E-GUIDE

FlashStack Customer Wins E-Guide

A resource for Pure Storage® sales teams with customer success stories, analyst white papers, and more

PURESTORAGE®

Contents

Uncomplicate Data Storage, Forever

Introduction

Modern data-infrastructure solutions are smarter, simpler, smaller, and more efficient than ever before. They're virtual machine (VM)-aware and hybrid cloud–ready, and they retain the predictability and efficiency advantages of dedicated compute and storage tiers.

An Intelligent Solution

Pure Storage's FlashStack® solution is a holistic alternative to disk-based converged infrastructure (CI) and hyperconverged infrastructure (HCI) offerings.

Top-to-bottom, software-defined, and intelligently managed via Cisco Intersight—our single-pane-of-glass, cloud-native management layer—FlashStack is delivered in partnership with Cisco and VMware, providing best-of-breed components that have been rigorously tested and well-documented with Cisco Validated Designs.

Achieve Sustainability and Scalability

To provide a greener, more compliant data center, FlashStack has been redesigned from the ground up to be approximately 85% more efficient, providing reduced energy consumption, improved cooling, and a far denser architecture for a dramatically reduced data center footprint.

FlashStack deploys with the simplicity of an appliance, but it can scale without disruption as your business grows, providing a powerful, secure, and reliable platform for your cloud, business-critical applications, DevOps, and modern analytics—right out of the box.

FlashStack Customer Wins

Geo
North America

Industry
Higher Education

Company
Mississippi Community College Board

Use Case
- Database – Microsoft SQL Server
- Virtual server infrastructure (VSI) – VMware vSphere

Products and Services
Unified computing FlashStack converged infrastructure:
- Cisco UCS servers
- Pure Storage FlashArray
- VMware vSphere

Cisco networking and security solutions:
- Cisco Nexus 5548 and 9148 switches

Mississippi Community College Board

Business transformation: Students have faster, more reliable access to the on-line enrollment application during its most critical period of use. Application developers can roll out new features more quickly. And IT managers can focus primarily on improving the atmosphere for learning instead of being diverted by the need to micro-manage technology.

Challenges

- Maintenance cost for legacy storage was about to rise 230%.

- Early-generation converged infrastructure was very complex to manage.

- Supporting the heavy demands of registration week meant IT work was severely degraded.

IT Transformation

- Higher-performing IT infrastructure gives students and faculty greater flexibility in enrolling for classes during online registration.

- Sharply reduced demands for system management allow IT staff to focus on strategic initiatives.

- FlashStack® delivers more performance, greater storage capacity, and simpler management, with superior TCO.

> "I found that for less than the cost of the hardware maintenance on our legacy system, I could buy a FlashStack implementation and three years of maintenance."

RAY SMITH,
ASSISTANT EXECUTIVE DIRECTOR FOR TECHNOLOGY

FlashStack Converged Infrastructure Aces All its Tests at Mississippi Community College Board

The focus of the IT department at the Mississippi Community College Board (MCCB) is entirely about making a better learning atmosphere for students, faculty and staff. In the process, it occasionally learns valuable lessons of its own. One of those lessons came during a recent change in its IT infrastructure.

MCCB had been an early purchaser of a "converged infrastructure" solution, which combines server, storage, networking and software elements into a single package that is designed to simplify planning, deployment and management, as well as lowers costs.

"I looked at converged infrastructure as a way to lessen the amount of hardware I had in my data center, and to reduce costs and complexity," recalled Ray Smith, Assistant Executive Director for Technology for the MCCB. "We were an early adopter of a major storage vendor's converged infrastructure package — maybe a bit too early. It literally took years, not weeks or months, to have it running as it was promised."

After the experience of buying a first-generation system for its main data center in Jackson — and a later version for a disaster-recovery site in a nearby town — Smith received yet-another lesson in the workings of traditional storage vendors.

"We had reached the end of our third year with the first system we had purchased, and the maintenance contract was going to increase from $48,000 a year to $110,000 a year — and that's just for the hardware."

At that point, Smith went looking for an alternative storage solution that would complement its investment in Cisco UCS servers. With the assistance of its system-integration partner, Venture Technologies, it selected the FlashStack converged-infrastructure solution, which combines all-flash storage arrays from Pure Storage, Cisco UCS servers and switches, and VMware virtualization software in a single platform.

> "It's really valuable to me to know that the FlashStack design was pre-configured and pre-tested."

RAY SMITH,
ASSISTANT EXECUTIVE DIRECTOR FOR TECHNOLOGY

"With FlashStack, we saw the opportunity to reduce the footprint in our data centers, and to adopt a technology that we knew was advancing very quickly," said Smith. "I found that for less than the cost of the hardware maintenance on our legacy system, I could buy a FlashStack implementation and three years of maintenance. It was an easy decision for us."

The configuration recommended by Venture Technologies followed the reference design approved by Pure Storage and Cisco, which was an important source of confidence for Smith. "One of the things I've learned in dealing with converged infrastructure is the importance of the companies working together. It's really valuable to me to know that the FlashStack design is certified and pre-tested."

FlashStack Proves the Value of Simplicity

Smith opted to purchase two FlashStack configurations — an allnew one for the main data center, and another one for the disaster recovery (DR) site that incorporates some of the UCS blade servers that were already running there. In total, MCCB now has Pure Storage FlashArrays, 13 Cisco UCS servers, and Nexus 5548 and 9148 switches, along with vSphere server-virtualization software from VMware.

Smith's organization provides centralized IT services for the 15 public community colleges and 34 campuses that make up the community college system which serves more than 70,000 students, and acts as

an Internet service provider for those campuses. The IT team develops and deploys key applications such as student enrollment, and collects data across the system in response to legislative requests.

Installation of the FlashStack configuration was a lesson in simplicity, Smith noted. "With our previous system, the vendor had a team of seven people working over a series of months to get the system up and running. With the FlashStack, we had one person who worked on the conversion, and he was able to do it in less than a week. Installation of the FlashArray itself took about an hour."

The conversion to the new FlashStack infrastructure "was accomplished without an interruption to our production applications and to the user experience, which is just unimaginable compared to what we had before," Smith added. He observed, "After that first install, I understood the importance of simplicity."

"In all the years I have been doing this, this was the most efficient install of something so complex," he continued. "The fact that we migrated to a wholly new infrastructure during normal work hours and with no downtime was amazing." Previously, he noted, the organization would have had to wait for a long holiday break to schedule an installation of such magnitude.

Performance Problems Disappear in Critical Application

The impact of the FlashStack infrastructure has been seen most notably in the process of registering students for classes, using the online Enrollment Tool. "The first week of registration is when the system runs its hardest. We historically didn't do anything else at that time, because the load was so heavy. Even so, we would always have points where the system was running so slow that students and administrators were very

frustrated with the response time. So, one of our prime objectives in getting a new infrastructure was improving the speed of this application."

After migrating the Enrollment Tool to the FlashStack infrastructure, Smith observed, "We have seen much faster performance, which is a benefit to the students and a big relief to us. It has made things a lot less stressful."

The new IT infrastructure also supports the Mississippi Virtual Community College, whereby students can enroll in a class from any of the 15 colleges. Previously, they could only take classes at the college serving the district in which they resided. Smith's office developed the application that allows that cross-district enrollment, taking advantage of the added processing power and storage resources afforded by the FlashStack configuration.

"We are seeing a data-reduction rate of 3.8:1 on the Pure Storage array," Smith noted, "which not only reduces footprint in the data center, but also gives us the ability to spin up additional databases for application development without impacting performance or consuming precious storage capacity. That smooths the whole development process."

Benefits from FlashStack also have been noted in maintaining disaster-recovery preparedness. The FlashStack configuration at the DR site "has simplified things to the point where we can simulate an outage and I can see my virtual machines rebuilding themselves at the remote site. The previous equipment we had was way too complex to ever attempt to do that."

FlashStack Solution Simplifies Management

Smith also has been impressed by the simplified management of the FlashStack configuration. "One of the things I love about it is the finite number of parts involved and how that makes planning and acquisition so easy. We use Venture Technologies' VT Watch as a single point of contact for support, and that simplifies things considerably."

He also has high praise for the management features of the Pure Storage FlashArray. "Within an hour and a half of installing the first array, I had the Pure1™ application on my cellphone where I could see everything that was going on with the array. It was like nothing I had even seen before."

Smith added, "With the Pure Storage array, there's no need to worry about LUNs or tiers or any of that complexity. You just decide how much storage you want to add and push a button, and you've got the space — all inside of VMware. It's a total change of mindset from the way storage has always operated."

The advantage of the effortless management of Pure Storage, he added, "is that I can spend more time thinking about the concerns of the business instead of working with the technology."

As an example, he noted, "I received an email from Pure Storage alerting me that a software upgrade was available and was asked when I would like to perform the upgrade. I responded that based on my previous experience with Pure upgrades, let's just do it now. I could say that because I know from prior experience that this array can be upgraded without any impact on production. An hour later, I could see from the Pure1 application on my phone that the upgrade had been completed successfully without disruption. It doesn't get much better than that."

KordaMentha

Geo
APJ

Industry
FSI/Professional Services

Company
KordaMentha

Use Case
- VSI – VMware vSphere
- Database – Microsoft SQL Server

Products and Services
Unified computing FlashStack® converged infrastructure:
- Cisco UCS C-series servers
- Pure Storage FlashArray™//M20
- VMware vSphere

Cisco networking and security solutions:
- Cisco Nexus 5000 Series data center switch

KordaMentha

Business transformation: The FlashStack solution accelerated time to value for the company's IT infrastructure projects. Physical management of storage is now inherently better, with zero management overhead.

Challenges

- The business required a modern infrastructure solution with higher performance to support a hybrid cloud and migration strategy across the entire organization.

- Physical management of storage was time-consuming due to reliance on traditional on-premises workloads.

- Maintenance and colocation space costs continued to increase.

IT Transformation

- Significant cost savings of AUD$400,000 over the next four years.

- All applications respond instantly with zero latency, which benefits personnel across the entire organization, from IT managers to end users.

- Less time is spent maintaining backup infrastructure—from three days per week to a few hours per week. Time and resources can be go back into strategic business initiatives.

> "Pure Storage is a highly driven, highly intelligent organization. It took the team less than a day to configure FlashStack, which is the best infrastructure experience I've ever had."

RYAN WADSWORTH,
DIRECTOR OF TECHNOLOGY

Building a Best-in-Class System for the Future

KordaMentha is an advisory and investment firm that provides restructuring, turnaround, real estate, and forensic support for companies and their stakeholders. The firm was established in 2002 when its founding partners were appointed administrators over Ansett Airlines. KordaMentha has grown from its heritage in insolvency to one of Australia's foremost multidisciplinary advisory firms.

The firm is headquartered in Melbourne with a total of 350 staff spanning offices in Brisbane, Perth, Sydney, Townsville, Auckland, Singapore, and the recent addition of Jakarta. KordaMentha provides services to creditors and equity holders, financiers and lenders, legal firms, and government bodies in Australia and across the globe.

In addition to its supportive and collaborative culture, IT has been a crucial factor in driving KordaMentha's growth. Storage is a core requirement for the business,underpinning everything from the speed of IT operations to simplifying applications for end-users, including clerical staff. During his nine years with the company, Director of Technology Ryan Wadsworth has seen KordaMentha develop more and more strengths and become a tier-one advisory firm.

"Slow storage means slow everything, from generating finance reports to running maintenance and replacement

checks, and time is valuable in our business," said Wadsworth. "Selecting the right storage solution removes the bottleneck and simplifies the environment, which filters down through the business, right through to our clients, so finding the ideal match was extremely important."

KordaMentha had what it considered an adequate infrastructure solution for its environment, but reliance on traditional on-premises workloads resulted in ongoing heavy maintenance costs, which were counterintuitive to the business. The firm wanted to refresh the environment as part of an overarching cloud migration strategy. This required a forward-looking solution; one that would offer a smaller physical footprint, provide higher reliability, increase compliance, remove lengthy migration timelines, and significantly reduce maintenance bills.

> "We'll never have to replace a SAN again. This is a significant change to the legacy storage model."
>
> **RYAN WADSWORTH,**
> DIRECTOR OF TECHNOLOGY

Performance, Simplicity, and Scalability Key Criteria

To continue as a best-in-class advisory firm, KordaMentha required the newest storage solution, one that would support its hybrid cloud infrastructure model. It investigated the flash space with a legacy storage vendor.

However Wadsworth said that Pure Storage simplicity and cost savings were unrivaled. "The Pure scale-up option provided a more suitable solution than the other vendor's scale out option, as we weren't required to introduce extra hardware. Once you buy the Pure solution and plug it in, it's ready to operate within 15 minutes, which bodes well for the future simplicity of the product."

Pure Storage scalability wasn't the only thing that made sense for Wadsworth. "The Pure Storage maintenance model is ground-breaking: the longer you hold on, the less it costs over time," he said.

All of KordaMentha's workloads—with everything from finance and analytics reporting to Microsoft SQL Server and Remote Desktop Services—now sit on FlashStack, which includes a FlashArray™//M20 from Pure Storage, Cisco® UCS® C-series servers, a Cisco Nexus® 5000 Series data center switch, and VMware vSphere. Wadsworth said KordaMentha's FlashStack deployment could not have been simpler.

The Pure Storage engineering team physically installed the Pure Storage FlashArray//M20 in half a day, and a week later, the entire environment was running on it. In stark comparison, the former storage vendor deployment took three months.

"Pure Storage is a highly driven, highly intelligent organization. It took the team less than a day to configure FlashStack, which is the best infrastructure experience I've ever had," said Wadsworth.

FlashStack is a flexible, all-flash, converged infrastructure solution combining best-in-class in compute, network, and storage hardware, plus virtualization software. These highly efficient components reduce power, cooling, and data center costs. As a single, integrated architecture, FlashStack speeds time to deployment, lowers overall IT costs, and reduces deployment risk.
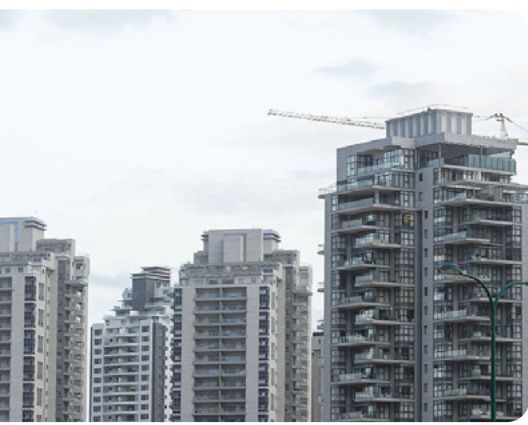
Increased Performance and Simplified Management

The benefits of the FlashStack implementation were noticeable immediately. The Pure Storage footprint is significantly smaller than the former storage vendor deployment as multiple racks have been reduced to a single rack, while performance has improved significantly.

Most noticeable is the speed with which processes are now completed. Wadsworth said generating a financial report would previously take six-and-a-half hours, and virtual machine deployment time, up to 10 minutes. With FlashStack, these same tasks take 15 minutes and 10 seconds respectively. Business reports run faster, and these time savings are a substantial benefit to the business.

Significant reductions in cost are another key benefit. KordaMentha's former storage model resulted in massive maintenance bills. However, the Pure

Evergreen® Storage model will deliver a saving of AUD$400,000 on maintenance and replacement costs in the first four years following the deployment.

Simple, non-disruptive maintenance is also an important benefit. Since deploying FlashStack, KordaMentha has gone from spending three days to a few hours per week on system backups. The former storage disk needed to be replaced once per month, which took several hours, but with Pure, the physical management of the device is much simpler.

Looking longer term, Wadsworth believes FlashStack from Pure Storage and Cisco will completely remove the storage management burden from his team. SAN upgrades will no longer be required, fundamentally changing the storage lifecycle.

"The forklift replacement model is no longer required; Pure Storage provides new controllers every three years, ensuring the hardware is modern and up to date," Wadsworth explained. "This happens seamlessly, and while online, with zero down time. If things remain status quo, we'll never have to replace a SAN again. This is a significant change to the legacy storage model.

Wadsworth knew the simplicity of the solution would be a key advantage from the outset, as the Pure installation was conducted in less than one hour. The resulting reduction in admin time spent monitoring and maintaining storage infrastructure on a regular basis has freed up Wadsworth and his team to focus on more strategic initiatives within the business.

"Improved performance results in a significant uplift for staff. They can do their job more efficiently and focus on new projects rather than managing storage," Wadsworth said.

KordaMentha is now in its 14th year of operation. Throughout all of that time, FlashStack with Pure Storage FlashArray is one of the only solutions that has delivered obvious benefits to the personnel across the entire organization, from the IT team to end-users, including accountants and personal assistants. All of the applications are instantaneous with zero load time.

Wadsworth summed this up. "For such a complex operation, the use is so simple."

He added that, as well as offering a superior technical solution, the Pure Storage team has been fantastic to deal with.

"Pure Storage engineers are the smartest people on the planet. They simplified the decision even further," he noted.

Based on its outstanding experience with Cisco and Pure Storage, KordaMentha is currently evaluating FlashStack's advanced features, such as snapshots and the replication option for disaster recovery.

"We're only three months into our deployment," he said. "We've got the right foundations in place so the future is looking extremely promising."

