

Unlock the Full Potential of Your VMware vSAN Deployment

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Introduction: Going Beyond the Basic Workloads with vSAN

The case for evolving to scalable, flexible hyperconverged infrastructure (HCI) is clear. An HCI solution powered by VMware vSAN, VMware's storage virtualization software, has been helping thousands of organizations dramatically boost their agility, while reducing total cost of ownership (TCO) through lower CapEx and OpEx. That's why it may not be surprising that nearly half of vSAN customers report increasing their HCI deployment within six months of purchase. They have experienced the flexibility, cost savings, and efficiencies, and want to continue the trend by expanding to new use cases.

Virtual Desktop Infrastructure is Just the First Step

Virtual desktop infrastructure (VDI) is a natural first use case for HCI powered by vSAN. VMware vSAN scales linearly like VDI, provides rich data services for storage efficiency, and can handle the demanding I/O profiles that VDI requires. It also delivers high performance with a lower TCO compared to traditional storage arrays. According to a recent VMware focus group, 40 percent of organizations surveyed initially used vSAN for VDI applications. However, VDI only scratches the surface of what HCI powered by vSAN is capable of delivering across the organization.

It's likely your organization is already experiencing measurable benefits after your initial deployment. According to IDC, vSAN can save an average of 40 percent on TCO¹. It also lets organizations spend up to 59 percent less time on common storage operations², so they can boost business agility and respond faster to changing needs. The broader the deployment, the more the benefits multiply.

What if you could expand the benefits of HCI and vSAN all across your organization, applying it to use cases like business-critical applications, multi-cloud environments, disaster recovery (DR), and more? Imagine how you could scale your business faster by procuring vSAN in weeks instead of months like traditional storage. Consider how much more your staff could achieve if you could reduce the time they spend managing storage by nearly 25 percent.⁴

In this paper, we'll take a closer look at five use cases for vSAN that are rapidly trending in adoption. We'll explore how VMware customers are extending the capabilities of their HCI solutions to go well beyond VDI applications. And we'll discuss the advantages and positive business outcomes that are already within your reach. You'll learn how to realize even more operational efficiencies, save additional costs, and extend the benefits of your investment across IT.

Enhancing Business-Critical Applications on Existing Infrastructure

After VDI, the second most popular use case for HCI and vSAN is supporting business-critical applications. As IT organizations refresh their infrastructure or upgrade their business-critical applications, they can rapidly procure, deploy, and provision infrastructure with HCI, achieving similar performance as dedicated storage arrays at a fraction of the cost. Hyperconverged Infrastructure provides up to 150,000 IOPS per node for the most demanding applications. vSAN's policy-based management empowers administrators to rapidly provision infrastructure, as well as adapt to changing requirements. As business-critical applications must be always available, vSAN enables users to select the level of failures to tolerate and supports RAID 5/6 erasure coding. Organizations can also achieve highly availability for local and site failure protection with vSAN stretched clusters at a fraction of the cost of other storage solutions.

“TCO gains tend to be far higher for those that have deployed multiple vSAN clusters.”³

IDC WHITE PAPER
MARCH 2018

¹ IDC White Paper: Learning from Companies That Use VMware vSAN to Address Today's Most Pressing Challenges. March 2018

² IDC White Paper: Reviewing the Current State of Hyperconvergence and Real-World Benefits of VMware Virtual SAN Deployments. July 2016

³ IDC White Paper: Learning from Companies That Use VMware vSAN to Address Today's Most Pressing Challenges. March 2018

⁴ IDC White Paper: Reviewing the Current State of Hyperconvergence and Real-World Benefits of VMware Virtual SAN Deployments. July 2016

LEADING BUSINESS CRITICAL APPLICATIONS	
MySQL Server	vSAN is optimized for modern all-flash storage with near-linear scalability, deduplication and compression for storage efficiency, compression, erasure coding capabilities and hardware fault tolerance that lower TCO while delivering mission-critical performance for MySQL workload
Oracle	Oracle running on a vSAN powered cluster provides high performance, application availability, and operational flexibility while driving down costs to meet the demands of an organization
SAP HANA	SAP HANA + VMware vSAN built together enable not only compute, memory, and network, but also internal storage components can be leveraged from a standard x86 server, which dramatically changes the SAP HANA infrastructure economics and the deployment timeline of days instead of weeks or months.

