NEXSAN

ASSUREON
TECHNOLOGY BRIEF

Assureon® is a secure archive storage system designed for the long-term retention of highly sensitive information. As a compliant archive, Assureon provides a comprehensive data protection feature-set which ensures the availability and integrity of all files. Core to these features is Assureon's digital file fingerprinting and "self-healing" integrity audits which eliminate threats of data loss, tampering, and corruption.

Since introduction in 2005, Nexsan has developed the Assureon software in parallel with Nexsan storage subsystems to deliver a surefire archive system that meets even the most stringent regulatory and corporate compliance standards.

Nexsan has continued to reinforce the reliability and security of Assureon with each release and as a result has gained a very loyal customer base in some of the most sensitive environments; for example:

- Financial Services – Securities, banking
- Local Government – Utilities, and transportation
- Law enforcement – Crime labs & Federal Bureau of Prisons
- Department of Defense
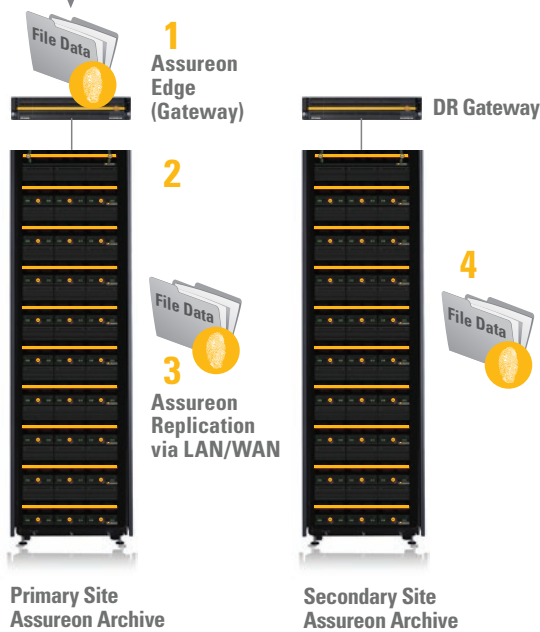- The Federal Aviation Administration
- Healthcare

LOCKED-DOWN APPLIANCE

Assureon is a locked down appliance which protects against corruption and tampering whether intentional or unintentional. Over the past thirteen years of R&D, Nexsan has maintained a consistent platform by developing the Assureon software on a "locked down" platform with great results and no vulnerabilities. Because the OS is locked down the system is protected from the threats often associated with Windows environments. Specifically, "locked down" is defined as:

- Assureon system does not allow native access
- No modifications or programs can be installed
- Limited access is available to a single administrator via NTFS permissions.
- All data is restricted to read-only
- The Assureon appliance is not directly accessed by end users for browsing or any other actions
- All servers are firewall protected

Application Server

File Data

1 Assureon
Edge
(Gateway)

DR Gateway

2

4

File Data

File Data

3 Assureon
Replication
via LAN/WAN

**Primary Site
Assureon Archive**

**Secondary Site
Assureon Archive**

**DATA INTEGRITY VALIDATED
THROUGHOUT ASSUREON
INGESTION PROCESS**

In addition to the "locked-down" aspects noted above, the Assureon ingestion process and recurring audits automatically detect and repair all discrepancies if present in Assureon. If data is ever corrupted, whether by bit rot or by a malicious process, Assureon will detect these discrepancies and restore the file to the original format. This process is outlined below.

ARCHIVING WORKFLOW

1. File data is written to the archive gateway (Assureon Edge) which immediately creates a digital fingerprint (dual cryptographic hash) for each file.

2. The file is then received by the Assureon archive which validates the fingerprint to ensure original is preserved. Files are only accepted if they match the original fingerprint formed at the Edge (otherwise file is re-ingested).

3. If the fingerprint is a match, then the file is once again validated against its fingerprint and written to the permanent store at the primary site.

4. The file is then replicated to site 2 where the once secondary Assureon ensures it matches the original fingerprint (file is re-sent if it does not match the fingerprint formed at the source, the Assureon Edge).

For the life of the file, Assureon will routinely perform file audits which detect and automatically self-heal file discrepancies with the action logged. With replicated configurations, Assureon continually monitors the archived data at both locations and ensures both sites are fully in synch.

SUMMARY

Assureon is ideal for any organization that is under strict regulatory and corporate compliance mandates. The Assureon archive storage system stores data for days or decades with unsurpassed integrity and protection in an easy to administer system. Assureon's digital fingerprinting ingestion process preserves all files from the moment created, while background data integrity auditing ensures all stored data remains authentic for days or decades without the need for administrative intervention. Over the past thirteen years, Nexsan has continued to develop Assureon on a consistent and proven architecture that is trusted by the most sensitive customer base.Over the course of a year, for each terabyte captured, there are at least five copies on hard disk, additional copies on optical disk and between 25 and 50 copies on tape; 25 copies if the data didn't go to an archive and 50 if it did. For each additional copy that IT has to manage and maintain, the cost and complexity compounds exponentially.

ABOUT NEXSAN

Nexsan® is a global enterprise storage leader since 1999 delivering the most reliable, cost-effective and highly efficient storage solutions. Nexsan's solution portfolio empowers enterprises to securely store, protect and manage valuable business data with a broad product line of unified storage, block storage, and secure archiving. www.nexsan.com.