Public Record Office Victoria

PROS 11/07 G1

Capture Standard - Digitisation
Requirements

Guideline

1

Guide to Digitisation Requirements

Version Number: 1.4

Issue Date: 01/01/2010

Expiry Date: 05/09/2016

Victoria

Contents

Copyright Statement

Copyright State of Victoria through Public Record Office Victoria 2014

Disclaimer

The State of Victoria gives no warranty that the information in this version is correct or complete, error free or contains no omissions. The State of Victoria shall not be liable for any loss howsoever caused whether due to negligence or otherwise arising from the use of this Guideline. This Guideline does not constitute, and should not be read as, a competent legal opinion. Agencies are advised to seek independent legal advice if appropriate.

Version	Version Date	Details
1.0	01/01/2010	Released
1.1	13/09/2011	Content unchanged. New version issued to renumber the document. PROS number updated to new Capture Standard number; updated to new Specification template styles; expiry date adjusted to five years; disclaimer wording adjusted to updated version; relationship diagram inserted.
1.2	17/07/2013	Copyright changed to Creative Commons license
1.3	22/07/2014	References to Storage Standard and associated Specifications updated in line with Storage Standard Review
1.4	31/12/2014	Expiry date extended twelve months

1 Introduction

1.1 Purpose

The purpose of this Guideline is to facilitate implementation of requirements contained in *PROS 11/07 S1 Digitisation Requirements Specification*. The Digitisation Requirements Specification provides a set of measurable requirements that define the criteria for digitising records with a view to using the digital copy as the official record and disposing of the source record.

1.2 Scope

The Digitisation Requirements Specification, and hence this Guideline, applies to all digitisation activities irrespective of

- Whether the digitisation occurs pre-action or post-action. Pre-action digitisation (or pre-action conversion) is where the record is digitised before any action is taken upon it (e.g. in the mailroom upon receipt of the record). Post-action digitisation (or post-action conversion) is where the record is digitised after it has been used as the basis for action (e.g. back-file conversion).

- The age of the records.

- Whether the record is permanent or temporary.

The specification does not apply where:

- The physical original is to be retained as the official record in the agency after digitisation (i.e. the digitised copy is purely an access copy).

- The records are 'born digital' records; that is records that were originally created in a digital format and are held in that format.

1.3 Related Documents

- Public Record Office Victoria, General Retention and Disposal Authority for converted Source Records (PROS 10/01) http://prov.vic.gov.au/government/disposal-and-transfer/retention-and-disposal-authorities.

- Public Record Office Victoria, Digitisation Requirements (PROS 11/07 S1) http://prov.vic.gov.au/government/standards-and-policy/all-documents/pros-1107-s1.

- Public Record Office Victoria, Digitisation: Image Requirements (PROS 11/07 S2) http://prov.vic.gov.au/government/standards-and-policy/all-documents/pros-1107-s2.

- Public Record Office Victoria, Management of Electronic Records (PROS 99/007) http://prov.vic.gov.au/government/vers/implementing-vers/standard-2.

- Archives New Zealand, Digitisation Standard http://continuum.archives.govt.nz/files/file/standards/s6.pdf.

1.4 Acknowledgements

PROV would also like to thank the following individuals and organisations that provided feedback on the draft versions of this Guide:

- Leigh Swancott
- Toby Oviadia, Smart Records Group
- Janet Brennen, Monash University
- Carol Jackway, Kingston City Council
- Victorian Higher Education Records Management and Advisory Group (Janet Brennen, Ross Elford, Jason McGlone, Sandy Gillam, Lucinda Davies, Joe Arthur, & RM team at Victoria University)
- Jim O'Meara, Glenelg Shire Council
- Don Tylee, Baw Baw Shire Council
- Kerrie de Jager, VicRoads
- Nadine Gaffney, Department of Justice
- Ann Naidoo, Department of Primary Industries
- Dianne Ryan, Victorian Legal Aid
- Haydn Blennerhassett, Central Highlands Water
- Kerry Bain, Ombudsman Victoria
- Luca Scatolin, Department of Sustainable Environment
- Michael Elms, Department of Treasury and Finance
- Sandra Papashalis, Department of Human Services
- Sue Klein, Worksafe Victoria
- Terry Cook, Department of Premier and Cabinet
- Liduina Harrington, Melbourne Fire Brigade
- Liz Irving, Country Fire Authority
- Nigel Burton, City of Mitcham, South Australia.

