



# Citrix and Pure Storage drive business transformation at Wilson Bank & Trust

Read how Pure Storage FlashArray together with Citrix XenDesktop helped reduce latencies from a range between 5 and 11 milliseconds to 1 millisecond or less.



*“Within 24 hours of the array arriving, we were running production applications on the Pure array.”*

— Mark duBarry, vice president and director of technology

#### **Business Transformation**

Employees throughout the company experience dramatically faster applications and information requests, improving workforce productivity. Customers visiting branch offices experience faster transactions. And the IT department is able to move ahead sooner on important new technology-enabled services.

#### **GEO**

North America

#### **Industry**

Financial Services

After it moved to a virtualized IT environment, performance on log-ins and critical applications became a persistent problem at Wilson Bank & Trust. The bank's legacy spinning-disk SAN simply couldn't meet the performance demands of its VDI deployment. With the assistance of system integrator Hogan Consulting Group, the latency problems were diagnosed in two hours. Hogan Consulting Group, with their long standing relationship with Citrix, suggested Pure Storage. Subsequently, a FlashArray from Pure Storage was installed and running within days. Since then, application and log-in performance problems have disappeared, storage management is vastly simplified, and new technology-enabled services for customers are being rolled out more quickly. Pure Storage's Citrix Ready verification proved to be an immense help in ensuring seamless integration.

#### **Wilson Bank & Trust's Investment in Pure Storage pays big dividends**

In 28 years of doing business, Wilson Bank & Trust has built a reputation for highquality customer service, consistent profitability and being at the forefront of applying new technology to improve financial products and services. “If we’re not first with a technology, then we are among the earliest adopters in our market,” says Mark duBarry, Vice President and Director of Technology for the bank, headquartered in Lebanon, Tennessee. “This is especially true for our storage infrastructure that plays an increasingly critical role in supporting the continual rollout of new applications and customer services.”

Demands on the IT department intensified after it virtualized its applications using Citrix XenDesktop in a VMware environment. Because the bank's legacy storage system suffered from latency issues that ranged from 5 to 11 ms, sluggish performance on key applications and lengthy log-in times plagued users throughout the company, and complaints from users came in from all levels. The source of this latency proved to be elusive until a solution was eventually found in Pure Storage, thanks to system integrator Hogan Consulting Group.

#### **Search for a solution has many dead-ends**

The bank had its 425 employees on Citrix for about a year, but duBarry says “it wasn’t as robust as we thought it should be. We kept trying to find out how to make it run faster. We made some progress, but it was not sufficient.”

In a worst case scenario, log-in times could take as long as 30 minutes, particularly during morning bootstorms, and opening Microsoft Outlook could take up to 10 minutes. Frustrated users would make a bad situation even worse by restarting applications or rebooting their computers in an effort to “solve” these productivity-killing delays.



**Company:**

Wilson Bank & Trust  
[www.wilsonbank.com](http://www.wilsonbank.com)

**Use Case:**

- Database – Microsoft SQL Server
- VSI – Citrix XenServer
- VDI – Citrix XenDesktop

**Challenges:**

- High latencies causing unacceptable delays in many key applications
- Could not pinpoint the problem source and therefore the solution

**IT Transformation:**

- Latencies slashed by up to 90%
- Performance problems disappear from key applications
- Vastly fewer help-desk calls

"Applications response times are better and Citrix log-ins are quicker. Pure magically made everything work better."

- Mark duBarry, vice president and director of technology

"We kept asking ourselves 'Why are we having this problem? Where could it be?'" duBarry says. "We looked at the latencies on our legacy SAN and they were running between 5 and 11 milliseconds, which is not really too bad for a SAN. We talked to a local system integrator; they couldn't find anything wrong. We talked to Citrix, and they didn't see anything that was wrong."

duBarry finally took matters into his own hands and Googled "what companies can help me with Citrix performance on VMware?" Hogan Consulting Group came up as one of the top results.

