Hahnfeld Hoffer Stanford improves RPO 7-fold with Dell solutions

Customer profile

Hahnfeld Hoffer Stanford
architects / planners / interiors

Company	Hahnfeld Hoffer Stanford
Industry	Services (Architecture and Interior Design)
Country	United States
Employees	42
Web site	hahnfeld.com

Challenge

With file shares filling up and an aging server infrastructure, Hahnfeld Hoffer Stanford needed to refresh its systems to improve performance, availability and scalability while keeping costs down.

Solution

The firm decided to use technology to differentiate itself from the competition, and engaged local Dell Partner Consuro to help deploy a virtualized server infrastructure based on Dell PowerEdge™ servers, Dell EqualLogic™ iSCSI storage arrays and Microsoft® Hyper-V®. A Dell KACE™ Management Appliance allows a single IT employee to manage all client systems from a single Web-based interface.

Benefits

- 50% cost savings vs. physical server refresh
- 40% less IT staff time spent managing servers
- 50-60% decrease in planned downtime
- 4,000 productivity hours reclaimed annually for architects
- 7-fold improvement in recovery point objective/RPO (24 hours vs. 1 week)
- Recovery time objective/RTO reduced from days to hours
- Off-host backups run non-disruptively during the day

Application areas

- Disaster Recovery
- End User Computing
- Intelligent Data Management
- Networking
- System Management
- Virtualization

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Jason M. Adams, Director of Information Technology, Hahnfeld Hoffer Stanford

In professional services industries such as architecture and design, technology has been the great leveler. Armed with the same applications and tools as larger firms, small and midsize businesses are able to capture a larger share of the market.

But investing in new technology can be a difficult sell to business managers who must watch the bottom line carefully. "No matter what business you're in, it can be challenging to convince management that spending a little more now on the right systems can increase productivity and better position the business for the future," observes Jason M. Adams, Director of Information Technology at Hahnfeld Hoffer Stanford, a Fort Worth-based architecture and interior design firm. "It's a universal IT challenge."

Luckily, having started his career in architecture before moving into IT, Adams is uniquely qualified to understand how technology can best support the business. "Keeping our technology current gives us an edge over competitors—even companies much larger than we are," he observes.

Jumping on board with virtualization
Hahnfeld Hoffer Stanford standardized on Dell PowerEdge servers in the late 1990s, keeping the equipment for as long as six years before replacing it. "I've never had a major part such as a motherboard fail since we started buying Dell servers nearly 15 years ago," says Adams. "From both a performance and a management standpoint, they're great machines." For its networking infrastructure, the firm uses Dell PowerConnect 5424, 3548P and 2748 switches.

Until recently, the firm had no centralized storage aside from the internal disks within the four Dell servers that supported Microsoft Exchange Server and Active Directory®, file shares, Newforma Project Center and Newforma Info Exchange. "File shares were filling up, and I was wary of keeping Exchange on a six-year-old box,

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> *Director of Information*
> *Technology,*
> *Hahnfeld Hoffer Stanford*

Technology at work

Solutions
Dell KACE™ K1000 Management Appliance

Services
Dell Support Services – Dell ProSupport™ with Next Business Day onsite service

Hardware
Dell EqualLogic™ PS4000E iSCSI SANs

Dell OptiPlex™ 755 and 765 desktop PCs

Dell PowerConnect™ 5424, 3548P and 2748 switches

Dell PowerEdge™ R610 servers with Intel® Xeon® processors

Dell PowerVault™ TL2000 tape library

Dell Precision™ T5500 and T5400 tower workstations

Software
Adobe® Photoshop®

Autodesk® Building Design Suite Premium 2012

Axium ajeraComplete

Dell EqualLogic Host Integration Tools Microsoft Edition

Dell EqualLogic SAN HeadQuarters (SAN HQ)

Microsoft® Data Protection Manager

Microsoft Exchange Server 2010

Microsoft System Center Management Suite Enterprise

Newforma® Project Center and Info Exchange

Windows Server® 2008 R2 Enterprise with Hyper-V®

Windows Server 2008 Standard

no matter how good the build quality," says Adams. "I also wanted to be able to keep critical services on their own server, instead of being in a situation where the Exchange server was also the domain controller, for example."

To add capacity, improve the firm's data recovery objectives and provide higher availability for critical services and file shares, Adams recommended to management that the firm virtualize its servers and centralize data storage on a storage area network (SAN). After explaining the many benefits that server virtualization could bring to the firm, Adams got the green light. "Virtualization is the way the industry is moving, so we jumped on it," says Adams. "We wanted to leverage the competitive advantages as soon as possible, beginning with our servers, with the goal of eventually virtualizing desktops as well."

Saving 50% over a physical server refresh
Adams engaged Consuro, a local Dell Certified Partner, for assistance with the virtualization deployment. Also a Microsoft Gold Certified Partner, Consuro recommended deploying a two-node cluster of Dell PowerEdge R610 servers with Intel Xeon processors running Windows Server 2008 R2 Enterprise, which includes Hyper-V virtualization software. To provide centralized storage for the virtual machines (VMs) over a standard Ethernet network, the firm selected a Dell EqualLogic PS4000E iSCSI storage system.

