

Nutanix Acropolis Hypervisor
Simplifies Management and
Slashes Licensing Costs

Texas A&M University System Graduates to Nutanix



THE TEXAS A&M
UNIVERSITY SYSTEM

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The Texas A&M University System is one of the largest higher education systems in the nation, with an annual budget of over \$4.2 billion. Through a statewide network of 11 universities, seven state agencies, two service units, and a comprehensive health science center, the system educates more than 140,000 students and makes more than 22 million additional educational contacts through service and outreach programs each year.

The Information Technology Services team (ITS) team of The Texas A&M University System Offices supports approximately 350 personnel, including the Office of The Chancellor and Office of The Board of Regents. "Our team engineers, implements, and maintains the IT systems for the headquarter offices of the A&M System, including operational support for some applications used across the A&M System," explained Cary Tschirhart, IT Manager and Information Security Officer for The Texas A&M University System Offices. "I am responsible for maintaining data confidentiality, integrity, and availability through data storage, backup, and recovery, and ensuring that we are in compliance with all Federal, State, and local government rules and regulations."

LIFE BEFORE NUTANIX

"I started working here in 2007," recalled Jason Olivarez, Senior Systems Administrator for the System Offices' ITS department. "At that time, nothing had been virtualized yet. We had multiple racks of physical servers providing all of our critical business services. One of the first things I did was to convert all of those servers into a virtual environment. We tried multiple storage systems but kept running into performance and reliability issues. The engineers would come out and bring us dozens of 25-page troubleshooting and technical documents to read, and provide links to numerous instructional videos, hoping we could find answers to our problems in all of that documentation. We spent hours and hours trying to troubleshoot the problems but could never get it to do what the sales rep said it would do."

DISCOVERING NUTANIX

Tschirhart and the ITS team made the decision to switch from a competitor's storage system to Nutanix in 2012. "Our department had just been downsized from seven employees to three," Olivarez shared. "As a result, we could no longer afford to have an admin dedicated to just managing the competitor's SAN and making sure our LUNs were balanced. Luckily Nutanix was brought to our attention by a former employee and we became one of their first customers. With the simplicity of the Xtreme Computing platform, we can easily manage all of our systems with our smaller IT team."

The ITS team was able to quickly deploy the new Nutanix system. "We unboxed the NX-2000, racked it, and turned it on," Olivarez said. "15 minutes later, we were in production. The rest of the time the Nutanix technician was showing us the console and explaining what it could do. The whole deployment process was amazingly fast and easy."

"Nutanix is enabling us to keep up with our fast growth rate with a very small IT team. This would not have been possible if we hadn't migrated to Nutanix and the Acropolis Hypervisor."

– Cary Tschirhart, Manager and ISO,
Information Technology Services,
Texas A&M University System

NUTANIX™

MANAGEMENT SIMPLICITY

All System Offices' servers are now running on Nutanix, including file servers and MS SQL Server databases, in addition to some critical system-wide applications for payroll, HR, accounting, and other applications that were developed in-house. The IT team also implemented Microsoft Exchange on XCP for hundreds of end users. "We were always hesitant about virtualizing Exchange before Nutanix, because the SAN we were using was not up to our standards," Olivarez explained. "I couldn't even tell that Exchange was running in a virtual environment on Nutanix, it was that seamless."

The IT team has now moved all workloads over to Nutanix. "Once I saw how well the systems worked for our critical workloads, I experienced an immediate, 'light at the end of the tunnel' moment," noted Olivarez. "I'm one of two system administrators here, and keeping up with all of the old systems was a full time job. With Nutanix, I don't have to worry about LUNs anymore. I can just create applications, put them online, and go home and relax at the end of the day."

COST SAVINGS

"In addition to Nutanix being so easy to use, the cost savings are huge for us," Tschirhart added. "It's not just the initial cost of the box. The biggest expense is the lost opportunity costs of our scarce resources—our IT people. There are a lot of valuable things our team should be doing, rather than babysitting the servers. With Nutanix, our team can now keep up with all of our support calls, and also work on more strategic issues involving security, and deploying new applications and services."

SIMPLIFYING MANAGEMENT WITH PRISM

The A&M System Offices is using Nutanix Prism to manage the new environment. "The competitor's platform has multiple consoles, and each window looks different since all of the solutions were branded by their previous owners," Tschirhart said. "Everything was under the same corporate 'umbrella', but we had to go to multiple screens to find all of the information we needed. With Nutanix Prism, everything is displayed in one intuitive console. That's a huge benefit for our team. Nutanix is really delivering on its promise of invisible infrastructure."

IMPROVING DATA PROTECTION AND DISASTER RECOVERY

"I serve as the Information Security Officer for all of the System Offices," noted Tschirhart. "With our second Nutanix system, we not only have off-site backup, we now have off-site replication. Before Nutanix, if we ever had to restore any lost data, we had to use the previous day's backups. With Nutanix, we now have the ability to go back in time every hour and it is continuously doing that. There are no extra steps needed to set backup schedules with Nutanix."