About the Customer

Leading U.S. bank chooses FlashStack® from Pure Storage® and Cisco to improve performance and increase resiliency, keeping critical banking services running for clients and employees.
www.pnc.com

Geo

North America

Industry

Banking and Financial Services

Use Cases

Accelerate core applications

PNC Strengthens Business Continuity for Bank Customers

Summary: As one of the largest banks in the United States, PNC Bank wanted to simplify its infrastructure to better support continued business growth during its digital transformation. With Pure Storage, PNC improves resiliency of critical banking applications while lowering time and costs of maintenance.

Challenges: Many disparate systems led to a highly complex IT environment that was difficult and time-consuming to maintain. This contributed to high maintenance costs through increased labor, space, and power requirements.

"Our main philosophy was to simplify things. We need to make it so that maintenance becomes a simplified, easy-to-do process. With Pure, we're at 100% uptime over a three-year period."

SCOTT GOTTESMAN,
LEAD SOLUTION ARCHITECT, PNC BANK

Results:

Business Transformation

- Keeps critical banking operations running without interruption, even during maintenance

- Reduces environmental impact with a smaller footprint requirement

- Saves $1 million per year in space, heat, cooling, and maintenance

IT Transformation

- Achieved 100% uptime over three years

- Reduced physical footprint in the data center by 86%

- Achieved 6:1 data reduction

FINANCE

13

UWM Solidifies Its Place as America's #1 Lender

UWM is known for providing elite client services for mortgage brokers that far outweighs any bank or retail lender. When its previous storage began getting bogged down by the simplest of tasks, UWM looked to a new all-flash solution that was faster and more powerful, as well as more secure and reliable.

Today, a majority of UWM's infrastructure environment runs on Pure Storage, including two high-availability workloads: its human resources and enterprise resource planning systems, both running on Microsoft SQL Server. Pure Storage also underpins the company's application development and real-time data processing on Apache Kafka, while Evergreen//One delivers newfound speed and scalability with no degradation in performance.

> "The applications we build place enormous demands on our databases and our FlashArray//X90 handles them with ease."
>
> **BRIAN SZADEK,**
> AVP CLOUD AND EVENT PLATFORMS, UNITED WHOLESALE MORTGAGE

Impact on UWM

Achieved the ranking of #1 overall lender in the nation in 2022

Ranked #1 overall wholesale lender in the nation for 8 consecutive years

Empowers mortgage brokers with powerful, state-of-the-art technology built on the foundation of fast, reliable data

FINANCE

Challenges

Previous disk storage would get bogged down by simple tasks, like moving files

Database latency stood in the way of growth and customer excellence

Needed an easier way to scale without sacrificing performance or profit

Results

Speeds time to market for new applications and features

Improves data security posture and accelerates disaster recovery

Scales capacity easily with subscription-based storage

Empowering Lenders with Unique Technologies

UWM's philosophy is simple. Build technologies that make it easy for mortgage brokers to compete at the highest level. For example, take EASE, UWM's Easiest Application System Ever, or Brand 360, a powerful marketing tool that helps engage prospects and real-estate agents. High availability storage is critical to these services, and to UWM's entire IT operation, but latency had become a drag on its performance. Just moving a file between servers would slow the whole system down.

UWM replaced its spinning disk storage with Pure Storage FlashArray, improving its deduplication rate to 4:1 and accelerating IT performance across its organization.

"I couldn't believe the metrics in our Microsoft SQL Server environment. Pure was light years ahead of our old storage," says Ed Mayer, Assistant Vice President of Infrastructure at UWM.

"The applications we build place enormous demands on our databases and our FlashArray//X90 handles them with ease," adds Brian Szadek, Assistant Vice President of Data, Cloud and Event Platforms at UWM.

UWM also uses Pure FlashArray//C for its video and document archival, as well as storage backups. Non-disruptive storage upgrades ensure the company's entire fleet of FlashArrays runs on the latest controllers at all times, with no interruption to its services.

Database Uptime Made Simple

UWM operates two data centers. One supports its production, staging, and development environments while the other acts as its VMware data recovery site. UWM takes FlashArray-based snapshots and Rubrik backups of both Microsoft SQL Server databases and completes asynchronous replication to its data recovery site every 15 minutes, ensuring rapid recovery in the event of an outage.

UWM manages its FlashArrays via the Pure1 platform, gaining transparency and control across its storage environment. In parallel, it runs a FlashStack architecture, the joint Pure Storage and Cisco UCS software-defined, hybrid-cloud infrastructure allows UWM to manage its compute, network, and storage layers in a hybrid cloud environment using a single interface. The co-engineered solution allows the business to deploy new applications without having to manage additional hardware.

Having purpose-built arrays for several data workloads, from backups to file storage, UWM wanted a more cost-effective way to power these processes without sacrificing performance. By consuming storage as a service via Evergreen//One, the company gains financial flexibility and only pays for the storage it needs. UWM can easily scale capacity up and down while maintaining quality of service to support its operations without investing in or managing storage hardware.

FINANCE

> "Our goal is to make the mortgage as seamless as possible for our broker partners and their borrowers, and partnerships with companies such as Pure Storage help us make that a reality."

BRIAN SZADEK,
AVP CLOUD AND EVENT PLATFORMS,
UNITED WHOLESALE MORTGAGE

"The beauty of Evergreen//One is that if I reach an uncomfortable threshold on an array, I can contact my Pure rep anytime and ask for additional capacity. It's great to have the option to adjust our commit levels in the contract through the Pure1 portal and very convenient to have operational agility without having to worry about the hardware," says Mayer.

Eight Years of Industry Leadership and Counting

UWM was named America's #1 wholesale mortgage lender in 2015, and has maintained that title ever since. In 2022, UWM took it a step further and became the #1 overall mortgage lender in America. The company continues to regularly roll-out innovative technologies for independent mortgage brokers across the country and recently developed a game-changing platform that enables 15-minute mortgage approvals to qualified borrowers.

The partnership between Pure Storage and UWM continues to be a huge success.

"This partnership has been nothing but positive for our business," says Szadek. "Our goal is to make the mortgage as seamless as possible for our broker partners and their borrowers, and partnerships with companies such as Pure Storage help us make that a reality."

Geo
North America

Industry
Healthcare, Government

Company
Choctaw Nation

Use Case
Database – RPMS
VSI – VMware vSphere
VDI – VMware Horizon

Products and Services
Unified computing FlashStack:
- Cisco UCS servers
- Pure Storage® FlashArray//M20
- VMware vSphere

Cisco networking and security solutions:
- Cisco Nexus switches

Choctaw Nation

Business transformation: Care providers see sharply reduced response times when accessing patient records and other vital healthcare information. And capital and operating costs are slashed by standardizing on an IT infrastructure that can be upgraded over the long term without forklift upgrades.

Challenges

- Lagging storage performance resulted in high latencies and long wait times for routine file requests.

- Video production demands overtaxed the IT infrastructure.

- Legacy spinning-disk storage was expensive and time-consuming to maintain.

IT Transformation

- Responds instantly to file requests and emails through virtual desktops.

- Native replication allows dual data centers to operate in parallel for optimal load balancing and performance.

- Time required for routine storage management tasks is slashed by up to 95%.

> "If I can get the performance of all-flash at an affordable price, then I will guarantee that storage will never be a bottleneck in the future."

DANIEL DICKERSON,
SYSTEMS ENGINEER

Choctaw Nation Improves Infrastructure Performance and Efficiency

Given its strong sense of history and deep cultural pride, the Choctaw Nation continues to focus on the needs of its people today and economic growth for tomorrow. The nation has more than 1 billion USD in annual revenues from gaming, retailing, and other businesses. With tribal enrollment of more than 220,000, the nation has its government headquarters in Durant, Oklahoma (and more than a third of its population in the state). It also operates its own medical care system, Choctaw Nation Health Services, which has a hospital in Talihina and eight clinics spread across southeastern Oklahoma. The Choctaw Nation was the first indigenous tribe in the United States to build its own self-funded hospital.

Central to the nation's economic and healthcare strategy is investment in information technology. It recently built a state-of-the-art data center in Durant, and has an advanced IT infrastructure for Health Services.

"We're very fortunate that our leadership has been so supportive of building out an IT infrastructure that delivers superior performance for both patients and employees," said Daniel Dickerson, Systems Engineer for Health Services, who oversees its data-center design and hardware infrastructure.

Health Services operates a primary data center at the hospital in Talihina, purchases space in a co-location facility in Allen, Texas, and has access to the nation's main data center in Durant.

Health Services was an early adopter of all-flash storage from Pure Storage, purchasing its first FlashArray™ to support its electronic medical record (EMR) system. Ironically, for an organization that values the latest in technology, the tribe's EMR system has its roots in the early 1980s and came to the Choctaw Nation from the Department of Veterans Affairs through the Indian Health Service. Despite its age, Dickerson said, the RPMS database on which it runs "is solid as a rock."

What wasn't solid, he noted, was the storage infrastructure for Health Services.

> "Pure Storage is so oriented toward their customers and their financial needs. They help move forward rather than start from scratch over and over."

DANIEL DICKERSON,
SYSTEMS ENGINEER

'Night-and-day' Improvement in Application Performance

"Spinning disk is expensive," Dickerson said. "It costs a fortune, and they charge you an arm and a leg for every little incremental feature. You'd be surprised how much of my time I spend driving to the co-lo facility, which is three hours away, to meet someone just so they can switch out a spinning disk that has failed. And we're talking about at least eight spinning disks in the last two months that have failed across our two locations."

"Spinning disk is a thing of the past. When we started looking for an alternative, my thinking was that if I can get the performance of all-flash at an affordable price, then I will guarantee that storage will never be a bottleneck in the future."

Dickerson was especially concerned about the interface. "Our spinning-disk system was SATA, and while it was OK, we knew we needed Fibre Channel," he said. "We have had a big issue with I/O on our legacy arrays because they are getting beaten to death with the workloads we're putting on them. Migrating data off these machines is really difficult because of SATA. So, I look forward to finishing the process of moving all production onto Pure arrays."

Dickerson investigated several vendors and consulted Gartner's Magic Quadrant for storage. In the end, Dickerson chose Pure Storage.

"I was very impressed with Pure Storage. They have built a rock-solid array with high performance at a reasonable price. If I had a choice between Pure and my legacy vendor any day of the week, I would always pick Pure."

Instead of a proof-of-concept trial, Dickerson opted for the Pure Storage Love Your Storage™ Guarantee in which a prospective customer can use a Pure array for up to 30 days and, if not satisfied, return it at no cost. A FlashArray was installed at both the primary and co-lo data center.

"And we saw immediate results, especially in our VDI," Dickerson noted. "With spinning-disk, you'd see 30 seconds go by to open a file or email. After moving to the Pure array - with the same equipment running the virtual machines — they would open in the snap of a finger."

To learn if clinicians experienced an improvement, Dickerson moved the EMR system onto the Pure Storage arrays without telling any end-users and then visited care providers in numerous locations. That includes the remote clinics, which are supported by the Talihina data center.

"Without them knowing anything had changed, they said everything was working better," Dickerson added.

> "If I had a choice between Pure Storage and my legacy vendor any day of the week, I would always pick Pure."

DANIEL DICKERSON,
SYSTEMS ENGINEER

Consolidating Key Workloads on All-flash

Consistent with the nation's leading-edge approach to IT, Dickerson sought to blend best-in-class elements into a cohesive solution. The nation has been a long-time user of Cisco UCS® servers, running four fully populated chassis to support all its IT and communication services. And it has virtualized its server and desktop environments with VMware software. When he installed Pure Storage arrays, he had all the elements of what is now offered by Pure Storage and Cisco as the FlashStack™ converged infrastructure solution.

FlashStack combines the latest in compute, network, storage hardware, and virtualization software, into a single, integrated architecture. This speeds time to deployment, lowers overall IT costs, and reduces deployment risk. Highly efficient components cut costs associated with power, cooling, and data center space.

"At the time we implemented this converged infrastructure, there wasn't a FlashStack offering per se," Dickerson noted, "but we saw the benefits of the tight integration between Cisco, Pure Storage and VMware, and how it simplifies planning, deployment, and day-to-day operation."

A FlashStack infrastructure also simplifies upgrades to the latest technology. Health Services has been running B Series UCS server blades, but will soon replace some of them with C Series blades. "We're buying C Series for VDI, because we need GPU (graphics processing unit) for better graphics processing," Dickerson said. "We produce a lot of videos for employees to watch, and from a VMware Horizon session, it was a struggle at times to render a video smoothly to some desktops. With the C Series, we can use the NVIDIA GRID K1 and K2 cards, which offer exceptional video performance."

Health Services also plans to upgrade its FlashArray-420s to //M20 arrays, a change that will be simplified by its subscription to the Pure Evergreen™ Storage program. In this way, storage can be deployed once and upgraded as needed for a decade or more. Components can be mixed and matched — all online and without performance disruption — to keep storage dense, efficient, and modern.

"I've never seen a program like Evergreen Storage before. Pure Storage has taken steps well beyond any other vendor to make it seamless and affordable for a business to move into the future. Our legacy vendor would come in, tell us our existing storage was outdated after just three years, and propose a new one for $3 to $5 million."

He added, "Pure Storage is so oriented toward their customers and their financial needs. They help us move forward rather than start from scratch over and over. I don't miss forklift upgrades at all."

> "Pure Storage is phenomenal. It's the best thing ever."
>
> **DANIEL DICKERSON,**
> SYSTEMS ENGINEER

Key Features Simplify Storage Management

During almost two years' experience of using Pure Storage, Dickerson has come to value many of the features Pure includes at no extra charge. Non-disruptive upgrades eliminate worries about interrupting production runs for routine hardware and software upgrades, while deduplication and data compression "give us more usable capacity, a longer lifespan, and a reduced data-center footprint, which saves operating costs," he said. "Our legacy storage took up four full racks, but with Pure, we are down to just 8U." Data reduction on the array supporting the EMR is currently 8:1.

The effortless management of Pure Storage arrays also has been popular with Dickerson. "Pure has saved me hours and hours of time. The interface makes it super easy to get things done in a short amount of time. Our legacy system is so convoluted and time-intensive. Pure cuts everything down to just a few minutes, leaving me a lot more time to focus on other projects."

As an example, Dickerson cited the case of a radiologist who asked for a virtual machine with a certain amount of storage. "I could just jump on the Pure Storage array and provision the storage and then log into VMware and add that data store, and then create another VM. At most, it's 15 minutes. Before, we'd be talking five or six hours."

Another feature Dickerson values highly is native replication, a feature offered free with Pure Storage. "With other vendors, there's a line-item charge," he said.

He will be using replication to implement an active-active strategy that will allow dual data centers to operate in parallel for optimal load balancing and performance. "We have invested a lot of money in equipment in our data centers, and I don't want that equipment just sitting there on a just-in-case basis," he explained.

"We have a 10 GB pipe between the new data center in Durant and our hospital, and we're going to be moving all the equipment from the co-lo to Durant, running an active-active data center so the equipment at both locations will be hot and used all the time," he added.

Improving Business Continuity Effortlessly

Health Services now has six Pure Storage arrays, and Dickerson has shared his success with the other two business units of Choctaw Nation — Government and Commercial. Those two units have combined their IT operations into a single entity, and between them, have purchased four arrays, three for government and one for commercial.

"I recommended Pure Storage as a great product," said Dickerson. "Every chance I got, I asked them to come over and check it out so I could show them the interface. And when they saw the advantages of Pure, they bought some for themselves."

"Pure Storage is phenomenal," he added. "It's the best thing ever."

Cooper University Health Care

About the Customer
Cooper University Health Care is committed to its mission to serve, to heal, and to educate. As the leading academic health system in South Jersey, Cooper offers specialized care in cancer, cardiology, neurology, trauma, orthopaedics, and other complex cases.
www.cooperhealth.org

Geo
North America

Industry
Healthcare

Solution Area
Accelerate core applications
Modernize data protection

Pure Storage® Products in Use
FlashArray//C™
FlashArray//X™
FlashBlade®
FlashStack®
Evergreen//Forever™
Pure1®
Pure Professional Services

Simply Delivering the Very Best in Patient Care

Cooper University Health Care's expansive services provide expert, compassionate care within a single health system. Its vision to be the very best drives every decision, including the choice to replace its storage following four forklift upgrades in five years. System-wide disruptions, from patients' bedsides to the back office, caused a lot of headaches for the lean IT team.

Cooper is now standardizing on Pure, accommodating growth seamlessly and improving business continuity while simplifying storage management. Now, the team can focus on the next innovation—moving enterprise imaging to Sectra running on Pure—to enhance patient care.

> "Pure is a true partner that can grow alongside us as we expand to offer new programs, services, and facilities to meet community needs. The return on investment has been exceptional."
>
> **DAVID CONNERS,**
> ASSISTANT VP, TECHNOLOGY & OPERATIONS, COOPER UNIVERSITY HEALTH CARE

Impact on Cooper University Health Care

Speeds access to critical patient data for faster diagnosis and treatment

Drives operational and cost efficiencies across the non-profit system

Modernizes imaging technology and data protection capabilities

HEALTHCARE

Challenges

Performance of complex, legacy storage threatened continuity of care

Frequent forklift upgrades to add capacity were time-consuming and costly

Clinicians experienced latency when trying to access radiography images

Results

100% uptime across primary, specialty, tertiary, and urgent care

Saves hours of time, reduces costs, and cuts data center footprint by 70%

Will drive enterprise imaging efficiency, boosting clinical productivity

Exceptional Community Care

Cooper University Health Care has been growing steadily since its founding in 1890—and it's about to get bigger with a recently announced $2 billion, multi-year expansion project on its Camden campus that will add more beds to serve more patients.

