

INTEGRATE PUBLIC CLOUDS

Strategically Manage Workloads across
On-Premises, Private, and Public Cloud Infrastructure

Accelerate Legacy Modernization Initiatives

It's no secret that migrating data and legacy systems to the cloud has become a surefire way for state and local governments to improve overall performance, security, and cost of service delivery. State and local agencies are devoting more budget to cloud computing than ever before, in part to decommission systems developed decades ago but also to support today's digital world—a world that relies on cloud-based applications, mobile processes, and real-time information against evolving cyber threats. According to a 2016 Grant Thornton state CIO survey, more than 70 percent of state CIOs operate within a spectrum of formal and informal cloud-first policies, with many leveraging a combination of virtualization and hybrid cloud infrastructure to migrate legacy applications, modernize storage, and implement disaster recovery and Continuity of Operations (COOP) strategies.¹ While private cloud solutions still rank at the top, hybrid cloud services are quickly gaining traction within state and local IT due to ongoing investment and innovation across commercial cloud environments as well as long-term cost savings in hardware, maintenance, and expertise.

VMware Solutions for Hybrid Cloud Deployments in Government

VMware's hybrid cloud architecture—known as the VMware Cross-Cloud Architecture™—enables government agencies to securely run, manage, and connect any app on any cloud by extending best-in-class VMware vSphere® infrastructure to compatible, vSphere-based government clouds, including IBM Cloud and AWS GovCloud. A common operating environment enables agencies to securely migrate from internal data centers into private or public clouds and move workloads as needed—without re-architecting application architectures, lifecycle management processes, or security best practices.

The VMware Cross Cloud-Architecture supports many government use cases, including:

- **Data Center Extension** Reduce time, risk, and cost by seamlessly moving vSphere workloads on-demand using a common platform that is 100-percent compatible with the existing vSphere environment
- **Data Center Consolidation** “Lift and shift” data center infrastructure from on-premises environments quickly and efficiently, and implement secure public cloud architecture that remains consistent with on-premises requirements and workloads
- **Continuity of Operations** Maintain availability and run mission-critical applications, including databases, web apps, and virtual desktop infrastructure, from the cloud
- **Disaster Recovery** Manage cloud-based disaster recovery capabilities across vSphere virtual environments with a hypervisor-based replication engine, automated failover testing and recovery, and elastic cloud compute and storage capacity
- **DevOps-Ready IT** Rapidly provision a complete application stack within a private or hybrid cloud, and support developer choice in how resources are accessed
- **Infrastructure Automation** Accelerate the delivery and ongoing management of infrastructure, applications, and custom services with policy-based governance and automated lifecycle management

“We can take advantage of VMware technology to bring solutions in and out of the cloud easily. We want to manage our network in a way that's more flexible, but also more secure and without needing as much hardware and personnel time. VMware is creating a strong ecosystem that will give us a multitude of options as IaaS and platform-as-a-service (PaaS) landscapes continue to change.”

ROB LLOYD
CHIEF INFORMATION OFFICER
CITY OF AVONDALE

¹ Grant Thornton Public Sector, [2016 State CIO Survey](#), Sept. 2016

AT A GLANCE

Government IT is evolving from reactive, hardware-dependent silos to proactive, software-defined organizations that drive agility, increase efficiency, and accelerate innovation. VMware's unique cross-cloud architecture helps agencies uniformly deploy, manage, and control private, public, and hybrid cloud services in response to changing mission requirements. With VMware, agencies can implement cloud solutions that support their unique cloud strategies and transform the role of IT.

KEY BENEFITS

- Improve performance, visibility, and availability across hybrid cloud environments
- Automate lifecycle and performance management, increase IT efficiency, and intelligently manage the cost of virtualized infrastructure across private and public clouds
- Streamline operations and lower TCO of private, public, and hybrid cloud deployments while increasing transparency and return on IT investment
- Strengthen network and application security by provisioning firewalls at the application-level and automating monitoring of workloads against compliance and security postures
- Accelerate data center consolidation and modernization initiatives, including shared services

Manage and Secure Multiple Clouds

Although public clouds offer agencies the advantage of continuous commercial innovation, managing workloads across private and public clouds means disparate tools, skill sets, policies, and processes. VMware enables end-to-end automation and intelligent operations management across clouds using a vSphere-based common operating environment. VMware's enterprise-ready cloud management platform (CMP), VMware vRealize® Suite, reduces multi-cloud complexity through:

- Automated delivery of personalized infrastructure, applications, and IT services
- Intelligent health, performance capacity, and configuration management
- Real-time log management and analysis
- Automated costing, usage metering, and service pricing of virtualized infrastructure

Leveraging vRealize Suite, agencies can significantly reduce the TCO of multi-cloud environments and eliminate complex processes around system design, testing, and configuration; increase administrator productivity; and automate operational tasks such as patching, updates, and monitoring.

