5 Ways to Improve Managing Your Hybrid Cloud

Boost Your VMware Cloud on AWS Success with VMware Cloud Management
Applications are driving business differentiation. To pivot faster to digital models, organizations are increasingly embracing cloud applications and services. Before the pandemic, three in four (76 percent) IT organizations surveyed by Enterprise Strategy Group (ESG) were committed to hybrid cloud as a long-term strategy. Now Morgan Stanley research indicates almost 90 percent of businesses expect to accelerate their cloud migrations.

Companies want the benefits of hybrid cloud—increased efficiency, flexibility, speed and agility—today. Yet without effective cloud management, hybrid cloud adoption may be easier said than done as IT teams grapple with:

- **Decreased agility** – 7.4 years to refactor and migrate 100 apps to the cloud (report)
- **Increased risk** – 90 percent reported skills shortages in cloud-related disciplines (report)
- **Higher costs** – $1M cost to move 1,000 workloads from one cloud to another (whitepaper)

Because of these obstacles, some cloud adoption plans simply never get traction. Others move forward, but slower than anticipated because of real challenges. These include which apps to put into the cloud, the inefficiencies of fragmented infrastructure, lack of single-pane-of-glass visibility, and resource shortages managing inconsistent operations across clouds. In all cases, business and IT leaders are disappointed—even discouraged—because the cloud gains they expected never materialize.

The scenario is dramatically different in organizations that adopt a consistent cloud operating model with VMware Cloud™.
Apps Benefit from an Integrated and Hybrid Approach

As global workloads continue to grow with expectations that they’ll increase more than 270 percent between today and 2030, organizations are recognizing the value-add that integrated public cloud and on-premises infrastructure provides. And they are rapidly moving to VMware Cloud™ on AWS to gain a unified infrastructure framework that bridges the gap.

VMware Cloud on AWS delivers a seamlessly integrated hybrid cloud solution that extends on-prem VMware vSphere® environments to a VMware SDDC running on Amazon Elastic Compute Cloud (Amazon EC2) elastic, bare-metal infrastructure that is fully integrated as part of the AWS Cloud. Organizations can spin up a VMware Cloud on AWS SDDC in 17 Global AWS Regions in typically under two hours and scale capacity within minutes on average. With VMware Cloud on AWS, enterprise IT and operations teams to continue to add value to their businesses as they’re empowered to:

- Run, manage, secure and protect production applications in a hybrid IT environment—no custom hardware required
- Accelerate cloud migrations from months and years to weeks and days
- Innovate and respond to changing business demands with the enterprise capabilities of VMware SDDC for any app, coupled with the elastic infrastructure of the AWS Cloud, and the breadth and depth of AWS services
- Use familiar skills, tools, and processes for managing cloud environments with consistent operations for improved productivity and reduced costs across key use cases
- Flexibly choose where to run apps based on business needs. Seamlessly move workloads bi-directionally
- Leverage established onsite enterprise security, governance and operational policies and extend them with cloud scale and security
- Reduce carbon footprint with environment-friendly, sustainable cloud infrastructure
Role of Cloud Management

To further optimize their best-of-both-world environments, enterprise IT teams are pairing VMware Cloud on AWS and VMware vRealize® Cloud Management. And in doing so, they are achieving efficiency and agility as well as goals for consistent operations across on-prem and cloud environments—all while utilizing their existing teams, tools and processes. They’re avoiding the need to waste IT staff time learning cloud-only capabilities while allowing teams to take advantage of advanced, automated operations that cloud-native management products simply cannot perform.

In a recent survey, enterprises shared the capabilities that would be most helpful to operationalizing their hybrid clouds, easing everyday operations. Respondents overwhelmingly favored a consistent management plane across all of their infrastructure silos. Their belief: effective cloud management breaks down silos while working effectively across on-prem and cloud environments.

That insight points to the role of cloud management—specifically a single management model—becoming more widely understood as the best way for organizations to achieve a variety of cloud transformation goals.

Primary benefits of consistency across multi-cloud environments

- Improved responsiveness to customers and lines of business: 49%
- Reduced IT operating costs: 38%
- Faster delivery of application features and releases: 28%
Key takeaway
Because hybrid cloud is the future, a consistent cloud operating model is imperative. Organizations can bet heavily on cloud without committing 100 percent to cloud. They can simplify environments and eliminate complexity, becoming more efficient. In turn, they can achieve productivity gains and cost savings while accelerating the business.

