GUIDELINE

AUSTRALIAN CAPITAL TERRITORY

Territory Records Office

No. 6 – Digital Records

This Guideline is to be read in conjunction with *Territory Records Office Standard for Records Management No.6 – Digital Records.*

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Contents

INTRODUCTION

The *Territory Records Act 2002* requires all ACT agencies to make and keep records of their business activities. Digital records, like records in other formats, are evidence of the day-to-day business activities and decisions of the ACT Government. They are subject to legislation such as the *Territory Records Act 2002* and the *Freedom of Information Act 1989* and to legal processes such as discovery and subpoenas. Hence, digital records made or received by an agency or its officers in the course of official duties are Territory records.

Recordkeeping practices in the ACT Government commonly do not address the need to make and keep records digitally. Digitally generated records (such as those produced by electronic office applications) need to be captured and managed in their original format to manage the content, context and structure of those records for ongoing business use.

The Director of Territory Records has approved Territory Records Office Standard for Records Management Number 6 – Digital Records for use in the Territory. This Standard sets out the minimum standards for maintaining all digital Territory records, including those that are required over time and/or beyond their immediate business purpose. Standard Number 6 sets out the required content, structure and context for the capture and maintenance of digital records.

PURPOSE

This Guideline is provided to assist Territory agencies in managing their digital records. This Guideline should be read in conjunction with Territory Records Office Standard for Records Management Number 6 – Digital Records. In the event of inconsistency between any Standard and this Guideline, the Standard shall prevail.

A digital record (see definitions) is simply one form of record. Digital records are records that are communicated and maintained by means of electronic equipment. It is a record in electronic form. It may include, among other things, audio and video records that have been captured in electronic form, such as audio cassettes, CDs, VHS video tapes and DVDs. It includes electronic records in digital or analogue form, and/or records originally captured in analogue or paper form that have been converted to digital form.

Once a record of any sort becomes a digital object, it is treated as a digital record for records management purposes, regardless of content. To ensure accountability and community expectations are met, strategies need to be put in place to ensure that digital records are properly created and captured, remain inviolate and continue to be accessible for as long as they are required. Digital records are subject to appropriate records management practices as are records in any other form. Generally, the management practices for digital records will parallel the management practices for records in other forms.

In some cases, an agency's records management regime will require adjustment to accommodate digital records. This Guideline will assist agencies to comply with all legislative and best practice recordkeeping requirements applicable to the ACT

Government in the electronic environment. It also helps agencies incorporate their digital recordkeeping requirements into their broader recordkeeping program and strategy.

WHAT ARE DIGITAL RECORDS?

Digital records are those records communicated and maintained by means of electronic equipment. (NAA Glossary). They include (but are not limited to):

- Documents created from office applications (for example, word processed documents, spreadsheets);
- Records in online and web-based environments (for example, internets, intranets);
- Records generated by business information systems (for example, outputs from human resources systems, customer relationship management systems);
- Electronic messages from communication systems (for example, email, instant messaging);
- Records that have been converted into digital form from their original format (for example, digital scans of paper documents, digital scans of audio or video records); and
- Analogue electronic records that have not been converted into digital format (for example, audio cassettes and VHS and Beta video tapes).

Special challenges exist in the management of digital records, for example:

- Digital records are commonly created and stored throughout an agency and in a variety of equipment, such as in databases and business information systems, in network shared folders, PC hard drives, and on portable equipment such as laptops;
- The speed of software and hardware obsolescence means that digital records can quickly reach a point where they cannot be accessed, read or understood;
- Degradation of the media on which the records are stored means that records cannot be accessed or read; and
- The general ability of digital records to be manipulated means that they can quickly and easily be updated, deleted or altered.

All records created or managed by Government information systems are the property of the ACT Government and not of the individuals that generated them. This includes information and records transmitted through Government messaging systems. As Principle 4 makes clear, both the ownership of records and the records management responsibility legally remain with the agency responsible for the function.

These factors mean that measures need to be in place to manage digital records for as long as needed, especially for those that have ongoing value to the Government and the community. Just as with records in other formats, digital records of ACT Government agencies are the responsibility of the agency that is responsible for that function for the duration of their existence.

PRINCIPLE 1: RECORDKEEPING WILL COMPLY WITH ALL APPROPRIATE STANDARDS

All recordkeeping, regardless of format, must comply with ACT Government Legislation, Standards, Codes and Guidelines. Territory Records Office Standards and Guidelines for Records Management 1 to 5 create the basic framework, supplemented by other Legislation, Standards, Codes and Guidelines that relate to the business of government or of government administration, such as the *Public Sector Management Act 1994 (ACT)*, and have implications for recordkeeping.

