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IBM
Platinum Partner

A storage system that
can be relied upon - in
any situation.

More
room for
data
growth.

IBM Storage FlashSystem



1. The life cycle of data and information

AI, big data and data science - the growth in generated and of stored data increases exponentially.

By 2024, the global data volume will exceed 150 zettabytes (source: Global DataSphere 2023 from IDC). A significant portion of this data is generated and stored by companies.

To ensure its meaningful use, data is contextualized and interpreted, transforming it into information. Taking this into account, the terms "data" and "information" are used synonymously. Both data and the resulting information go through a process of „*life cycle*“ and change their value in the process. In the IT sector this process is commonly referred to as the „*data life cycle*“ or „*information life cycle*“.



The „*life cycle*“ describes the various **phases** that data goes through from its creation to its processing into information to its final deletion. These phases include:

1. **Data generation or collection:** Data is generated or collected.
2. **Data storage:** Data is stored on suitable storage media.
3. **Data processing:** Data is transformed, cleansed, aggregated and analyzed
4. **Data archiving:** Data that is no longer actively used but must be retained for legal or business reasons is archived.
5. **Data disposal:** Data that is no longer required and no longer has any retention obligations is securely deleted.

in various ways in order to derive insights or enable business processes. This is where information is created.



2. Information Life Cycle Management

To ensure the management of several hundred terabytes or even petabytes of data and information, companies use „*Information Life Cycle Management*“ (ILM).

In simple terms, „information life cycle management“ is a strategy that aims to achieve the *efficient management* of Data and other types of *information such as documents, datasets and knowledge* throughout their entire life cycle. ILM includes methods and applications to automate information according to its value and its optimally on the most cost-effective storage medium in each case, and to store them securely for the long term.

The management and storage control mechanisms are based on *importance, value and costs* of electronic information. For this purpose, a *classification of the data, sources and storage systems*, used within a storage hierarchy allows automated provisioning.

Six reasons for **„Information Life Cycle Management“**

ILM helps to maximize the value of information, minimize risks and comply with legal regulations. Here are six reasons why ILM is important for companies:

- 1.** **Data organization and efficiency:** ILM enables companies to systematically organize, store and retrieve data, which improves the efficiency of processes.
- 2.** **Cost savings:** Targeted storage of important data and deletion of obsolete or unnecessary information can reduce storage and administration costs.
- 3.** **Security and risk management:** ILM helps protect sensitive data by enforcing access restrictions, encryption and other security measures at every stage of the data lifecycle.
- 4.** **Legal requirements and compliance:** Companies, especially those operating in regulated industries, must ensure that they comply with retention periods for documents and data. ILM helps to meet these legal requirements by archiving and deleting data in compliance with regulations.
- 5.** **Better data management:** ILM classifies information according to its relevance and use, ensuring that current, frequently accessed data is readily available while less important data is outsourced to more cost-effective storage solutions.
- 6.** **Preparing for data growth:** Companies are generating ever-increasing amounts of data. ILM helps to manage the influx of information and ensure that the IT infrastructure can meet the evolving demands.

Effective ILM enables companies to optimize their data flows, reduce operating costs and minimize the risk of data breaches and compliance violations.

3. The optimal storage system throughout the information life cycle

During a life cycle of a project, recorded *data is stored, processed and archived*. Experts estimate that medium-sized companies have an average of around *350 terabytes of data and information*. For larger companies, this figure can be significantly higher, often several petabytes.

This raises the question of how such huge amounts of data can be *stored, processed and archived efficiently*. The answer is a modern *business storage system* that is deeply anchored and integrated in „*Information Life Cycle Management*“.

The ten core features *of a modern storage solution*



Scalable and flexible architecture: The system must be able to adapt seamlessly to growing data volumes and at the same time be flexibly expandable to meet future business requirements.



High performance and availability: A storage system must offer consistently high performance under high loads and with growing data volumes. This also includes guaranteeing almost 100% uptime through fail-safe technologies and redundancies.



Intelligent infrastructure and automation: The system should be supported by integrated automation and AI technologies to efficiently manage data, monitor conditions and proactively resolve issues. AI can also help optimize performance and resource utilization.



Security and compliance management: Encryption and access controls are essential to protect data. In addition, the system must comply with legal regulations (e.g. GDPR, HIPAA). AI-supported security can identify and respond to threats more quickly.



Support for diverse workloads: A modern storage solution should support workloads from physical, virtual and container-based environments and provide highly available, scalable storage resources for different applications and databases.



Easy integration and compatibility: The solution must be easy to integrate into existing IT environments and be compatible with various technologies and systems. This also includes multi-cloud and hybrid cloud scenarios.



Cost optimization and license transparency: A storage system should be able to be operated cost-efficiently without hidden license costs. AI-based analyses can help to uncover unnecessary expenditure and inefficiencies.



