City's Switch to Scalable Solution Eliminates Outdated Licensing Models and Avoids Forklift Upgrade

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Mike O'Brien
Senior Systems Engineer

Key Benefits:

- Switch to scalable ExaGrid system avoids expensive forklift upgrade of Data Domain solution

- City's data is backed up 'incredibly fast' and restored 'at a more comprehensive level'

- City saves on costly licensing fees after switch to integrated ExaGrid-Veeam solution

- ExaGrid-Veeam solution provides improved deduplication resulting in storage savings

Customer Overview

Located in southeastern Washington State, Kennewick is the largest of the Tri-Cities Metropolitan Statistical Area and at the forefront of statewide growth. Kennewick is a thriving city nestled in the heart of Washington wine country, which boasts over 160 wineries within a 50 mile radius. The city's location along the Columbia River provides a variety of recreational activities including world-class fishing, birding, bike trails, and parks.

New Solution Built on Strong Partnerships Ends Licensing Headaches

The IT staff at the City of Kennewick have a large amount of data to manage. In addition to supporting the various city departments, the city and its IT staff also support the Bi-County Police Information Network (BiPIN) for Benton County and neighboring Franklin County, to maximize efficiency in sharing information between police departments in the two counties, with 13 entities participating.

As the previous infrastructure aged, the city decided to look into newer technology for the BiPIN, including a new recordkeeping system, as well as new hardware and software. At the same time, the IT manager encouraged city management to consider a similar upgrade for the city's own IT environment, which was approved.

Mike O'Brien, the city's senior systems engineer, has been responsible for backing up both the BiPIN and city data for years, and has been involved with the evolution of its backup environment. "For many years, we used Veritas Backup Exec to back up data to Quantum tape drives, and then to Dell EMC Data Domain. One of the major drawbacks of using this solution was the licensing between Backup Exec and Data Domain. We had to purchase additional licensing from both to deduplicate and then to store deduped data, and when we virtualized our environment, more licensing was required for VMware servers and VMDK saves. The licensing situation is very much analogous to buying a car without tires, and it was pretty frustrating," he said.

"As a city department, we have to be mindful of the budget and it felt like we weren't getting the best backup coverage for what we were paying."

The city's VAR recommended a new solution for the IT environment: Pure Storage for primary storage, Veeam for a backup application, and ExaGrid for backup storage. The VAR sent O'Brien to a Pure Accelerate conference to learn more about the technologies.

"At the conference, I saw the synergy between Pure, Veeam, and ExaGrid," said O'Brien. "It was very telling that these companies work so well together and have a partnership, compared with the relationships between the older software and hardware products–quite frankly, working with our previous solution feels outdated when compared to ExaGrid's support model, integration with backup apps, and quality of hardware equipment."

The combination of all-flash Pure Storage, Veeam Backup & Replication software, and ExaGrid provides the most reliable and cost-effective primary storage along with the fastest and lowest-cost backups with the shortest recovery times. This powerful combination increases the performance of storing, backing up, and recovering data–at a lower cost than traditional legacy storage and backup solutions.

Forklift Upgrade Avoided by Switch to Scalable ExaGrid System

"ExaGrid's scale-out architecture is one of its biggest selling points, especially the fact that we can mix and match different ExaGrid appliances to our existing system. Switching to ExaGrid was a no-brainer because its upgradability just blows away what Data Domain offers," said O'Brien. "When we started to run low on space on our Data Domain system, we had hoped to increase the size of the drives that were in the original shelf and it was disappointing to find out that we would actually need to purchase another shelf, which turned out to be much more expensive than the first, even though it was almost identical."

The ExaGrid system can easily scale to accommodate data growth. ExaGrid's computing software makes the system highly scalable, and when plugged into a switch, appliances of any size or age can be mixed and matched in a single system with capacities of up to a 2.7PB full backup plus retention and an ingest rate of up to 488TB per hour. Once virtualized, they appear as a single system to the backup server, and load balancing of all data across servers is automatic.

ExaGrid-Veeam Solution Provides Faster Backups and Restores

The City of Kennewick installed two ExaGrid systems, one to store the BiPIN data and another for the city's data. "Using our new solution has been effortless. Our ExaGrid systems in particular are easy to work with and are very reliable, so I haven't had to spend much time on backup administration," said O'Brien. A wide variety of data is located on 70 production servers which are all backed up to ExaGrid.

"Our backups are incredibly fast, especially compared with how they used to run using Backup Exec and Data Domain," said O'Brien. "Our weekend backups used to start on Friday evening and wouldn't be finished until Monday night, sometimes even running into the Monday night incremental backup job. Now, we've been able to stagger various backup jobs throughout the weekend and they are finished early Sunday morning, even with gaps in between the jobs."

O'Brien has also noticed improvements in restoring data using the ExaGrid-Veeam solution. "It's great that Veeam can quickly restore a VM from ExaGrid's Landing Zone and easily pull the data we need from it. I can restore data at a more comprehensive level than I was ever able to achieve with Backup Exec. I feel much better when I receive data restore requests from other staff members, such as when our SQL administrator needed a database and expected the process to take four or five hours, and I was actually able to restore the database in under thirty minutes."

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.

ExaGrid-Veeam Combined Deduplication

"One of the most exciting aspects of using ExaGrid and Veeam is the deduplication we're able to achieve. It's been an incredible improvement over our previous solution," said O'Brien. 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.

'Wonderful' Customer Support

From the beginning, O'Brien has found that ExaGrid support is proactive in maintaining the city's ExaGrid systems. "I have never encountered such helpful support. Other vendors leave users alone to figure out configurations and updates, but my ExaGrid support engineer got in touch with me as soon as the system was online to let me know he was available if I had any questions and also to set up time to optimize backups with Veeam. He also reached out to let me know when a firmware upgrade was available, explained what the new updates are, and assured me there would be no outage during the update process. Working with him has been a wonderful experience!"

O'Brien finds the ExaGrid system to be so reliable that it doesn't require much management. "Our ExaGrid system just works, and does what we need it to do. It's a good feeling to go home at night knowing that even if something catastrophic happens, we'll be able restore our data quickly."

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**.