There are additional Legislation, Standards, Codes and Guidelines that apply to digital records. These include but are not limited to the following:

Territory Records Office Standard for Records Management Number 6 – Digital Records

Electronic Transaction Act 2001 (ACT):
This Act facilitates the use of digital transactions and promotes business and community confidence in the use of digital transactions.

Australian Standard AS 5044.1 and 5044.2 – 2002, AGLS Metadata Element Set and Usage Guide:
This Standard specifies the structured information elements that can be used to describe web-based information and services.

Australian Standard AS ISO 23081.1- 2004, Information and documentation— Records management processes— Metadata for records Part 1: Principles:

ACT Government Web Site Policy 2004:
http://www.cmd.act.gov.au/about/publications.shtml#Policies,%20Procedures%20and%20Guidelines
This policy assists all ACT Government agencies in establishing and maintaining websites that present information and services in a coherent, accessible, accurate, and user-friendly manner.

Each agency should at least annually review its Records Management Policy and Procedures for any changes that are required as a result in changes to the compliance framework, including its digital records compliance framework. Those changes should be made in accordance with *Territory Records Office Standard Records Management No.1*, and *Guideline No.1 – Records Management Programs.*

PRINCIPLE 2: BUSINESS CONDUCTED DIGITALLY IS TO BE ADEQUATELY DOCUMENTED

Agencies must ensure that they adequately and properly document all aspects of business that are conducted in the digital environment by making and keeping records of those activities. This includes documents created or received by ACT Government agencies. Just as with records in other formats, digital records are evidence of business transactions and must be captured into a corporate recordkeeping system.

To determine what records they need to create to document their business activity properly, agencies should use *Territory Records Office Standard No.2 – Appraisal*, which sets out the key steps as follows:

- Step 1. Preliminary investigation;
- Step 2. Analysis of business activity; and
- Step 3. Identification of recordkeeping requirements.

Using the Analysis

Understanding the requirements for records in a digital environment can be used for a number of purposes, including:

- Determining what digital records should be created and captured from within the agency, and providing a mandate for record creation;
- Determining what information received electronically from outside the agency should be treated as evidence of business and captured as records; and
- Educating staff about their digital recordkeeping obligations.

Digital records created, received and captured by agencies should be:

- Complete – i.e. They have content, context and structure;
- Adequate – i.e. They are adequate for the purposes for which they are kept;
- Accurate – i.e. They are an accurate reflection of the business activity to which they relate; they show what was communicated, decided or done; and
- Authentic – i.e. They have not been tampered with or otherwise altered, except in ways that are authorised.

See the principles on full and accurate records in the Territory Records Office Standard No.3 - Records Description and Control.

See the guideline s for the "Making and capturing of records" in the *Territory Records Office Guideline No.1- Records Management Programs.*

Responsibility for creating and capturing digital records into recordkeeping systems rests with all agency staff members and contractors who identify, create and capture digital records in the course of daily business. Appropriate training should be provided so all staff members and contractors understand the legislated requirement to document evidence of their daily business, and to capture that evidence in designated recordkeeping systems.

Digital records must be captured into systems with recordkeeping capability as described in Principle 5 below. Digital recordkeeping systems must also comply with Principles 6 and/or 7 below.

PRINCIPLE 3: DIGITAL RECORDS ARE TO BE MAINTAINED IN DIGITAL FORM

Most agencies create and receive records in digital format as a routine part of conducting business. It is the content, context and structure of the digital object, which makes it a record. So, as agencies make more use of technology to do business, ways of maintaining digital records and their metadata in digital form must be established. Purpose-built electronic recordkeeping and document management systems (ERDMS) and similar products enable agencies to store and manage digital records in their original digital format for as long as required. Recordkeeping functionality can be built into other business systems to enable the storage and management of digital records in digital form.

Maintaining digital records in digital form:

- Supports routine electronic work processes;
- Saves the costs and other overheads of physical storage;
- Facilitates the use, re-use and sharing of information;
- Enables the secure storage and management of the records; and
- Means there is only one source of business information.

To adequately maintain digital records in digital form an agency should:

- Integrate digital recordkeeping requirements into its overall Records Management Program (policies, procedures, responsibilities) (see Principle 4);
- Incorporate certain characteristics into the design of systems to be used for the capture and management of digital records (see Principles 5, 6 and 7);
- Ensure that effective processes and facilities are in place for maintaining, handling, storing, protecting and accessing digital records for as long as they are needed (see Principles 6 and 7); and
- Ensure the requirements for managing digital records in digital form are effectively communicated to staff, contractors and other entities who generate and receive records on behalf of the agency (for example, through training).