This growth means more data. But legacy storage was unable to keep pace. Cooper completed four rip-and-replace upgrades in five years, yet still needed more capacity. This was costly, time-consuming, and disrupted hospital workflows.

Treatment for Ailing Storage

To stop this cycle, Cooper invested in FlashArray to support its virtual infrastructure—and reaped the immediate benefits of an Evergreen//Forever subscription to keep up with data growth with no downtime or wasted resources.

"With Evergreen, we were able to upgrade our controllers within the first year, at no additional cost," says Scott Pierce, senior solutions architect. "Nobody even noticed."

Cooper has since expanded its Pure footprint. FlashStack powers Cooper's storage infrastructure with fewer hardware resources. The AI-managed, software-defined solution simplifies management of the growing storage environment, saving hours of time. Cooper worked closely with Pure Professional Services to design, implement, and optimize its environment, accelerating time to value.

FlashArray//X supports all VMware workloads, including many mission-critical applications. Cooper uses FlashArray//C to store radiography images and for tier two workloads. Both run Purity ActiveCluster™, which enables redundancy across Cooper's two co-located data centers. Coupled with Pure SafeMode™ Snapshots, Cooper has enhanced business continuity, practically eliminating downtime.

"We have no regrets moving to Pure," says David Conners, assistant vice president of technology and operations. "Due to high availability, support hours and downtime have been reduced. We've also cut our data center footprint by 70%."

In Partnership for Health

Cooper will rely on FlashBlade for enterprise imaging as it migrates to Sectra PACS. The goal is to eliminate latency and quickly deliver current and historical patient images to clinicians, speeding treatment. FlashBlade will integrate seamlessly into Cooper's existing Pure environment, which the team manages with Pure1.

"Pure is a true partner that can grow alongside us as we expand to offer new programs, services, and facilities to meet community needs," says Conners. "The return on investment has been exceptional."

Business Transformation

Doctors and other caregivers have more time to spend with patients, thanks to accelerated access to critical files and applications. The IT department spends virtually no time managing storage, and is assured of a non-disruptive and highly cost-effective path to future system expansion.

Geo

North America

Industry

Healthcare

Company

Riverview Health

www.riverview.org

Use Case

VDI – VMware® Horizon

VSI – VMware® vSphere®

Database – Microsoft® SQL Server

CASE STUDY

Riverview Health

Riverview Health required better-performing storage to support its widespread implementation of a virtualized computing infrastructure. By adopting the FlashStack® converged architecture from Pure Storage, Riverview Health has seen dramatic improvements in performance and a radical simplification of storage management.

Challenges

- Performance of a tiered hybrid storage system was unpredictable.

- High latencies caused frequent delays in clinicians' access to critical data and applications.

IT Transformation

- Latencies have been reduced from as high as 8 ms to consistently around 0.5 ms.

- Throughput on the database supporting EHR applications has been boosted by 50%.

- The upgrade to an enlarged storage platform was performed during workday hours without disruption.

HEALTHCARE

> "It's so great that storage has been removed as a pain point."

JASON PEARCE,
DIRECTOR OF INFORMATION
SYSTEMS INFRASTRUCTURE

Riverview Health Improves Caregiver Productivity with FlashStack Converged Infrastructure from Pure Storage

Riverview Health is a comprehensive healthcare network comprised of a full-service hospital in Noblesville, Indiana, and 23 primary, immediate and specialty care facilities in the surrounding area. To support its team of more than 300 physicians, the IT staff at Riverview Health requires a performance-focused infrastructure for its electronic health records (EHR) application. The speed at which doctors can retrieve and update patient data is determined by the performance and response times of the EHR application.

Riverview Health committed to an EHR and virtual desktop infrastructure (VDI) running on Pure Storage more than three years ago, according to Jason Pearce, director of information systems infrastructure at Riverview Health. "Approximately 300 clinicians use virtual desktops as their means of accessing patient data," he noted, adding that the objective of switching to Pure was to improve the productivity of caregivers by minimizing any delays in accessing patient data. Riverview Health wanted its caregivers to spend more time serving patients.

"We decided that we needed the fastest possible infrastructure to support our EHR application and VMware View infrastructure," Pearce recalled. "This put us on a search for an all-flash storage solution. Something that would outperform our existing auto-tiering SAN by reducing latency and leveling performance spikes for both our EHR and VDI solutions."

Better storage performance has significant impact in two key areas. First is accelerated access to electronic healthcare records, which helps improve patient care by eliminating productivity-impacting delays in retrieving key information. Second, improved performance helps Riverview Health meet evolving regulatory requirements and standards like "meaningful use," a multi-stage set of objectives for the optimal use of electronic health records.

The prior hybrid storage array at Riverview Health presented challenges. The hybrid array was designed to automatically move frequently accessed data from spinning disk to the flash tier for faster access.

"But the automatic tiering provided inconsistent performance for our Microsoft SQL-based EHR system," Pearce noted. "Performance was unpredictable. Most days, a large majority of our users would be happy most of the day because the patient records they were accessing were cached in the flash tier. Minutes later, the clinician would request access to a patient's record that resided on the spinning disk and couldn't understand why it would take much longer. The unpredictable experience was often worse on Monday mornings, because the flash tier had been populated by other data over the weekend."

Pure Storage was selected for a host of reasons: it offered predictable, high performance, low latency, in-line deduplication and compression, encryption at rest, and a predictable path for implementing future upgrades and expansion.

> "With a FlashStack solution, I know we will have an infrastructure fully prepared for the next generation of applications."
>
> **JASON PEARCE,**
> DIRECTOR OF INFORMATION SYSTEMS INFRASTRUCTURE

Sharply Improved Performance for Key Applications

After evaluating an all-flash solution, Riverview Health migrated its EHR database to a Pure Storage FlashArray™, then ran extensive diagnostics on the latency of the array. One of the first results the IT team observed was the impact of queue depth on the host's perceived storage latency, which was dramatic.

"When storage latencies dropped to 0.5 ms, it introduced new bottlenecks we had not seen before," noted Pearce, who ended up increasing queue depth settings on the hosts. "We then introduced a mixed workload by adding 500 VMware View desktops to the Pure Storage array, which managed to maintain the 0.5 ms latency without affecting the performance of the SQL server."

The results from moving to Pure Storage have been dramatic. The unpredictability experienced with hybrid storage has disappeared. "The Pure Storage array provides us predictable and consistent performance, along with peace of mind."

IOPS for the SQL database supporting the EHR system increased 50 percent, while peak transactions per second tripled. Latency in the time needed to read or write to patient records, which had been as high as 8 ms, is now consistently at or below 0.5 ms. That means clinicians serving patients spend less time waiting for data or adding new information to a patient's record.

FlashStack Architecture: A Converged Infrastructure for the Future

The organization's commitment to virtualization and Pure Storage triggered a major change in its computing infrastructure. Pearce has committed to the FlashStack converged infrastructure that combines flash storage arrays from Pure Storage, VMware software, and UCS servers and Nexus switches from Cisco Systems. FlashStack configurations are pre-tested reference architectures that ensure the highest performance and easiest installation and management.

"Shortly after Pure Storage introduced its FlashStack solution, I switched over to Cisco UCS servers," said Pearce. "With a FlashStack architecture, I know we will have an infrastructure we can leverage well into the future as we implement the next generation of applications."

Pearce also noted that a FlashStack converged infrastructure is a lot easier to work with. "The architecture's built-in automation saves time and resources by reducing the chance of configuration mishaps or system administration errors. It has made our environment more consistent and reliable, and ensures that a single point of contact for support will be there if it's needed."

Riverview Health also enrolled in the Pure Evergreen™ Storage program, which guarantees non-disruptive upgrades to the latest technology for arrays as long as they remain on a maintenance contract. Customers receive new controllers after three years, and when Riverview Health reached

> "With the Pure Storage array it's always consistent performance, and that has offered us a lot of peace of mind."

JASON PEARCE,
DIRECTOR OF INFORMATION SYSTEMS INFRASTRUCTURE

that milestone, Pearce was impressed with the ease with which the change was made. "Pure Storage came out, replaced two controllers, added two trays of storage, and updated the firmware — all between 9:00 and noon on a Tuesday morning — with no disruption or performance degradation. The fact I would make such a major change during business hours is testimony to how much confidence I have in the Pure Storage product and the team behind it."

Over time, more and more workloads have been added to the Pure Storage array, as both end-users and the IT staff have seen the benefits. "I tell any department that has a new application that if they want the best performance, they should virtualize it and run it on Pure Storage."

On an average day, Pearce noted, Riverview Health runs about 550 virtual desktops and 350 virtual servers on the Pure Storage array.

Enhanced Security, Simplified Management

Pearce observed that one of the benefits of Pure Storage arrays for any company in healthcare is the inclusion, at no extra cost, of encryption at rest; a feature increasingly demanded to meet data-security requirements.

The ease of management for Pure Storage equipment has impressed Pearce and his colleagues. "No one has to spend much time managing the Pure Storage array. My engineers are able to use and administer it with little training," said Pearce. "In addition, we don't have to think about performance any more. When we are troubleshooting a performance problem, storage is one of the last things we think about. It's refreshing that storage has been removed as a pain point."

Riverview Health also has seen the benefit of working with Pure Storage from the standpoint of customer service.

During the initial evaluation period, Riverview Health experienced a technical problem with the FlashArray. "The Pure Storage support team noticed a problem and contacted me in less than 10 minutes on a weekend," Pearce recalled. "Before I could even determine if storage was the issue, its team began seeking a remedy. Their openness and responsiveness gave us confidence that Pure cares deeply about its customers, which is why we trust Pure Storage to run our most important and performance-intensive resources."

"Moving to all-flash from Pure Storage has removed storage as a source of performance problems," Pearce said. "And that moves us a lot closer to our goal of improving patient care."

Simplyhealth Prioritizes IT Wellbeing

The insurance sector is notorious for the volume, variety, and velocity of the data it generates—and the challenges these pose. When it comes to health insurers, medical and dental data only add to the complexity. With a comprehensive offering of insurance plans, Simplyhealth meets the varied needs of its customer base. But its storage and core systems struggled to keep up with growing data volumes.

Multiple acquisitions had also resulted in a mix of IT vendors and technologies that required constant attention—and frequently failed. Consolidating onto Pure Storage gave Simplyhealth a stable, easy-to-manage core that supports every part of the business.

"We were looking for power, efficiency, and resilience. Pure Storage delivered all of these in spades and gave us a secure, dependable core to support our business."

STEVE LOVERN,
DIRECTOR, TECHNOLOGY & DATA, SIMPLYHEALTH

Impact on Simplyhealth

100% availability enables more reliable health services for customers

Modernizes technology stack for business growth and resilience

Aligns with sustainable business goals that help communities thrive

HEALTHCARE

28

Challenges

Performance issues and frequent outages interrupted the core business

Disjointed, complex tech stack made infrastructure management a nightmare

Customer data needed better safeguarding in case of ransomware attack

Results

Achieves exceptional performance gains while eliminating reliability issues

86% fewer server racks simplify management and cut energy usage and costs

Secure data protection with rapid restore capabilities

Heritage in Healthcare and a Complex Legacy

With a 150-year history, Simplyhealth is committed to improving access to healthcare for all—and that isn't just a sales message. Each year, Simplyhealth donates up to £1 million to a range of community causes, and in 2022 it became the first UK health insurer to achieve B Corp certification.

Customers can choose from several tiers of health and dental plans to cover everything from eye tests to chiropractic appointments and general practitioner services. But these data-intensive operations put a strain on Simplyhealth's platforms and storage.

In the past, outages were common across the legacy systems. Infrastructure was complex and hard to manage, and issues frequently went unresolved. Steve Lovern, director of technology and data, and Richard Round, head of infrastructure, were charged with turning this around.

Re-designed, Streamlined, Consolidated Infrastructure

After acquiring several companies in the 2010s, Simplyhealth had three separate IT divisions, each with different technologies and its own way of operating. Years of IT underspend meant network infrastructure was unpredictable and unreliable: outages could sometimes last up to two days. Even the company's main insurance platform, Pulse, had experienced two separate failures—delaying claims processing for customers and providers.

The IT team was also running two data centers, with 21 racks of compute that used numerous types of arrays. Most of these stood on their own, making it difficult to connect different offices and functions to each other.

Steve Lovern and Richard Round standardized their storage platforms with Pure Storage FlashArray™, FlashBlade, and FlashStack from Pure and Cisco Systems. "We were looking for power, efficiency, and resilience," says Steve Lovern. "Pure Storage delivered all of these in spades and gave us a secure, dependable core to support our business."

The Evergreen® Storage architecture was another key selling point. "Other vendors have a shelf life," says Richard Round. "With Pure's Evergreen offering, we don't have to worry about costly and disruptive upgrades."

Built for Speed, Secure by Design

Today, FlashBlade handles backups and unstructured data storage. The company's core platforms and production systems, including Oracle and Microsoft SQL Server databases and the claims management system—which is vital to Simplyhealth's business—run on FlashArray.

"Pure's arrays deliver unprecedented performance and eliminate the reliability issues of our old system," notes Richard Round. Integrating compute, network, and storage with FlashStack provides even more agility and scalability as Simplyhealth grows.

> "We take our environmental responsibilities seriously, and expect our suppliers to do the same. Pure helps us dramatically reduce our carbon emissions and make a positive contribution to the communities we serve."

STEVE LOVERN,
DIRECTOR, TECHNOLOGY & DATA,
SIMPLYHEALTH

Pure FlashArrays also support Simplyhealth's transactional systems, handling dental, corporate, and personal data, as well as financial information. Because each array is encrypted at rest, there is a constant layer of data security. Pure's SafeMode™ Snapshots provide additional peace of mind: Simplyhealth has seven days' worth of immutable backups that cannot be purged from its systems, even by the IT team. This mitigates the threat of ransomware data loss and provides extra reassurance on top of the company's Veeam data protection software.

Consuming Less Energy, with More Time for Strategic Work

Thanks to its storage investment, Simplyhealth has gone from 21 racks of compute/storage to just three. Now, the company's server racks consume around 18kW—a 50 percent reduction in power required for the previous systems. And with such a large reduction in physical footprint, the company has closed one of its two data centers, saving even more in rent and operational costs.

"We take our environmental responsibilities seriously, and expect our suppliers to do the same," says Steve Lovern. "Pure helps us dramatically reduce our carbon emissions and make a positive contribution to the communities we serve."

Managing storage infrastructure has become far simpler as well with Pure1. "We can manage our Pure footprint through a single dashboard," says Richard Round. "And if we experience any issues, Pure supports us for as long as we need."

With a simpler, more efficient tech stack, the IT team has been able to reduce the number of virtual servers from 800 to 450. Previously, maintaining the technology underneath the virtual environment kept Richard Round's engineers busy enough. Now they've been able to virtualize almost the entire estate, including the Pulse insurance platform—and are ready for more cloud services in the future.

Since investing in Pure, Steve Lovern and Richard Round have helped the team to completely change how they work. "Instead of commodity work, we can dedicate our resources to strategically important projects," says Steve Lovern. "We're not plugging leaks and fighting to keep systems upright and online anymore. Pure is helping us to move the business forward."

Geo
LATAM/Chile

Industry
Food

Company
Carozzi

Use Case
- Database – Microsoft SQL Server 2012 and 2016
- Virtualization platform – VMware vSphere 6.3

Products and Services
Unified computing with FlashStack®:
- Cisco UCS servers
- Pure Storage® FlashArray™
- VMware vSphere

Cisco networking and security solutions:
- Cisco Nexus switches

Carozzi

Business transformation: Carozzi implemented converged infrastructure for supporting automated guided vehicles for its high-density automatic warehouse, which will optimize processes and improve productivity and customer service. With cost-efficient storage solutions, Carozzi is now meeting the requirements of maximum availability and zero RPO and RTO.

Challenges

- Carozzi needed an IT infrastructure for automated guided vehicles that would provide maximum availability.

- Carozzi needed business continuity with RPO and RTO as near-zero as possible.

IT Transformation

- Carozzi now has a highly available platform that meets the demands of their core robotics application.

- The business continuity solution includes zero RPO and RTO, plus replication through ActiveCluster™, at no additional cost.

- Synchronous replication of 10TB takes place within 2 minutes instead of hours.

- Average data reduction rate of 5.8:1 and 3.8:1 reduces CAPEX costs.

- The solution improved performance and availability for other mission critical applications.

MANUFACTURING

> "All the commercial and technical processes moved forward smoothly. Within a couple of days, we had a FlashArray running in our Data Center. It was fantastic."

ERWIN FIEBIG
INFORMATION TECHNOLOGY
ASSISTANT MANAGER

Carozzi Automates Its Distribution Center with Pure Storage All-flash Solutions

Empresas Carozzi S.A. is a Chilean-based food processing company with 120 years in the market. Carozzi has production plants in Chile and Peru, as well as commercial offices in the United States, Ecuador and Paraguay, and is considered one of the most respected mass consumption companies in Latin America.

