

# ASSUREON™

## Simple storage efficiency

### AN ASSUREON BRIEF

*Why would anyone store dozens or even hundreds of copies of the exact same file? They wouldn't. And yet that is exactly what many businesses are doing.*

*There is a better way - a way that greatly reduces management headaches and minimizes storage consumption.*

Assureon from Nexsan gives organizations the ability to keep only one copy of each file stored, regardless of how many users write that file to storage. Assureon uses single instance store technology, a function of Content Addressed Storage, to identify duplicate files and store only a single copy of a file. This de-duplication process is performed automatically with Assureon and is transparent to the user. By intelligently transferring and storing a single instance of any archived file, Assureon dramatically reduces storage consumption, network bandwidth and overall cost.

Assureon is designed around the Content Addressed Storage (CAS) object storage model. CAS technology produces a unique digital identifier or fingerprint for all objects, based on their content. This object storage model stores files, images, recordings, email, and so on, as objects with a unique universal identifier. This fingerprint provides the unique CAS address that is used to store, retrieve and verify the integrity of the archived file. In an object model, the archived physical object is completely separate from the logical location or application. This approach simplifies management and allows greater scalability over traditional file system models. Administrators can now be relieved of performing typical storage housekeeping tasks, such as formatting file systems, creating volumes and binding LUNs (logical unit numbers).

### Single Instance Store

Assureon's CAS technology enables single instance store, whereby only one copy of a data object is kept. Single instance store provides tremendous efficiency of storage, processing and network resources. For example, if 50 different individuals in multiple departments are all saving the same PowerPoint presentation, Assureon will identify that they are duplicates based on their CAS address, and only store one copy. This can provide the benefit of, in some cases, hundreds-to-one compression. By keeping only one copy of a file with separate metadata and management policies for each user, Assureon's CAS de-duplication technology substantially decreases total operating costs by reducing the amount of storage needed and IT management required.



To guarantee that a single instance of the content is securely placed under management, Assureon utilizes these two cryptographic hash functions to generate secure digital fingerprints of the original file. By using multiple hash functions and other attributes of the file content, Assureon guarantees that there is a single, immutable fingerprint for each instance of file content in the system.

## Reduces File Management

Assureon's CAS technology separates the physical location of the data from its logical representation, simplifying storage mechanics and file retrieval. In the process of making the CAS signature, a serial number identification (SigID) is created by Assureon. Assureon creates separate unique identifiers for a file and its metadata. An identity challenge occurs when multiple instances of the same file are being stored with different life cycles. For example, the HR and Finance department may be storing the exact same file, but for compliance reasons each department has different retention policies associated with the file; the Finance department has a three year retention period while HR has a five year period. Assureon solves this challenge by using two types of identification: sequential serial numbers for each instance of the file, and a unique CAS address for the file contents. This dual identification, in contrast to other CAS systems, supports true single instance store of the file contents while ensuring that each users' retention policies are respected. A separate metadata record is kept for each instance, and is deleted based on its associated retention policy. When the last remaining metadata instance associated with a given CAS address is deleted, the actual file contents are also deleted.

\* When used with Assureon's secure encryption feature. For more details on this technology please read the Assureon Brief on Data Privacy and Theft Prevention

## Assureon CAS features

- Creates digital signatures using dual secure hashing algorithms
- Creates separate file meta-data to simplify discovery and management
- Stores like files as one instance
- Uses low cost hardware in highly available configuration

## Key Benefits

- Secure data preservation and consolidation
- Storage capacity optimization
- Simplification of management
- Reduced TCO
- Meets compliance regulations
- Fast, random access to data
- Constant data availability
- Load balancing
- Integrity Assurance



© 2006 Nexsan Technologies, Inc. All rights reserved.

Nexsan Corporate Office: 21700 Oxnard Street • Suite 1850 • Woodland Hills, CA 91367 • [www.nexsan.com](http://www.nexsan.com)  
Telephone: 866.4.NEXSAN • +1.818.715.9111 • Fax: 818.715.9175 • European Office: +44.(0).1332.291.600