

**Nutanix Provides a Foundation
for Technology-Driven Learning
and Research**



California State University, Long Beach Puts Increased Computing Power In the Hands of Students and Faculty

CHALLENGE

What happens when a teaching-intensive, research-driven public university empowers students and faculty with more agile, powerful technology? It creates a foundation for exciting new initiatives like tracking sharks in real time along the Pacific coast, or giving students access to lab-quality computing tools anywhere.

For CSULB, technology is key to its mission of providing valuable undergraduate and graduate educational opportunities to the people of California and the world. Its Division of Information Technology supports faculty, administrators, and students with technology services, identity management and authentication services, and other essential resources.

Like many organizations, the University's IT department faces limited staff and budget, as well as escalating expectations from the students and departments it serves.

"We have a very small in-house team with a staff of 18 administering a large environment for the entire university," says Jesse Santana, Director, System and Web Services at CSULB. "Our customers aren't able to wait days or weeks for us to stand up a new environment. The expectation for our small team is to provision a resource more quickly than in the past."

As the existing on-premises infrastructure approached its end of life, the University saw an ideal opportunity to move to a more efficient environment.

"We were trying to reduce the footprint in our data center, and we were also looking for a solution that would ease administration and help us simplify our processes," says Mig Gomez, Lead Virtual Systems Engineer at CSULB.

The University needed a solution that would enable it to consolidate multiple systems onto a single hyperconverged environment that could accelerate service delivery and scale as needed.

SOLUTION

After considering and testing solutions from a variety of vendors, CSULB migrated to Nutanix Enterprise Cloud. Today, the solution is running approximately 450 virtual machines (VMs) in a new data center facility to support the University's most essential software packages and services.

"Ultimately we are here to serve students and help them graduate in four to six years. Nutanix lets us make services and software available to them, when they need them, so that they can succeed."

Jesse Santana, Director,
System and Web Services, CSULB

COMPANY

California State University, Long Beach (CSULB) is a public university with eight colleges serving more than 37,000 students.

INDUSTRY

Higher Education

BUSINESS NEED

Support academic and research initiatives through technology, while getting more from limited IT resources.

SOLUTION

- Nutanix Enterprise Cloud

BENEFITS

- Improved ability to respond to student and faculty needs, supporting innovative academic initiatives with technology.
- Reduced footprint, lower OpEx, and simplified management help small IT team do more with less.
- Scalable support for VDI applications extends technology resources to more students across campus.

“We depend on Nutanix to support our core enterprise applications; Microsoft SQL server databases, business intelligence servers, Oracle databases, and all of our identity management and authentication services,” says Santana. “The university’s enrollment and imaging systems, used for student application processing, all run on Nutanix, as do all Active Directory domain controllers and infrastructure services.”

Nutanix Enterprise Cloud enabled Santana and his team to consolidate and simplify the University’s siloed infrastructure, with a software-based approach that streamlines IT processes and speeds up provisioning of new technology services.

“Our responsiveness has improved significantly,” says Santana. “I just finished provisioning a set of new VMs, a process which previously took a few hours, now only takes 10 minutes,” adds Gomez.

Nutanix also provides a nimble, scalable environment to deliver Virtual Desktop Infrastructure (VDI) applications to students across the campus community. In the past, access to advanced applications for science and engineering was often limited.

“Much of this software was available only in labs or at the library, which have limited hours,” says Tom Tran, IT Consultant at CSULB. “During peak periods like final exams, students faced long waits, and might have to hunt down which labs were available. They could purchase the software they needed at the bookstore, but it was expensive and required a great deal of computing power.”

Nutanix lets the University offer access to high-performance applications like Mathematica, MATLAB, AutoCAD, and the R software environment using the device of their choice, anywhere. Nvidia’s GPU integration accelerates the VDI delivery so the performance and user experience is similar what it would be on a local machine.

BENEFITS

A SPRINGBOARD FOR INNOVATION

Simpler, more efficient IT management and resource provisioning has opened up new opportunities for the university’s IT group, enabling them to work on previously unresourced IT projects for faculty members and researchers, taking ideas from the blackboard into the real world. One such example is for marine biologist Dr. Chris Lowe, whose shark lab studies baby and juvenile white sharks of Southern California and has greatly contributed to the field of knowledge for this enigmatic species.

“We recently provisioned a set of VMs for a new research project for Dr. Chris Lowe,” says Santana. “Dr. Lowe and his team have received a grant to tag sharks in the area and monitor their movement along the West Coast. Eventually, everyone will be able to access this environment and track sharks in the area in real time. The Nutanix Enterprise Cloud is being used to support the software development in house, and maintain the application once it goes live.”

STREAMLINED IT OPERATIONS

Nutanix is also helping IT manage the University’s environment more efficiently, even with a small staff.

“The Nutanix Enterprise Cloud helps CSULB reduce rack space, and minimize datacenter power and cooling requirements,” says Santana. “My SAN administrator is free to work on other projects because the entire environment is now managed from just one team. This improved efficiency drives a strong return on investment.”

The advanced hyperconverged environment also improves performance, enabling administrators to work more effectively.

“Enrollment Services, one of our biggest clients, has noticed their servers are a lot quicker, and we have experienced fewer performance issues since we switched over,” says Santana. “The whole environment has become more stable, so we don’t have to worry about unexpected downtime.”

Nutanix automatically alerts IT staff about potential issues, for faster troubleshooting.

“Proactive support has also been helpful,” says Gomez. “If a drive fails over the weekend, a ticket is automatically created. On Monday morning, we can view the ticket, confirm the issue, and fix it the same day.”

LAB-QUALITY COMPUTING EVERYWHERE, ALL THE TIME

Expanded support for VDI applications has also paid dividends, making critical software more available to students when they need it most.

“Our CIO advised us that the chair of our Math department was very satisfied with the performance and the availability of the software that we provide,” says Tran. “Now students can access the resources they need using their own device. They no longer have to choose between going to class or working in the lab.”

CSULB can support hundreds of concurrent users and can easily scale its VDI offerings when demand grows.

“As the environment becomes more popular we will continue to grow it out,” says Tran. “We monitor concurrent usage of all our applications, and as we reach capacity we can add licenses as needed.”

NEXT STEPS

Nutanix was built to scale and evolve, and CSULB is already considering new capabilities to make technology access even easier—and more cost-effective. For example, as licensing costs on its existing hypervisor increase, Santana and his team are evaluating Nutanix AHV for integrated virtualization management.

“We are actively exploring AHV, and are moving toward standing up a development environment,” says Santana. “We are also evaluating Prism as a way to allow our customers to provision their own VMs. We want to move beyond our current email-based system and empower our customers to provision themselves.”

With Nutanix, Santana is confident that his small IT organization can continue to meet changing priorities well into the future.

“Ultimately we are here to serve students and help them graduate in four to six years,” says Santana. “Nutanix lets us make the services and software available to them, when they need them, so that they can succeed.”



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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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