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Use Case
- *VSI – VMware® vSphere®*
- *VSI – VMware® Horizon®*

Business Transformation

Professionals in multiple locations across the country have quick, easy access to the data and applications they need to effectively collaborate with other team members on architectural and engineering projects. The IT staff spends far less time on system management, thanks to the pre-tested reference design of the FlashStack infrastructure that seamlessly integrates best-of-breed compute, networking and storage products from multiple suppliers.

Challenges

- Geographically dispersed professionals were hampered in gaining fast access to large CAD files.
- Optimal productivity of a small IT staff was stymied by complex infrastructure management.
- Extending high-performance and reliable VDI to branch offices and remote workers was impacted by subpar infrastructure performance.

IT Transformation

- New VDI users are added easily, and receive immediate access to large files and vital applications.
- Overall efficiency reduces the cost and footprint of the VDI infrastructure. High data-compression rates provided by all-flash arrays reduce the amount of storage capacity needed to handle all centralized files.
- Pre-tested FlashStack reference design reduces the time and cost of deploying new IT infrastructure.

Woolpert Finds FlashStack Converged Infrastructure a Winning Design for Expanding VDI

Woolpert is an architectural, engineering and geospatial firm that serves clients involved in large and complex infrastructure projects throughout the world. Collaboration is at the heart of the company's business. Architects, engineers, imaging experts and other professionals are constantly interacting with each other to create high-quality deliverables for clients, using resource-intensive software packages such as AutoCAD and Revit. At the center of their interaction are data files, many of them huge, that must be available to a distributed workforce at all times.

To support this collaborative environment, Woolpert's IT department wanted a virtual desktop infrastructure (VDI), which would lower hardware costs, improve security and ensure that data files are centrally maintained for maximum consistency and availability.

While the benefits of VDI are numerous for both end-users and IT staff, VDI puts a heavy burden on the centralized data center infrastructure. If end-users are going to benefit from easy access to centrally stored desktop workspaces, then the systems on which those desktops reside have to perform at peak speed and efficiency—without disruption.

FlashStack Configuration Chosen for a New Infrastructure

Chris Pearson, IT Infrastructure Analyst at Woolpert, noted that his small staff had built "homegrown" VDI that did not provide all of the capabilities and performance that were required if it was to support a growing number of users. "We had lots of people across the country using a centralized file, but we couldn't rely on the connection speeds to get them the data in a timely fashion," he noted. "That impacted end-user satisfaction, productivity, and ultimately endangered our ability to serve clients."

Pearson said that while each member of the IT staff had their area of specialization, "collectively we didn't have the expertise to design and implement a complete IT infrastructure for a VDI. So, we reached out to our partner, Logicalis, for help."

Logicalis, a global provider of IT solutions, suggested that Woolpert consider the FlashStack converged infrastructure design from Pure Storage. FlashStack, which includes FlashArray from Pure Storage, UCS servers and Nexus switches from Cisco Systems, and virtualization software from VMware, combines compute, network, storage and virtualization resources in a single platform.

> "*The totality of the FlashStack implementation is impressive.*"

Chris Pearson
IT Infrastructure Analyst

The converged infrastructure speeds time to deployment, lowers overall IT costs and reduces deployment risk by providing fully-tested converged infrastructure reference designs. FlashStack solutions are sold by authorized resellers of Cisco and Pure Storage products."

With its validated design and ease of deployment, FlashStack was a perfect fit for Woolpert's needs," said Brian Duvall, a Business Development Director with Logicalis. "It significantly reduced the time needed to implement a solution, and will be easier and more efficient to manage."

"*We don't even calculate how much time it will take to add more capacity; it's just minutes.*"

Chris Pearson
IT Infrastructure Analyst

Consolidating Workloads on High-Performance Flash

Installation of the FlashStack was "very straightforward and easy," Pearson noted, and the benefits of the solution were seen almost immediately."

FlashStack totally solved our problems with VDI," he reported. "It's given us great performance, easy management, and lots of options for meeting our particular needs. End-users with any kind of device in any location can access the centralized files and applications they need without any delay."

FlashStack now runs the firm's VDI, which supports end-users engaged in the architectural and engineering activities of the firm. Soon they'll be rolling out VDI to back-office functions like marketing, HR and finance. They are also using VDI in remote offices by technicians and field crew for a third line of business focused on geospatial services, to address the challenges of geospatial data capacities.

Pearson reported that VDI end-users have received a performance boost from the FlashStack solution, not only because of the high-performance servers and networking, but also because of the consistently sub-millisecond latencies delivered by the Pure Storage array. "The totality of the FlashStack implementation is impressive," he added.

Simplified Management Saves Time and Money

Effortless management is another aspect of the FlashStack solution that has impressed Pearson. "In our old production environment, you always had to stop, look at what's going on—get together with the networking guy, get with the domain admin. It was very time-consuming. With FlashStack, those steps have been totally eliminated. It's wonderful."

Management of the storage element "is so easy," Pearson added. "You just provision to your heart's content with a simple mouse click to add a volume. We don't even calculate how much time it will take to add more

capacity; it's just minutes." Pearson estimated that the IT staff is "easily" saving five man-hours a week in storage-related tasks.

He also praised the integration of storage management through the Pure Storage plug-in to VMware, and the Pure1 management tool, which "allows me to monitor the system from any device, anywhere, and notifies me proactively if there's any issue that Pure is working on." He also cited the value of several features of the Pure Storage array, including automated scheduling of snapshots, replication, and non-disruptive software upgrades.

> "*FlashStack is a great solution. It has everything you need, and then some.*"

Chris Pearson
IT Infrastructure Analyst

Pearson has been especially impressed with the data reduction delivered by the de-duplication and compression features of the Pure Storage array, currently running at 12:1. "That has exceeded our expectations. We couldn't ask for anything more," he said.

The FlashStack solution is creating capital and operating savings for Woolpert, by allowing for the provisioning of virtual machines to end-users instead of costly workstations. It also reduces the amount of equipment and space devoted to storage equipment."

Pure Storage is doing such a good job with the de-duplication and keeping storage provisioning down that we won't have to add any storage equipment in the near term. Adding knowledge workers to the VDI is a snap, since all we need to do is acquire additional VM licenses."

Pearson is also a fan of the Pure Storage Evergreen™ Storage program, which allows customers to deploy storage once, then expand and upgrade it as needed for a decade or more. Components can be mixed and matched— all online and without performance disruption—to keep storage dense, efficient and modern. "It's such a positive approach versus the traditional model of forklift upgrades and complicated pricing models," Pearson noted. "With traditional storage vendors, you have all these hidden costs. I call them snakes in the grass."

"FlashStack is a great solution. It has everything you need, and then some," he concluded.

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