F5 Networks Removes VM Storage Bottlenecks and Reduces Waste with Tintri VMstore

Overview

F5 Networks™, headquartered in Seattle, WA, is a global leader in application delivery networking. F5 provides solutions that make applications secure, fast and available, helping organizations get the most out of their investment. The F5 BIG-IP® platform optimizes applications and allows them to work faster and consume fewer resources. F5 solutions are deployed by some of the biggest enterprises and service providers worldwide.

Virtual machine (VM) storage performance issues were hindering effective scaling of F5's Product Development VM environment for the company's flagship BIG-IP platform. Expanding existing storage systems to support the growing number of VMs was neither cost effective, both for initial purchase and ongoing maintenance, nor efficient. F5 wanted to deploy a VM storage solution that would not only satisfy its performance needs, but allow it to effectively scale to support thousands of VMs while simplifying management.

Key Customer Challenges

F5 was using traditional storage systems to support its test and development VM environment running a combination of Windows and Linux VMs, as well as its own BIG-IP Virtual Edition. "Performance bottlenecks in our existing storage were hindering us from deploying large numbers of VMs, affecting developer productivity. Further, we could only operate safely at less than 50 percent performance utilization given the active-active configuration," said Yens Jimenez Steller, manager of the F5 Product Development Lab in Seattle. "We needed VM-aware storage to help meet our growing needs in deploying thousands of VMs."

Storage controller performance bottlenecks also led to wasted capacity, as F5 could not utilize all the capacity available for its VM environment. "We maxed out performance on our existing storage, using only about 50 percent of the capacity of the system," said Jimenez Steller. "Overprovisioning storage capacity for performance was expensive. We looked for cost-effective, high-performance storage that we could use up to its capacity. We also wanted to decrease the footprint to minimize operating costs."

F5 also wanted to simplify VM storage management in order to scale efficiently. "We wanted a storage solution that is simple to manage and troubleshoot as we scaled our environment to host thousands of VMs," said Jimenez Steller.

Industry
- High-technology

Location
- Seattle, WA

Virtualization environment
- VMware® vSphere™ 5.0
- VMware vCloud Director 1.5
- 64 ESX hosts

VM profile
- BIG-IP Virtual Edition, Windows and Linux VMs.

Key challenges
- Storage performance could not keep up with thousands of VMs.
- Unused storage capacity due to storage controller bottlenecks.
- High operational costs for management and maintenance.

Tintri solution
- Initially, two Tintri VMstore™ T540 dual-controller storage systems running about 1,500 VMs.

Primary use case
- Product Development Lab for running test and development environment VMs for BIG-IP physical and virtual editions.

Business benefits
- Cost-effective flash performance allows 1,000 VMs on a single system while allowing use of full system capacity.
- Datacenter space reduced by 75 percent compared to previous storage systems.
- Tintri's ease of use for setup and maintenance allowed efficient scaling, reducing operational costs.

Tintri Eliminates Scale and Performance Problems

"Setting up Tintri VMstore was simple and required no up-front administrator training," said Jimenez Steller. "We conducted an extensive POC subjecting Tintri to various performance tests on large scale, deploying hundreds of VMs. We found Tintri could easily meet our performance needs with consistent low latency."

Business Benefits

Tintri VMstore helped F5 unblock storage performance issues in its virtual lab, which supports development of its flagship BIG-IP product. "Tintri VM-aware storage provides the performance we need to support the growing number of virtual machines at F5's Seattle Product Development Lab," said Jimenez Steller. "We run over 1,500 VMs on two Tintri T540 VMstore systems, and engineers experience consistent performance even at this scale. Most of the VMs in the product development lab now run on Tintri."

Tintri also helped F5 eliminate wasted capacity. Tintri's flash-based architecture delivers high performance in a small footprint, so there is no need to provision unusable capacity for performance. "Thanks to Tintri, we finally have a VM storage solution that provides the performance we need with a small footprint—saving space, power and cooling in our lab and allowing us to scale efficiently," said Jimenez Steller. "Compared to our previous storage, Tintri VMstore can accommodate twice the IOPS at less than a third of the latency in one fourth the footprint."

Tintri's ease of use helped reduce operational costs for F5. "Unlike our previous storage, we don't need to spend on dedicated administrator training for managing Tintri systems. Out of all the systems in our F5's Seattle Product Development Lab, the Tintri storage solution is the easiest to set up and maintain," said Jimenez Steller. "Tintri support is easy to work with and provides remote monitoring for simplified maintenance."

Summary

Tintri's flash based VM-aware storage platform eliminated storage performance issues and overprovisioning in F5's Product Development Lab environment. Tintri also enabled F5 to reduce the storage footprint of its VMs, reducing lab operating costs from space, power and cooling. "Tintri delivered a high performance VM storage solution that is simple to manage and maintain. We are confident Tintri will enable us to scale our Seattle Product Development Lab efficiently and cost-effectively," said Jimenez Steller.

> "Thanks to Tintri, we finally have a VM storage solution that provides the performance we need with a small footprint—saving space, power and cooling in our lab and allowing us to scale efficiently.
>
> Compared to our previous storage, Tintri VMstore can accommodate twice the IOPS at less than a third of the latency in one fourth the footprint."
>
> —**Yens Jimenez Steller**, product development lab manager at F5