



Mission-critical Workloads on vSAN 8 with Express Storage Architecture

“Our QAD central enterprise information system is mission-critical and needs to be constantly available. It is essential for both our production facility and distribution companies to ensure the uninterrupted operation of our systems. We believe that the adoption of a hyperconverged infrastructure from VMware helps us achieve our business goals.”

Radek Lapčík
IT systems manager
COLORLAK Group

Today, every business relies on IT systems to deliver products and services to customers, and more than ever, the demands of the applications used to produce these goods are increasing. The applications that keep organizations running – commonly called mission-critical applications – demand high levels of performance and availability, particularly since organizations are more reliant on technology than ever before. At the same time, existing infrastructure cannot keep up with the requirements of the modern organization, and IT managers are looking for ways to ease management of all their infrastructure, both on-premises and in the cloud.

The modern data center must adapt to these new operational requirements – agility and flexibility – while meeting stringent cost requirements during times of uncertain economic outlook. Running mission-critical applications on VMware vSAN 8 with Express Storage Architecture provides customers with agile, high-performance infrastructure that enables simplified operations, lower costs, and hybrid cloud-ready architecture.

The Challenge - Managing Storage for Mission-critical Applications

Despite cloud infrastructure’s growing presence in organizations of varying sizes and budgets, a large majority of mission-critical workloads are being kept on-premises. These are applications that demand systems offering the highest performance and availability, easy serviceability, and the lowest possible risk of outage.

Maintaining full control over foundational data is often a top priority when running applications that cannot risk downtime. By hosting mission-critical applications on-premises, IT teams have unfettered access to storage and server resources 24x7x365. IT leaders must also put additional consideration into security and regulation compliance when managing these applications and systems of record, opting for on-premises solutions for greater control and management. For businesses in heavily regulated industries, ever-changing legal requirements in the public cloud are often too cumbersome and costly.

All these considerations must also be balanced against the business’ desire for rapid speed-to-market and cost efficiency, along with a cloud-first strategy for other applications and workloads in the organization. A one-size-

fits-all strategy for hosting various applications is not optimal, yet consistency is needed when managing them all.

The Solution - Hyperconverged Infrastructure

Hyperconverged Infrastructure (HCI) enables IT leaders to deliver on two seemingly competing goals – achieving optimal performance and agility without compromising security or availability. With HCI, organizations can increase business agility with a common operational model for managing compute and storage in the core data center, at the edge, and across public and private cloud environments. The following capabilities make HCI the ideal platform for managing traditional resource-intensive applications, virtual machines (VMs), and next-generation application deployments.

- Scale-out storage as needed to match growing application requirements. Start small with as few as two nodes and add as little as a single node at a time.
- Realize operational efficiency with a simple, consistent user experience for storage administration, as HCI allows a single team to manage both compute and storage resources.
- Achieve unified management and operations across varying workloads and storage tiers. HCI provides a consistent operational model for traditional VMs and containers.
- Reduce IT costs through both CapEx and OpEx savings by avoiding costly, purpose-built storage infrastructure (e.g., fibre channel networking) and accelerating storage operations

The VMware vSAN Difference

VMware vSAN is the only vSphere-native HCI solution, bringing the power of cloud to your storage with consistent application performance and high consolidation ratios. vSAN 8 with Express Storage Architecture offers unprecedented levels of performance and availability for mission-critical applications.

VMware HCI is cloud connected to support any application or use case in a hybrid cloud architecture and speeds cloud adoption with consistent infrastructure and operations with all the global hyperscalers, including Amazon, Microsoft, Google, IBM, Alibaba and Oracle.

Key benefits and capabilities of running mission-critical applications on vSAN 8 with Express Storage Architecture include:

- **vSAN Express Storage Architecture delivers unparalleled performance without tradeoff.** Applications that require an erasure coding configuration of RAID 5/6 or failure to tolerate equal to or greater than 1 to allow high availability storage will benefit greatly. The new architecture is optimized for applications that require a balanced design for both performance and high availability, offering

up to 4x performance boosts and enhanced data availability. ESA enables your most resource-intensive applications to tap into the performance gains afforded by next-generation storage devices

- **Express Storage Architecture enhances availability for your mission-critical applications.** Native snapshots within vSAN Express Storage Architecture enable rapid data protection with up to 100x faster operations. Seamlessly connect to third-party backup solutions via an API for an easy-to-use experience to enhance data protection and backup management of critical databases. With a new storage pool construct, smaller fault domains reduce data resynchronization and rebuild times in event of device failure.
- **vSAN unlocks next-level efficiencies.** vSAN enables you to abstract features away from underlying hardware and apply settings in a granular fashion for business-critical application workloads running in the data center. Enhanced compression, elimination of a cache tier and highly performant RAID6 erasure coding free additional capacity for storage-hungry applications. When you add it all up, you can gain up to 70% more usable capacity with vSAN 8.
- **vSAN accelerates storage operations.** vSAN 8 with Express Storage Architecture is managed the same way as the rest of your vSAN estate, with vSphere and vCenter. As always, vSAN uses Storage Policy-Based Management (SPBM) to rapidly assign storage to a VM or container volume and uses automation to monitor and remediate any compliance drift, greatly reducing operational burden on admins. vSAN provides admins with a comprehensive, single-UI view to manage storage used by mission-critical applications across various environments – both on-premises and in the cloud.

Learn More

Visit [Tech Zone](#) to take a technical deep dive into vSAN 8 with Express Storage Architecture.

Read [customer stories](#) to learn how others are using vSAN.

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

Request a free [vSAN Assessment](#) for mission-critical applications in your data center.

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