ExaGrid Maximizes Veeam Functionality, Keeping Petabytes of Data Manageable for Dakota County

Dakota
C O U N T Y

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>
> **Matt Klein**
> **Senior Systems Administrator**

Key Benefits:

- The combined ExaGrid-Veeam dedupe maximizes Dakota County's storage; keeping petabytes of data manageable

- Switching to ExaGrid resolved Dakota County's backup window spillover issues

- ExaGrid's integration with Veeam has expanded Dakota County's use of Veeam's features

Customer Overview

Founded in 1849, Dakota County was one of the original nine counties created by the Minnesota Territory Legislature. Thus, it was established before Minnesota was considered a state. Dakota County is 587 square miles in area and has a population of about 425,000. Situated in the southeast corner of the Twin Cities Metropolitan area, it is the third-most populous county in the state of Minnesota.

Storage Solution Recommended by Veeam

The IT staff at Dakota County had been backing up its data to SAN storage using Veeam, and decided to look into dedicated backup appliances once maintenance on the SAN had expired. Some of the solutions they considered were Dell EMC Data Domain, ExaGrid, and Commvault. "We liked ExaGrid's deduplication and its scalable architecture, and it offered better pricing than the other solutions," said Matt Klein, Dakota County's senior systems administrator. "We looked at reviews and user experiences posted on the Reddit and Gartner websites about the different solutions. We also asked our Veeam rep if there was a solution they preferred working with, and they noted that ExaGrid was one of the top solutions they enjoy working with."

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 (DR).

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.

ExaGrid-Veeam Dedupe Keeps Petabytes of Data Manageable

Dakota County has a large amount of data to back up, originating from a variety of departments within the county government. Klein backs up 564 VMs which amounts to 250TB of data. "Our full backup size is about 1.7PB, but thanks to ExaGrid's deduplication, we don't use anywhere near that amount of storage. Before ExaGrid, we were using the Veeam-integrated deduplication with our old SAN. Adding ExaGrid's deduplication, we were able to increase our retention points and adjusted our grandfather-father-son backups to include up to a year with monthlies," said Klein. "We're able to store 161TB of restore points now, and we appreciate the flexibility that ExaGrid offers, since we can adjust the storage allocation between the landing zone and retention space."

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

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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.

Shorter Backup Windows and Quick Restores

Switching to ExaGrid has resolved the backup spillover issues that the IT staff at Dakota County sometimes faced with SAN storage. "We had scheduled our backups in a 12-hour window from 5:00 p.m. to 5:00 a.m., to avoid backup jobs occurring during business hours. Our backups with our previous system would often extend past the windows we had set. Since switching to ExaGrid, we've actually reduced the backup windows by a couple of hours, and have never had issues with backups outside the proper windows," said Klein.

"Restoring data has improved quite a bit, too. In our initial testing, we were able to restore a VM from ExaGrid's landing zone in a couple of minutes. Restoring that same VM would have taken at least 30 minutes from our SAN storage. We've never needed to instantly restore and run a VM, but during testing we were impressed at the incredible instant recovery speeds; it was only a matter of minutes to bring the whole VM over into production," he added.

ExaGrid writes backups directly to a disk 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.

ExaGrid Maximizes Veeam Functionality

Klein appreciates how well ExaGrid integrates with Veeam. "Now that our backups run so smoothly, we are trying more functions in Veeam. We've recently started to use Cloud Connect with Veeam to push our data to the cloud, which also creates a backup copy job from our ExaGrid systems. We've seen how well ExaGrid handles our backups, so we're adding more backup jobs and trying out more of Veeam's features. We're currently looking into Veeam SureBackup as well, which is a Veeam function that brings up the VMs in a test environment, and allows us and it to test upgrades to our applications in a safe, sandbox-like environment, and also to confirm if our backups will be valid," he said.

"When we first installed our ExaGrid system, integration with Veeam Scale-Out Backup Repository wasn't ready yet, but a few months later our ExaGrid support engineer helped us upgrade our system and it was seamless to get everything started," said Klein. ExaGrid leverages the Veeam Scale-out Backup Repository™ (SOBR). Shares on ExaGrid appliances in the scale-out system are grouped into a single target repository for Veeam. Veeam SOBR sends backup jobs to whichever repository target has the most storage. The combination of Veeam SOBR with ExaGrid's appliances in a scale-out system creates true end-to-end automated scale-out backup and backup storage.

ExaGrid's 'Unique' Support Model

Klein values the assistance that his ExaGrid support engineer has provided. "Our ExaGrid support engineer has been so helpful, and offers more than just basic tech support. He's helped us to brainstorm and think through what type of scenarios would work in our environment. We were 70TB over-allocated on our ExaGrid system at one point, and he helped us reconfigure our setup as we transferred some ExaGrid appliances out of our secondary site and into our primary site, and then move our replication to the cloud, with Veeam Cloud Connect. He helped us figure out the best way to make that transition and also helped us keep our backups going during that time, and then expand the system at the primary site with additional appliances.

"ExaGrid's support model of working with one assigned engineer is unique. It's great that we don't have to describe our environment to someone, every time we call—he already has our infrastructure mapped out," said Klein. The ExaGrid system was designed to be easy to set up and maintain, and ExaGrid's industry-leading customer support team is staffed by trained, in-house level 2 engineers who are assigned to individual accounts. The system is fully supported, and was designed and manufactured for maximum uptime with redundant, hot-swappable components.

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**.