WHITEPAPER

HOW TO MODERNIZE YOUR SAP© ARCHIVING INFRASTRUCTURE

Software-Defined Archiving is a flexible, secure and future-proof approach to ensure the long-term security, availability and integrity of archive-relevant documents in SAP environments, as well as compliance with legal requirements. Discover how to implement a secure archiving & WORM storage infrastructure behind your SAP ArchiveLink-enabled DMS/ECM and how to gain cost-efficiency and hardware independence.

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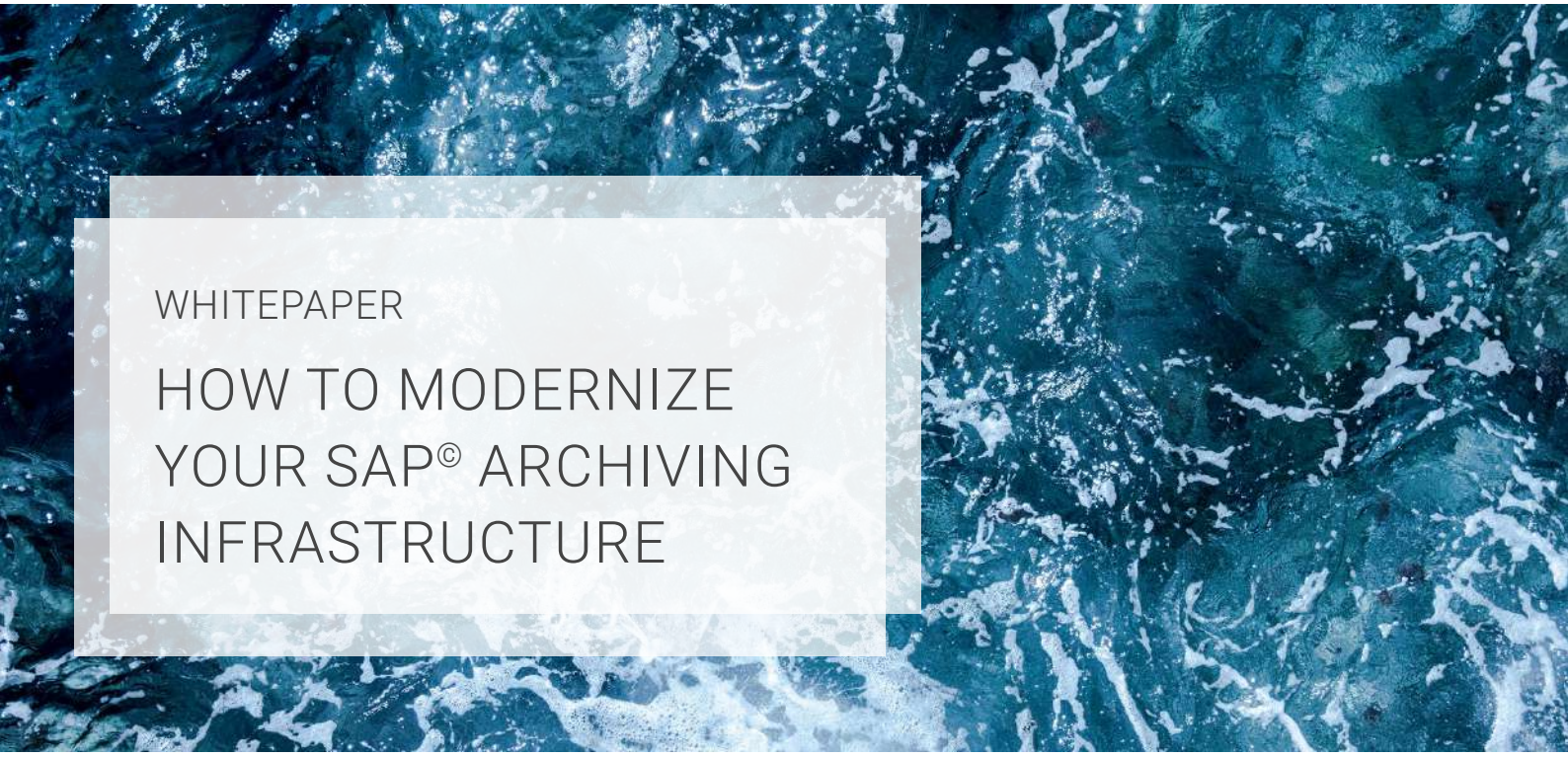

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1. INTRODUCTION

When it comes to WORM (Write Once Read Many) data storage and archiving, organizations face a host of challenges, including security, availability, and compliance with regulatory requirements such as the Basel III international regulatory framework for banking, the EU's General Data Protection Regulation (GDPR), and SEC Rule 17a-4 of the US Securities and Exchange Commission. Another challenge is the demand for flexibility, scalability, and minimized costs in today's business environment. So how can SAP customers ensure that the data stored in their Document Management System (DMS) is secure and meets regulatory requirements while maintaining the agility necessary to stay competitive?

