



Inside Track
Executive Brief



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The importance of modern data archiving

In today's business world, the value
of archiving is greater than ever

Introduction

The drives to improve customer services, optimize business processes and improve the top line are almost universal. Enterprises today recognize this means making the most of the growing volumes of data that they hold. Indeed, as shown in a recent research report^[1] by Freeform Dynamics, becoming a data-driven business – namely one able to fully utilize the information it holds in a timely manner – has significant benefits.

But to fully exploit the data they hold, organizations need to have a number of IT technologies, operational processes and business policies in place. Key among these – but easy to overlook – is enterprise archiving. Indeed, it has often been neglected, as has its intimate relationship with other data protection and governance technologies.

This paper looks at modern archiving and where it might make sense for you to use it as an integral component of enterprise data and information management.

Backup versus Archiving

The first thing to note is the important differences between archiving and backup.

Backup: At its simplest, a backup is a copy of data that is stored on another device, preferably in another location. This is to ensure that the backed-up information can be recovered if something happens to the original copy. Essentially, it is an emergency recovery system.

Archiving: An archive is a collection of data that needs to be held for a long time, for regulatory compliance or in case it needs to be reused later. Put simply, a data archive is a repository where information can be found after it has fallen out of regular use.

Making business use of archived data is now growing in importance as organizations seek to get more value from the information they hold, especially as sophisticated data analysis and modeling tools become more widely deployed in mainstream enterprise. For example, companies are looking to be able to combine historical data with live data to give insights to improve customer service, model potential new business models or to increase operational efficiency.

It is worthwhile noting that the very nature of an archive – it will likely be your only copy of that older data, not a duplicate of it – almost certainly means that it needs data protection, for example through backups or replication.

Do they require different platform stacks?

While the two functions are distinct, it is possible to use a single system to hold both types of store. This can simplify system management and potentially reduce acquisition and running costs, especially in small and mid-size organizations.

That said, there can be drawbacks, especially if the combined system is heavily used, as performance may suffer unless the platform utilized is able to manage the workloads. Clearly, such combined usage almost inevitably requires the system to be replicated to

another system, maybe in a second physical location, to ensure continued availability in the event of any major disaster taking down the primary system.

Business today needs modern archiving

So why does data archiving matter – and why has it been too easy, at least until recently, for its advantages to be overlooked? Some of the high-level benefits archiving can deliver have long been recognized, but it has often been complex and expensive to get archiving systems working effectively. Hence its use was frequently limited to cases where there was a legal obligation to maintain data records for a long time.

But compared with those older systems, today's data archiving solutions can both deliver greatly increased functionality and reduced solution complexity. As shown in the next section, some factors encouraging widespread use are becoming more obvious.

Why archiving?

Modern data archiving has the potential to meet many business requirements, but what are the specific use cases that could trigger investment, beyond the need to maintain copies of information to meet legislative or regulatory obligations?

Managing data growth

The use of archiving to help manage data growth on primary storage platforms is long established. Moving inactive data to the archive allows us to free up valuable space on primary, usually high performance, storage platforms. This is becoming ever more important as data growth continues unabated, and as new sources of data come online, such as the Internet of Things (IoT) and Edge solutions.

Improved backup and restore performance

It used to be the case that as the amount of data held on primary storage increased, backups took longer to complete. Modern backup programs avoid this problem by using deduplication, changed block tracking and other tools to shorten backup times.

Consequently, the biggest benefit we can get today from reducing the volume of primary data in a backup is that it can dramatically shorten the time to restore data when required. This is because if tools like changed block tracking etc. have been used to protect the data, the restore processes often must comb through every copy of the changed data file when it is recovered. Thus, having less data to recover can have a great impact on restore operations.

IT cost optimization

Using data archiving to reduce the volume of data held on primary storage and improve restore performance also has clear cost benefits. Modern data archiving can reduce the need for both additional primary storage and backup/restore resources. By moving data to the archive you can switch from expensive primary hardware and backup licenses to the cheaper archiving hardware (nearline disk or tape media) and archiving software license model.

Disaster recovery and business continuity

The elements mentioned above also imply that disaster recovery (DR) and business continuity (BC) solutions could be enhanced if archiving were more widely, perhaps ubiquitously, deployed. To start with, having smaller volumes of primary data to protect would make DR and BC systems less expensive to put in place. This in turn would allow DR and BC capabilities to be extended to a wider range of business systems than has previously been the case.

Such an expansion could produce significant benefits, given that organizations are under pressure to be more productive and responsive, and that many business managers would like DR and BC to expand far beyond traditional business-critical systems. For example, it is now important to protect applications that are key for parts of the business rather than the entire company. Sophisticated modern data protection solutions also provide effective resilience capabilities. For instance, some can coordinate recovery into a cloud service while handling the orchestration of potentially complex application dependencies where services must be restored in order.