VMware's CMP technologies are also natively integrated with other VMware SDDC solutions. Together, vRealize and network virtualization solution, VMware NSX®, enable network and security teams to dramatically reduce the amount of effort and cost involved in provisioning infrastructure, including provisioning application-level security firewalls. This process, also known as micro-segmentation, applies security policies during provisioning that automatically follow workloads. vRealize continuously monitors and audits compliance postures of the NSX distributed firewalls and, together, vRealize and NSX enable unprecedented efficiencies across mission-critical physical and virtual network infrastructure.

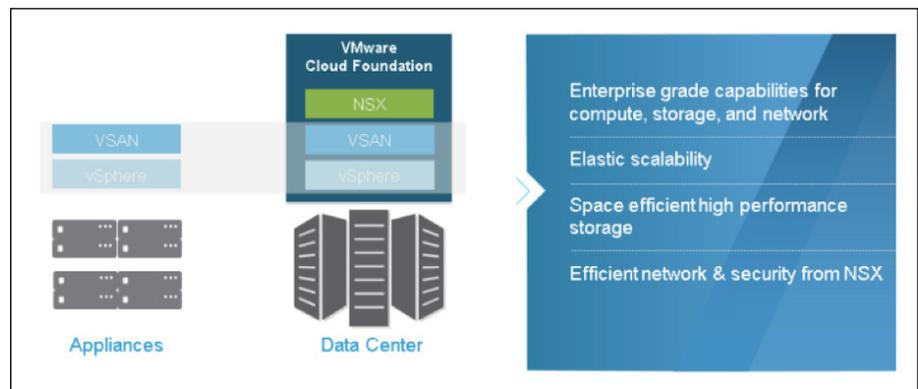


FIGURE 1. Cloud Foundation delivers enterprise-ready cloud infrastructure by combining VMware's highly scalable, hyper-converged software with network management efficiency.

VMWARE'S PARTNER ECOSYSTEM

VMware's robust ecosystem of government cloud partners deliver VMware-validated cloud services to existing VMware customer environments, including:

- **VMware Cloud Foundation on IBM** lets organizations deploy a native VMware Software-Defined Data Center (SDDC) environment in minutes. Delivering the enhanced security of a single tenant physical infrastructure, this service employs IBM's global data center footprint and extensive cloud services while delivering a fully virtualized VMware SDDC.
- **VMware Cloud™ on AWS** brings VMware's enterprise-class SDDC software to the AWS cloud. Powered by VMware Cloud Foundation, this service enables agencies to run any application across vSphere-based private, public, and hybrid cloud environments. Delivered as an on-demand, elastically scalable service, agencies can leverage the depth and breadth of AWS services, including storage, databases, analytics, and more.

SUPPORTING PRODUCTS**Leverage Hybrid Clouds**

- VMware Cloud Foundation™
- VMware vSphere
- VMware vSAN™
- VMware NSX
- VMware vCloud® Air™
- VMware vCloud Air Network, including:
 - VMware Cloud Foundation on IBM
 - VMware Cloud on AWS

Manage Multiple Clouds

- VMware vRealize Suite
- VMware vRealize Automation™
- VMware NSX

Learn More about VMware Solutions for State and Local Government

VMware's Cross-Cloud Architecture enables agencies to implement hybrid cloud solutions that give IT choice and flexibility in how to build, run, secure, and manage private and commercial cloud workloads. Only VMware—the industry leader in virtualization, hyper-converged infrastructure, and cloud management technologies—offers a comprehensive IT portfolio in support of government cloud strategies and mission requirements. With VMware, agencies can flexibly and securely deploy a cloud-first vision to achieve optimization, cost avoidance, and performance goals—without compromising availability or security.

Realize the possibilities with VMware.

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