WACHTER

Wachter Expands and Simplifies Virtual Server Storage with VMware Virtual SAN

Wachter, Inc. urgently needed more data storage for the VMware vSphere® server virtualization environment at its Lenexa, Kansas headquarters. By replacing the existing server hardware with three new Cisco nodes, packed with 45TB of storage and running VMware Virtual SAN™ software, the company reduced the capital costs of storage, improved storage performance, simplified system administration, and accelerated IT response to new business requirements.

Wachter is a leading national provider of complex infrastructure solutions, such as power, data, automation, communications, and security systems. The company delivers turnkey solution services from conceptual design through installation and lifecycle maintenance for customers in most major business and industry segments throughout the United States and the United Kingdom. Headquartered in Lenexa, Kansas, the company employs a workforce of 1,300.

The Challenge

Wachter currently operates a highly virtualized IT environment. In 2010, the company began transitioning most of its production systems to three VMware clusters at three different locations, Lenexa, Kansas, Lowell, Arkansas, and Mount Laurel, New Jersey.

"The business had grown and we were dealing with a lot of legacy physical servers," recalls Carl Shriver, Wachter's IT Operations Manager. "They were using a lot power, and they were not very stable." To continue growing, the company needed greater stability, availability, and scalability from its IT environment, and it needed to manage that environment with a lean IT organization and budget.

"We vetted some different technologies and we settled on VMware," Shriver says. "We purchased some HP servers and some HP LeftHand iSCSI storage arrays, and we put together three vSphere clusters. We used Site Recovery Manager to transfer VMs between offices in the event of emergency, and we ran with that configuration for four years."

The new clusters run most of Wachter's production systems and services: Exchange, SharePoint, Dynamics AX CRM, SQL databases, file servers, app virtualization servers, domain controllers, and other network services.

By 2014, however, Wachter's cluster in Lenexa was running out of storage. Administrative workloads increased with the effort to reclaim unused storage space, and provisioning cycles for new business services grew longer. "We were running critical with our existing storage solution," Shriver recalls. "We were getting to the point where we either had to purchase more capacity or come up with a different solution."

INDUSTRY
Technology Services

LOCATION
Lenexa, Kansas

KEY CHALLENGES
• Running out of capacity in a growing virtual environment
• Manual storage provisioning slowed response time to new business requirements
• Mapping storage resources to application needs was difficult
• Scaling storage was very expensive

SOLUTION
Wachter chose a VMware hyperconverged infrastructure solution based on vSphere and Virtual SAN to build out a 45TB cluster running business critical applications on Cisco UCS C240 M3 servers.

BUSINESS BENEFITS
• Under one-fifth the cost per gigabyte of competitive storage
• 10x the performance of the legacy storage platform
• Vastly simpler storage management
• Agile IT response to new business requirements: new VMs with storage could be spun up in 10-15 minutes

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VMWARE FOOTPRINT
• VMware vSphere

• VMware Virtual SAN

• VMware Site Recovery Manager

APPLICATIONS VIRTUALIZED
• Microsoft Exchange

• Microsoft SharePoint

• Microsoft Dynamics AX

• MS SQL Servers

• CRM Applications with Oracle databases

• Web Servers

• Application Servers

• Domain Controllers etc.

PLATFORM
• Cisco UCS C240 M3 servers

The IT team was also looking for a scalable storage solution - something that would help them meet ad-hoc business needs as they came in. "We wanted to expand without really having to expand. We had limited datacenter footprint."

The Solution

Having recently become a Cisco Gold Partner, Wachter looked closely at storage solutions based on Cisco hardware. "One of the things we noticed was that the VMware Virtual SAN technology lets you take advantage of a server's local storage, and Cisco had servers with lots of storage capacity," Shriver says.

"I compared upgrading our current storage, adding in a different enclosure, or going the Virtual SAN route. When we really looked at the dollars and cents, the Virtual SAN software on new Cisco hardware just made better bottom-line sense. The gross amount of storage it offered was probably three times as much as the other options, which translates to a very small dollar to gigabyte ratio."

Wachter purchased three Cisco UCS C240 M3 servers for a new host cluster in Lenexa, outfitting each with five SSDs and 19 hard drives, configured in five disk groups, for a total raw storage capacity of 45TB. Each node featured dual physical processors, 20 logical cores, and 250GB of memory. "On the back end we had 10GB network cards, so we were increasing our network bandwidth, the number of processors, the speed of those processors, the amount of RAM, and the amount of storage," Shriver recalls.

He and the Wachter team handled the Virtual SAN configuration themselves. "I'd say it's a pretty smooth process, really. I had four or five years of VMware experience, but I'm a generalist. I'm not a command line guy and I don't have a great deal of experience back there. If I was able to get through it, I think just about anyone could."

Business Results & Benefits

The move to a VMware hyperconverged solution for its main VMware cluster at its headquarters not only satisfied Wachter's immediate storage requirements, it provided a number of significant additional benefits. At the top of that list is the low cost per gigabyte of storage.

"Most of the traditional SAN options would have given us 15 to 20 terabytes at a cost of somewhere between $5 and $7 a gigabyte," Shriver says. "With the new Cisco servers and Virtual SAN we got cost savings at the rate of 1/5th of the traditional SAN, with 45 terabytes that cost less than $1.50 a gigabyte. It was a massive difference."

The new Virtual SAN cluster also delivered significantly better performance. "I want to say we were in the neighborhood of 10 times as fast with Virtual SAN as we had been on the old HP storage," Shriver says. "I can remember thinking I must be doing something wrong but now, having run the system for over a year, I'd say that was actually pretty accurate."

Moving to a hyperconverged architecture, integrating servers with the storage system has also simplified maintenance on both, allowing Shriver and his team to turn their attention to more strategic concerns. "Now we have one VMware solution as opposed to multiple systems from different vendors," Shriver says. "Everything is right there inside the VMware console, so there were no new interfaces to install or learn. And we no longer have to watch the storage allocation constantly, always asking if we still need this server, or if a LUN is using too much disk space. We don't have to worry about LUNs and provisioning anymore."

In addition, Virtual SAN fit it beautifully with their existing Site Recovery Manager setup. "We were already using SRM. With VSAN we could maintain our DR setup, replicate VMs across sites without worrying about space, replication, etc. It is very easy to keep the whole system up and running with vSphere, VSAN and SRM. If you put a number to the cost of downtime, it shows you very quickly that the investment you make in your infrastructure is worth it."

Finally, the Virtual SAN solution is helping Wachter's IT organization respond more quickly to new business needs and opportunities. "We can now meet just about any request from the business side, and meet it quickly," Shriver says. "If someone needs a new application installed or a new database, I can spin up a new VM with storage in 10 or 15 minutes. It's such a fast process that it frees up time for a lot more things."

Looking Ahead

Shriver expects to add additional Virtual SAN clusters as storage requirements dictate. He's also looking forward to an opportunity to learn more about NSX and other VMware technologies. "There's a lot of stuff really on the VMware side that I'd like to take greater advantage of," he says. "It really does allow your business to run that much more smoothly and effectively."

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