

Nutanix and Dell EMC Systems
Provide a High Performance,
Resilient, and Easily Managed
Platform for Campus-Wide
Applications and Service



Nutanix Enterprise Cloud Passes all Tests at Arizona State University

CHALLENGE

ASU had been relying on a traditional 3-tier storage and server environment, using NetApp MetroCluster storage systems, x86 servers, and the Citrix XenServer hypervisor. "Scheduling downtime and support on all of those different areas of hardware and software was very difficult," said Shaun Calvin, IT project manager and systems architect at Arizona State University. "Our on-line courses are accessed by students around the world, so our infrastructure must be available 24x7. As a result, we had to coordinate all of our maintenance windows with several different IT groups in order to minimize the impact on our end users."

In addition to upgrading its aging server and storage infrastructure, ASU also wanted to switch hypervisors from Citrix XenServer to Microsoft Hyper-V. "We originally chose XenServer eight years ago because it was an open source solution that would enable us to save on licensing costs," Calvin explained. "But since we now want to move some of our workloads and disaster recovery to the Microsoft Azure cloud, we decided it was time to move up to Hyper-V."

SOLUTION

ASU's IT team had two choices for the infrastructure refresh: they could keep the same technology platform and upgrade to newer NetApp storage systems, or switch to a hyperconverged platform. "We first heard about Nutanix when our Dell EMC rep suggested we attend the Nutanix .NEXT conference," Calvin said. "We liked the concept of the Nutanix hyperconverged platform, where we wouldn't have to schedule separate maintenance windows for our storage, server, and hypervisor infrastructure. Nutanix would enable us to manage everything as one group, with centralized control from the storage systems all of the way up to the VMs. That would greatly simplify things for our IT team."

ASU made the decision to purchase Nutanix Enterprise Cloud software with approximately 50 Dell EMC XC Series systems earlier this year. The University's IT team has already deployed 40 of the new systems, and another 10 will be put into production within the next few weeks. The Nutanix and Dell EMC systems are being used for all development, QA, and production workloads, including MS SharePoint, Active Directory, Exchange, SQL, Citrix XenDesktop, and numerous departmental applications.

ASU's IT team started the migration by moving the University's development and QA environments over to the Nutanix, Dell EMC, and Hyper-V environment. Once those workloads were in place, they started moving all departmental production servers and VDI workloads over to the hyperconverged environment.

"Nutanix is the ideal on-prem datacenter complement infrastructure for Microsoft Hyper-V and Azure, giving us cloud-like operations and an added level of flexibility of doing DR to the cloud. It will give us greater peace of mind going forward."

– Shaun Calvin, IT Project Manager and Systems Architect, Arizona State University

RESULTS

Higher Performance

"We started receiving a lot of compliments from our end users as soon as we migrated from NetApp to the Nutanix and Dell EMC infrastructure," Calvin reported. "Application performance improved across the board, and our outage windows and downtime dropped quite a bit as well."

ASU's IT team hosts numerous online media and instructional applications for the college's academic departments. "Our College of Engineering uses an on-line course application called Mediasite," Calvin shared. "We have to make sure that application is always up and running, because those classes are accessed by students around the world. Our faculty and students have been much happier with the performance and flexibility of that application on Nutanix. In addition, our College of Geography relies on several data-intensive space and planet mapping applications, so the high performance Nutanix software and Dell EMC solution was definitely a great choice for those applications as well."

Easier Management

By moving to Nutanix, Calvin no longer needs to coordinate software and hardware maintenance with other ASU IT teams. "We have a dedicated storage team, a dedicated hypervisor group, and a separate Windows team," explained Calvin. "Whenever we needed to do weekend maintenance on our previous 3-tier environment, we had to contact each of those groups and figure out when we could do the work together. In total, we needed 6-8 IT specialists on hand watching the upgrades, and the process took up to 8 hours. With Nutanix, just one admin can upgrade the entire environment—from the nodes to the hypervisor—in just an hour or two. So by moving from NetApp to Nutanix and Dell EMC, we've been able to reduce OpEx by nearly 24x. Not only does that save a lot of valuable IT time and operational budget, it's great that we don't have to rely on other IT departments' resources and availability for server and storage management anymore."

Better Visibility with Nutanix Prism

"The Nutanix Prism management solution is very intuitive," Calvin said. "It's easy to see how many resources we're utilizing, and how much capacity we're going to need in the next six months to a year so we can plan for additional purchases. Unlike our other infrastructure management tools, our admins can use Prism without attending any training classes. During our biweekly team meetings, we can bring up the Prism interface and show everyone what's going on in the environment, explain resource demand and usage, and let everyone know exactly when we'll be rolling out new nodes. The easy access to usage and performance statistics makes IT management much simpler and more efficient for our team."

NEXT STEPS

ASU is currently relying on-site disaster recovery, with two different replication endpoints for each Nutanix cluster. "We are now testing cloud-based DR using Microsoft Azure Site Recovery (ASR)," explained Calvin. "By using ASR, if we ever lose any of our datacenters on campus, we can just flip the switch and immediately start everything up in Azure. Nutanix is the ideal on-prem datacenter complement infrastructure for Microsoft Hyper-V and Azure, giving us cloud-like operations and an added level of flexibility of doing DR to the cloud. It will give us greater peace of mind going forward."



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COMPANY

Arizona State University (ASU) is a large, public research university with five campuses across the Phoenix metropolitan area and four regional learning centers located throughout Arizona.

INDUSTRY

Higher Education

BUSINESS NEEDS

Wanted to find a high performance, easily managed infrastructure solution for upcoming storage refresh.

SOLUTION

- › Nutanix Enterprise Cloud Platform
- › Dell EMC XC Series hyper-converged appliances
- › Nutanix Prism management solution
- › Microsoft Hyper-V
- › Citrix XenDesktop

BENEFITS

- › Eliminated the need to coordinate server and storage maintenance between IT groups
- › Reduced the number of admin hours spent on upgrades by 24x
- › Increased performance of all development workloads, on-line engineering classes, and space and planet mapping apps
- › Gained the flexibility to easily migrate VMs to Azure and back on-prem for DR

Nutanix makes infrastructure invisible, elevating IT to focus on the applications and services that power their business. The Nutanix enterprise cloud platform leverages web-scale engineering and consumer-grade design to natively converge compute, virtualization and storage into a resilient, software-defined solution with rich machine intelligence. The result is predictable performance, cloud-like infrastructure consumption, robust security, and seamless application mobility for a broad range of enterprise applications. Learn more at www.nutanix.com or follow us on [Twitter@nutanix](https://twitter.com/nutanix).

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