Modernize Your HCI Data Center with VMware vRealize Operations and VMware vSAN

KEY HIGHLIGHTS

- Lower TCO and increase ROI by improving operational efficiency with unified management of compute and storage
- Accelerate time to value with seamless adoption, optimization, and scaling of the HCI solution
- Increase agility and simplify management of the modern infrastructure
- Improve performance with predictive analytics and proactive alerting to quickly correlate issues across the SDDC
- Achieve continuous capacity management
- Maximize utilization and proactively reduce capacity risk
- Gain workload to dying disk root-cause analysis
- Realize cost insights and densification
- Simplify management of heterogeneous storage with a common control plane

Drive up operational efficiency and drive down TCO

VMware HCI with Operations Management™ is the foundation for modern infrastructure, reducing TCO and increasing ROI by improving business and operational efficiencies. VMware HCI with Operations Management is built on the powerful combination of industry-leading virtual storage with VMware vSAN™ and the Self-Driving Operations capabilities of VMware vRealize® Operations™. It integrates compute, storage, and cloud management for continuous performance, proactive troubleshooting, and capacity and cost optimization.

vRealize Operations with vSAN integration

Proven vSAN storage technology delivers on the agility and cost-efficiency promises of hyperconverged infrastructure (HCI), accelerating data center modernization initiatives and elevating IT as a strategic advantage. For organizations looking to optimize infrastructure performance and availability, vRealize Operations speeds vSAN time to production with natively integrated vSAN monitoring and management capabilities.

vRealize Operations with native vSAN management is a powerful combination of technologies, popular with enterprises running large-scale data centers. The solution improves IT efficiency by ensuring optimized multi-cluster vSAN management, predictive analytics for performance and capacity management, and complete visibility across workloads for rapid troubleshooting and central management at scale. IT teams can simply and proactively monitor infrastructure health and quickly resolve issues while increasing application uptime and reducing the risk of business disruption. Ultimately, vRealize Operations with native vSAN management helps lower costs and shift resources to more strategic initiatives.

vRealize Operations delivers Self-Driving Operations across all software-defined data center (SDDC) components—virtual compute, storage, and networking—enabling organizations to plan, manage, and scale multi-cloud environments with confidence.

This document highlights the key capabilities and benefits of deploying vRealize Operations for vSAN.

Solve storage inefficiencies with vRealize Self-Driving Operations

The decision to transition to storage is a big step toward reducing overall IT costs. vRealize Operations accelerates the vSAN adoption journey by providing IT teams with greater visibility and insight across all resources. vRealize Operations with integrated vSAN supports the following use cases.

Maintain compliance with data encryption

- Use data-at-rest encryption to protect data in your vSAN clusters.
- Encrypt data after performing all other processing, such as deduplication.
- Get encryption status alerts at the cluster, host, and disk levels.
- Protect data on storage devices in case the devices are removed from the cluster.

Optimize performance

- Run workload optimization on vSAN clusters with support for vSAN datastores based on user-defined business and operational intent. vSAN workload optimization can be run manually, scheduled for ongoing optimization, or automated to run whenever performance issues are detected.

Manage vSAN capacity

- Efficiently monitor utilization and proactively identify capacity risk, including time remaining and capacity remaining.
- Gain visibility into aggregate and per-cluster capacity, used capacity, and free capacity with actionable insights into deduplication/compression ratios and reclaimable capacity.
- Use predictive analytics to proactively plan for upcoming capacity needs.
- Continuously monitor the health of disks and disk groups via Dying Disk Handling, which detects impeding disk failures or poorly performing disk groups. When those conditions are detected, vSAN marks the disk or disk group as unhealthy and may trigger data evacuation from the affected disk or disk groups.
- Identify and reclaim orphan VMDKs with integrated cost saving implications.

Plan procurement

- Run procurement scenarios for adding new vSAN Ready Nodes (HCI) in a vSAN cluster based on current utilization to meet current and future demands with full visibility into capital expenditures.
- Plan and assess a public cloud migration for pervasive visibility into costs.
- Determine impacts post-migration by visualizing capacity and time remaining on the source and destination.

