



Egan Company is one of the largest, multi-trade, specialty construction contractors and system integrators in the Midwest. With a workforce representing more than ten building trades serving virtually every infrastructure discipline in the industry, Egan Company provides in-house expertise in planning, design, engineering, construction, and maintenance. Core services include mechanical, electrical, industrial controls, building systems, curtainwall/glass, service, and energy solutions.

The Challenge: Deploying Company-Wide VDI While Simplifying Storage Management

Egan Company has more than a thousand employees dispersed among its Brooklyn Park, Minnesota headquarters, four permanent remote sites, and myriad temporary job sites. A staff of eight IT personnel, including five helpdesk workers (two of whom are interns), manage the sprawling infrastructure, which features physical servers and workstations at its headquarters and dummy terminals with no servers, SANs or onsite support in the field.

Egan Company turned to a VMware-based VDI implementation to help manage the organization's organic growth without adding IT head count, streamline company acquisitions, and to provide support for remote sites and the job foremen.

The company needed a storage solution with tremendous speed to satisfy the IOPS requirements of the VMware Horizon View and VMware vSphere implementation. The solution had to be easy to provision and could self-tune to overcome staffing limitations. It needed to be efficient to keep ever-ballooning data manageable. And it needed to work with its existing Fibre Channel architecture yet allow for the use of NFS and iSCSI protocols if needed.

"I was told by my old SAN provider that a spinning disk SAN could do 8,000 IOPS, but the most I ever saw it do was 5,000 because VDI is write-intensive and random," said Jim Nonn, CIO of Egan Company. "SSD really is the answer. Most traditional SANs can include SSD as a tier, but that doesn't work out that well because it takes a while for something to migrate up a tier and migrate back down a tier. That's not going to work well in a VDI environment."

The Solution: Tintri IntelliFlash T-Series

Looking for a solution that would deliver enough IOPS to cover not only the number of desktops needed but maintenance as well, Nonn considered several vendors and performed a side-by-side comparison test using virtual-desktops and virtual-server environment. He selected IntelliFlash because of its multi-protocol architecture, fast performance and data reduction capabilities that massively reduced floor space and power consumption.

IntelliFlash systems are engineered for storage efficiency, delivering the fastest possible response times while enabling organizations to significantly reduce their storage acquisition and operational costs.

With real-time compression and deduplication, IntelliFlash can shrink the storage footprint by up to 90% in VDI environments. Redundant OS images are reduced to a single instance and stored in flash. Hundreds or thousands of persistent VDI instances can be shrunk down to one single boot image.

IT can create and deploy hundreds of virtual desktops in minutes, not hours, and dramatically cut down on the time required for doing regular VDI maintenance tasks. IntelliFlash includes

Challenges

- Virtual desktop performance was slowing company-wide deployment
- Field engineering work stations were cost-prohibitive

Solution

- Tintri IntelliFlash T-Series

Results

- VDI users astonished with performance improvements
- Cost of VDI storage is effectively free
- VDI users astonished with performance improvements



a VMware vCenter plug-in, enabling administrators to provision datastores, manage snapshots and restores, and monitor I/O status, space usage, and latency, for all of their IntelliFlash systems from either vCenter's Web or desktop client.

IntelliFlash supports both NAS and SAN protocols. Virtual desktop images can be deployed using NFS, iSCSI or Fibre Channel while user data can be hosted on the same system and accessed via SMB for Windows desktops and NFS for Linux desktops. Additionally, the systems are fully redundant with no single point of failure and dual active/active controllers to maximize investment in hardware.

The Results: Reduced Storage Requirements by 90% with Ample IOPS to Handle Workload and Maintenance

The IntelliFlash deployment provided Egan Company with fast, persistent desktops and a consistent end-user experience. Combined with easy-to-provision and manage storage across any architecture, trouble-free maintenance, and storage usage "that's so small, it's almost free," Nonn said, that the IntelliFlash systems have provided the ability to do some things that he didn't think were previously possible.

"When we switched to IntelliFlash, a number of users came to us and said their machine is tremendously faster and wondered what we did," said Nonn. "And that's shocking because in IT you don't hear that. You only hear when you screw it up or it's not working well or whatever."

"I firmly believe, as much as possible, if we can get our job done during the workday, that's when we should do it and not wear out my staff and myself at night with maintenance. That way you can go home at night and see your wives and your families. We do our maintenance during the day and we do it on time. We spike the crap out of this IntelliFlash system and users don't notice a thing."

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Experience Different! For more information on how Tintri IntelliFlash can turbo-charge your business success through a simple, Intelligent Infrastructure, visit tintri.com/intelliflash.