

# Optimize VMware Cloud on AWS with Self-Driving Operations

## KEY HIGHLIGHTS

- Faster application and service delivery across clouds
- Greater IT efficiency at lower costs
- Common governance and resource management
- Unified visibility and monitoring

VMware Cloud™ on AWS brings the VMware enterprise-class Software-Defined Data Center (SDDC) software to the AWS Cloud, with optimized access to AWS services. With the same architecture and operational experience on premises and in the cloud, IT teams can now quickly derive instant business value from use of the AWS and VMware hybrid cloud experience. The solution features an operationally consistent hybrid cloud management experience for rapid time to value.

Enterprises can run the broadest range of applications on the VMware compute (VMware vSphere®), storage (VMware vSAN™), and network (VMware NSX®) virtualization platform across clouds because of seamless management enabled by Self-Driving Operations and Automation from VMware vRealize®. No staff retraining is required because administrators rely on familiar technologies and processes to manage the VMware infrastructure both in their private cloud or on AWS.

Popular use cases for the solution include regional capacity and geographic expansion, disaster recovery, application migration, data center consolidation, test and development, and on-demand capacity for special events or projects.

This guide highlights the key capabilities and benefits of deploying VMware Cloud on AWS together with Self-Driving functions provided by VMware vRealize Operations™.

## Steps to a successful VMware Cloud on AWS integration

To accelerate digital transformation, enterprises are embracing hybrid cloud. They want to execute on cloud strategies that increase agility and are looking to IT leaders for direction. Self-Driving Operations with vRealize enables IT organizations adopting VMware Cloud on AWS to most efficiently assess, identify, and plan the migration, and manage workloads across clouds based on vSphere.

But even before migrating workloads to VMware Cloud on AWS, or any cloud for that matter, successful customers must start by optimizing their private cloud. If they still have a capacity shortfall, they then need to compare multiple public cloud options and identify easy-to-migrate workloads. Self-Driving Operations can guide them through this entire journey. It can proactively identify upcoming capacity shortfalls and help model future requirements. Customers can reclaim capacity, right-size, and determine potential capacity shortfall. They are now ready to start with VMware Cloud on AWS.

### Plan for VMware Cloud on AWS

- Determine potential costs and efficiency gains using VMware Cloud on AWS
- Compare costs and capacity requirements for different deployment scenarios

### Assess and plan the application migration

- Discover application dependencies
- Confirm the readiness (e.g., health and compliance) of the destination
- Model scenarios to ensure available capacity
- Confirm the move is successful once workloads have been migrated

### Unify intelligent operations

- Gain a consistent, unified operations experience
- Troubleshoot and monitor health across the stack
- Use predictive analytics and alerts to proactively detect and avoid issues and anomalies
- Optimize costs and capacity utilization, as well as forecast future needs

### Maximize ROI in VMware Cloud on AWS

Self-Driving Operations from vRealize helps enterprises better understand their application portfolios and requirements so they can make better decisions about when to run workloads in their SDDCs and VMware Cloud on AWS.

#### Phase 1: Plan for VMware Cloud on AWS

IT teams can use the [VMware Cloud on AWS Assessment](#) to help determine potential costs and efficiency gains of using VMware Cloud on AWS.

#### Steps

- Create migration scenarios to determine outcomes such as which applications to migrate, whether or not to retire full data centers, and whether an upcoming hardware refresh for clusters or hosts in your data center is more cost efficient than migrating workloads to VMware Cloud on AWS.
- Select virtual machines (VMs) to migrate, then verify and adjust as needed.
- View and understand capacity and cost requirements. Based on selections made in the previous steps, the VMware Cloud on AWS Assessment provides you with the total capacity to be migrated, costs across private cloud and VMware Cloud on AWS, and the number and utilization of hosts needed on VMware Cloud on AWS.