**System Integrator quickly finds the problem... and has a solution**

duBarry called Hogan, headquartered in Chesterton, Indiana, and described his problem. Garrett Buck was assigned to the case, and the next day he had an engineer working remotely with Wilson Bank. "Within two hours he had zeroed in on the problem," duBarry reports. "It was the latency on the SAN. The Hogan engineer said spinning-disk storage would not be able to deliver the required performance, and recommended an all-flash solution from Pure Storage."

"I knew solid-state storage is in the vanguard of technical development, but the problems we were having warranted consideration for flash arrays," duBarry notes. "Performance problems were affecting customer service; they were affecting morale."

The Hogan Group's quick action impressed duBarry. "They were very responsive to our needs. We had a proposal in our hands within a day. I got the quote, which included a duplicate array at our disaster-recovery site. I took it to our CEO and to the Finance Committee of the board the next day. And they approved our request."

The approval process was made easier because duBarry had checked three references from existing Pure customers, all of whom were very enthusiastic about the product. "One IT executive told me, 'You want to talk about Pure arrays? I can talk to you for hours about them. Ironically, they're the most boring product ever. You'll never have to do anything to them.'"

Also making the purchase decision easier was the offer Buck made for a 30-day "love it or leave it" trial, during which the bank could return the Pure array without cost.

**Quick installation eliminates problems in 24 hours**

Once duBarry had signed the contract for the Pure arrays, he expected it would take a month to install the solution. "But Garrett got it here in three days. The next morning, two people from Pure showed up and had it installed and configured by lunchtime. I was amazed how fast and easy it was to put into place. Within 24 hours of the array arriving, we were running production applications on the Pure."

The impact was immediate.



"It really is as simple and easy as everyone said. You don't have to do anything. It just works!"

- Mark duBarry, vice president and director of technology

"The simple act of putting our data on Pure made a major improvement in our network performance," duBarry says. "Response times for applications like loans, deposits and payments were much faster and log-in times dropped dramatically."

What duBarry learned from the process was that the bank's legacy spinning-disk SAN was simply not fast enough for Citrix. "It couldn't handle that much information fast enough.." Latencies that used to range between 5 and 11 milliseconds have been collapsed to 1 millisecond or less. And SQL Server databases are running smoother and faster.

The overnight improvements in performance across the bank have had a significant impact. "Our help-desk calls are down dramatically. And in the branch offices, employees are getting their work done faster and customers are completing their transactions much faster."

### **Enhanced storage improves life in it**

Improvements also have been noted in the IT department. The de-duplication and data-reduction features of Pure are delivering data compression ratios as high as 5:1, which duBarry says is far in excess of what was achieved on the legacy SAN.

"That makes our storage environment much larger, faster and more cost-efficient. It also means we are able to move ahead without delay when we want to roll out a new product or service to our customers because we're assured we'll have the capacity."

In addition, failover testing for the disaster recovery site is "a lot cleaner and quicker than it used to be," duBarry reports. "And not having to deal with all the traditional SAN configuration requirements is a real plus. That's all gone away because Pure is so simple and easy to manage. Even the simplest action, like copying a file, is much faster than it used to be."

An unexpected benefit has been the use of the Pure flash arrays as a troubleshooting system. Resolving the performance problems caused by storage latencies "pulled back the curtain" on the bank's systems and "allowed us to see some issues we were having that we could now address."

Having spoken with Pure customers as part of his due diligence, duBarry says he expected the Pure system to be easy to manage. "But it's still amazing; it really is as simple and easy as everyone said. You don't have to do anything."

He also praises the support he receives. "The Pure team has been just fabulous; they're always right there when we need them. The same is true of the Hogan Group. Together, they have really made a huge difference in the effectiveness of our operations."



To learn more on how you can benefit from Citrix and Pure Storage partnering on VDI solutions, please visit: <http://www.purestorage.com/solutions/vdi/>

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