Cloud Migration and Modernization with VMware Cloud on AWS

SOLUTION OVERVIEW

Consistent infrastructure delivered by the same vSphere-based SDDC stack that you use on-premises

WAN-optimized, encrypted live migration of thousands of virtual machines without downtime or infrastructure retrofit

Ad-hoc migrations enabled with VMware vSphere® vMotion® for live migration, or customers can power off their virtual machines and perform a cold migration

Familiar vCenter-based management based on vSphere and vCenter APIs

Enterprise-grade infrastructure, delivered as a service with platform level capabilities to meet the needs of mission-critical applications

A seamless developer experience across the entire platform with a developer center, developer tools, and automation tools

A simplified path to running Kubernetes and containers on VMware Cloud on AWS with the support of VMware Tanzu Kubernetes Grid Plus

High bandwidth, low latency access to 170+ native AWS services for extending the value of enterprise applications

The need for greater agility and access to latest innovations have driven cloud infrastructures to become increasingly attractive to organizations.

Organizations migrate to the cloud to support business growth, drive digital transformations, improve development cycles and to optimize costs. During this transition, several migration, post-migration, and modernization challenges emerge that increase time, risk and costs associated with successful completion of such projects:

1. **Need for re-architecting or re-factoring applications** to suit public cloud infrastructure

2. **Service disruptions** due to downtime associated with migrating and modernizing mission-critical applications

3. **Learning curves and investments** associated with skillset, tools, process and governance changes needed to manage disparate cloud infrastructures

4. **Post-migration** ensuring application performance, resiliency and scale requirements are met while optimizing resource management

5. **Lack of integration abilities** to easily and seamlessly leverage CI/CD methodologies, application catalogs and native cloud services to enrich enterprise applications, due to a fragmented technology ecosystem

6. **Wastage of current IT investments** while modernizing applications

VMware Cloud™ on AWS solves these migration and modernization challenges by delivering a hybrid cloud service that integrates familiar VMware's flagship Software-Defined Data Center (SDDC) technologies compute, storage and network virtualization products (VMware vSphere®, VMware vSAN™ and VMware NSX®) along with VMware vCenter® management as well as robust disaster protection, and optimizes it to run on dedicated, elastic, Amazon EC2 bare-metal infrastructure. It provides an enterprise ready platform option for organizations to modernize their existing applications while ensuring that they are future proofing their investments for new application development.

London business information provider IHS Markit **migrated 1,000 workloads to VMware Cloud on AWS in only six weeks.**

"VMware Cloud on AWS helps us build on our success with VMware in our private, on-premises environment and cost-effectively extend services to a global hybrid cloud."

BEN TANNER
DIRECTOR OF CLOUD ENABLEMENT,
IHS MARKIT
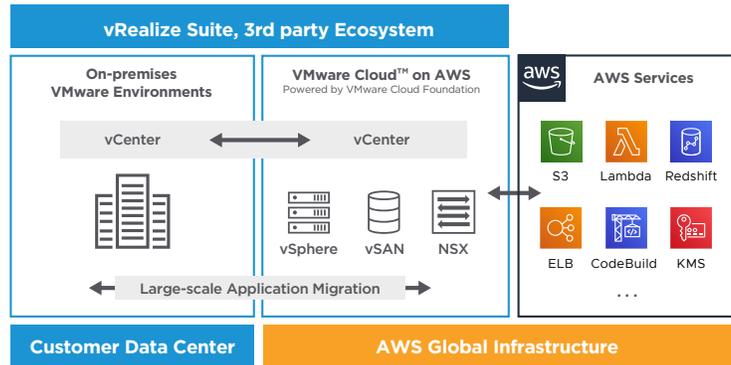
Why VMware Cloud on AWS

Fast
Reduce migration effort from multiple months to weeks and bring innovation faster to the market with modern applications

Simple and Consistent
No staff retraining or revamping of operational processes

Cost-effective
No application re-factoring or re-architecting needed during migration

Low risk
Migrate live without retrofit, run your applications on familiar and proven VMware environments combined with global AWS footprint, reach and scale

Modern
DevOps ready unified infrastructure platform that supports Kubernetes, virtual machines, and provides optimized access to AWS services

Key Capabilities

1. **Consistent infrastructure** delivered by the same vSphere-based SDDC stack that you use on-premises, with no need to re-architect or re-factor applications.

2. **WAN-optimized, encrypted live migration** of thousands of virtual machines without downtime or infrastructure retrofit delivered by VMware HCX:

   • No infrastructure retrofit. Leverage seamless, secure, bi-directional migration between vSphere 5.0+ environments and VMware Cloud on AWS – no necessity to update application, OS, Network IP or MAC

   • Customize migrations depending on workload needs. VMware HCX supports large-scale live migration with zero downtime with proactive replication seeding. It also supports warm/cold migrations at scale

   • Built-in intelligence for accelerating migrations with WAN optimization and intelligent routing

   • Advanced migration scheduling with post migration workflows to ensure the VM is running the latest VM tools and VM hardware

3. **For ad-hoc migrations**, customers can also use VMware vSphere® vMotion® for live migration or power off their virtual machines and perform a cold migration.

   • Enhanced vMotion capability: Simplifies compatibility issues across CPU generations, on per VM basis and performs per VM level migration instead of cluster level

4. **Familiar vCenter-based management**, based on vSphere and vCenter APIs so your existing VMware and third-party tools continue to work without the need for re-training

5. **Enterprise-grade infrastructure**, delivered as a service with platform level capabilities that deliver the needs of mission-critical applications

   • Entire SDDC provisioned in under 2 hours on average, and hosts added in minutes
   • Predictable, high-performance compute with vSphere, the industry's leading virtualization platform, running on elastically scalable AWS bare-metal infrastructure
   • Flexible policy-driven resource management with compute policies, reservations/limits/shares, memory ballooning, VMware vSphere® Distributed Resource Scheduler™ (DRS) and automated cluster scaling with Elastic DRS
   • Built-in resiliency with failure protection at VM, host and AWS Availability Zone level with vSphere High Availability, automated host remediation and Stretched Clusters. For region level protection, VMware Site Recovery offers flexible topologies for site protection
   • Zero-click, enterprise-class storage with vSAN, with encryption, deduplication and compression
   • Advanced networking and security services with NSX-T, including micro-segmentation

6. **Modernize enterprise workloads** of today and tomorrow

   • Automated provisioning and management of VMware Cloud infrastructure using Infrastructure as Code. Customers can automate IT infrastructure operations leveraging developer tools such as APIs, SDKs and code samples and explore the content related to automation and integration using Public developer center.
   • Elastically scalable infrastructure in the cloud for containerized workloads with support for running Tanzu Kubernetes Grid Plus (TKG+) on VMware Cloud on AWS. With TKG+ support, customers can deploy, scale and manage Kubernetes clusters on VMware Cloud on AWS.
   • Simple and consistent way for their applications to access a broad range of AWS services, including storage, database and analytics, serverless, compute, networking, security, IoT, machine learning and more. By seamlessly integrating with these innovative native AWS services, customers can incrementally add new features to their applications and enhance the end user experience.