



From Desktop Computing to Autonomous Enterprise Environment with Nutanix

by Daniel Caban

At some organizations, the IT department is the equivalent of a small tech shop. They operate on a small scale, troubleshooting problems, repairing computers, and helping when the internet goes down. But these IT departments are far from proactive, and they're often so small that they don't have the bandwidth to future-proof an organization's systems and storage capabilities. When new technology enters into this kind of environment, the IT infrastructure can be quickly overwhelmed.

The IT department of the [Osceola County Sheriff's Office](#) used to be such a department. Now, we're an enterprise environment. I'm going to tell you the story of how our IT department not only figured out how to accommodate new technology, but overhauled our system altogether.

New technology can overwhelm an organization that is behind the times in its systems and storage capabilities. #NutanixStories

My career began here back in 2007. I was just out of college and found the Osceola County Sheriff's Office to be a great workplace, full of wonderful people. After nearly five years, however, I decided it was time to expand my knowledge and grow my career. In the years that followed, I worked for the Department of Defense, a healthcare company, and a financial services company, and a cloud computing company, among others.

Years later, a former colleague reached out and asked to meet me for lunch. He'd been a deputy when I worked for the sheriff's office back in 2007, and was recently elected as Sheriff. It turns out he had followed my career over the years and created a position of CIO at the sheriff's office with me in mind. Would I take the job?

This was exactly where I wanted my career to go. By that point I had my master's degree, and the next logical step would be to go into an executive management role. Going back to the sheriff's office also meant I would have the funding and the power I didn't have before, and would allow me the

opportunity to take great ideas and projects and turn them into reality. There was no question in my mind accepting this position was the right thing to do.

The Importance of Autonomy

Prior to my return, the sheriff's department ran a very small virtual environment. Osceola County managed our server infrastructure and network. This resulted in a lot of problems, because that bureaucracy involved a lot of red tape. Any time the IT department needed to build a server for a new application or service, it had to go through the county. The process involved a lot of paperwork and a lot of people. As a result, projects would take weeks, months, or sometimes even years to complete.

Just before I came back, the now-IT manager proposed that the department consider a solution that would bring that power and control into the sheriff's office. They looked at VMware vSAN and other SAN environments, but ultimately landed on [Nutanix](#) due to its affordability and simplicity. When I joined three years ago, they had just begun operating a three-node [Nutanix](#) cluster on Hyper-V.

At that point, I didn't know much about Nutanix. My personal strong suit was VMware, so when I rejoined the department, I was inclined to default to that. However, my IT team members convinced me to stick with Nutanix and I took it upon myself to learn the ins and outs of the platform.

I immediately experienced that Nutanix is very intuitive and easy to use. We did some initial fine-tuning when we built out the VMware infrastructure on Nutanix, but after that first day, it has been "set it and forget it." We haven't made any changes to our storage since. It's been flawless, and it gives us the flexibility to increase our performance and capacity as needed, with just a couple of clicks.

A solid infrastructure foundation allows organizations to accomplish a lot with what they already have. #NutanixStories

At the time, Nutanix did not offer the network segmentation pieces that were required for our FBI criminal justice information systems compliance. We did lean on VMware for that micro-segmentation, but we are able to run that on top of Nutanix seamlessly. It was here that I started to understand how great of a foundation Nutanix is. It offers a solid infrastructure to build upon. I saw the need for a lot of in-house improvements that could be easily accomplished with what we already had, thanks to that foundation.

The Digital Frontier of Evidence Management

Currently we are using VMware vSphere on Nutanix, and we have just purchased [Nutanix Files](#) for file sharing.

Once our department started using body cams, we needed a solution that could manage these files easily. Single files can be very large, and in some cases we may be required to keep that footage for decades. Our storage needs will grow exponentially, which is why we required a cloud solution.

I researched other products, but nothing else came close to the additional analytics and functionality of Nutanix Files. You can quickly see the type of file and its size as well as who's accessing it. This type of information has been a big help in managing all of this footage and controlling access to the data.

We also use Nutanix for the storage associated with the management of evidence. Our evidence system has now gone digital. Of course, we will always have physical evidence, and the system tracks who logged that evidence and who accesses it. But today, we have to manage a growing amount of digital evidence, including phone records, audio files, or footage from personal and/or professional security cameras. Instead of sending these files via DVD or USB keys, we now have a solution that allows a deputy to access any file on their laptop. It also logs who has accessed those files through the system.

Modern Infrastructure for a Modern Operation

Since I rejoined the sheriff's office, I have seen our IT department change tremendously. Our staff has more than doubled, going from a team of five to a team of 12 people. During that time, we have also increased our Nutanix environment from three to 14 nodes. We went from Hyper-V to VMware on Nutanix and started flexing our muscles by building our own servers, experimenting with VDI, and enhancing our network security.

Nutanix gave us the ability to grow as an agency. We can add applications ourselves and try new things quickly, instead of being managed by the county. We've not only brought body cam footage in house, but we've grown our evidence management system and expanded into virtual interview rooms. We now have a solution where we can record everything from those interview rooms ourselves and play that video for deputies who want to review cases.

By virtualizing everything, we have next to no downtime whenever we perform maintenance. Our line of work requires this department to be a 24/7/365 operation. Our 911 call center also belongs to the

sheriff's office, along with other critical functions that cannot be interrupted.

Before Nutanix, there were times where we'd perform an upgrade and it wouldn't work, or it required a multi-hour fix, which we couldn't afford, adding complexity to day-2 infrastructure operations.

A key performance indicator for us is that Nutanix Life Cycle Manager (LCM) enables one-click, non-disruptive upgrades of software and firmware, and with that, we can keep those critical applications, services, and personnel up and running. With Nutanix we know we can count on everything to work the first time, every time.

Coming Full Circle

One of my main priorities at the sheriff's office is to keep our technology aligned with our forward-thinking strategy. We don't want to be static or left behind. As a government agency, we are limited in some ways, but I know that we've become as cutting-edge as we can be.

Early in my career, I had all these dreams and ideas that I've now been able to bring to fruition. I like to try new things and I'm not afraid of risk. Nutanix didn't end up being a big risk, but we did reap big rewards. Technology is now at the forefront at the sheriff's office, and that in turn helps us better serve our community.