2 GDA for the Disposal of converted Source Records.

The purpose of *PROS 10/01 General Retention and Disposal Authority for converted Source Records* (GDA) is to authorise the disposal of source records after they have been converted to another format. The digitisation of a paper original is one example of the conversion of source records.

When converting a record, the *source record* is the record being converted, and the *converted record* is the result of the conversion. When digitising, for example, the source record is the physical copy, and the converted record is the resulting digital record.

The GDA gives general authority to dispose of converted source records provided a number of conditions on the conversion process have been met. These conditions are, broadly, that

- A risk assessment has been carried out on the risks an agency incurs in converting the records.

- A full and accurate copy of the source record has been created.

- The converted record becomes the official record of the business of the agency.

- The converted record is managed in a system that is designed to ensure access for the full retention period of the record.

- The source record does not have value as a physical artefact.

- There is no requirement imposed upon the agency by legislation, regulation, government policy/directive, agency policy, standard, or written PROV direction that the source record be retained in a specific format.

- The source record has not been temporarily returned on loan from PROV.

The purpose of *PROS 11/07 S1 Digitisation Requirements Specification* is to provide measurable requirements for agencies for meeting these conditions of the GDA when digitising physical source records.

In other words, if a digitisation activity satisfies the requirements of the Digitisation Requirements Specification, the conditions of the GDA for converted Source Records are also met.

2.1 Not disposing of the physical records after digitising

An assumption behind the specification is that the physical records will be disposed of after they have been digitised. The digital copy will then be the official record held by the agency. Consequently, the specification focuses on ensuring that the digital copy is a full and accurate copy of the original records, and that the digital copies are managed in a system that will ensure access for as long as the record needs to be retained.

The specification can still be used where the digitisation activity is only to provide access copies, *and the original records will not be disposed of*. In this case it may be appropriate to relax some of the requirements in the specification. Before doing so, however, agencies should carefully consider the following issues:

- Missing records. Care should still be taken to ensure that the access copies are complete. As almost all accesses to the records will be via the digital copies, it may not

be noticed that a particular record has not been digitised. Even though the physical original still exists, users may never realise that and so will not have access to all extant records.

- Digitisation not in accordance with the GDA and Specification (particularly retrospective disposal). Having digitised the records and made them accessible, there will be a strong economic incentive to subsequently dispose of the physical records, even if the digitisation was not in accordance with the GDA and Specification. However, disposal of source records is not permitted unless the conditions in the GDA, and the requirements in the specification, have been complied with. It may be more difficult and expensive to retrospectively achieve compliance than to achieve compliance during the digitisation activity.

3 Options for fulfilling the Specification

Victorian agencies have two options in demonstrating compliance with the requirements of the Digitisation Requirements Specification. The first is to prepare a Digitisation Plan, and the second is to prepare a Digitisation Activity Plan and fulfil the mandatory requirements of the Archives New Zealand Digitisation Standard.

3.1 Digitisation Plan

The first option for complying with the Digitisation Requirements Specification is to prepare a Digitisation Plan for the digitisation activity in accordance with Requirements 1 to 7 of the Digitisation Requirements Specification, and then document the digitisation activity so that the agency can demonstrate that the plan was correctly carried out.

A Digitisation Plan is essentially a project plan for digitisation activity. In essence, it is a 'canned' implementation of the Archives New Zealand Digitisation Standard. Preparing a Digitisation Plan involves the preparation of six documents:

- Digitisation activity plan. This covers what is to be digitised, why, and the effect of digitisation on the users of the records.