“The biggest reasons to recommend VMware vSAN are the cost savings, the performance increase, and the agility and scalability that you don’t get with a traditional SAN solution. With vSAN, we can maintain great performance for our customers at a predictable cost.”

BOB TESTER
ENTERPRISE ARCHITECT
CIN GROUP

CINgroup Achieves Exceptional Performance at Less Cost

CINgroup provides innovative software for bankruptcy attorneys, as well as educational resources and services such as credit counseling for consumers. As customer needs evolved, the firm began offering cloud-based software along with its traditional on-premise software, increasing the need for a hybrid storage system. The company also faced data growth challenges as bankruptcy requirements became more complex and data-intensive. However, its outdated infrastructure was not able to accommodate their growing data needs.

By virtualizing nearly 100% of its servers with VMware vSphere, CINgroup can manage a large and growing data warehousing environment with minimal staff and data center resources. The company migrated from a traditional SAN solution to VMware vSAN, reducing costs, improving scalability, and accelerating performance for customer-facing workloads.

Outcome: Flexible, Cost-Effective Performance for Key Applications

With its traditional SAN, CINgroup was able to achieve average storage latency around 5ms—just low enough for most users to have a good experience. Today, vSAN consistently improves storage latency to under 1ms, giving the company needed headroom for growing workloads and datasets, without worrying about performance and responsiveness. By reducing storage and management costs, CINgroup can free up resources to focus on product development, improving quality and accelerating innovation to protect its valuable market share.

Infrastructure Consolidation Enhances Operational Efficiency at Less Cost

IT is always seeking better ways to introduce operational efficiency and cost savings, and infrastructure consolidation onto HCI is powerful way to do both. With vSAN, admins have granular control over VM capacity, performance and availability levels through policy-based management. The admin uses policies to describe what each application needs, and the software automatically implements, enforces and remediates when necessary. Each VM gets the resources they need and nothing more. Automated lifecycle management, health services and single support for storage further simplifies day two operations, delivering additional efficiencies.

“vSAN is the one tech out there that has the largest financial gain to the institution. vSAN versus traditional storage in some cases is half the price, both to install and operate. Cost savings, real estate savings; vSAN is not capacity-based—it’s licensed by socket, so it’s very easy to predict cost versus trying to manage terabytes and terabytes of growth every month.”

MIKE FELD
INTERIM CEO
BAYSTATE HEALTH

For infrastructure consolidation initiatives, vSAN offers a lower price per performance compared to traditional storage and reduces operational expenses through simplified management and consistent maintenance pricing for more predictable budgeting.

Baystate Health Consolidates to Save Millions

Baystate Health, one of the leading healthcare providers in the U.S., serves more than a million patients a year. However, its existing siloed infrastructure couldn’t provide the speed, mobility support, and flexibility needed to support its needs, and building a new data center would be too expensive. The provider needed a better way to scale its resources, deliver better healthcare, and control costs.

Baystate evolved to a virtualized, hyperconverged infrastructure based on VMware, to standardize its compute, network, and storage infrastructure on more affordable commodity hardware. Hyperconverged storage based on VMware vSAN provides a single, homogeneous storage environment that can scale out as its needs grow.

Outcome: Real Estate and OPEX Savings

With a VMware hyperconverged infrastructure, Baystate was able to realize significant consolidation and space savings. Today, the provider has two petabytes of data and plans to consolidate it across three data centers into about 40 storage blades, which will save data center real estate by a factor of 10 to 1. The solution lets Baystate provision in hours instead of days or weeks and has enabled the company to save \$3.5 million in data center construction costs.

