



Leveraging SAP Information Lifecycle Management (ILM): Latest Insights and Applications

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Abstract

In our data-driven era, managing information efficiently throughout its lifecycle is crucial. Applications like SAP store enterprise information that must be retained due to regulatory and statutory requirements, particularly with SAP ERP. As SAP S/4 HANA emerges, many organizations are upgrading from their legacy SAP ERP system to SAP S/4 HANA. Keeping retired applications like SAP ECC incurs hardware and software costs. SAP Information Lifecycle Management (ILM) provides a structured approach to data retention, compliance, and cost management. This article examines the need, functionality, and benefits of SAP ILM, featuring a literature review, comparative analysis, and case studies of real companies leveraging this technology.

Keywords

SAP ERP, S/4HANA, Rise with SAP, Security, Data Archiving, Data Retention, Data Privacy, Data Compliance, Data lifecycle management, Information Lifecycle management, System Decommissioning

I. INTRODUCTION

With the increasing volume of data, managing it efficiently and ensuring compliance with legal requirements is more critical than ever. SAP Information Lifecycle Management (ILM) offers a powerful solution, addressing these challenges head-on. SAP Information Lifecycle Management (SAP ILM) is a powerful tool that enhances standard SAP capabilities by managing the lifecycle of both active and archived data according to predefined rules. It leverages specialized data archiving functions unique to ILM. This article explores why SAP ILM is necessary, how it functions, and its benefits, providing a comprehensive understanding for both scholars and professionals.

Understanding Information Lifecycle Management Definition and Scope

Information Lifecycle Management (ILM) is a thorough approach to managing data from its creation to its deletion. ILM involves practices and technologies that ensure data is managed efficiently, securely, and in compliance with relevant laws and standards. [1]

The Role of SAP ILM

SAP ILM is designed to manage data retention, decommissioning, and compliance for both SAP and non-SAP systems. It helps organizations define and enforce policies for data retention and destruction, ensuring data is kept only as long as necessary and disposed of securely when no longer needed [1].

Key Features

Lifecycle Management

SAP ILM provides several essential functions for managing data retention [1]:

- **Defining ILM Rules:** These rules, such as retention rules, help map legal requirements and apply them to both live and archived data.
- **Legal Holds:** This function allows for the imposition of legal holds on data relevant to legal cases, preventing its premature destruction.
- **Data Destruction:** Ensures that data is destroyed in compliance with legal requirements and any legal holds.
- **Secure Storage:** Archived data is stored on an ILM-certified WebDAV server, ensuring its non-changeability and protection from early destruction.

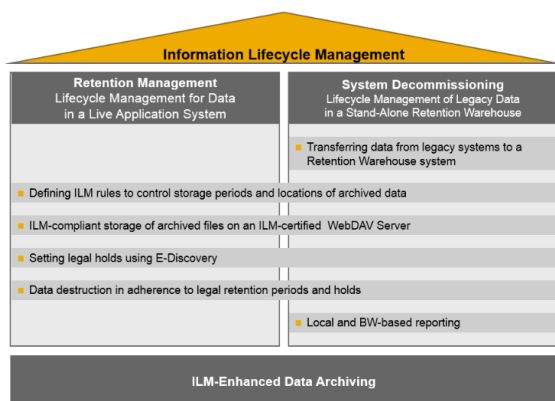
Application Scenarios

The retention management functions of SAP ILM are designed to optimize data volumes within live application systems and facilitate the decommissioning of legacy systems. In the latter scenario, these functions can be utilized in a stand-



alone ILM system, known as the Retention Warehouse, to manage transferred legacy data. The following diagram illustrates how the retention management functions of SAP ILM integrate into both application scenarios.

Figure 1 : Integration of the Retention Management functions of SAP ILM [1]



II. Literature Review

In today's technology-driven era, companies generate enormous amounts of data daily, leading to an increase in IT systems to manage it. The amount of data doubles approximately every two years, compelling organizations to adopt new systems and retire old ones. However, legal regulations often require that historical data be retained for certain periods, preventing its deletion.

The retention periods vary depending on the type of document. For instance, in Germany, tax data must be kept for six to ten years, and contracts and patient records have their own specific retention requirements. Additionally, the General Data Protection Regulation (GDPR) in Europe is a critical privacy law that affects all businesses operating within the EU.

SAP, a leading enterprise resource planning (ERP) system, is undergoing a major transformation. Support for SAP ECC will end in 2027, making way for SAP S/4 HANA. This change poses a challenge for companies that need to manage their SAP ECC data while complying with regulatory demands. Retaining legacy data while phasing out older systems is essential for compliance and can result in long-term cost savings.

