VMware IT Delivers Virtual Desktops to Thousands of Remote Employees with VMware Horizon and Avi

INDUSTRY
Technology, Cloud Infrastructure

ENVIRONMENT
Multi-cloud – AWS, Azure, and GCP

PROBLEM
- Ensure business continuity for remote workers
- Provision and scale virtual desktops quickly
- Challenges with troubleshooting application issues

WHY AVI
- Consistent multi-cloud deployments
- Simplicity of operations and central orchestration
- App analytics and insights

RESULTS
- Able to deliver great colleague experience
- Deployment time down from 3 months to 3 weeks
- Enabled self-service troubleshooting to app team

Background

The VMware IT organization is responsible for supporting the over 30,000 employees of VMware for all their IT and remote working needs. Like its customers, VMware IT operates a complex, global hybrid cloud environment which means that it must solve many of the same challenges as customers. VMware IT's mission is to be first in line to use VMware's own products and ensure that products pass muster before they reach customers. Given the business-critical systems and the that the products must support and the 99.9% SLA that VMware IT is held to, the IT team puts the products through the same rigor with a critical feedback loop to the R&D teams to share their deployment experience, production insights, and best practices. Through the *VMware on VMware program*, the VMware IT has had a major impact on VMware products by using them in digital transformation and app modernization efforts.

Swapnil Hendre is Director of Solutions Engineering and Design for the VMware IT infrastructure team. With his 11+ years at VMware, and experience as a solutions architect and system administrator at companies like HP Enterprise, Symantec, and Computer Sciences Corp., Swapnil brings a wealth of IT and systems experience. Swapnil and his team are responsible to ensure a high performance, secure, network and apps, and a great employee experience.

Challenges

The year 2019 saw VMware make significant acquisitions. In the summer of 2019, VMware acquired Avi Networks to add enterprise-grade load balancing and application security to its portfolio. Later that fall, VMware also completed the acquisitions of Pivotal Software Inc. and Carbon Black Inc. adding thousands of new employees.

Swapnil and the VMware IT team were tasked with providing 3000+ virtual desktops for the newly acquired employees and they had to complete all the work in less than three weeks. Swapnil says, "Traditionally, we would have had to procure physical hardware and stand-up Horizon desktops with load balancing provided by hardware appliances from F5 Networks. All of that would have taken us 3 to 4 months". With the deployment of VMware Cloud on AWS, the team was able to procure infrastructure a lot quicker and they were seeking the same agility for load balancing for Horizon deployments. In addition, to prepare for future expansion, VMware IT wanted a unified load balancing

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strategy across on-prem and public clouds. Subsequently, when the global pandemic hit suddenly, Swapnil and the team needed to support remote employees with new VDI instances to ensure business continuity. New Horizon environments needed to be made available quickly in Europe and India.

Solution – Multi-Cloud Load Balancing by Avi For Horizon Cloud Deployments

Swapnil and the team were already familiar with the NSX Advanced Load Balancer (Avi) platform from putting the product through a rigorous evaluation after the acquisition of Avi Networks. They saw Avi as a good fit due to the solution's consistency across on-prem and cloud environments, automation, and powerful analytics and application insights. VMware IT supports Horizon desktop environments in every region across the world in on-prem data centers, VMware Cloud on AWS, and Microsoft Azure.

Elasticity

Swapnil says, "Our requirements change all the time in step with the evolving needs of the business. We are asked to host new desktops environments in a short time, which means that we need an elastic approach to load balancing." In the past, the VMware IT team needed to take a conservative approach to capacity planning and get the "biggest box" for a given deployment which resulted in significant wasted capacity. The horizontal scale-out architecture of Avi and the ability to spin up new Avi Service Engines on the fly was important to handle this variability in demand.

Analytics

Aside from the SLA for uptime, VMware IT upholds what is described as the Colleague Experience. Swapnil notes, "If the Colleague Experience is not what it should be, we need a quick way to figure where the bottlenecks are. This is where Avi stands out. We can simply open the end-to-end transaction view and see what exactly is causing the latency." He says, "In the past load balancers were black boxes, but with Avi, we simply give the app teams access to the Avi analytics information for them to understand the root causes of performance issues."

Operational Simplicity and Automation

The overall ease of deployment across multi-cloud environments that Avi provides together with the central management across cloud environments is a key benefit to the VMware IT team. Swapnil says, "With each subsequent installation of Avi, the team has found significant time savings in the amount of time that it takes to handle Day-0 deployments." The automation capabilities that come built-in to the platform drives time savings for Day-2 and beyond.

VMware IT needs to manage load balancing across multiple cloud deployments. The team appreciates the ease of operations with Avi with its single control point and orchestration across all environments and the consistency of capabilities no matter where the solution is deployed.

Next Steps

In the future, the VMware IT team plans to expand VDI deployments on the Azure VMware Solution (AVS) as well as in the Google Cloud VMware Engine (GCVE) cloud environments in addition to the native public cloud environments.