Various storage options are available for digital records:

- Online – where records are contained on a range of storage devices (for example, mainframe storage, network attached storage or PC hard drive) and are available for immediate retrieval and access;
- Offline – where records are contained on a system or storage device that is not directly accessible through the agency network and which requires human intervention in order to be made accessible to users (for example, magnetic tape, CD, DVD); and
- Nearline – where records are contained on removable digital storage media, but remain relatively accessible through automated systems connected to the network (for example, CD jukebox or magnetic tape silos).

The choice of storage option is usually guided by:

- The currency of the records;
- The frequency and speed of access required;
- The status of the records (for example, are they needed for business continuity purposes?);
- The volume of records;
- The longevity, reliability, durability and sustainability of the proposed storage device (for example, is it sufficient to meet the required retention periods for the digital records it will contain?); and
- Costs and benefits of the proposed storage device (for example, costs of migrating records, the storage device itself and associated hardware, any training that may be required).

Digital records that were not created in digital form

Not all digital records were originally created in digital form. Examples include digital records that are created by means of a digital scan of a paper document or an analogue media tape. In these cases, the original record is the paper document or analogue media tape.

For operational reasons, an agency may decide to convert non-digital records to digital format. It is recognised that with current technology, there is a possibility of some loss of content and/or structure and/or context. It is the responsibility of the converting agency to ensure that the conversion of a record from non-digital to digital format is undertaken in a way that ensures that the digital record that is created is as accurate to the original record as is reasonably technically possible at the time of conversion in terms of content, structure and context. Any loss of accuracy is to be minimised.

Note that for the purposes of public access under Part 3 of the Act, many records become eligible to be accessible by members of the public 20 years after the date of creation of the original record. In terms of public access, the date of conversion of a record to digital format is irrelevant.

PRINCIPLE 4: DIGITAL RECORDS ARE TO BE MANAGED EFFECTIVELY AS PART OF A COMPREHENSIVE RECORDS MANAGEMENT PROGRAM

Agencies must develop recordkeeping strategies, practices and systems in accordance with *Territory Records Office Standard No 1 – Records Management Programs*, which includes the management of digital records.

The framework for managing digital records must be an integral part of an agency's overall Records Management Program. For example:

- The policy and procedures in an agency's Records Management Program must detail how an agency will ensure that proper and adequate records, <u>including digital records,</u> of its business activities will be made and kept to ensure that it is

able to conduct its business and fulfil its functions effectively and that there is sufficient evidence of the performance of those functions;

- All agencies must have documented and appropriately authorised records management procedures in place that include the management of digital records;
- Reporting on an agency's Records Management Program (under Section 16(6) of the *Territory Records Act 2002*) must include reporting on the implementation of digital recordkeeping initiatives, such as: assignment of responsibilities, training, procedures, storage and security, systems; and
- Records Management Programs must include indicators that measure against the agency's digital recordkeeping activities.

Agencies can apply almost all elements of the *Territory Records Office Guideline No.1 – Records Management Programs* to their digital recordkeeping. The only exceptions are those guidelines that apply to records in specific formats. For example, there is legislation that applies only to digital records. While the principles apply equally to physical and digital records, the implementation techniques for managing digital records may be different. For example, the means of recording the location or use of a record in a digital environment will be different from that in a physical environment, or implementing disposal action will be different in each environment.

Policies, procedures and guidelines should be developed to suit an agency's size, complexity, corporate culture and structure. For example, a small agency may have a single policy covering the management of records in all formats. Larger agencies may have multiple policies covering specific areas of digital recordkeeping, such as electronic messages, and preservation of digital records.

An agency must ensure that the information in its records continues to be accessible in accordance with the FOI Act and the *Territory Records Act 2002*. It must also ensure the safekeeping and proper preservation of its records. For long-term digital records, it will be necessary to apply an appropriate preservation strategy to enable continued access to, and preservation of the records. This is addressed in Principle 7. Techniques should be developed to facilitate access in keeping with the "Public access and use" provisions of *Territory Records Office Guideline No.1 – Records Management Programs*.

Collaboration between the various information-related professionals in the agency is necessary in the digital environment. All have some responsibility for the development and use of information systems that create, manage and maintain digital records. These people may include records management, e-business, website management, IT as well as general staff.

