

VMware Hyperconverged Solutions for Business Continuity

Agile Infrastructure for Business Resiliency

“We continually look for ways to provide more flexible, comprehensive solutions to our schools, which in turn enable them to maximize student potential and achievement. That’s what we want to achieve with our technology services and VMware helps us accomplish that.”

RORY PEACOCK, DEPUTY EXECUTIVE
DIRECTOR FOR TECHNOLOGY SERVICES,
EDUCATION SERVICE CENTER REGION 11,
TEXAS

WHY HCI FOR BUSINESS CONTINUITY?

- Superior virtual desktop performance at scale to improve user experience
- Agility through cloud operating model on-premises, managed with familiar VMware tools
- Pay-as-you-grow affordability with granular scaling, including burst-capacity to the public cloud
- Resiliency to local or site-wide outages through highly available infrastructure and DR capabilities

VMware hyperconverged infrastructure (HCI) solutions offer simplicity and agility for business continuity, burst capacity and disaster recovery.

Business Continuity Challenges

Expected disruptive events such as hurricanes, wildfires, and earthquakes, as well as unexpected ones such as public health outbreaks or geopolitical developments require business decision makers to prepare carefully. Businesses need the agility to act decisively and respond appropriately to keep the business running in the face of a multitude of probable disruptions. VMware HCI provides agile infrastructure options that include both vSAN and VMware Cloud Foundation:

VMware vSAN, a “Core HCI” solution, is a software-defined distributed storage solution, built using physical storage capacity from physical servers, while tying directing into the hypervisor without the need for a complex management interface. This results in significant cost savings, both in CAPEX and OPEX, without compromising performance. VMware vSAN leverages a rich eco-system of partners, 500+ vSAN Ready Nodes, and appliance offerings from Dell (VxRail), Lenovo, Fujitsu, and Hitachi.

VMware Cloud Foundation, a “Full Stack HCI” solution brings together VMware vSphere, vSAN, NSX, and the vRealize Suite into a natively integrated stack, delivering enterprise-ready cloud infrastructure with unique automation and management capabilities for a consistent operational experience across clouds.

VMware HCI solutions enable business continuity (BC) by providing an agile IT platform that enables employees to work remotely, scales both on-premises and to the public cloud with burst capacity, and simplifies disaster recovery (DR) in the event of site-wide outages

Remote Workforce Enablement: VMware vSAN delivers radically simple, high-performance, flash-accelerated storage infrastructure for virtual desktops and apps, giving IT a solution with an optimized price-to-performance ratio that dramatically lowers TCO and eliminates the need to overprovision IOPS. With just a few clicks, IT administrators can provision this HCI solution with ease and manage and automate it with the same VMware vCenter™ Web Client tools they use to manage the rest of their environment. VMware Horizon® deployments benefit from high-performance, elastic storage capacity that scales without forklift upgrades: Instead of having to add an entire storage array to enable users with more desktops, administrators can simply add more disks, flash storage, or another host.

Burst Capacity: VMware Cloud Foundation simplifies the hybrid cloud by delivering a single integrated solution that is easy to scale through built-in automated lifecycle management. The same core software-defined infrastructure stack leveraged in private

vSAN or Cloud Foundation?

VMware provides multiple HCI options to address unique business needs. vSAN provides 'Core HCI' capabilities for immediate agility, and VMware Cloud Foundation (VCF) automates deployment and operations for a fully automated private cloud. VCF also serves as the foundation for the hybrid cloud because the same core software-defined infrastructure stack leveraged in private cloud deployments of VCF is also the underpinning technology of VMware-based public clouds like VMware Cloud on Amazon Web Services and other VMware Cloud Provider Program (VCP) partners, as well as VMware Cloud on Dell EMC.

VCF REDUCES PRIVATE CLOUD TCO

A recent study* by the Taneja Group shows that VMware Cloud Foundation can deliver a **28% reduction** in Total Cost of Ownership (TCO) thanks to built-in automation, scalability, and efficiency.

**When Comparing Cloud Alternatives, For the Best TCO Leverage VMware Cloud Foundation, Taneja Group, April 2019*

cloud deployments of Cloud Foundation is also the core technology of VMware-based public clouds like VMware Cloud on Amazon Web Services and other VMware Cloud Provider Program (VCP) partners, as well as VMware Cloud on Dell EMC. In this way, Cloud Foundation provides consistent infrastructure and consistent operations from the data center to the cloud and the edge, making Cloud Foundation an ideal platform for hybrid cloud deployments. With VMware Cloud on AWS for example, businesses can extend their on-premises infrastructure with 'burst capacity' in the cloud in under 2 hours, and scale capacity in minutes, while using familiar VMware tools, skillsets and processes. Cloud Foundation provides a range of options to scale IT resources either on-premises, or leverage burst-capacity in public clouds to augment on-premises capacity when the need arises.

