

# ASSUREON™ ARCHIVE STORAGE

There is some data that is too important to lose, too private to be seen and too critical to be tampered with.

## OVERVIEW

The Nexsan Assureon™ archive storage system is ideal for any organization that needs to implement storage optimization, regulatory and corporate compliance, or the long-term archiving of unstructured data. Users do not need to learn anything new, change how they access data or learn any new processes. Assureon archive storage systems can house from 3TB to multiple PB of unstructured data.

Assureon archive storage systems are very popular in the financial and healthcare industries; federal, state and local government organizations; as well as call centers, video surveillance and organizations with multiple remote offices.

## STORAGE OPTIMIZATION

Up to 80% of data on primary storage is unstructured. Due to the nature of unstructured data, it either never changes or changes infrequently. This data can be easily and transparently offloaded by an IT generalist onto a cost-effective Assureon archive storage system without any disruption to ongoing operations. In addition to freeing up space on primary storage for active data, the data on Assureon is automatically protected from day one. Assureon-protected data does not need to be repeatedly backed up during weekly full or daily incremental backups, dramatically reducing the size, time and cost of the backup process. The data on Assureon is better protected and instantly available. The space on primary storage can be freed up immediately once data is protected by Assureon. Data can also be left on primary storage for periods of high access then replaced with a shortcut or deleted after a set period of time.

## REGULATORY AND CORPORATE COMPLIANCE

Assureon is ideal for organizations that must comply with governmental regulatory requirements including HIPAA, GLBA, Sarbanes-Oxley, Federal Rules of Civil Procedure (FRCP), SEC 17A-4 and PCI DSS. Assureon exceeds even the strictest regulatory requirements for data integrity, protection, privacy, security, longevity and availability with full audit trails. Additionally, Assureon makes it easy and automatic for organizations to adhere to their internal guidelines for data retention, deletion, privacy, protection and risk mitigation.



## INTEGRITY

- **Fingerprints** – Each time a file is saved, a unique fingerprint is generated using both an MD5 and SHA1 hash of its contents and metadata, so history and contents cannot be altered after the fact (WORM storage)
- **Serial Numbers** – Each file is assigned a serial number which is used to ensure no files are missing or inappropriately added
- **Secure Time** – Tampering with the system time clock is prevented by using a global, redundant, secure time source (Stratum Level I hardware time sources)
- **Two Copies** – Each file and its fingerprint are stored twice in the Assureon. The second copy is either stored in a separate RAID disk set in the same Assureon or on a remote Assureon
- **Data Verification** – Files are continually verified against their fingerprints, repaired using their copies and safeguarded by RAID disk arrays for days or decades

## SCALABILITY AND HIGH AVAILABILITY

- **Remote Replication** – Two active Assureon systems can continuously replicate to each other to protect against a site failure
- **Failover/failback** – Native active/active replication protects against site disasters with automatic read failover and manual write failover
- **Performance & Capacity** – Scale capacity up to multiple petabytes and add performance by using multiple Assureon archive storage systems together
- **InfiniBand** – Optional High Speed Assureon with InfiniBand connectivity provides blazing-fast retrieval of data from the Assureon archive

## REMOTE AND BRANCH OFFICES

It can be particularly challenging to meet corporate compliance guidelines for data that resides in remote or branch offices, which often have little or no onsite IT personnel. The easiest solution to this challenge is to place Assureon at corporate headquarters with an Assureon Edge NAS in each remote office, providing NFS and CIFS shares. All data stored on the branch office Assureon Edge is securely transmitted to the Assureon archive storage system at corporate to be archived. Alternatively, the Assureon Client is installed on branch office Windows 2003 or 2008 servers where it archives selected directories and files by transmitting them to Assureon at corporate headquarters

## LONG-TERM ARCHIVE

The Assureon archive storage system stores data for days or decades with unsurpassed integrity and protection in an easy to administer system that resides on-premise, in the cloud or both. High availability is built into each replicated Assureon system. High speed InfiniBand connectivity is available as an optional add-on for ultimate performance. Each file is fingerprinted and stored twice within Assureon on separate RAID disk sets, or, better yet, on separate Assureon archive storage systems that are geographically separated. Background data integrity auditing uses the fingerprints and duplicate copies to ensure authentic files for days or decades without the need for administrative intervention. Self-healing integrity checks and file availability audits along with digitally signed metadata files and third-party secure time stamps work together for the utmost protection of files within Assureon. Together, this applies a verifiable chain of custody to each data set throughout the retention period.

## CLOUD STORAGE

Assureon archive storage systems are designed with multi-tenancy in mind. Online archive storage providers utilize security features such as certificate-based authentication and separate AES-256 encryption for each cloud services customer. Additionally, each file is individually encrypted with its own AES-256 key to provide the strongest separation and security of data for each client. Standard reports keep track of storage usage for each cloud services customer and enables easy import into their billing systems.