Organizations that optimize private cloud infrastructure and operations together—with public cloud automation and capacity rightsizing—using VMware vRealize Cloud Management with VMware on AWS drive both IT agility and business agility. That redirects their focus from managing clouds to what matters most: building and delivering apps and services that differentiate their business.
The Value of a Consistent Cloud Operating Model

When it comes to benefits, the whole of the solution—VMware Cloud on AWS plus vRealize Cloud Management—is greater than the sum of its parts. While VMware Cloud on AWS increases agility, accelerates innovation, simplifies operations, lowers costs and enhances availability (and as IDC reports, delivers 351 percent three-year ROI), vRealize Cloud Management provides consistent cloud management. Organizations enjoy the same deployment and operations of apps as well as infrastructure and platform services spanning the data center, hybrid cloud, and the edge.

Adopting vRealize Cloud Management with VMware Cloud on AWS empowers organizations to:

- Accelerate innovation with quick and easy access to services
- Gain operational excellence by improving visibility and automation
- Improve control and mitigate risk through unified operations and governance

No matter where enterprises are on their cloud journeys, organizations with vRealize Cloud Management make cloud their business. They meet the unique requirements of hybrid cloud, including modernizing IT, accelerating cloud evolution and assuring developer productivity by making developer consumption simpler so teams can build apps faster and cheaper, bringing greater agility to the business.
5 Ways vRealize Cloud Management Improves VMware Cloud on AWS Success

VMware Cloud on AWS with vRealize Cloud Management uniquely reduces cloud complexity for five key initiatives so teams can focus on transforming their businesses.

1. Cloud Migration
2. Data Center Extension
3. DR in the Cloud
4. VDI Operations
5. App Modernization

Select each icon to explore more
1. Cloud Migration

Cloud adoption is happening fast. More than 9 in 10 enterprises (93%) have a multi-cloud strategy and nearly 9 in 10 enterprises (87%) have a hybrid cloud strategy, according to the 2020 State of the Cloud Report. But that doesn't mean their strategies are successful. Rapid cloud adoption poses a big challenge for IT staff—how to ensure cloud doesn't become the next great IT silo with fragmented tools, incompatible features, APIs and automation constructs that prevent visibility and governance across clouds.

Out of the box, vRealize Cloud Management is extensible with many integrations and provides native support across hybrid cloud for consistent management. That’s why if organizations have apps on prem and want to move them to the cloud, vRealize Cloud Management is the best solution to meet their hybrid cloud management needs. It accelerates app migration by providing full visibility into component dependencies, costs, compliance, network requirements and the security posture, so migrating apps is simpler. As a bonus, IT teams enjoy consistent operations after migration.

To speed and ease cloud migration, vRealize Cloud Management includes these comprehensive capabilities:

- **Assess and inventory infrastructure.** Appropriately size VMware Cloud on AWS hosts and plan VMs to exclude
- **Right-size and reclaim resources** as well as baseline performance before migration
- **Assess bandwidth, egress charges.** Discover apps and map dependencies. Build migration waves for VMware HCX
- **Post migration, verify health and performance**
- **Enable end-to-end network visibility** and troubleshooting
- **Set up cloud constructs** and automate provisioning with cloud-agnostic templates. Provide a self-service portal
- **Ease Day 2 operations**, including automated workload balancing, capacity optimization and compliance. Conduct bill analysis, cost optimization and pricing. Monitor and troubleshoot across on prem and VMware Cloud on AWS
- **Enjoy event and log analytics** for all infrastructure

"By leveraging consistent VMware infrastructure on prem and in the cloud with VMware Cloud on AWS, we are maximizing our existing processes, systems and training, and creating a highly automated environment to support the demands placed on IT operations."

BEN TANNER
DIRECTOR OF CLOUD ENABLEMENT,
IHS MARKIT

Read case study
2. Data Center Extension

COVID-19 accelerated digital transformation strategies, according to an *MIT Technology Review Insights* study. Among the most pressing initiatives is IT modernization to embrace multi-cloud. Capacity management is vital for pivoting to service-oriented IT and clouds but selecting the optimal combination of private and public cloud resources remains challenging. And of course, capacity and cost management is a top concern when moving to cloud.

By taking advantage of artificial intelligence (AI), vRealize Cloud Management ensures private clouds run at public cloud scale with maximum utilization while balancing costs and performance. Organizations can right-size, automatically reclaim and proactively predict and plan across hybrid cloud. vRealize Cloud Management is just the solution for organizations that have standardized on a hybrid cloud strategy and:

- Anticipate workloads will live on prem and others in the cloud for the foreseeable future
- Have run out of space in a current data center and want to put new workloads in VMware Cloud on AWS
- Want to put new workloads in VMware Cloud on AWS to make space on prem

vRealize Cloud Management operationalizes hybrid cloud strategies, providing consistent operations across hybrid cloud that includes self-service automation and governance.

