MODERNIZE GOVERNMENT DATA CENTERS

Increase Efficiencies, Achieve Cost Savings, and Improve Security Posture of the IT Environment

AT A GLANCE

Digital advances in IT infrastructure transform mission and program outcomes. At the core of digital transformation is the rebuilding of the foundation of government IT operations—the data center. VMware's software-defined infrastructure solutions enable agencies to extend server virtualization to storage and networking to build fully software-defined data centers with a common operational model across clouds. As a result, agencies improve IT performance, availability, and agility while protecting against threats, supporting modern workflows, and reducing capital and operating costs.

Modernize the Foundation of Government IT Operations

State and local government agencies are under more pressure than ever to improve service delivery, operational efficiency, and data security at lower cost. The IT department is critical to operations, yet many of the technologies underpinning state and local workflows monopolize the budget, threaten citizen personally identifiable information (PII), and challenge innovation. Despite today's reality of doing more with less, state and local governments must invest in strategically updating legacy IT infrastructure or risk compounding Operations and Maintenance (O&M) costs, threats to critical systems, and stagnated service delivery models.

From Data Center Consolidation to Data Center Modernization

A major shift is happening in state and local IT environments. Consolidation remains a top priority, largely driven by the need to modernize legacy systems, improve service delivery models, reduce total cost of ownership (TCO), and migrate to the cloud. There is no shortage of IT innovation taking place across state and local governments, from adopting best-of-breed commercial off-the-shelf (COTS) solutions to improving information sharing across departments to leveraging hybrid cloud services to increase agility and maintain Continuity of Operations (COOP). With a software-defined approach to infrastructure, agencies can simultaneously achieve consolidation, modernization, and service delivery goals in the face of mounting cyber threats and strained resources.

VMware Solutions for Government Data Center Modernization

Although server virtualization has been the cornerstone of data center modernization efforts, agencies are still battling the effects of decades of chronic underinvestment in IT infrastructure—continuing to rely on traditional storage and networking constructs, purpose-built legacy systems, and perimeter-centric security protocols. Achieving next-level service delivery, agility, and optimization hinges on the government data center. By taking a software-defined approach to compute, storage, and networking, agencies build software-defined data centers that check off most of the items on an IT bucket list, including: centralized management, consolidation, legacy modernization, automation, maximum security, hybrid cloud portability, and employee mobility. Acting as a partner, advisor, and guide, VMware helps state and local government IT teams securely evolve toward a software-defined data center to accelerate digital transformation and achieve mission success—without incurring additional risk or excessive costs.

Modernize IT Infrastructure

A modern data center starts with a modern infrastructure. However, traditional data centers have been constructed with siloed infrastructure layers, purpose-built hardware, and fragmented management, resulting in complex deployment and operations and slower delivery of IT services and applications. Government organizations need a modern infrastructure that merges traditional infrastructure silos into a cohesive platform that responds to the dynamic needs of the mission, supports both legacy and new applications, and seamlessly extends to the cloud.

VMware helps agencies achieve this vision by extending virtualization

KEY HIGHLIGHTS

- Meet the speed and agility needs of the mission with faster, on-demand delivery of IT resources
- Automate IT service delivery in hours or minutes, not days or weeks
- Consolidate data center footprint and increase agility with virtualization across compute, storage, and networking
- Reduce CapEx and OpEx with less hardware, maintenance, and manual configurations
- Support DevOps and application modernization projects
- Reduce IT complexity while strengthening cybersecurity
- Ensure COOP with highly available, high performing compute resources
- Enable system interoperability and shared services across departments and organizations

"By consolidating 30 disparate organizations' IT infrastructures into a single, robust, private cloud-based shared services environment, the agency can effectively provision computer resources, services, and information as departments' business demands grow and change."

TIM GARZA
CHIEF INFORMATION OFFICER
CALIFORNIA NATURAL RESOURCES AGENCY

across compute, storage, and network layers, independently or through a hyper-converged infrastructure. Foundational components of the modern data center include VMware vSphere®, leading virtual storage solution, VMware vSAN™, and groundbreaking virtual network solution, VMware NSX®–all of which can be run on premises or as a service from an extensive ecosystem of vSphere-based government cloud service providers, such as IBM or AWS. Meanwhile, VMware's Cross-Cloud Architecture™ enables agencies to manage apps and workloads anywhere using a common operating model and the same set of tools—reducing management silos and optimizing administrative resources across clouds.

