

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



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.

## The Challenge: Need Efficient Storage for Scaling to Thousands of VMs

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, either for initial purchase or ongoing maintenance, nor was it 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.

F5 was using traditional storage systems AKA standard infrastructure 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% 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% 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.

## The Solution: Tintri VMstore T540

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

## The Result: Scale and Performance Problems Eliminated

Tintri VMstore helped F5 unblock storage performance issues in its virtual lab, which supports development of its flagship BIG-IP product. "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 VMstore T540 systems, and engineers experience consistent performance even at this scale. Most of the VMs in the product development lab now run on VMstore."

Tintri VMstore also helped F5 eliminate wasted capacity. VMstore'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 VMstore, we finally have a VM storage solution

## 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

## Solution

- Tintri VMstore T540

## Results

- Cost-effective flash performance allows 1,000 VMs on a single system while allowing use of full system capacity
- Data center space reduced by 75% compared to previous storage systems
- Ease of use for setup and maintenance allowed efficient scaling, reducing operational costs.

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, VMstore can accommodate twice the IOPS at less than a third of the latency in one-fourth the footprint.”

Tintri VMstore’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 VMstore systems. Out of all the systems in our F5’s Seattle Product Development Lab, the VMstore 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.”

“VMstore is a high performance VM storage solution that is simple to manage and maintain. We are confident VMstore will enable us to scale our Seattle Product Development Lab efficiently and cost-effectively,” said Jimenez Steller.

**“Thanks to Tintri VMstore, 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, 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*

Experience Different! For more information on how Tintri VMstore can turbo-charge your business success through a simple, Intelligent Infrastructure, visit [tintri.com/vmstore](http://tintri.com/vmstore).