Carozzi's strategic objectives place priority on organic growth, cost efficiency, and leadership of their offering in the wellness segment. These objectives are based on its competitive advantages that include its capacity for

innovation, the leadership of its brands in the categories in which it participates, and a strong organizational culture.

One of Carozzi's main strategies is digital innovation, and during 2017 and 2018, the company has been working on carrying out its Optimus project, which consists of automating its Distribution Center using automated guided vehicles to transport pallets. This project will require a total investment of 37 million euros. The first phase was completed in mid-2018 and the second phase will conclude in mid-2019, with the construction of a high-density automatic warehouse, a daring process that will deliver one of the most modern distribution centers in the country.

This digital innovation seeks to optimize processes to be ready for future challenges, improving productivity and customer service.

Carozzi Chooses FlashStack® with Pure Storage All-flash Storage and Cisco Networking and UCS Servers to Support Its Automation Solution

In February 2017, Carozzi selected a robotics application for automating the vehicles which required an infrastructure platform that provided maximum availability and real time service. The IT team evaluated several technologies, looking for Recovery Point Objective (RPO) and Recovery Time Objective (RTO) values as near-zero

> "No other vendor was offering us what Pure Storage did. That's why we didn't want to do trials of other solutions. We knew we were dealing with a leading technology."
>
> **ERWIN FIEBIG**
> INFORMATION TECHNOLOGY ASSISTANT MANAGER

as possible, but expecting that having zero RPO and RTO would be unaffordable. Carozzi met Pure Storage through the local team in Chile. After a presentation of FlashStack — the converged infrastructure solution from Pure Storage and Cisco — the IT team decided to test it in a Proof of Concept (POC). "All the commercial and technical processes moved forward smoothly. Within a couple of days, we had a FlashArray™ array running in our data center. It was fantastic," said Erwin Fiebig, Information Technology Assistant Manager.

During the POC, Carozzi's IT team was able to test the solution's ease of use and simplicity. "We were very impressed by the compression capabilities and how fast we were able to deploy it. We carried out migration through a direct connection and without disruptions," said Renato Muñoz, Projects Chief and Microsoft Systems Manager.

Pure Storage and Cisco also demonstrated higher throughput performance compared to other vendors and had a better integration with third-party solutions. "No other vendor was offering us what Pure Storage and Cisco did. That's why we didn't want to do trials of other solutions. We knew we were dealing with a leading technology," Fiebig added.

The IT team presented a strong business case to the board, in which the team compared different technologies. Pure Storage and Cisco had the lowest total cost over a five-year period.

Most appealing was that FlashStack was able to deliver zero RPO and RTO at no additional cost, unlike the other vendors evaluated.

Carozzi Implements Automation with Pure Storage's Help

Carozzi purchased two FlashStack systems with Pure Storage FlashArray//M20, Cisco UCS servers and Nexus networking. The company was the first in Latin America to implement Pure Storage Purity™ ActiveCluster, a synchronous replication and stretched cluster solution that enables live migration between the two FlashStack systems to provide business continuity across metro distances, without requiring extra hardware, licenses or fees. "That is a great added value, it relieved us from having to seek an additional backup solution," Fiebig mentioned. "Pure Storage and Cisco components grant us the confidence that the infrastructure will be highly available."

> "That is a great added value, it relieved us from having to seek an additional backup solution. Pure Storage components grant us the confidence that the infrastructure will be highly available."

ERWIN FIEBIG
INFORMATION TECHNOLOGY
ASSISTANT MANAGER

When Carozzi evaluated ActiveCluster, it performed a methodological test, during which the IT team cut the power at one data center and successfully proved there was no disruption in the robotics application. A year and a half after Pure Storage's implementation, the infrastructure has had 100% availability.

"Before, we didn't have a similar infrastructure, so the main difference our users have noticed is that we no longer need a maintenance window. Now we can make configurations and adjustments at any given moment without interruptions. We can sleep peacefully," said Muñoz.

Both arrays are currently in production at both data centers with workloads shared between them. Having a consistently low latency solution has given Carozzi the confidence to extend FlashStack use to other mission critical applications. The company used to have an external electronic invoicing process, however it presented several issues

and as it interacted with other systems, including SAP and government systems, any service interruptions had a big effect on productivity. Muñoz decided to relocate it to run on the FlashStack. The migration process was very simple thanks to ActiveCluster, and ever since, it has successfully mitigated service interruptions and avoided rework.

Carozzi was also been able to witness the value in Pure Storage's predictive support when a couple of months ago it experienced an outage in its data center network connection. The Pure1® app sent an alert that allowed the IT team to react quickly.

"Storage management has become very simple. There's not much to do in terms of provisioning and configuration. It has a dashboard that allows us to know the status of every item at any time," Muñoz added.

Another differential for Carozzi was the unique Pure Evergreen™ Storage Subscription program, which no other vendor offered. It will allow the company to continually keep its storage modern by delivering continuous software and hardware updates.

![ConsMin logo]

About the Customer
ConsMin Australia is an Australian mining company renowned for supplying a high-grade manganese ore from its Woodie Woodie mine. Manganese ore is a core element in steel and iron production, making it a critical global commodity.
www.consmin.com.au

Geo
APJ

Industry
Mining

Solution Area
Accelerate core applications

Pure Storage® Products in Use
FlashBlade®
Evergreen//One™
FlashArray//X™
FlashStack®

ConsMin Australia Digs in for Long-term Data Growth

From the computers on employees' desks, to the smartphones in their hands, to the solar panels on site at its Woodie Woodie mine, ConsMin Australia's IT team supports virtually every piece of technology across the organization.

With data demands and cybersecurity risks rising, Principal ICT at ConsMin Australia Erle Metcalf, knew it was time to expand its data management. Shedding a legacy system that couldn't support the company's email backups, he built a modern storage environment. The complete Pure stack, built on the scalable Evergreen//One (formerly Pure as-a-Service™) platform, brings new layers of speed, simplicity, and safety to ConsMin Australia's IT operations.

> "Pure not only exceeded our performance requirements, it freed up my team to do what they do best, innovate."
>
> **ERLE METCALF,**
> PRINCIPAL ICT,
> CONSMIN AUSTRALIA

Impact on ConsMin Australia

Positions the business for growth and rising data demands while ensuring continuity

Supports ransomware strategy with more robust security and data recovery

Delivers more reliable storage and improves critical communications infrastructure

MANUFACTURING

Challenges

Email data demands began to overwhelm legacy storage solutions

Data backups were too slow to meet growing volume and storage needs

Cybercrime and human error posed dual risks to data recovery

Improved backup retention from 14 days to 7 years

Achieved 100% retention of Microsoft Office 365 data

Backup recovery time reduced from 12 hours to 50 minutes

Data Backup That Delivers Peace of Mind

ConsMin Australia's goal is simple. Supply more manganese to critical businesses, safely. It ships roughly 1.2 million tons of high-grade ore each year, making it a crucial supplier to the Western Hemisphere's steel industry.

The ConsMin Australia ICT team also has a simple goal. Remove time, complexity, and risk from its operations. "I run my team on three pillars," says Metcalf. "Simplicity, scalability, and least administrative effort."

To that end, Metcalf and ICT Project Coordinator Jonathan Collyer-Petale built on the company's previous investment in Pure Storage FlashArray by adopting Pure Storage FlashBlade and Evergreen//One. The Pure portfolio supports data operations for thousands of technologies across ConsMin Australia, from computers to internet-connected dump trucks to Ultra High Frequency (UHF) radios in its mines.

Running Out of Space and Time

The company's data storage needs had outgrown its capabilities, largely due to exploding email volumes. According to Collyer-Petale, the team went from handling 500GB of email data in his first year with ConsMin Australia to 4TB of content from Microsoft Office 365 within the first six months of 2021.

Metcalf also wanted a robust backup solution to ensure continuity and mitigate cyber threats, including

ransomware. "At the speed we work, we need peace of mind that our data is safe and downtime is limited in the event of a breach," he says.

Positioned for Today and the Future

With Pure Storage FlashBlade's unified fast file and object platform, ConsMin Australia has achieved 100% retention of its Office 365 data, making its communications processes more reliable and efficient. Metcalf's team can also pull backups in just minutes.

Security comes via the SafeMode™ feature in FlashBlade, combined with Veeam Backup and Replication. With SafeMode, ConsMin Australia has a secure copy that is 'safe' from ransomware, even if admin credentials are compromised. The joint solution's data recovery snapshots significantly improve backup performance while providing unmatched data protection.

This transformation has set ConsMin Australia up for the long term, especially with Evergreen//One as its scalable platform underneath it all. "Based on the speed in which data continues to increase, we need a solution to grow with us for years," says Metcalf. "Pure not only exceeded our performance requirements, it freed up my team to do what they do best, innovate."

About the Customer
Rakon is a global high-tech company that designs and manufactures world leading frequency control solutions, including crystal oscillators for the telecommunications, global positioning, space, and defense markets.
www.rakon.com

Geo
APJ

Industry
Manufacturing

Solution Area
Accelerate core applications

Pure Storage® Products in Use
Pure FlashStack®

Rakon Keeps Production Running with Fast Data

Companies around the world rely on solutions from Rakon, a leading global manufacturer of frequency control solutions, to power 5G networks, autonomous vehicles, and cloud computing. From development to manufacturing, data plays an important role in Rakon's daily business.

With FlashStack from Pure Storage and Cisco Systems, Rakon gains much-needed capacity and performance improvements. As a result, Rakon helps ensure high-speed access to core business applications, enabling greater productivity and speed-to-market.

> "Pure Storage shone above everyone, built from the ground up to use flash. It has all the latest technologies, whereas everyone else is playing catch up."
>
> **BEN PARRY,**
> IS INFRASTRUCTURE MANAGER, RAKON

Impact on Rakon

Productivity increased with high-speed, reliable access to core applications

9X faster SQL database performance for test data

5X faster performance for ERP and business apps

Challenges

IT staff needed to juggle storage to keep up with growing capacity needs

Speed, performance, and reliability raised risk of impacting manufacturing

Legacy system lacked integration and was difficult to manage

Results

4:1 compression and deduplication frees-up storage capacity

Zero downtime gives the infrastructure team peace of mind

IT saves time with a single console for FlashStack, VMware, and Veeam

Aging Infrastructure Hitting the Bottom Line

Rakon is known for its innovative technologies, but developing those technologies and manufacturing solutions requires reliable access to a great deal of data. "Our old gear was grinding to a halt with monthly server crashes," says Ben Parry, IS Infrastructure Manager at Rakon.

Rakon's infrastructure team saw a number of drive failures. They were running out of storage to the point where the team was copying data onto external hard drives. When a power outage led to a SAN shutdown and controller failure, a new storage system became a priority.

Building Data Infrastructure Made for the Future

Rakon chose FlashStack, a unified compute, network, and storage solution from Pure Storage and Cisco Systems. It outperformed all other vendors in cost, performance, capacity, and integration capabilities. It also supported Rakon's plans to move to a VMware environment.

"Pure Storage shone above everyone, built from the ground up to use flash. It has all the latest technologies, whereas everyone else is playing catch up," says Parry. "Installation was so smooth we could set it and forget it. There was one week of installation, then Datacom did the migration in a month. There was no downtime."

Delivering Big Performance in a Simple Stack

With Pure, capacity is no longer an issue. "The 4:1 compression on FlashStack is fantastic," says Parry. "We replaced 80 TB with 44 TB of flash storage, and we still have around 40% storage capacity left."

Rakon has already seen some big performance wins. "It used to take the Business Intelligence team 2.5 to 3.5 hours to run their scripts, but now they're done in 45 minutes," says Parry.

Rakon's testing and equipment no longer struggle to write test data to SQL databases, as tasks that once took four minutes now take 24 seconds. In the file server, transferring 45GB of data takes under five minutes, down from 14.5 minutes. Rakon's ERP system has seen some of the biggest performance gains, with record updates conducted up to 5X faster.

According to Parry, the environment is more stable and simpler to manage. "Things have been rock solid with FlashStack," says Parry. "Strong integrations mean that we can create datastores in VMware or manage our Veeam backup solution from the FlashStack console."

The infrastructure team spends much less time managing the systems. "Our time is now spent being more productive rather than keeping the lights on," says Parry.

> "Pure and Cisco's FlashStack solution was implemented in one hour. In three days, we converted 200 virtual machines; and with only the manual in hand, our team was already able to use it. This is an immeasurable gain."

RODRIGO GONÇALVES
CIO

> "The great gain we had with Pure Storage, apart from having excellent equipment, is the kind of warranty and support with Evergreen, which is currently not found in any other supplier in the country."

RODRIGO GONÇALVES
CIO

Evergreen: A Subscription to Innovation

The model delivered by Pure's Evergreen Storage presented an opportunity to bet on a future-proof investment, which perfectly matches Veracel's technological innovation schedule. Evergreen's subscription model includes not only the highest levels of technical support and maintenance in the storage industry, but also unparalleled investment protection on array software and hardware. Controller upgrades are included, in addition to full-value trade-in credits whenever Veracel needs to upgrade or modernize.

"The great gain we had with Pure Storage, apart from having excellent equipment, is the kind of warranty and support with Evergreen, which is currently not found in any other supplier in the country. This offers us functional and contractual security, as we know that our storage will never get obsolete, and we will not have surprises with cost along the way," concludes Gonçalves.

VALLEY PROTEINS, INC.

Geo
North America

Industry
Recovery/recycling

Company
Valley Proteins
www.valleyproteins.com

Use Case
Database
ERP

Products and Services
Unified computing FlashStack converged infrastructure:

- Cisco UCS 5100 Series blade server chassis
- Cisco UCS B-Series blade servers
- Cisco UCS Manager
- Pure Storage® FlashStack®
- VMware vSphere cloud and systems management

Networking and security solutions:

- Cisco Catalyst and Cisco Nexus switches
- Cisco ASA 5500-X series firewalls
- Cisco ASR aggregation services routers
- Cisco integrated services routers

CASE STUDY

Valley Proteins

Business transformation: Valley Proteins improved performance for its business-critical SAP environment by deploying a FlashStack converged infrastructure from Cisco and Pure Storage. The results: SAP performance approaching that of in-memory databases, a faster financial close, more agile business decision-making, and more efficient use of data center and employee resources.

Challenges

- Fast-growing SAP environment demanded higher performing infrastructure.

- Legacy systems were expensive to maintain, requiring forklift upgrades every 3 years.

- Engineers spent significant time rebalancing workloads to optimize performance.

IT Transformation

- Migration to FlashStack took less than 3 days.

- Performance dramatically improved for SAP and other applications.

- IT can now be more strategic, helping the business grow market share.

> "FlashStack gives us the ability to plan for the next five to seven years, which fundamentally changes our ability to pivot and grow. It's an incredible value proposition."

BRAD WILTON,
DIRECTOR OF IT,
VALLEY PROTEINS

Valley Proteins Improves Its Performance with a FlashStack Converged Infrastructure from Cisco and Pure Storage

The recovery and recycling of food service waste and animal byproducts is a fast-moving, highly regulated industry. Raw materials—which are turned into high-protein feed ingredients or biofuel—must be collected, transported, and processed as quickly as possible to maximize profitability.

Valley Proteins, a Winchester, Virginia-based rendering company, transports hundreds of millions of gallons of used cooking oil and other byproducts every year, enabling the materials to be reused instead of ending up in landfills. The company uses SAP as the cornerstone of its business. It tracks materials, inventory, and vehicle location and maintenance in real time to make the most efficient use of its 40 processing and transfer facilities and private trucking fleet. The company depends on SAP for a holistic view of customer profitability, supplier pricing, and individual factory performance, helping to guide and expedite business decision making.

For years, Valley Proteins has standardized on Cisco Unified Computing System™ (Cisco UCS®) servers, networking, and security solutions for its entire data center and disaster recovery (DR) environments for a reliable, scalable, and highly secure infrastructure. "Cisco gives us modular scalability and an industry-standard architecture that's easy to manage," says Brad Wilton, director of IT. "We have lots of room to grow and add more protection and analytics."

However, as Valley Proteins pursued an aggressive growth strategy through acquisitions, it became clear that storage was becoming a bottleneck to consistent performance for SAP applications. The company's legacy storage arrays were 3 years old, and they were already becoming overloaded.

"We had engineers who were completely dedicated to balancing and rebalancing workloads to optimize storage I/O," Wilton says. "It got to the point where our storage required so much hands-on maintenance that it was difficult for engineers to get out to our remote sites and solve business problems."

FlashStack: A Better Foundation for Growth

Instead of going through another forklift storage upgrade and paying for a lengthy professional services engagement, Valley Proteins began looking at all-flash storage solutions. It wanted enterprise storage as well as a converged infrastructure (CI) that would be easy to deploy, maintain, and scale as the business grew.

"Flash storage is becoming the new enterprise standard, so we started looking at Pure Storage FlashArrays as part of a FlashStack CI solution," Wilton says. "We visited another Pure customer's data center, and we were impressed with what we saw. So we decided to do a bake-off between Pure and our existing SAN."