- Digitisation image specification. This sets the requirements for the digital images.

- Digitising process plan. This describes the process of converting the physical source records into digital records. The process starts with retrieving the source records, through digitising, entry of metadata, and creation of digital records.

- Management of converted records plan. This states how the converted records (i.e. digitised copies) are to be managed after the digitisation activity.

- Management of source records plan. This states how the source records (i.e. physical records) are to be managed after the digitisation activity. In many cases the source records will be disposed of after conversion, and this document describes the process of disposal.

- Quality control and assurance plan. This states how the agency will ensure that the quality requirements of the digitisation process are to be met.

In order to dispose of the digitised source records, agencies must not only prepare a Digitisation Plan, but they must document (record) the actual digitisation process in order to prove that the plan was correctly carried out. The records of the digitisation process must be retained for as long as the digitised records are retained in order to demonstrate the converted records' authenticity and integrity.

Compliance against this specification is a self-certifying process. The Chief Executive Officer of the agency (or equivalent officer) must certify that the digitisation activity meets the requirements of this specification.

In addition, the Digitisation Plan and the records of the digitisation activity must be retained and made available, upon request, to PROV.

It is expected that most agencies will choose this option as it provides a very clear statement of what is required before digitised source records can be disposed of, and fits with the project based structure of most digitisation activities.

3.2 Archives New Zealand Digitisation Standard (ANZDS)

The second option for complying with the Digitisation Requirements Specification is to prepare a Digitisation Activity Plan and then implement the mandatory requirements listed in Appendix 1 of the Archives New Zealand Digitisation Standard (ANZDS), January 2007. The ANZDS requirements have been amended by PROV's Digitisation Requirements Specification. This option, including the amended requirements, is detailed in Requirements 8 to 12 of the Digitisation Requirements Specification.

Complying with the first option, preparation of a Digitisation Plan, is prescriptive and it is not expected that all agencies will wish to follow its requirements. In particular, complying with the second option might be preferable where:

- Agencies wish to retrospectively apply the GDA for converted Source Records to records that have already been digitised in a high quality digitisation activity.

- Agencies wish to digitise unusual or specialised records for which the first option may not be suitable.

- Agencies have developed a new or innovative approach to digitising.

- Agencies must (or wish to) comply with digitisation requirements from other jurisdictions, or domain specific digitisation requirements.

However, agencies should be aware that using the second option is expected to require more work than choosing the first option. The requirements in the ANZDS are specified at a high level and it will be necessary to document exactly how the agency will comply with each requirement.

The ANZDS has been chosen as it is currently the best international practice in this area. The ANZDS is the basis for an international (ISO) standardisation effort.

3.3 Digitisation performed outside control of records area

The specification does not assume that digitisation is controlled by the records team within an organisation. Instead, the specification requires that all digitisation be properly planned, carried out, and documented. The tasks of planning, carrying out, and documenting a digitisation activity may be carried out by any group within an agency.

Ultimately, however, if it is desired to dispose of the source records some consideration needs to be given to digitisation risk, process, and documentation. These specifications provide a formal structure for this consideration.

4 Digitisation plan

This section contains a summary of the project planning documents that are required for a compliant digitisation activity.

The documents must demonstrate that an agency properly planned the digitisation activity, had suitable processes in place for ensuring full and accurate copies are created (including quality assurance processes), and that both the source and converted records were suitably managed after the digitisation. An important aspect of this digitisation plan is the documentation requirements to show that the processes were actually carried out.

A full digitisation plan consists of the following documents:

- Digitisation activity plan.
- Digitisation image specification.
- Digitising processing plan.
- Management plan for the converted records.
- Management plan for the source records.
- Quality control and assurance plan.

It is anticipated that the detail supplied in these documents would reflect the scale and risk of the digitising project.

