



Public Record Office Standard

PROS 99/007 Version 2

Specification

1

System Requirements for Preserving Electronic Records PROS 99/007 (Version 2) Specification 1



*Department for
Victorian Communities*

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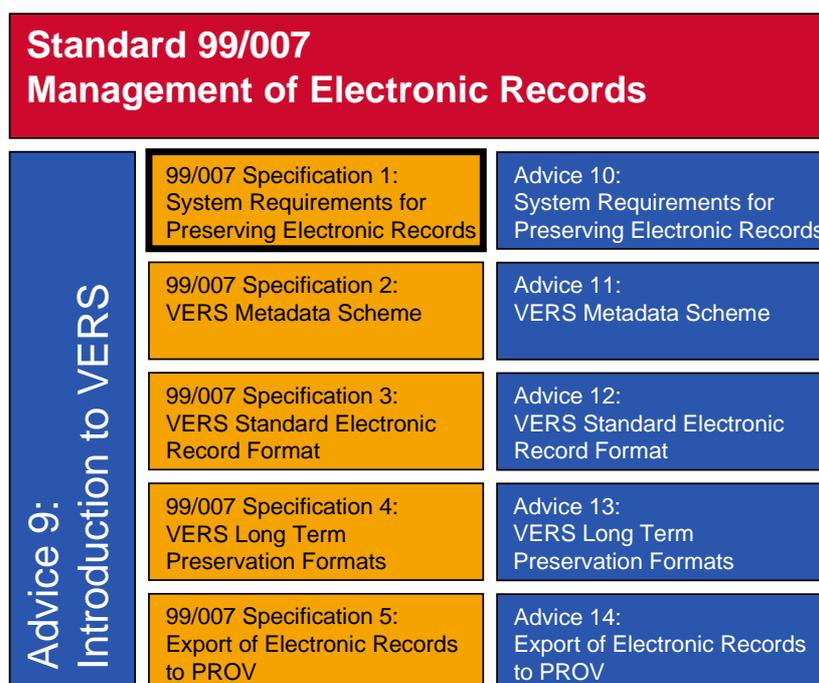
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Version	Version Date	Details
2.0	31 Jul 03	Released

The Victorian Electronic Records Strategy (VERS)

This document is a Specification that supports the Victorian Electronic Records Strategy (VERS) Standard (PROS 99/007). The relationship between the VERS Standard, the Specifications that support this Standard, and the Introduction and Advices that explain VERS is shown below.



These documents have the following purposes:

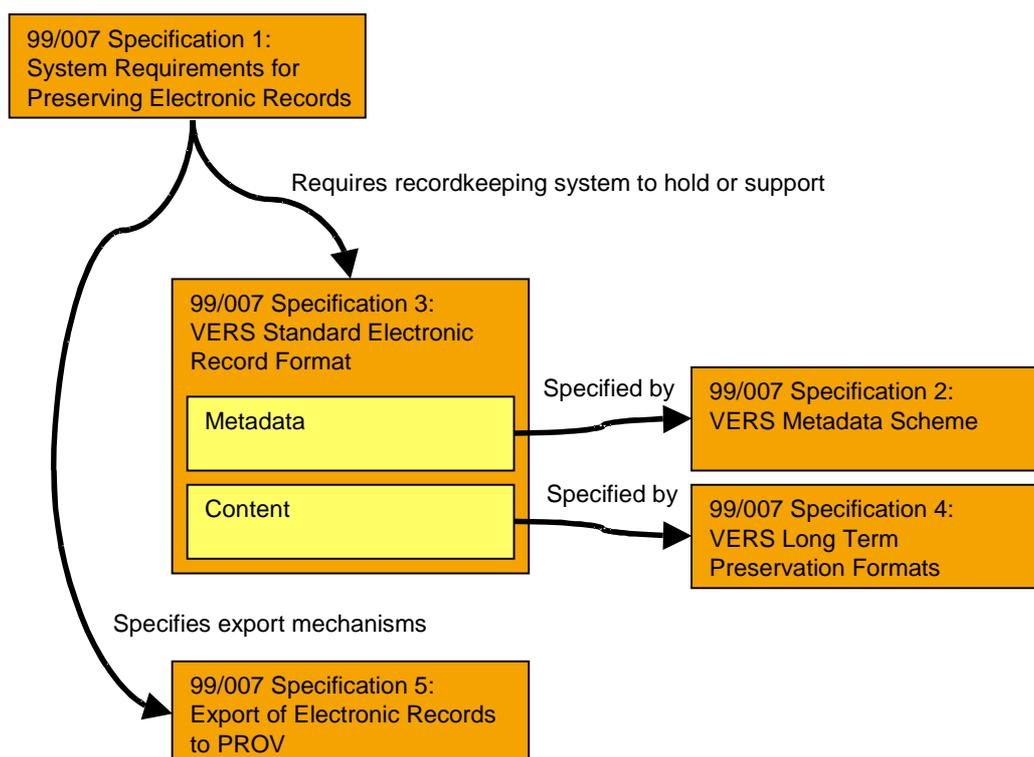
- *Management of Electronic Records.* This document is the Standard itself and is primarily concerned with conformance. The technical requirements of the Standard are contained in five Specifications.
- *Introduction to VERS.* This document provides background information on the goals and the VERS approach to preservation. Nothing in this document imposes any requirements on agencies.
- *Specifications.* These five documents provide the technical requirements that support the Standard. Agencies *must* conform to the mandatory requirements of the specifications, *must* conform to the conditional requirements of the specifications if the appropriate conditions are satisfied, and *may* conform to the optional requirements. Some optional requirements are strongly recommended and these are noted as such.