2. MANAGING DATA EXPLOSION

Due to the rapid growth of structured and unstructured data as well as increased complexities in IT infrastructure landscapes, companies face a new challenge in information management: How to manage data explosion efficiently and effectively. To avoid preventable risks and ensure business continuity, companies must be strategic in addressing this task.

Various Document Management Solutions (DMS) that integrate with SAP® (e.g. OpenText, Documentum, SAPERION, KGS, PBS, Easy Software, DocuWare, OnBase) as well as underlying storage solutions indeed help companies solve these challenges, but the approach is not necessarily optimal. SAP users with ArchiveLink®-certified DMS systems have only had the choice to leverage proprietary

appliances for their WORM storage (Write Once Read Many) in order to protect their documents meeting regulatory requirements. Most of these appliances have reached their end of life and there is a demand for a future-proof approach.

Through virtualization, companies can gain flexibility and are able to efficiently exploit their IT resources according to their needs. Virtualized environments in companies' data center, as well as offers from external Cloud Service Providers, play important roles in achieving it. In data archiving, companies can also gain flexibility and efficiency by deploying "Software- Defined Archiving" solutions (SDA).

ENSURING INFORMATION SECURITY AND ACCURACY

Protecting SAP archived attachments and data archiving files, as well as ensuring their availability and integrity for the long term, are important for meeting stringent internal and external regulatory requirements in data governance (e.g. SEC17a-4, Basel III, PCI-DSS, GDPR). However, these requirements cannot be fulfilled by SAP-certified DMS systems nor storage hardware alone. This has become an issue of increasing importance for many organizations.

Two storage concepts in data centers were mainly used until recently to ensure the availability and integrity of SAP archive-relevant documents. However, both concepts cannot fulfill today's requirements:

1. Leveraging hardware-dependent and object-based storage solutions next to standard file and block storage (e.g. Dell EMC Centera). These systems enabled content-related integrity verification but caused proprietary data silos and hardware lock-ins.
2. Combining three storage types – Block, File, and WORM – as a Unified Data Storage. This approach allowed easy access to file systems but could not provide object-based data integrity verification.

REDUCING STORAGE COSTS

Companies using proprietary archive solutions to store their data (like e.g. Dell EMC Centera, NetApp SnapLock) need to search alternatives due to their end of life or high maintenance costs. Legacy storage hardware with its hardware lock-in disadvantage creates enormous costs for companies. How can organizations, which normally have very limited IT budgets, keep their archiving storage costs low?

When all these challenges are not strategically addressed, organizations expose themselves to a certain level of business risks, such as slower access time to data, greater potential for data errors, and higher IT administration and support costs.

3. A FUTURE-PROOF APPROACH: SOFTWARE-DEFINED ARCHIVE STORAGE

Companies need to take a new approach in protecting and retaining their crucial business data due to the limitations and disadvantages of legacy archiving solutions. Market leaders are moving away from proprietary appliances towards solutions which allow for more flexibility and cost efficiency. There are several critical criteria, which enterprise archive storage solutions must fulfill to enable companies to achieve this goal and to solve today's challenges.

CRITICAL CRITERIA FOR ARCHIVE STORAGE SOLUTIONS

- **Future-proof approach:** The solution must have a forward-looking technology so that it is prepared for inevitable technology upgrades in data applications and storage.
- **Scalability & Cost-Efficiency:** To tackle data explosion and internal budget limitations, the solution needs to be scalable, yet cost efficient.
- **Data Integrity & Protection:** The solution must provide features and tools to ensure long-term integrity and protection of data (like WORM storage, data replication, encryption, integrity checks etc.).
- **Certifications for Compliance:** To comply with various regulations for data storage, companies need a solution that has been assessed and certified by independent auditors for its capabilities to provide the highest information security standards, data integrity maintenance, and data retention management on the storage layer. These requirements cannot be fulfilled by SAP systems, DMS applications nor storage hardware alone.
- **Open Interfaces:** For a smooth integration with SAP ArchiveLink-certified DMS solutions, SAP Content Server, and various storage infrastructures (Onsite, Cloud, Object Storage) the solution needs to provide open interfaces.
- **Cloud Ability:** The archive storage system should support cloud integration.