Correlate and consolidate issues to accelerate troubleshooting

- Ensure operational readiness with unified, line-of-sight visibility across the entire application stack—from databases to virtual machines (VMs) to storage resources.
- Speed troubleshooting and resolution with correlated alerts and vSAN-specific dashboards, and health checks all the way to the disk level.
- Uncover storage and other infrastructure dependencies, then take advantage of out-of-the-box corrective actions to alleviate storage and other infrastructure dependencies to accelerate the customer's time to value.

Centrally manage at scale

- Achieve enterprise-wide visibility across sites and stretched clusters. Get top-level views of preferred, secondary, and witness domain hosts.
- Reduce unplanned downtime with proactive alerting from VMs to all vSAN components, including physical disks.
- Gain capacity overview to stretched clusters, displaying time remaining, capacity remaining, and utilization at the fault domain level.

Accelerate the vSAN journey with vRealize Operations

vRealize Operations is the best platform to manage vSAN and HCI operations.

Phase 1: Build confidence with simple HCI deployments

The integration of vSAN into vRealize Operations enables organizations to enhance IT efficiencies by providing out-of-the-box instructions for rapid evaluation, setup, and remediation of all-flash storage on VMs.

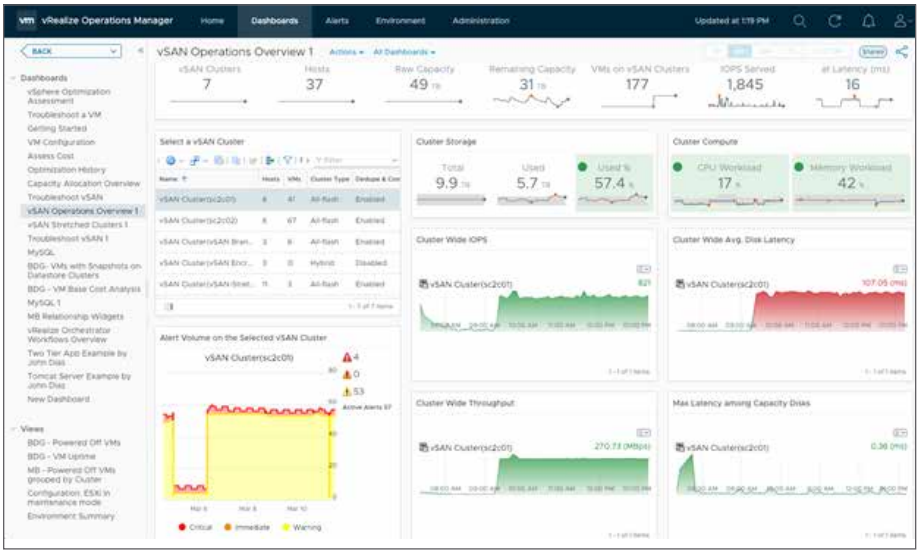

FIGURE 1: The vSAN Operations Overview dashboard.

Steps

1. Deploy vRealize Operations in an environment running vSAN.
2. Configure the vSAN solution in vRealize Operations.
3. Check the readiness of the vSAN infrastructure (e.g., topology health) using the vSAN Operations Overview dashboard and review vSAN alerts.
4. Confirm the configuration.
5. Measure the before and after performance of VMs and apps moved to vSAN.
6. Track performance and record performance history as workloads move to vSAN.

Answer key questions

- How do we know vSAN is set up correctly?
- What issues should we look for first?
- What types of issues are important?

Benefits

- Faster evaluation and deployment
- Complete visibility from VM to disk
- Leverage the same skills and tools across all SDDC components (e.g., virtual compute, storage, networking)

Phase 2: Operationalize in production

Native vSAN integration in vRealize Operations builds IT team confidence in moving production workloads on to vSAN clusters. Teams can validate scenarios and forecast impacts, as well as quickly troubleshoot storage and other SDDC components in production. They are also proactively notified of infrastructure issues, and can quickly filter and identify root causes. Health and performance monitoring metrics are simplified with vRealize Operations persona-based dashboards, providing visibility into performance, capacity, configuration, and compliance.

