

A Guide to Better TCO and Agility With Hyper-Converged Infrastructure

WHITE PAPER

Chapter 1: Introduction

Hyper-converged infrastructure (HCI) is enabling digital transformation by empowering organizations to be more responsive through highly efficient processes, less IT budget strain and an agile, service-oriented IT infrastructure.

HCI is the IT building block that enables a differentiated, competitive business through the software-defined, cloud-enabled data center of the future. Given the benefits of HCI, and the challenges IT faces today, it should come as no surprise that the HCI market is expected to grow at a staggering compound annual rate of 48% through 2022.¹

IT and business leaders are turning to VMware vSAN as the leading HCI platform because of its ability to deliver exceptional value in areas critical to infrastructure management and modernization. According to an exclusive survey of more than 400 data center professionals by TechTarget,² these areas include:

- **Lowering TCO:** Nearly 50% of current customers of hyper-converged infrastructure said lower costs were a critical factor in their purchase decisions. Among companies that are planning to deploy HCI, 37% said lowering costs is a critical factor.
- **Reducing complexity:** More than 20% of current customers said reduced configuration and integration problems were a critical factor in choosing HCI. Of those planning to purchase HCI, more than 41% said reducing complexity is a critical factor.
- **Improving performance:** More than 50% of existing and planned customers said the improved performance of HCI versus legacy architectures has been one of the critical factors in their decision to use HCI for IT infrastructure modernization.

This white paper discusses in general how HCI can help organizations achieve their key goals of lowering costs and creating agile IT environments. It also discusses why savvy customers are turning to vSAN in particular to deliver maximum value to their businesses through cost savings, reduced complexity, greater performance and a broad partner ecosystem.

¹ "Hyper-Converged Infrastructure (HCI) - Global Market Outlook (2016-2022)," Statistics, Nov. 2016

² "TechTarget Research, Momentum Index, Data Center Market Landscape Study," June 2016

Chapter 2: Evolve without risk

The ability to evolve without risk is one of the key reasons why vSAN has emerged as the market leader in HCI. With vSAN, customers of VMware—as well as its entire ecosystem of hardware and software partners—can migrate to HCI without imperiling their existing investments in hardware, software, management or personnel.

Risk-free migration brings a wide range of business benefits. Organizations can improve customer service and responsiveness while increasing productivity among IT teams and lines of business, including critical areas such as DevOps. By leveraging VMware and its expansive partner ecosystem, organizations can:

- **Seamlessly extend virtualization to the storage infrastructure** with a hyper-converged solution that works easily with vSphere environments. This is particularly valuable at a time when IT teams are struggling to find and retain specialized personnel for separate compute, storage and network silos. With vSAN, management is consolidated and simplified.
- **Use existing management tools, skill sets and personnel resources** while continuing to leverage the hardware platform of your choice. IT teams can leverage automation to simplify storage provisioning and optimization through VM-centric policies that can be set in advance or modified on the fly. IT can further reduce complexity through capabilities such as self-tuning and load balancing.
- **Improve security** by leveraging the industry's first native HCI encryption solution. With single-policy-based management, IT can simplify management of modern SAN/NAS investments and extend their lifecycles while accelerating responsiveness to the changing needs of the organization at any number of levels—whether enterprise-wide, line of business or even for specific, targeted workloads.

Chapter 3: Lower TCO

Overall, vSAN is able to deliver 50% lower total cost of ownership (TCO) through a combination of reduced complexity and the ability to consolidate core data center functions on the broadest choice of industry-standard x86 hardware and the industry-leading hypervisor, which is vSphere.

Because of the industry's tightest vSphere and vCenter integration, IT teams can use one integrated software stack to manage compute and storage, thus consolidating expertise and resources.

- By shifting to simplified hardware architectures and server economics, IT teams can reduce acquisition, scaling and maintenance costs. This can be a huge benefit to the business because IT teams can support more projects faster.
- By supporting more projects faster, IT teams accelerate time to value across the organization. Users can access modern technology to support initiatives such as big data analytics and virtual desktop infrastructure. DevOps teams can accelerate development by having faster access to the infrastructure resources they need for agile development. IT teams can get infrastructure up and running faster and spend less time on maintenance and support functions.
- Higher availability is another TCO benefit of vSAN and is of particular value in today's era of digital transformation and the need for 24/7 availability. IDC has estimated that downtime costs Fortune 1000 firms between \$100,000 and \$1 million per hour.³ With vSAN, IT can deploy robust, flexible stretched clusters for affordable site protection.

Chapter 4: Scale for the future

HCI delivers a self-contained, software-defined solution that personifies the agile, cost-efficient modern data center. HCI is often described as a stepping-stone to

³ "VMware vCenter Server 6.5 improves uptime for High Availability," SearchVMware, TechTarget

the cloud because it enables IT to use an on-premises platform that easily enables cloud functionality such as deployment simplicity and self-service provisioning.

Many IT teams are embracing multicloud environments to increase business agility and customer responsiveness. vSAN is an ideal platform for these environments because VMware delivers a single platform architected for the multicloud era. Other cloud-related benefits of vSAN include:

- **Elastic scalability:** IT can eliminate large upfront costs and buy only what it needs to scale storage granularly.
- **Public cloud extension:** With the unified operating environment of VMware Cloud Foundation, organizations can seamlessly extend from on-premises infrastructure to any cloud environment.
- **An architecture for any workload:** vSAN enables high performance and high resiliency for all types for workloads, including business-critical applications.

Chapter 5: Drive business improvements

The growing popularity of HCI is not merely a result of the significant benefits these solutions can bring to a business; it is also a matter of timing. Organizations today are at a critical inflection point.

Business leaders have seen firsthand the disruptive impact that digital transformation can have on industries and business models. They know they must be prepared with the right technologies. As the Harvard Business Review noted: “Given the pace at which digital innovation is disrupting industries globally, it’s not surprising that most CEOs feel pressure to find and deploy the right technology as fast as their budgets will allow.”⁴

⁴ “To Lead a Digital Transformation, CEOs Must Prioritize,” Harvard Business Review, Jan. 2, 2017

This pressure on CEOs increases the pressure on IT to deliver business value through lower costs, service-oriented IT, reduced complexity, accelerated DevOps and faster time to value, among other required attributes of today’s digital business.

HCI, particularly through the combination of VMware and vSAN, provides an accelerated path to delivering all of these capabilities across a wide range of applications and workloads—from business-critical legacy applications such as customer relationship management ERP, to modern innovations such as big data analytics, the Internet of things and desktop virtualization, among others.

Chapter 6: Take the next step

It is time to get off the sidelines and take action. Digital transformation is happening right before your eyes, and if your company isn’t ready it is taking a huge—and unnecessary—risk.

In preparing for digital transformation, existing VMware customers have a huge advantage. They can migrate seamlessly and easily to hyper-converged infrastructure by adding vSAN to their vSphere environment and leveraging VMware’s expansive network of strategic partners.

With VMware HCI solutions, organizations can reduce costs, increase agility and shift to a modern, software-defined IT infrastructure that is much more flexible and adaptive for the cloud era. IT will be more responsive, agile and cost-efficient, and the overall business will be able to realize significant value.

Are you ready to get started? To find out how you can leverage hyper-converged infrastructure to reduce TCO and create an agile IT environment, please visit [VMware](https://www.vmware.com/products/vsan.html) at <https://www.vmware.com/products/vsan.html>.