The five Specifications are:

- *Specification 1: System Requirements for Preserving Electronic Records.* This document specifies the overall functions that a recordkeeping system must perform to preserve electronic records for a substantial period.
- *Specification 2: VERS Metadata Scheme.* This document specifies the metadata that a recordkeeping system must hold to conform to VERS.
- *Specification 3: VERS Standard Electronic Record Format.* This document contains the technical definition of the VERS Encapsulated Object (VEO) format; the mandatory long-term format for records.

- *Specification 4: VERS Long Term Preservation Formats.* This document lists the data formats that PROV accepts as suitable for representing documents for a significant period.
 - *Specification 5: Export of Electronic Records to PROV.* This document lists the approved media and mechanisms by which PROV will accept an export of electronic records.
- *Advices.* These six documents provide background information, explanatory material, and examples in support of the Standard and associated Specifications. None of the information in the Advices imposes any requirement on agencies.

Relationship between Specifications. A second view of the relationship between the five Specifications is shown in the following diagram:



Specification 1 (System Requirements for Preserving Electronic Records) details the overall requirements on a recordkeeping system for preserving electronic records over a significant period. Amongst other requirements, the recordkeeping system must be capable of exporting the records in a standardised format.

The overall features of this standardised format are defined in *Specification 3 (VERS Standard Electronic Record Format)*, but some details are defined in two other Specifications. *Specification 2 (VERS Metadata Scheme)* defines the meaning and allowed values of the metadata that appears in a record. *Specification 4 (VERS Long Term Preservation Formats)* defines the formats in which the record content must be expressed.

Specification 5 (Export of Electronic Records to PROV) defines the mechanisms by which records are exported to PROV.

Relation to Version 1 of this Standard. This version of the VERS Standard completely replaces Version 1 of the Standard. Version 2 is identical in its base requirements, but makes those requirements clearer and more explicit. It also contains a number of conditional and optional extensions to Version 1.

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1 Introduction

This Specification (Specification 1) contains the functions that a recordkeeping system must support if it is to preserve records for a significant period.

This Specification is mandatory for any system that holds permanent electronic records; that is, those records judged to be of permanent value to the State of Victoria. Permanent records are specified in an agency's disposal authority. It is strongly recommended that systems that hold long-term temporary records for a significant period should also conform to this specification. A significant period is one where the records have a life longer than the expected life of:

- the system holding the records, or
- the organisation holding the records.

In this Specification, a recordkeeping system is considered to be the entire system holding records. The system may include business processes, one or more software applications that manage records (which may or may not be named a 'records management system'), and any supporting computer systems (such as storage networks and servers). In consequence, the functions required in this Specification may be the responsibility of an agency, the vendor of a recordkeeping application, or the vendor of a supporting system.

The Specification covers only those functions necessary to support long-term preservation using VERS. A complete recordkeeping system must support many other functions as well. A number of model requirements have been published covering the wider functions that a recordkeeping system must support. Several of these model requirements are listed in the associated advice (Advice 10).

There are many different ways in which these functions could be implemented depending on the applications from which records are captured and the computer technology chosen.

2 Summary of functional requirements

The following list summarises the VERS functional requirements for a system that preserves electronic records:

- The system must be able to export VERS Encapsulated Objects (VEOs) that satisfy the requirements of *PROS 99/007 Specification 3, VERS Standard Electronic Record Format*.
- Exported VEOs must contain the mandatory metadata and the conditional metadata (if the appropriate condition applies) according to *PROS 99/007 Specification 2, VERS Metadata Scheme*.
- Record content in the exported VEOs must be in one of the approved long-term preservation formats specified in *PROS 99/007 Specification 4, VERS Long Term Preservation Formats*, or a format otherwise approved by PROV
- Records (VEOs) exported to PROV must be exported using one of the approved media and mechanisms given in *PROS 99/007 Specification 5, Export of Electronic Records to PROV*.

