Is Your Data Center Ready for the Future?
Looking Beyond Virtualization

Over the past few years, virtualization has swept through the data center, resulting in greater flexibility and speed over legacy systems. But in many cases, virtualization benefited only one layer, leaving much of the data center still struggling to keep up with the pace of modern business.

Traditional infrastructure needs to evolve. Here’s why:

- **The silo effect leads to complication and cost.** Silos created by storage and networking lack optimization, which leads to overprovisioning and higher costs. They’re also complicated to manage, requiring specialized skill sets that put a strain on resources.

- **It doesn’t enable full automation.** Legacy infrastructure requires tedious, labor-intensive tasks that rack up high operational costs and increase the risk of manual error.

- **Silos plus a lack of automation equal delays.** Silos along with inadequate automation make deploying resources a lengthy process that takes weeks or days. Not surprisingly, most business users are frustrated by lag times in service delivery.
Hyper-Convergence Brings Resolution

Convergence solves some of these problems by bringing compute, management, and storage closer together and providing common software elements. But it isn’t a complete solution. Separate systems, workflows, and management platforms still exist, and provisioning and operational challenges remain.

Hyper-converged infrastructure (HCI) takes it to the next level by physically converging compute, management, and storage onto a single industry-standard x86 server, forming a seamless, software-defined environment.
1. Decrease Risk and Eliminate Management Complexity

The right HCI solution does not require new management tools or training. This eliminates dependence on “tribal knowledge,” which is hard to capture and propagate across teams. It should also provide a straightforward infrastructure that is both easy to learn and allows you to leverage existing infrastructure and vendors. Simplicity is key.

A good HCI solution will:

• Easily automate routine tasks inside the data center
• Leverage knowledge and familiar tools that exist within your team today
• Eliminate silos through one platform for compute, storage, and networking
• Streamline management with policy-driven controls and single-pane-of-glass management

How Does This Evolution in Infrastructure Move Your Business Forward?

Let’s take a look at five practical benefits of HCI.

CUSTOMER SPOTLIGHT: ZETTAGRID

Zettagrid provides cloud-based infrastructure as a service, which means storage outages and downtime are a no-go. But their existing environment made it hard to maintain availability and keep up with growth. They turned to VMware Virtual SAN to separate workloads, boost storage capacity, and ensure continual uptime.

“Virtual SAN allows us to have the best-of-breed HCI technology. The simplicity and flexibility is such a massive factor. It makes it easy for our cloud operations team to manage storage along with our VMware environment, and it also allows us to scale as and when we need it.”

– Anthony Spiteri, Lead Architect, Zettagrid

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“2. Cut IT Spend Without the Need to Compromise

Often, reducing IT spend requires a tradeoff between cost and quality. Buy an inferior solution, or one with fewer capabilities, and you can keep upfront costs low. But it doesn’t have to be that way. By selecting the right HCI solution, you can achieve both high quality and cost savings. By lowering your TCO, you can repurpose budget for new, innovative projects, and get more projects approved faster due to smaller upfront costs.

Here’s how HCI accomplishes this:

• Lowers component, power, and cooling costs by switching to server-side economics and smaller footprint
• Lowers CapEx through less upfront investment and enables a grow-as-you-go scaling for linear, predictable budgets
• Lowers OpEx through reduced complexity and simplified management, requiring fewer teams and handoffs, and less specialized skill sets
• Handles data growth with space efficiency features such as dedupe and compression, and erasure coding
• Uses cheap, all-flash storage for as low as $1 per usable GB

Cloud service provider IndonesianCloud needed to stay competitive in a dynamic and price-sensitive market, a goal they couldn’t accomplish with traditional infrastructure. They used VMware Virtual SAN to quickly deploy new virtual machines at a tremendous savings.

“VMware Virtual SAN and hyper-converged infrastructure enabled us to reduce our overall platform cost by a staggering 70%, which translated directly into savings for our customers. Beyond just direct savings, we are also able to simplify how we scale our platform.”

– Neil Cresswell, CEO, IndonesianCloud

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#3. Accelerate Productivity and Business Satisfaction

Your business users and customers have high expectations, and you want to provide them with a consistently great experience. But it's not always easy with legacy infrastructure, which often delivers inconsistent performance. The best HCI solutions offer kernel-embedded storage to optimize the I/O path for high performance and high availability, meeting the needs of every end user.

