

### Highlights

#### Industry

Network Security

#### Virtualization Environment

- VMware® vSphere™ 4.1
- 20 ESX hosts
- Prior to Tintri: SAN, NAS, and DAS with dozens of datastores
- Veeam for backups

#### VM Profile

- Build servers
- Network management software: GMS
- Antivirus software
- Miscellaneous engineering VMs

#### Key Challenges

- Desired more insight into VM performance
- End-user support calls around performance, resource contention
- Complex to manage with multiple types of storage
- Very low VM density
- Slow process for creating VM clones

#### Tintri Solution

Tintri VMstore™ T445 storage appliance to meet the performance of hundreds of VMs in a small datacenter footprint.

#### Business Benefits

- Very high VM density in small footprint, reducing operational costs
- Flash performance to serve hundreds of IO-intensive VMs
- Granular reporting at VM and vDisk level for increased visibility and easy troubleshooting
- Consolidate multiple dozens of datastores into a single datastore for simpler manageability



### Overview

SonicWALL® is the global leader in dynamic network security and data protection solutions for small, midsized and large enterprises. SonicWALL enjoys high recognition from industry publications and received seven five-star reviews from SC Magazine over the past two years. Solutions include network security, secure remote access, email security, backup and recovery, and policy and management. SonicWALL has offices in 23 countries with over 850 employees and nine regional offices.

SonicWALL used conventional NAS and SAN arrays with multiple datastores and dozens of VMs on a datastore. “We lacked full insight into VM metrics and needed more performance from our datastores,” said Ajesh Bhargava, SonicWALL Engineering Manager. “We wanted to consolidate storage in our virtual environment and leverage flash to meet growing performance needs.” This is when Bhargava discovered Tintri.

### Key Customer Challenges

SonicWALL deployed a mix of storage systems — NAS, SAN and DAS – to support virtual machines running build servers, in-house network management applications, test and dev, and antivirus software. However, this was expensive, cumbersome and did not scale well with the increasing number of VMs. The VM workloads are IO-intensive, which stressed general-purpose SAN and NAS arrays creating availability issues and performance complaints. Performance issues also restricted the number of VMs that could be run up at any given time.

Managing the mix of storage systems was problematic as the environment scaled. Administrators needed more insight into VM performance and capacity. “Performance issues were always qualitative, but not quantitative enough to resolve easily,” said Bhargava.

Another major pain point was managing multiple heterogeneous datastores — SAN and NAS. Some ESX hosts also had local storage for application performance, which compounded the problem. VM density per storage array was low. Adding more VMs meant adding more disks to arrays, or entire new arrays.

### Tintri Solution

At San Jose, SonicWALL implemented Tintri T445 to consolidate multiple datastores into a single 8.5TB datastore. “Implementation of Tintri was seamless,” said Arvind Kalyanaraman, a SonicWALL engineer respon-

### Customer Success

*“After implementing the Tintri, we are better equipped to run multiple concurrent performance-intensive tasks like cloning VMs from vCenter for setting up test and dev environments and multiple application testing setups. Any new VM can go onto Tintri and I know it will perform well.”*

– **Ajesh Bhargava**  
SonicWALL  
Engineering manager

sible for the lab infrastructure. “We set up the Tintri system in a couple of hours, migrated VMs to the new datastore, and were on our way.”

### Customer Benefits

“Tintri’s single datastore and intuitive GUI dramatically simplified administration,” said Bhargava. A single Tintri appliance replaced the need for multiple storage arrays and multiple datastores on each array delivering substantial operational savings.

“Since implementing the T445, support calls regarding IO performance issues don’t arise as often,” said Kalyanaraman. “And for the occasional issue, Tintri’s metrics and insight at VM and vDisk level enable us to quickly pinpoint troublesome VMs”. The Tintri VMstore’s GUI is capable of monitoring metrics on capacity, performance and latency at the host, network and storage system level at VM and vDisk level. ”

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### Looking for Tintri in the Future

The SonicWALL’s team is excited about Tintri VMstore™ as it solved performance issues and simplified management and troubleshooting. “One feature I would like to see from Tintri is native cloning at VM level. It would add tremendous value in our test and dev workflows. I know it is on their roadmap, so I cannot wait to get my hands on it. It would make a very good solution even better,” said Bhargava.

### Summary

Tintri’s unique VM-only solution provides a single large datastore in a small footprint, and manages capacity and performance on a per-VM basis. Tintri VMstore™ is purpose-built to leverage flash to run hundreds of IO-intensive VM workloads. Performance and ease of management let SonicWALL consolidate VM storage and dramatically simplify management. “It simply works,” said Bhargava. “We look forward to moving more of our VM infrastructure onto Tintri.”