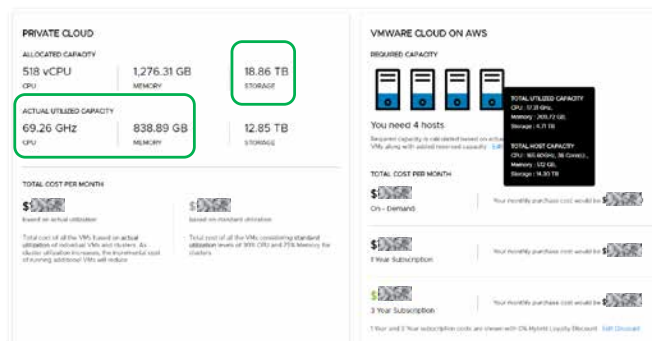


FIGURE 1: View and understand capacity and cost requirements.

#### Answer key questions

- How much capacity is left in my SDDC private cloud?
- What apps and VMs should be migrated?
- What is the total capacity to be migrated?
- How many VMware Cloud on AWS hosts do I need?
- How much will VMware Cloud on AWS cost?

### Benefits

- Quickly evaluate deployment options
- Gain a full understanding of deployment costs
- Improve decision making

### Phase 2: Assess and plan application migration

Organizations running out of capacity in a private cloud and those seeking to reduce hardware expenses can quickly and easily migrate applications to VMware Cloud on AWS using Self-Driving Operations from vRealize.

### Steps

- Identify applications, underlying services, and their interdependencies.
- Understand the network constraints to move the application, such as flows between tiers of the application, and external communication to other applications/Internet with consideration to the volume and nature of those flows.
- Confirm the readiness of the destination: Self-Driving Operations with vRealize shows you capacity consumed by the workloads being migrated and the capacity available in your VMware Cloud on AWS infrastructure.
- Confirm the move is successful once workloads have been migrated. Once workloads have been migrated, you can use Self-Driving Operations by vRealize to monitor the health of the migrated workload in VMware Cloud on AWS.

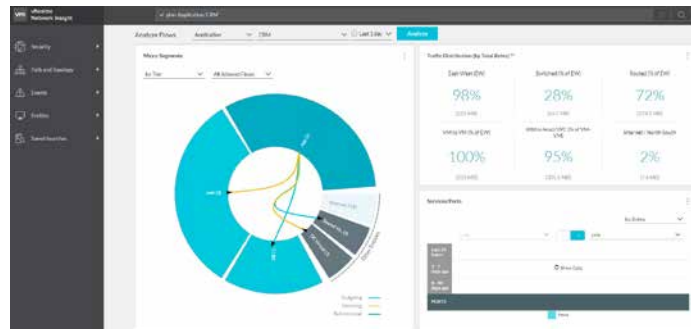


FIGURE 2: Discover and map dependencies with the Service Discovery management pack.

### Answer key questions

- What are the boundaries of a given application?
- How do I ensure I am considering all of the components of a given application?
- What infrastructure dependencies are there?
- How will dependent services impact the migration?

### Benefits

- Lower costs
- Speed decision making
- Avoid service disruption due to migration

### Phase 3: Unify intelligent operations

Once applications have been successfully migrated, IT teams gain unified visibility, proactive and automated performance management, and optimized cloud planning across SDDCs and VMware Cloud on AWS with Self-Driving Operations by vRealize.

**Step 1: App-aware monitoring and troubleshooting**

- Centralize the management of your on-premises private cloud and the VMware Cloud on AWS SDDC with line-of-sight visibility and correlated metrics across the entire stack and environments

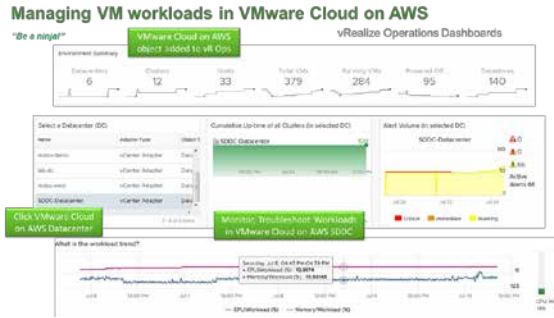


FIGURE 3: Dashboard showing correlated metrics for the entire stack and environments.

