



Enara Technologies Inc.

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SAPERION DOCUMENT SECURITY & DISASTER RECOVERY

Saperion offers strong security features to guard against unauthorized access to archived documents, and to ensure that the archive medium cannot be accessed by external tools. Access to specific portions of the archive can be defined and changed at any time. Users gain access to documents, or to specific pages within a document, according to the group they belong to, the role of the group, the Access Control List of the document, and the rights granted by the system administrator.

The integrity of the original document is never compromised. ANY change made on a document, or on its indexing information, results in a revision being created. Thus, there is no way that information within an image or document can be modified without leaving an audit trail, and without maintaining the previous version. There is no limit to the number of revisions that can be done on a document, and one can browse through the revision history at any time. Secure Annotations guarantee that only certain users are able to see or modify them.

Archived documents are not written in a file system format so that it is not possible to bypass the system's security measures to access the documents. Saperion takes DIRECT control storage devices like optical drives and jukeboxes. Eliminating 3rd party software to access storage devices makes it impossible to bypass Saperion's security measures, and also reduces the cost of deployment. It is also possible to copy and mirror optical media either within the same jukebox, or between jukeboxes that may be in different locations. Placement strategies allow setting up rules for designating certain media to hold specific types of documents. This can be used for example to store confidential information on separate media from those used to hold other documents.



SAPERION – Data Security

SAPERION offers a very high degree of security on its information repositories:

- Security for Stored Data: You can save all document information (document, indexing, document structure, annotations, table definitions, etc.) including all changes on the storage medium.
- Complete reconstruction of the index databases is possible from the medium at any time.
- Protection from unauthorized access by saving the data in a data format defined by SAPERION, which cannot be read without the Document Server.
- Access rights for complete documents, single pages and annotations.
- Manual creation of copy media is possible.



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- Automatic mirroring of media: if required, with the use of the high-end Document Servers, you can also have physically separated systems where one system can act as a "Hot Site" for the other.
- The Audit Trail option can track and log every transaction and event occurring within Saperion.
- No third party products are used for any security sensitive features.

Security of Access by Rights Assignment

The SAPERION system uses user names and passwords to grant access to the electronic storage repository. The definition of Saperion's user management is similar to that of Windows NT/2000, and thus it is easy to transfer it and synchronize between the two environments.

- **Function Rights:** You can define function rights according to Roles, and different roles can be assigned to any combination of user groups. These rights control access to general system functionality and menu items.
- **Access Rights:** You can assign access rights for complete documents, single pages or to annotations (black markers, text notes, and stamps) through access control lists (ACL). An ACL consists of any list of user names or groups with the ability to define various permission levels for each member of an ACL.
- **Encryption and Digital Signatures** may optionally be added to saved documents to further enhance security.

Security When Using the Storage Repository via the Internet

There are several security mechanisms to protect the Web server, the electronic storage repository, and any transmitted documents from unauthorized access: You can configure the Web server so that only certain user groups gain access, and there are specific ports available for SAPERION. Firewalls and VPN further increase security.



Access to the repository can be protected by user names and passwords just like in a local SAPERION network. This is also valid for all function and access privileges via the Internet, since users, groups, roles, and access lists defined in the user management of SAPERION also have full validity when connected via the Internet.



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SAPERION - Document Server

SAPERION's Document Server is one of the world's most secure servers available today. With its unique architecture, you can completely rebuild lost or corrupted databases from information stored on the Saperion storage media.

The system monitors and logs all of the writing process until the end of the full transaction. This is very helpful in the document recreation process. It is also possible to mirror all documents onto another medium while they are being written.

The Document Server works in a sequential, object-oriented memory format. This is a state-of-the-art developed approach that is not file-System oriented. SAPERION is constantly optimizing and updating the Document Server using experience collected from over hundreds of projects. The Document Server is now even more suitable for deployment in large enterprises due to its scalable multi-tier architecture. It offers higher flexibility and simplified administration (especially its remote maintenance). The large Cache, RPC connection, and its multithreading capability, make the Document Server one of the best high-performance document storage backend solutions in use today.

SAPERION – High End Document Server

SAPERION is designed around a Multi-Tier architecture that allows very high orders of scalability. A large number of locations, servers, storage repositories, Caching servers, and users may be configured to work together with high performance.

For large enterprises and others that store large volumes of data, strategies for document distribution to several jukeboxes and document servers become necessary. For the administration of such a network of several document servers, the SAPERION High-End Document Server offers various replication mechanisms.

This concept applies particularly to the control of media mirroring or media replications between optical jukeboxes that may be located anywhere in the world. If the jukebox or the original medium fails, you can continue working with the mirrored medium. Storage of documents can also continue by using the cache until a new original medium is made available or the active jukebox is back online.



If a Document Server or jukebox fails, the high-end Document Server can step in for the original server's affected media and can then allow all types of access to continue normally. The end users are not aware of the switching between servers or jukeboxes. Because of all these redundancy features, the high-end Document Server also permits uninterrupted operation during maintenance. It offers the highest security against media loss (e.g. due to theft or fire). It also offers a true disaster recovery and business continuity solution option.