William Jessup University Achieves 94% Rack Space Reduction and Easy Scalability by Selecting Nutanix Converged Solution

Company Background

William Jessup University is a private Christian liberal arts college in Rocklin, California. Growing quickly with nearly 1,300 students and faculty, Jessup offers 19 graduate and undergraduate degrees including business, psychology, teaching, ministry, creative arts and biology.

Tired, Old Infrastructure

The servers and storage infrastructure at the college was strained after years of limited IT budgets. The college had 34 servers, 20 of which were virtualized with VMware and the rest were standalone physical servers. All the hardware was aging and some already was out of warranty. Memory capacity on the VMware hosts was over provisioned by 2x resulting in near constant ballooning issues. The processors in the hosts were mixed Intel and AMD and could not support failover using VMware HA (failover is not supported in a mixed processor environment). The primary storage system was a 10-year-old HP SAN with a single controller and only 2.5 TB of capacity.

The dramatic growth in student enrollment in the last couple of years meant more resources becoming available for IT – just in time to meet the surge in demand for more performance, capacity and a disaster recovery (DR) initiative.

Hybrid Storage or Nutanix Converged Solution?

The IT department wanted to upgrade storage and had narrowed down their choice between Nimble and Tegile hybrid flash storage systems. At this point they learned about the Nutanix converged compute and storage architecture and were intrigued, causing them to re-think. "I understood the converged concept as soon as I heard about it. It made complete sense to me. It made sense that this is the direction that computing in the datacenter is headed... in fact has been moving for some time." said Dan Dutcher, Systems Administrator for William Jessup University.

The IT team attended a Nutanix presentation and sat down with a representative to discuss the college's IT situation and requirements. The team realized the hybrid arrays that they had been considering could solve the storage capacity problem, but would not address the aging servers that needed to be replaced in the near future, nor provide any real disaster recovery capabilities.

Three Birds with One Nutanix

Nutanix, on the other hand, could solve all three issues at a price close to the storage-only proposals. Nutanix includes flash-based hybrid storage, so they would give up nothing on the storage side. Moreover, the integrated compute nodes would save an estimated $10,000 to $15,000 over separate server purchases. The convenient per-node scalability makes the system easy to use and expand. "We thought, 'Wow, this would be fantastic!'" said Dutcher.

> "I'm no longer nervous about the old hard drive SAN failing. With Nutanix in place, I feel like I have a good support structure if there is an issue... Having a single point of contact for compute and storage, having them proactively watch it – these things are very helpful to a small IT department like ours."
>
> - Dan Dutcher
>   Systems Administrator, William Jessup University

Industry

Higher Education

Business Needs

New server and storage infrastructure with greater storage capacity and performance to support fast growth in student enrollment and new academic programs. Support for disaster recovery was also critical.

Solution

The Nutanix Virtual Computing Platform (NX-3050 model)

Benefits

- Storage, compute and HA in one cost-effective package
- Seamless, non-disruptive installation
- 94% reduction in datacenter rack space requirement
- 88% reduction in expenses on power
- Fast, flexible, easy provisioning of storage and compute resources
- High IOPS performance for supporting multiple VMs
- Simple to maintain and expand

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Installing the Nutanix appliance was "virtually seamless," according to Dutcher. It took just 6 hours to get the system up and running. Furthermore, with good planning and preparation, they were able to migrate workloads from 30 servers to the Nutanix appliance with only one hour of planned downtime. The user community – a 24/7 operation at a college campus – did not even know it happened. The old servers were removed except for 3 that now function as VMs to host DR targets using Veeam's Replication & Backup™ software for replication from the Nutanix nodes. This, in conjunction with automatic node failover in the Nutanix cluster, gives the college high availability, disaster recovery and continuity of service for staff and students.

Currently, the 3-node Nutanix appliance supports 46 VMs running a variety of workloads, including over 12 new ones added since the migration because more compute and storage resources are now available. Workloads running on Nutanix include SQL Server databases for student, recruitment and learning information systems, Windows web servers, file servers, domain controllers, remote desktop services, Systems Center, Linux library catalog and application development. The team is also rolling out Docuware, a document scanning, management and archiving product, on Nutanix. Without the robust hardware to support it, they wouldn't have been able to implement this. Dutcher added, "I knew the scalability would be good, but it's working out even better than we thought it would."

Radical Space and Power Savings

The compact footprint of Nutanix takes up only 2U of rack space, compared to 37U for the servers and SAN storage it replaced. This represents about a 94% reduction in rack space requirement. "We joked that we would just turn out all the lights and put a blue spotlight on the Nutanix appliance. Because you could open the server room door and there would be these empty racks now, except for that one 2U box."

Power savings are similarly substantial. Upgrading to Nutanix resulted in 88% reduction on expenses on power and a savings of $11,812.86 per year. "We gained about a half hour of additional runtime on our battery backup after shutting off the old servers and SAN," Dutcher said. "From a day-to-day business standpoint, the machines are much faster."

With Nutanix there is enough performance available that there is no need to dedicate hardware to critical applications like SQL Server. They can give full DRAM memory allocations to VMs for optimum performance.

Simple, Reliable, Cohesive

With only 3 full-time IT administrators at William Jessup University, Nutanix has provided a welcome reprieve of simplicity and reliability. "I'm no longer nervous about the old hard drive SAN failing. I feel like I have a good support structure if there is an issue... Having a single point of contact for compute and storage, having them proactively watch the system – these things are very helpful to a small IT department like ours," said Dutcher. "We have a big user community depending on us."

The college intends to add more programs and degrees, which will entail adding several more Nutanix nodes to support the growth. VDI is also on the table for consideration. "To be able to do it cohesively, with a converged compute and storage solution, is something I saw from the beginning would be very beneficial. I think that's going to be the case," he added.

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> Systems Administrator,
> William Jessup University

Datacenter Rack Space Requirement

36U — Traditional Infrastructure
2U — Nutanix

About William Jessup University

William Jessup University was originally established in 1939 as a Bible college in San Jose, California. Later the institution added liberal arts degrees and, in 2004, moved to its current location in Rocklin, part of the Sacramento metropolitan area. Visit www.jessup.edu for more information.
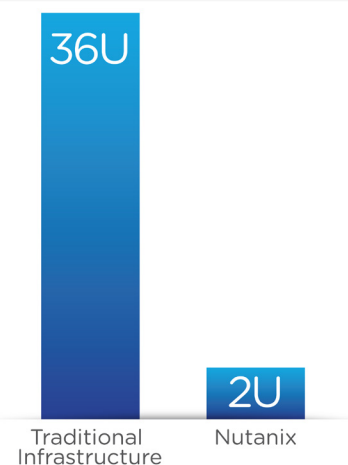
About Nutanix

Nutanix provides datacenter infrastructure solutions that are hyper-efficient, massively scalable and elegantly simple. The award-winning Nutanix Virtual Computing Platform has disrupted the market by seamlessly and natively converging compute and storage in a single appliance. Headquartered in San Jose, Calif. with offices and authorized solution providers throughout the world, Nutanix is privately held and backed by top-tier VC firms. For more information, visit www.nutanix.com.

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