4.1 Digitisation Activity Plan

The purpose of a digitisation activity plan is to design a digitisation activity so that it will generate full, accurate, and complete records. It must contain the following sections:

- *Scope definition.* This section lists the records (or collections of records) that are to be digitised as part of the activity and how the digitisation is to be organised. It must include the following information:

    - *Record identification.* This lists the records (or collections of records) that are to be digitised.

    - *Duration.* This section indicates whether the digitisation is to be a discrete activity to digitise an existing body of records, or a continuing activity to digitise records as they are received.

    - *Performance.* This states whether the digitisation is to be performed in-house, or outsourced to a third party.

    - *Location.* This section indicates the location where the digitisation is to be performed.

- *Appraisal analysis.* This section identifies whether the records are temporary or permanent. If they are temporary it gives the retention period for the records.

- *Purpose of digitisation.* This section indicates why the records are to be digitised.

- *Statement of benefits.* This section states the benefits anticipated upon digitisation.

- *User needs and impacts.* This section states the requirements of the users of the records, and the impact on them of using a converted copy. The impacts may be positive or negative.

  Where permanent post-action records are being digitised, it is essential that the needs of future researchers are considered, not just the day-to-day business users within the agency.

- *Risk analysis.* This section identifies the risks in digitising the records. Specific risks to be considered are:

  - The risk that the authenticity of a record will be challenged, and that the authenticity could have been proven from the source record, but cannot be proven from a digitised copy. Forensic testing of physical documents is a well understood activity, but the forensic testing of digital objects is still an evolving practice.

  - Incomplete digitisation where some records are not digitised at all, not digitised completely (e.g. missing pages), or have poor quality images (e.g. poor contrast, too low a resolution).

  - The risk that a converted record may be lost due to inadequate record management systems. It is recognised that digital objects are inherently fragile and may be lost due to media failure (e.g. deterioration), application obsolesce (i.e. losing the ability to render the object), or lack of context. Agencies should not underestimate the challenges involved in retaining converted records for long periods of time, and make a realistic assessment of their ability to manage the records for their required life.

  - Risk that digitising will damage the source record. (This need only be considered where the source record is to be retained after digitising, or where damage will preclude obtaining a complete copy.)

- *Intellectual property analysis.* This section identifies any intellectual property (IP) issues with digitising the source records. Typical IP issues include, for example, who owns the copyright to the records and who can agencies make copies available to. Where an agency is digitising its own records for its own use, IP issues are not expected to be significant, however, if an agency is digitising material prepared outside the agency IP issues should be carefully considered. In particular, agencies should consider who owns the IP in a source record (generally the creator of the record, unless explicitly assigned); and what rights does the agency have over the IP.

- *Format requirements.* This section identifies if there are requirements imposed upon the agency by legislation, regulation, government policy/directive, agency policy, standard, or written PROV direction to retain the records in a specific format. For further information on this section see *PROS 10/01/G1 Guide to the GDA for converted Source Records*, Section 5.2.

- *Artefactual value.* This section states whether the physical records have value as physical artefacts. For further information on this section see *PROS 10/01/G1 Guide to the GDA for converted Source Records*, Section 5.1.

- *Loan check.* This section is a simple statement that the records have not been returned on loan from PROV's custody. For further information on this section see *PROS 10/01/G1 Guide to the GDA for converted Source Records*, Section 5.3.

- *Source document review.* This section reviews the source documents to determine the characteristics that will affect a digitisation project. The following characteristics must be documented:

- The type of source documents (papers, bound volumes, photographs, plans, microfilm, etc).

  - The quantity of each type of source documents.

  - Whether different types of source documents are mixed within files.

  - The image size (or sizes) of each type of source document.

  - Document structure (stapling, binding type, gatefolds).

  - Document condition (paper quality, creasing, condition of microform jackets).

  - Informational content (text, images, annotations, stuck on notes).

  - Whether both sides need to be digitised.

  - Whether there are any special characteristics of this source document that will affect the digitisation standards adopted.

    While a source document review is mostly useful for post-action digitisation of existing records, it is important when setting up a pre-action digitisation activity (e.g. scanning incoming correspondence) to identify the characteristics of the documents that it is expected to digitise.

