

Where are we now?

Within the past 2 decades a significant amount of us have broadband in our homes, and an even larger amount has access to the Internet on our phones (even though half of us don't know how to use it!). The point is, at the flick of a switch we can be inundated with information from a variety of sources and in a variety of formats.

Information is at our fingertips, we want it all and we want it now. Governments have a responsibility to service communities and as technology changes so do the demands of our clients. It is now not enough to provide information via an office or over the phone, transactions between members of the public and governments are conducted online, in an environment where a traditional paper record may never be created, let alone captured and disposed of.

In addition to this and in stark contrast to the 1920s, it's the records about the everyday person that attracts the attention, with the vast majority of archive users being family historians (SRSA Ancestors in Archives 2000:x).

You may have heard that we are heading towards a “paperless office” whilst this may not be occurring just yet, many of us work in an environment where paper and digital records co-exist. Digital and electronic records have now come to the fore and these are the records that we need to manage to make sure that we can access them in the years to come.

So how do we archive these digital records?

We will first start by taking a look at electronic and digital records.

What are electronic/digital records?

Electronic Record

A record created, communicated and/or maintained by means of electronic equipment. Although this term can refer to analogue materials (eg. videotapes), it generally refers to records held in digital form on magnetic or optical computer storage media.

(Adapted from Standards Australia AS 4390, Part 1, Clause 4.13; Kennedy, J, and Schauder, C, Records Management: A Guide to Corporate Recordkeeping, 2nd edition, Longmans, Melbourne, 1988, p. 293.)

Digital Record

A record created and/or maintained by means of digital computer technology. Includes records that are 'born digital' or have undergone conversion from a non-digital format. Digital records are a subset of electronic records.

(National Archives of Australia, Guidelines for Implementing the Functional Specifications for Recordkeeping Functionality in Business Information Systems Software Exposure draft, 2006, p.107,

<http://www.naa.gov.au/records-management/publications/BIS-guidelines.aspx>

Regardless of its format a record should correctly reflect what was communicated or decided or what action was taken. It should be able to support the needs of the business to which it relates and be used for accountability purposes.

Government and Digital Recordkeeping

Dr Peter Shergold (Secretary, Department of the Prime Minister and Cabinet) said that "The electronic machines of tomorrow may well struggle to read the electronic communication of today. That is why it is vital to convert and store digital records in a standard and stable format"

The tendency for Government to build information systems based on computers and computer networks poses a formidable challenge to agencies charged with custodianship of the State's memory. The knowledge and tools required to manage digital memory for persistence are very different from traditional records. Digital records exist on fragile media and cannot be seen. Combinations of hardware and software are required for digital records to be understood. As hardware and software become obsolete, the essential conditions for intelligibility may no longer be satisfied resulting in loss of digital memory. <http://www.sro.wa.gov.au/dri/dri.asp>

The Challenges with electronic records

The challenges with electronic records identified in Keeping Archives, 3rd Edition Chapter 15 Digital Recordkeeping are:

- Lack of clarity about where the records were being made, or if they were being made at all
- The decentralization of information and records management to the user, meaning a loss of corporate control
- Poor quality records being kept, lacking in contextual information that was once easily apparent on documents and files
- Challenges to the authenticity of records kept in inadequate recordkeeping systems

The Challenges with Digital Records

Digital Records are at a risk of being lost or destroyed due to factors such as:

- The rapid obsolescence of the hardware and software in which it is created
- The lack of adequate governance and accountability for digital recordkeeping
- Poor resourcing and methods to maintain and preserve these assets
- Technology, particularly with regard to digital records and archival management has leapt ahead of organizations ability to redevelop relevant supporting strategies
- Attitudinal change has fallen behind technological change

For effective digital recordkeeping there are four dimensions that involve the definition, development, establishment and implementation of:

- Governance models and framework
- Methods for understanding the organisation and its context
- System design requirements
- System maintenance requirements
- System use
- Standards and business rules
- Processes and systems for the creation and control of the evidence of business activity
- Roles and responsibilities for various aspects of recordkeeping
- Classification schemes and associated metadata tools and the method for their use
- Access and security models
- Storage requirements
- Migration and preservation strategies – to ensure availability and accessibility to records for as long as they are needed
- Archival systems and processes – description, appraisal, preservation and access – so that records are accessible and able to be understood over time
- Monitoring regimes

Putting in place a comprehensive Records Management Program regardless of format is necessary to ensure that appropriate creation and maintenance of authentic, reliable and useable records occurs.

