Protecting Data at Rest

Data security is a growing requirement for businesses of all sizes today. While many companies have invested heavily in methods to thwart network-based attacks and other virtual threats, most do not protect their business against potentially costly exposures of proprietary data resulting from a hard drive being physically stolen, misplaced, retired, or redeployed.

ExaGrid encrypted systems offer improved data security with FIPS 140-2 validated, enterprise-proven, industry-standard Self-Encrypting Drive (SED) technology. SEDs provide a high level of security for data at rest and can help reduce IT drive retirement costs in the data center. All data on the disk drive is encrypted automatically without any action required by users. Encryption and authentication keys are never accessible to outside systems where they can be stolen. Unlike software-based encryption methods, SEDs typically have a better throughput rate, particularly during extensive read operations.

Protecting Data on the WAN

Data can be encrypted during replication between ExaGrid sites. Encryption occurs on the sending ExaGrid site, is encrypted using 256-bit AES as it traverses the WAN, and is decrypted at the target ExaGrid site. This eliminates the need for a VPN to perform encryption across the WAN. Separately, ExaGrid also offers data encryption at rest.

Built-in Data Security

- Uses FIPS 140-2 Validated Self-Encrypting Drives (SEDs) to ensure that data at rest is always encrypted with 256-bit AES and is never in the clear on the disk storage. All data, configuration settings, etc. are encrypted.
- Drive theft protection – The drives cannot be read outside of the host system where encryption was enabled.
- System theft protection – System booting and access to data can be restricted with a password. This can be enabled as an option (no extra charge).
- Uses 256-bit AES encryption keys with Kerberos for authentication, authorization, and encryption. Standard Linux encryption libraries are used and regularly updated. These libraries are widely deployed and tested, ensuring full protection of the deduplicated backups over the WAN.
Advanced Features

- Scale-out architecture allows for cost-effective growth, eliminates product obsolescence, and maintains a fixed-length backup window as data grows.
- Unique landing zone reduces downtime by keeping a full copy of the most recent backup in complete form for instant recovery of VMs, full systems, and files. Competing solutions must rehydrate the most recent backup from millions or billions of deduplicated chunks causing much longer recovery time.
- Adaptive deduplication performs deduplication and replication in parallel with backups while providing full system resources to the backups for the shortest backup window and an optimal recovery point (RPO) at the disaster recovery site.
- Plug and play expansion – various sized appliance models allow full backups of up to 63TB per appliance at an ingest rate of 432TB per hour. Combining up to 32 appliances in a single scale-out system allows for scalability up to a 2PB full backup (4PB usable storage). In addition, ExaGrid supports second-site repository storage of up to 4PB for DR and long-term retention.
- ExaGrid includes replication to an offsite ExaGrid for disaster recovery, cross replication for multi-site disaster recovery, and supports offsite tape copy creation.

- Private, hybrid, and public cloud DR support.
- Global deduplication across all appliances in a system.
- Bandwidth throttling for WAN efficiency.
- Management software notifies via SNMP or email that the system is reaching capacity thresholds.
- RAID6 guards against up to two simultaneous disk failures.
- Self-Encrypting Drive (SED) technology (encrypted models only) ensures that data at rest is always protected.
- WAN encryption for secure data transfer.
- Support of Oracle RMAN Channels for multi-hundred terabyte databases with automated performance load balancing and failover.
- Support of the Veeam Data Mover for synthetic fulls that are six times faster.
- Support of Veeam SOBR for automated end-to-end scale-out backups to backup storage.
- Support of Veritas Backup Exec and NetBackup OST.
- Support of Comtrade Software HYCU for Nutanix AHV.
- A comprehensive listing of over 25 supported backup apps and utilities can be found at [www.exagrid.com](http://www.exagrid.com).