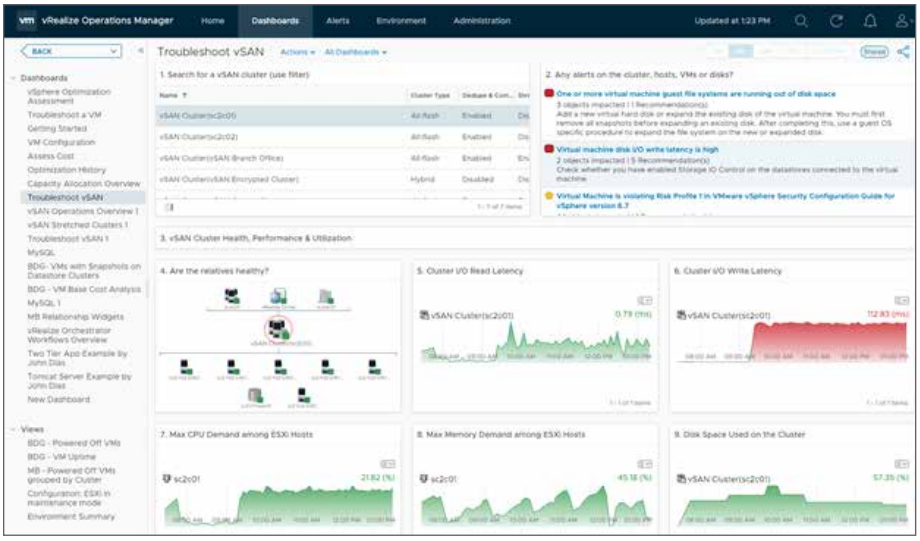

FIGURE 2: The Troubleshoot vSAN dashboard.

Steps

1. Remediate storage and capacity issues quickly using the Troubleshoot vSAN dashboard.

Answer key questions

- Are vSAN and all other components up and running?
- Are they running smoothly?
- How do I troubleshoot, find, and resolve issues quickly?

Benefits

- Rapid validation and troubleshooting
- Single-pane-of-glass alerting
- Faster issue detection

Phase 3: Optimize capacity utilization

vRealize Operations with native vSAN integration provides efficient capacity management, helping ensure enterprises have enough available capacity for their ever-growing sets of customer and business data.

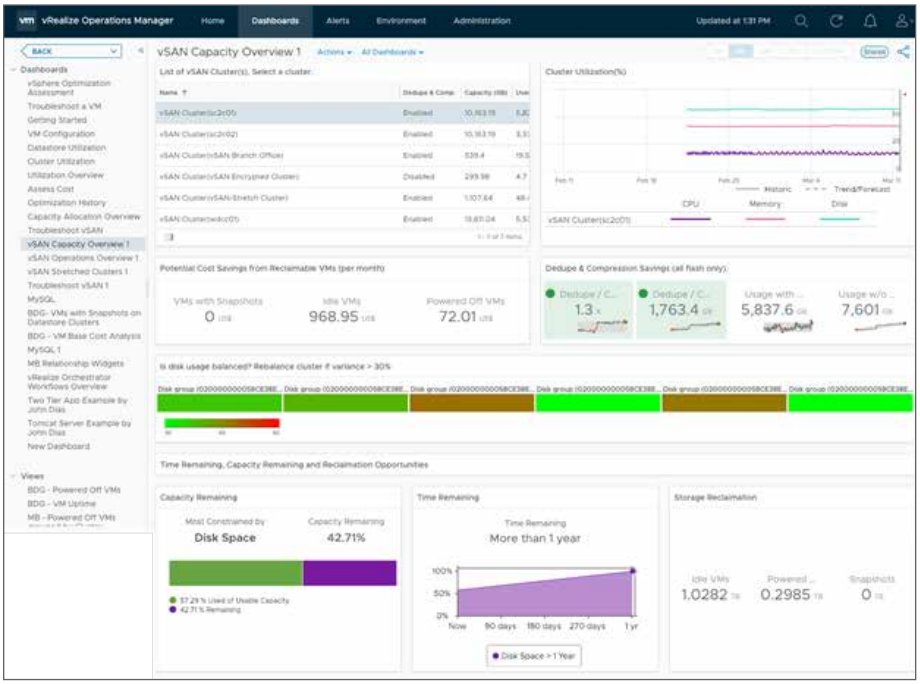

FIGURE 3: The vSAN Capacity Overview dashboard.