Staff training is a vital and ongoing component of an agency's digital recordkeeping regime. Staff members, contractors and staff members and contractors of entities acting on behalf of an agency must understand the appropriate processes for creating, managing, accessing and keeping digital records for as long as required.

External providers, contractors or any other person involved in any way with the records of an agency must be subject to policies and procedures governing the creation, management and preservation of digital records that will ensure that all aspects of an agency's recordkeeping responsibilities are met. Usually, external providers and contractors will be subject to the same policies and procedures governing the creation,

management and preservation of digital records as agency staff. In addition, the provider's systems should be compatible with those of the agency in order to facilitate transfer of digital records back to the agency at the conclusion of the contract. Alternatively some other method for data and object conversion and/or migration should be agreed. Appropriate provisions must be incorporated into agency/provider contracts.

Similarly, when digital records are transferred from one agency to another, the relinquishing agency should transfer the digital records, and their associated metadata, in data formats that are accessible and functional for the receiving agency. The receiving agency inherits the responsibility of managing, preserving, and providing access to the digital records. Therefore, the receiving agency becomes the responsible agency, and it must ensure that it receives adequate system documentation and metadata along with the digital records.

PRINCIPLE 5: DIGITAL RECORDS ARE TO BE CAPTURED INTO A RECORDKEEPING SYSTEM

To support work processes, digital records should be captured into a corporate system that has recordkeeping capability. Capture is the process of lodging a document into a recordkeeping system and assigning metadata and any other descriptive information about the record, so that the record can be managed over time.

This can be done in a number of ways:

a) Purpose-built electronic recordkeeping and document management systems (ERDMS) and similar products enable agencies to store and manage digital records in their original format for as long as required.

Electronic recordkeeping systems present the best method for maintaining digital records over time, as they manage the content and structure of records, provide on-going access to them, and maintain linkages between records and the activities they document (context).

There are a number of publicly available specifications available for ERDM systems, which can be used by agencies to help them tender for and select a suitable system. These should be used in conjunction with an analysis of the agency's own business requirements. For example, the National Archives of Australia has issued generic specifications and related guidelines (in exposure draft form) for agencies wishing to purchase or build electronic records management systems. See *Functional Specifications for Electronic Records Management Systems Software*, 2006, and *Guidelines for Implementing the Functional Specifications for Electronic Records Management Systems Software*, 2006; and

b) An agency can identify recordkeeping functionality in existing systems and build upon that or recommend the design and implementation of new systems. This involves building recordkeeping functionality into business systems to enable the storage and management of digital records in digital form. Some software applications lend themselves to built-in recordkeeping functionality. For example, finance and human

resources systems already support a high degree of control, such as audit trails and user access logs. In many cases, automated or semi-automated capture of recordkeeping metadata may be possible with minimal customisation. Other applications will require the user to manually capture a record into a separate recordkeeping system. Workflow systems and procedures that incorporate recordkeeping practices can seamlessly support core business processes.

Not all business information systems are designed to act as recordkeeping systems. These systems generate records, but do not have the capacity to manage those records. This can place agencies at significant risk.

To assess the recordkeeping functionality of existing systems, and to design documentation to enable new systems to create or capture digital records, agencies may use further steps from *The DIRKS Manual: A Strategic Approach to Managing Business Information 2003* from the National Archives.

The key steps are:

DIRKS Step D – Assessment of existing systems

The aim is to identify and analyse any gaps between the agency's prioritised recordkeeping requirements and the performance and capabilities of its existing systems. It involves:

- Identifying existing paper-based, electronic and hybrid business information systems within the agency;
- Analysing whether the agency's prioritised recordkeeping requirements are being met;
- Determining whether current systems have the capacity to meet them (by measuring the 'gap' between 'what you have' and 'what you want'); and
- Describing the strengths and weaknesses of existing information and records management practices. This in turn can form the basis for subsequent design or redesign of systems, policies or procedures (DIRKS Steps E and F).

DIRKS Step F – Design of a recordkeeping system

The aim is to develop a blueprint for a recordkeeping system that addresses the recordkeeping requirements identified and documented during Step 3 and any recordkeeping inadequacies or gaps identified during DIRKS Step D. There will be a number of design elements such as policies, work processes, training plans, assignment of responsibilities, etc. In the context of capturing digital records, it will be the design of electronic or hybrid systems for record creation, capture and control. This includes development of:

- Logical and physical models of different aspects of the system;
- Metadata specifications;
- Structured, precise hardware and software design specification(s), addressing computer system developers and vendors; and
- Initial testing plans.