High Availability: Businesses need highly available infrastructure to continue operations in the face of either localized component failures or larger site-wide outage scenarios. Cloud Foundation delivers highly available infrastructure because it is built on highly available components. vSphere High Availability, Fault Tolerance and Distributed Resource Scheduler work together to keep virtualized workloads running. vSAN provides a distributed, scale-out architecture with enterprise-level availability, scalability, and performance. vSAN may be deployed in both standard and stretched clusters for higher availability, and vSAN stretched clusters can be paired with DR solutions to provide a highly resilient environment. Since vSAN must ensure availability of data under a variety of planned and unplanned conditions, it automatically manages the placement of data in compliance with the assigned storage policies of a VM. Adaptive Resynchronization significantly speeds up recovery from hardware failures by dedicating bandwidth for the repair IO traffic in a vSAN cluster.

Data Protection & Disaster Recovery:

vSAN applies the concept of fault domains to protect an environment from downtime in the event of site failure. vSAN's ability to provide a fully active-active, stretched cluster has already proven its value in data centers. vSAN also allows for storage redundancy within a site AND across sites at the same time. This helps deliver effective, affordable protection against entire site outages, as well as host outages within a site. vSAN also ensures strict security compliance in DR events through data-at-rest encryption and FIPS-140-2 certification.

VMware vSphere Replication is an asynchronous replication solution that copies data from users' primary site to secondary sites. It is fully integrated with VMware HCI through the hypervisor, enabling customers to protect VMs regardless of the underlying storage solution, with an RPO ranging from 5 minutes to 24 hours.

VMware Site Recovery Manager (SRM) automates and orchestrates the failover process to a secondary site in case of main site failure. SRM also supports non-disruptive testing and detailed reporting, to help ensure businesses meet protection plan targets, and to meet DR compliance requirements.

VMware Site Recovery offers disaster recovery as-a-service (DRaaS) for VMware Cloud on AWS. VMware Site Recovery delivers on-demand protection with all the benefits of vSphere Replication and SRM, including non-disruptive testing and reporting, without the need to maintain a secondary data center.

Learn More

FOR MORE INFORMATION OR TO PURCHASE VMWARE PRODUCTS Call 877-4-VMWARE (outside North America, +1-650-427-5000)

Visit the VMware Cloud Foundation product page:

vmware.com/go/cloudfoundation

Visit the VMware vSAN product page:

vmware.com/go/vsan

Learn how others are using VMware vSAN and Cloud Foundation in our [Customer Stories](#).

Try online for free: [vSAN Hands-on Labs](#).

Request a free [vSAN Assessment](#) for your data center.

Conclusion

As businesses modernize their infrastructure, vSAN and VMware Cloud Foundation are important HCI building blocks that lay the IT groundwork to support business continuity scenarios when agility matters even more. Businesses can enable remote workers, unlock burst capacity, ensure systems are highly available, and recover systems in the event of a disaster. VMware vSAN and VMware Cloud Foundation offer capabilities that help IT prepare for, respond to, recover from, and return to normal following events that challenge business continuity.

How VMware Customers Have Benefited From HCI

[Niagara College](#) virtualizes student computing labs with VMware Horizon, and used VMware vSAN to deliver high performance for virtual desktops while lowering TCO

[Xavier University of Louisiana](#) replaced legacy systems, deploying VMware Cloud Foundation to reduce costs, improve performance and support student and faculty needs.

[Clover School District](#) successfully deploys a virtual desktop infrastructure platform, based on VMware Horizon and VMware vSAN that centralizes computer lab PC processing and storage and repurposes existing desktops as thin clients.

[Education Service Center Region 11](#) provides schools a more secure, integrated, and reliable technology platform to promote learning and teaching with VMware solutions.

[United States Senate Federal Credit Union](#) reduces data center costs by 70% while creating a more intrinsically secure environment including VMware vSAN and VMware NSX.

[City of North Las Vegas](#) transforms itself into a hub of economic growth with help from VMware solutions, including VMware vSphere®, VMware Horizon®, VMware NSX®, and VMware vSAN™, to deliver responsive, high-quality services.

[Genghis Capital](#), using VMware software-defined solutions, rolls its environment onto a 100% cloud-based infrastructure in one day.

Links to More Information

VMware Cloud Foundation

VMware Cloud Foundation Product Page: vmware.com/go/cloudfoundation

Cloud Foundation Blog: blogs.vmware.com/cloud-foundation

Twitter: [@VMwareVCF](https://twitter.com/VMwareVCF)

LinkedIn: linkedin.com/company/vmwarevcf

YouTube: youtube.com/c/VMwareCloudFoundation

Community: communities.vmware.com/community/vmtn/cloudfoundation

Cloud Foundation Resource Center: vmware.com/go/vcfc

Website: [Horizon on VMware Cloud Foundation website](#)

vSAN

VMware vSAN Product Page: vmware.com/go/vsan

vSAN Blog: blogs.vmware.com/virtualblocks/products/virtualsan

Twitter: [@VMwarevSAN](https://twitter.com/VMwarevSAN)

LinkedIn: linkedin.com/company/vmware-vsan/

YouTube: youtube.com/c/VMwareStorage

Community: communities.vmware.com/community/vmtn/vsan

Instagram: instagram.com/vmwarevsan

Facebook: facebook.com/vmwarevsan

StorageHub: storagehub.vmware.com

Website: [Horizon on vSAN website](#)

