VMware Cloud on AWS

Helping governments in their
IT modernization journey

KEY DRIVERS FOR GLOBAL GOVERNMENT SECTOR IT MODERNIZATION

- Improve the quality, efficiency, and effectiveness of government operations and services
- Enhance citizen engagement and satisfaction with government services by modernizing aging legacy infrastructure and applications
- Deliver new mission capabilities, speed mission cycles, enable new service delivery models and digital experiences for employees and citizens by incorporating agility and innovation
- Reduce capital and operating expenditures by reducing data center footprint, hardware, licensing and operating costs while improving organizational performance, productivity, and agility
- Transform government workforce rapidly with higher percentage of staff working remotely
- Need hybrid-cloud operations and operations diversity to ensure resilience in the future for critical events; whether public health/safety or disaster preparedness

Government leaders are turning to IT modernization to improve mission delivery and productivity, drive value and cost efficiencies and meet citizen expectations for modern, efficient and cost-effective services.

But while modernizing IT infrastructure, government agencies need to resolve many challenges such as reducing data siloes, improving agency efficiency, and boosting IT performance. Hybrid cloud has played an important role in resolving these challenges and providing speed, agility, scale and accelerated innovation needed for IT modernization. However, when government agencies consider adopting a hybrid cloud path, they face many challenges that increases costs, risk and time of their IT modernization project.

Challenges

Some of the key challenges governments while adopting hybrid cloud are:

- Inconsistent infrastructures between private cloud and public cloud, forcing customers to re-architect / refactor existing applications while moving to cloud, thus increasing risks, costs and complexity
- Inability to move workloads bidirectionally across on-premises and cloud environments as per their needs that leads to vendor-lock in
- Differences in operational model and inability to leverage established on-premises governance, security and operational policies while taking advantage of cloud-scale and agility, no federal compliance
- Complexity of using multiple management tools to manage on-premises and cloud environment
- Inability to leverage existing IT skillsets and tools when adopting public cloud
- Lack of security and compliance certifications that might lead to security vulnerabilities of sensitive data

Solution

VMware has a long history of providing federal, state and local government agencies with software products that simplified the operation and management of IT. As part of its commitment to deliver technologies that help governments modernize their IT infrastructure, VMware and Amazon Web Services – the industry leading private and public cloud providers respectively, announced VMware Cloud on AWS and VMware Cloud™ on AWS GovCloud (US), a hybrid cloud services that would enable public sector agencies and private sector customers in highly regulated industries to leverage a consistent cloud infrastructure on-premises and in the public cloud to further increase agility, innovation and security, while maximizing the usage of existing IT investments.

VMWARE CLOUD ON AWS SOLUTION OVERVIEW

• Consistent infrastructure and operations across on-premises and cloud environment

• 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

• On-demand expansion of your data center capacity to the cloud with no impact to application uptime or disruption to end users

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

VMWARE CLOUD ON AWS GOVCLOUD (US) SOLUTION OVERVIEW

• Secure infrastructure to meet stringent security and privacy controls to run sensitive workloads in the cloud

VMware Cloud on AWS provides IT teams an on-demand, scalable hybrid cloud service that enables them to seamlessly extend, migrate, and protect their infrastructure in the cloud. And once in the cloud, they can start their application modernization journey with minimal disruption. With the same architecture and operational experience on-premises and in the cloud, IT teams can now quickly derive instant business value through the AWS and VMware hybrid cloud experience.

VMware Cloud on AWS GovCloud (US) provides them ability to run highly sensitive government workloads with the hardened security and production-grade capabilities that government agencies can benefit from.
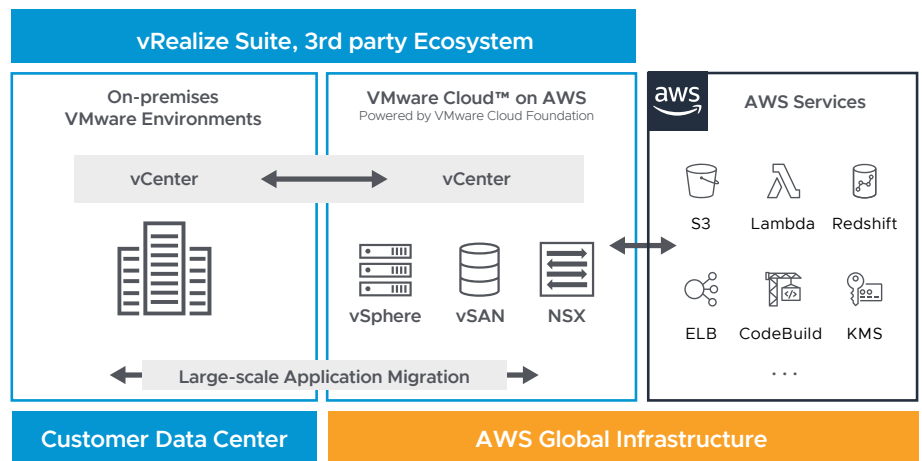

FIGURE 1: VMware Cloud on AWS brings VMware's enterprise-class Software-Defined Data Center software to the AWS Cloud and enables customers to run production applications across VMware vSphere-based private, public and hybrid cloud environments, with optimized access to AWS services.

