

Streamlining and Simplifying IT Infrastructure with Nutanix

by Ryan Arnold

Paperwork is a hassle, and very few people like doing it. That being said, it's a necessary evil. But, sometimes, those of us who help others with paperwork need a little help of our own.

I'm Ryan Arnold, IT Director for [Acumen Fiscal Agent](#). As a fiscal agent, we provide payroll and other fiscal services to our clients, who are people living with disabilities. Let's say you have a disability, you receive money from the state for your care, and you want to hire someone to do that. Where do you start with the paperwork involved? That is where Acumen comes in. We take care of all the paperwork: the timecards, the payroll processing, and the reporting to the state, to name just a few.

I started with Acumen in 2012 as a help desk technician and worked my way up to IT director. Just around the time I stepped into my new role, we embarked on an overhaul of our IT infrastructure. It was absolutely necessary because our cumbersome tech was starting to weigh us down. It's also an ongoing project, as we face the new realities of work during a global health crisis.

Reaching the Breaking Point with End-of-Life Solutions

We were running traditional three-tier architecture, with VMware as our hypervisor. Among the reasons for our overhaul was that all of our existing solutions were coming to the end of their life and support cycle—in our case, the seven-year cycle of many Dell products. Additionally, VMware was getting prohibitively expensive.

With a limited staff, it becomes very hard to manage disparate solutions and bounce between different consoles—each of which uses different metrics. #NutanixStories

Our existing systems were also cumbersome and difficult to manage. We are a smaller shop, with eight help desk employees and four employees on the network infrastructure side. We also manage the IT for Acumen's sister company, so our existing human resources are split between two companies. In short, we don't have a person dedicated to just storage or just networking.

With limited staff, it becomes very hard to manage these disparate solutions and bounce between different consoles—each of which uses different metrics. Updating software was disruptive, which meant it had to be done in off-hours, sometimes on weekends. We had no reporting capabilities and couldn't scale.

Then, when we ran into performance issues, the troubleshooting process was time-consuming and tedious. If we had a slow VM, for example, we would have to log on to VMware to make

sure everything was okay, and then we would do the same with our SAN software. After that, we would check on the network switch. Then we would have to call support and that's when finger-pointing would sometimes begin: The VMware team would point a finger at the storage team, and vice versa.

It would take hours to troubleshoot a simple issue because we had to schedule a call with both VMware and storage on the line so they could iron out a solution between them. In hindsight, that was entirely unnecessary.

On top of that, we were using a single server just for file sharing, which meant there was a single point of failure. If that server went offline for any reason, everyone's files were unavailable.

Searching for That All-in-One Solution

A colleague and I stumbled across [Nutanix](#) at Microsoft Ignite. I was the infrastructure manager at the time, and the more we researched solutions, two rose to the top: Nutanix and SimpliVity. What pushed us toward Nutanix in the end was its built-in hypervisor. It meant we could get rid of the expensive, separate VMware licenses and use Nutanix's [native hypervisor](#) instead. In 2017 we finally purchased their solution.

With Nutanix, not only would it be built into our management plane, but we have a three server (node) configuration which allows us to update without affecting anyone and we'd gain failover capability in case we lost one of the servers.

On top of business continuity, Nutanix's [Files](#) solution would be the answer to our file unavailability issues. Files' reporting was impressive. We'd be able to see all sorts of file analytics on the number of files, performance of latency, and IOPS, but that would just be the cherry on top. For auditing purposes, the most important thing is being able to see who did what, and when. We knew Files would give us that ability, and since everything was built into the same solution, it meant we'd only call only one support number for any issue we would have.

Once we decided to move forward with the entire Nutanix suite, deployment was painless. We worked closely with Nutanix since we were new to the platform. They guided us through the process and we followed their best practices.

Some advice for anyone considering this: Don't assume you know everything. It's better to validate your configuration with your Nutanix SRE to make the deployment as seamless as possible. The process itself is very easy once you're sure you have the right configuration, because [Prism Element](#), the central access point for administering virtual environments, will build all the file servers for you. Then it's just a matter of creating new shares and migrating the data.

