

## Nominee: ExaGrid

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### Nomination title: ExaGrid EX40000E backup storage appliance

ExaGrid's EX40000E is its newest and largest appliance, taking in a 40TB full backup with an ingest rate of 8TB/hour.

Single EX40000E appliance:

- 8TB/hour ingest
- 96TB raw storage
- 78TB usable storage
- o 40TB landing zone stores most recent full backup
- o 38TB deduplicated data repository for long-term retention

25 EX40000Es can be combined in a single scale-out GRID system:

- 200TB/hour ingest (25 appliances x 8TB per hour)
- 1PB full backup (25 appliances x 40TB landing zone)
- 1.95PB usable storage
- 2.4PB raw storage

The previous ExaGrid system scaled to an 800TB full backup with 25 x EX32000Es in a GRID at an ingest rate of 105TB/hr. With 25 EX40000E appliances in a GRID, the system handles a 1PB full backup at 200TB/hr. versus EMC Data Domain's 9500 that takes in an 860TB full backup at 58TB/hr. using DD boost. ExaGrid offers three times the ingest with a shorter backup window. Since the most recent copy is kept in the front-end landing zone, ExaGrid performs restores, makes offsite tape copies, and boots VMs ten times faster than EMC Data Domain.

ExaGrid's "Next Generation" Approach

The first generation of disk-based backup products (inline deduplication, scale-up architecture) added deduplication to disk or to the backup application media server but weren't architected for the complexities of backup and didn't account for the increased deduplication compute load as data grows or the need for fast restores.

ExaGrid is the first mover in the second generation of disk-based backup solutions (landing zone with scale-out) architected to meet the demands of IT. The storage problem was solved with deduplication, but the nature of deduplication introduced a new compute problem, making scale-out architecture mandatory for backup storage. The market is understanding the limitations of the first generation architecture – slow backup and restore performance, backup window expansion as data grows, and expensive/disruptive forklift upgrades.

#### **Traditional Inline Data Deduplication**

The traditional “inline” approach to deduplication deduplicates backups during the backup process, slowing backups and expanding backup windows. Data that is deduplicated inline must be rehydrated for every restore request, taking hours to days. Furthermore, inline solutions employ a “scale-up” architecture with a front-end controller that only adds disk shelves as data grows. This fixed processor and memory approach causes the backup window to expand, resulting in an expensive forklift upgrade.

#### **Landing Zone and Adaptive Deduplication**

Using ExaGrid’s unique landing zone, backups land straight to disk, resulting in fast backups and a short backup window. Deduplication and offsite replication occur in parallel with backups (“adaptive deduplication”), never impeding the backup process. Recent backups are available in unduplicated form, readily accessible for restores. Therefore, local restores, instant VM recoveries, and tape copies are as fast as disk, and restores and VM boots take seconds to minutes versus hours using the traditional inline approach.

#### **Unique Scale-Out Architecture**

ExaGrid provides full appliances in a “scale-out” GRID system. As data increases, unlike other solutions that add just disk, ExaGrid adds all resources including bandwidth, processor, and memory as well as disk, resulting in a fixed-length backup window (regardless of data growth) and negating the need for expensive/disruptive forklift upgrades. With ExaGrid, you “pay as you grow” by adding appliances as data increases.

#### **Backup Applications and Heterogeneous Environments**

If a customer changes backup applications, the ExaGrid system will still work, protecting the customer’s investment. ExaGrid supports many unique features and interfaces, such as improved performance for Veritas Backup Exec GRT, AIR for Veritas NetBackup, OST for Veritas Backup Exec and Veritas NetBackup, and an integrated Veeam Data Mover for Veeam.

#### **ExaGrid’s Advantages**

ExaGrid’s unique architecture provides the fastest backups, restores, recoveries, and tape copies; maintains a fixed backup window as data grows; eliminates forklift upgrades and product obsolescence; and allows IT staff to buy what they need as they need it.

ExaGrid's system scales up to a 1PB full backup in a single GRID. The system allows for replication to a second site for DR as well as cross-protection among multiple datacenters. All appliances and GRIDs are managed by a single user interface.

ExaGrid supports a wide variety of backup applications, utilities, and database dumps, allowing for multiple backup applications, utilities, and dumps within a single environment.

Disaster Recovery – Tape, Private Cloud, Hybrid Cloud, Public Cloud

ExaGrid currently offers six DR models. ExaGrid is used onsite for backup, and

- tape copies are made of the primary site ExaGrid and sent offsite
- a second-site ExaGrid is housed at the customer's second datacenter; changed backup data is replicated daily from the primary site ExaGrid to the second-site ExaGrid
- a second-site ExaGrid is housed at a third-party hosting facility; changed backup data is replicated daily from the primary site ExaGrid to the second-site ExaGrid
- a second-site ExaGrid is acquired by an ExaGrid reseller and is housed at and operated by the reseller; the second-site ExaGrid receives replicated data from the primary site ExaGrid and the reseller charges the customer as a service (cloud) by the month 3rd party cloud providers own, house, and operate the second-site ExaGrid that receives replicated data from the primary site ExaGrid; the provider charges the customer as a service (cloud) by the month
- data is replicated from the primary site ExaGrid to an ExaGrid VM in Amazon AWS (public cloud)

Recognized Technological Innovation

With over 10,000 systems installed worldwide, ExaGrid is the largest independent vendor that provides disk-based backup storage with data deduplication. ExaGrid is the only storage vendor (primary storage, archive storage, or backup storage) with over \$50M per year in revenue, is achieving double-digit growth year over year, and is cash positive (ten consecutive quarters). All other storage vendors are either cash negative or are growing at a single-digit rate year over year.

ExaGrid was named sole "Visionary" in Gartner's 2015 "Magic Quadrant for Deduplication Backup Target Appliances." Visionaries deliver innovative products with capabilities often ahead of the mainstream market. In February, ExaGrid received "Product of the Year – Backup Hardware" from Storage magazine and the "Value for the Money" award at The Storries XIII.

## **Why nominee should win**

- **25 EX40000Es in a single GRID take in a 1PB full backup**
- **Only solution that reduces disk storage and bandwidth and also solves the three compute challenges of data deduplication. All other approaches perform deduplication in-line, slowing backups, restores, and VM boots; they have a scale-up architecture that only adds capacity as data grows, resulting in an ever-expanding backup window**
- **Unique landing zone architecture**
- **Fastest backups/ingest**
- **Fastest restores and VM boots; most recent copy maintained in undeduplicated format**
- **Only scale-out approach to permanently fix backup window length regardless of data growth**
- **Strategic partnerships: Veeam, Nimble, Zerto**