

# Tintri Storage and Arista Networks

## Application-Aware and Networking Solutions for Virtual Environments



# Tintri

### Executive Summary

Many organizations are still relying on general-purpose storage systems and networks for their virtualized environments. Unfortunately, there is a significant mismatch between the capabilities of traditional network and storage platforms and the specialized demands of virtualization.

Tintri Application Aware storage and Arista's advanced Ethernet switch technology are designed for virtualized environments. The combined Tintri and Arista solution enables enterprise IT teams to efficiently deploy, manage, and troubleshoot their virtual infrastructure – while keeping total costs under control.

### The Challenge: Using General-Purpose Storage and Networking Solutions in Virtualized Environments

Server virtualization greatly simplifies the management of the enterprise's compute infrastructure through the use of virtual machines (VMs), but it makes network and storage management much more complex. With traditional storage and networking solutions, IT admins must spend excessive amounts of time configuring and managing the storage and networking infrastructure to meet the unique requirements of server virtualization.

Enterprises now need storage and networking solutions that are designed for virtualization – as opposed to forcing their older legacy technologies to adapt to the increased demands of virtualized environments.

*Built using the industry's first and leading Application Aware Storage Architecture, Tintri VMstore™ enables enterprises to easily and cost-effectively regain control of their IT environments and achieve 100% virtualization.*

### **Tintri Application Aware Storage – Making Virtualization Predictable**

Tintri Application Aware Storage™ is an always-optimized storage platform that is designed to address the challenges of using general-purpose storage in virtualized environments. Built using the industry's first and leading Application Aware Storage Architecture, Tintri VMstore™ enables enterprises to easily and cost-effectively regain control of their IT environments and achieve 100% virtualization.

Tintri features that enhance the efficiency and performance of server virtualization include:

- **Faster and Simpler Deployment:** By eliminating the need to setup LUNs and volumes, Tintri VMstore is easily deployed as a datastore into virtualized environments, delivering the performance, density, and control virtualized servers and desktops need from storage in a compact form factor. With “set it and forget it” simplicity, new VMstore systems can be deployed in as little as eight minutes. Storage admins can perform complex tasks, such as deploying hundreds of clones through the virtualization tools, without needing to touch the underlying storage.
- **Better Performance:** The VMstore's patented FlashFirst™ design ensures that 99% or more of all I/O transactions are served from flash – resulting in much higher throughput with sub-millisecond latencies, in a fraction of the physical footprint of traditional storage. VM-level quality of service (QoS) and performance allocation ensure VMs are performing as expected, even in rapidly changing shared-desktop and server environments.
- **Easier Management:** Tintri's always-optimized VMstore enables IT to work with auto-aligned VMs and vDisks, instead of LUNs and physical disks, eliminating storage management overhead. Admins can set up default or custom policies to protect thousands of individual VMs without backup windows or manual tasks using Tintri SnapVM™ and ReplicateVM™ features. Accessing VM snapshots on a VMstore system is easy due to seamless integration with the virtualization layer. ReplicateVM™ makes the most of network bandwidth by de-duplicating and compressing data before it is sent over the wire, resulting in substantial capacity savings. Additionally, Tintri CloneVM™ enables zero-space clones with identical performance, making it ideal for virtual desktop and development/test environments.
- **Efficient Troubleshooting:** The Tintri VMstore provides comprehensive VM-level insight into the entire infrastructure stack, enabling IT to keep virtualized environments operating in top form. Storage admins can easily visualize bottlenecks with VM-granular visibility into performance latency across compute, networking, and storage – keeping tabs on all virtual machines with VM-level monitoring through a single pane of glass. Using the centralized control platform Tintri Global Center™, administrators can monitor as many as 32 geographically distributed VMstore arrays and their VMs, enabling them to be administered as one. With an end-to-end view of the complete VM stack, storage admins can troubleshoot performance bottlenecks in minutes, versus

*Server virtualization has created the demand for a new class of networked storage that addresses the increased need for higher performance, scalability, and agility while controlling costs.*

- hours or days with general-purpose storage, and fix any issues before they escalate.