"Through two different seminars, one of which Consuro held, we were introduced to the Dell EqualLogic product, which became the saving grace to this entire problem all in one solution," says Adams. "Consuro showed us how we could use EqualLogic to do everything we wanted. It was very cost-effective given the bundled replication functionality, SAN HQ management software and the ability to integrate with Microsoft Data Protection Manager via EqualLogic Host Integration Tools Microsoft Edition."

The firm now runs six virtual machines on the two Dell PowerEdge hosts, along with four legacy servers. "Virtualization gives us the flexibility to use a separate virtual server for any application," says Adams. "Now we have physical and virtual domain controllers, and separate servers for Microsoft Data Protection Manager and System Center, which we didn't have before. And we saved 50 percent compared to scaling the traditional way and just buying more hardware. On top of that, I'm spending 40 percent less time managing servers, and planned downtime has been reduced by 50 to 60 percent because we can easily move virtual machines between the physical hosts."

Reclaiming 4,000 hours a year
Performance has improved for Autodesk Revit® Architecture, the firm's primary design application. Twenty-nine registered architects, interior designers, and architectural interns run Revit on Dell Precision workstations as well as Dell OptiPlex desktop PCs, working with architectural models that are stored on a central virtual server.

"These Revit models can be upwards of 200 megabytes or more," Adams explains. "They're fairly large files. Before, I had complaints all the time because users had to wait five to seven minutes for the file to save to the central server before they could begin working with the model again—and the typical user saves to central about once an hour. Lag time in saving Revit files was virtually eliminated when we deployed Dell EqualLogic storage. Our users are each getting back an hour of design time every working day."

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>
> *Eric Hahnfeld, President/Principal, Hahnfeld Hoffer Stanford*

With 16 architects working 50 weeks a year, that's 4,000 reclaimed productivity hours annually.[1] "We've seen a significant improvement in overall productivity," Adams notes.

Improving RPO 7-fold

The built-in auto-replication functionality of Dell EqualLogic storage is allowing Hahnfeld Hoffer Stanford to greatly improve its recovery objectives for critical data such as email and file shares. "We're replicating to a second Dell EqualLogic PS4000E SAN that is hosted by Consuro's data center hosting arm, Enterhost," Adams explains. "Consuro used EqualLogic Host Integration Tools to integrate our Microsoft Data Protection Manager backups with Dell EqualLogic Auto-Replication. The backups are off-host, so we can run them during the day with no disruption to services."

The firm's new disaster recovery strategy has improved its recovery point objective sevenfold. "We used to send tapes off site weekly, but now we're replicating block-level changes to Consuro every 24 hours," says Adams. "We've also improved our recovery time objective on the server infrastructure side from a few days to a few hours."

Individual files, even large Revit models, can now be recovered from disk in minutes, compared with hours using tape. The firm is also using 90 percent less tape for backups, reducing media and management costs. "Now we're just using our Dell PowerVault TL2000 tape library as an overflow for Data Protection Manager when we need it," says Adams.

Simplified client management

The firm also deployed a Dell KACE K1000 Management Appliance for asset management and inventory, software distribution and patch management.

The KACE K1000 discovers installed software on machines, allowing the associated licenses to be tracked against the number of installations for more effective asset management and license compliance.

"Being the sole IT person for a 42-person firm, keeping client systems patched and deploying software to individual machines was an ongoing challenge," says Adams. "Most software upgrades and deployments had to be done on nights and weekends. I attended a demo and saw firsthand the many benefits of the KACE K1000 appliance. Not only did it solve my patch management and software deployment problems by allowing me to patch systems and deploy software remotely from a Web-based management console, but it also consolidated our asset management and help desk solutions. We now have a single appliance that takes care of all these needs."

Fast response from a trusted, local partner

The ability to work with a local services provider with deep expertise in both Microsoft virtualization solutions and Dell EqualLogic storage ensured a smooth implementation. "It was a pleasure working with Consuro on the deployment," says Adams. "They are very professional and attentive to our needs. If I call them with a question, I'd be surprised if it takes an hour to get a call back. They have really exceeded our expectations."

Hahnfeld Hoffer Stanford relies on Dell ProSupport for fast delivery of parts should anything go wrong with the hardware. "We haven't had to interact with Dell ProSupport much because the Dell equipment has always been so reliable," says Adams. "But there's peace of mind in knowing it's there."

Architecting the future

The firm's next IT goal is to retire the desktop-class machines employees are currently using for Autodesk Building Design Suite and replace them with Hyper-V virtual desktops. "We'll just add another EqualLogic array, probably one with faster disks, and add more Dell host servers to serve those virtual workstations exclusively," says Adams. "That's another great thing about EqualLogic—every time you add a unit, you're not only adding capacity, you're also adding throughput and I/O. To me, it scales forever, and you can manage all the arrays from a single interface."

The Dell and Microsoft infrastructure is helping Hahnfeld Hoffer Stanford be more productive and efficient, and therefore more competitive. "One of our goals is to continue to leverage technology to keep us at the forefront of architecture firms in the Dallas-Fort Worth area, and help us compete with larger firms," Adams explains. "Dell and Consuro are helping to make this possible."

Adds Eric Hahnfeld, President/Principal, Hahnfeld Hoffer Stanford: "For 15 years, we have turned to Dell for server, desktop, notebook, storage and infrastructure solutions. It has been the right choice, as Dell provides consistently reliable and efficient products for our employees, which in turn keeps our firm productive."

[1.] 1 hour/day * 5 working days per week * 50 working weeks per year * 16 architects = 4,000 productivity hours reclaimed annually

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