STATESCOOP REPORT

Boosting IT Performance and Security in Multi-cloud Environments

A modern application platform that spans across on-premise and cloud environments can help state and local agencies make big gains in their IT resource management.

A growing number of forward-thinking state and municipal government agencies have successfully moved portions of their IT operations to the cloud. Though the benefits of those moves are increasingly apparent, so are the lingering costs and complexities of managing a combination of old and new infrastructure and applications.

One approach gaining traction with CIOs is establishing a modern application platform that covers both on-premises and cloud environments. This helps agency leaders tackle the cost and complexity inherent in operating both on-premise and multi-cloud environments.

Just as virtualization made it easier to replicate and manage controlled environments on a server, then within a data center, and then across networks, it's now feasible to layer a virtual platform across the network to manage applications and data no matter where they reside.

That virtual layer rides on top of the core network to bring storage, compute and software-defined networking together so IT teams can manage applications more consistently and securely.

A cloud investment to simplify infrastructure

Agency leaders struggle with the complexity and ongoing investment needed to support a cloud operating model while also maintaining many legacy systems, says Jim Hull, Director, Solutions Architecture for Government, Education and Health at VMware.

"While IT executives want the full benefits of the cloud, they lack the ability to build out infrastructure and IT services in a way that is transparent around cost," he explains.

The evolution of VMware's longstanding work in virtualizing computing environments has given it a significant head start in developing a new generation of solutions for the cloud, says Ranil Dassanayaka, Vice President, Architecture and Solution Engineering for Government, Education and Health Markets at VMware.

The VMware Cloud Foundation platform integrates VMware's advanced virtualization tools for servers, storage and networking into a powerful platform that lays across an enterprise's collective infrastructure. That makes it easier to bring together on-premise and cloud-based applications into a single operating platform, Dassanayaka says. The platform seeks to simplify the complexities of siloed agency infrastructure that has been built out over the decades.

"Historically state agencies deployed applications in a monolithic fashion. So, the programming language used to develop the application is basically just one big blob of code that is intertwined and difficult to break apart into functional areas or modules," says Gary Christofferson, Senior Manager, Solutions Engineering for State, Local and Education (SLED) Markets at VMware.

"What VMware likes to do with customers is profile what they have today to help them understand what they are getting out of it," he says. "Are they running their infrastructure as efficiently as possible? And if not, where they can reclaim, reuse or even retire portions of it?"

By bringing siloed technology resources together into a holistic, software-defined and integrated system, agencies can realize significant benefits in efficiency—by shrinking their physical IT footprint, optimizing IT management resources and ensuring consistent security policies across physical and virtual infrastructure.

Achieving multi-cloud benefits

Integrating a modern and secure application platform across the enterprise infrastructure translates into more effective resource planning on the back end, and opportunities for improved customer service on the front end.

"Multi-cloud gives agencies the ability to build technology solutions faster. That means that agencies can accelerate government service delivery with next-generation applications," Dassanayaka says.

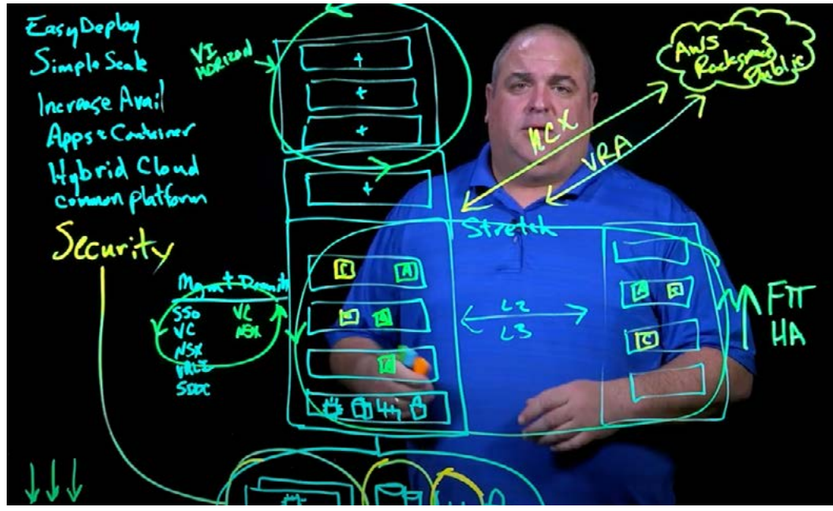
IT leaders need a flexible, multi-cloud approach to move applications freely across environments and take advantage of cloud efficiencies as they arise. The virtualization technology behind the application platform allows agencies to migrate and manage solutions across multiple cloud-service providers, like AWS GovCloud or Microsoft Azure, all while using the same familiar architecture both on-premises and in the cloud.