The A&M System Offices had been using a competitor's deduplication device for backups. "We had no duplication of hardware outside of our main location," Olivarez shared. "Everything was backed up to disk, and we sent the data off-site. If a disaster caused our server site to go down, it would have taken weeks or months to get everything back into production. Now if there ever is a disaster, all I have to do is turn on the VMs that have been replicated to the Nutanix at our off-site location, give them different IP addresses, and we're back in business. That's a huge leap in efficient disaster recovery and business continuity for our organization." Tschirhart added, "The RPO and RTO have been reduced to about an hour or less, and the documented DRP has been significantly simplified."

MOVING TO THE ACROPOLIS HYPERVISOR

The A&M System Offices upgraded its previous generation of Nutanix NX-series to the two NX-3000 systems in 2015, and also migrated from a competitor's virtual solution to the built-in Nutanix Acropolis Hypervisor (AHV). "The competitor was great back in 2008, but it has really lost its edge over other the hypervisor vendors," Olivarez said. "The whole concept of virtualization is to bring everything together to make things simpler. But the competitor likes to create or acquire a lot of new plug-ins that don't always work with the previous versions of their hypervisor. As a result, the complexity and the amount of work it took to keep that environment running was becoming a drain on our IT team. Moving away from the previous solution to AHV was a very positive move for our organization."

In addition to reducing management complexity, the migration from the competitor's hypervisor to AHV had another favorable financial impact for the A&M System Offices, according to Tschirhart. "With the competitor, we had to pay all of the expensive annual licensing costs. By using one of the two Nutanix systems off-site and moving to Acropolis, we were able to eliminate hypervisor licensing costs, the software to backup our virtual environment, and the off-site storage device. This is enabling us to save tens of thousands of dollars in ongoing expenses every year."

SEAMLESS UPGRADES

Seamless upgrades are another big advantage of the Nutanix platform, according to Olivarez. "Nutanix enables us to perform one-click upgrades," he explained. "When we were only using physical servers, upgrades were less complex. We could do maintenance on one server without impacting anything else. When we decided to go virtual, everything was stuck on this one big SAN. So whenever we needed to do a firmware upgrade on that SAN, all of the virtual machines had to go offline. Now when we update our Nutanix hardware with the latest OS, the other Nutanix nodes in the cluster pick up and continue all of our services. I just click 'go' and an hour later, all of our hardware is up to date. I don't have to worry about scheduling additional time to update my infrastructure anymore."

SMALLER FOOTPRINT

"As part of our initial virtualization project, we went from four fully loaded racks of servers down to one rack of VM host servers and a SAN. This resulted in a dramatic savings in both equipment upkeep and power usage," Olivarez explained. "Thanks to Nutanix, I have taken those cost savings and stretched them even further. All of our VMs now fit in just one 2U appliance. As a result, our power and cooling needs are much lower. What started at over 20kVA of power, I can now accomplish in under 1.5kVA. We have three in-line air-conditioning units that were designed to cool around 60,000 BTU. Now, the units are in standby and the building air-conditioning keeps the room sufficiently cooled. We could probably just place the 2U Nutanix system in our office, as far as cooling goes."

EXPANDING TO OTHER TEXAS A&M AGENCIES

"Our IT team supports the headquarter offices of The Texas A&M University System," noted Olivarez. "The System Offices supports twenty-one members of the A&M System. After seeing how simple our environment is, some of our members have already purchased Nutanix products. I am now helping those members plan and deploy their rollouts."

"We currently have approximately 80 servers, and data grows about 25% each year," concluded Tschirhart. "Since I've been here, we've grown from 600GB to 20TB. Nutanix has unlimited scalability and is enabling us to keep up with our fast growth rate with a very small IT team. This would not have been possible if we hadn't migrated to Nutanix and the Acropolis Hypervisor."



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Industry

Higher Education

Business Needs

Existing storage platform was difficult to manage and troubleshoot. Wanted to reduce hypervisor licensing costs.

Solution

Nutanix Xtreme Computing Platform

- › Nutanix Acropolis with the Acropolis Hypervisor (AHV)
- › Nutanix NX-2000 and NX-3000 series appliances
- › Nutanix Prism management solution

Benefits

- › Accelerated deployment time from hours to just 15 minutes
- › Eliminated tens of thousands of dollars per year for a competitor's hypervisor and hardware licensing
- › Reduced datacenter footprint from 4 fully loaded racks to just one 2U appliance
- › Simplified management with one unified console

Nutanix delivers invisible infrastructure for next-generation enterprise computing, elevating IT to focus on the applications and services that power their business. The company's software-driven Xtreme Computing Platform natively converges compute, virtualization and storage into a single solution to drive simplicity in the datacenter. Using Nutanix, customers benefit from predictable performance, linear scalability and cloud-like infrastructure consumption. Learn more at www.nutanix.com or follow us on [Twitter@nutanix](https://twitter.com/nutanix).

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