

FIRM BUILDS BETTER STORAGE

Operations manager Alan Hunt is responsible for managing multiple locations with a small staff, and needed a flexible, easy-to-manage storage infrastructure. While his employer, Detroit law firm Dickinson Wright PLLC, had managed well enough with Microsoft Windows servers, Windows XP desktop operating system clients and direct-attached storage, he knew that the firm would benefit from separating the servers from their operating environment—easing management, growth and business continuity.

If a server failed in one location, Hunt wanted to be able to bring up a spare server

libraries. Continual application and data availability are critical, Hunt says.

"Today, users are not accepting any downtime. They need access all the time," Hunt says. He decided to build a highly available infrastructure in which backups would not impact individual servers. He wanted not only availability, but also 98% uptime by backing up from snapshots, as well as high performance, continuous availability, quick and easy scaling, and disaster recovery.

Hunt eventually selected a iSCSI storage array from EqualLogic, which provides data striping and automatic load balancing. "When you plug

Hunt considers scalability a major strength of the PS Series array. Other features he sought were multipath input/output (MPIO) capability and the integration with Microsoft's Volume Shadow Copy Service (VSS), which simplifies backing up from snapshots.

When the project is complete later this year, Dickinson Wright will have 140 servers (mostly blades) and 11 PS200E arrays with 61 terabytes of capacity. REO Series secondary storage appliances from Overland Storage will be added for disk-to-disk-to-tape backups, a process Hunt has been using for some time to keep applications online and data quickly available.

Adding capacity is simple now, no longer requiring a trip to the site, hauling servers and parts. While Hunt waits for installation of the REO appliances, he is backing up directly to the PS200E arrays. "My incremental backup of 15 servers took 10 minutes instead of several hours," he says. "And a full backup of 600 gigabytes took an hour and 20 minutes."

Also, Hunt can run 20 backups at a time—twice what he expected. He will be adding PS Series arrays in all locations, and plans to replicate data from the firm's remote site in Detroit to the data center in Bloomfield Hills for disaster recovery. The Bloomfield Hills data center will house enterprise-wide applications, such as e-mail, document management and accounting, and will also serve as the company's primary backup and disaster-recovery site.

Having all of this take place on the iSCSI SAN side of things, rather than impacting the user environment, gives Dickinson Wright flexibility to direct servers, as needed, to deploy new applications or recover from a server failure—without affecting the productivity of the firm's lawyers.

The 60-terabyte iSCSI SAN infrastructure provides continuous uptime, efficient backup and disaster recovery, and enterprise storage management. The PS200E systems provide storage virtualization, automatic load balancing, snapshots and replication. The new blade/SAN infrastructure provides for continuous backups and 98% server utilization.



Dickinson Wright operations manager Alan Hunt

and boot it as if it were the original. So he launched a project to replace five-year-old servers and storage with IBM blade servers and a storage area network (SAN).

Since e-mail and legal documents are the lifeblood of the firm, Dickinson Wright's mission-critical applications are IBM Lotus Notes and Hummingbird DM 5 document-management software. Previously, each of the firm's locations in Michigan and Washington, D.C., had servers, direct-attached storage, and onsite backup tape drives and

in an EqualLogic array, you get 3-GigE ports and your volumes stripe across all 12 active drives," explains Hunt. "Plug in another array, and now you are working across 24 spindles and 6-GigE ports."

Another key factor in his decision was what Hunt calls three-dimensional modularity. "I am able to add an array and walk away, knowing the new one would take on the properties of the others," he says. "Now I can grow on demand without the headache of redesigning architectures."

Master of the move

Alan Hunt tackles what most IT directors do, including major rollouts, all his company's desktop systems, server systems and networks. Recently, though, as the manager of operations for Dickinson Wright, a Detroit-based law firm with some 220 attorneys and more than 425 employees across six offices, he has been tasked with relocating his company's data center from downtown Detroit. As part of his solution, Hunt chose to use blade servers and storage systems, as outlined in the sidebar on page 42. In an interview with Associate Editor Raymond Peckham, Hunt provides insight into what goes into moving such a complex system.

WHY CHANGE THE DATA CENTER LOCATION?

We have moved most of the central systems to our Bloomfield Hills location because we own and control the building, as opposed to a high-rise building in downtown Detroit. When 9/11 hit, we were not sure we could get back into the Detroit building. Not being able to keep the center of our network up and running was not going to be a situation we could live with long term. So, we put a generator into Bloomfield. We started moving central systems over and we started building all new systems to make sure we could keep operations up for the remote sites even if Detroit was down.

When we had the major power outage (that darkened most of the Northeast and Midwest) a couple of years ago, the following week the building shut the power down for the whole weekend. Our Lansing office, our D.C. office and Grand Rapids, they were all up the day after the outage, but they could not access the Internet. They couldn't send e-mail outside their office and to them that was totally unacceptable, even on the weekend.

WHAT FACTORS WENT INTO THE DECISION TO RELOCATE THE COMPANY'S DATA?

One of the major things was that we could put a generator in Bloomfield, which meant we could run at least the computers and some common areas and conference rooms. Bloomfield was originally designated as our disaster site for all the offices remote to Bloomfield. We wanted to make sure that we had everything in place so we could take those backup tapes and we could restore the data, if needed.

We asked ourselves: Do we have servers that we could bring online with the data? Do we have

the electrical power to even run those servers if we had them? Do we have enough storage there to put that data in place if we need to? Could a smaller site, like Bloomfield, hold the people and the data, and provide the sort of quality experience the users needed?

Even if I have backup tapes offsite somewhere, I have to get them, restore them and go through all those steps. Now, if we use backup software to create them, we will take that data and restore it and see if we can boot that server. People take that for granted, since they are backing up using a commercial backup product that cost \$100,000. It should work. Well, yes and no. There are quirks, there are things you have not thought of and there are bugs.

Everything needs to be proven out—kits in place, CDs in place with all the information you are going to need, because you may not have access to the Internet.

WHAT DETAILS WILL YOU NOT FORGET NEXT TIME?

I always felt that in a disaster that I would be able to pick up the phone, call my vendor or reseller and say: I want "x" number of these boxes here tomorrow morning. What I realize now is that if the planes are grounded, you are not going to get that equipment the next day, so you have to have local resources in place.

One of the other issues was, although a generator was put in, decisions were made that probably should have had more input from what the expected load was, or where we are now with the computer room and where do we expect to be in five years. What if we had to bring online 10 more servers from a remote site? Do we have all the common areas, conference rooms and locations within the building wired to that generator and what does that do to the load on it? There is a bigger picture than just installing a generator and running a computer room off of it.



Alan Hunt, manager of operations for the Dickinson Wright law firm, proves out his backup systems before they are needed.



9 Townsend West • Nashua, NH 03063 • 603.579.9762
www.equallogic.com