Characteristics of recordkeeping compliant systems

Systems used for capturing and managing digital records must contain certain characteristics and be capable of performing a range of standard recordkeeping functions. These are well defined in *The DIRKS Manual* and *AS ISO 15489 – Records Management* and have been mandated by the ACT Government for use by agencies. The characteristics and functions that are required for recordkeeping systems to be compliant are listed below.

Characteristics of recordkeeping-compliant systems:

Reliability

Routinely captures all records;
Organises records appropriately;
Provides adequate information about the records within them;
Provides ready access to records and make records of system operation; and
Stores records in ways that mean they cannot be tampered with, or deleted or altered inappropriately.

Integrity

Prevents unauthorised access, destruction, alteration or removal of records.

Compliance

Is managed in compliance with all requirements that apply to the business documented within them.

Comprehensiveness

Manages all records resulting from the business activities that are documented or managed by the system.

Accessibility

Allows records, including their complete contents, to be shared as information resources across a workspace, business unit or organisation, and more widely to enable public access as legally required.

Functions of recordkeeping-compliant systems:

Registration

Capturing records by assigning them unique identities and attributing brief descriptive information to them, such as a title and date.

Classification

Arranging records into categories based on the business activities they document, as a means of facilitating record control, retrieval, disposal and access.

Indexing

Establishing access points to facilitate record retrieval.

Access and security monitoring
Assigning and implementing rights or restrictions that:
Protect records against unauthorised or inappropriate use or access;
Protect records against alteration or unauthorised destruction; and
Ensure the useability and accessibility of records over time.
Accordingly, it is essential that a record remains accessible; any encryption facility that may be employed must facilitate continuing accessibility.

Tracking
Monitoring record use to ensure no inappropriate use occurs and an auditable record of use is maintained.

Disposal
Utilising disposal authorities, linking disposal periods to records, triggering any required disposal actions, reviewing any history of use to confirm or amend disposal status and maintaining an auditable record of disposal (retention, destruction or transfer) actions.

Storage
Appropriately maintaining records in consideration of their form, use and value for as long as they are legally required.

Searching, retrieval and rendering
Making records available as Territory information resources.
Identifying and presenting records in response to user search requests and, where appropriate, enabling records, and their full contents, to be printed on request.

Reporting
Generating any reports deemed necessary by the organisation.

A compliant agency can demonstrate that it maintains a recordkeeping system that contains the above characteristics and is capable of performing at least the above recordkeeping functions.

PRINCIPLE 6: DIGITAL RECORDS METADATA ARE TO BE AN INTEGRAL COMPONENT OF THE RECORD AND ARE TO BE COLLECTED AND MANAGED

Principle 6 applies a metadata requirement to all digital records.

(Note that Principle 7 applies additional metadata requirements for certain digital records, namely, for digital records that are to be retained for 20 years or longer from the date of creation of the original record, for web-based digital records, and for digital recordkeeping systems that manage records of the above two classes. Principle 6 permits a less rigorous preservation and searching regime (ie metadata requirement) than records subject to Principle 7.)

Any record, at any time in its existence, may have to be produced under the requirements of the *Freedom of Information Act 1989* or other legal proceeding. So an agency's

recordkeeping system (and inherently its metadata model) must enable any record to be located and produced at any point in the record's existence.

Metadata is data describing the context, content and structure of records and their management over time. Metadata allows users to control, manage, find, understand and preserve records over time.

Recordkeeping metadata is information that enables the creation, registration, classification, access, preservation and disposal of records (in any format) through time and across domains. Recordkeeping metadata can be used to identify, authenticate and contextualise records and the people, processes and systems that create, manage, maintain and use them.

AS ISO 23081.1 describes the role of metadata in records management:
Records management has always involved the management of metadata. However the digital environment requires a different expression of traditional requirements and different mechanisms for identifying, capturing, attributing and using metadata. In the digital environment, authoritative records are those accompanied by metadata defining their critical characteristics. These characteristics must be explicitly documented rather than being implicit, as in some paper-based processes. In the digital environment, it is essential to ensure that the creation and capture of records management metadata are implemented in systems that create and manage records.

