Lewis County (WA) Public Utility District (PUD) uses Pure Storage® all-flash arrays to deliver the performance, reliability and operational simplicity that ensure mission-critical applications and data are always available.

BUSINESS TRANSFORMATION

Maintenance and customer-support staff have fast, reliable access to the applications and data they need to optimize productivity, while the IT team is freed from the burdens of storage management.

REGION / COUNTRY

NAM / USA

INDUSTRY

Utilities

"Migrating data onto Pure Storage was the easiest thing I have ever done."

Dave Alumbaugh, ***Network Administrator***

LEWIS COUNTY PUD TAPS THE POWER OF PURE STORAGE

The Lewis County Public Utility District (PUD) serves more than 31,000 customers in west-central Washington state, providing electricity through more than 3,300 miles of distribution lines. Established in 1936, the PUD sources a very green 85% of its power from hydroelectric and wind sources, keeping rates for its customers among the lowest in the nation.

Just as a reliable supply of electricity is the highest priority of the PUD overall, availability is also the mission of the utility's information systems department. Dave Alumbaugh is the network administrator responsible for the smooth running of the IT infrastructure. Alumbaugh says he is fortunate that the IT department is involved in all aspects of the organization's operations. "Any time there is a meeting about future initiatives or a department's needs, we're always brought in and consulted. We may not have to run everything, but we are always involved."

The goal, he added, "is that every function in the PUD takes maximum advantage of the benefits that today's technology can offer." To achieve that goal, the district has continually evolved its IT infrastructure. "When I started 11 years ago, we had two physical servers, each with its own storage. Today, we are 98% virtualized."

LEGACY STORAGE FORCES A HARD DECISION

The district's storage infrastructure also has evolved. In 2010, it purchased a hybrid storage system from Nimble Storage, which "was the most advanced system you could buy then," Alumbaugh recalled. "We bought it the year before Pure Storage came out."

Alumbaugh said he was happy with the performance of the Nimble array, "but the problem was that it had no data reduction. You put 10TB in, and it took up 10TB of capacity." Within two years of installing the 20TB Nimble array, it was nearly full, "so we bought another shelf to add 10TB." By 2016, the Nimble was close to its 30TB capacity, as well as nearing its end of life. "So, we had to decide what we were going to do — would we add another shelf to the Nimble, upgrade to a newer system, or go out and see what else was available."

Alumbaugh consulted his trusted value-added reseller, Right Systems, which suggested he look at Pure Storage and Datrium. Nimble was still in the running as well, but just as the PUD was deciding what to do, Nimble was acquired by Hewlett Packard (now HPE). "None of us on staff had ever had a good experience with HP, so that was a red flag," Alumbaugh said.

COMPANY:

Lewis County (WA) Public Utility District
www.lcpud.org

USE CASE:

- Virtual Server Infrastructure – VMware® vSphere®
- Database – Microsoft® SQL Server
- Backup/restore – Rubrik®

CHALLENGES:

- Unchecked data growth within the legacy storage system caused massive cost and management burden.
- Complexity of storage infrastructure meant long delays if data needed to be restored.

IT TRANSFORMATION:

- The solution provided faster backup-and-restore performance.
- The organization achieved uninterrupted uptime through maintenance and daily operations.

> "After getting to know Pure Storage, we fell in love with both the company and the product."
>
> Dave Alumbaugh, ***Network Administrator***

In the end, Right Systems recommended Pure Storage, and PUD staff traveled to Pure's Mountain View, CA, headquarters where "we met with a whole group of people, from top executives to customer support. It was an amazing experience. We were overwhelmed that so many people took that much time to tell us about the company and their product. Ultimately, that's what sold us on Pure. We fell in love with both the company and their FlashArray™ product."

Other key factors contributing to the decision in favor of Pure Storage were the fact that it was all-flash; long-term total cost of ownership; high levels of data reduction; all software included in the price; and the ease of adding capacity without disruption. In addition, the Pure Evergreen™ Storage program — which guarantees customers nondisruptive access to the latest technology without forklift upgrades and with full protection of previous investment in Pure solutions — was a major positive. "With Evergreen, we showed the board that if we ever ran out of space or needed to upgrade, we would only pay for the difference, and not have to buy the same storage again. That was a very big positive. Our customers are also the district's owners, so we always want to be careful how we spend their money."

READY TO MIGRATE DATA IN AN HOUR

Alumbaugh's hands-on introduction to Pure Storage's revolutionary ease of use came as soon as their FlashArray arrived at the PUD's head office in Chehalis. "Once we had the Pure array up and running — which wasn't difficult at all — I actually set up the data migration myself. It was the easiest thing I have ever done. Super quick and painless. In an hour we were ready to migrate the data off the Nimble onto Pure."

