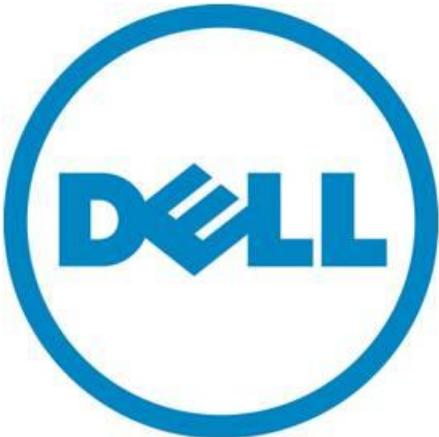


# Archiving

## A Dell Point of View

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Dell Product Group



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# Archiving

## The Archiving Business Imperative

*Archiving* – the act of preserving and protecting records and documents because of their long term value – has traditionally been used as a means to preserve history through historically relevant records. In this context, Archiving often conjures up the image of musty libraries used primarily for research.

In a modern company, though, Archiving is anything but. Instead Archiving – defined as the purposeful retention and preservation of digital content that is no longer needed for day-to-day business operations – is a *mission critical* part of running most companies, for the following key reasons:

### 1. *Compliance with Regulations & Governance Requirements*

Every company operates within the context of government regulations. In the United States, for example, there are requirements for retaining tax information for a specified amount of time and for public companies to retain financial and e-mail records in order to meet Sarbanes-Oxley regulations. These government regulations translate into companies archiving all relevant business information so that they can be in compliance and avoid penalties.

### 2. *Compliance with Internal Business Requirements*

Most companies establish internal rules for managing different aspects of their business. For instance, companies may have rules for how long they retain an employee's employment or personnel records even after the employee has left the company. Archiving is critical for ensuring compliance with these internal business requirements.

### 3. *Legal eDiscovery*

A reality for businesses today is that they are often subject to lawsuits. For instance, companies may face patent infringement or anti-trust lawsuits. Each of these lawsuits requires that the company provide documents that may be relevant; if a company cannot produce these, the consequences can potentially be severe (e.g. significant penalties after losing a lawsuit). To ensure it can produce them when required, a company will typically archive all relevant documents and make them available for eDiscovery in the event of a lawsuit.

### 4. *Preserve Intellectual Property and Information Assets*

An important application of Archiving is to help a company protect its intellectual property and information assets. A company's intellectual property often becomes a "library" of information that can be leveraged to provide new insights or business intelligence – much in the same way that a physical library provides a repository of knowledge and information. If a company loses its accumulated intellectual property it may be removing an important source of business intelligence. To prevent this, a company will archive relevant intellectual property and make it accessible to provide future insights.

### 5. *Increase the Performance and Cost Efficiency of Primary Storage*

An important benefit of Archiving is to improve the performance, and reduce the cost, of primary storage. Data is continuously being generated by a company and is initially placed into primary storage systems. As time goes by, this means that the primary storage systems quickly fill up, leading to:

- A reduction in performance as primary storage simply slows down because of the amount of data present.
- An increase in backup times. This again can impact performance but also increases the risk of data being lost if backups cannot be completed within specified windows.

## Archiving: A Dell Point of View

- Storage managers feeling compelled to purchase new primary storage to stay ahead of the amount of data being stored, driving up cost and straining IT budgets.

Archiving provides a nice answer to these issues by ensuring that data no longer required for immediate business operations can be moved out of primary data storage and placed in typically less expensive archival storage systems. This frees up primary data storage leading to better performance, faster backups and reduced cost.

### The Challenge in Archiving

To meet mission critical requirements, storage managers are charged with archiving data and making it accessible as required. This, however, is more challenging than it may initially seem:

- The amount of data growth is not slowing down. It is estimated that by the year 2020, digital information will *grow by a factor of 44* to an astounding 35 zettabytes (Zettabyte = 1 trillion gigabytes)\*. This means storage managers are faced with an almost constant deluge of new data, even as they try to manage and archive existing data.
- The archiving process can be complex and is subject to many rules. There are different policies as well as retention and protection requirements for different data types and for different industries. For instance, financial or tax data must certainly be preserved to meet government requirements; an e-mail sent out to invite employees to the company's end of year party need not be. To properly archive data, storage managers must be able to not only track these policies and regulations but also be able to apply them to each individual data file in their organization.
- Compounding the problem is the fact that much of the data being generated today is in the form of *unstructured* data files such as PowerPoint files, videos, music files, images, blogs and text documents. This poses a particular challenge for storage managers. It is difficult to understand the *content* within unstructured data files and, therefore, to assess its relative importance. It can be challenging to determine the policies that should be applied to the data, or even if the files should be archived or simply deleted. Take a video file, for example, in a corporate data system. It could be a copy of humorous video file employees are e-mailing to each other - in which case it need not be archived. Or it could be a product demo video, in which case it should be archived. The trouble with unstructured data is that it is difficult for a storage manager to know which is which.
- Archived data is – by definition – stored for long periods of time. The challenge this creates is that as technologies evolve, it becomes difficult for storage managers to ensure that archived data remains readable. To see this, consider the analogy of trying to retrieve the “information” (songs) on a vinyl record with technologies like compact disc or MP3 players that have superseded record players.
- Archiving must be considered as part of the broader storage infrastructure, which means storage managers need to determine how much of their budget to optimally invest in archiving vs. primary storage, backup or capacity optimization technologies such as deduplication, and data tiering.

### How does Dell help solve these challenges?

To help our customers ensure they can support the mission critical requirements of managing data through the use of processes like Archiving, Dell has developed a customer centric strategy designed to provide customers with the right Archiving solutions for their IT infrastructure. This strategy is based on Dell's Archiving POV:

\*IDC Digital Universe Study, May 2010, sponsored by EMC

### *Dell's Archiving POV*

- Dell believes Archiving is a fundamentally important part of our customer's storage infrastructure. It is essential to support mission critical requirements that include: Ensuring compliance with government regulations, following internal business rules on retaining records, enabling the eDiscovery of information for legal purposes, and preserving the value of intellectual property as well as information assets for business intelligence and strategic decision making.
- In addition, Dell believes that Archiving can play a significant role in improving the performance, cost and backup of primary data storage by transferring the data not required for day to day operations out of primary storage to Archival Storage
- Dell believes, however, the process of archiving data is becoming increasingly challenging for our customers given today's explosion of digital content, the amount of *unstructured* data being generated, the limitations of traditional methods (such as tape and NAS), the number of government policies and industry regulations that must be managed and the complexity of managing Archiving solutions within the context of the wide range of demands in today's storage infrastructure.
- Dell believes that Archiving specific challenges are best solved with evolving technologies such as Object Storage that can easily scale with data growth, and are better suited to managing unstructured data than traditional file systems like NAS.
- Dell believes that Archiving is an integral part of managing the lifecycle of data, and in this regard plays a complementary role to primary and backup storage in managing the complete data lifecycle. Dell further believes that Archiving is also synergistic to capacity optimization technologies such as data tiering and deduplication. As a consequence, Dell believes that the best approach to Archiving is to consider it as part of a complete Intelligent Data Management strategy that includes primary and backup storage, as well as features such as data tiering, deduplication, and the use of specially assigned archive repositories.
- Dell believes that every business and industry will have a common as well as industry specific set of Archiving requirements. Consequently, Dell believes that an open standards approach is a better approach to ensuring that customers can obtain the archiving capabilities they need for their specific business and industry from as broad a set of partners as possible. To enable this, Dell is working with leading software providers and ISVs to provide customized, industry specific archiving solutions.
- In summary, Dell believes Archiving is a powerful and important data management process and an integral part of a holistic Intelligent Data Management strategy. Dell believes, further, that there is no one-size-fits-all Archiving solution. Instead, Dell recommends starting with a consulting engagement to determine the optimal Archiving solution for the customer's requirements.