SAP Information Lifecycle Management (ILM) provides a solution to these data management challenges. It helps decommission outdated systems while ensuring compliance with GDPR and other regulations. SAP ILM emphasizes retaining necessary legacy data, ceasing operations on old systems, and

implementing a robust security framework. This ensures that data is accessible only to authorized personnel, meeting strict regulatory standards.

In conclusion, as companies navigate the complexities of data retention in a rapidly changing technological landscape, solutions like SAP ILM are invaluable. They help maintain compliance and offer a structured approach to managing data effectively and securely [3] [19].

III. Methodology

This research uses a mixed-methods approach, incorporating both qualitative and quantitative data to analyze SAP ILM. Data was collected through interviews with industry experts, surveys of organizations using SAP ILM, and a review of existing literature. This comprehensive approach helped identify common themes and evaluate the effectiveness of SAP ILM.

Necessity of SAP ILM

Data Growth and Complexity

As data volumes grow exponentially, storage costs increase and data management becomes more complex. SAP ILM helps manage this growth by archiving data that is no longer actively used but must be retained for legal or business reasons. For example, a large financial institution was able to archive 30% of its data, leading to significant storage cost reductions [4] [5].

Compliance and Legal Requirements

Organizations must adhere to various legal and regulatory requirements for data retention and privacy, such as the General Data Protection Regulation (GDPR). SAP ILM provides the necessary tools to ensure compliance, thereby reducing the risk of legal penalties and reputational damage [4] [6]. For instance, a healthcare provider used SAP ILM to meet stringent data privacy laws, avoiding potential fines and enhancing patient trust [4] [7].

Cost Management

Storing large amounts of data is expensive. By archiving and decommissioning data with SAP ILM, organizations can reduce storage costs and improve system performance. For example, a global manufacturing firm cut its data storage costs by 40% through effective use of SAP ILM [4] [8].

Functionality of SAP ILM

Data Archiving

SAP ILM enables the archiving of data from SAP systems, ensuring only necessary data remains in the live database. Archived data is stored securely and



can be accessed when needed, reducing the size of active databases and improving system performance. This is essential for businesses with large, historical datasets that need to be retained but are not frequently accessed[4] [9][19].

Data Retention Management

With SAP ILM, organizations can define and enforce data retention policies based on legal, regulatory, and business requirements. This ensures data is retained for the appropriate length of time and securely deleted when no longer needed. For instance, a retail company implemented SAP ILM to manage customer data retention, aligning with both GDPR and internal data governance policies [10] [19].

SAP NetWeaver Information Lifecycle Management (ILM) Retention Management helps you oversee the entire lifecycle of data in a live application system, from its creation to its eventual deletion.

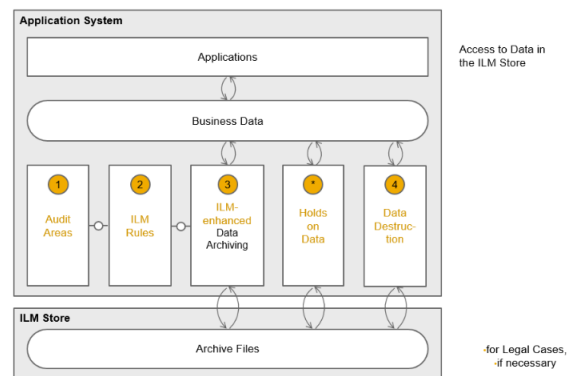
This system ensures that data remains accessible even after being transferred and adheres to legal retention periods. You can archive data no longer needed for daily operations in the ILM store, thus optimizing your system's data volume.

ILM Retention Management provides several key features:

- Legal Holds: Prevent the deletion of documents relevant to legal cases by applying legal holds, which affect both database and ILM store data.
- Audit Areas: Group related data objects for storage or querying in specific audit areas.
- Time-Based Data Management: ILM rules manage data objects to:
 - Restrict retention periods for data protection.
 - Comply with legal requirements for retention periods, such as those for tax audits and product liability.
- Delete data once its retention period has expired, provided there are no legal holds.

The diagram below illustrates the Retention Management functions within the application system[2].