Data management and use of AI: Intelligent data management, supported by AI, can automate processes such as backups, data migrations and analyses. AI can help identify data patterns, optimize performance and support strategic decisions.



Disaster recovery and data backup: The system must have robust backup and recovery mechanisms to quickly restore business operations in the event of a failure or data loss. AI-supported systems can further accelerate and optimize these processes.



Professional support and global availability: Direct and comprehensive manufacturer support, ideally in the company's regional language, is essential. In addition, support must be available around the clock worldwide in order to meet international requirements.

These ten points result in a comprehensive requirements profile for modern business storage solutions that focus on performance, scalability and security.

3.1 Should we consider a cloud-based solution?

Strategically, companies have the choice between local on-premises storage, a cloud storage solution or a hybrid solution.

Providers of storage services accessible via a public cloud often offer competitive pricing, high flexibility, and high availability. In addition, convenience is enhanced because the service provider takes over the operation of the storage infrastructure. This takes a burden off the company's IT professionals, a crucial consideration given the shortage of IT and storage specialists.

Local data storage, also known as on-premises storage, refers to the practice of storing data on physical storage media within the corporate network.

The principal advantages of local data storage are as follows:



Control and security: Organizations retain complete control over their data and the underlying storage infrastructure. Since no transmission takes place over external networks, this provides a high level of security for sensitive information.



Compliance and data protection: Local storage is often the preferred solution, especially in industries with strict legal requirements, such as finance or healthcare. It makes it easier to comply with data protection and compliance requirements, since the data remains within the company and is not processed externally.



Performance and access speed: Local storage systems often offer faster access times and higher performance, especially for data-intensive applications. This is crucial for companies that depend on real-time data processing or complex software solutions.

However, local data storage also presents certain *challenges*: On the one hand, *the costs of maintaining and securing* the IT infrastructure are often high due to the need for specially trained personnel and regular investments. In addition, there is an increased *risk of data loss or corruption* due to technical malfunctions or natural disasters, which can jeopardize business continuity. Finally, *scalability can be limited* because on-premises storage solutions may not be flexible enough to keep pace with business growth.

3.2 The trend towards outsourcing data to the cloud is slowing down

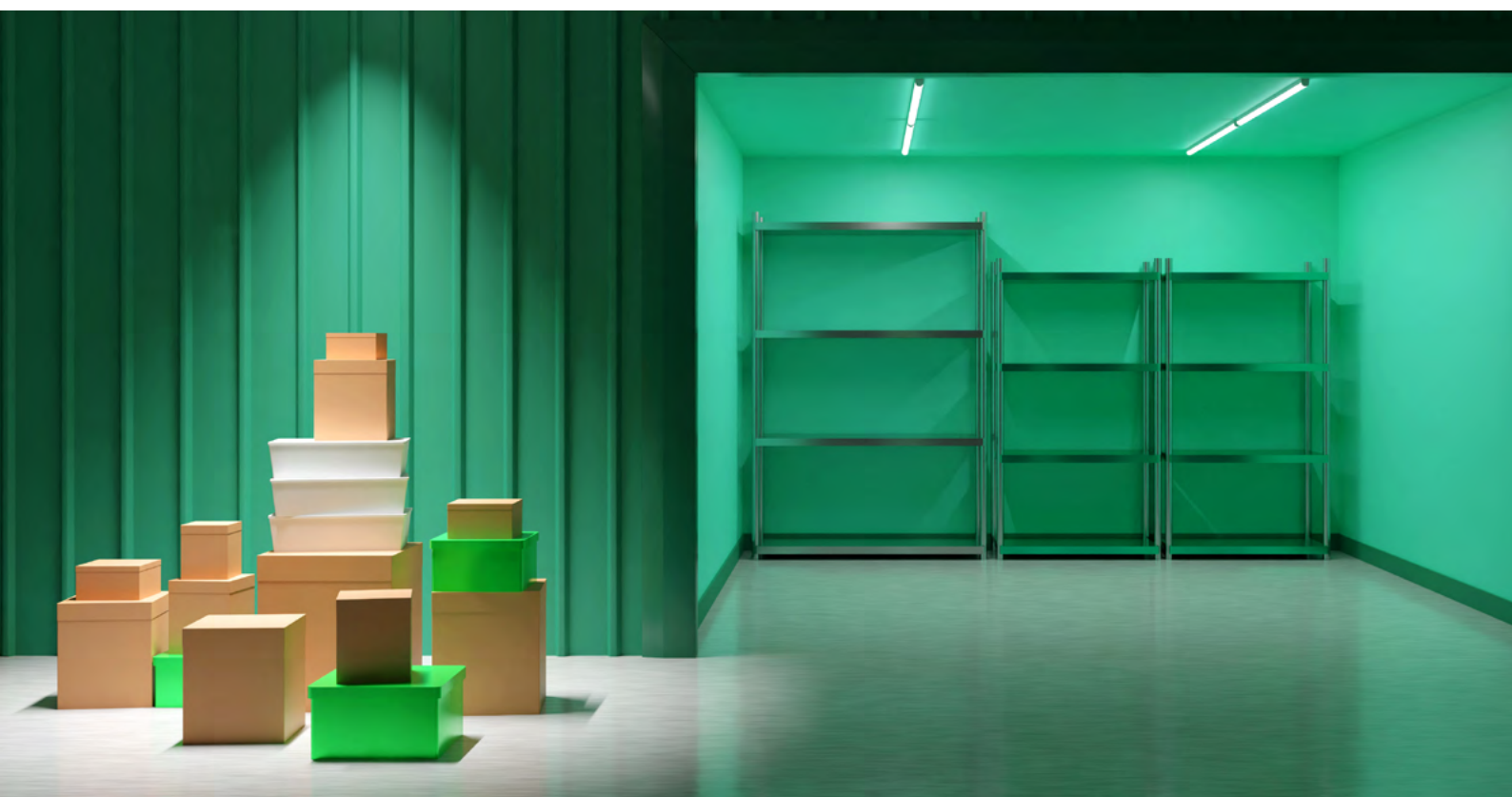
For a long time, *outsourcing data to the cloud* appeared to be a logical progression. While cloud computing offers flexibility, it also presents *challenges*:

1. Companies must develop knowledge of how to use the cloud. The responsibility for backup, cyber resilience, security, etc. remains with the company.
2. The cost of data egress, i.e. reading the data stored in the cloud, usually lead to significant costs.
3. Data sovereignty has not been clarified. Where exactly is your data located and how can you be sure that a third party will not gain access?

Recently, therefore, there has been a clear *trend* that can be recognized as „*cloud repatriation*“ or is known as „*cloud exit*“. Companies are increasingly moving workloads from shared cloud environments back to *local systems* („on premise“).

However, a storage system does not necessarily have to be located in your own data center. It can be operated externally. IT service providers such as Bechtle offer *professional storage solutions* that combine the *advantages of on-premises* storage with those of a *cloud storage solution*.

The best of both worlds. Bechtle relies on IBM Storage FlashSystem.



4. A single solution for all cases: IBM Storage FlashSystem

The IBM Storage FlashSystem provides customers with a fast, robust and simple data storage solution.

- 1. Maximum power:** The 4th generation FlashCore Modules (FCMs) developed by IBM, which are used in the FlashSystems, represent the pinnacle of speed and performance. They compress and encrypt in real time - without any loss of performance.
- 2. Outstanding data availability:** 100% data availability with HyperSwap, replication across multiple locations and configuration for cross-location high availability.
- 3. Accelerated provision of smarter data:** The IBM Flash Core architecture is specifically designed for high I/O loads and guarantees virtually latency-free response times and simplified management through intelligent software.
- 4. Security through AI:** Thanks to the integrated AI engine, IBM FlashCore Module 4 offers state-of-the-art security mechanisms to protect your sensitive information from threats in real time, including the detection of ransomware! Cyber resilience thus reaches a new level.
- 5. Best price/performance ratio:** Low storage costs, low energy consumption, efficient operation, higher application performance and enterprise functionality result in an unbeatable price/performance ratio.
- 6. Simple management:** Complex technology doesn't have to be complicated. IBM FlashSystem solutions are designed to be easily integrated into your existing IT infrastructure and enable smooth administration. Even for non-IBM-savvy technicians. With identical management from entry-level to high-end systems.
- 7. Sustainability:** IBM FlashSystem solutions require less power, generate less heat and thus contribute significantly to reducing energy consumption and environmental impact.

5. Conclusion

The *IBM Storage FlashSystem high-speed data storage platform* provides enterprise-class data solutions for organizations of all sizes. It offers *built-in AI and interoperability* while enabling *rapid response to cyber threats* and data breaches. From hybrid storage to high-performance NVMe (Non-Volatile Memory Express) all-flash arrays and *on-premises and cloud-based workloads*, IBM Storage FlashSystem is designed to meet even the most demanding data storage requirements. If you wish to retain the use of the cloud, the IBM Storage FlashSystem can be incorporated into a *hybrid cloud strategy* without difficulty.

From a strategic standpoint, organisations have the option of utilising a local on-premises storage solution, a cloud storage solution, or a hybrid solution.





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A storage system for all occasions

Get in touch with our experts

Our security experts and storage architects look forward to hearing from you. Please contact us to arrange a consultation for an IBM storage flash system.

ARRANGE A CONSULTATION



Your Bechtle Team

Phone +41 848 820 420 | info.ch@bechtle.com | bechtle.ch

Basel | Bern | Maegenwil | Morges | Petit-Lancy | Pratteln | Rotkreuz | St. Gallen