A Valley Proteins engineer was able to set up the Pure arrays with Cisco UCS and stand up test applications in just a few hours. When tests returned favorable results, the engineer

cautiously moved some production workloads over to Pure. "We were delighted with the performance gains that we saw," says Wilton. "With Cisco UCS and all-flash storage behind SAP, we can return results at nearly the speed of an in-memory database."

Valley Proteins decided to deploy FlashStack, which combined new Pure Storage FlashArrays with its existing Cisco UCS servers and VMware software into a single, integrated architecture. A fully tested and validated reference architecture for SAP on FlashStack helps ensure rapid deployment, with no storage tier planning or tuning required. Highly efficient components reduce power, cooling, and data center costs.

"With no professional services assistance, our engineer was able to move our entire 60 TB production environment to FlashStack in less than three days, with zero downtime to the business," says Wilton. "The efficiencies gained were incredible. We were running faster and simpler. When I got back, I saw that two entire racks in our data center had been compressed down to just a few Us. It was like night and day."

Effortlessly Improving Business Continuity

Using FlashRecover replication, a feature of the FlashArray, Valley Proteins was able to retire its legacy replication appliances, freeing up space in its data center. Replication is faster with FlashRecover, with full system copies of SAP to improve data protection and business continuity. "The data

synch between our production data center and DR site happens faster with FlashStack than our legacy arrays were able to replicate sitting next to each other in the same data center," says Wilton. "FlashRecover was very easy to set up. We were replicating between data centers in just a couple of hours." FlashRecover comes at no additional cost, helping Valley Proteins contain expenses.

With a simplified, streamlined infrastructure, Valley Proteins is enabling its IT staff to be more effective. "I can describe FlashStack with one word: simple," says Wilton. "Now that we don't have to invest time, money, and people into daily infrastructure management, IT can be much more strategic and aligned with the business. We can send our engineers out to remote sites, where they can make a real difference to the business, with the confidence that our data center will continue to run just fine. We can also give engineers a better work/life balance."

Business users can access SAP and other crucial data faster, enabling them to make informed business decisions.

The company's monthly financial close is accelerated by days, and reports that used to take hours are now complete in minutes. "We're helping the business make better decisions to be more profitable," says Wilton. "We're enabling more strategic conversations."

Boosting Performance of Critical Applications

Even enterprise resource planning (ERP) upgrades are faster with FlashStack, requiring only a day to complete a full refresh—a time savings of 90 percent. "We no longer need 10 days to set up a QA environment and a week of consulting time just to do a refresh of SAP," says Wilton. "It's easy to use FlashRecover to make a copy of our production environment and get right down to testing."

As Valley Proteins continues to grow through acquisitions, it can onboard them quickly and easily scale all of its infrastructure components extremely efficiently. "FlashStack puts us in an elegant position to bring acquisitions into our SAP environment from day one," says Wilton. "Engineers can comfortably set up new locations and have confidence that they won't run into problems."

By moving to an evergreen CI solution, Valley Proteins is no longer dependent on professional services or bound by 3-year hardware refresh cycles. As the company moves to SAP HANA for real-time analytics, it will use FlashStack to enable rapid deployment and reduce the total cost of ownership.

"FlashStack gives us the ability to plan for the next five to seven years, which fundamentally changes our ability to pivot and grow," says Wilton. "It's an incredible value proposition. By helping us be more efficient with our logistics, FlashStack directly contributes to our bottom line."

VERACEL

Geo
LATAM / Brazil

Industry
Pulp and Paper

Company
Veracel

Use Case
- ERP – SAP
- Database – Microsoft SQL Server, Oracle
- Virtual Server Infrastructure – VMware

Products and Services
Unified computing with FlashStack®:
- Cisco UCS servers
- Pure Storage® FlashArray™
- VMware vSphere

Cisco networking and security solutions:
- Cisco Nexus switches

Veracel

Business transformation: FlashStack™ — the converged infrastructure solution from Pure Storage and Cisco — speeds complex processing times and time-consuming processes, lowers operating costs, reduces storage space, and simplifies administrative demands, enabling complete automation of the SAP platform via copy automation tool (CAT).

Challenges

- Maintain two active data centers without any risk of interruption at the plant.

- Reduce ERP maintenance costs while meeting equipment and periodic certification.

- Reduce application response, storage space, latency, and high rates of data.

- Provide 24/7 support for uninterrupted business operations.

IT Transformation

- Application response reduced from 2 hours to 8 seconds.

- Latency lowered from 100ms to 1ms.

- High rates of data reduction ensure adequate storage capacity to meet long-term needs.

- Storage space reduced by 75%, with only one rack in each data center.

> "Pure Storage's solution excelled in performance and cost-effectiveness, with an offer 40% cheaper compared to the other vendors."

RODRIGO GONÇALVES
CIO

Veracel Transforms IT Infrastructure with Pure Storage and Cisco Servers

Veracel is a joint venture of the world's two largest pulp and paper producers – Stora Enso and Suzano. As part of its digital transformation, Rodrigo Gonçalves, CIO, had the mission to suggest new projects that could modernize the company's processes without any risk of interruption at Veracel's mill.

With around 3,500 collaborators and a 24×7 non-stop operation, the company felt the need for more robust equipment, improved response times for applications, and increased performance to support a demanding supply chain process.

"Our concern is to have the best foundation to support the entire digital transformation of the company. To enable this, we were looking for suppliers of IT infrastructure to provide us with the best technology for pulp production and to help us in this evolution without causing risks to the operation — since any failure directly impacts our production," Gonçalves explains.

Every five years, Veracel reviews IT strategies, and in 2018, the company realized that its legacy storage did not meet the company's needs for digital transformation. In addition, training professionals to use a complex technology was another challenge. "Pure Storage's solution

was implemented in a very short period of time. In three days, we converted 200 virtual machines and with only the manual in hand, our team was already able to use it. This is an immeasurable gain," Gonçalves adds.

FlashStack Provides the Solution

After a very successful proof of concept (POC) — which included abruptly unplugging the equipment in front of the IT team and the president of the company — Veracel executives were convinced that Cisco and Pure Storage were the most reliable solution in the market and chose FlashStack, a converged infrastructure solution that combines Cisco UCS servers and networking with Pure Storage FlashArray™ arrays in an SAP-certified reference architecture that simplifies the whole production chain, support, and IT evolution.

> "Pure Storage helped us to eliminate Capex planning, since the Evergreen business model allows the upgrade flexibility at no additional cost."

RODRIGO GONÇALVES
CIO

"We have tested storage solutions from all other players in the industry, including hyperconverged ones," Gonçalves says, "but FlashStack — the converged infrastructure solution from Pure Storage and Cisco Systems — excelled in performance and cost-effectiveness, with a price less than the other vendors. Cisco and Pure helped us to eliminate CAPEX planning. And the Pure Evergreen® Storage business model enables the upgrade with flexibility at no additional cost."

The company reached a 100% virtualized environment with all workloads running on Pure Storage including critical industrial automation equipment from the plant to the corporate core (SAP), with configurations suitable for each department.

Quality, Speed, and Support

With a 30% gain in performance, the impact on quality and speed for the users is highly significant, with no need for maintenance shutdowns. There was a 90% reduction in the response time of the main applications — SAP, Forestry and Industrial systems — and both response time and critical systems reduced significantly. Veracel also gained complete automation of SAP via CAT, reducing downtime and overtime on SAP infrastructure, increasing the frequency of data copy updating from production environments to homologation environments, and simplifying tool usage. In addition, in just one month there was a reduction of 5 to 3:3 TB in compression of production data at only 50% capacity.

The reduction of the latency — from 100 ms to below 1 ms — resulted in a much greater agility for the most complex and time-consuming application processes. Also, data processing is now 700 times faster (compared on Maps and Query solutions), and the storage space was reduced by 400%, currently with only one rack in each data center.

Another important consideration is that the company is in an area far from urban centers, which makes it difficult to provide immediate support to ensure that the operation is not interrupted by technological failures. With FlashStack, the company eliminated this complexity through a high availability solution that provides redundancy and 24-hour support to mitigate risks.

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UISA
BIOENERGIA + AÇÚCAR

About the Customer
UISA is the leading sugar producer in Brazil. Yet, the company's vision goes far beyond sugar. Focused on sustainable growth, UISA maximizes the productivity of its sugarcane farms and uses by-products for biofuels, alcohol gels, yeast, and other products.
www.uisa.com.br

Geo
Latin America

Industry
Manufacturing

Solution Area
Accelerate core applications
Activate real-time analytics
Power artificial intelligence

Pure Storage® Products in Use
FlashStack®
FlashArray//X™

About Partner
BS4IT is an IT Infrastructure solutions provider, based in Ribeirão Preto, Brazil, with over 18 years of industry experience.
www.bs4it.com.br

BS4IT

Through Innovation, UISA Grows More Than Sugar

UISA is investing heavily in sustainable growth, innovation, and efficiency—part of a large-scale Agriculture 4.0 initiative. The initiative calls for extensive AI-powered automation and massive amounts of data from equipment in the fields. As the company plants, irrigates, harvests, and processes crops into sugar and biofuels for clean energy, it's optimizing each step to produce more on every acre.

UISA needed a fast, flexible IT infrastructure—one that could scale up rapidly to accommodate increasing automation, as well as new ventures in biofuels and agrotech. The company found the speed, flexibility, and simplicity it needed in a FlashStack converged infrastructure.

> "With FlashStack, we have the scalability and speed to support our entire Agriculture 4.0 initiative."
>
> **RODRIGO GONÇALVES,**
> CIO, UISA

Impact on UISA

Boosts sugarcane yields 30% through automated harvesting operations

Supports biofuel ventures, using clean energy to help power 862 cities across Brazil

Saves more than US$300,000 per year in data center costs

Challenges

Scaling production in a sustainable manner

Outdated IT infrastructure hindering innovation

Slow data processing delayed monitoring and reporting in the field

Results

Increased harvest productivity from 20,000 to 25,660 tons per day

Cut fuel consumption up to 5% by optimizing transportation

Provides a scalable foundation for UISA's journey to Agriculture 4.0

A Platform Fit for the Future of Agriculture

CIO Rodrigo Gonçalves heads up UISA's Automation and Innovation Technology department—a team of 50 people building the infrastructure for a large-scale Agriculture 4.0 initiative.

"Our challenge is to transform our business by making technology simple and fast—capable of supporting rapid innovation," says Gonçalves.

To support its ambitious goals for sustainable growth and next-level efficiency, UISA required an infrastructure that could scale, with unfailing performance and availability.

Scalability and Speed Enable Fully Automated Sugarcane Production

UISA chose FlashStack, a converged infrastructure solution from Pure Storage and Cisco, to power its Agriculture 4.0 initiative.

"FlashStack gives us the scalability and speed to support our entire Agriculture 4.0 initiative," says Gonçalves. "We canceled our hosting contract and brought everything in-house, saving US$300,000 every year."

And with an Evergreen® Storage subscription, Gonçalves knows he can scale up fast, without disruption. "Evergreen offers an ideal subscription model that gives us priceless peace of mind," he says.

With FlashStack as a foundation, UISA has fully automated its sugarcane production process using artificial intelligence (AI) and the Internet of Things (IoT)—capturing and analyzing data from 850 equipment sensors across 222,000 acres of sugarcane fields.

One AI-powered application uses intelligent algorithms to monitor harvest operations and detect productivity losses in real time. Supervisors no longer need to rely on paper reports from the field. They can now find and fix problems in hours rather than days, such as machines leaving too much sugarcane uncut in the fields—boosting daily yields from 20,000 to 25,660 tons of sugarcane. Another application has reduced diesel fuel consumption by up to 5%, optimizing transport of sugarcane and byproducts to production plants.

FlashStack Paves a Path for Innovation

Next, Gonçalves is deploying SAP HANA on FlashStack to automate logistics and routing. His team is also extending 4G coverage in the fields, providing an incubation space for agritech startups, and supporting new ventures into biofuels. As the innovation continues, he knows he can count on the infrastructure.

"We trust the technology to work, and we have a solid partnership with Pure and Cisco, which means my team can focus on supporting our business," says Gonçalves.

About the Customer

The Mississippi Department of Revenue provides essential services that drive 95% of the state's revenue, including collecting taxes, issuing motor vehicle titles and tags, and alcoholic beverage control.

www.dor.ms.gov

Geo

North America

Industry

Government

Solution Area

Modernize data protection

Accelerate core applications

Pure Storage® Products in Use

FlashBlade®

FlashStack® from Pure Storage and Cisco

Keeping the State Revenue Stream Flowing

The Mississippi Department of Revenue (DOR) collects more than $8 billion in annual revenue to fund critical services, from road construction, police, and fire protection to hospitals and schools. Its tax collection and motor vehicle registration applications need to run smoothly so employees and taxpayers statewide can access them without delay or disruption.

But the applications put heavy demands on the DOR's storage systems. Growing data volumes made it increasingly difficult to back up and restore critical information. Given its recent success moving tax collection and motor vehicle applications to FlashStack, the converged infrastructure solution from Pure Storage and Cisco, the DOR's next move was clear—adopt Pure Storage FlashBlade for backups.

> "I don't think I can overstate the value of Pure technology and the Pure team. It's a relationship you don't necessarily get with other vendors."
>
> **MICKEY YATES,**
> CIO, MISSISSIPPI DEPARTMENT OF REVENUE

Impact on Mississippi Department of Revenue

Supports continuous revenue streams with faster tax-collection applications

Boosts productivity of state and county employees in 82 counties

Protects sensitive state data with more reliable backups

Challenges

Slow application-response times caused delays for employees and taxpayers

Nightly backups were unreliable, putting critical tax data at risk

Backing up and restoring data required a lot of time from the IT team

Results

Saves 39.5 hours of staff time per day by boosting application-response times

Prevents data loss by accelerating backups of 12TB databases

Simplifies storage tasks with a central point of management

Growing Data Calls for Faster Backup

Part of Mickey Yates's job as CIO of the Mississippi Department of Revenue is overseeing applications that serve taxpayers and businesses in 82 counties. These include MARS, the state's tax-collection system, which supports a taxpayer portal and allows liquor stores to order alcohol, and MARVIN, the motor-vehicle registration system used by auto dealers and county vehicle-registration offices.

To protect the data in MARS and MARVIN, Yates and his team are constantly backing up and restoring the SQL databases to ensure they never lose a bit of information as employees, taxpayers, and businesses across the state use the systems. But at 12TB of data, backups were increasingly unreliable.

"To be blunt, it was a nightmare," says Yates. "We tried several products, but we had nightly backup failures."

A Tried and Trusted Storage Solution

Looking for a backup solution, Yates already had an idea of what he wanted. A few years ago, he migrated MARS and MARVIN to the FlashStack converged infrastructure solution—creating a much faster, smoother experience for state employees, taxpayers, liquor stores, and auto dealerships. On MARS alone, a study showed that faster response times saved the DOR a combined 39.5 hours of staff time every day.

"With FlashStack, there's zero lag," says Yates. "I'm sold on this infrastructure from Pure and Cisco. It's a solid, pre-validated solution that's easy to maintain."

When backup became an issue, Yates turned to Pure FlashBlade to take advantage of its long-term cost-of-ownership benefits and central point of management—simplifying backups for his network engineers.

"Backups have become an afterthought—not even a blip on the radar anymore. With Pure Storage, it just works," says Yates.

FlashBlade handles full nightly backups to protect against data loss. It enables snapshots every 15 minutes, allowing point-in-time restores if needed. And it supports weekly restores for staging, testing, and development environments, giving teams the space to perform upgrades and testing without affecting production.

Combined with the proactive system monitoring and support Yates gets from Pure, the technology is a powerful way to keep the DOR up and running. "I don't think I can overstate the value of Pure technology and the Pure team," he says. "It's a relationship you don't necessarily get with other vendors, and the peace of mind makes it one of the best products on the market."

About the Customer

Supporting critical air defense in their home country, military branches are dedicated to using the latest flight simulation technologies and granular data analysis to improve pilot training and aircraft performance.

Geo
North America

Industry
Government

Solution Area
Accelerate core applications
Activate real-time analytics

Pure Storage® Products in Use
FlashBlade®
FlashArray//X™
FlashStack®
Evergreen//Forever™
Pure Professional Services

Fighter Pilots Fly High on Simulation Data Insights

Training fighter pilots for every possible scenario is essential to a country's air defense program. As the world's most advanced defense organizations, military branches go even further by using sensor data from training simulators and real-world flights to help make training missions more safe and effective.

Using Pure Storage FlashBlade and FlashArray™ solutions running on a high-performance FlashStack infrastructure, the military's IT team can collect, analyze, and draw insight from huge volumes of aircraft and flight simulation data to better prepare pilots for combat while improving the country's air defense posture. The project gives pilots an edge through in-depth performance insights. The project allows military IT staff to more efficiently support training missions with a modern hybrid cloud infrastructure that scales on demand to meet their AI processing requirements.

The ease of storing and analyzing unstructured data with Pure is matched only by how easy it is to replicate the military branches' approach in multiple data centers. It ticks every box for storage performance and scale.