- *Equipment and resources.* This section details the resources (equipment and personnel) required to digitise and manage the records in accordance with the requirements in this Digitisation Plan.

4.2 Digitisation image specification

This section states the requirements for the digitisation image standards. The purpose of the image standard is to state the digitisation requirements for each type of source document that will be digitised in this project.

It must contain a separate section for each type of source document (e.g. letter, volume, plan, and microfilm). Each section must detail:

- The resolution required (in dpi).

- The type of image (bi-tonal, greyscale, colour).

- The bit-depth (when greyscale or colour).

- Colour-management.

- Output format(s). One characteristic that must be considered in selecting an output format is ensuring access to the content over the expected life of the record.

- Compression algorithm and settings to be used.

Minimum requirements for Victorian agencies suitable for general-purpose digitisation activities are given in *PROS 11/07 S2 Digitisation Image Requirements* (except for the output formats). These requirements have been set at a level sufficient to produce images suitable for all general purposes (including long term retention and reuse).

Agencies can adopt the Digitisation Image Requirements to satisfy most of the Digitisation Requirements. Agencies are free to adopt higher requirements if required. Under certain circumstances, they are also free to adopt lower requirements than those given in *PROS 11/07 S2 Digitisation Image Requirements*. To adopt lower requirements, the agency must

be digitising temporary records, and the agency must ensure that the image specifications are sufficient for all reasonable uses of the records over their retention period.

It will be necessary for agencies to select suitable output formats for their purposes.

4.3 Digitisation processing plan

The purpose of the digitisation processing plan is to detail the workflow that will be required to generate full, accurate, and complete records from the source documents.

The workflow must cover:

- Process set-up, including:

    - Digitisation hardware and arrangement.

    - Software requirements.

    - Configuration settings.

- Retrieval of the records for digitising (especially if undertaking post-action conversion), including:

    - Record tracking so that the location of all source records is known at all times.

    - Transport of the source records to the digitisation location to minimise risk of loss or damage to the records.

    - Documentation required to be kept of the retrieval process.

- Pre-processing of the records prior to digitising, including:

    - Guidance on what type of material need not be digitised (e.g. ephemeral records). However, care should be taken that the complete record is digitised.

    - Physical preparation of records for digitising (e.g. removal of staples & other binding systems, flattening, conservation, batching of like documents). Note that the binding must not be removed from permanent post-action records.

    - Assembly of batches of source records suitable for digitisation at one time (e.g. size, colour, date order, document formats, orientation – portrait or landscape, single or double sided).

    - Documentation required to be kept of the pre-processing of the records.

- Scanning records, including:

    - Special handling of multilayer documents (e.g. documents with annotations on the back, documents with attached notes, highlighted records).

    - Special handling of records with different types of documents (e.g. plans and memos), including ensuring that the original record and the converted record are put back together in the correct order, and methods for digitising source records with special requirements (e.g. thin, oversized, fragile).

    - Storing of scanned images before post-processing (e.g. file naming, disposal).

    - Post-processing of the digitised images (e.g. cropping, adjustment of contrast, brightness, & colour, downsampling, and saving as particular file types/compression).

    - Quality assurance procedures to ensure that all images satisfy usability requirements.

- Documentation required to be kept of the scanning process.

- Post-processing of source records (e.g. rebinding, ensuring that separated parts are reunited).

- Capture of metadata, including:

    - The metadata elements to be captured.

    - Preparation of instructions as to metadata values (e.g. identifying metadata values on the source records, controlled vocabularies and valid values).

    - Who captures each element and when.

    - What tools are used for data entry and storage.

    - Quality assurance procedures to ensure accurate metadata entry.

    - Documentation required to be kept of the metadata capture.

- Generation of the converted records, including:

    - Combination of multiple images into a single document (including attachments, non-standard size pages, post-it notes).

    - Naming of the computer files containing the documents.

    - Association of the metadata with the documents.