An innovative technology which can fulfill these criteria is the **Software-Defined Archiving approach**.

The Software-Defined Archiving approach has helped numerous companies to manage data growth and to protect their SAP archive-relevant documents. Companies, which adopted Software-Defined Archiving into their SAP environments, have enjoyed optimized cost efficiency, increased flexibility, and highest security standards in their archive storage.

The software-defined concept is simple, yet powerful. By using a software technology for managing the long-term protection and retention of SAP archive-relevant documents, the software is the focus and provides the archiving intelligence, not the hardware. Software- Defined Archiving is based on open industry standards, eliminates hardware lock-ins and is highly adaptable to future needs.

BENEFITS OF SOFTWARE-DEFINED ARCHIVING

BUSINESS ASPECTS

- High TCO reduction potential
- Hardware independence: no vendor lock-ins
- Optimal integration into heterogeneous and complex IT infrastructure landscapes
- Open interfaces to connect other business applications to the storage layer
- Ready to work in the cloud

COMPLIANCE ASPECTS

- Reduction of business risks
- Long-term protection of data integrity
- Compliance with various legal standards and fulfillment of highest information security standards
- Data retention management on the storage layer for additional protection of archived data

4. HOW THE SOFTWARE-DEFINED ARCHIVING SOLUTION ICAS HELPS TO MODERNIZE YOUR SAP ARCHIVING INFRASTRUCTURE

Archive TCO Reduction by up to 50%

Certified for Numerous SAP DMS Solutions

Easy Integration and Hardware Independence

Data Integrity Checks and Self-Healing

Integrated Data Replication for High Availability

ARCHIVING PROCESS OF SAP DOCUMENTS WITH ICAS

iTernity Compliant Archive Software (iCAS) acts as a software layer between business applications and underlying storage infrastructures.