Pure Storage now hosts all of the district's workloads and data, with the exception of video from security cameras. Those workloads include the district's Cogsdale financial and ERP software for utilities along with Microsoft SQL Server databases, SharePoint and Exchange. The Nimble array is spending its last days for DevTest purposes.

The ability to virtualize and consolidate multiple diverse workloads onto a single array has massively improved storage administration. "With our legacy storage, we had to spread data across multiple volumes, which resulted in a lot of work if you ever had to restore a server. With Pure Storage, everything can go into one volume, and if you have to repair or rebuild, it's a simple one-shot deal."

The performance of the Pure Storage array also has impressed the IT team. "Everyone has noticed how much faster everything is running," Alumbaugh observed.

Having been frustrated by the lack of data reduction in his previous storage system, Alumbaugh has found that Pure Storage's de-duplication and compression features provide a level of data reduction he never expected. "We're seeing data reduction across the entire environment of 8.9:1 and 3.2:1 on data alone," he reported. "Right now, we have more than 30TB provisioned but are using less than 6TB on the Pure array. That's less than a third of our capacity, and I don't expect we'll come near two-thirds anytime soon."

PURE DELIVERS HIGH AVAILABILITY AND OPTIMIZED MANAGEMENT

Recently, the district has implemented a high-availability strategy to ensure operational continuity in case of disaster or emergency. This has included creation of a backup/DR site in Morton, about 50 miles from the head office. The PUD has deployed Rubrik cloud data-management software in conjunction with a FlashArray//M20 in both data centers for business continuity, a solution Alumbaugh described as "just amazing."

> "We have more than 30TB provisioned but are using less than 6TB on the Pure Storage array."
>
> Dave Alumbaugh, ***Network Administrator***

Pure Storage and Rubrik "work together so well," he added. "They are our whole backup and recovery solution. The performance and the ease of use are so impressive. I have a lot of things to look after every day, and I don't want to have to fumble around to get something to work. Pure and Rubrik work just the way you want them to."

As an example of the simplicity of the Pure Storage – Rubrik solution, Alumbaugh cited an instance when he was out of town and a file was accidentally deleted. "My manager — who had seen a demo but had never done it himself — was able to go in and retrieve that file by himself. That's how easy it is."

The simplicity and reliability of the Pure Storage – Rubrik solution adds to peace of mind. "Knowing that if I lost a server I can have it back up in 15 minutes gives us a real comfort level. With our previous storage, it was at least a four-hour process."

Another part of the high-availability strategy is use of the ActiveCluster™ feature in Purity software. ActiveCluster is a bidirectional replication solution that provides synchronous replication and automatic transparent failover, enabling clustered arrays and hosts in multiple sites to be used in active/active data center configurations. "We're using ActiveCluster to synch between the main data center and the backup site in Morton," Alumbaugh said. "Anything we write to Pure Storage at the head office is automatically synched to Pure in Morton. The goal is to be able to turn off the Pure environment in Chehalis and still have everything active in Morton, and the results have been flawless."

Pure Storage's ease of use also extends to security, which is a high-priority for utilities — a frequent target for ransomware attacks. "We've had a couple meltdowns from crypto-virus attacks in the past couple of years, and with Nimble we were down for a full day. With Pure, we were down for less than an hour. It's also good to know that in addition to all the other security measures we have put in place, Pure provides encryption at rest built into their product at no extra cost."

Alumbaugh also praised the operational dashboard provided by the Pure1™ management system. "I like being able to see all the essential information — like latency, IOPS and bandwidth —at a single glance. I don't have to search for anything. We also get a good look at these metrics through VMware, thanks to the close integration between Pure Storage and VMware."

After experiencing 100% uptime on the Pure Storage array since installation, Alumbaugh observed, "it just runs so well. I don't have to monitor it, even on off-hours. And if there were a blip, I'd get an email notice right away from Pure's proactive management and support team."

Alumbaugh concluded, "I cannot stress enough that Pure Storage does exactly what they say it will, if not better."

PURESTORAGE®

info@purestorage.com
www.purestorage.com/customers

© 2019 Pure Storage, Inc. All rights reserved. Pure Storage, FlashArray, Pure1, Evergreen, and the P Logo are trademarks of Pure Storage, Inc. All other trademarks are the property of their respective owners. ps_cs_Lewis-County-PUD_01