Expected Impact

Augment pilot training and defense strategies with in-depth data insight

Simulate threat-dense environments that were once impossible to recreate

Extend powerful data storage and analysis capabilities to 4 data center sites

Challenges

Overcome staff turnover to bring a multi-year IT project to life

Handle unprecedented volumes of unstructured simulation and flight data

Eliminate slowdowns while minimizing its physical and energy consumption footprints

Results

Cut 180 days' worth of manpower from storage upgrade processes

Easily analyze and act on data in multiple formats and file sizes

Replicate data center enhancements at multiple sites with minimal effort

Breaking a New Training Barrier

When flying a jet at twice the speed of sound, even the smallest adjustment delivers major tactical advantages. To strengthen air defenses and improve pilot performance in threat-dense environments, this military organization plans to analyze hundreds of sensor data points from in-flight aircrafts and pilot training simulators.

The sensors emit data on everything from airflow over an aircraft's wings to pilot response times to weather information, which it must immediately collect, combine, and analyze to optimize flights. It chose Pure's best-in-class storage for the job, implemented with Pure Professional Services.

Data Management Reaches New Heights

With Pure FlashBlade, the military can easily ingest, analyze, and draw insights from its sensor data. It can also handle unstructured data with ease, which means it can analyze multiple file sizes and formats from thousands of sources. It also uses Pure FlashArray to underpin its data storage with a virtual desktop infrastructure (VDI) and database environment. FlashStack from Pure and Cisco Systems provides a hybrid cloud infrastructure solution that will speed up new project deployments and deliver superior performance to support granular flight and simulator analyses across the country.

The ease of storing and analyzing unstructured data with Pure is matched only by how easy it is to replicate the IT team's approach in multiple data centers. It ticks every box for storage performance and scale.

An Intuitive Flight Path

Ease of use was a top priority for the IT team, which has high turnover and counts many contractors on its team. Unlike private industry, it doesn't have months to train new hires. As an over-the-shoulder learn, Pure was an intuitive solution for its long-term goals.

That spirit of simplicity extends to its use of a Pure Evergreen//Forever subscription, which delivers the latest in storage technology innovation while eliminating traditional forklift upgrades. As a result, the IT team expects to cut 180 days from its upgrade cycles every few years. Data protection comes via Pure's partnership with Cohesity, adding another layer of performance while keeping the military's power consumption for this project to a minimum.

Energy management is a global concern, so the fact that the IT team can scale while keeping its footprint to a minimum is the icing on the cake.

About the Customer

Founded in the 1920s, Barfoot & Thompson is New Zealand's largest privately owned, non-franchised real estate company. With more than 78 branches, the family-owned and operated company sells residential, lifestyle/rural, and commercial real estate, in addition to property management services.

www.barfoot.co.nz

Geo

APJ

Industry

Property and Real Estate

Solution Area

Accelerate core applications

Pure Storage® Products in Use

Pure Storage® FlashArray//X™
Pure Storage® FlashArray//C™
Pure1®
Evergreen® Storage
FlashStack®

Barfoot & Thompson Drives Digital Transformation with Pure Storage & Cisco

Barfoot & Thompson sells one in three Auckland homes daily. As the business expanded, it became clear that the IT infrastructure running its massive SQL server databases and other data management and analytics workloads would not be able to handle the increasing number of transactions. Barfoot & Thompson could not afford processing delays or lengthy waits for key reports, especially during peak periods.

The IT team understood this and embarked on a digital transformation to modernise its compute and storage to match the scale of its business. They turned to FlashStack from Pure Storage and Cisco.

"With Pure Storage, integration was seamless and we were confident that there was a team of experts ready to help with any issues. We didn't experience this level of service with other vendors and it makes such a difference for our team to operate at optimal levels."

HECTOR ROMERO,
SENIOR SYSTEMS ENGINEER,
BARFOOT & THOMPSON

Impact on Barfoot & Thompson

Ability to process and deliver reports 60% to 70% faster

Dramatically improved performance, capacity, reliability, and system uptime

Reduced power consumption by almost 500%

RETAIL

52

Challenges

Lacked consistent support from legacy vendor's servicing team

Legacy platform plagued by speed, reliability, and performance issues

Required a modern data solution to support the company's digital transformation

Results

An integrated system with all applications running on a single dashboard

Seamlessly migrated all workloads with zero downtime

Successful digital transformation that is powering the business to new highs

FlashStack Powers Digital Transformation

With over 1,700 residential and commercial sales teams and more than 17,000 residential rental properties under its management, Barfoot & Thompson needs an IT infrastructure that can handle current and future needs.

FlashStack provides a cloud-based platform for the company's analytics, delivering operational efficiencies and improved performance, while establishing a cost-effective infrastructure foundation.

"We struggled to scale cost effectively and achieve the performance required for loading properties into our systems," says Barfoot & Thompson Senior Systems Engineer, Hector Romero. "FlashStack enables us to easily handle increasing workloads to meet customer demands. Our racks also went from 12 to 3, reducing our power consumption from 5,000W to 1,100W. We are proud to achieve this incredible environmental impact."

Turbo-charging the Business

Barfoot & Thompson relies on cutting edge technology to provide an award-winning website, mobile apps, and real estate software to give its customers and staff the best experience on their real estate journey.

"With FlashStack, we are seeing tangible improvements. Restores, backups, and SAN replication are at least six times faster," says Romero. "Our in-house development teams can deliver enhanced features faster to our customers. The transition was seamless and our team

uses SAN-to-SAN snapshots for replication between data centers. We're also using FlashArray//C as the target for Veeam backups in conjunction with Pure's SafeMode snapshots to assist with mitigating the risks of ransomware."

Reporting, which runs through Microsoft business intelligence (BI) and taps into several SQL databases, is another core application for hundreds of employees at all the company's branches. The IT team knew that the faster they provided teams with their data, the quicker they could get the intel needed to meet customer demand.

"When comparing systems before and after the introduction of Pure, our teams shared that the speed of our operations improved by at least 60 to 70 percent. Reports are now delivered within a minute instead of three minutes. With the volume of reports downloaded each day, two minutes per report saves a massive amount of time, which can be better spent on tasks that help our bottom line," adds Romero.

A Strong and Solid Partnership

Pure's modern data solutions and a dedicated and committed team gives Barfoot & Thompson's the confidence to deliver on its digital transformation goals.

"With Pure Storage, integration was seamless and we were confident that there was a team of experts ready to help with any issues. We didn't experience this level of service with other vendors and it makes such a difference for our team to operate at optimal levels," says Romero.

RETAIL

Geo
LATAM/Venezuela and Colombia

Industry
Retail

Company
Farmatodo

Partner
Suministros Obras
y Sistemas

Use Case

- Database – Oracle,
  Microsoft SQL Server
- Virtual server infrastructure (VSI)
  –VMware vSphere Hypervisor -
  OpenStack/KVM with Microsoft
  Azure and Google Cloud
- BI-Tableau
- POS - Merchant

Products and Services
Unified computing with FlashStack®:

- Cisco UCS servers
- Pure Storage® FlashArray™
- VMware vSphere

Cisco networking and
security solutions:

- Cisco Nexus switches

Farmatodo

Business transformation: FlashStack – the joint Cisco and Pure Storage converged infrastructure solution – provides unrestricted support for dynamic business growth, while reducing costs and improving the efficiency of IT staff.

Challenges

- Limitations of legacy storage system restricted overnight processing.

- Company-critical business continuity and disaster recovery tasks could not be implemented.

- Administrative burden negatively impacted IT team efficiencies and diverted efforts from added-value, business-related activities.

IT Transformation

- The solution reduced latency from 10ms down to 0.5ms — a drop of 95%.

- Out-of-the-box the solution is compatible with the existing IT infrastructure.

- The company now has instant access to responsive, high-quality support resources.

- Farmatodo can now reliably perform inter-country replication.

> "We evaluated all the major suppliers and Pure Storage was at the top for each of our key criteria."
>
> **JOEL PARRA PÉREZ**
> OPERATIONS SYSTEMS
> ADMINISTRATION COORDINATOR

Farmatodo Deploys FlashStack – the Joint Cisco and Pure Storage Converged Infrastructure Solution – to Accelerate Competitive Differentiation and Strengthen Business Continuity Performance

In 1918, a small family drugstore opened in northern Venezuela with a simple, noble goal: Create a welcoming environment that provides the local community with excellent access to medicine. More than a century later, the company – now known as Farmatodo – has grown into a highly successful multinational entity offering a full range of health and wellness products and home supplies.

Farmatodo is the largest retail pharmacy in Venezuela, with over 175 stores, and is a formidable presence in Colombia, with almost 60 retail pharmacies. A driving aspiration for Farmatodo has always been to empower communities across the region with its self-service neighborhood drugstore model.

Success Has Its Challenges

A key factor in supporting the company's growth has been the innovative use of data to guide and optimize all aspects of its business. However, creating an IT infrastructure capable of keeping pace with Farmatodo's rapid expansion and exponentially growing consumption of operational information proved to be a continual challenge.

The company's IT team had done an admirable job in responding to constant demands for additional computing resources but inevitably, the need to deliver quickly resulted in a disjointed assortment of systems, technologies and processes.

Joel Parra Pérez, operations systems administration coordinator at Farmatodo, elaborated: "Our environment was very complex and rife with issues caused by cabling, configurations and compatibilities. This made it very challenging to ensure that company-critical tasks, like order processing and business continuity processes, could be efficiently and consistently executed."

The massive increase in data volumes and the associated requirements to manage information placed an insurmountable burden on the company's legacy storage infrastructure. Jaroslav Useche Acosta, Wintel system administrator, recalled, "We could have kept adding more and more drives but the performance of our shared file storage dramatically degraded whenever we approached 80% capacity. This was very concerning considering the critical applications we had to keep running. We feared that if we didn't make a change, Farmatodo's continued success would be in jeopardy."

Pure Storage — Delivering on the Promise

The retailer began its search for a new storage solution by researching several of the industry's more traditional suppliers. Cognizant of Farmatodo's desire to aggressively improve performance and scalability, a trusted local IT advisor — Suministros Obras y Sistemas (SOS) — recommended adding Pure Storage to the company's vendor evaluation.

> "The ability of FlashStack to record, replicate, and compact data is just like magic!"

JOEL PARRA PÉREZ
OPERATIONS SYSTEMS
ADMINISTRATION COORDINATOR

At first, the Farmatodo team was hesitant to believe that the Pure Storage pledge of effortless migrations, reliability and performance was achievable. Pérez admitted, "Everything sounded so good that at first we thought it was just marketing hype."

Enthusiastic to demonstrate the compelling benefits, SOS coordinated a collaboration between Pure Storage and Cisco Systems Venezuela to create a converged infrastructure proof-of-concept (POC). The POC set up a direct comparison between FlashStack the joint Cisco and Pure Storage converged infrastructure solution — which enables the benefits of all-flash storage to be uniquely leveraged in environments like Farmatodo's Cisco UCS-based data centers — and Farmatodo's legacy system against a selection of the company's production workloads. In parallel to testing performance and functionality, a total cost of ownership (TCO) assessment also was performed.

The initial evaluation quickly proved that the claimed simplicity of migration and administering the Pure Storage and Cisco FlashStack was a reality; in under four hours, all the data, software and applications needed for the POC were brought online. The results were equally dramatic: The solid-state Pure Storage FlashStack Mini reduced latency in the environment from 10ms down to 0.5ms — a drop of 95%.

"We evaluated all the major suppliers and Pure Storage was at the top for each of our key criteria, executing especially well against our goals of performance and cost efficiency," reported Pérez.

Rapid Return-on-investment

As an integrated component of the overall value proposition, SOS also advocated subscribing to the Pure Evergreen® Storage program.

Evergreen enables organizations to scale and upgrade storage as needed: all made without any downtime, performance impact or data migrations, and while protecting their storage investment. Multi-year TCO comparisons irrefutably confirmed the business benefits of investing in the Pure Storage solution over continuing to support Farmatodo's legacy system.

The partnership between Pure Storage and Cisco also enabled use of the Cisco Validated Design (CVD) methodology. A CVD removes the traditional burden of predicting the long-term compatibility of multi-vendor environments by verifying that diverse solutions that need to interoperate are correctly architected and implemented from the very beginning.

> "We've been able to easily implement data recovery and replication between our Venezuela and Colombia sites: Something we never could have done before."

JAROSLAV USECHE ACOSTA
WINTEL SYSTEM ADMINISTRATOR

Farmatodo has a hybrid infrastructure with two local data centers and subscriptions to Microsoft Azure and Google Cloud. While the cloud environment is primarily dedicated to customer-focused services, the local infrastructure hosts all the company's core services. FlashStack serves as the base platform for Farmatodo's business projects in Colombia and Venezuela. As such, the majority of the company's critical business applications and infrastructure components are connected to the array, including VMware, Oracle VM, Oracle Financial and Retail, as well as point-of-sales and business intelligence systems.

Implementation of the FlashStack, the Pure Storage and Cisco converged infrastructure solution was very efficient: "The physical connection only took half of the morning. We just needed two UTP cables, a fiber cable and power cables. We were able to set-up, tune and be fully implemented in just two days. The simplicity was admirable," remarked Pérez. He continued, "FlashStack and VMware integration is practically out-of-the-box. With our Cisco UCS environment, all we had to do was attach FlashStack and it immediately started distributing volumes and performing the install. This type of plug-and-play capability was a very impressive experience for us all."

Once installed, one of the top priorities was to run availability tests on the new array. Pérez described, "We attempted to sabotage the Pure Storage platform by randomly deactivating cards and removing cables as if we were experiencing a series of real-life failures. The response was rock solid and completely transparent."

Importantly, FlashStack solution delivered on Farmatodo's requirement for improving business continuity across the company's infrastructure. "Architecting a disaster recovery and data replication strategy used to be extremely complicated because our previous platform depended on external tools, links and applications. With Pure Storage, everything is native," enthused Acosta. "We've been able to easily implement data recovery and replication between our Venezuela and Colombia sites, something we could never have done before."

Speed, Simplicity, and World-class Support

The ability to perform frequent backups without impacting operational workloads has been another major benefit for Farmatodo. Acosta explained, "Previously, our machines would often die when attempting to take a backup snapshot. The plug-in between Pure Storage and VMware enables us to process snapshots directly in the array: We're now able to perform backups much faster — in just a matter of minutes — and with complete reliability and zero disruption to business operations."

Pérez added, "Replication performance was one of the big reasons for selecting Pure Storage: It is one of the things that I admire the most. The ability of Pure FlashStack to record, replicate and compact data is just like magic!"

> "We attempted to sabotage the Pure Storage platform by randomly deactivating cards and removing cables as if we were experiencing a series of real-life failures. The response was rock solid and completely transparent."

JOEL PARRA PÉREZ
OPERATIONS SYSTEMS ADMINISTRATION COORDINATOR

The simplicity of managing the FlashStack system has saved the Farmatodo team a considerable amount of time over its previous storage solution. Acosta compared, "Provisioning a standard Windows 2016 server with a 100 GB disk on the legacy platform could take up to 20-30 minutes. With Pure Storage, the same process takes just a few minutes. On top of this, we used to have to put new team members through extensive training before they were productive. For Pure Storage, I was able to learn everything in less than a week, including traditionally complex tasks like creating volumes and setting up backup routines."

FlashStack also delivered on Farmatodo's goal of improving the efficiency of its data storage infrastructure. Overnight processing of sales and inventory data that used to take between 8-10 hours has dropped dramatically. "Data compression rates have been really impressive; we're seeing rates in the low teens for several of our boxes," stated Pérez. "The Pure algorithms are continually optimizing, so the more data we add, the better results we get."

> "Because of my first-hand experiences with the technology, I am an outspoken advocate for Pure Storage with my peers."

JOEL PARRA PÉREZ
OPERATIONS SYSTEMS
ADMINISTRATION COORDINATOR

Because the legacy storage infrastructure was already at capacity, the only way to deliver more performance to any of the Oracle-related applications was to increase the number of CPUs being utilized. However, Oracle's use of a CPU-based licensing model resulted in escalating costs just to keep up with business demands. The newfound ability to easily extract more performance from storage has immediately removed the need for such a large CPU capacity—with a subsequent reduction in the costs of licenses needed.

An unanticipated benefit has been that the technical team members have experienced a transformation of their daily routines. Pérez reflected, "Because we don't have to spend large amounts of time trying to administer multiple technologies that demanded constant attention, we're now able to focus on delivering real value to the organization. We can concentrate on what is really important."

Acosta concurred, "Things flow so efficiently and effortlessly with Pure Storage that we definitely feel a comforting sense of calm."

As a company located in South America, technical support has been a major consideration for the Farmatodo team. The Pure1® support program from Pure Storage has been designed from the ground up to be highly responsive and location agnostic. Pérez noted, "With the other providers, support has been unpredictable; we frequently didn't know when we'd receive help. Pure1 gets us a call-back within a few minutes and we have a number to call for an even faster response, should we ever need it."

Pérez concluded, "Because of my first-hand experiences with the technology, I am an outspoken advocate for Pure Storage with my peers. Like all IT professionals, I seek out solutions that deliver what is promised and enable me to execute my role in an orderly and structured manner. I have that with Pure Storage."

