

Risk-Free VDI with Tintri and VMware

Make VDI successful with Tintri Smart Storage and VMware Horizon 6 (with View)

The Increased Adoption of Virtual Desktop Infrastructure

User desktop management has become very challenging for IT organizations. IT teams must support increasing numbers and types of end users, meet new regulatory compliance mandates, and defend against a wide spectrum of security threats – all while increasing operational efficiency. User expectations are also escalating, with the demand for responsive 24x7 access to all corporate applications and services from a variety of client devices.

IT organizations are now turning to virtual desktop infrastructure (VDI) technology to reduce the cost, complexity, and risk associated with desktop management. With more desktops moving into the datacenter, IT's focus now includes:

- Lowering the risk of deploying and scaling virtual desktop environments.
- Boosting storage performance to ensure an excellent and consistent end-user experience.
- Increasing operational efficiency and manageability to meet corporate mandates.
- Enhancing disaster recovery and security to ensure high availability.
- Improving the TCO and ROI of all virtual desktop deployments.

Choosing the Right VDI Software: VMware® Horizon™ (with View)

The key to success of any VDI initiative is choosing the right virtualization software. VMware Horizon Suite, and more specifically VMware Horizon (with View), delivers a personalized high fidelity experience for end users across all sessions and devices. It enables higher availability and agility of desktop services unmatched by traditional PCs, while reducing the total cost of desktop ownership by up to 50%. VMware Horizon (with View) end users achieve higher levels of productivity and the freedom to access desktops from more devices and locations.

Why Traditional Storage Is Inadequate for VDI

The choice of storage platform is vitally important for the success of any VDI initiative. Unfortunately, there is a significant mismatch between the capabilities of traditional storage and the demands of virtualization – especially desktop virtualization. The challenges include:

- **Increased Complexity and Management.** Virtualization has simplified management of the compute infrastructure, but has made storage management much more complex. The burden of managing virtual desktops at large scale further exacerbates the management problem.
- **Poor Performance.** Storage performance is essential to maintaining acceptable end-user experience in VDI environments, especially in the face of boot storms and software updates across thousands of virtual desktops. Some organizations have tried to improve performance by purchasing flash-only solutions or bolting flash onto their traditional storage

The Proven Solution for VDI

With the high-performing, validated Tintri and VMware Horizon (with View) reference architecture and VMware View Composer Array Integration (VCAI), you can:

- Lower risk and cost-effectively deploy and scale desktop virtualization with as many as 2,000 end-users per Tintri VMstore
- Deliver a high performing and consistent end-user experience with Ultrabook levels of performance
- Keep end users connected and productive from a wide variety of clients with affordable easy to manage continuity
- Provision user desktops from VMware Horizon (with View) using native VM-level cloning, resulting in approximately 1,000 users provisioned per hour leveraging the integration between VMware and Tintri CloneVM™

systems. Unfortunately, these approaches are expensive and inefficient.

- **Long Deployment Cycles.** The move to VDI is often hampered by the amount of time and effort it takes to deploy individual desktops. VMware Horizon (with View) is able to simplify the process using linked clones, but this is ideally supported by integration between storage and the VDI broker for the best of both worlds—the View management console leveraging native storage system abilities.
- **High Cost of Ownership.** Over-provisioning storage to meet virtualization performance requirements has increased the costs of storage infrastructure and management. Analysts now estimate that over a quarter of the upfront costs of VDI are storage-driven.

Tintri VMstore™: Smart Storage for Desktop Virtualization

Tintri smart storage enables enterprises to easily and cost-effectively maximize the benefits of their desktop virtualization deployments – all without having to manage the storage environment. Built on the industry's first and leading smart storage architecture, Tintri VMstore is easily deployed as a single datastore into VDI environments, delivering the superior predictable performance, density, and control virtualized desktops need from storage in a compact form factor.

VMstore features for VDI include:

- Patented FlashFirst™ design ensures 99 percent of I/O transactions are served from flash, resulting in significantly higher predictable performance with sub-millisecond latencies in a fraction of the footprint of traditional storage. VMstore keeps users productive, effectively handling boot and login storms, desktop updates, virus scans, and performance-hungry applications.
- Virtualization-optimized storage lets IT work with VMs and not LUNs and volumes, consistently providing the best performance without requiring tuning or storage management. This allows for scalable shared deployments and eliminates the impact of noisy end-user and server VM neighbors.
- Single pane of glass interface provides end-to-end, VM-granular visibility into performance latency across compute, networking, and storage, enabling IT to proactively solve end-user experience issues.
- Direct provisioning of user desktops from VMware Horizon View using native VM-level cloning results in approximately 1,000 users provisioned per hour, leveraging the integration between VMware tools and Tintri CloneVM™.
- VM-granular snapshots can be taken and replicated between two Tintri VMstore systems using Tintri SnapVM™ and ReplicateVM™. This ensures desktops are protected and available for end users.
- VMware View Composer Array Integration (VCAI) support, fully certified by VMware (as per <http://kb.vmware.com/kb/2061611>).

