

# Clouidian HyperStore on VMware Cloud Foundation with Tanzu

Enterprise-grade, Fully Native S3-compatible Object Storage  
with the VMware vSAN Data Persistence Platform

**BENEFITS OF CLOUDIAN HYPERSTORE ON VMWARE CLOUD FOUNDATION WITH TANZU**

- Enterprise-grade object storage
- Single platform for all applications and data
- Native S3-APIs with guaranteed compatibility
- Scale-out modular design with centralized data management
- Optimized storage efficiency
- Self-healing and data durability
- Start small and expand without downtime
- Military-grade security and regulatory compliance certification
- Hybrid and multi-cloud ready
- Shared storage for all applications with up to 60% savings
- VMware certified for trouble-free integration
- Flexible deployment options
- Massive scalability
- Single global namespace for unified control and visibility across locations

**Cloudian HyperStore on VMware Cloud Foundation with Tanzu**

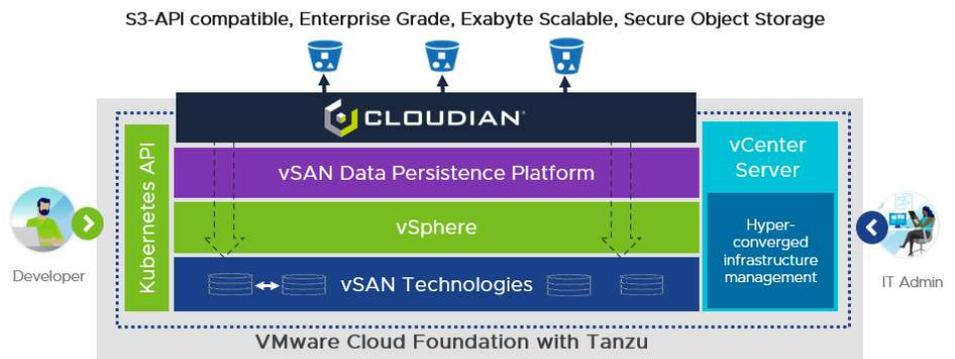
As enterprises increasingly adopt Kubernetes and deploy modern, cloud native applications, there is a need to ensure associated storage is also modernized and up to date. A key challenge is for storage to support both new container-based applications as well as traditional applications. Application requirements also demand storage platform integration with VMware to seamlessly support both stateless and stateful workloads along with the necessary performance and SLA guarantees. These requirements increasingly include the need for storage that is S3 compatible.

The VMware vSAN™ Data Persistence platform provides a framework for VMware partners that offer modern stateful services, including object storage, to integrate with the underlying virtual infrastructure, allowing you to run stateful services with high velocity scaling, simplified IT operations, and optimized TCO. You can deploy a stateful service alongside traditional applications on a regular vSAN cluster with vSAN-SNA (vSAN Support for Shared Nothing Architecture) policy, or deploy it on a dedicated vSAN cluster with vSAN Direct Configuration™, a technology enabling direct access to the underlying direct-attached hardware which can be optimized for the application needs. Both options benefit from optimal storage efficiency for stateful services by leveraging service-level replication, as well as unified management of services in vCenter.

Cloudian® HyperStore® provides enterprise-grade, fully native, S3-compatible object storage. Enabled by the vSAN Data Persistence platform, you can now run Cloudian HyperStore on VMware Cloud Foundation™ with VMware Tanzu™, combining the most widely deployed independent provider of object storage with the industry-leading VMware hyperconverged infrastructure (HCI) platform. The solution unlocks new efficiencies and savings by allowing enterprises to run both modern, cloud native applications and traditional applications on a single storage environment, at scale, and in both private and public clouds. The solution extends HyperStore’s simple-to-deploy and easy-to-manage, exabyte scalable, highly secure, multi-tenant storage to any application.

This allows IT admins to modernize their storage infrastructure, accelerate innovation, and improve time-to-market with enhanced application portability. They will be able to quickly respond to developer needs and deploy modern, stateful applications easily, while developers will be able to dynamically scale associated resources as their applications scale.

**Solution Architecture**



## Key Benefits

- **Increased velocity**

Accelerate innovation by enabling developer on-demand consumption of object storage with guaranteed application portability across clouds. IT admins can rapidly install and deploy Cloudian HyperStore on VMware vSphere® clusters straight from the VMware vCenter® UI. Easily grant developer access using namespaces. Developers can provision and scale object storage dynamically and in a self-service manner through Kubernetes APIs.

- **Simplified operations**

Efficiently deploy and manage object storage while maintaining operational reliability and security at global scale:

- **vSphere-integrated capacity and health monitoring:** Seamlessly manage a HyperStore cluster across data centers, edge environments and public clouds without leaving the vCenter UI.
- **Service-aware infrastructure operations:** Minimize the disruptions and impact of infrastructure operations such as planned maintenance and lifecycle management.

- **Lower TCO:**

- **CAPEX savings:** Leverage Cloudian data policies (replication and erasure coding) with vSAN-SNA (vSAN support for shared nothing architecture) policy or vSAN Direct Configuration to lower costs and improve storage efficiency when ensuring data durability.
- **OPEX savings:** Consolidate both traditional workloads and modern, cloud native workloads on the same platform, eliminating infrastructure silos and capitalizing on common skills and training.