Supporting Diverse Hybrid Cloud Environments

Hybrid cloud is gaining traction among many types of organizations; however, public cloud’s distinct infrastructure, processes and tooling are significant inhibitors of adoption. Today, organizations must rearchitect on-prem applications for public cloud, and many organizations create cloud administration teams to manage their public cloud environments. Both of these actions are costly and time-consuming, proving a large barrier to adoption. By taking a hyperconverged approach, organizations can build consistent infrastructure across clouds, and by using similar tools across clouds, can eliminate the need for a distinct cloud team, achieving significant operational efficiencies. Through VMware’s large hybrid cloud ecosystem, including native services from AWS, organizations can choose from hundreds of public cloud providers that meet their service level, data sovereignty, and cost needs. A single management control plane gives administrators total visibility from core to cloud.

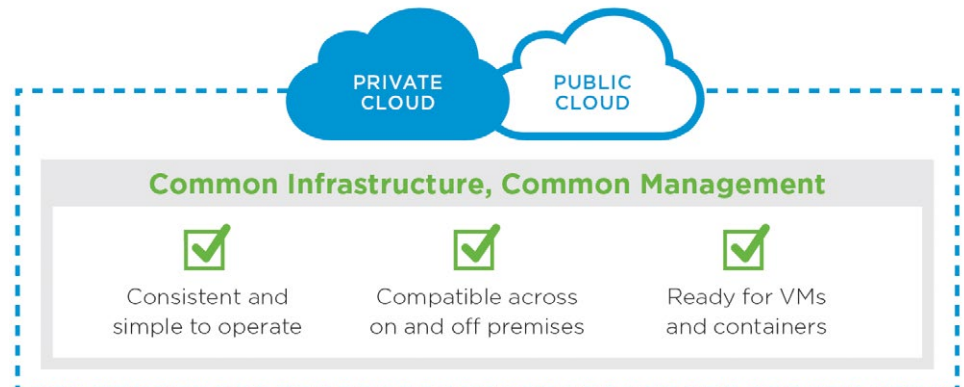


Figure 1: NEED FIGURE CAPTION

“We have used VMware virtualization for a number of years. We are actually quite excited about where VMware are going from a multi-cloud perspective and being able to manage across AWS into private could give us significant benefits in the future.”

RUSSELL HARTE
CIO
DFS

“It takes about 25 to 30 seconds to configure one vSphere host with vSAN, allowing our customers to deploy field-ready systems approximately four times faster than before. And, with all-flash vSAN, performance is 700 percent faster than traditional storage.”

TOM LYNOTT
DIRECTOR OF SOFTWARE ARCHITECTURE
CUBIC MISSION SOLUTIONS

DFS Drives Double-Digit Sales Increases

DFS, the UK's largest furniture producer, employs a multi-cloud approach to dramatically improve its online and mobile customer experience. The firm was committed to maximizing service and quality for all its customers across any of its shopping platforms.

Like any online retailer, DFS has a number of times a year when it experiences serious spikes in traffic. Its small IT staff must manage potential issues to ensure that customers receive the best possible experience and avoid any interruption in services.

Outcome: A Springboard for Innovation

A joint multi-cloud solution with Rackspace and VMware, including vSAN storage, has enabled the retailer to roll out several IT transformation and migration projects. Now DFS can handle spikes in online traffic year-round by expanding its existing infrastructure when necessary, taking advantage of a multi-cloud approach. For example, a new commerce platform helps DFS to seamlessly stay ahead of the competition and cope with busy periods. The initiative has helped DFS achieve market-leading status and realize a double-digit increase in sales.

A Nimble Solution for ROBO/Edge

As organizations become more decentralized, the network edge is increasingly important. A hyperconverged infrastructure is ideal for Remote Office Branch Office (ROBO) and edge applications, because it lets organizations centrally manage the infrastructure from the core. This approach scales easily, enabling organizations to start with as little as two nodes, then quickly size up (or down) as needed. Flexible licensing options help organizations keep pace with fast-changing needs, without a large up-front investment.