### *Dell Archiving Solution Offerings*

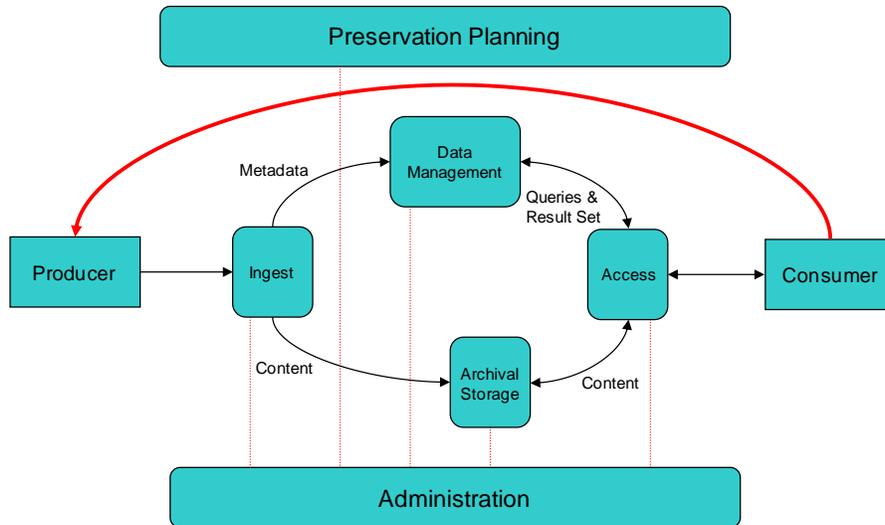
#### **1. Services**

For customers who are looking to optimize their Archiving approach, Dell has developed a rich set of end-to-end consulting services centered on our WADI model (Workshop, Assessment, Design, and Implementation). These include services to help customers develop:

- A holistic Intelligent Data Management approach given their individual circumstances
- The right Archiving solution given their specific business and requirements.

A key tenet in Dell's approach to Archiving is to start with planning at the top to understand what information is being produced and how it's being consumed. This is illustrated in Figure 1. It includes identifying the properties and business value associated with information assets to define the policies for how they are to be managed over

time to meet regulatory and/or internal governance requirements. This approach leads to making informed decisions with respect to the applications and infrastructure (storage) best suited to address the organizations archival needs.



**Figure 1:** Integrating Archiving into an Organization's information infrastructure

## 2. The Dell DX Object Storage Platform

The Dell™ DX Object Storage Platform provides a future-ready, self managing and cost effective Archiving platform based on Object Storage – a highly scalable and metadata enabled storage technology that, among its advantages, gives storage managers better capabilities for managing unstructured data than is available in alternative approaches like NAS.

## 3. Industry & Vertical Specific Archiving Software

Dell has partnered with leading archiving software vendors to provide industry specific archiving solutions. As one example, using Dell's Unified Clinical Archiving solution, customers can leverage partner-developed, vendor-neutral archiving software purpose-built for Picture Archiving & Communication Systems (PACS) Images and other healthcare related content. One of the advantages of the DX Object Storage Platform is that multiple types of data may be stored, (i.e. medical image, file and email archive) all on the same appliance even using multiple Independent Software Vendors. Through this partnering approach, Dell ensures that it can provide customers with Archiving solutions that are highly customized to their individual needs.

### Capabilities provided by Dell's Archiving Solutions

Dell's Archiving solution offerings can provide customers with a rich set of capabilities, including:

- *High scalability.* With significant and continued growth in digital content, it is important for Archival Storage to easily scale and match new capacity requirements. Dell's solutions give customers the ability to add anywhere from a few terabytes to 10's of terabytes of storage at a time.

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- *Searchability:* An important application of effective Archiving is to make eDiscovery of information easier. Dell's Archiving solutions are designed to reduce the amount of manual effort it may take to produce required documents or data and to fully utilize the potential of stored information.
- *Enabling context.* Dell's Archiving Solutions – leveraging Object Storage – helps customers preserve the context of file data over time so that it can not only be located and accessed efficiently, but the full value of the information contained in the file can be understood.
- *Assuring the retention and integrity of data.* Dell Archiving Solutions are designed to enable compliance with regulations and / or internal business policies, as well as ensure the integrity and authenticity of data. Dell's solutions are also designed to keep data secure, and to provide an audit trail to show that data has not been corrupted or changed but remains in its original state.
- *Enable different Archiving policies to be applied to different data.* The underlying Object Storage technology in Dell's Archiving Solutions enables storage managers to assign policies based on *content* to files. This allows storage managers to ensure that the appropriate policies can be applied automatically to data, thus reducing management costs as the amount of data inevitably grows.
- *Enabling industry specific requirements.* Dell Archiving Solutions help to ensure that specific industry archiving requirements can be met. For example, through partnerships, Dell provides solutions that enable the medical industry to archive and preserve the value of medical images such as MRIs.
- *Ensure future ready infrastructure.* Dell helps preserve the value of archived data by providing a future ready infrastructure that evolves seamlessly with technology and does not require “forklift” upgrades.
- *Affordable relative to Primary storage.* Dell's Archiving Solutions are lower in cost than Primary storage both in terms of media and management costs. This enables customers to cost effectively free up data in primary storage by transferring it to archival storage.

