UNAM Increases Backup Reliability and Capacity Tenfold Using ExaGrid-Veeam Solution

Universidad Nacional Autónoma de México
UNAM

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**Fabian Romo
Director of Institutional Systems Services and General Directorate for Computing, Information and Communication Technologies**

MEXICO

Key Benefits:

- Switch to ExaGrid-Veeam 'saves on time and resources'
- Storage capacity expanded by deduplication, allowing UNAM to back up 10x more data
- Quick data restores give datacenter staff confidence in RTO and RPO

Customer Overview

The National Autonomous University of Mexico (UNAM) was founded on September 21, 1551 with the name of the Royal and Pontifical University of Mexico. UNAM's mission is to teach higher education courses to educate professionals, researchers, university professors, and technicians who will provide a useful service to society; to organize and to carry out research, primarily on the national conditions and problems, and to extend with generosity the benefits of culture to all sectors of the population.

New Solution Expands On Services to Entire Organization

The National Autonomous University of Mexico (UNAM) educates hundreds of thousands of students, and employs tens of thousands of educators, researchers, and administrative personnel each year. UNAM's Datacenter Department provides cloud services to the 164 branch offices, which are made up of schools, research departments, and administrative venues.

The staff in the Datacenter Department had been backing up UNAM's data using open-source backup software, snapshots, as well as SAN and NAS software to local physical storage. The staff felt that the institution required a more robust and complex solution to keep up with demand on the cloud services that the department provides. In addition, the local physical storage had limited capacity and was incompatible with the hypervisors that were being used, and it took too long to recover data using that solution.

The department staff decided to test Veeam, using its community edition. "When we installed the Veeam software, we found it was quite easy to use and it recognized all of our hypervisors and our available storage," said Fabian Romo, Director of Institutional Systems and Services. "We had looked into several solutions, including Acronis, Veritas, Commvault and Spectrum Protect Suite. We found that Veeam's free version worked fine but after testing the enterprise version, we found it was more compatible with our workflow and requirements, so we decided to use it going forward."

In addition to updating the institution's backup software, the department staff decided update the backup storage as well. "We wanted a storage solution that would work well with Veeam and offered deduplication," said Romo. "We looked at a few options, including NetApp and HPE storage solutions, and we liked ExaGrid best for our environment."

UNAM installed an ExaGrid system at its primary data center that replicates data to an ExaGrid system in a secondary center for disaster recovery (DR). Romo and the department staff were pleased with how easily ExaGrid configures with Veeam.

10x More Data Backed Up, in Shorter Windows

Now that the department has implemented the ExaGrid-Veeam solution, backup services have been able to be expanded to the entire university, which has resulted in a diversity of data to back up, from desktops to servers. The data is backed up on a daily, weekly, and monthly basis, depending on how critical it is. Romo and his staff have found that the new solution allows for a more regular backup schedule.

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"Our backup windows used to be very long, ranging from many hours to even days, which made it difficult to keep a regular backup schedule. Now that we use the ExaGrid-Veeam solution, our backup window has been cut down to a few hours and the backups are reliable and stay on schedule," he said.

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 while providing full system resources to the backups for the shortest backup window. Available system cycles are utilized to perform deduplication and offsite replication for an optimal recovery point at the DR site. Once complete, the onsite data is protected and immediately available in its full undeduplicated form for fast restores, VM Instant Recoveries, and tape copies while the offsite data is ready for DR.

In addition to shorter backup windows, the department has been able to triple the retention of the backups that are kept, from a single copy to three copies. "Switching to the ExaGrid-Veeam solution has saved us on both time and storage resources," said Romo. "We're able to back up ten times more than our prior capacity, due to the deduplication we are getting." Veeam uses the information from VMware and Hyper-V and provides deduplication on a "per-job" basis, finding the matching areas of all the virtual disks within a backup job and using metadata to reduce the overall footprint of the backup data. Veeam also has a "dedupe friendly" compression setting which further reduces the size of the Veeam backups in a way that allows the ExaGrid system to achieve further deduplication. This approach typically achieves a 2:1 deduplication ratio.

ExaGrid is architected from the ground up to protect virtualized environments and provide deduplication as backups are taken. ExaGrid will achieve up to 5:1 additional deduplication rate. The net result is a combined Veeam and ExaGrid deduplication rate of upwards to 10:1, which greatly reduces the amount of disk storage required.

Confidence in Data Recovery and Continuity of Services

Prior to switching to the ExaGrid-Veeam solution, the department staff did not feel confident that they could meet their target RTO and RPO, but now there is no such issue.

"Restoring data is much faster and reliable now. Some restores are finished in seconds, and even restoring a 250TB server took only ten minutes," said Romo. "The services we provide are critical for the organization. There is more security in the processes we make daily, now that we have a system in place that would allow us to recover and reestablish the services, no matter what kind of issue we may face."

ExaGrid and Veeam can instantly recover a VMware virtual machine by running it directly from the ExaGrid appliance in the event that the primary storage VM becomes unavailable. This is possible because of ExaGrid's Landing Zone – a high-speed disk cache on the ExaGrid appliance that retains the most recent backups in complete form. Once the primary storage environment has been brought back to a working state, the VM running on the ExaGrid appliance can then be migrated to primary storage for continued operation.

ExaGrid-Veeam Solution Keeps Backup Management Simple

The department staff have found that the ExaGrid-Veeam solution simplifies backup management and administration.

"Using Veeam has allowed us to integrate the whole infrastructure in a single console, and automate and schedule the backups, restore and replication tasks. Veeam is reliable, resilient, compatible, easy to manage, all with a good cost-benefit ratio," said Romo. "ExaGrid is reliable, simple to use, and requires very little time to manage. It's an excellent system that reduces risk and optimizes storage capacity due to its deduplication feature."

The combination of ExaGrid's and Veeam's industry-leading virtual server data protection solutions allows customers to utilize Veeam Backup & Replication in VMware, vSphere, and Microsoft Hyper-V virtual environments on ExaGrid's disk-based backup system. This combination provides fast backups and efficient data storage as well as replication to an offsite location for disaster recovery. ExaGrid fully leverages Veeam's built-in backup-to-disk capabilities, and ExaGrid's adaptive data deduplication provides additional data and cost reduction over standard disk solutions. Customers can use Veeam Backup & Replication's built-in source-side deduplication in concert with ExaGrid's disk-based backup system with Adaptive Deduplication to further shrink backups.

About ExaGrid

ExaGrid provides tiered backup storage with a unique disk-cache Landing Zone, long-term retention repository and scale-out architecture. ExaGrid's Landing Zone enables the fastest backups, restores, and instant VM recoveries. The retention repository offers the lowest cost for long-term retention. ExaGrid's scale-out architecture includes full appliances in a scalable system. Learn more at **www.exagrid.com**.