"We don't believe that government agencies will just use one cloud. They are going to use different SaaS services, data centers, managed services, public clouds, et cetera," Dassanayaka says.

VMware Cloud Foundation provides added agility to state and local IT departments by giving them ability to seamlessly deploy incremental application improvements across their infrastructure—on-premise and in the cloud—and without the intense retooling work that often accompany application upgrades across siloed systems.

The cloud platform, for instance, provides an abstract, virtualized component file for the application that can be distributed from one environment to another.

"Instead of refactoring, agencies will only need to 're-platform' their workload," explains Hull. "That work is significantly less costly and more time efficient for IT teams—and it shouldn't require any new skills that agencies don't already have."



Ben Sier, Group Manager, ISBU Technical Marketing gives a Lightboard image overview of VMware Cloud Foundation | *Source: VMware Cloud Foundation*

Once agencies have that ability to transition to any cloud provider, they can leverage best-of-breed capabilities from any of those environments—and also have greater assurance against vendor lock-in.

Integrating security and compliance controls

Another key advantage for moving to a modern and secure application platform is the ability to streamline security policies and reduce the workloads associated with configuring disparate systems, applications and computing environments in order to mitigate security risks.

VMware Cloud Foundation not only manages zero-trust security policies across existing data centers and in the cloud but also at the network's edge, according to Hull. "No other network platform today provides this level of intrinsic security," he says. "Agencies will be able to integrate their existing security solutions into the platform and designate who and what can access the network."

That level of compliance assurance goes a long way in easing what has traditionally been a burden on state and local IT departments, according to Hull.

Leveraging a single platform solution

Simplifying workloads puts state and local agencies in a stronger position to press forward with modernization goals and in turn, efforts to better serve the public.

VMware Cloud Foundation in particular provides improved scale-on-demand capabilities to support periodic spikes in resource requirements—during public emergencies, election periods or for disaster recovery operations, for instance. By taking advantage of container and microservice-based architectures, VMware Cloud Foundation streamlines the ability for state and local agencies to make incremental adjustments in their applications and then quickly deploy across their networks.

"That doesn't mean you don't need that physical network—physical servers or physical storage—but we're basically commoditizing the hardware layer and putting all the intelligence into the software layer," explains Christofferson.

The cloud is at its best when siloes are eliminated. Because VMware Cloud Foundation enables converged performance inside the software-defined data center—while also bringing storage, compute and network together in a building block modularity—state and local agency services are easier to build, run, extend and secure.

Learn More *about how VMware's Cloud Foundation can help your agency manage your applications more efficiently on-prem and in the cloud.*

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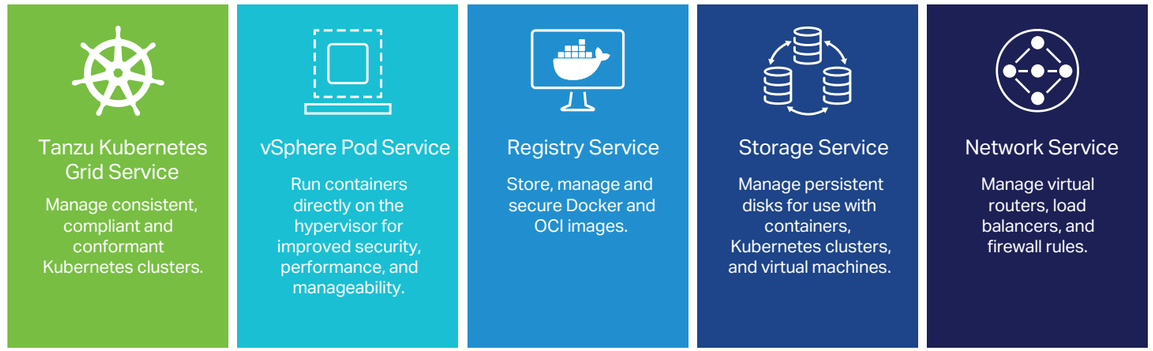
VMware Cloud Foundation Services consists of two families of services: Tanzu Runtime Services and Hybrid Infrastructure Services.

Tanzu Runtime Services deliver core Kubernetes development services, including an up-to-date distribution of Tanzu Kubernetes Grid.

Hybrid Infrastructure Services include full Kubernetes and RESTful API access that spans creating and manipulating virtual machines, containers, storage, networking, and other core capabilities.



Source: VMware