This Australian Standard also explains how metadata supports business and records management processes by:
a) Protecting records as evidence and ensuring their accessibility, and usability through time;
b) Facilitating the ability to understand records;
c) Supporting and ensuring the evidential value of records;
d) Helping to ensure the authenticity, reliability and integrity of records;
e) Supporting and managing access, privacy and rights;
f) Supporting efficient retrieval;
g) Supporting interoperability strategies by enabling authoritative capture of records created in diverse technical and business environments and their sustainability for as long as required;
h) Providing logical links between records and the context of their creation, and maintaining them in a structured, reliable and meaningful way;
i) Supporting the identification of the technological environment in which digital records were created and the management of the technological environment in which they are maintained in order that authentic records can be reproduced as long as they are needed; and
j) Supporting efficient and successful migration of records from one environment or computer platform to another or any other preservation strategy.

There are two main categories of metadata that are used to manage digital records – resource discovery metadata (for example, for web-based information) and recordkeeping metadata.

In Principle 7, the ACT Government mandates two standards for metadata use for records

to which Principle 7 applies:

- ACT Government IT Standard *Metadata for Web-based Resources Standard*, 2004. This is a metadata element set of 19 descriptive elements that are used to describe and improve the accessibility of resources for presentation on the Internet. This is already mandated for resources for presentation on the Internet.
- National Archives of Australia, *Recordkeeping Metadata Standard for Commonwealth Agencies*, 1999. (RKMSCA). This metadata element set is specifically aimed at "helping agencies to identify, authenticate, describe and manage their electronic records". This is mandated as the minimum set for any ACT Government electronic recordkeeping system that manages records that are subject to Principle 7.

These two standards are recommended for all digital records, not only those subject to Principle 7. These standards are mandatory for records to which Principle 7 applies. It may be easier for an agency to establish an ERDMS or business system in which these standards apply to all records.

In addition National Archives of Australia has issued the Australian Government Email Metadata Standard (AGEMS), Version 1.0, 2005 as a subset of RKMSCA. This is to standardise the metadata for transmission with emails, to facilitate corporate control, efficient processing and management of these important records for business purposes.

Standard 6 recommends, but does not mandate, that all digital records be managed in accordance with RKMSCA. For records not subject to Principle 7, a compliant agency needs only to demonstrate that it uses an appropriate and current metadata model for controlling and retrieving its digital records. In deciding what is an "appropriate and current metadata model" for an agency, the following factors should be considered.

Metadata should be applied to digital records at various points throughout their existence:
At the point of record capture - by capturing information about the context of record's creation, the business context, the people involved and metadata about the content, appearance, structure and technical attributes of the record itself
When records management processes are performed upon a record, or on a group of records, for example, transfer of ownership or location of records, disposal of records.

There is a range of metadata that should be designed and applied within records systems:

a) Metadata about the record itself;

b) Metadata about the business rules or policies and mandates;

c) Metadata about agents;

d) Metadata about business activities or processes;

e) Metadata about records management processes; and

f) Metadata about the metadata record.

Whatever system or combination of systems is used for creating and managing digital records, it should be capable of using and supplying metadata to manage records in an accountable and effective way. Capture and maintenance of metadata should occur as a

normal part of business and recordkeeping operations. Ideally, systems design should enable the greatest scope for automating the creation and capture of metadata.

Agencies should also put processes in place to manage metadata, for example:

- Defining and documenting policies and rules for managing metadata;
- Identifying what metadata need to be created and captured when creating and maintaining records;
- Developing structures for capturing, storing and managing metadata, for example, through classification schemes, XML schemas for defining document structures, schemas for access authorisation or security;
- Determining when and how metadata should be captured;
- Documenting the rules and policies on consistent use of content standards, structures, terms and other related, relevant issues;
- Deciding upon the way metadata should be stored;
- Defining procedures and policies for documenting changes or additions to metadata structures;
- Defining a policy and rules for access to metadata; and
- Defining a policy and rules for the interoperability of records management metadata in order to facilitate exchange and retrieval of records across information systems, agencies or jurisdictions.

Digital preservation strategy

Digital records are dependent on various combinations of hardware, software and media to retain their content, context and structure. The records and associated metadata must be in a format that is always viewable, for the required period of time, and with current technology.

To achieve this, agencies should:

- Develop agency Records Disposal Schedules in accordance with *Territory Records Office Standard No2 – Appraisal;*
- Establish mechanisms for applying both the agency-specific Records Disposal Schedule and the *Territory Administrative Records Disposal Schedule* (TARDiS) to its digital records. This will vary depending on the type of system/s being used to capture and manage digital records;
- Identify those records that have a long-term business use or are of archival value. Due to the vulnerability of digital media and the frequency of technology change, 'long term' for digital records generally means longer than one generation of technology. In meeting the requirements of Principle 7, an agency must identify web-based records and records that are to be retained for longer than 20 years from the date of the original record; and
- Develop and implement an agency-wide strategy for identifying, managing, preserving, and ensuring continued access to digital records – a digital preservation strategy.