Key value propositions

• **Run, manage, secure and protect production applications** in a seamlessly integrated hybrid IT environment **without having to purchase custom hardware**

• Deliver rapid time to value with the ability to spin up an entire VMware Software Defined Data Center (SDDC) in the AWS Cloud in **under two hours on average and scale host capacity in minutes**

• Accelerate cloud migrations **from months and years to weeks and days** by **eliminating the rework tax** needed to re-architect enterprise applications with **consistent infrastructure** across vSphere-based private clouds and the AWS Cloud.

• 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

• Secure sensitive information with **intrinsically secure platform supported by major regulatory compliance certifications**.[1]

SCOTTISH GOVERNMENT CREATES FIRST-MOVER ADVANTAGE BY EXPLOITING LATEST TECHNOLOGY

The Scottish Government's Agriculture and Rural Economy Directorate put together a team of four to run a Proof-of-Concept, including House of Brick Technologies, a long-term services provider and VMware partner. The team managed the conversion and migration process within **3** weeks of starting.

• Zero downtime during the migration process

• Application running costs 5-6x lower

• Seamless conversion and migration of DR protocols to VMware Cloud on AWS

• Quick, easy execution based on existing IT models to prevent complexity

"We could be five or six times more expensive running our application natively in the cloud. VMware Cloud on AWS means we're not spending money wildly by going to the cloud. Boy, was it doable. We were able to execute quickly, with the skills we already had. Plus, it was the most cost-effective option. VMware Cloud on AWS was a no brainer"

NEILL SMITH, HEAD OF IT INFRASTRUCTURE, THE SCOTTISH GOVERNMENT'S AGRICULTURE AND RURAL ECONOMY DIRECTORATE

Scottish Government
Riaghaltas na h-Alba
gov.scot

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• **Flexibly choose** where to run apps based on business needs. **Seamlessly move workloads bi-directionally** between vSphere-based private clouds and the AWS Cloud

• **Leverage established on-premises enterprise security, governance and operational policies** and extend that with the cloud scale and security that AWS Cloud brings

• Take advantage of **flexible consumption economics** in order to provision cloud services on a predicable per-host basis, avoiding cost overruns

• Leverage the most expansive **global scale and reach** that AWS provides in order to scale government services across different regions

Use cases

Modernization of government data centers

• Data center consolidation: Want to consolidate data centers with consistent, secure, and programmable IT infrastructure in order to reduce data silos

• IT infrastructure transformation: Want to build and manage containers and microservices, enabling developers with the resources and environments they need to drive continuous innovation

• Transformation of IT services delivery: Want to automate traditional IT tasks and accelerate the delivery and ongoing management of infrastructure, applications, and custom services

• DevOps-ready IT: Need to rapidly provision a complete application stack within a hybrid cloud and support developer choice in how resources are accessed in order to accelerate government app development and delivery

Data center extension / cloud migration

• App specific migrations: Want to move specific applications or mission critical workloads to the cloud due to specific business needs e.g. Want to move business critical applications such as Oracle or Virtual Desktop Infrastructure workloads to the cloud

• Footprint expansion: Want to provision IT capacity rapidly to remote locations where there is no data center presence or do not want to provision net new capacity in existing government data centers for new projects or to the remote field offices with access to network applications with VMware SD-WAN support for VMware Cloud on AWS

• Business continuity needs:

– On-demand capacity: Have capacity constraints on-premises to handle seasonal spikes in demand or meet dynamic mission requirements or want to burst infrastructure and services capacity to support high, unexpected, data volumes and government staffers working from new locations or to create a secure, agile and scalable infrastructure operations to meet citizen service demands

– Virtual desktops and published apps: Want to enable remote working for government workforce or to provision student-centered online campus to support remote education or have a need for leveraging consistent cloud capacity for scaling on-premises virtual desktops infrastructure for temporary workers or contractors

– Disaster recovery: Want to replace Existing DR in order to reduce secondary DR site costs by moving their DR operations to the cloud or want to modernize their existing DR solutions or want to complement their existing DR strategy with a cloud-based DR solution for specific applications

• Test/dev: Have a need for doing test and development activities in the cloud in an environment that is operationally similar to their on-premises environments

vmware | **aws**

Next-generation apps development and delivery

- Application modernization: Want to utilize native AWS services to extend the value of existing government applications and improve citizen engagement and satisfaction or to modernize traditional applications to deliver citizen-centric digital services

- Next-generation application build-out: Want to build new applications using native AWS services while leveraging infrastructure that is consistent with their on-premises vSphere environments e.g. Build smart city/smart military applications by integrating AWS IoT/AI/ML services or building mobile applications for mobile public safety workforce or want to build new applications to perform real-time data access and data analytics

- Hybrid applications: Want to build hybrid applications spanning the data center, cloud, edge, native AWS services or a combination of these

1. For VMware Cloud on AWS: ISO 27001, ISO 27018, ISO 27017, CSA, Cyber Essentials, HIPAA, GDPR, FISC, SOC1 and 2. For VMware Cloud on AWS GovCloud (US): FedRAMP Ready (Impact level: High), FedRAMP Agency High ATO (In-Progress), FIPS 140.2 compliant cryptographic modules for encryption, Operated exclusively by VMware engineers who are U.S. citizens located on U.S. soil)