UCLA Faces Forklift Upgrade, Looks Beyond Data Domain and Installs ExaGrid

UCLA

USA

Key Benefits:

- ExaGrid installed for a fraction of the cost of a new Data Domain system
- As additional departments are added into the backup structure, system will easily scale to accommodate data
- End goal of eliminating tape campus-wide is within reach
- Easy-to-use GUI reporting provides all information needed, including chargebacks

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Jeff Barnes
Senior Development Engineer

Customer Overview

UCLA offers a combination that's rare, especially among public research universities. The breadth, depth and inspired excellence among academic programs – from the visual and performing arts to the humanities, social sciences, STEM disciplines and health sciences – add up to endless opportunity. The location is unmatched: a campus that is unexpectedly picturesque and compact, set in a thriving and diverse global city.

UCLA Looks Beyond EMC Data Domain, Avoids Forklift Upgrade

UCLA had a five-year-old Dell EMC Data Domain unit that had reached capacity. Initially, the University looked at replacing the Data Domain unit with a newer system and also considered FalconStor, ExaGrid, and a few other solutions. In the end, the University chose the ExaGrid system based on price and performance.

"We had the Dell EMC Data Domain system for several years and kept adding data to it. When our group merged with another IT group here at UCLA, we decided to combine our backups, and we realized that we needed another solution because the Data Domain unit couldn't scale in terms of capacity or performance," said Jeff Barnes, senior development engineer at UCLA. "We simply couldn't justify the cost of a new Data Domain unit. In fact, the cost of the two-site ExaGrid unit was approximately what we would have paid for three years of maintenance on the Data Domain system," Barnes said.

Scalability Will Enable the ITS Group to Eliminate Tape

Barnes said that UCLA has deployed ExaGrid systems locally to handle primary backup and additional systems in its Berkeley datacenter for disaster recovery. Data is replicated automatically each night between the two locations. ExaGrid's architecture will ensure that the systems can scale to handle increased backup requirements and will enable UCLA to create a network of backup units that all tie into a larger cluster for disaster recovery.

"Our grand plan is to help other departments with their backups and data deduplication by building a large cluster of ExaGrid units in Berkeley that they can connect into," Barnes said. "We're confident that we can easily add appliances to the system to increase capacity and performance over time."

ExaGrid's appliance models can be mixed and matched into a single scale-out system allowing

a full backup of up to 2.7PB with a combined ingest rate of 488TB/hr, in a single system. The appliances automatically join the scale-out system. Each appliance includes the appropriate amount of processor, memory, disk, and bandwidth for the data size. By adding compute with capacity, the backup window remains fixed in length as the data grows. Automatic load balancing across all repositories allows for full utilization of all appliances. Data is deduplicated into an offline repository, and additionally, data is globally deduplicated across all repositories.

UCLA is currently getting data deduplication ratios as high as 17:1, which helps to maximize the amount of data the University can store on the system. The technology also helps to make transmission between sites more efficient.

"Our end goal is to eliminate tape campus-wide. The University of California system has a very high-speed Internet connection, and with the ExaGrid system, we send only changed data between systems, so transmission time is minimized," he said. "I have quite a bit of bandwidth I can work with between here and Berkeley, but it's not sensible to be sending the same data back and forth, and we don't want to use all our bandwidth for replication."

ExaGrid writes backups directly to a disk-cache Landing Zone, avoiding inline processing and

ensuring the highest possible backup performance, which results in the shortest backup window. Adaptive Deduplication performs deduplication and replication in parallel with backups for a strong recovery point (RPO). As data is being deduplicated to the repository, it can also be replicated to a second ExaGrid site or the public cloud for disaster recovery (DR).

ExaGrid Works with Existing Backup Applications

UCLA IT Services uses the ExaGrid systems in conjunction with Quest vRanger and Veeam for its virtual machines, and Dell NetWorker for physical servers.

"The ExaGrid system works well with our existing backup applications, and it was easy to install. When we initially got the systems, ExaGrid assigned a support engineer. He helped with the setup and brought us up to speed on everything we need to know to operate the system efficiently. We were very happy with the installation experience," said Barnes. "Our engineer has been very good and really knows what he's doing.

Intuitive Interface Makes Managing the System Easier

The ExaGrid system was designed to be easy to set up and operate. ExaGrid's industry-leading level 2 senior support engineers are assigned to individual customers, ensuring they always work with the same engineer. Customers never have to repeat themselves to various support staff, and issues get resolved quickly.

"The ExaGrid system's GUI gives me access to lots of information, and it's easy to use," said Barnes. "It will also help to make executing our backup model easier. I have the ability to back up information from multiple internal customers and to filter different machines by IP address. I also have the ability to see exactly how much physical space each client is actually using on the system, which is something I couldn't do with the EMC Data Domain system. As we get into a chargeback scenario, that will be extremely important."

Barnes said that the ExaGrid system has lived up to his expectations and beyond. "The ExaGrid system works as advertised and it's got the price, performance, and scalability we needed. Now, we're in the position where we can really build out our backup infrastructure," he said.

ExaGrid and Quest vRanger

Quest vRanger offers full image-level and differential backups of virtual machines to enable faster, more efficient storage and recovery of virtual machines. ExaGrid Tiered Backup Storage serves as the backup target for these virtual machine images, using high-performance data deduplication to dramatically reduce the disk storage capacity required for backups versus standard disk storage.

ExaGrid and Dell NetWorker

Dell NetWorker provides a complete, flexible and integrated backup and recovery solution for Windows, NetWare, Linux and UNIX environments. For large datacenters or individual departments, Dell EMC NetWorker protects and helps ensure the availability of all critical applications and data. It features the highest levels of hardware support for even the largest devices, innovative support for disk technologies, storage area network (SAN) and network attached storage (NAS) environments and reliable protection of enterprise class databases and messaging systems.

Organizations using NetWorker can look to ExaGrid for nightly backups. ExaGrid sits behind existing backup applications, such as NetWorker, providing faster and more reliable backups and restores. In a network running NetWorker, using ExaGrid as easy as pointing existing backup jobs at a NAS share on the ExaGrid system. Backup jobs are sent directly from the backup application to the ExaGrid for onsite backup to disk.

About ExaGrid

ExaGrid provides Tiered Backup Storage with a unique disk-cache Landing Zone that enables fastest backups and restores, a Repository Tier that offers the lowest cost for long-term retention and enables ransomware recovery, and scale-out architecture which includes full appliances with up to 2.7PB full backup in a single system.

Learn more at **www.exagrid.com**.

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