### Application Archiving with Dell Archiving Solutions

Dell's Archiving Solutions are designed to meet the specific archiving requirements of different applications such as e-mail, Microsoft® Office applications (e.g. Word, PowerPoint, Excel) and SharePoint. In particular:

#### 1. *E-mail Archiving*

E-mail is the primary business communication tool and application in companies today. This means that it is highly likely that any information required for compliance, or eDiscovery can be found in e-mail. It also means that e-mail can be a store of intellectual property (as ideas are exchanged). Additionally, given the continuous e-mail traffic in most companies, e-mail volumes are constantly and rapidly growing. This puts pressure on primary e-mail storage. However, it also reduces employee productivity and increases the risk of e-mails being lost. Many companies have policies that limit the mail box sizes of employees; consequently as e-mail traffic grows, mail boxes tend to fill causing employees to unproductively spend time trying to bring their sizes below limits either by deleting e-mails or storing them on their personal computers. This can lead to e-mails being unavailable for compliance or eDiscovery purposes.

Dell addresses the requirements of e-mail archiving specifically by providing capabilities to retain corporate e-mails according to required policies and ensuring that complex searches can be executed in seconds. In addition, Dell's e-mail archiving solutions can reduce the requirements placed on primary e-mail stores and mail boxes by transferring e-mails to archive systems and leaving only small “stubs,” or pointers to the actual file, in the e-mail box. If an employee clicks on the stub the e-mail can be recalled from e-mail archive systems and be presented to the employee as if it came from his or her own mailbox. With this approach Dell helps increase employee productivity (since they have a much reduced need to actively manage their mail box), save costs on primary e-mail storage (since less is used) and reduce the risk of e-mails being lost because they were deleted or moved to local systems.

### 2. *File Archiving*

Dell's file archiving capabilities are designed to take files that are no longer immediately required for business operations and transfer them to lower cost archival systems. This helps to reduce the burden on primary storage, and it helps reduce costs since files can be migrated to lower cost storage systems, but still ensure they are accessible if needed.

### 3. *SharePoint Archiving*

In SharePoint, Microsoft® Office SharePoint files are initially stored in SQL Server® databases on primary storage. As SharePoint sites grow and more files are generated, this can lead to increased cost for SQL Server storage. Dell's SharePoint archiving helps to mitigate this cost by moving files that are no longer immediately required out of production systems and move them to archival systems.

### **Benefits of Dell's Approach to Archiving**

With Dell's combination of services, the Dell DX Object Storage platform, and access to the specific expertise of ISVs, customers can realize significant benefits from Dell's approach to archiving. These include:

- Relying on Dell to serve as a trusted advisor and knowledge broker and help design the right Archiving approach within the context of a holistic Intelligent Data Management strategy. Our services led approach is focused on results while maintaining a fixed-scope and lasting for a short duration.
- With Dell as a trusted advisor, customers can ensure that they:
  - Implement a cost effective archiving platform and solution as a means for complying with government regulations and reducing risk
  - Can easily search and retrieve information required in eDiscovery
  - Ensure their company's intellectual property and information assets are well protected, and can be a source for insight in driving their business forward
  - Maximize the benefit Archiving can provide for improving the performance and cost effectiveness of primary storage
  - Optimize the design and cost of their total storage infrastructure, with intelligent, policy-based life cycle management of data driving Archiving as part of a comprehensive Intelligent Data Management approach,
- Access to future-ready, self managing and cost effective archiving solutions such as the Dell DX Object Storage platform.
- Dell's Open, Capable and Affordable approach allows customers to take advantage of emerging technology while leveraging existing infrastructure investments with platforms built on common x86 hardware.