    - Quality assurance procedures to ensure that the converted record is a full and accurate copy of the source record.

    - Documentation required to be kept of the record generation process.

- Registering of the converted records (documents and metadata) into a record system. This section links to the Management Plan for Converted Records.

- Return of source records from digitising, including:

    - Record tracking to ensure that the source records are returned.

    - Separating records that can be disposed of from those that cannot be.

    - Organising the source records so that they can be easily retrieved in case of quality assurance failure.

    - Documentation required to be kept of the record return.

    This section links to the Management Plan for converted Source Records, described later.

- Reprocessing a source record when the quality assurance process has identified a failure to capture a full and accurate copy of the record.

4.4 Management plan for the converted records

This section describes the requirements for the plan for ongoing management of the converted record. The purpose of the management plan is to describe the mechanisms used to ensure that the converted record remains accessible for as long as it is required. It must contain the following sections:

- Record management. This section states how the converted records are to be managed as records. It must cover:

    - The record system to be used to manage the converted records.

- Identification of the converted record.

- Indexing.

- Classification.

- Security and access control.

- Rights management.

- Preservation of the converted record.

- Disposal of the converted records.

- Preservation of the identity, integrity, authenticity, and context of the record.

- Storage. This section identifies the storage system holding the records. It must cover:

  - The type of media used.

  - Performance (particularly retrieval performance).

  - Any automatic storage of second copies (e.g. RAID storage).

  - The testing process used to detect any deterioration of the media or corruption of the records.

  - Periodic refreshing of the media.

  - Organisation of records on media to assist in disposal.

  Further information on storage is located in PROS 11/01 Storage Standard and associated documents (see http://prov.vic.gov.au/government/standards-and-policy/storage).

- Back-up and restore. This section covers the taking of copies of the records and contextual metadata for the purpose of routine recovery of information that is lost due to media failure, minor system failure, and operator error. It must cover:

  - Back-up software and process (including frequency).

  - Storage of back-ups (including security used to ensure authenticity).

  - Restoration procedures.

  - Periodic quality assurance procedures to ensure that the back-up and restore procedures are operating correctly.

  - Quality assurance procedures to ensure that data has been restored correctly.

  - Documentation of failures, restoration, and quality assurance.

- Disaster recovery. This section covers the taking of copies of the records and contextual metadata for the purpose of recovery of information lost due to a catastrophic failure (e.g. major system failure, or fire).

- Security and access control, including both system security and physical security of the media and servers. Security must cover all copies of the data and include those held for back-up and disaster recovery regimes.

- Export. This section covers how the records (including metadata) can be exported from the record system. Typical exports are to another record system (e.g. upon decommissioning this record system), or to PROV. Note that systems that hold permanent records must be compliant with *PROS 99/007 Management of Electronic Records* (the VERS standard) that requires the ability to export to PROV's digital archive.

Note that it is a requirement of the *PROS 10/01 General Retention and Disposal Authority for converted Source Records* that converted records identified as being permanent are managed in compliance with *PROS 99/007 Management of Electronic Records* (the VERS standard). Converted records do not need to be represented as VERS Encapsulated Objects (VEOs) immediately on digitisation, but they do need to be represented in this format before they can be transferred to PROV.

4.5 Management plan for the source records

This section contains the requirement for the plan for ongoing management of the source records after it has been confirmed that the converted record is a full and accurate copy of the source record.

It is expected that in many cases the source records will be disposed of once the quality assurance process has been completed. Disposal of permanent records would normally be transferred to PROV.

It must contain the following information:

- The disposal status of the source record.

- The period the source record must be kept after conversion.

- The management system used to mange the source records until their disposal.

- The method of linking between the converted records (in their record system) and the source records (in their record system).

- The records to be kept of the disposal process.

4.6 Quality control and assurance plan

This section contains the requirements for the quality control and assurance process plan. The purpose of a quality control and assurance process plan is to describe the mechanisms used to ensure that the digitisation project will produce complete, full, and accurate records.