It is also important to note that Acts, legislation and protocols provide the legal and regulatory framework for government recordkeeping. They provide guidance and policy for the management of State and Local Government records and their ultimate destruction or retention on behalf of the particular jurisdiction you are in. It is important to check with the Archival Authority in your State in relation to the Acts, legislation and protocols that your agency may be bound by.

As an example State Records of South Australia is responsible for administration of the following legislation and protocol:

- [State Records Act, 1997](#)
- [Freedom of Information Act, 1991](#)
- [Information Privacy Principles \(Protocol\)](#)

Furthermore Section 14 of the [State Records Act, 1997](#) enables State Records of South Australia to issue mandatory Standards and Guidelines. The Standards and Guidelines support the development of Adequate Records Management practices within State and Local Government in South Australia.

Who is responsible for what?

Roles and Responsibilities

All employees within an Agency have responsibilities in relation to the management and maintenance of records and information that they create, collect and receive. The following is a general guide to records management roles and responsibilities within an Agency:



Agency Responsibility

An Agency is responsible for ensuring its operations are documented and preserved to maintain its position within the government of its particular jurisdiction, protect its integrity and the interests of its staff and stakeholders.

Executive Responsibility

Executive of an Agency is responsible for supporting records management as a fundamental business activity by ensuring the development, promotion and resourcing of a framework of records management policies and support tools. This framework will provide staff with the support they need to ensure they are able to meet their records management responsibilities.

Manager's Responsibility

Managers are responsible for the adherence of records management policies and procedures by staff within their business group or unit. They are also responsible for ensuring staff, consultants and contractors receive records management training relative to their roles and responsibilities.

Anyone responsible for managing staff, contractors or consultants must ensure that those staff:

- ▶ are formally introduced to the Agency's records management policy
- ▶ undertake document and record management training as part of their induction process
- ▶ have access to the knowledge and tools that support the Agency's record management policy
- ▶ have recordkeeping responsibilities included in job and person specifications
- ▶ have recordkeeping responsibilities included in their performance management agreements
- ▶ have recordkeeping responsibilities included in contracts and agreements

Staff

All staff, contractors and consultants have a responsibility to adhere to their Agency's document and records management, standards, policies and guidelines by:

- ▶ creating records that adequately reflect business undertaken including decisions made and actions taken
- ▶ protecting and caring for records in their possession
- ▶ not removing, destroying or deleting records without proper authority to do so
- ▶ ensuring all corporate records form part of the Agency's record holdings
- ▶ ensuring all activity carried out on records is recorded and maintained

What is digital archiving?

Digital archiving is the preservation and maintenance of digital records that have been either created in an electronic format or migrated into an electronic document.

The archive in the digital world is not a physical entity that can be seen it is more of a digital entity that is known by its describing information such as metadata. For you to be able to look at a digital archive you need to have the right combination of hardware and software.

The primary goals of a digital archive are:

- To preserve the accessibility of the records over time
- To protect the records authenticity and integrity

These goals can be achieved through specific strategies and plans, policies, IT infrastructure (fit for purpose), definition of standardised practice, embedded and automated processes, clear roles and responsibilities, assignment of appropriate and specialist expertise.

Principles of Digital Archiving:

The following four principles relate to digital archiving:

Record Keeping Framework

As with other records electronic records are created as evidence of business activity. Organisations are responsible for creating, managing and preserving their electronic records for as long as they are required.

Capture of records as Archives and metadata

Electronic records designated as archives firstly need to be captured into a system that keeps records along with metadata that describes their content, structure and context. This enables the records and metadata to be migrated to an archival system for their ongoing management over time.

Management of records for as long as required

Electronic records must be managed to remain accessible for as long as required, and in the case of digital archives, require a range of management processes and control systems to ensure that access potentially to a wide audience, as well as outside the creating organisation.

Preservation of records of archival value

Digital archives require preservation to ensure their ongoing accessibility. Preservation strategies should reflect the organisations legislative obligations, industry standards and best practice.

Who will use and need the Digital Archive:

A Digital Archive may be used by a number of groups such as:

- The public
- Registered members
- Organisation staff
- A mix of the above

Many collections available online contain a mixture of electronic and hardcopy records. Various archives or historical institutions initially set up their online presence to enable the public/researchers to search upon their indexes to the collection. This allows the customer to identify if the records they wish to look at are held in the collection and if they are available for viewing online.

A good example of this can be seen on the NAA (National Archives Australia) website. <http://www.naa.gov.au/records-management/secure-and-store/e-preservation/at-naa/index.aspx>

The collection that they hold contains a mix of digital and hardcopy records.

