

# DART Chooses ExaGrid for Backup, Achieves Deduplication Ratios for Oracle Exports of up to 107:1

CUSTOMER SUCCESS STORY



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**Kristopher Mendoza**  
Enterprise System Engineer

## Key Benefits:

- ExaGrid has reduced cost of DART's 'forever' retention policy
- DART has increased job frequency since backup jobs are now completed within a defined window
- 'Amazing' deduplication ratios maximize storage capacity
- 'Fantastic' ExaGrid support works in live sessions to provide quick, hands-on assistance

## Customer Overview

Dallas Area Rapid Transit (DART) serves Dallas, Texas and 12 surrounding cities with modern public transit services and customer facilities tailored to make trips fast, comfortable, and economical. The extensive network of DART Light Rail, Trinity Railway Express commuter rail, bus routes, and paratransit services moves more than 220,000 passengers per day across a 700-square-mile service area.

## Adding Disk to Environment Saves on Tape Costs

Dallas Area Rapid Transit (DART) had been backing up its data to tape, using Veeam for its virtual machines (VMs) and Dell EMC NetWorker for its physical servers. The company decided to experiment with other solutions, such as backing up to disk, to see if they could identify something that would improve DART's environment. The company chose ExaGrid's disk-based backup storage solution and IT staff noticed an impact, especially due to the additional data deduplication that ExaGrid provided on top of Veeam.

Kristopher Mendoza, DART's enterprise system engineer, found that switching the VM backups from tape to ExaGrid yielded impressive results. "Right now, we're looking at a weekly difference of about 80TB worth of tapes! About 95% of our environment is virtualized, so the majority of backups are going to our ExaGrid system. However, we still utilize tape for some of our larger-volume backups, including file server-type data."

Currently, DART has a retention policy that mandates keeping its data forever, which makes maximizing storage capacity particularly important. "Using ExaGrid has provided savings on the cost of tapes, as well as the retention of those tapes, because not only do we have to pay for the tapes for a certain period of time, we have to pay for them forever right now," said Mendoza.

## Two-Day Backup Job Reduced to One Hour

DART installed an ExaGrid system at its primary site which cross-replicates to an



ExaGrid system at its DR site. "Installation was an incredibly smooth process. Our ExaGrid support engineer walked me through the setup and configuration of the systems, and it didn't take very long at all to get them up and running," said Mendoza.

Mendoza backs up some of DART's data with forever incrementals using Veeam. "Most of the backups that we do are bare-metal backups for our VMs, so a lot of the operating system drives are deduped. There's about a 50/50 split on the operating system and the standard application data."

Since implementing ExaGrid, Mendoza is finally able to back up Oracle exports within a defined window. "When we were using tape for Oracle backups, the total amount of time for the backups to run varied between an hour and up to two and a half days—up to 55 hours! Now, the backups are consistently down to just one hour."

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

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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 disaster recovery site. Once complete, the onsite data is protected and immediately available in its full unduplicated form for fast restores, VM Instant Recoveries, and tape copies while the offsite data is ready for disaster recovery.

The shorter backup windows have also increased the frequency of backup jobs. "We went from having a nearly three-day backup timeframe down to less than a day, so instead of running some of our backups once a week, we can run them once every day," said Mendoza.

## 'Amazing' Deduplication Ratios Achieved—Up to 107:1!

Mendoza has found that the ExaGrid system achieves an impressive range of deduplication ratios. "We see everything from a nearly 4:1 ratio of for our built-in Windows backup, to 25:1 that we see with Oracle RMAN backups, up to an amazing 107:1 that we are getting for Oracle exports. The wide range of ratios can be attributed to the share types and the different deduplication methods for those shares."

Mendoza is not only pleased with the deduplication ratios, but also with how quickly the data is deduped and replicated. "The greatest impact that deduplication has had is on the amount of space consumed for how much data we've backed up. For example, we're backing up 21TB of Oracle data, but it only consumes 200GB! As far as the speed of the overall deduplication process, the whole backup process is finished and cross replicated within an hour."

## 'Fantastic' Customer Support

"My support engineer has been absolutely fantastic! He is incredibly responsive. I've reached out any time that I've had a random question or an idea about a system configuration, or if I've run into issues with configuring the network interfaces or designing the topology, and he gets back to me within an hour or two. He launches a remote session, even for something simple, so that he can get a clear picture of any issues that I've run into, and it's been quite an amazing experience working with him," said Mendoza.

## About ExaGrid

ExaGrid provides hyper-converged secondary storage (HCSS) for backup with a unique landing zone and scale-out architecture. The landing zone enables the fastest backups, restores, and instant VM recoveries. The scale-out architecture includes full appliances in a scalable system and ensures a fixed-length backup window as data grows, eliminating expensive and disruptive forklift upgrades. Learn more at [www.exagrid.com](http://www.exagrid.com).

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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 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.

## ExaGrid and Veeam

Mendoza is impressed with how well ExaGrid and Veeam integrate and with the combined dedupe that can be achieved by using the two together. "The amount of deduplication that we've had using Veeam with ExaGrid has reduced our total storage exponentially."

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. The ExaGrid system fully leverages Veeam Backup & Replication's built-in backup-to-disk capabilities and ExaGrid's zone-level data deduplication for additional data reduction (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 zone-level deduplication to further shrink backups.

## ExaGrid and Dell EMC NetWorker

Dell EMC 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 as an alternative to tape for nightly backups.

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