Data exploitation, data maturity

Almost every organization wants to become more data-mature and exploit its data better, and this could prove to be the most valuable aspect of data archiving going forwards. This means getting more value from the information they hold on customers, partners and supply chains – it is often phrased as the desire for a 360° view – and according to our research, data maturity clearly correlates with business performance.



Efforts to maximize the value of information is no longer confined to live or active data: many users now also require access to the historical data that would traditionally be held in archive systems. As this need becomes more deep-rooted in business operations, we may see more pressure for so-called ‘warm’, online archive solutions, from which data can be retrieved more quickly than from ‘cold’ offline archives.

Data analytics / real-time analysis

As already discussed, using data to drive the business forwards is a significant priority for many organizations. Whether it is for periodic analysis or near real-time decision making, it is critical that the data used in the analysis is comprehensive and can be rapidly found and utilized. It is very likely that historical data held in archives will also be

used in these operations. And new sources of data, e.g. social media, need to be taken into account.

IoT and Edge considerations: The uptake of IoT (Internet of Things) and Edge solutions beyond the data center can generate significant volumes of data. Such data may be used straight away, but it is also possible that it may be wanted for analysis at some point in the future. If the data is not required immediately for analysis, placing it for long term retention in an active archive makes good sense as it avoids using primary storage.

Compliance, governance, data discovery and classification

Compliance: Legislative and regulatory requirements can vary country by country and industry by industry, so regulatory and legal compliance has long been a driver for investment in data archiving. In the past these requirements were often focused on financial records, but today the scope of compliance has expanded dramatically and can cover many, if not most, areas of the business.

It is not just the scope of the data that is now subject to compliance requirements that is increasing the potential use of archiving. Indeed, it can be the penalties potentially applicable for not meeting some requirements, e.g. the EU's GDPR directive, that makes members of the board take notice.

GDPR, along with similar legislation in other geographies, is increasingly important as data privacy requirements necessitate that organizations be able to show data subjects the full extent of the information they hold about them.

Governance: In many ways compliance is just a different way of looking at good governance in general. But to be able to manage governance and compliance effectively, it is essential to have good data discovery and automatic classification capabilities. Modern data archiving can help with achieving this.

E-Discovery: The need to quickly find information from systems holding live and historical data can be a business-critical matter. This applies to instances where regulatory authorities, criminal or civil courts may demand that information be fully disclosed within a short period of time. The same may apply in cases where merger or acquisition activities are underway. In these instances, using an archive to hold all historical data can make discovery more effective.

Data discovery and classification: A collateral benefit from having such modern archiving and effective governance is the ability to ensure users in the business can find data securely, on demand. Given this, any archiving solution must be able to interoperate with existing data discovery and classification tools; alternatively, the modern data archiving solution implemented can include such capabilities itself.

Hybrid cloud adoption, data access

Many enterprises have started using hybrid cloud approaches to support their IT operations. The idea is to place systems and information in the most appropriate location for its use, considering issues such as visibility, cost, security, performance and

availability. As data storage is an increasing component of IT spend the visibility of where and how data is stored, especially long-term, is something businesses should no longer overlook.

The use of archive systems in hybrid cloud architectures will likely prove significant. The reason for this is that sophisticated archive solutions can be used to store information from any source, be it held within the organizations own data center or in one (or more) public cloud services. Equally important is that the archive itself could be deployed either within the data center or in a public cloud service.

Things to think about

As with any IT solution, it is important to consider certain basic features during the procurement process. Some of these are obvious, others maybe slightly less so.

- **Scalability:** Given that archives are expected to be very long-lived and are likely to acquire ever more data, the storage platform hosting the archive must be highly expandable and be ready to handle the data requirements of the future.
- **Accessibility:** Business data is being created in many more formats than just files and blocks. There is thus a need for any archiving platform to be able to hold data in a wide range of formats, structured and unstructured.
- **Availability:** As real-time analytics become embedded in business operations, it is probable that the archiving systems will need to be available 24x7.
- **Data discovery and classification:** As the volume of archived data expands, so does the potential for using data discovery, search and automatic classification.
- **Long term supplier support:** Any system that is vital to the success and security of enterprise operations requires the IT supplier to be committed to excellent, local support. For archiving, the IT supplier must be ready to provide such support over very long periods of time.
- **Implementation guidance and good practice:** Building an extensive, accessible and well governed information archive is a complex task. Archiving systems depend on a range of hardware and software components working smoothly together, with excellent operational practices to keep them functioning. Good-practice advice, guidance and maybe professional services could be highly valuable.

Summary

The need for effective, comprehensive enterprise archiving solutions will continue to grow as does the range of data they need to hold. It is also probable that traditional “cold archive”, i.e. offline solutions will become less effective as businesses move to take a more rounded view of all data when making proactive decisions.

Today, and in the future, the growth in archive solution usage will continue as more organizations understand the wide range of business benefits they can deliver. Archiving of some data should no longer be an obligation or just an option. The archiving of data is ready to become an enterprise resource to be exploited.

References

1. [The road to becoming a data-driven business](#)

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