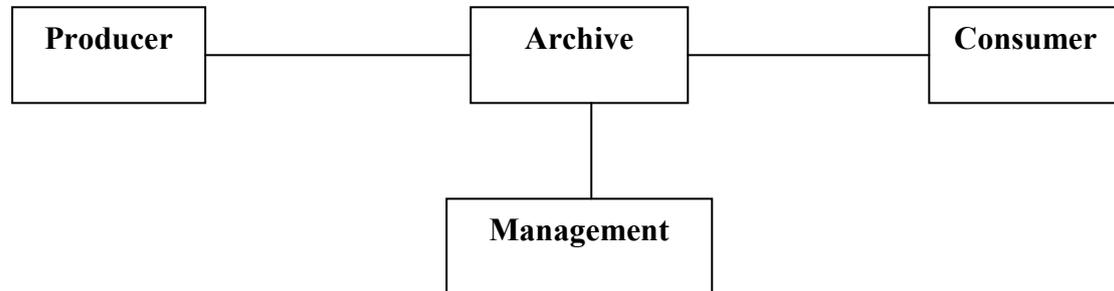
The OAIS Model

The Open Archival Information System (OAIS) model for a digital archive, established by the Consultative Committee for Space Data Systems (CCSDS), is a framework that specifically applies to organisations with a responsibility to make information available in the long term. It therefore applies to the “traditional” archive as well as an increasing number of other organisations who have a business need to ensure the long-term preservation of and access to, records.

The CCSDS state that:

An OAIS archive is one that intends to preserve information for access and use by a Designated Community. It includes archives that have to keep up with steady input streams of information as well as those that experience primarily aperiodic inputs. It includes archives that provide a wide variety of sophisticated access services as well as those that support only the simplest types of requests.

The following model demonstrates simply the environment surrounding an OAIS archive:



In this model the following definitions apply:

Producer is the role played by those persons, or client systems, which provide the information to be preserved.

Management is the role played by those who set overall OAIS policy as one component in a broader policy domain.

Consumer is the role played by those persons, or client systems, which interact with OAIS services to find and acquire preserved information of interest. A special class of Consumers is the Designated Community. The Designated Community is the set of Consumers who should be able to understand the preserved information.

As you can see this approach is similar to how a traditional archive may view itself and some of its stakeholders.

Under the OAIS model the archive consists of a number of functions / functional entities. These are as follows:

- Ingest
- Archival Storage
- Data Management
- Preservation Planning
- Access
- Administration

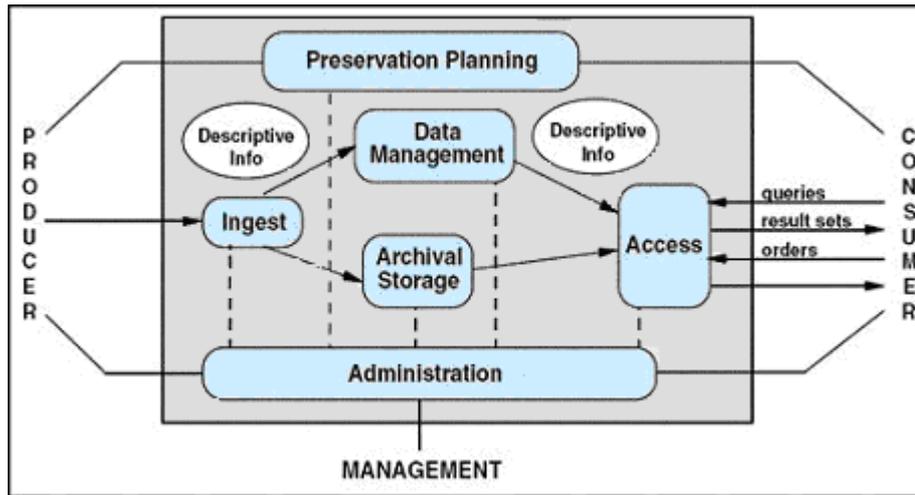


Diagram sourced from the Reference model for an Open Archival Information System (OAIS) CCSDS 650.0-B-1 Blue Book January 2002

The OAIS model can be explored in more depth at the following site at <http://nost.gsfc.nasa.gov/isoas/>

Adoption of the OAIS Model

The Australasian Digital Recordkeeping Initiative (ADRI), in its investigation and development of its *Model Plan for an Archival Authority Implementing Digital Recordkeeping and Archiving* (March 2007) adopts the OAIS model and makes the assumption that the Reference Model for an Open Archival Information System (OAIS) is used as a basis for an authority's preservation strategy.

However it is important to note that it is not the only model available for the preservation of digital records in a digital archive.

What is happening in our State: Standards and Models for Digital Archives?

Agencies to insert State Specific information.

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