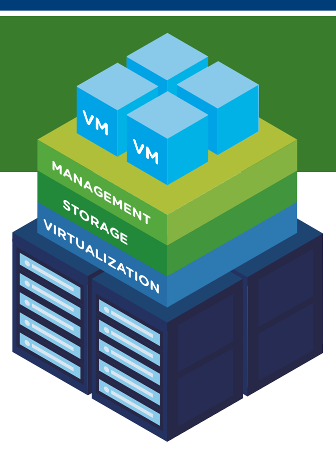
10 Questions and Answers
About Hyper-Converged Infrastructure (HCI)

HCI has generated a great deal of buzz in recent months.

But what's so great about it, and more important—is it right for you? We've pulled together some of the top HCI-related questions to help you get up to speed fast.

1 Q: What is Hyper-Converged Infrastructure?

A: HCI is the natural evolution of server virtualization. An integrated software stack, it delivers all key data center functions—compute, storage, storage networking, and unified management—and runs on industry-standard x86 servers, enabling a simple, building block architecture with scale-out capabilities.



2 Q: How does HCI solve data center challenges that traditional or converged infrastructure cannot?

A:

Cuts Costs. With a simpler, modular architecture, you're buying lower-cost, industry-standard components only when you need them.

Eliminates Overprovisioning. With VM-centric provisioning and management, you use only what you need, where and when you need it.

Reduces Complexity and Risk. Deploy one software stack built on the industry's most proven hypervisor with end-to-end management.

Enables IT Agility. Policy-based controls automate provisioning and SLA changes and enable fast, non-disruptive scaling.

3 Q: When does it make sense to deploy HCI? And what are the top use cases?

A: Changes in your data center environment, such as server refresh; storage refresh, expansion, or upgrade; and first-time deployments of vSphere are common triggers for exploring HCI.

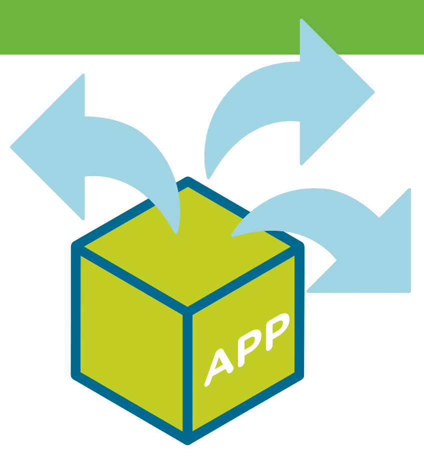
TOP USE CASES FOR HCI

- Virtual Desktop Infrastructure
- Business-Critical Applications (BCAs)
- Management Clusters
- DMZ
- DR Sites/Secondary Data Centers
- Remote Office/Branch Office
- Test/Dev/Staging
- Cloud Providers

4 Q: How will HCI change my job responsibilities?

A: HCI makes your job a whole lot more enjoyable by:

- Removing dependencies, giving you the ability to make changes fast—such as provisioning an app or moving a workload—without waiting for another team or group to fulfill a request
- Enabling you to work in a more holistic way across the data center by breaking down silos
- Separating storage provisioning from storage consumption through per-VM storage policy-based management, to allow even greater self-sufficiency



5 Q: What are the best deployment options for HCI?

A:

CERTIFIED HCI SOLUTIONS	ENGINEERED HCI APPLIANCE
Customize a pre-certified Virtual SAN Ready Node	Choose a turnkey solution with VCE VxRail HCI Appliance
FLEXIBILITY	DEPLOYMENT SPEED

VMware offers two flexible deployment options:

1. Certified HCI solutions enable ultimate customization. Virtual SAN Ready Nodes are a ready-to-go hardware solution available from all major x86 server vendors.
2. An engineered HCI appliance provides a turnkey solution. The VCE VxRail appliance is a fully integrated, preconfigured, tested solution.

6 Q: What is important in an HCI solution?

- SIMPLICITY
- PERFORMANCE
- COST
- FLEXIBILITY
- AVAILABILITY

A: There are five key areas to consider when evaluating HCI. Each of these five is equally important; a good solution will deliver in all areas, not just one or two.

Simplicity. Eliminates infrastructure silos with single-pane-of-glass and policy-based management to automate provisioning and eliminate manual tasks.

Performance. Optimized for all-flash storage capacity, handles important workloads, and provides built-in automation through VM-centric policies.

Cost. Does not require expensive purpose-built hardware, uses resources efficiently, and leverages the technical resources and expertise you already have.

Flexibility. Enables "grow-as-you-go" scalability and offers the ability to select the vendors of your choice to accommodate future needs.

Availability. Supplies built-in resiliency and fault tolerance, even under suboptimal conditions.

7 Q: How should HCI interact with components in my data center?

A: HCI provides a unified view across your data center. Additional capabilities like network virtualization and advanced management can be added and managed from a single pane of glass. Since your resources are now virtualized and software-based, you can dramatically increase efficiency, improve flexibility, and reduce TCO across the data center.

8 Q: How does HCI help reduce TCO?

A: **Reduces CapEx.** Eliminates the need for purpose-built hardware and dedicated storage networks. Portability of software licenses will provide additional savings.

Reduces OpEx. Offers a single software stack that streamlines management and automates manual tasks with per-VM policies.

Lowers data management cost. Helps you save with features like data reduction and space efficiency.

Eliminates costly overprovisioning. Lets you scale out and scale up with a pay-as-you-go model. No more bulk upfront purchases or overprovisioning.

TIP

Look for hidden costs. An HCI solution that includes 3-year support will help contain costs. Some vendors tack that on as a separate line item.

9 Q: How does HCI help prepare my data center for the future?

A:

HCI lets you take advantage of emerging hardware technologies as they become available.

It also provides dynamic, application-based provisioning on a modern architecture designed to meet the requirements of traditional applications, next-generation cloud applications, and containers.

Finally, the right HCI solution provides a streamlined path toward the Software-Defined Data Center (SDDC).

10 Q: How does HCI help improve data center performance and reliability?

A:

- Delivers hardware flexibility that allows you to support new technologies, adopt new tools, or upgrade a system without having to wait for lengthy refresh cycles.
- Provides a solution optimized for all-flash and embedded in the kernel to accelerate I/O throughput and minimize latencies.
- Ensures predictable performance with QoS features and a self-tuning platform.
- Enables data protection and availability with built-in failure tolerance, asynchronous long-distance replication, and stretched clusters.

VMware® provides a unique, software-defined approach to HCI, leveraging the hypervisor to deliver compute, storage, and networking in a tightly integrated software stack, called VMware Hyper-Converged Software (VMware HCS).

It consists of three components: the VMware vSphere® hypervisor, VMware Virtual SAN™ storage, and VMware vCenter Server.™ Together, these components provide the simplest, most efficient, and highest-performing hyper-converged software solution on the market.

Find Out More

Learn more about VMware Hyper-Converged Software >

Try Virtual SAN in a Hands-on Lab today >

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