Easy to Manage and Recover—Even for Employees Outside IT

We knew going into this that we also wanted built-in DR functionality. Our DR previously consisted of VMware and, apart from the money we wanted to save in licensing, our physical-to-physical replication was slow. If we wanted to do a test, it took at least a couple of hours to spin up all those VMs and make sure all our scripts were running.

With @Nutanix's built-in disaster recovery features, spinning up three terabytes takes minutes, not hours. #NutanixStories

With Nutanix's built-in DR, we can spin up three terabytes in a couple minutes, rather than hours. With Nutanix, we can also take snapshots of the cluster every 15 minutes.

Nutanix is incredibly easy to use, because anyone can log in through their HTML5 browser or any other device. I can sit in bed with my iPad, log into the portal over our VPN, and see everything through Nutanix Prism. The ease of use is far better than what VMware provided, since everything is integrated right there in Prism Central. I don't have to jump into a different console just for DR.

Enabling a Fast Response During a Time of Crisis

We are now in the process of deploying [Nutanix Frame](#)—Nutanix's VDI solution—in a response to the immediate need to enable remote work. Previously, only about 10% of our workforce, those who worked out-of-state, had this capability. We had a simple RDP deployment for them to log on and use some of our applications. The other 90% of employees worked from our corporate office.

When it dawned on us that everyone would soon need to work from home, we immediately saw that we didn't have the right infrastructure to support an entirely work-from-home workforce. Our cluster couldn't handle the extra workload of everyone using that RDP. I told our operations team that we could manage this transition, but we would need a new cluster to run Nutanix Frame. That request was very quickly approved.

We are now in the third week of deploying Frame. Currently, we have about 95% of our employees working remotely, which is around 180 people. Frame has built-in information management, which improves both our backup and reporting capabilities.

The deployment is ongoing, but it's been extremely fast, and the way it works with Nutanix is tremendous. Since Frame is native to Nutanix, it works well with all other solutions, including Files. Employees can access Files from their Frame VDI. To date, we have had zero availability or performance issues.

A Streamlined Business Saves Money and Weekends

Through Nutanix, we were able to streamline and simplify our business. It's not that using Files or Frame changes anything on the front end for our customers, but when I hear the feedback from Acumen employees, I know that it ultimately improves customer experience.

Every once in a while, in every work environment, someone accidentally deletes a file. Previously at Acumen, they would have had to submit a ticket to IT, and we would have to manually go into our backup software to look for the time and date to which they wanted the file restored. The employee would then have to wait an hour or two, depending on what else IT had on their plate. Now, that same employee can self-service restore in Files in a few minutes, which gives them more time to help our clients.

You can't put a dollar figure on giving your IT team back their weekends, but you can talk hard numbers on saved licensing fees. #NutanixStories

That self-service restore represents one less ticket for the IT help desk, too. We are saving time spent on tickets, but even more so, we are saving time on maintenance. With the all-in-one dashboard, upgrading a cluster is as easy as the touch of a button on an iPad. It's done wonders for our after-hours support and maintenance.

It can be hard sometimes to convince upper management that the initial outlay for a solution will be worth it. The truth is, you can't put a dollar figure on giving your IT team back their weekends. It's easier to talk hard numbers about what we are saving from not having VMware, VMware SRM, and all our old storage and network contracts. All told, we are saving between \$70,000 and \$80,000 a year by switching to Nutanix.

Nutanix Supports Us for the Future of Work

As we continue our Frame deployment, I'm confident we've chosen the right solution and the right partner. On any issue we have had to troubleshoot with Nutanix support, they escalate the call until it's fixed. Recently, we ran into an issue and Nutanix stayed on the call for several hours to find and fix the bug. There's a reason Nutanix has a high Net Promoter Score for support. But, more than what Nutanix has helped us do in the past, I'm excited by the future.

Businesses have been forced to facilitate remote work, and some of them may return to the in-office experience. But I think that remote work is going to be the way of the not-so-distant future, with more and more people splitting the workweek between home and the office.

Whatever hybrid form it takes, I'm happy that Files enables us to streamline document management and reporting, and that Frame prepares us for whatever comes next—so we can keep our focus on helping our people who need it the most.