Steps

1. Leverage the vSAN Capacity Overview dashboard to see aggregate data, per-cluster capacity totals, used capacity, free capacity, deduplication/compression ratios, and reclaimable capacity to understand current capacity.
2. View the vSAN Capacity Overview dashboard for historical capacity trends, plus time and capacity remaining metrics, to confidently plan for the future.
3. Configure additional dashboards to predictably plan for upcoming capacity needs.

Answer key questions

- Do we have enough capacity for today and tomorrow?
- How has our capacity changed over time?
- Is our environment at risk?

Benefits

- Proactively manage capacity
- Lower risks and unplanned downtime

LEARN MORE

For more information about vRealize Operations with native vSAN integration:

- *Visit the vRealize Operations page*
- *Watch an informative video*
- *Read the vRealize Operations and vSAN product overview*
- *Test-drive with a Hands-on Lab*

Phase 4: Centrally manage at scale

vRealize Operations with native vSAN management extends advanced troubleshooting, proactive alerting, and end-to-end visibility across all vSAN environments—multisite and stretched clusters.

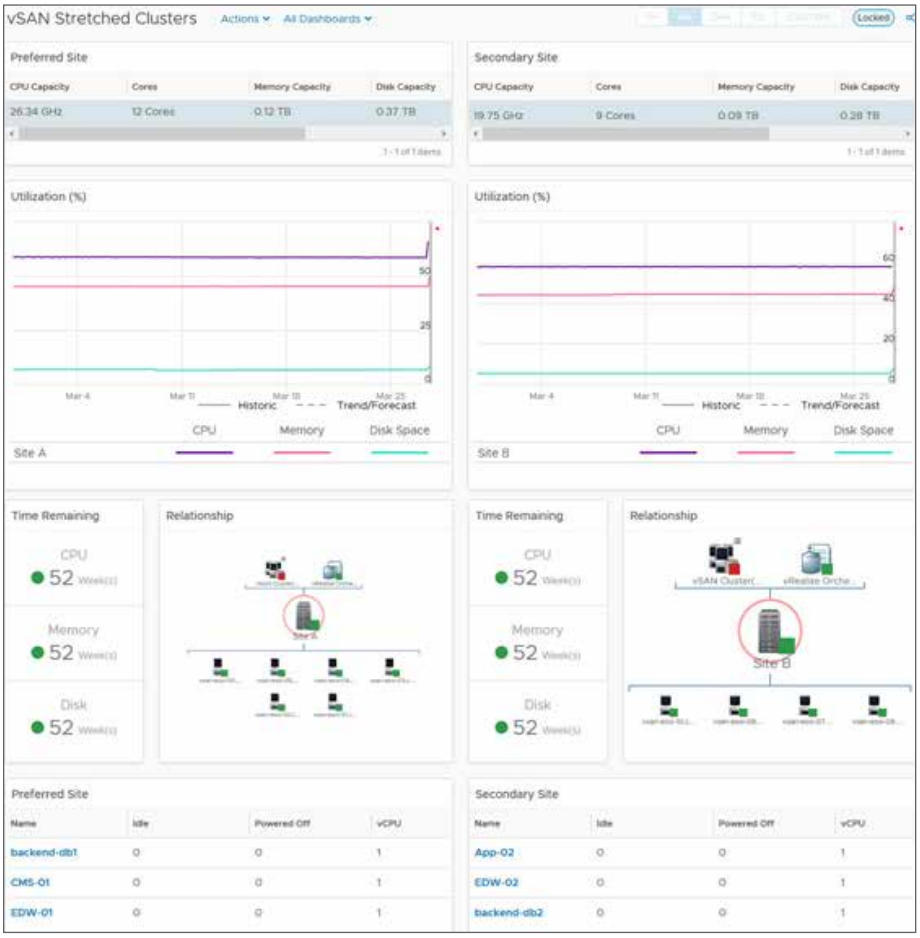

FIGURE 4: The vSAN Stretched Clusters dashboard.

Steps

1. Further simplify large vSAN deployment operations using vRealize Operations for centralized management of both multisite and stretched clusters.

Answer key questions

- How do we get visibility across sites and stretched clusters?
- How do we reduce unplanned downtime?
- How can we ensure hardening across all SDDC components?

Benefits

- Complete visibility
- Reduced downtime