For optimum performance, look for:

- A single, integrated software stack for efficient CPU and memory resource utilization
- A solution where features work natively
- A solution optimized for all-flash architecture
- High availability with stretch clusters (zero-minute RPO) and zero data loss with failure tolerance features
- The ability to leverage the latest hardware technologies. This lets you take advantage of constant improvements in CPU and networking performance without being tied down to your refresh cycles.

Atlanta, Georgia-based Fulton County Schools didn’t want to let performance issues caused by legacy systems stand in the way of student learning. They used VMware Virtual SAN to evolve a critical system, resulting in a dramatic boost in application performance.

“What used to take users 30 to 45 minutes to accomplish, in the old environment, now takes less than 5 minutes. That frees up valuable time for our teachers that they can use to help students.”

– Kenny Wilder, Director of Network Infrastructure, Fulton County Schools

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#4. Adapt Quickly in a Rapidly Changing Business Environment

Scaling is a major challenge with traditional infrastructure. Maintaining enough resources often requires overprovisioning or costly add-on purchases, and it’s anything but fast. The right HCI solution enables elastic, granular, and non-disruptive scaling, and lets you deliver applications and infrastructure faster. It also gives you maximum flexibility to choose the hardware, software, licensing, and support that meet the needs of your business.

A flexible HCI solution will:

• Modularize your data center with granular scaling of capacity and/or performance

• Eliminate hardware vendor lock-in and enable you to choose solutions that match your needs—with a turnkey solution for deployment speed to a pre-certified, ready-to-run hardware for ultimate customization

• Offer non-license-tied solutions so you can replace or repurpose hardware, or reallocate software licenses for another use

• Provide one support number for quick problem resolution

Cloud service provider Cloud Carib had big goals for expansion, and needed a solution that would allow them to meet fluctuating customer demand without taking big hits to their budget, energy resources, and staff. VMware Virtual SAN gave them a flexible way to scale fast and meet diverse customer needs with ease.

“The scalability of Virtual SAN gives us a competitive advantage, too, because we no longer have to scale our storage capacity independently of our compute capacity. We now treat everything as a big ‘hyper-converged’ pool of resources, a true Software-Defined Data Center.”

– Stelios Xerodakis, Founder and Managing Director, Cloud Carib

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#5. Future-proof Your IT Infrastructure

Today’s application-centric, data-driven era requires the support of a modern infrastructure. As technology continues to evolve, HCI allows you to keep up with changing demands from mobile, cloud, and developer environments.

In particular, HCI delivers an ideal compute-storage solution for today’s traditional applications (including business-critical applications, remote office/branch office (ROBO), and VDI) as well as new cloud-native applications and container technologies driven by the growing developer community.

A good HCI solution will:

- Be optimized for all apps, from business-critical applications, such as SAP and Oracle, to containers and cloud-native apps
- Have a DevOps focus by promoting developers to first-class users in the data center and putting them in control of storage provisioning activities
- Enable agile storage operations through agility and scalability of storage operations with an API-friendly management model

Payment processing provider NX Systems operates in a space where things change rapidly and without warning, making it hard to predict the demand on its infrastructure from hour to hour. With Virtual SAN, the company gained the flexibility and scalability it needs to grow quickly and meet the future with confidence.

“Virtual SAN is helping us to achieve the scalability that we always wanted to achieve... the system has to be ready when the numbers really stack up. You can literally sort of grow it up horizontally and take on all that load.”

~ Jonathan Bowman, CTO, NX Systems

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Conclusion: The Time Is Now for Data Center Transformation

HCI can eliminate complexity, improve productivity, and reduce expenses, while limiting your risk and preparing your infrastructure for the future. So why wait?

VMware offers the lowest-cost and highest-performing next-generation HCI solutions through proven VMware Hyper-Converged Software. The natively integrated software combines radically simple Virtual SAN™ storage, the market-leading vSphere® hypervisor, and the vCenter Server™ unified management solution with the broadest and deepest set of HCI deployment choices.

Choose the Solution That Delivers More

- **Radically Simple.** VMware delivers one integrated software stack with streamlined management from a single pane of glass.
- **Lowest Cost.** VMware offers “pay-as-you-go” pricing, so that you pay only for what you need, when you need it.
- **Highest Performance.** VMware ensures consistent performance for every application, with enterprise-class availability and built-in failure tolerance.
- **Ready for Any App, Any Scale.** VMware give you versatility in a fast-moving world, with solutions designed for the applications of today and tomorrow.

Ready to Take the Next Step?

- Learn more about VMware Hyper-Converged Software >
- Test drive Virtual SAN in our Hands-on Labs >

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