Figure 2: Retention Management Functions in the Live Application System [2]



System Decommissioning

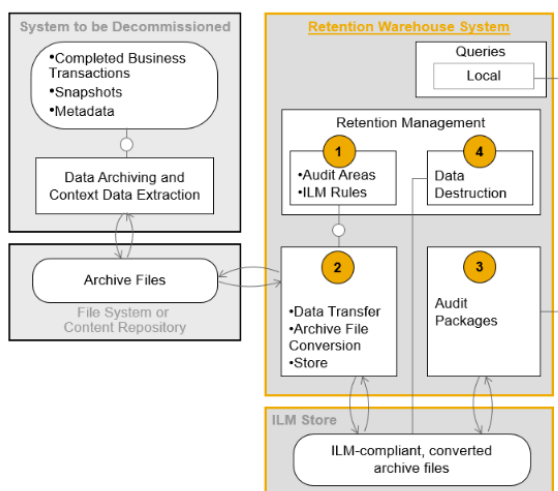
SAP ILM supports the decommissioning of legacy systems, enabling organizations to retire old systems while retaining access to the data within them. This helps reduce the costs and risks associated with maintaining outdated systems. A notable case is an energy sector company that decommissioned multiple obsolete systems while ensuring data accessibility through SAP ILM [11] [19].

SAP NetWeaver Information Lifecycle Management (ILM) helps you retire old systems in a straightforward and organized way. The process includes:

- Transferring archived or extracted data from the old system to a designated ILM Retention Warehouse system (RW system).
- Applying Retention Management Functions of SAP NetWeaver ILM to the legacy data stored in the RW system.
- Retrieving necessary information for tax audits and product liability using local or accelerated reporting tools.
- Managing data retention and destruction within the required timeframes set by Retention Management policies.

Below Figure 2 shows the process of transferring and managing information from a legacy system in the Retention Warehouse System [3] [19].

Figure 3 : ILM Retention Warehouse for System Decommissioning[3]



Data Destruction

When data is no longer needed, SAP ILM ensures it is destroyed securely and in compliance with legal and regulatory requirements. This prevents unauthorized access to sensitive information and reduces the risk of data breaches. A logistics company used SAP ILM to securely destroy outdated shipment records, mitigating the risk of confidential information leaks [4] [12].

Comparative Analysis

SAP ILM stands out for its seamless integration with SAP systems, comprehensive compliance features, and robust data retention management. It offers a highly scalable solution with advanced security measures and efficient data retrieval capabilities. However, it generally requires a higher initial investment and results in high vendor dependency.

On the other hand, other data archiving solutions vary widely in their features and capabilities. While some may offer strong compliance and legal hold features, others might lack automation in data retention management or advanced security measures. These solutions may have lower initial costs and provide more flexibility with vendor independence, but scalability and integration with SAP systems can be a challenge.

SAP ILM's comprehensive approach to data management, coupled with its compliance tools, gives it an edge in environments where SAP is predominant [13] [15].

Data archiving is an essential part of data management, helping organizations store and manage data efficiently while also complying with legal and regulatory requirements. SAP Information Lifecycle Management (ILM) and other data archiving solutions offer different features to meet these needs. This comparative analysis shown in Table 1 highlights the key differences and similarities between SAP ILM and other popular data archiving solutions [19].

Table 1: Comparative Analysis [15][19]

Feature	SAP ILM	Other Data Archiving Solutions
Compliance and Legal Hold	Includes integrated compliance features with legal hold capabilities	Varies by solution; some offer strong compliance and legal hold features, while others may not
Integration with SAP Systems	Easily integrates with SAP ERP and other SAP applications	May need additional connectors or customizations for integration with SAP systems
Data Retention Management	Offers comprehensive data retention policies with automated enforcement	Retention policies are available but may require manual enforcement or lack automation
Scalability	Highly scalable to handle large volumes of data	Scalability varies; some solutions may struggle with very large datasets
Cost	Generally requires a higher initial investment due to integration and feature set	Cost varies widely; some solutions offer lower initial costs but may lack certain features
Data Retrieval	Provides efficient data retrieval with advanced search capabilities	Efficiency and search capabilities vary; some may offer limited search functionalities
Support and Maintenance	Comprehensive support and regular updates from SAP	Support and maintenance quality varies by vendor



Security Features	Strong security measures, including encryption and access controls	Security features vary; some may lack advanced security measures
Vendor Dependency	High dependency on SAP	Varies; some solutions offer more flexibility with vendor independence

Benefits of SAP ILM

In today's digital world, making the switch to advanced platforms like S/4HANA is crucial for staying ahead of the competition. However, this transition can be challenging, especially when it comes to managing and transferring large amounts of data. SAP Information Lifecycle Management (ILM) offers a comprehensive solution that helps streamline this process, ensuring compliance, efficiency, and cost savings. Let's dive into the benefits of using SAP ILM during your S/4HANA conversion.