#### **Arista Networks – Networking Solutions Built for Virtualization**

Server virtualization has created the demand for a new class of networked storage that addresses the increased need for higher performance, scalability, and agility while controlling costs. Arista Networks delivers a portfolio of 1/10/40 and 100 GbE capable products that are redefining network architectures – bringing extensibility to networking and dramatically improving the price/performance of virtualized networks.

Arista Networks features that improve the success of virtualization initiatives include:

- **Virtual Machine Awareness:** Arista's VM Tracer dynamically discovers, configures, tracks, and reports the instantiation and location of all virtual network segments, along with virtual machine moves, ads, and changes.
- **Multi-Tenant Segmentation:** Arista is scalable to millions of tenants and virtual machines with logical, end-to-end flow based partitions.
- **Workload Portability:** Arista provides seamless virtual machine mobility across the network via stateful L3 vMotion and VXLAN (Virtual eXtensible LAN).
- **Multi-Site Asset Utilization:** Resource sharing and business continuance across data centers are made possible with network tunneling and load balancing across redundant links.
- **Network Abstraction from Physical to Virtual:** Arista enables hardware VXLAN acceleration and binding of existing physical servers, customers, network appliances, and storage devices into any virtual network segment.
- **Programmable and Extensible:** Arista EOS was designed to be extensible and programmable from the start. Through eAPI, Python scripting, and Linux command line access, customers and partners are able to manage and automate their network programmatically.

#### **Tintri Storage PLUS Arista – Virtualization Solution Partners with a Similar Vision**

Tintri and Arista are now providing award-winning storage and networking solutions that are designed for virtualization, now forced to step up to the increased demands of virtualized environments.

Tintri and Arista both start with the premise that the Virtual Machine (VM) is the fundamental building block of the next generation data center. By allowing visibility and control at the VM level, Tintri and Arista remove multiple levels of complexity and cost allowing for better performance, increased visibility, greater management control, easier setup and simplified troubleshooting.

Your apps were built to take advantage of virtualization; you'd be crazy not to build out your data center with storage and networking based on the same premise.

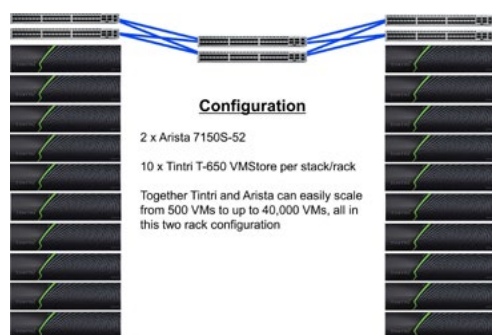


Figure 1: A simple two rack Arista + Tintri solution

## Getting Started

Application Aware network and storage solutions from Arista and Tintri are now providing enterprises with unmatched scalability, flexibility, and automation advantages for their virtualized environments. Whether you are just getting started with virtualization – or are expanding virtualization to your desktops and business critical applications – Tintri and Arista Networks will ensure your virtualization initiatives are simple, predictable, powerful, successful and cost-effective.

Contact us to schedule a demo of Tintri Application Aware Storage and the Arista Networking solutions today.

Arista Networks was founded to deliver software driven cloud networking solutions for large data center and computing environments. The award-winning Arista switches redefine scalability, robustness, and price/performance. More than one million cloud networking ports are deployed worldwide. The core of the Arista platform is the Extensible Operating System (EOS®), the world's most advanced network operating system. Arista Networks products are available worldwide through distribution partners, systems integrators, and resellers. Additional information and resources can be found at [www.aristanetworks.com](http://www.aristanetworks.com).

Tintri Application Aware Storage™ helps IT organizations eliminate storage complexity, minimize costs, and scale their virtualized environments. Built on the industry's first and leading Application Aware Storage architecture, Tintri VMStore and Tintri Global Center improve performance, predictability, and productivity – all while slashing costs. For more information, visit [www.tintri.com](http://www.tintri.com) and follow us on Twitter: @tintriinc

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