

Walnut Valley Water District has seen the productivity of its workforce increase after moving all its business-critical workloads onto FlashArray™ all-flash arrays from Pure Storage. In addition, its business-continuity strategy has been significantly strengthened through the use of the ActiveCluster feature from Pure.

**BUSINESS TRANSFORMATION**

Employees both inside and outside the office have faster access to essential data and applications, boosting productivity and efficiency. Business continuity is assured through dramatically faster, more reliable backups and restores.

GEO

North America

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“With ActiveCluster, recovery time has dropped to just minutes instead of hours.”

Ron Woodruff,
Information Systems Specialist

**WALNUT VALLEY WATER DISTRICT OVERFLOWING WITH PRODUCTIVITY/
BUSINESS CONTINUITY IMPROVEMENTS THANKS TO PURE STORAGE**

Ron Woodruff knows how a municipal water system works from several angles, having started in maintenance and moving into IT, where he has been for more than 12 years — eight of them as Information Systems Specialist for the Walnut Valley Water District. As a one-man IT staff, he supports more than 60 personnel in all functions of the District, which serves around 100,000 customers in a half-dozen communities in eastern Los Angeles County.

Woodruff knows the importance of a reliable water system and the contribution that IT must play in meeting customer expectations. “All of our systems — whether it’s water or IT — are built to ensure that we continue to operate in any emergency,” he said. “People have to know there will be water from the tap in any circumstance.”

He added, “People can survive without telephone service, electricity or gas, but none of us can live without water. Therefore, it is our responsibility to provide a reliable water supply to our customers.”

That requirement for reliability was a primary concern when Woodruff and his system-integration partner, ConvergeOne, started exploring options in 2017 for a new storage infrastructure. His legacy EMC storage system was the source of several problems, including high latencies, frequent disconnects and poor customer service.

“Initially it did its job, but as we grew it became a real headache,” Woodruff recalled. “We eventually had three tiers of storage — 7200 rpm, SAS and some flash — and it got quite complex. And when we set up a new disaster-recovery site, the failover was so horrifyingly slow that I couldn’t even get the DR site to boot up. We started using Site Recovery Manager (SRM), and that was slow as well. Our failover process broke a lot.”

At the same time, Woodruff was pursuing some important new initiatives — virtualizing the District’s primary software application and providing better connectivity for staff members in the field, who inspect and make repairs on the water infrastructure and customer connections. The water district’s most critical application is a supervisory control and data acquisition (SCADA) system, which monitors the status of the District’s water infrastructure. Woodruff wanted to capture the advantages of virtualization — including lower capital and operating costs and simplified management — but doing so required more storage. “Because SCADA requires a very smooth failover, I had to buy SAS drives and put them into my hosts to create a storage volume, so that when I did failover SCADA, it would failover right into the host on the other end, and at least we would be able to boot up.”

COMPANY:

Walnut Valley Water District
www.wvwd.com

USE CASE:

- Virtual Server Infrastructure – VMware® vSphere®
- Database – Microsoft® SQL Server
- SCADA – GE iFix

CHALLENGES:

- High latencies and frequent disconnects from legacy storage system interfered with employee productivity across multiple departments.
- Complexity of legacy storage management placed a heavy burden on one-man IT staff.

IT TRANSFORMATION:

- Latencies slashed from as high as 300-400 ms to consistently sub-ms, boosting productivity across the organization.
- Set-it-and-forget-it storage array radically simplifies system management.
- Disaster recovery capabilities sharply improved; backup times cut dramatically.

“Pure Storage is like the grown-up kid in a family that no longer needs attention.”

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ConvergeOne introduced Woodruff to Pure Storage, and his positive experience with the company began almost immediately. “They talked to me about setting up a POC (proof-of-concept trial) where I could test out their equipment, so I decided to give it a try.”

The POC exceeded all expectations, Woodruff added. “It was effortless. Pure Storage came in and set everything up, and I had two months to test it out — and what a test drive it was! I was expecting to test drive a Volkswagen and I got a Tesla. I could see the difference right away, and so could the end-users.”

USERS EVERYWHERE NOTICE IMPROVED PERFORMANCE

Woodruff moved all of his production workloads onto the Pure Storage FlashArray//M20 and noted improvements right away. “As I migrated even one or two servers onto the Pure, I could see the difference. It wasn’t taking minutes to reboot; it took less than 30 seconds. Everything was faster. As we were running the two storage systems in parallel, the EMC system was still causing high latency and disconnects, while the Pure was running rock solid.” The EMC system regularly produced latencies of as high as 300 to 400 ms, “but with Pure we have consistently been under 1 millisecond.”