It must contain the following sections:

- Image accuracy. This involves ensuring that the digitisation equipment is producing accurate images (e.g. quality of image, colour rendition, that the operator is operating the equipment correctly). This must cover:

    - Operator training.

    - Scanner operation quality control.

    - Extent and frequency of sampling of digitised images.

    - Criteria for checking image quality.

    - Documentation of the quality assurance processes.

    - Any acceptable variations from normal procedure.

- Record accuracy. This involves ensuring that the digitisation workflow is producing full, complete, and accurate records (all records have been digitised, metadata is correctly captured, all images of a document are captured, all images are recombined into a single document, documents are registered correctly into record system). This must cover:

- Operator training.

- Verification that the quantity of output images matches the record input.

- Frequency and criteria for checks on metadata.

- Documentation of the quality assurance processes.

- Any acceptable variations from normal procedure.

- Storage reliability. This involves ensuring that the storage system can reliably hold the records for as long as they are required (auditing back-up and restore, periodic validation of copies of records on media, managing media so that records can be migrated when at risk).

- Quality failure processes. Where a quality failure is identified, processes to identify and check other records that could be affected to ensure that there is not a systematic problem (e.g. operator error, hardware/software error, storage error).

- Logging and analysis. Logging and analysis processes to allow monitoring of trends and detection of systematic problems.

It is expected that the quality assurance processes will include both routine activities and audit activities. Routine activities are those that are conducted routinely as part of the digitisation workflow (e.g. daily or on every document). Audit activities are those that are conducted periodically by a different person than that operating the system (auditors) to independently confirm correct behaviour.

It is further expected that a post-action digitisation activity will have a higher level of quality assurance processes than a routine conversion project. This is because when routinely digitising incoming documents the expectation is that the digitised copies will be quickly used to conduct business. If the copies are not a full and accurate record, or the quality is not sufficient, this will be quickly detected and the record will be rescanned. Conducting business based on the record is consequently an implicit quality assurance step. With post-action conversion, the record may not be examined for a considerable period.

5   ANZDS based digitisation plans

As an alternative to using the digitisation plan presented in the previous section, agencies have the option of developing their own digitisation plan based on the Archives New Zealand Digitisation Standard (ANZDS).

When choosing this option, agencies must first prepare a Digitisation Activity Plan (see section 4.1). The Digitisation Activity Plan details what is to be digitised, why, and the effect of digitisation on the users of the records. In particular, it requires agencies to carry out a risk analysis on the risk of converting the records.

Digitisation plans based on ANZDS must satisfy all the mandatory requirements in Appendix 1 of the ANZDS with the following exceptions:

- ANZDS Requirement 2.4.1 ('Digitised records MUST be unalterable in all storage media') has been modified to 'Agencies MUST ensure that the records are either unalterable, or that any changes to the digitised records be detectable, by the system in all storage media.'

    It was considered that the original ANZDS requirement limited the storage media on which records could be held to write-once media (e.g. CDs). The altered requirement allows agencies to use read/write media (e.g. magnetic disks) provided it was possible to detect any alterations to the records. Typical means of detecting alterations would be to be record and periodically check a checksum or hash value. The system itself must be capable of detecting alterations to the records. Detection of alterations must apply to all records on all pieces of storage media (e.g. individual CDs if these are used to store records).

- Agencies MUST ensure that the integrity of digitised records held on individual media are statistically sampled over time to detect corruption.

    Record storage systems are complicated assemblies of software and hardware. Records may be corrupted by: systematic bugs in the software or hardware; slow media deterioration; media failure; and even cosmic rays. The usual method to recover from these failures is to have at least one independent copy of the record that can be used to replace the failed copy. However, this independent copy is also stored on a record storage system and is also subject to corruption. If both the main copy and the independent copy have been corrupted then the record is lost. The probability of loss (i.e. both main and copy are corrupted) is increased in recordkeeping systems because records may only be infrequently accessed (indeed after day to day use has ceased, they may be very rarely accessed). Statistical sampling is simply a method of artificially increasing the access rate of the records so that corruption is likely to be noticed sooner, and hence be recoverable from.