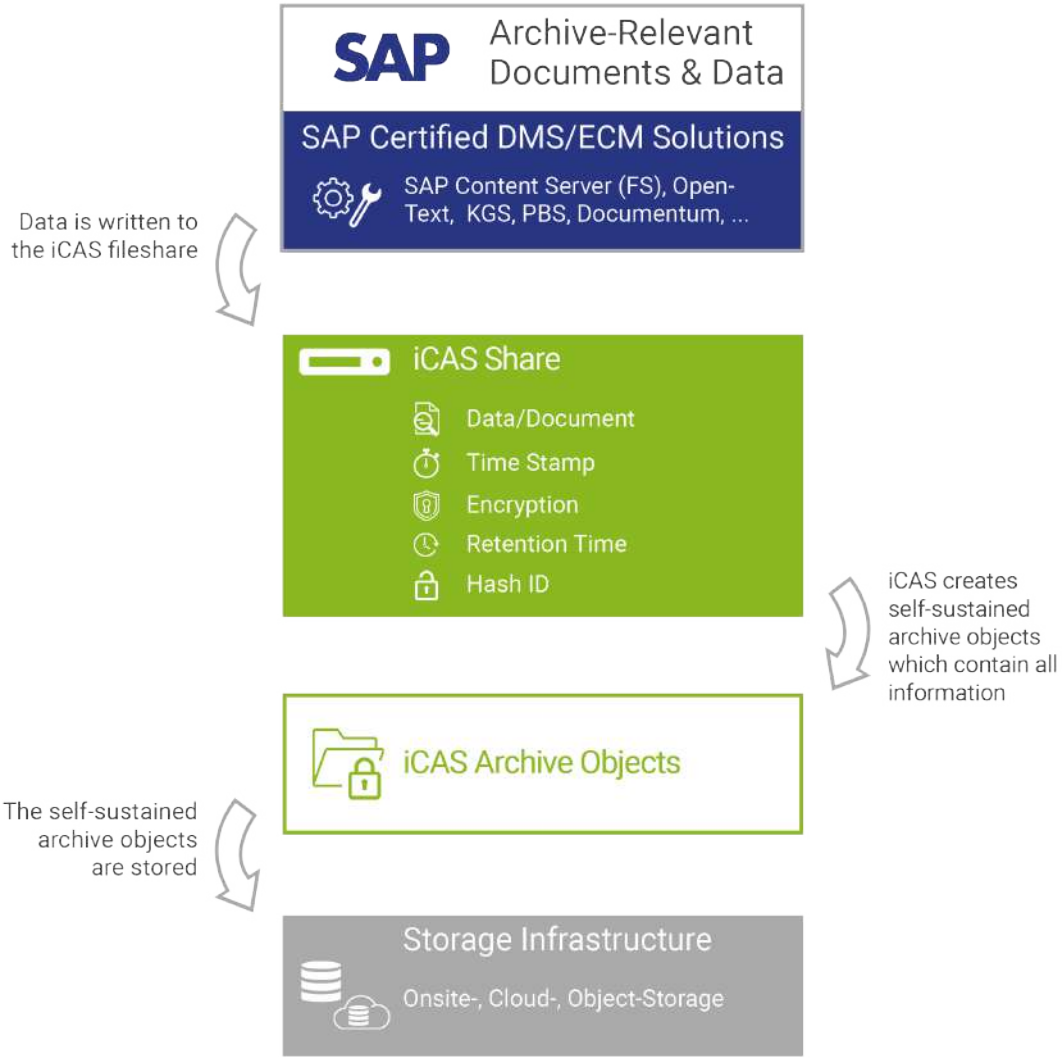

Image: Archiving process of SAP documents with software-defined iCAS

The process of archiving SAP documents and data with iCAS is as follows: The documents from SAP Content Server or SAP ArchiveLink-certified DMS solutions are written to the iCAS fileshare. The patented Content Storage Container (CSC) technology bundles archive data with the corresponding metadata in dedicated archive containers. These CSCs can be stored on any infrastructure and are secured against manipulation and unauthorized deletion.

AUTOMATED INTEGRITY CHECKS AND SELF-HEALING

Archived attachments and data archiving files are typical business data in SAP environments that need to be kept available and valid over long periods of time. iCAS ensures long-term integrity and availability of SAP archive-relevant documents in the following ways:

1. One of the main advantages of deploying iCAS for your SAP archive storage comes with the decoupling of the content-related objects from the specified or underlying storage media where the data resides. iCAS turns data and metadata into a non-rewritable and non-erasable format (WORM) and archives it as an immutable and patented Content Storage Container (CSC). The containers can be stored on and securely migrated to any current and future storage technology without losing their validity. Through the containerizing of data and metadata, it is possible to ensure that all information is still available and unchangeable until the end of the retention period even after several migrations.
2. Data replication: iCAS can duplicate archiving objects and store both copies on different storage systems at the same time (synchronous replication) without any additional mirroring technologies.
3. Automated data integrity checks: iCAS constantly monitors and verifies the integrity of the archived data on both storage systems by comparing its contentbased hash values.
4. Self-Healing: When the integrity monitoring identifies corrupt objects (e.g. caused by bit rots) on one storage system, iCAS's Self-Healing feature can automatically replace them with a valid copy of the object from the replicated data pool. This guarantees the highest level of data integrity, even within long retention periods.
5. Data Encryption: Companies can decide to protect the archive data additionally, using AES 256 bit encryption.

TCO REDUCTION

Thanks to its hardware independence, iCAS enables organizations to reduce their archive storage costs (TCO) by up to 50% as compared to proprietary hardware silos like Dell EMC Centera. Legacy storage hardware with its vendor lock-in disadvantage creates enormous costs for companies. This supports business requirements for cost efficient data storage solutions.

The Software-Defined Archiving solution iCAS is based on industry standard servers and is far more open and scalable than previous generations of archive storage solutions. The combination of industry standard servers, lower service and support cost offers high potential for companies to reduce their archive storage TCO while reaching new economies of scale.

Find more details in the TCO Case Study published by IT BrandPulse.

STORAGE FLEXIBILITY

Increased flexibility and hardware independence are one of the biggest advantages of a Software-Defined Archiving solution. iCAS can archive any data (e.g. scanned documents, archived attachments, data archiving files, emails) on any storage infrastructure (e.g. DAS, SAN, NAS, Cloud, Object). With iCAS, the archive objects are not „chained" to a specific storage hardware, which allows easier data migration to future storage technologies.