The other key initiative Woodruff was pursuing was improved connectivity for field staff. In years past, technicians would log into the SCADA system in the office to learn where they needed to be, go out and perform the work, and then return to the office to identify their next assignment. “After virtualizing SCADA, we implemented Web SCADA, which meant that guys in the field could log into SCADA from their laptop or tablet, get their assignments and not have to return to the office until the end of the day.”

With the District’s legacy storage, response times for mobile users would suffer when several workers would use the system simultaneously. But after Pure Storage was installed, “all the problems went away. Now you can’t tell if everyone is on at once. It’s a great improvement.”

Improvements also were seen in the District’s back-office functions, where Microsoft Dynamics GP software is used for accounting, payroll and customer service. “We have 30 users on that system every day, and SQL Server really pounds on it. But with Pure Storage behind it now, we haven’t seen any performance issues.”

With 24/7 availability a critical need for a utility like Walnut Valley Water District, Woodruff appreciates the ultra-high reliability and resilience of his Pure Storage arrays. “I have yet to see anything fail or go wrong with Pure,” he noted. “It is so much more reliable than what we had. Everyone notices the faster response times for their applications.”

ACTIVECLUSTER STRENGTHENS BUSINESS CONTINUITY PLANS

Pure Storage has also been instrumental in helping Woodruff upgrade his disaster recovery and business-continuity plans. He operates a backup DR site about two miles away, linked by a 10Gbps microwave connection. In late 2018, he implemented Pure’s ActiveCluster feature, which performs synchronous replication between remote sites automatically and transparently, without downtime, human intervention or added cost. “My recovery time has dropped to just minutes instead of hours,” Woodruff reported. “I have all the data up-to-date, and if we do have to fail over, there’s no time lag and no missing data. All our failover tests with SCADA have gone perfectly.”

Woodruff has used Veeam backup software as part of his business-continuity plans for several years, but its performance was hampered by the problems with his EMC system. “SRM was a 30-minute, cross your fingers and hope it works type of thing. With Pure Storage, Veeam has become a new animal. I’m now backing up 40 servers in about an hour, whereas it used to take at least three hours and sometimes more.”

By implementing the Pure Storage snapshot plug-in for Veeam, “managing backup is much simpler.” It is part of a superior experience with managing storage. “Pure is easy to set up and easy to manage. Way simpler than EMC. You put Pure in a room, turn it on and just leave it. With EMC, I had to log on many times a day to make sure it wasn’t doing something else wrong.”

OUTSTANDING SERVICE FROM PURE STORAGE

Support from Pure Storage also surpasses Woodruff’s expectations. “Whenever I call, I get through right away. I never have to wait, and the issue is dealt with right away. And it’s seldom an issue with Pure anyway. It’s usually just a question I have.”

He added, “Anytime I would call EMC, they wanted me to pull logs. Even when I had phone-home turned on, they kept asking for logs. All Pure Storage asks me to do is turn on Remote Assist and they take care of everything else.”

When Woodruff was initially considering Pure Storage, he was skeptical about its claims for high levels of de-duplication and data compression. But seeing is believing. “I had 40TB of storage with EMC,” he noted. “Pure Storage sold me an array with 15TB, and I was freaking out. I thought I would outgrow it in minutes. But in the POC I saw how it worked and I was just amazed. I could add a server and it’s only a tiny increase in storage consumption. The other day I added four servers, and I didn’t see storage capacity change by even 1%.”

Across all workloads and databases, Woodruff is seeing 3.2:1 data reduction, which means the two //M20 arrays he has installed will meet his storage requirements for a long time to come. “Right now, I have 16TB of data on a 15TB array and there’s still more than 50% capacity left. The de-dupe is wonderful.”

As a one-man IT department, Woodruff relies on ConvergeOne for a lot of routine tasks, but storage is now one item he doesn’t have to ask his system integrator to monitor. “I can take care of Pure Storage myself; I don’t need anyone to watch over it. It’s like the grown-up kid in a family that no longer needs attention.”

“I can’t say enough about Pure Storage,” Woodruff concluded. “Not only is the product bulletproof; the service is amazing.”

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