## Primary Use Cases

Cloudian HyperStore on VMware Cloud Foundation with Tanzu is ideal for a broad range of use cases and data-intensive workloads across multiple verticals, such as media and entertainment, healthcare, financial services, higher education, life science, and manufacturing.

### Use Case 1: Cloud Native Apps

- Public cloud-like storage access for flexibility and agility
- S3-APIs for data and Kubernetes APIs for management
- Start small and seamless grow as needed
- Geo distributed global name space
- Synchronous/asynchronous cross-site data availability
- Concurrent read many/write many access
- Secure multi-tenancy, encryption, Write-Once-Read-Many (WORM), IAM and RBAC

### Use Case 2: Data Protection

- Data protection for enterprise applications, such as **SharePoint**, **SQL Server**, and **Oracle**:
  - Proven VMware HCI platform for enterprise applications and data
  - Scalable backup/archive and DR target, compatible with popular backup/DR solutions, such as Rubrik, Veritas, Commvault, Veeam and Datrium
  - Policy-based replication to a remote site or cloud
  - Immutable S3 objects and retention management controls to protect enterprise application data from ransomware attacks
  - Up to 100x faster access than tape
  - Up to 70% less cost than backup appliance
- Data protection for cloud native apps:
  - S3 buckets on Cloudian HyperStore for cloud native apps
  - Seamless integration with Velero via S3-APIs for data protection
  - Encryption, WORM, and secure multi-tenancy
  - Per workload storage, backup, and management

### Use Case 3: High Performance Apps

Converged platform for high performance analytics, AI/ML, Big Data, and IoT/Edge workloads—for example:

- A single platform for Enterprise **Splunk**:
  - Run Splunk indexers with vSphere, hot bucket with vSAN, and warm and cold buckets with Cloudian HyperStore, all on a single platform
  - Proven VMware platform for enterprise Splunk deployment
  - Ingest GBs of data per day
  - Quick search across entire datasets
  - Support data growth and retention with Splunk SmartStore and Cloudian HyperStore
  - Self-contained deployment for data security and privacy
  - One namespace, searchable across entire dataset
  - Hybrid cloud-ready for disaster recovery (DR)
- Modern **healthcare** data architecture:
  - Modernize aging and multi-generation infrastructure
  - Eliminate data silos and improved data management
  - Secure, real-time delivery and access to patient records
  - Enable AI/ML for data processing and analytics
  - Meet regulatory requirements around security and compliance

### Use Case 4: File Tiering

Offload infrequently accessed data from primary storage to a more cost-effective object storage pool to improve infrastructure economics.

## Takeaway

Cloudian HyperStore integration with the vSAN Data Persistence platform enables new efficiencies and savings by allowing enterprises to run both modern and traditional applications in a single, S3-compatible storage environment, at any scale, and in both private and public clouds.

For more details, stay tuned for the complete solution reference architecture.

## Core Component Introduction

### Cloudian HyperStore Object Storage

With a fully native S3 API, Cloudian's HyperStore object storage brings the limitless scalability, military-grade security, and the flexibility and management efficiency of public cloud storage into your data center while providing ransomware protection and reducing TCO by 60% or more compared to traditional SAN/NAS and public cloud. The geo-distributed architecture lets you put data wherever it's needed—on-premises, in the public cloud or both—and manage it all seamlessly from one user interface. Cloudian offers HyperStore as disk-based and flash-optimized object storage for both conventional and container-based applications requiring S3-compatible storage.

### VMware Cloud Foundation with Tanzu

VMware Cloud Foundation with Tanzu is the best way to deploy Kubernetes at scale. VMware Cloud Foundation is a ubiquitous hybrid cloud platform for both traditional enterprise apps and modern apps, providing a complete set of secure software-defined services for compute, storage, network security, Kubernetes management, and cloud management. VMware Cloud Foundation with Tanzu automates full-stack deployment and operation of Kubernetes clusters through integration with VMware Tanzu Kubernetes Grid.

### VMware vSAN

vSAN is a key component in VMware Cloud Foundation. vSAN is the market leader in HCI, enables low cost and high-performance next-generation HCI solutions, converges traditional IT infrastructure silos onto industry-standard servers and virtualizes physical infrastructure to help customers easily evolve their infrastructure without risk, improve TCO over traditional resource silos, and scale to tomorrow with support for new hardware, applications, and cloud strategies.

### Resources

- Learn more about [Cloudian HyperStore on VMware Cloud Foundation](#).
- Discover more about Cloud Native Storage in vSphere and vSAN on [the website](#).
- Check out VMware Cloud Foundation with Tanzu on [the website](#).
- Visit the [Cloud Foundation Tech Zone](#) for more demos and deep dives of VMware Cloud Foundation with Tanzu, vSphere and vSAN.
- Keep posted on the latest and greatest of VMware Cloud Foundation via VMware Cloud Foundation [Blog](#), [Twitter](#), and [YouTube](#).



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