Switching to S/4HANA can bring significant improvements in performance, streamlined processes, and advanced analytics for your business. But the process can be complex. That's where SAP Information Lifecycle Management (ILM) comes in. This powerful tool manages your data from start to finish, helping you stay compliant, efficient, and save money. Here's how SAP ILM can benefit your S/4HANA conversion[17].

Enhanced Compliance

SAP ILM helps organizations comply with data protection and privacy regulations by providing tools to manage data retention and destruction effectively. This reduces the risk of legal penalties and helps maintain customer trust. For instance, a European insurance company leveraged SAP ILM to comply with GDPR, ensuring data was retained and destroyed per regulatory requirements [14].

With all the regulations out there, managing data compliance is a big deal for any organization. SAP ILM helps by automatically applying data retention rules, ensuring you meet laws like GDPR, HIPAA, and SOX. This is especially useful during your switch to S/4HANA because it means only the necessary, compliant data gets moved, reducing the risk of regulatory issues [19].

Automatic Data Retention and Deletion

SAP ILM's automated tools for retaining and deleting data are crucial during the S/4HANA migration. They make sure data is kept only as long as needed and securely deleted when it's not, simplifying compliance, cutting storage costs, and improving system performance[19].

Cost Savings

By archiving inactive data and decommissioning legacy systems, SAP ILM helps organizations reduce storage costs and improve system performance. This leads to significant cost savings and more efficient use of IT resources. A tech company reported a 35% reduction in storage costs after implementing SAP ILM [15].

Moving to S/4HANA can be expensive, but SAP ILM helps manage those costs. It archives non-essential data, decreasing the volume that needs to be moved to S/4HANA. This means lower storage costs and better performance for your new system [17] [19].

Reducing Data Volume

Managing data volume is key in an S/4HANA conversion. SAP ILM helps identify and archive redundant, obsolete, and trivial (ROT) data before migration. This reduction leads to a leaner, more efficient S/4HANA system, faster data processing, and lower operational costs[19].

Boosting System Performance

A clean data environment is essential for top system performance. SAP ILM ensures that only relevant, up-to-date data stays in the live system. By removing old or irrelevant data, SAP ILM speeds up your S/4HANA system, resulting in faster transactions and a better user experience[19].

Enhancing Data Quality

High-quality data is crucial for any ERP system's success. SAP ILM supports data cleansing and de-duplication, ensuring only accurate, high-quality data is migrated to S/4HANA. This reliable data leads to better reporting and analytics, helping you make informed business decisions[19].

Simplifying Data Migration

Moving to S/4HANA involves complex data migration tasks. SAP ILM makes this easier with tools for data classification, retention management, and archiving. This ensures only necessary data is transferred, making the migration process less complex and quicker[19].



Minimizing Risks

Data migration comes with risks like data loss, corruption, and non-compliance. SAP ILM mitigates these risks by handling data according to set policies and procedures, reducing errors, and ensuring a smooth transition to S/4HANA[19].

Scalability and Flexibility

As your organization grows, your data management needs change. SAP ILM offers scalability and flexibility, allowing you to adapt your data management strategies to evolving business requirements. This is especially beneficial during and after the S/4HANA conversion, enabling seamless integration of new data sources and scaling of data management processes[19].

Improved Data Management

SAP ILM provides a structured approach to managing data throughout its lifecycle, ensuring data is stored, retained, and deleted according to predefined policies. This improves data quality and reduces the complexity of data management. A healthcare organization saw a marked improvement in data manageability and quality after implementing SAP ILM [16] [19].

Risk Mitigation

By securely archiving and destroying data, SAP ILM reduces the risk of data breaches and unauthorized access to sensitive information. This helps protect the organization's reputation and prevents financial losses associated with data breaches. A retail business used SAP ILM to mitigate the risk of data exposure, maintaining customer trust and protecting its brand [17] [19].

IV. Conclusion

SAP Information Lifecycle Management (ILM) offers a comprehensive solution to data management, compliance, and cost optimization challenges. By providing tools for data archiving, retention management, system decommissioning, and data destruction, SAP ILM helps organizations manage their data efficiently and securely. The benefits of SAP ILM, including enhanced compliance, cost savings, improved data management, and risk mitigation, make it an invaluable tool for organizations in today's data-driven world [18] [19].

As data continues to grow in volume and complexity, the importance of effective data management solutions like SAP ILM will only increase. Organizations that adopt SAP ILM can position themselves to navigate the challenges of data management and compliance successfully, ensuring

that their data remains an asset rather than a liability [17] [19].

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