



GigOnyx GEM™

The GigOnyx GEM™ system starts with a **complete image** of all hard drive partitions of the server *and workstations* via an agent, which is warehoused on the Network Attached Storage Unit (NAS) physically located at the client location. The data is stored to the NAS and to the client's **private cloud** using AES-256 bit encryption and compressed.

Block-level—not file-level—**backup**, is employed. Therefore, data is captured at the level of 1's and 0's. *Block level data is raw data which does not have a file structure imposed on it.* Database applications such as Microsoft SQL Server and Microsoft Exchange Server transfer data in blocks. Block transfer is the most efficient way to write to disk, and it is much less prone to errors than those that result from file-level backups. Additionally, block level backups are not **affected by open files or open databases**. The block-level image is an exact digital duplicate of the on-site server, and workstations can also be duplicated to the NAS with the on-site server.

NEAR REAL-TIME BACKUPS

The GigOnyx GEM™ uses Incremental Forever methodology to capture all changes to the initial image in increments of as often as 15 minutes to one hour, depending on client needs. Incremental Forever technology not only backs up recent datasets, but it also allows end users to reconstruct the state of their data as it stood at the end of various restoration points—a point in time recovery. This forensic level of auditable data recovery may satisfy various regulatory requirements (such as HIPAA and GLBA) for data retention and data record reconstruction.

INTUITIVE AND FLEXIBLE RESTORATION

A dependable, well-performing, backup system must allow for quick and flexible restores. The GigOnyx GEM™ allows for recovery of files, folders, partitions, mail-boxes/messages, databases/tables using a quick and intuitive process. The near real-time incremental block-level backup of the GigOnyx GEM™ system permits restoration from any previous incremental point in time, allowing for multiple versions of files, folders, messages/mailboxes, database/tables to be restored.

SECURE REMOTE STORAGE

After acquiring a complete image of the server and workstations to which it is attached, the NAS unit creates an encrypted tunnel and transmits the imaged data to a secure offsite private cloud location where it resides in an encrypted, compressed format. Secure transmission of bit-for-bit data off-site enables continuity of client business through private cloud server functionality in the case of physical damage to the client's network or NAS, such as may occur with catastrophic loss from a natural disaster. Encrypted transmission of data between the NAS and the private cloud greatly reduces the risk of data loss incidents that plague physical tape and portable back-up devices while preventing man-in-the-middle attacks during transmission. Automated frequency of incremental backups to the private cloud minimizes data backup corruption from human error, such as failure to rotate back-up tapes. Open software applications and databases do not affect the accuracy of backups with the GigOnyx GEM™, as they do in conventional backup systems.

HARDWARE INDEPENDENT RESTORE (HIR)

HIR technology allows for accelerated recovery to the same system, to dissimilar hardware, or to and from virtual environments. This means that network connections, settings, and most software applications can be restored quickly to replacement machines, such as servers and workstations, so that they appear to the client to be unaffected by system failure. HIR features also make system migration to a new server or consolidation to a virtual environment a straightforward process. In the event of an operating system modification, data can be transferred predictably and efficiently.

FULL-TIME SUPPORT

The GigOnyx Network Operations Center (NOC) monitors your NAS and the attached servers 24/7. Failed processes may generate immediate alerts to NOC engineers, who can remotely correct errors within minutes of receiving notification. In the rare case of more serious NAS issues, Gigonix, LLC, will ship a replacement overnight — pre-loaded with all stored data — directly to the client location.

DISK-BASED BACKUP & DISASTER RECOVERY

The GigOnyx GEM™ backup continuity device (NAS) allows for rapid recovery of systems and data through disk imaging technology. Proprietary software installed on the NAS allows administrators to create real-time images of the systems and data throughout the day. Typically, there is no noticeable performance impact on systems, even when images (backups) are taken every 15 minutes, essentially eliminating slow-down periods and business interruption due to backup processes in most cases.

BACKUP OF MANAGED CISCO DEVICES

Cisco network equipment configurations (Security Appliances, Routers, Switches, etc.) are backed up by the GigOnyx GEM™ system on a scheduled basis and whenever modifications are made. Copies of these configuration files are stored offsite in the client's private cloud.