- When digitising permanent records, the converted records must comply with the *PROS 99/007 (Version 2.0), Management of Electronic Records* (VERS standard)

    This standard broadly governs the holding of electronic records in record systems, and specifically governs transfer of electronic records from agency record systems to PROV.

    Converted records do not need to be represented as VERS Encapsulated Objects (VEOs) immediately on digitisation, but they do need to be represented in this format before they can be transferred to PROV.

6 References

Legislation

Evidence Act 2008 (Vic)

Public Records Act 1973 (Vic)

All current Victorian legislation is available at http://www.legislation.vic.gov.au

Standards

Archives New Zealand (ANZ) 2007, *Digitisation Standard*, ANZ, New Zealand, Viewed September 2009, <http://continuum.archives.govt.nz/files/file/standards/s6/index.html>.

Public Record Office Victoria (PROV) 1999, revised 2003, *PROS 99/007 (Version 2.0) Management of Electronic Records*, PROV North Melbourne, Viewed July 2014, <http://prov.vic.gov.au/government/vers/implementing-vers/standard-2>.

Public Record Office Victoria (PROV) 2010, General Retention and Disposal Authority for converted Source Records, PROS 10/01, PROV North Melbourne, viewed July 2014, <http://prov.vic.gov.au/government/disposal-and-transfer/retention-and-disposal-authorities>.

Public Record Office Victoria (PROV) 2011, *PROS 11/07 S1 Digitisation Requirements Specification*, PROV North Melbourne, viewed July 2014, <http://prov.vic.gov.au/government/standards-and-policy/all-documents/pros-1107-s1>.

Public Record Office Victoria (PROV) 2011, *PROS 11/07 S2 Digitisation Image Requirements Specification*, PROV North Melbourne, viewed July 2014, <http://prov.vic.gov.au/government/standards-and-policy/all-documents/pros-1107-s2>.

Other Resources

Judicial College of Victoria, 2009, Introduction to the Uniform Evidence Act in Victoria: Significant Changes, ISBN-13: 978-1-921028-84-7, viewed December 2009 <http://www.judicialcollege.vic.edu.au/publications/uniform-evidence-resources>.

Public Record Office Victoria (PROV) 2010, *PROS 10/01 G1 Guide to GDA for Converted Source Records*, PROV North Melbourne, viewed July 2014, <http://prov.vic.gov.au/government/standards-and-policy/all-documents/pros-1001-g1>.

Public Record Office Victoria (PROV) 2010, *PROA 21 Evidence and Public Records: Advice for Victorian Public Agencies*, PROV North Melbourne, viewed July 2014, <http://prov.vic.gov.au/government/standards-and-policy/all-documents/proa-21>.

For more information about Digitisation, contact:

Senior Manager Standards and Policy
Public Record Office Victoria
Ph: (03) 9348 5600 Fax: (03) 9348 5656
Email: agency.queries@prov.vic.gov.au
Web: www.prov.vic.gov.au

Appendix 1: Glossary

Converted records	The copy of the record resulting from the conversion (compare source record). For example, the digitised copy of a paper record.
Digitising	The process of converting a physical record to a digital representation.
Pre-action conversion	A conversion activity in which source records are converted before they have been actioned by an officer of an agency. For example, the digitisation of paper records as they are opened in the mail-room. (Compare to post-action conversion.) The key characteristic is that pre-action conversion means that agency staff use the converted records in carrying out the business of the agency.
Post-action conversion	A conversion activity in which source records are converted after they have been actioned by an officer of an agency. For example, back-file conversion of existing paper records. (Compare to pre-action conversion.) The key characteristic is that post-action conversion involves converting the records that were used by the agency staff in carrying out the business of the agency.
Source records	The copy of the record that is being converted into another format (compare converted record). For example, the paper record that is being digitised.