About the Customer

When Canadian citizens were asked to build a greener future, Innovapost responded by streamlining its storage management with Pure Storage®.

www.innovapost.com

Geo

North America

Industry

Service Provider

Federal Government

Use Cases

Accelerate core applications

Enable multicloud

Innovapost Embraces a Sustainable Future for Canada

Summary: A leading Canadian IT shared services provider, Innovapost is helping its country move toward its 2050 climate goals. When Innovapost refreshed its storage technology with Pure Storage and partner Wipro, it eliminated painful downtime from upgrades, accelerated performance, and improved resiliency. The company also improved its sustainability, with lower power consumption and emissions, smaller storage footprint, and greater capacity per watt.

Challenges: With rising demand, Innovapost's core applications began to slow. Already frustrated by multi-hour downtimes for upgrades, the service provider sought an all-flash alternative that could meet the needs of its Oracle Real Application Cluster and make its IT operation more stable and efficient.

"We've been able to reduce our data center storage costs and environmental footprint while taking on heavier workloads and delivering superior technology services to every Canadian citizen. To put these figures into perspective, the energy savings we've seen are equivalent to the annual electricity consumption of 126 homes or 216 non-electric cars."

NISH ANJARIA,
TECHNOLOGY AND INFORMATION
LEAD, INNOVAPOST

Results:

Business Transformation

- Helps Canada achieve its environmental goals
- Delivers shared services with zero downtime for upgrades
- Increases IT storage operations efficiency by up to 4x faster
- Transforms IT operations to a hybrid cloud storage model

IT Transformation

- Eliminates multi-hour downtimes for upgrades
- Reduces annual data center power consumption by 200,000+ kilowatts
- Enables 95% more storage capacity per watt
- Decreases storage cooling requirements by 92%
- Reduces data center storage footprint by 97% and CO2 emissions by 93%
- Reduces latency on Oracle Real Application Cluster to microseconds

TECHNOLOGY

![Wipro logo]

About the Customer

When technology services and consulting company Wipro needed a transformative storage infrastructure for its client services, Wipro chose Pure Storage.

www.wipro.com/en-CA

Geo

North America

Industry

Service Provider

Use Cases

Accelerate core applications

Enable multicloud

MSP Wipro Differentiates on Performance Reliability, Sustainability

Summary: A leading technology services and consulting company, Wipro builds innovative, sustainable solutions with an infrastructure engineered as a service in a hybrid cloud ecosystem. With the simplicity, flexibility, and efficiency of Pure Storage® FlashArray//XL™, FlashStack®, and Evergreen//Forever™, Wipro maximizes performance, reliability, and sustainability for its clients. Power, cooling, and space consumption fall by as much as 90%, reducing carbon footprint and moving toward net-zero goals.

Challenges: MSP Wipro wanted to accelerate digital transformation for its clients by offering seamless migration to a modern storage infrastructure. To meet both performance and sustainability goals, Wipro needed to reduce the physical and energy consumption footprint without slowing mission-critical applications. To support business continuity, Wipro needed a way to stay current on upgrades without downtime and forklifts.

> "Sustainability is the number one priority that we drive home with Pure Storage."
>
> **MAYUR SHAH,**
> GENERAL MANAGER & GLOBAL HEAD OF DATA CENTER AND SDX, WIPRO

Results:

Business Transformation

- Zero impact to mission-critical applications when transitioning storage
- Upgrades without disruptions, even when moving to new hardware
- Application recovery in minutes not hours
- Supports sustainability with lower power, cooling, and space usage

IT Transformation

- 60% faster IOPS performance and microsecond response times
- More than 90% reduction in storage space, power costs, and cooling needs
- 2-5x performance improvement in mission critical applications
- Reduced recovery point from 4 hours to 10 minutes

About the Customer
Founded in 2008, Nextiva powers billions of conversations every year across cloud business phone systems, text, team "Delighting Customers, One Conversation at a Time" messaging, video meetings, and more. More than 100,000 customers rely on Nextiva to centralize and simplify their communication.
www.nextiva.com

Geo
North America

Industry
SaaS

Solution Area
Accelerate core applications
Activate real-time analytics
Enable Multi-cloud

Pure Storage® Products in Use
FlashArray//C™
FlashArray//X™
FlashBlade®
FlashStack®
Evergreen//Forever™
Pure1®

Delighting Customers, One Conversation at a Time

Over the years, Nextiva has built on its reputation as a leading, reliable Voice over Internet Protocol (VoIP) provider. It now offers a comprehensive, award-winning communications platform that includes video, chat, social media, and more. This evolution, coupled with exponential growth, prompted Nextiva to re-evaluate its storage infrastructure.

After costly and unreliable experiences with both public cloud and legacy storage, Nextiva turned to Pure Storage. With simple, scalable, and powerful storage in place, Nextiva has successfully transitioned into a software-a-service (SaaS) business that continues to help customers grow and succeed.

> "Outages and downtime prevent our customers from growing their businesses, and Nextiva from accounting for customer usage. Pure stops this downstream effect, helping to protect our collective revenue streams."
>
> **ERIC ANDREWS,**
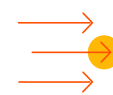> SENIOR DIRECTOR OF IT, NEXTIVA

Impact on Nextiva

Supports customers' needs for 24/7 modern business communications

Maximizes growth without adding to data center footprint or IT headcount

2x boost in IT team's overall efficiency with simpler-to-manage storage

Challenges

Moving workloads to the public cloud was costly, at nearly $100K/month

Outages interrupted revenue flow for Nextiva and its customers

Transition to SaaS business model required efficient and reliable storage

Results

Saves millions by cutting data center footprint and extending storage life

Zero downtime boosts revenue—and customers' business communications

10x faster processes and 9x more storage capacity

No Dial Tone? No Business.

In the decade since he joined Nextiva, Eric Andrews, senior director of IT, has played a pivotal role in modernizing the company's infrastructure.

That includes re-evaluating the decision to move VoIP workloads to the public cloud. Monthly fees of nearly $100,000 and dependency on the cloud provider to resolve outages left Andrews and his team powerless over their customers' experiences.

Existing legacy storage wasn't the solution, either. It was hard to manage and maintain, caused downtime during upgrades, and couldn't deliver the performance Nextiva's customers had come to rely on.

Enabling Everyone to Thrive

Nextiva created a private cloud with a Pure Storage backbone. Now, its VMware environment, which supports the NextivaONE unified communications platform, runs on Pure FlashArray//X. The platform includes customer support features that Nextiva clients can use in their call center, such as artificial intelligence to measure customer satisfaction in call transcripts and recordings. Oracle databases, where the billing system resides, also run on FlashArray//X.

"Outages and downtime prevent our customers from growing their businesses, and Nextiva from accounting for customer usage," says Andrews. "Pure stops this downstream effect, helping to protect our collective revenue streams."

Nextiva stores data at rest on Pure FlashArray//C, while Pure FlashBlade powers Elasticsearch, which accelerates analytics for internal logs, and for searching and indexing for Nextiva's customers. Nextiva also runs Splunk SmartStore on FlashBlade.

To simplify management of its hybrid cloud infrastructure, Nextiva uses Pure1 alongside FlashStack from Pure Storage and Cisco. With FlashStack, Nextiva saves data center space, consumes less power, and extends the life of its infrastructure. Overall, Nextiva has realized a tenfold performance improvement in its business processes.

"Our team's efficiency has easily doubled since implementing Pure, and compression has increased storage capacity from 11 to 90 terabytes on a single array," says Andrews. He also estimates that the Evergreen//Forever subscription is saving Nextiva millions of dollars by eliminating the need to re-buy storage and manage disruptive forklift upgrades.

Millions in Cost Savings

Nextiva now has a long-term, sustainable solution that enables it to make the most of its rack space allotment as it grows while minimizing e-waste.

"Pure helps us work smarter as we grow," says Andrews. "Together, we're pushing the boundaries of business communications."

WOOLPERT

Geo
North America

Industry
Professional Services

Company
Woolpert
www.woolpert.com

Use Case
VSI – VMware vSphere
VSI – VMware Horizon

CASE STUDY

Woolpert

Business transformation: Professionals in multiple locations across the country have quick, easy access to the data and applications they need to effectively collaborate with other team members on architectural and engineering projects. The IT staff spends far less time on system management, thanks to the pre-tested reference design of the FlashStack® infrastructure that seamlessly integrates best-of-breed compute, networking, and storage products from multiple suppliers.

Challenges

- Geographically dispersed professionals were hampered in gaining fast access to large computer-aided design (CAD) files.

- Optimal productivity of a small IT staff was stymied by complex infrastructure management.

- Extending high-performance and reliable virtual desktop infrastructure (VDI)to branch offices and remote workers was impacted by subpar infrastructure performance.

IT Transformation

- New VDI users are added easily, and receive immediate access to large files and vital applications.

- Overall efficiency reduces the cost and footprint of the VDI infrastructure. High data-compression rates provided by all-flash arrays reduce the amount of storage capacity needed to handle all centralized files.

- Pre-tested FlashStack reference design reduces the time and cost of deploying new IT infrastructure.

> "The totality of the FlashStack implementation is impressive."

CHRIS PEARSON,
IT INFRASTRUCTURE ANALYST

Woolpert Finds FlashStack Converged Infrastructure a Winning Design for Expanding VDI

Woolpert is an architectural, engineering, and geospatial firm that serves clients involved in large and complex infrastructure projects throughout the world. Collaboration is at the heart of the company's business. Architects, engineers, imaging experts, and other professionals are constantly interacting with each other to create high-quality deliverables for clients, using resource-intensive software packages such as AutoCAD and Revit. At the center of their interaction are data files, many of them huge, that must be available to a distributed workforce at all times.

To support this collaborative environment, Woolpert's IT department wanted a VDI that would lower hardware costs, improve security, and ensure that data files are centrally maintained for maximum consistency and availability.

While the benefits of VDI are numerous for both end-users and IT staff, VDI puts a heavy burden on the centralized data center infrastructure. If end-users are going to benefit from easy access to centrally stored desktop workspaces, then the systems on which those desktops reside have to perform at peak speed and efficiency—without disruption.

FlashStack Configuration Chosen for a New Infrastructure

Chris Pearson, IT infrastructure analyst at Woolpert, notes that his small staff had built "homegrown" VDI that did not provide all of the capabilities and performance that were required if it was to support a growing number of users. "We had lots of people across the country using a centralized file, but we couldn't rely on the connection speeds to get them the data in a timely fashion," he notes. "That impacted end-user satisfaction, productivity, and ultimately endangered our ability to serve clients."

Pearson says that while each member of the IT staff had their area of specialization, "collectively we didn't have the expertise to design and implement a complete IT infrastructure for a VDI. So, we reached out to our partner, Logicalis, for help."

Logicalis, a global provider of IT solutions, suggested that Woolpert consider the FlashStack converged infrastructure design from Pure Storage. FlashStack, which includes FlashArray™ from Pure Storage, Cisco UCS servers, and Cisco Nexus switches, and virtualization software from VMware, combines compute, network, storage, and virtualization resources in a single platform.

> "We don't even calculate how much time it will take to add more capacity; it's just minutes."
>
> **CHRIS PEARSON,**
> IT INFRASTRUCTURE ANALYST

The converged infrastructure speeds time to deployment, lowers overall IT costs, and reduces deployment risk by providing fully-tested converged infrastructure reference designs. FlashStack solutions are sold by authorized resellers of Cisco and Pure Storage products. "With its validated design and ease of deployment, FlashStack was a perfect fit for Woolpert's needs," says Brian Duvall, a business development director with Logicalis. "It significantly reduced the time needed to implement a solution, and will be easier and more efficient to manage."

Consolidating Workloads on High-performance Flash

Installation of the FlashStack was "very straightforward and easy," Pearson notes, and the benefits of the solution were seen almost immediately.

"FlashStack totally solved our problems with VDI," he reports. "It's given us great performance, easy management, and lots of options for meeting our particular needs. End-users with any kind of device in any location can access the centralized files and applications they need without any delay."

FlashStack now runs the firm's VDI, which supports end-users engaged in the architectural and engineering activities of the firm. Soon they'll be rolling out VDI to back-office functions like marketing, HR, and finance. They are also using VDI in remote offices with technicians and field crew

for a third line of business focused on geospatial services, to address the challenges of geospatial data capacities.

Pearson reports that VDI end-users have received a performance boost from the FlashStack solution, not only because of the high-performance servers and networking, but also because of the consistently sub-millisecond latencies delivered by the Pure Storage array. "The totality of the FlashStack implementation is impressive," he adds.

Simplified Management Saves Time and Money

Effortless management is another aspect of the FlashStack solution that has impressed Pearson. "In our old production environment, you always had to stop, look at what's going on—get together with the networking guy, get with the domain admin. It was very time-consuming. With FlashStack, those steps have been totally eliminated. It's wonderful."

Management of the storage element "is so easy," Pearson adds. "You just provision to your heart's content with a simple mouse click to add a volume. We don't even calculate how much time it will take to add more capacity; it's just minutes." Pearson estimates that the IT staff is "easily" saving five man-hours a week in storage-related tasks.

> "FlashStack is a great solution. It has everything you need, and then some."
>
> **CHRIS PEARSON,**
> IT INFRASTRUCTURE ANALYST

He also praises the integration of storage management through the Pure Storage plug-in to VMware and the Pure1 management tool, which "allows me to monitor the system from any device, anywhere, and notifies me proactively if there's any issue that Pure is working on." He also cites the value of several features of the Pure Storage array, including automated scheduling of snapshots, replication, and non-disruptive software upgrades.

Pearson has been especially impressed with the data reduction delivered by the de-duplication and compression features of the Pure Storage array, currently running at 12:1. "That has exceeded our expectations. We couldn't ask for anything more," he says.

The FlashStack solution is creating capital and operating savings for Woolpert, by allowing for the provisioning of virtual machines to end-users instead of costly workstations. It also reduces the amount of equipment and space devoted to storage equipment. "Pure Storage is doing such a good job with the de-duplication and keeping storage provisioning down that we won't have to add any storage equipment in the near term. Adding knowledge workers to the VDI is a snap, since all we need to do is acquire additional VM licenses."

Pearson is also a fan of the Pure Storage Evergreen® Storage program, which allows customers to deploy storage once, then expand and upgrade it as needed for a decade or more. Components can be mixed and matched—all online and without performance disruption—to keep storage dense, efficient, and modern. "It's such a positive approach versus the traditional model of forklift upgrades and complicated pricing models," Pearson notes. "With traditional storage vendors, you have all these hidden costs. I call them snakes in the grass."

"FlashStack is a great solution. It has everything you need, and then some," he concludes.

Secure-24

About the Customer
Highly differentiated SLA delivers the highest levels of secure and complex application hosting services.

Geo
Global

Industry
Technology

Company
Secure-24
www.secure-24.com

Use Case
Virtual desktop infrastructure
SAP
Oracle E-Business Suite
PeopleSoft
Big data analytics

CASE STUDY

Secure-24

Secure-24 strives to distinguish itself from competition in the managed application space through innovation and commitment. Secure-24 is standardizing on Pure Storage® for its customers and helping to deliver a differentiated SLA. Depending on the application, Secure-24 customers are experiencing a 3x-10x application performance improvement.

Pure Storage Helps Secure-24 Live up to Its Name

As adoption of managed cloud services becomes a key strategy for many enterprises, the demands placed on providers of these services are soaring. Current and potential customers require assurances that their data will be protected, business-critical applications will perform reliably, and costs will be controlled. One managed cloud service provider is finding that Pure Storage helps it deliver on all of these promises.

Secure-24 is an industry leader in IT operations, application hosting, and managed cloud services for enterprises worldwide. The company focuses on business-critical applications—including SAP, Oracle E-Business Suite, PeopleSoft solutions, JD Edwards solutions, and Hyperion software—for customers who require a high degree of availability, security, and regulatory compliance.

Secure-24 strives to distinguish itself from competition in the managed application space through innovation and commitment. One of the ways it has achieved superiority is by standardizing on Pure Storage solutions and

> "We want to significantly exceed our SLAs all the time, and Pure Storage allows us to do that comfortably."

SCOTT MCISAAC,
CHIEF INFORMATION
OFFICER

offering all-flash storage to all new customers in support of their most essential applications. Existing customer applications are being moved to Pure Storage as legacy storage equipment is rotated out. Secure-24 offers its customers unique SLAs, and reports that Pure Storage is instrumental in consistently exceeding expectations for key performance factors such as sub-millisecond application response times.

All-flash Storage Boosts Application Performance

Scott McIsaac, CIO for Secure-24, says that several factors went into the company's decision to make Pure Storage a key part of its offerings. First was the performance boost it gives to applications. "It's been a very long time since anyone has seen an infrastructure component that has had the large impact on application performance that flash memory has," he says. "And with the cost of all-flash arrays achieving near parity with spinning-disk, the choice is easy to make."

McIsaac reports that virtually every application that Secure-24 hosts on Pure Storage FlashArray™ products experiences performance improvements anywhere between 3x and 10x. As a result, flash storage allows Secure-24 to confidently deliver on its aggressive SLAs. "We want to significantly exceed our SLAs all the time, and Pure Storage allows us to do that comfortably," McIsaac notes.

Secure-24 now has multiple Pure Storage FlashArray arrays operating in its three data centers.