- Get unified visibility from applications to infrastructure with guided workflows, out-of-the-box custom dashboards, reports, and views
- Identify and isolate problems impacting your applications with vRealize Operations Troubleshooting Dashboards

**Troubleshooting Workload Problems in VMware Cloud on AWS**

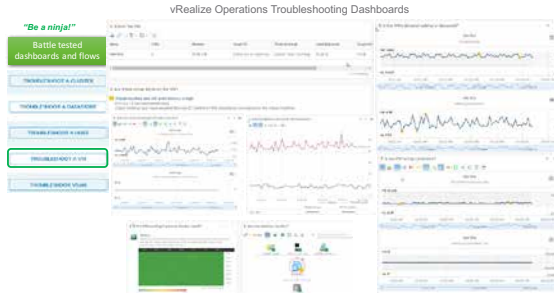


FIGURE 4: Troubleshooting dashboards.

- Use the vSAN Operations Overview Dashboard to see vSAN capacity in your private cloud and VMware Cloud on AWS, and troubleshoot vSAN in production

**Managing vSAN in VMware Cloud on AWS**



FIGURE 5: vSAN Operations overview dashboard.

- Add key performance indicator (KPI) and alert groups for complete and comprehensive visibility across SDDC components, including vSAN, and VMware Cloud on AWS
- Speed troubleshooting with correlated logs and metrics

**Answer key questions**

- What does the combined infrastructure inventory look like?
- What is the alert volume trend in the environment?
- Is vSAN serving VMs well?
- Are there any issues impacting the performance and availability of a vSAN cluster?
- Are there hot spots in the data center I need to worry about?
- Are noisy neighbors impacting multiple VMs and corresponding applications?
- Are there active alerts that require action?

**Benefits**

- Save time managing workloads running in public and private clouds
- Troubleshoot more efficiently
- Accelerate time to value of infrastructure investments

**Step 2: Optimized cloud planning and utilization**

- Use the Capacity Overview Dashboard to view a summary of the total capacity available across all your environments



FIGURE 6: Capacity dashboards.

- Use the Capacity Reclaimable Dashboard to optimize capacity utilization and improve efficiency of the environment



FIGURE 7: Optimizing VMware Cloud on AWS capacity.

- Simplify vSAN capacity management using the vSAN Capacity Overview, an out-of-the-box consolidated view of capacity contributors and utilization across all vSAN clusters

### Managing vSAN Capacity in VMware Cloud on AWS



FIGURE 8: vSAN capacity overview.

#### Answer key questions

- Is the right amount of capacity available?
- Are there opportunities to reclaim capacity? If so, where?
- Should we right-size to gain more capacity?

#### Benefits

- Combine operational and business insights for better cloud planning, budgeting, and purchasing
- Improve IT efficiency across the SDDC and VMware Cloud on AWS
- Control costs while reducing risk

#### Learn more

Self-Driving Operations with vRealize empowers your team to drive digital transformation, speeding application and infrastructure delivery and easing IT management across your data center, private cloud, and the public cloud resources you choose. Solve your current operational challenges and shift resources to more strategic initiatives to prepare for the future with Self-Driving Operations delivered by VMware vRealize Suite Standard.

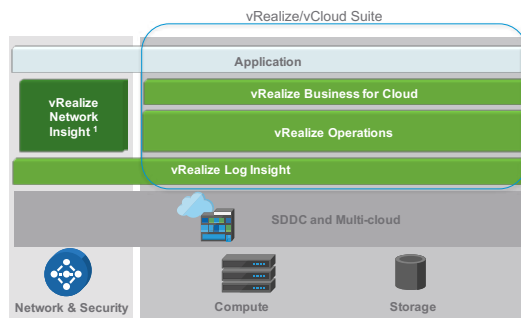


FIGURE 9: Self-Driving Operations by vRealize.

Team with VMware to operationalize your SDDC, troubleshooting smarter with full line-of-sight, unified visibility from applications to infrastructure and accelerating time to value by taking advantage of the solution's native integrations, third-party management packs, log analytics, and real-time metrics. In one solution, get answers to your cost questions about moving workloads to the cloud and then manage all of your infrastructure—on premises and off—more efficiently.

Learn more about VMware Cloud on AWS with Self-Driving Operations by vRealize at [vmware.com/go/vrops](http://vmware.com/go/vrops).