## ASSUREON FEATURES

### PRIVACY

- **Separation of Data** – Assureon provides complete separation of data between departments or projects using logical and physical separation as well as separation through the use of multiple AES-256 encryption keys
- **Encryption** – Files can be AES-256 encrypted. Keys for a replicated Assureon are stored safely at 4 sites by the integrated key management system. A nominal annual key management subscription is required
- **Authentication** – Users are authenticated with Active Directory or digital certificates
- **Audit Trails** – Audit trails report on file access and denied access attempts

### REGULATORY AND CORPORATE COMPLIANCE

- **Government Regulations** – Meet regulatory mandates (e.g., Federal Rules of Civil Procedure (FRCP), SOX, SEC-17, HIPAA, GLBA and PCI DSS)
- **Data Retention** – Easily create retention rules and associate them with unstructured data directories or file types
- **Legal Hold** – A legal hold can be easily placed on any set of files, overriding their original retention periods until the hold is removed
- **One System** – Data sets can be retained for a period of time that can be extended but not shortened. Other data sets can be assigned a flexible retention period that can be lengthened or shortened to accommodate both needs in the organization
- **Data Deletion** – Industry-leading single-point-deletion deletes all copies by destroying the encryption key for the file and deleting all copies of the file. Optional DoD wipe of the drive is also available on a per-object granularity

### CONFIGURATIONS

Assureon is offered in three different hardware platforms.



**Appliance** – The NXR and AXR Series of Assureon archive storage system is available in a 2U package that combines both the Processing Node and Storage in a single frame. Assureon NXR includes a NAS head and provides 3TB of usable archive space. The Assureon AXR provides 4TB to 8TB usable capacity.



**Low Capacity** – Small SX/SXR Series Assureon ranges in size from 7TB to 56TB in a 4U package, including the Processing Node and Storage Node.



**Enterprise** – Large SX/SXR Series Assureon system ranges in size from 14TB to 200TB in 6U. Assureon can scale to multiple Petabyte by adding additional Processing Nodes and Storage Nodes.

**Dual Write** – Assureon is offered in Dual Write configurations only.

**Single Site Assureon (SX)** – In this configuration, Assureon will maintain two copies of every file within the local Assureon system. Each copy resides on a separate RAID disk set.

**Replicated Assureon (SXR)** – In this configuration, Assureon will maintain two copies of every file or object. One copy in each of the two replicated Assureon systems are typically geographically separated for the greatest protection but may be optionally used across campus or at the same location.

**Hosted Assureon (HXR)** – In this configuration, a local Assureon will maintain a single copy of the data while a second copy of the data is replicated to a remote, multi-tenancy Assureon. Typically, the second Assureon resides at an Assureon-as-a-Service cloud provider or in a corporate cloud.

## ASSUREON FEATURES

### EASY TO MANAGE

- **Automatic Archive** – Assureon Windows Client moves files from Windows Servers to the Assureon and can leave the original file in place or optionally leave a shortcut behind
- **NAS (NFS/CIFS)** – Assureon Edge presents a CIFS/NFS NAS interface to users and applications and stores all files on Assureon. Both replicated and Clustered NAS configurations are available
- **Fast, Easy Deployment** – The Assureon Client can be installed on Windows Server 2003 or 2008 with no reboot required. Once the archiving policies are established, files and folders are archived, completely transparent to applications and users
- **Global Management** – Single pane-of-glass management of all local and remote Assureon
- **Utmost Data Protection** – Protecting data with Assureon has many advantages over traditional backups including WORM, single file deletion, greater reliability and availability, and near instantaneous restores to dramatically reduced RTO
- **Authentication** – Assureon uses Microsoft Active Directory for authentication in the enterprise and can preserve folder-level NTFS permissions; it can also use certificates for authentication in Linux or Unix environments, standalone Windows servers or when it is used for a multi-tenancy cloud-based online archive
- **Reports** – Standard reports keep track of storage usage for bill back of cloud services customers or within an individual customer bill back for projects or departments
- **Four levels of monitoring** – Automated monitoring via system state thresholds, node events, Assureon Client and self-healing file integrity and availability audits
- **Lights-out Management** – Self-managing Assureon issues alerts when something needs attention

DATA SHEET

## ASSUREON FEATURES CONT.

### EASY TO USE

- **Non-disruptive** – Users and applications do not need to change to work with Assureon. An application running on a Windows 2003 or 2008 server can have its data securely archived, freeing up primary storage while the application is in production
- **Prior Versions** – Prior versions of files are easily retrieved by administrators
- **Assureon Explorer** – A web-based GUI makes it easy to search the entire archive with role-based restrictions for instant access. Metadata search is included with all Assureon systems. Optional file content indexing and searching is available as an Assureon Content Index Search node for typical files such as office, textual PDF files, text files, html files, xml files, etc.

### EFFICIENT

- **Free Primary Storage** – Files moved to Assureon free up primary storage
- **Reduce Backups** – Archived folders can be removed from the backup stream, significantly reducing the size of full backups. The result is a very fast return on investment based on savings of labor, hardware, media and time
- **Fast Restores** – Hyper speed restores replace small shortcuts rather than the actual file contents to meet even the toughest Recovery Time Objectives (RTO)
- **Power Savings** – AutoMAID energy saving technology reduces power consumption by up to 60% while maintaining fast response
- **Less Space Needed** – Single-instance storage technology eliminates duplicate files, saving 20-60% on typical mid-sized organization's Assureon capacity requirements

### CLOUD-READY

- **Multi-tenancy** – Multi-tenancy features enable service providers to offer highly secure Archive-as-a-Service with logical, physical and encryption data separation
- **Online Archive** – An on-premise Assureon can replicate to a cloud-based Assureon powered archive service. Assureon supports one-to-one and many-to-one replication