

SETTING A PRECEDENT FOR SUCCESS

Turner Padget effectively eliminates unplanned downtime and cuts server footprint by 50% with Dell solutions and VMware



SOLUTIONS

- CONSOLIDATION
- VIRTUALIZATION

TURNER PADGET

TURNER PADGET GRAHAM & LANEY P.A.
BUSINESS • LITIGATION • SOLUTIONS

CUSTOMER PROFILE

COUNTRY: Columbia, SC (USA)

INDUSTRY: Law

FOUNDED: 1929

NUMBER OF EMPLOYEES: 210

WEB ADDRESS:

www.turnerpadget.com

CHALLENGE

Turner Padget sought to consolidate legacy servers, improve availability for remote users, increase storage capacity and implement a new disaster recovery DR/BC strategy.

SOLUTION

The firm migrated its legacy, standalone servers to Dell™ PowerEdge™ servers running VMware virtualization software and equipped its main data center and a remote office location with Dell EqualLogic™ iSCSI storage arrays.

BENEFITS

RUN IT BETTER

- 75% less planned downtime (1 weekend a year vs. 4)
- 32-fold improvement in recovery point objective/RPO (15 minutes vs. 1 business day)
- 8-fold improvement in recovery time objective/RTO (1 hour vs. 1 business day)
- Backup of virtual servers in seconds with snapshots
- Eliminated unplanned downtime for Citrix farm
- Recover email quickly and easily with Dell Email Management Services (EMS)™

GROW IT SMARTER

- 50% savings in storage networking costs compared to Fibre Channel SAN
- 50% reduction in physical server footprint
- Deferred purchase of new storage until next budget year using EqualLogic thin provisioning



In a typical law firm, if one attorney works late, early or on the weekend, the office never closes. The challenge for legal IT departments is to deploy, maintain and scale systems without pulling the plug on the revenue-generating engine that never sleeps.

“WE NEVER HAVE UNPLANNED DOWNTIME FOR REMOTE ACCESS ANYMORE. SOMETIMES ON THE WEEKEND I SEND AN EMAIL TO MY BLACKBERRY TO MAKE SURE IT’S STILL WORKING.”

David Michel, director of technology, Turner Padget Graham & Laney, P.A.

An equal challenge is protecting the data that is so critical to a law firm’s day-to-day operations, from research and litigation to customer billing. Especially for firms in areas prone to earthquakes or hurricanes, developing a robust disaster recovery plan is top priority for many IT directors.

LAYING THE GROUNDWORK

With a minimal server footprint—and without a Fibre Channel SAN—Turner Padget Graham & Laney, P.A., a Columbia, South Carolina-based law firm with five locations throughout the state, is providing the high availability its attorneys demand. The firm has also established a solid foundation for disaster recovery and business continuity (DR/BC). But when Director of Technology David Michel joined Turner Padget, the picture was much different.

“We had a hodgepodge of servers with 100 percent direct-attached storage,” he says. “Each of our offices had its own local Microsoft Exchange server, SQL servers and document management server. I knew we needed to consolidate our environment and come up with a good DR/BC strategy, but we also required storage capacity and centralized management.”

Michel’s first move was to refresh Turner Padget’s server hardware with new Dell PowerEdge 2950 and 2900 servers with Intel Xeon processors.

The refresh also included Dell OptiPlex 745 desktops and Dell Latitude D830

laptops for attorneys, all backed by Dell ProSupport for IT. “I came from a Dell shop and have always had a very good experience, especially on the support side,” says Michel. “The Dell servers had everything we needed, and we found that you can’t beat Dell on pricing.”

Turner Padget’s email system is now centralized on a Dell PowerEdge 2900 server running Microsoft Exchange Server 2007 at the firm’s main data center in Columbia. “We loaded it up with extra drives to make sure there were enough spindles for Exchange to run properly, and we haven’t had a single problem with it,” says Michel. “It just works—so we’re not looking to change that system anytime soon. We’re also using Dell Email Management Services to ensure that we can recover email quickly in the case of a disaster or for e-discovery purposes.”