Cubic Mission Solutions Supports Troops in the Field at Less Cost

Cubic Mission Solutions provides the U.S. military and its allies fast access to information to coordinate and execute their missions, through compact, secure communications and wireless solutions that can be easily deployed under any conditions. The firm must constantly optimize its technology solutions, while meeting the strictest military standards for Information Assurance (IA). When a mission occurs, the military usually needs to deploy immediately, and can't take weeks to build out a system and secure it.

Outcome: More Agile, Secure Support for Military Operations

To provide the speed, security, and scalability its military clients required, Cubic Mission Solutions upgraded its customer solutions to vSphere 6.7, together with vSAN for virtualized storage. The combined solution is secure, agile, and lightweight. Tactical teams can stand up a virtual infrastructure in less than two hours that is fully operational and compliant with military security specifications. The solution provides maximum availability for VMs and near instant storage scalability with vSAN. Virtualized storage also minimizes the need to transport bulky storage appliances, saving customers hundreds of thousands of dollars in data storage and transportation costs.

Ensuring Peace of Mind with Disaster Recovery

As IT becomes business-critical for organizations of all sizes, dependable disaster recovery (DR) is increasingly essential. Unfortunately for many organizations, DR remains a cost-prohibitive use case. At the same time, over 40% of small businesses close following a disaster, and over 90% never recover if operations aren't restored within five days, so disaster recovery is an essential insurance policy for any business.⁵ For organizations looking to deploy a low-cost DR infrastructure with minimal up-front expenses, vSAN is a strong option. Its granular controls ease administration and help IT protect only what's necessary.

⁵ FEMA Infographic, Make Your Business Resilient

“We chose vSAN because it eliminates the need for expensive disk arrays and controllers while providing greater reliability and performance. Because it’s part of the VMware ESXi kernel, vSAN is very fast with little overhead. Compared with competing products, it is very easy to administer and provides great cost savings.”

KEN TODD
SENIOR SYSTEMS ADMINISTRATOR
CITY OF NORTH LAS VEGAS

City of North Las Vegas Safeguards Public Data

North Las Vegas, home to 240,000 full-time residents, relies on technology to support its most critical day-to-day operations. Building permits, emergency services, utilities, public libraries, and more all rely on IT systems. After a tough recession, the City of North Las Vegas turned to virtualization technology to improve the performance and efficiency of its operations, and drive cost savings. Its software-defined data center leverages multiple VMware solutions, including VMware vSAN, to deliver responsive, high-quality services.

Outcome: Dependable, Cost-Effective Protection

Improving DR for the city’s critical applications was a key requirement. Although data was backed up locally, if a disaster were to occur, it would take several days or weeks to get the city operational again. Using purely physical standby infrastructure was expensive and would limit DR to only a few systems.

The City of North Las Vegas deployed two all-flash vSAN clusters provide storage for the city’s virtual desktop environment, while a hybrid vSAN cluster at a DR site provides standby infrastructure, requiring only four host servers for the city’s most critical virtualized applications. Virtualizing its infrastructure has helped the city safeguard critical systems and be more responsive to residents and businesses.

Conclusion: It’s Time to Get the Most from Your Investment

Line of business stakeholders are demanding more from IT, and HCI powered by vSAN is a proven approach to step up to the strategic challenge. This flexible enterprise-grade, general-purpose infrastructure is proven to deliver increasing operational and cost benefits as the size of your deployment grows.

As the pace of business accelerates and your challenges escalate, there has never been a better time to expand your HCI deployment. Consider HCI for your next IT project or infrastructure refresh and realize faster IT operations, reduced complexity, and lower costs.

An HCI Assessment is a great first step to help you learn more about how you can unlock the full potential of your VMware investment. Our assessments are geared for specific use cases and aligned to your unique customer needs. [To learn more.](#)