Best of all, vRealize Cloud Management covers the spectrum of IT operations—from design to the migration of apps. For example, teams may want to resize and standardize existing apps before moving them to cloud. In cases where they are deploying new applications in this extended data center, teams may wish to set up controls and resource limits before they provision and deploy new apps. It’s all possible with vRealize Cloud Management.

To ease and affordably extend data centers running modern or new apps, vRealize Cloud Management includes these comprehensive capabilities:

- Define data center extension strategy with infrastructure inventory, costs, VM profiles
- Discover apps and map dependencies
- Establish controls with resource limits per project/user group
- Automate provisioning and apply governance across on prem, VMware Cloud on AWS. Set up self-service portal
- Right-size, reclaim and standardize workload sizing to prevent waste and create predictable resource demand
- Ease Day 2 operations. Monitor and troubleshoot on prem, VMware Cloud on AWS
- Do log analytics across on prem and VMware Cloud on AWS
- Conduct bill analysis, cost optimization and pricing
- Enable end-to-end network visibility and troubleshooting
Case Study: MOAD.io

Industrial robotics manufacturing firm MOAD.io experienced an unexpected spike in demand during the COVID-19 pandemic. The need for large-scale vaccine development stressed its product manufacturing and AI robotics lines. For faster time to market, leaders embraced VMware Cloud on AWS with VMware vRealize Cloud Management. That ensured the business could migrate applications to the cloud for unlimited scale, achieve consistent operations for a hybrid cloud, and set up self-service automation to meet scaling requirements.

vRealize Cloud Management Accelerates MOAD.io App Migration to VMware Cloud on AWS

1. **Assess**
   - Achieved accurate comparisons to optimize outcomes with a faster way to:
     - Discover all applications
     - Finalize migration scope for each application
     - Assess application capacity needs
     - Run expansion scenarios
     - Finalize capacity bill of materials

2. **Migrate**
   - Simplified operations to save time and resources with an easier approach to:
     - Select a migration candidate
     - Migrate application
     - Monitor migration

3. **Monitor**
   - Enjoyed single-pane-of-glass visibility into:
     - Application health and performance
     - Infrastructure health and performance
     - Capacity and waste
     - Cost
     - Compliance

4. **Manage**
   - Eased IT administration, boosting operational excellence with:
     - Self-service provisioning
     - Self-service monitoring
     - Day 2 actions
     - Chargeback

vRealize Cloud Management Benefits

- Increased agility
- Optimized cloud costs
- Lower risk

Watch the demo
3. Disaster Recovery in the Cloud

Natural disasters and human errors have always been on IT’s radar as possible contributors to downtime, but a different, more severe threat now challenges enterprises—and that’s ransomware. It’s exploding. Ransomware is expected to attack a business every 11 seconds by the end of 2021, costing organizations globally more than $20 billion. That has organizations looking to strengthen their disaster recovery (DR) approaches. Despite increased cloud security spending, security concerns still hinder cloud adoption. Among organizations’ chief worries is where infrastructure and networking are highly abstracted and cross public–private boundaries. Moreover, app compliance with industry and regulatory benchmarks (e.g., HIPAA, PCI, GDPR, etc.) is no longer a yearly exercise, but an ongoing concern.

With intrinsic security and constant monitoring of compliance stature through alerting and automated remediation, vRealize Cloud Management empowers organizations to understand app connectivity, and provides recommended changes to network firewalls to protect east–west traffic. Boosting security and streamlining security is what VMware Cloud Management does. It assures readiness, availability, security and compliance of DR sites for organizations that have standardized on a hybrid cloud strategy.

To simplify DR in the cloud, vRealize Cloud Management includes these capabilities:

• Discover application dependencies for DR inventory readiness
• Extend management to DR to ensure DR readiness/availability and confirm app recovery during test/events
4. Virtual Desktop Infrastructure Operations

Government-mandated, stay-at-home directives caused virtual desktop infrastructure (VDI) popularity to skyrocket. After all, VDI easily and securely enables the delivery of data and applications to any device—without data being stored on endpoint devices. Yet guaranteeing app performance in cloud environments can be challenging.

vRealize Cloud Management includes AI-driven workload optimization that constantly monitors performance and adjusts placement of virtual machines (VMs) automatically to address resource constraints. Adopting VDI with robust cloud management sets organizations up for success. VMware Cloud Management unifies VDI operations with performance optimization, capacity and cost management and monitoring across users, sessions, pods and more.