REDUCING THE SERVER FOOTPRINT BY 50%

Using VMware Infrastructure 3 software purchased through Dell, Turner Padget consolidated physical servers by running multiple virtual machines on Dell PowerEdge servers. “We’ve virtualized most of our critical applications, including Microsoft SQL Server 2005, which is the back end of our Interwoven document management system, and Aderant Expert or CMS, which is our main accounting system,” explains Mark Brophy, network administrator.

To provide storage for the virtual machines, the firm purchased Dell

HOW IT WORKS

HARDWARE

- Dell™ PowerEdge™ 2950 and 2900 servers with Intel® Xeon® processors
- Dell EqualLogic™ PS5000E iSCSI storage arrays
- Dell OptiPlex™ 745 desktops with Intel Pentium® D processors
- Dell Latitude™ D830 laptops with Intel Core™ 2 Duo processors

SOFTWARE

- Aderant Expert (CMS)
- Blackberry Enterprise Server
- Citrix Presentation Server 4.0
- EqualLogic Auto-Snapshot Manager/VMware Edition
- Interwoven WorkSite document management system
- Microsoft® Exchange Server 2007
- Microsoft Office 2003
- Microsoft SQL Server® 2005
- Microsoft Windows Server® 2003
- Microsoft Windows® XP SP3
- VMware® Infrastructure 3/ESX Server 3.5

SERVICES

- Dell ProSupport for IT

“EQUALLOGIC’S NATIVE REPLICATION CAPABILITIES LET ME KEEP A 15-MINUTE REPLICATION OF OUR DATA SITTING 100 MILES AWAY FROM MY OFFICE—I THINK THAT’S PRETTY IMPRESSIVE.”

Mark Brophy, network administrator, Turner Padgett Graham & Laney, P.A.

EqualLogic PS5000E iSCSI storage arrays for its Columbia data center and also its Greenville office, which was the best choice for a DR/BC location because of its distance from the Atlantic coast.

“Among our five offices, we’ve reduced the physical server count by at least 50 percent through virtualization,” says Brophy. “We’re down to 7 physical ESX servers in our Columbia data center, and we’re running about 35 virtual machines on them.”

One hot summer weekend Brophy learned that the firm’s infrastructure could actually run on half those physical servers if necessary. “The building management shut off the water in the middle of a heat wave, and I was getting alerts on a Saturday that it was 120 degrees in the data center,” he recalls. “So I went in and expected to have to interrupt availability to at least some applications, but because of the shared storage and the Dell servers’ performance, I was able to shut half our infrastructure down and still maintain full services.”

SILENCING THE SQUEAKY WHEELS

Because of the flexibility VMware provides, Turner Padgett is now able to provide high availability for a group of about 50 core users that often work remotely. “These are the users we would hear from the most, and it wasn’t good things,” Brophy explains. “We deliver their remote desktop, including Microsoft Office, Interwoven and Aderant, via Citrix Presentation Server, and we used to have only one Citrix server. When I joined the firm, it was immediately clear that we needed at least one more Citrix server for

load balancing and redundancy. I was getting nightly emails from frustrated users about applications being offline.”

In the firm’s new virtual environment, adding additional servers is easy. “Once again, thanks to the scalability of the EqualLogic SANs and the performance of the Dell PowerEdge 2950s, we’ve been able to solve that problem,” says Brophy. “We just set up a couple new virtual servers to increase the size of the Citrix farm, used VMware P2V to convert the old physical box to virtual, and retired the old physical box. And it didn’t cost us anything extra, since we were already licensed properly at the server level.”

Michel agrees. “We never have unplanned downtime for remote access anymore,” he says. “Sometimes on the weekend I send an email to my BlackBerry to make sure it’s still working. This used to be a real hot-button topic, and now we never hear a peep from those users.”

75% LESS PLANNED DOWNTIME

By using VMware VMotion to move virtual servers seamlessly between physical hosts, the firm’s IT staff can now perform maintenance on servers and patch applications without application downtime. “We’re able to essentially do all of the management of our environment during normal business hours,” says Brophy. “If a physical box needs attention, I can just VMotion the virtual servers running on that box to another physical host and do whatever I need to do, then VMotion the servers back. I don’t need to put in late nights anymore.”