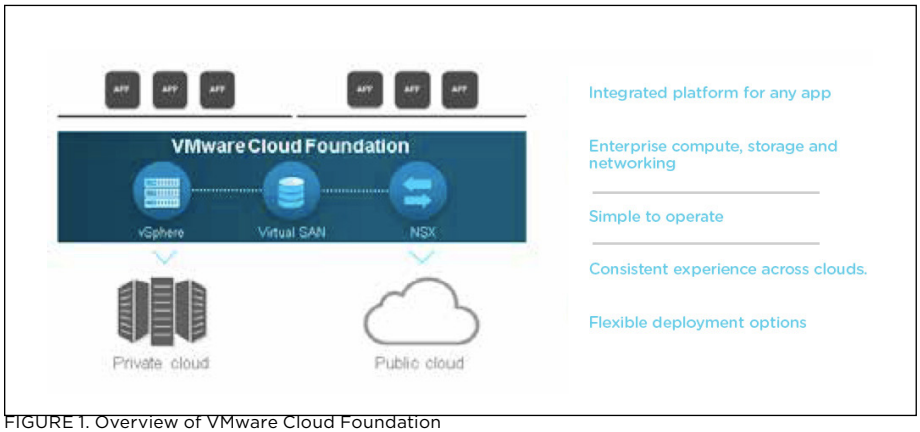

FIGURE 1. Overview of VMware Cloud Foundation

Automate IT

A major advantage of the VMware Software-Defined Data Center (SDDC) is the ability to automate data center management and operations. With VMware, agencies can transform the IT services lifecycle with a suite of IT automation solutions that improve performance and strengthen cybersecurity by eliminating time-consuming manual processes. The VMware vRealize Suite® of cross-cloud automation solutions enable agencies to embed policies into the infrastructure and application components to rapidly configure, provision, deploy, test, update, and decommission infrastructure and applications for more consistent delivery and management of IT resources. Agencies can also leverage vRealize solutions to automate infrastructure monitoring, improve workload placement decisions, and intelligently manage the health, usage metering, capacity, and cost of virtualized infrastructure.

As application requirements become more demanding and the scale of deployments grow, agencies can reproduce the physical network into software, and attach network and security services to policy-driven workloads via VMware NSX. NSX automates networking operations—eliminating bottlenecks associated with hardware-based networks—while enabling a fundamentally more secure, compliant, and highly available infrastructure. By embedding security functions right into the hypervisor, NSX delivers the operational model of a VM for the network. Like VMs for compute, virtual networks are programmatically provisioned and managed independent of the underlying network hardware. Security policies travel with the workloads, enabling micro-segmentation across data centers and clouds. Once micro-segmentation is deployed, vRealize continuously monitors and

"Ten to fifteen years ago, the IT environment looked much different. We had to have a server for everything, which took time to procure and provision. Using VMware solutions simplifies our work and makes us more nimble and responsive to stakeholders."

ROB LLOYD
CHIEF INFORMATION OFFICER
CITY OF AVONDALE

SUPPORTING PRODUCTS

Modernize Infrastructure

- VMware Cloud Foundation™
- VMware vSphere
- VMware vSAN
- VMware NSX

Automate IT

- VMware vRealize Suite
- VMware vRealize Automation™

Deploy Modern Apps

- VMware Photon Platform
- VMware Integrated OpenStack
- VMware vSphere Integrated Containers

audits compliance postures of the NSX distributed firewalls. Together, vRealize and NSX enable IT to gain unprecedented efficiencies in mission-critical network infrastructure through converged visibility and analytics spanning physical and virtual networks.

Run Modern Apps

To improve end-to-end digital services among citizens and employees, government organizations are interested in deploying both traditional and cloud-native apps. However, today's cloud-native apps pose distinct challenges to agencies, often employing container technologies and micro-service based architectures; changing frequently with release cycles in hours or even minutes; requiring open APIs; or running on "bare metal" platforms. VMware solutions for cloud-native applications enable developers to use container technologies, vendor-neutral APIs, and microservice-based architectures for faster and more frequent development—while backed by the security, reliability, and governance that government agencies require.

With the VMware Photon™ Platform, IT can deliver on-demand tools and services developers need to build and run container-based, cloud-native applications while retaining security, control, and performance of the data center. Agencies can deploy and manage production-grade OpenStack quickly and easily on top of existing VMware infrastructure with VMware Integrated OpenStack, or run both traditional and containerized applications side-by-side on existing VMware infrastructure with VMware vSphere® Integrated Containers™. With VMware's cloud-native application solutions, agencies can innovate faster while allowing IT to retain tight control over data and security.

Learn More about VMware Solutions for State and Local Government

Through a transformational approach to IT infrastructure that provides a ubiquitous software layer across compute, storage, and networking, VMware enables government agencies to modernize data centers and innovate IT for greater impact. With VMware, agencies can securely deploy a digital-first vision to achieve mission success.

Realize the possibilities with VMware.

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