To simplify and secure VDI operations, vRealize Cloud Management includes these capabilities:

• Perform VDI network monitoring and analytics
• Manage VDI objects: users, sessions, pods, capacity, performance and optimization with agentless connectivity
5. App Modernization

Because in many ways, the app experience has become the human experience, organizations are moving quickly to introduce next-generation applications and services to boost customer experience. In fact, of the organizations VMware has studied this year, 90 percent of executives are prioritizing legacy app migration and modernization. Yet to pivot quickly, app developers must be able to work efficiently and without barriers to resources and platforms.

vRealize supports developer self-service with code pipeline automation for VMs, Kubernetes (K8s) and serverless so talented staff is writing code for next-gen apps, not waiting on IT. For organizations tasked with building and maintaining Kubernetes infrastructure, vRealize Cloud Management is the ideal modern and agile environment for developers. That’s because it speeds developer-ready infrastructure with self-service automation for both K8s and VMs, streamlines the developer experience with Infrastructure as Code (IaC), and incorporates best practices from the DevOps world into traditional infrastructure and operations processes.

To speed and simplify app modernization, vRealize Cloud Management includes these comprehensive capabilities:

- Enable app discovery, dependency mapping. Network Day 2 operations and troubleshooting
- Conduct Kubernetes to infrastructure inventory, monitoring, logging, capacity optimization, planning, troubleshooting and compliance
- Combine and offer infrastructure objects with native AWS services (Lambdas, RDS, S3, etc.) in VMware Cloud Template
- Define and self-serve predefined K8s resources (clusters and namespaces)
- Iterate closely with developers and embrace their best practices in a language everyone understands with infrastructure pipelines, GitOps and low-code approach for IaC
- Extend actions to any system with ABX (FaaS)
VMware Cloud Management is Unique

There’s no other intelligent cloud management platform like vRealize. You can use it to manage your on-prem VMware infrastructure stack, VMware Cloud on AWS and even extend to native AWS services. It’s proven, deployed across tens of thousands of mission-critical and large-scale environments, making VMware the leading vendor in market share of both cloud systems management and cloud automation, according to IDC market share snapshots.

Only vRealize Cloud Management is differentiated by the capabilities, flexibility and partnerships necessary to successfully deliver on the promise of hybrid cloud:

**Comprehensive capabilities**

vRealize Cloud Management is a complete solution that simplifies cloud adoption using the richest set of features, including innovations powered by AI, ML and DevOps practices.

**Ultimate flexibility**

With vRealize Cloud Universal, the solution uniquely offers the flexibility to choose consumption options of on prem and SaaS, along with a hybrid subscription of both in a single license. This enables organizations to adopt a cloud-first model at their own pace while protecting existing investments as well as flex for data center extension and during uncertain cloud adoption schedules.

**Broadest ecosystem**

vRealize Cloud Management is highly extensible with 220 ecosystem integrations across hardware vendors, HCI platforms, data center infrastructure, applications, templates and services that meet the needs of diverse IT environments for a seamless operating environment across private and public clouds.
Financial Firm Accelerates Its Cloud Journey

When Provident México looked to cloud to boost business growth, it turned to VMware. The combination of VMware Cloud on AWS to run workloads and apps while complying with regulations and VMware vRealize Cloud Management to reduce risk accelerated the financial services organization’s cloud journey.

The positive impact has been dramatic:

- **Two-year migration time savings** – Completed cloud migration in just five and half months due to accuracy of information
- **Discovered 30% less capacity was needed in the cloud** by comparing consumption of on-prem and cloud capacity
- **Improved efficiency** by simplifying IT management, enabling just 2 staff members to monitor and maintain 300+ servers
- **Lowered risk** with rapid discovery of application and networking dependencies

"It’s intimidating to think about putting high-value workloads in the cloud, especially in financial services, but adopting cloud is both necessary and practical to achieve IT and business goals. It used to take me around a year and a half just to place an application in production. With VMware vRealize Cloud Management, I now do it within months. It’s a game changer."

NÉSTOR RODRÍGUEZ
DIRECTOR OF TECHNOLOGY AND CHANGE,
PROVIDENT MÉXICO

Read case study
Achieve the Promise of Hybrid Cloud with VMware

By combining VMware Cloud Management automation, logging, operations and network operations capabilities with VMware on AWS deployment, organizations achieve cloud strategy goals faster. They gain a cloud operating model that provides consistent infrastructure with consistent operations across hybrid or multi-cloud environments that delivers productivity, cost savings and business acceleration results.
Discover how vRealize Cloud Management can boost your VMware Cloud on AWS success.

Explore by starting with Pathfinder.