This capability has resulted in 75 percent less planned downtime for the firm. “We used to have scheduled downtime once or twice a quarter where we’d have to pick a Saturday or Sunday and be down for pretty much the entire day—that was a politically unpopular email to have to send, to say the least,” says Brophy. “Now we limit our planned downtime to once a year when we have some kind of major change, like a networking hardware upgrade.”

“And if we ever need to add more physical servers or when we migrate to new hardware once our current servers reach end of life, Intel VT FlexMigration will make integration of the new servers a snap,” adds Michel. “The chipsets all play nice with each other, so we can add more Intel-based servers to the ESX cluster and not risk losing the VMware High Availability and Distributed Resource Scheduler configuration that we already have in place. Hot migrations to new hardware are now possible also. This gives us a lot of flexibility going forward, but seems like it would be an absolutely huge benefit for larger data centers.”

NETWORK ADMINISTRATION 101

Turner Padgett appreciates the simplicity of the EqualLogic iSCSI storage arrays, as well as the flexibility to be able to use SAS disk for performance or SATA disk for capacity, depending upon the application. “I knew the value of centralized storage, but based on our number of users, I didn’t think that we needed the complexity or expense of a Fibre Channel SAN environment,” says Michel. “We looked at NetApp, LeftHand Networks and EqualLogic, and after the presentation by Dell partner VeriStor,

it was clear that EqualLogic was the way to go. Within 45 minutes, they had the SAN unpacked, working and provisioned.”

“VeriStor was very knowledgeable, and using EqualLogic allowed us to leverage knowledge we already had,” agrees Brophy. “If you know TCP/IP and can configure a switch, you’re good to go. Everything else in the setup is just a wizard. It’s really net admin 101.”

Michel estimates that the firm saved 50 percent in storage networking costs compared to a Fibre Channel SAN. “I’m buying the same switches for storage that I’m buying for the network, so I can buy from one vendor,” he explains.

32X FASTER RPO, 8X FASTER RTO

The Dell EqualLogic PS Series’ native Auto-Replication feature is allowing Turner Padget to replicate data every 15 minutes from the Columbia data center to the Greenville DR/BC site over standard Ethernet. “So if at 5:00 p.m. today, Columbia goes down, I’ve got copies of those exact volumes sitting in Greenville as of 4:45 complete,” says Brophy. “Previously, in the case of a disaster, we would have had to go to the last night’s tape backup to recover. EqualLogic’s native replication capabilities let me keep a 15-minute replica of our data sitting 100 miles away from my office—I think that’s pretty impressive.” Fifteen minutes compared to eight hours or one business day equals a 32-fold improvement in the firm’s recovery point objective (RPO).

Turner Padget has also seen an eight-fold improvement in its recovery time objective (RTO). “Previously, it would have taken a couple of hours just to get the data to the backup server, and then maybe another six hours to get the data back onto the production server,” says Brophy. “Now, with the combination of EqualLogic and VMware, we have a VMDK image on the other side,

which is the full server configuration as well as the data—right up to the Windows patches as of last Tuesday. We can recover within an hour.”

The firm just added two more EqualLogic PS5000E arrays and has begun using EqualLogic Auto-Snapshot Manager/VMware Edition for high performance, space-efficient hypervisor-aware SAN-based snapshot support. “With Auto-Snapshot Manager/VMware Edition, a complete backup of an entire virtual server takes just seconds, regardless of how much data is on the server,” says Brophy.

WHAT THEY DON’T KNOW WON’T HURT ‘EM

The thin provisioning capabilities of the EqualLogic arrays came in handy recently when Brophy had to over-allocate storage to keep applications—and their users—happy until the next budget year. “We were able to present more storage to VMware ESX than was actually available,” he says. “We monitored usage thereafter very closely, of course, but it enabled us to buy time until the new budget year when we could expand our SANs—and no one was the wiser.”

The combination of Dell servers, EqualLogic storage and VMware has worked so well for Turner Padget that Michel and Brophy haven’t been shy about spreading the word.

“Without hesitation, we have told our peers at other law firms that they need to go with Dell servers, EqualLogic storage and VMware,” Brophy concludes. “That’s probably the best way to illustrate the very high regard that we have for these products.”

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