A digital preservation strategy should include:

- Formal policies and procedures governing the agency's approach to the long-term management of its digital records;
- Processes to ensure the ongoing maintenance of those policies and procedures;

- Consideration of the agency's legislative obligations, industry standards and best practice;
- Selection of a digital preservation technique or range of techniques;
- A plan for implementation;
- Training and briefing of all staff, so they understand their role in any implementation of digital preservation techniques;
- Assigning of responsibility for the management of long-term digital records to an appropriate area within the agency where staff have relevant skills and qualifications;
- Coverage of digital records created and managed by outsource providers or contractors and a requirement for them to comply with the agency's long-term digital records preservation strategy; and
- Ensuring that digital records of archival value receive maximum protection, through business continuity plans which include disaster recovery and restoration procedures.

There are various digital preservation techniques available. The Territory Records Office recommends, but does not mandate for digital records that are not subject to Principle 7, that agencies use National Archives of Australia's Digital Preservation tools. This approach is based on a combination of techniques – conversion, encapsulation and emulation, and involves converting or 'normalising' digital records into archival data formats for long-term storage and access.

PRINCIPLE 7: ACCESSIBILITY AND MAINTENANCE OF DIGITAL RECORDS THAT ARE TO BE RETAINED FOR MORE THAN 20 YEARS

Principle 7 is recommended, but not mandated, for all digital records. Principle 7 applies to:

- web-based digital records;
- digital records that are to be retained for 20 years or longer from the date of creation of the original record, and
- digital recordkeeping systems that manage records of the above two classes.

Self-documenting

To create a self-documenting recordkeeping system, it is recommended that the National Archives of Australia's (NAA's) Digital Preservation tools be used. Using these tools, two versions of the record would be created using NAA's digital preservation (open source) applications – Xena, DPR and Quest. The NAA recommended structures are:

Bitstream version. This is a metadata-wrapped bitstream version of the record, which is considered a secure original copy of the record. This version contains all of the information from the original, but requires access to the original hardware, operating system and application software for performance.

eXtensible Mark-up Language version. This version is also wrapped in metadata. The process converts the record from its original format into eXtensible Mark-up Language

(XML). The XML version is not considered to be an original copy of the record as some information may be lost during the process. However, the performance of the object is the closest to the original that is currently possible. XML provides a standard syntax for identifying parts of a document known as elements, and then a standard way (known as a schema) for describing the rules for how those elements can be linked together in a document. XML provides a widely accepted and fully documented way of structuring documents and it is supported by many open software applications.

Extensible

The recommended structure is expressed using XML. XML is a text-based markup language and so satisfies the self-documenting requirement. XML specifications are easily extensible (unlike HTML) and are relatively simple.

DEFINITIONS

Agency
The Executive, an ACT Court, the Legislative Assembly Secretariat, an administrative unit, a Board of Inquiry, a Judicial or Royal Commission, any other prescribed authority, or an entity declared under the regulations of the Territory Records Act 2002 to be an agency.

AGLS metadata
The AGLS Metadata Element Set is a set of metadata elements which improves the visibility, accessibility and interoperability of government information and services through the provision of standardised Web-based resource descriptions which enable users to locate the information or service that they require over time. In previous versions, the letters AGLS stood for the Australian Government Locator Service, now it is just the AGLS metadata.

Appraisal
The process of evaluating business activities to:

- determine which records need to be captured;
- how long the records need to be kept to meet business needs; and
- meet the requirements of organisational accountability and community expectations.

Bitstream
Data transmitted in a continuous flow without breaks between characters.

Capture (of a record)
Capture is the process of lodging a document into a recordkeeping system and assigning metadata or descriptive information about the record, so that the record can be managed over time.

Digital record
A digital record is a record that is communicated and maintained by means of electronic equipment. (National Archives of Australia, Glossary). (See also "Records").

Extensible Markup Language (XML)
Extensible Markup Language (XML) is a simple, very flexible text format derived from SGML (ISO 8879). XML is a metalanguage, containing a set of rules for constructing other markup languages. With XML, people can make up their own tags, which expands the amount and kinds of information that can be provided about the data held in documents.

Metadata
Metadata is data describing the context, content and structure of records and their management over time.

National Archives of Australia
The National Archives of Australia (NAA) is the agency of the Australian Government that is responsible for Commonwealth archives.