OPEN INTERFACES

iCAS is a flexible data archive storage for the SAP and ECM environment. Its open file system interface enables connections with a large number of applications. Therefore, iCAS can serve as a central archive for many different data sources. A selection of the SAP ArchiveLink-certified DMS solutions with iCAS connection is listed below:

Furthermore, iCAS convinces with its open interface: the solution is validated for 120+ business applications (ERP, ECM, DMS, E-Mail etc.). These applications have interfaces to take advantage of iTernity's solutions and have been tested by iTernity for seamless collaboration. Find the list of all Independent Software Vendors (ISVs) with iCAS connection here!

Thanks to the simple administration of iCAS, no additional know-how is needed and the system works reliably in the background.

4. SUCCESSFUL IMPLEMENTATIONS OF ICAS IN SAP ENVIRONMENTS

Numerous international companies in various industries have greatly benefited from the implementation of a Software-Defined Archive storage in their SAP environments. Some of them have shared their satisfying experience:

POGGENPOHL: ONE OF THE LEADING INTERNATIONAL BRANDS IN KITCHEN DESIGN

„At a point when our storage options were virtually exhausted, iCAS provided us with a cost-effective, hardwareindependent solution that solved our SAP archival challenges for the long haul, with the performance, flexibility and scalability required to facilitate business operations worldwide."

Thomas Wostbrock | CTO of Nobia AB, Poggenpohl's Parent Company

Discover how Poggenpohl solved its archival challenges with iCAS!

LOEWE: GERMANY'S HOME ENTERTAINMENT PIONEER

„With iCAS, we are now truly state-of-theart in the area of SAP archiving. The biggest plus is, our archive is now so unnoticeable that it does its job invisibly and with the highest reliability. Basically, you can't say anything better about a system."

Oliver Fischer | Head of IT at Loewe Technologies GmbH

Find out how Loewe has become state-of-the-art in SAP archiving with iCAS!

DELOITTE NETHERLANDS: RENOWNED SERVICES PROVIDER IN THE FIELD OF AUDIT, TAX, CONSULTING, RISK AND FINANCIAL ADVISORY, AND LEGAL

> *„Ensuring compliance is one of our highest priorities and the iCAS solution running on our storage hardware provided the ideal solution to meet our needs. It provides us with one central archive for the full range of our applications and economy that other vendors could not match."*
>
> Marco Rijpert | Chief Technology Officer for Deloitte Netherlands

Discover how Deloitte has consolidated its archive with iCAS and HPE!

Find more reference stories and customer voices here!

5. CONCLUSION

Ensuring long-term security, availability and integrity of SAP archive-relevant documents as well as meeting stringent compliant archiving requirements are big challenges.

These challenges cannot be fulfilled by SAP systems, DMS applications nor storage hardware alone. Software-Defined Archiving is today's most cost efficient, secure, flexible and future-proof approach for SAP environments to achieve these goals.

The hardware independence of the software-defined solution iCAS enables a significant reduction of archive TCO. iCAS eliminates data silos caused by legacy storage systems and helps to fulfill various legal requirements. Switching to the Software-Defined Archiving Solution iCAS helps you to take your SAP archiving infrastructure to a new level.

RECOMMENDED READING

- Protect SAP archive-relevant documents https://iternity.com/en/sap-archiving/
- How iCAS helps companies fulfill the GDPR requirements https://iternity.com/en/gdpr-compliant-archiving/
- How to overcome limitations and disadvantages of legacy archiving silos https://iternity.com/en/replacement-of-legacy-archive-silos/

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More intelligent, more efficient and easier: Discover our products and services for future-proof data archiving. Our software-based solutions ensure long-term protection of the integrity, availability and security of your data.

www.iTernity.com

COST-EFFICIENT

Low total cost and transparent licensing models

FLEXIBLE

Scalable from TB to PB and independent of the storage hardware

FUTRURE-PROOF

Based on open standards and easy adjustable to future requirements

COMPLIANT

Meeting regulatory and compliance requirements

iTernity

WE TAKE YOUR DATA SECURELY INTO THE FUTURE

We protect your business-critical data. The trust you place in us is our motivation and an investment in the future. The result: more security, less effort, no worries.

Our DNA is archiving, our mission the long-term availability and integrity of all types of corporate data. Our focus is on your challenges, whether data protection, cost pressure, data growth, cyber attacks, lack of time, or complexity – we take your data securely into the future.

CONTACT OUR EXPERTS

Heinrich-von-Stephan-Straße 21 | 79100 Freiburg | Germany
info@iTernity.com | +49 761 590 34 810 | www.iTernity.com