



UCLA

For near 100 years, UCLA has been a pioneer, persevering through impossibility, turning the futile into the attainable.

UCLA DELIVERS HIGHLY FLEXIBLE AND SCALABLE STORAGE

The University of California-Los Angeles (UCLA) recently needed to purchase and deploy a storage solution with enough flexibility, capacity and scalability to serve its varied user base. It also needed to procure this storage inexpensively enough to make business sense for the University, given its fee-for-service IT model. With the Nexsan E-Series now in its environment, the University has delivered superior service to its users while hitting and exceeding all key metrics it set.

THE IT INFRASTRUCTURE CHALLENGE

The University of California, Los Angeles (UCLA) is known worldwide for the breadth and quality of its academic, research, health care, cultural, continuing education and athletic programs. UCLA's strength is its size, allowing for exceptional diversity and virtually limitless possibility. The university is a shared public asset that benefits society by educating students, creating knowledge through research discoveries, powering the economy and improving quality of life.

UCLA's central IT infrastructure is a fee-for-service model; researchers, departments and other users lease a specific amount of storage from the University for a specific period of time. Their uses for that storage range all the way from supporting cutting-edge research to archiving data and beyond, and because of this variety IT administrators have to be careful that their entire infrastructure is flexible enough to deliver proper service for all users in all cases. For example, their biggest users are in the medical domain; they have to ensure the system complies with regulations and security needs in addition to being fast, available and reliable.

As capacity needs have grown, and user requirements and IT features have evolved, the University realized it needed a storage system that could deliver on a couple of key requirements:

1. It needed to provide reliable storage for the entire IT infrastructure.
2. It needed to be dense enough to deliver value in limited floorspace.
3. It also needed the storage to be flexible enough to grow and evolve with its users. As new systems and features have come online, the storage needs to be able to scale appropriately and work with the other various hardware and software systems they may need to acquire.

Despite these needs, the University's fee-for-service IT model required that the storage system be procured cheaply enough for the University to be able to essentially re-sell it at a price point that would make it more attractive to its users than bigger cloud storage option such as Amazon or Google. Plus, in addition to being competitive, the University hoped to at least cover its expenses, if not even produce some revenue to re-invest into additional services. IT employees found it to be very difficult to find a solution that could do everything they needed at a low-enough price.



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PROBLEM

- UCLA's IT infrastructure is a fee-for-service model; researchers, departments and other users lease storage from the University
- Needed reliable storage for the entire IT infrastructure
- Needed density to deliver value in limited floor space
- Needed flexibility to grow and evolve with its users
- Needed to be procured cheaply enough for the University to re-sell it at an attractive price point and at least cover its expenses

SOLUTION

- UCLA purchased a series of Nexsan E-Series Model E60
- IT department created five "storage pods" - each with one E60 SAN system and two E60X systems connected to the central E60, and eight 10 GB ports and 18 LUNs feeding directly into the University's 40 GB switches and interconnects.
- Entire system can scale up to several petabytes of storage as needed
- Phased deployment; 250TB came online within 6 weeks and the rest within 12-18 months

RESULTS

- Procurement and deployment process took just 8 months
- Throughput, bandwidth and performance
- Ultra-reliable, bandwidth and performance
- Ultra-reliable; only one spindle failure in more than a year, with no downtime
- Density enabled storage to fit into limited space and operate within minimal expense
- Easy to service while still keeping the system online
- Scalability easy to accommodate by simply adding more or bigger disks
- User feedback - both inside and outside the UCLA system - has been universally outstanding
- Less expensive to acquire and operate than other similar solution options

THE SOLUTION

After a two-year research and testing process, UCLA selected and purchased a series of Nexsan E-Series Model E60 storage systems. The IT department decided to create five "storage pods" – each with one E60 SAN system and two E60X systems connected to the central E60. Within the pod, UCLA decided to deploy active-active controllers, each with a pair of dual 10GB ports. As a result, each pod features eight 10GB ports and 18 LUNs that feed directly into the University's 40GB switches and interconnects. Being that all drives in the system are 4TB, and the entire infrastructure contains almost 1,000 spindles, the system can currently scale up to several petabytes of storage – enough to serve its users' current needs.

The deployment was done in phases; one pod with 250TB of storage came online within six weeks of purchase, and the rest came along within the next 12-18 months.

RESULTS AND BENEFITS

On all accounts, the Nexsan storage systems have exceeded expectations at UCLA.

- From the initial purchase order to having a system in production, the procurement and deployment process went off without a hitch and took just eight months, minimizing time to value and maximizing ROI for UCLA.
- Throughput, bandwidth and performance have been excellent. The storage pods spread out the data load across the system with the help of thin provisioning, eliminating bottlenecks and taking full advantage of the switches and interconnect hardware.
- It has proven to be ultra-reliable. Since full deployment more than one year ago, there has been only one spindle failure – and that one incident caused no downtime.
- The entire infrastructure – with the ability to condense 240TB into 4U – fit into limited space and has been deployed with limited operating expenses, beating the ambitious density requirements UCLA hoped to achieve.
- The simplicity of the system's design has emerged as a significant value-add. It's easy to service while still keeping the system online when needed, and it's easy to train junior people to work on.
- While simple, UCLA designed the infrastructure to expand easily. The Nexsan storage supports this perfectly, as more capacity can be achieved by simply adding more or bigger disks. Then, when deployed, storage blocks can be provisioned for users within 10 minutes.
- User feedback – both inside and outside the UCLA system – has been universally outstanding. In particular, UCLA has received many comments saying how users appreciate its storage because it's simple enough to use on their own without any IT expertise or outside assistance.
- The costs to acquire and operate the Nexsan systems were lower than other similar solution options and well in line with the IT department's business models, enabling executives and administrators to provide superior service and other added value to users.

ABOUT NEXSAN

Nexsan® is a global enterprise storage leader since 1999 delivering the most reliable, cost-effective and highly efficient storage solutions. Nexsan's solution portfolio empowers enterprises to securely store, protect and manage valuable business data with a broad product line of unified storage, block storage, and secure archiving. www.nexsan.com.