VMware Fast Track Validated VDI Reference Architecture

Tintri and VMware have developed a high-performance reference architecture to help enterprises reduce risk and speed the deployment of their VMware Horizon 6.0 (with View) and Tintri VMstore (running the newest Tintri OS 3.0) environments.

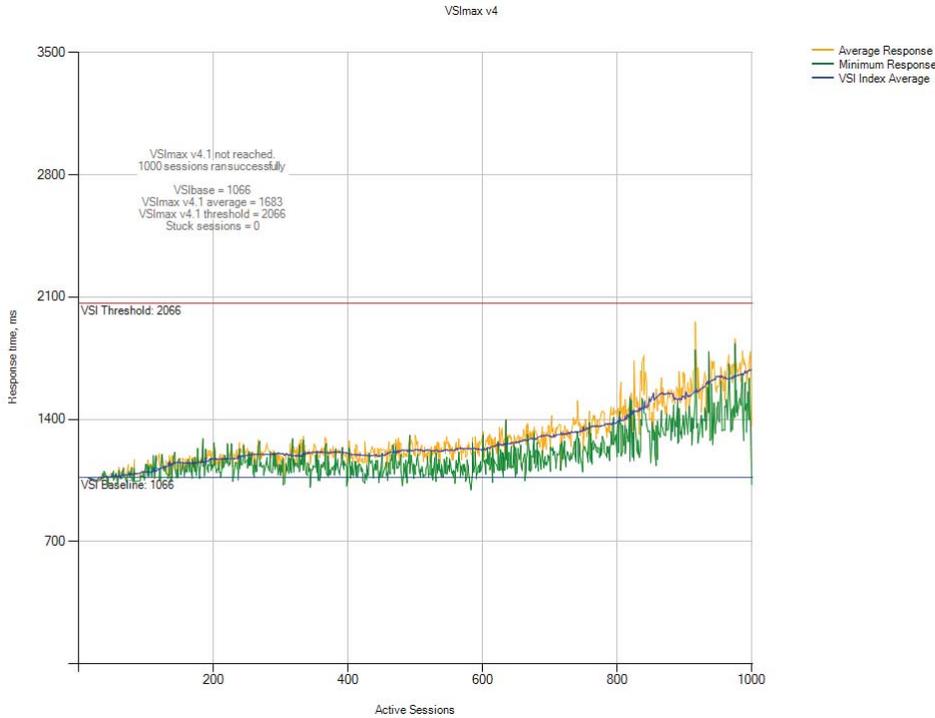
This reference architecture is based on real-world test scenarios, user workloads, and infrastructure system configurations. It combines the technologies of the Tintri VMstore (running the newest Tintri OS 3.0) with VMware ESXi™ 5.5, and Horizon 6.0 (with View) software to produce a highly efficient, robust, and scalable virtual desktop infrastructure (VDI) for a hosted virtual desktop deployment for 1,000 users.

The paper includes the results of a series of storage I/O performance tests, generated by LoginVSI 4.1—the industry standard VDI performance testing tool—on one test pool consisting of 1,000 users, and provides storage sizing guidance and best practices based on those results for designing and deploying View virtual desktops on a Tintri VMstore T650.

All 1,000 users running an office worker workload completed successfully for the test pool, without pegging CPUs, exhausting memory, or overloading storage systems.

LoginVSI 4.1 Test Results

TEST POOL	VSI RESPONSE TIME (VSIMAX V4.1 THRESHOLD = 2066)
1,000 dedicated desktops, linked clones	1153 (@ 200 sessions) to 1683 (@ 1,000 sessions)



Get Started

If VDI is on your list of priorities or you are looking to expand your current environment, the validated joint VDI solution from Tintri and VMware can help you successfully and cost effectively deploy desktop virtualization. The joint solution takes the guesswork out of planning and gives you the confidence to effortlessly handle any virtualized end-user environment. To view a demo of the joint VMware Horizon (with View) and Tintri smart storage, please contact us at info@tintri.com or call us at 650.810.8200.



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