Outsourcing
A contractual arrangement whereby services to or on behalf of an agency that would otherwise be carried out internally are provided by an external organisation.

Principal Officer
The Chief Executive of an administrative unit, or its equivalent in other types of agencies.

Records
Information created, received, and maintained as evidence and information by an organisation or person, in pursuance of legal obligations or in the transaction of business. This recorded information must be maintained or managed by the agency to provide evidence of their business activities. Records can be in written, electronic or any other form.

Records of an Agency
Records in written, electronic or any other form, under the control of an agency or to which it is entitled to control, kept as a record of its activities, whether it was created or received by the agency.

Recordkeeping Systems
Information systems that capture, maintain and provide access to records over time. While the term is often associated with computer software, Recordkeeping Systems also encompass policies, procedures, practices and resources which are applied within an agency to ensure that full and accurate records of business activity are made and kept.

Records Disposal Schedule
A document approved by the Director of Territory Records, which sets out the types of records an agency must make and how long they must be kept.

Records Management
The managing of the records of an agency to meet its operational needs and, if appropriate, to allow public access to the records consistent with the Freedom of Information Act 1989 and the Territory Records Act 2002. Records management covers but is not limited to the creation, keeping, protection, preservation, storage and disposal of, and access to records of the agency.

Records Management Program
A document which complies with section 16 of the Territory Records Act 2002 by setting out the means by which an agency will manage its records, and is approved by the agency's Principal Officer.

Schema
An encoding scheme used to structure AGLS values, or the name of a thesaurus or controlled vocabulary that is the source of a value.

Sentencing
The process of applying appraisal decisions to individual records by determining the part of a Records Disposal Schedule which applies to the record and assigning a retention period consistent with that part.

Territory Archives
Records preserved for the benefit of present and future generations.

XML
See Extensible Markup Language

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ATTACHMENT A: CHECKLIST OF COMPLIANCE FOR MANAGEMENT OF DIGITAL RECORDS

The concepts behind the compliance requirements are simple and reflect simply the application of Standards 1 to 5 to digital records. So the following concepts sum up the regime that is expected:

- A comprehensive framework for digital recordkeeping is integrated into an agency's overall Records Management Program.
- All requirements of legislation, standards, codes and guidelines that affect an agency's digital recordkeeping have been identified and strategies are in place to ensure those requirements are met.
- Policies, procedures and guidelines developed as part of an agency's Records Management Program cover all aspects of digital recordkeeping.
- An agency's business information systems are designed and implemented with recordkeeping capability, and designated systems exist for the capture and maintenance of an agency's Territory records, including digital records.
- Training and user education programs for record creators are an integral and ongoing component of an agency's digital recordkeeping framework. All relevant staff members, contractors, and staff members and contractors of delegated entities of an agency understand the requirement to document evidence of their daily business and to capture the evidence into a designated system.
- An agency uses metadata structures to control, manage and find digital records, and has processes in place for the ongoing management of its metadata.
- An agency has developed a digital preservation strategy and is implementing it.
- The strategies for managing digital records apply to records that are owned by the ACT Government but are created or managed by third parties, such as contractors or external providers having delegated responsibility.

An agency will comply with the requirements of Territory Records Office Standard for Records Management No.6 – Digital Records if it can demonstrate that:

- An agency has a comprehensive framework for digital recordkeeping, which is integrated into a Records Management Program that implements Territory Records Office Standards, Codes and Guidelines. (Principle 1)
- All relevant agency staff have an understanding of their requirement to document evidence of their daily business, as instructed by recordkeeping training and briefing. (Principle 2)
- Full and accurate records are being created in accordance with Territory Records Office Standard No 3. (Principle 2)
- Systems (technology, tools, people, processes, and where appropriate, contracts) are in place to manage digital records and, as far as possible, digital records are maintained in digital form. (Principle 3)
- An agency has met all of the requirements of Territory Records Office Standard No 1 – Records Management Programs for all functions for which the agency has responsibility, including both outsourced functions and functions which the agency has inherited from a previous administrative structure. (Principle 4)
- An agency has captured digital records into a compliant digital recordkeeping system in accordance with this Guideline. (Principle 5)

- An agency can demonstrate that it uses an appropriate and current metadata model for controlling and retrieving its digital records. (Principle 6)
- An agency has identified web-based records and records that are to be retained for 20 years or longer from the date of creation of the original record (ie records that are subject to Principle 7).
- A compliant agency can demonstrate that records that are subject to Principle 7 are being managed in accordance with the requirements of Principle 7.