it at all. Therefore, it is a really good fit for getting our backups done." A Systems Engineer at a renewables & environment company echoed this sentiment, sharing, "It also has instantaneous backup and lag-free restore. When everything is running, I can bring back a huge VM in less than 30 seconds. That's even better than Veeam."
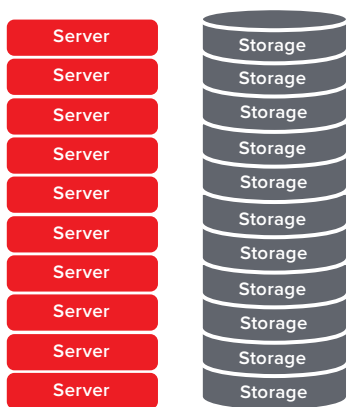
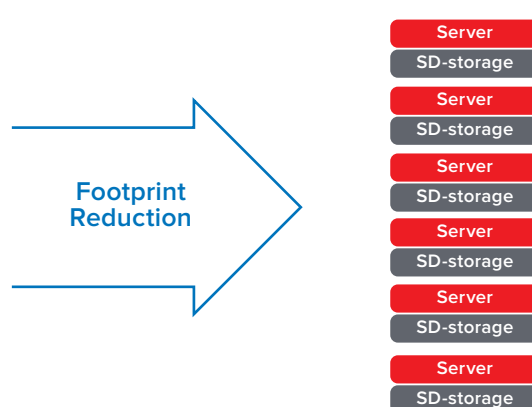**Conventional Hardware-Defined Infrastructure**　　　　　　**Hyper Converged Infrastructure (HCI)**

Figure 2 – An Example of Physical Footprint Reduction Made Possible by HCI's Greater Efficiency, Compared to Conventional Hardware-Defined Infrastructure

Footprint Consolidation

As its name suggests HCI works best for users when it saves them space in the data center. As the Senior IM Manager observed, "It has reduced the footprint in the datacenters quite a lot. We were using traditional server and storage based. We switched to HPE SimpliVity because it was looking promising. It was simple. It reduced hardware presence in the datacenter. It increased backup speeds. The simplicity of the HPE SimpliVity." The VP/Chief Technology Officer was also pleased because "HPE SimpliVity reduced our data center footprint from 20U to 4U." Figure 2 offers a visual representation of this process.

"We compared it with other products, such as Nutanix and vSAN, and we weighed the features that we needed," noted an IT Analyst at a local government agency. He related that "This solution was the one that met the greatest number of our requirements. It's also less complicated to deploy and has a smaller footprint." An Ashis Das a at a tech vendor with over 500 employees praised

Simplicity because it "reduced storage footprint of primary and secondary copies of data and WAN replication bandwidth with good performance."

Cloud Options

IT Central Station members suggested that prospective HCI users look at cloud extension options when they considered a solution. For example, an Infrastructure and Technology Consultant said, "It allows you to take advantage of the unique platform of computing, cloud management, storage, and integrated networks, as well as software-defined data management, which is easy to use." A Solution Architect at a manufacturing company with more than 10,000 employees shared that his team "needed a technology that is universally deployable and has the capability of functioning in the cloud." As he noted, "This allows us to use the service not only in our own premise's data centers but with cloud providers as well."

CONCLUSION

IT professionals have identified the most desirable characteristics of an HCI solution. As described in reviews on IT Central Station, the best practices for selecting the right HCI solution include things like simplicity in management and high availability as well as efficiency in storage. A good HCI platform will provide fast application response and fast backup/restore, while also contributing to a reduction in data center footprint. Cloud options are important, too, as many organizations employing HCI are moving to a hybrid cloud model of IT deployment. As HCI becomes an increasingly popular infrastructure choice, these best practices and selection factors should become vital to having a successful overall experience with HCI in the data center and the cloud.

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