One of the satisfied customers who plan to fully benefit from Secure-24's use of Pure Storage is Kraton Performance Polymers, a leading global producer of engineered polymers. Randy Rucker, infrastructure manager for Kraton, says that all of the company's critical SAP applications are hosted by Secure-24, whom he called "an extension of our IT department." During a previous annual customer review, Secure-24 mentioned flash storage to Rucker, but he was skeptical about the cost and the ability of flash to support the performance loads of the multiple SAP applications that Kraton uses.

"Silver Bullet" Performance Leads to Greater Business Insights

Kraton started experiencing performance lags with its SAP Business Warehouse application, and internal customers were complaining about the impact on their productivity. So Rucker revisited the flash storage discussion with Secure-24. "I was impressed by the performance improvements some of their other customers were getting, and by the saving in rack space that Secure-24 was realizing. But what sold me most is their broad commitment to flash. It spoke volumes for Secure-24's confidence in Pure Storage."

> "It's like a car, and Secure-24 is constantly dropping in a new engine for us. Pure Storage allows Secure-24 to do this for us from a storage perspective."
>
> **RANDY RUCKER,**
> INFRASTRUCTURE MANAGER, KRATON PERFORMANCE POLYMERS

Kraton's testing of SAP Business Warehouse on Pure Storage showed immediate improvement.

In one widely used big data analytics application, Kraton's business analysts import large volumes of data into Microsoft Excel. This data import process is five times faster using Pure Storage, Rucker reported.

With results like that, Kraton is considering moving all of its SAP applications to Pure Storage, as well as more than 50 Windows PCs. "If we ever have a problem from a performance perspective, our silver bullet now is to put it on Pure Storage flash."

Rucker also explains that he has worked with many managed services providers in the past, and the hardware his company used on day one was the hardware they had to use throughout the term of the agreement. With Secure-24, they are constantly adopting the latest datacenter technologies to help customers. "It's like a car, and Secure-24 is constantly dropping in a new engine for us. Pure Storage allows Secure-24 to do this for us from a storage perspective."

Simplicity of Management Reaps Huge Benefits

One powerful measurement of Pure Storage's impact on Secure-24's business is a dramatic falloff in the number of trouble tickets received from customers reporting application performance problems. McIsaac notes that when most applications are moved to Pure Storage, the only time they see a trouble ticket is just after the applications

have started running on the flash storage, "because they will open a ticket about a report that ran so fast they didn't think it completed correctly."

For Secure-24, attracting challenging customers like Kraton, who now entrust their business operations to a managed service model, is the propellant for continuing growth. But the impact of using Pure Storage solutions goes well beyond better-performing applications.

High on McIsaac's list of benefits is the ease of managing Pure Storage arrays — to the point that Secure-24 no longer has dedicated storage administrators; that headcount has been reallocated to the company's virtualization team, because managing Pure Storage systems "is just so simple."

One aspect of Secure-24's business especially impacted by Pure Storage is the reduced complexity of hosting applications for so many customers with differing needs. McIsaac notes, "It's complex to have such a diverse set of application workloads with widely different characteristics for each customer. In the past we had to customize and fine-tune every single aspect of the storage environment custom for each customer. With Pure Storage, that all goes away. And that's a huge benefit."

Secure-24 also benefits from ongoing operational cost savings, such as rack space and energy consumption, by replacing six cabinets on average of spinning disks with two compact Pure Storage FlashArrays.

> "It's been a very long time since anyone has seen an infrastructure component that has had the large impact on application performance that flash memory has."

SCOTT MCISAAC,
CHIEF INFORMATION OFFICER

More Pure Storage Equals More Happy Customers

The ultimate proof of Pure Storage's impact on Secure-24 is the expanding base of satisfied customers capitalizing on the multi-faceted benefits of flash storage.

"We have an e-mail from one of our customers," McIsaac says, "and the subject line simply says 'Wow!' There's an MRP report they run regularly on JD Edwards that always took six hours to run. We did nothing other than move the SQL database supporting the report to Pure Storage, and it ran in a half-hour."

About the Customer

All Aboard America chooses Pure Storage® as the foundation for a central data center supporting the company's growth ambitions.

www.aaahinc.com

Geo

North America

Industry

Transportation

Use Cases

Accelerate core applications

All Aboard America Drives Growth with Scalable Storage

Summary: All Aboard America Holdings Inc. adopted FlashArray™ to serve as the foundation for all user and IT workloads. While gaining high scalability and performance, the storage requires little maintenance, helping the IT team take on more as the business grows. Pure Evergreen//Forever™ further supports growth with predictable costs and non-disruptive data center upgrades.

Challenges: Ahead of a planned expansion period, All Aboard America Holdings Inc. needed to consolidate several smaller data centers serving multiple groups into a single, centralized solution.

> "To date, FlashArray has not caused me a single headache. I tell people that I'm spoiled because Pure makes my life so easy."
>
> **ERIC CORNWELL,**
> SENIOR NETWORK ENGINEER,
> ALL ABOARD AMERICA

Results:

Business Transformation

- Flexibility to support 2x organizational growth
- Supports all users and IT workloads across the business
- Adapts storage investment to business' changing needs

IT Transformation

- No disruptions or downtime during controller upgrades
- Turn on new software features as needed without disruption
- IT staff gain peace of mind in storage environment

DELTA

About the Customer

Delta Air Lines invested in IT modernization with Pure Storage® FlashStack® and FlashBlade® for on-premises cloud, new data protection schema, and non-disruptive upgrades from Evergreen//Forever™.

www.delta.com

Geo

North America

Industry

Aviation

Use Cases

Accelerate core applications

Modernize data protection

Delta Flies High with Pure Data Foundation

Summary: Headquartered in Atlanta, Delta serves nearly 200 million people every year. Delta saw an opportunity in 2020 to improve customer and employee experience by accelerating cloud migration and updating applications with Pure Storage as its data foundation.

Challenges: During the pandemic, Delta needed to do more than contain costs. It needed to be more agile to meet the challenges of the times. Agility would require investment in modern IT infrastructure, business processes, and both employee and customer experience.

> "I don't see Pure as just a storage company. It's the foundation of our hybrid cloud."
>
> **RENE LOPEZ,**
> MANAGING DIRECTOR INFRASTRUCTURE, DELTA AIR LINES

Results:

Business Transformation

- Contained costs while investing in innovation to increase resilience and agility required to thrive in turbulent times

- Increased customer confidence with specialty apps for COVID era travelers and modern data protections

- Ensured system availability through lead up to busiest time of year by using Evergreen// Forever for non-disruptive upgrades

IT Transformation

- Establishes Pure as the data foundation of the Delta hybrid cloud

- Ensures data protection with FlashStack and partner Cohesity

- Upgraded 30 arrays in less than 30 days with no disruption, building confidence in upgrade process

TRANSPORTATION

NES

About the Customer

Nashville Electric Service (NES) provides safe, reliable, and affordable power to over 430,000 customers across 700 square miles of Middle Tennessee. Founded in 1939, NES is one of the country's largest utilities, and continues to grow every year.

www.nespower.com

Geo

North America

Industry

State and Local Government

Solution Area

Accelerate core applications
Modernize data protection
Enable Multi-Cloud

Pure Storage® Products in Use

FlashArray//X™
FlashBlade//S™
FlashRecover//S™
FlashStack®
Evergreen//Forever™
Purity ActiveCluster™
Pure1®

NES Powers Sustainable Progress in Tennessee

Stacy Mill was still in the honeymoon phase of her new role as vice president of IT and chief information security officer when she unexpectedly received a $1 million maintenance bill from NES' legacy storage vendor. She had less than 45 days to either come up with the money or look for a new solution altogether.

After diligently evaluating and comparing several storage options, Mill's team recommended Pure Storage. Now, NES has a simpler yet more powerful storage infrastructure that cost-effectively and energy-efficiently boosts disaster recovery and data protection capabilities—all while scaling to support future growth.

> "Our IT transformation is aligned with—not at the expense of— our environmental responsibilities. With Pure Storage, we are leading our community down a greener path to a sustainable future."
>
> **STACY MILL,**
> CISO, NASHVILLE ELECTRIC SERVICE

Impact on Nashville Electric Service

 Delivers power to growing customer base dependably and affordably

 Establishes foundation for a sustainable future with safe, reliable energy

 Lowers energy costs and eliminates storage re-buys to reduce overall TCO

> "The promise of storage simplicity was hard to believe, but with Pure Storage, everything from the data migration and deployment to daily management and upgrades really is uncomplicated."

CHRIS BEEGLE,
DIRECTOR OF INFRASTRUCTURE,
NASHVILLE ELECTRIC SERVICE

No More Lights Out

NES is a mainstay of Nashville and surrounding areas. In recent years, it has literally weathered tornadoes, windstorms, and a derecho—which cumulatively knocked out power for more than 300,000 people—in addition to providing pandemic relief and financial assistance to residential and commercial customers in need.

It was this strong sense of community stewardship that attracted Mill to NES, and it extends into her role as a leader. She joined NES following a four-day IT outage years prior that disrupted operations to the point where critical functions were being managed with pen and paper. This historic event, coupled with her shock at receiving the $1 million storage maintenance bill, spurred her to quick action.

"Our customers do not have a choice when it comes to power—NES is the only option," says Mill. "For us to deliver reliable, cost-effective services, we need to have reliable, cost-effective technology. And there's no storage around that's worth a million dollars in maintenance."

Building a Best-in-Class Digital Infrastructure

NES decided to invest in Pure Storage, which underpins a $20 million IT infrastructure transformation. In addition to cost-effectiveness, longevity, and the promise of non-disruptive upgrades, the team was drawn to FlashRecover//S, the seamless integration between Pure Storage's FlashBlade//S and DataProtect software from Cohesity.

"As the foundation for our modernized backup and recovery strategy, FlashBlade//S aligns with our long-term technology roadmap," says Chris Beegle, director of infrastructure. "We now have confidence in our ability to restore and recover almost instantly if disaster strikes again."

As the backup target, FlashRecover//S provides the capacity and performance needed to quickly recover at scale. Built-in, immutable SafeMode™ Snapshots provide an extra level of protection in the event of a ransomware attack. Purity ActiveCluster™, paired with VMware vSphere Metro Storage Cluster, adds data resiliency, maintaining uptime if one site fails.

NES uses FlashStack from Pure Storage and Cisco as its underlying hybrid cloud infrastructure. The organization's VMware virtualized environment runs on FlashArray//X and includes more than 600 line-of-business, catastrophic operations, and field workforce management applications. Pure1 provides management oversight of the entire storage footprint, with integrated VM analytics for end-to-end visibility of the VMware environment.

"The promise of storage simplicity was hard to believe, but with Pure Storage, everything from the data migration and deployment to daily management and upgrades really is uncomplicated," says Beegle. "This has been especially important for the IT team to regain the trust of internal stakeholders who were impacted by IT disruptions in the past.

Challenges

Poor restore capabilities caused 4-day outage following a major windstorm

Time-consuming upgrades disrupted internal stakeholders, slowing projects

Legacy storage vendor required $1M+ to maintain aging infrastructure

Results

Improves business continuity and restore times in disaster events

Cuts weeks off upgrade time and reduces storage rack space by 75%

Modernizes and scales as needed, eliminating storage complexity

Energizing the Energy Sector

Indeed, upgrades on the previous storage caused weeks of downtime. The Pure Storage® Evergreen//Forever™ subscription simplifies everything from integration to storage management to upgrades—without disruption or the need to re-buy storage. "Instead of holding our collective breaths and hoping for the best, Evergreen//Forever lets us upgrade, expand, and innovate continuously and with confidence," says Beegle.

Sustainable innovation is also top of mind for NES—from introducing Nashville's first community solar array, to enabling customers to purchase renewable energy to mitigating its greenhouse gas emissions to become carbon neutral by 2050. In fact, one of its key goals is to educate customers on how to save energy and lower their bills.

"Our IT transformation is aligned with—not at the expense of—our environmental responsibilities," says Mill. "With Pure Storage, we are leading our community down a greener path to a sustainable future." NES has replaced

multiple storage racks with just one from Pure Storage, significantly reducing its data center footprint, power and cooling requirements, and associated emissions.

Powering Future Progress

With a powerful, stable, and sustainable data architecture in place, Mill and her team are confident they can weather any storm to provide top-notch service to their customers. This peace of mind extends to the rest of the NES executive leadership team, who have greenlit new projects that will add even more efficiency to IT operations. This includes a cloud initiative called Encompass, which will support a suite of Oracle utilities management solutions running on FlashStack, as well as a data warehouse strategy.

"We work hard to earn the trust of our customers, both those we serve in the community and our colleagues within NES," says Mill. "With Pure Storage, we're able to build on these relationships by delivering services that exceed expectations and set ourselves up for sustainable growth."

SOUTHWEST GAS

About the Customer

Southwest Gas delivers natural gas services to more than two million customers across Arizona, Nevada, and parts of California. As a growing utility, it is committed to providing a sustainable energy future for customers, employees, and shareholders.

www.swgas.com

Geo

North America

Industry

Energy

Solution Area

Accelerate core applications

Pure Storage® Products in Use

FlashStack®

Evergreen//Forever™

Pure1®

Southwest Gas Puts Energy into IT Efficiency

Southwest Gas is a provider of essential energy for everyday life in the region, from heating water and warming homes to fueling indoor ranges and drying clothes. To support its commitment to reliable and safe service to customers, modern technology in the field and in the office is critical.

In the biggest IT project of its 90-year history, Southwest Gas replaced its legacy mainframes and underlying storage with FlashStack from Pure Storage and Cisco Systems. Key systems and infrastructure not only run sustainably, it also offers efficiency, reliability, and data protection benefits, which will serve generations to come.

"We are committed to serving our communities today and tomorrow, and that means investing in solutions that can scale with our business. With Pure, we can grow efficiently in every possible way."

ERIC VALENTINE,
MANAGER, PLATFORM SERVICES, SOUTHWEST GAS

Impact on Southwest Gas

Aligns technology investments to the company's long-term service goal

Provides uninterrupted delivery of natural gas services to customers

Ensures security and reliability of mission-critical customer management system

Challenges

Ensure systems scale to meet the growing customer and community needs

Enhance customer service while safeguarding customer data

Save energy and time

Results

Gains performance and data reduction rates of 4:1 in SAP HANA environment

Speeds service delivery, protects data in case of cyber attack

Cuts power costs, provisions storage in minutes, speeds patches by 50%

Seizing an Opportunity to Drive Efficiency

Eric Valentine doesn't shy away from challenges. "I've always enjoyed troubleshooting issues and making processes more efficient," says the manager of platform services for Southwest Gas. So, when it was time to replace the customer information system (CIS) in use for more than 25 years with SAP HANA, he immediately shifted into optimization mode.

"Everything we do is driven by our commitment to ensure our customers can rely on their natural gas service, safely and reliably," says Valentine. "This project allowed us to meet customer needs by modernizing our system and creating opportunities for scale. We also sought more ways to protect customer data and our systems from cyber threats. We always look to create efficiencies that will help us conserve energy and prevent unnecessary costs."

Service and Support that Stacks Up

Valentine deployed SAP HANA on FlashStack. "A cutting-edge platform like FlashStack delivers the speed and performance we need to run a modern CIS like SAP HANA," says Valentine. "Coupled with Pure's customer service and support, we are set up for long-term success."

Today, production workloads including Oracle, SQL Server, and MongoDB databases, as well as virtual desktop infrastructure (VDI) and supervisory control and data acquisition (SCADA), run on Pure. To protect against cyberthreats, Southwest Gas enabled Pure SafeMode™ and uses encryption at rest for replication between its primary and backup data centers. Compared to the company's legacy storage, FlashStack reduces space and power costs. And with an Evergreen//Forever subscription, the team has consolidated more workloads and capacity using less space.

Scaling to Serve the Community

Ease of visibility via Pure1 adds to IT team efficiency. They can now provision storage in minutes versus weeks and can complete patches 50% faster than before, freeing time to work on key virtualization initiatives. Southwest Gas is also achieving a data reduction rate of 4:1 in the SAP HANA environment.

"We are committed to serving our communities today and tomorrow, and that means investing in solutions that can scale with our business," says Valentine. "With Pure, we can grow efficiently in every possible way."

Helpful Resources

Customer-Facing Solution Assets

Audience	Asset Type and Title
Customer	Solution Brief: FlashStack Delivers Software-defined, Intelligent Hybrid Cloud Infrastructure
Customer	Infographic: Control the Data Center Chaos
Customer	Infographic: 10 Essential Reasons to Modernize Your Infrastructure with FlashStack
Customer	Analyst White Paper: Greener Data Centers with Sustainable FlashStack Software-defined Hybrid-cloud Infrastructure

Field and Channel Sales Tools

Audience	Asset Type and Title
Sales, Channel	Sales Guide: FlashStack Selling Guide
Sales, Channel	BDM Deck: FlashStack FY24 BDM Deck
Sales, Channel	BDM Deck: FlashStack Top 10 Differentiators, What Makes FlashStack Unique
Sales, Channel	BDM Deck: FlashStack Eliminates Common Pitfalls, Infrastructure Thought Leadership

Help and Support

Audience	Link
Sales, Channel	#ask-flashstack
Sales, Channel	FlashStack Cisco Validated Designs (CVDs)

Questions? Please reach out to Brian Ferrar, Pure Storage Solutions Marketing.

purestorage.com

800.379.PURE

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