- The system must manage the record while it is being held in the recordkeeping system such that it is possible to:
 - demonstrate that the record is authentic
 - demonstrate that a record has not been modified in an unauthorised fashion (i.e. that it retains integrity)
 - modify a record
 - document the history of the record
 - copy the records to new storage media (also known as 'refreshing')
 - reliably retain the record despite system failures and disasters
 - export the records to another system.

2.1 Relationship with other Specifications

This Specification should be read in conjunction with the following specifications:

- VERS Metadata Scheme (Specification 2), which defines the metadata that must be supported by a recordkeeping system.
- VERS Standard Electronic Record Format (Specification 3), which defines the standard long-term record format which must be used when exporting records.
- VERS Long Term Preservation Formats (Specification 4), which lists the standard formats in which record content must be expressed.
- Export of Electronic Records to PROV (Specification 5), which defines mechanisms and export media that must be used when exporting records to PROV.

2.2 Differences from Version 1 of this Specification

The following changes have been made in Version 2 of this Specification:

- Removal of general recordkeeping requirements. The focus is now on the requirements necessary to support long-term preservation of electronic records. Recommendations as to Specifications that contain general recordkeeping requirements are included in the Advice for this Specification (Advice 10).
- Relocation of explanatory material on the requirements to the associated Advice (Advice 10). This explanatory material discusses the purpose of the requirement, who is responsible for achieving the requirement, and how it may be achieved.

3 Specific Requirements

3.1 Record authenticity

The recordkeeping system must be capable of demonstrating that a record is authentic; that is, the system must prove that the content is what it appears to be, who created it, and when it was created.

The recordkeeping system must record the identity of the user creating the record and the time it was created. This information must not be forgeable or capable of being altered by either users or system administrators.

3.2 Record integrity

The recordkeeping system must be capable of proving that a record has integrity; that is, that any alterations to the record are authorised and documented.

Records must be protected against undocumented modification by normal users, records managers, and system administrators.

It must not be possible for records to be destroyed or deleted except by authorised users. All destruction or deletion of records must be recorded.

The system must be capable of verifying whether a record has retained its integrity.

The system must be capable of auditing the integrity of a random sample of records.

Any failure to verify a record must be logged and immediately brought to the attention of the system administrator

3.3 Document conversion

Record content must be converted to one of the standard long-term preservation formats specified in *PROS 99/007 Specification 4: VERS Long Term Preservation Formats* or a format otherwise approved by PROV.

3.4 Metadata capture

A recordkeeping system must capture or generate the mandatory metadata specified in *PROS 99/007 Specification 2: VERS Metadata Scheme*. It must also capture the conditional metadata in Specification 2 if the relevant condition applies.

The record capture system must be able to limit the metadata entered into a metadata element to those values specified in *PROS 99/007 Specification 2: VERS Metadata Scheme*.

3.5 Modifying information associated with records and folders

It must be possible to modify the information associated with electronic records or folders without compromising the integrity of the record or folder.

3.6 Documenting the history of the records and folders

The system must be capable of recording all events that affect records.

All accesses to records or folders must be capable of being logged.

It must not be possible for any users, records managers, or system administrators to modify the audit log without a record being made of the modification.

3.7 Reliability

The system must not lose records or folders once they have been registered with the recordkeeping system.

Records or folders must not be lost due to catastrophic failure of the system, media failure, or physical disaster (e.g. fire).

The accuracy of any copy must be verified by ensuring that all records or folders which have not been marked for destruction have been copied, and that the contents of the records or folders have been copied accurately.

3.8 Media refreshing

The system must have the ability to refresh the media on which records and folders are stored.

The accuracy of the refresh must be verified by ensuring that all records and folders (except those which have been disposed of) have been copied, and that the contents of the records and folders have been copied accurately.

If records and folders are stored on removable media (e.g. CDs), the system must have the capability to manage the media, including generating media identifiers that are unique within the system.

3.9 Record export

Records and folders must be capable of being exported from a recordkeeping system.

An export of records or folders from a recordkeeping system is not complete until the receiving system has acknowledged that the record or folder was exported without error and the receiving system has accepted responsibility for the record or folder.

Importing or exporting of records and folders from a recordkeeping system must be documented.

The system must be capable of exporting the records and folders:

- in the standardised format given in *PROS 99/007 Specification 3: VERS Standard Electronic Record Format*.
- containing at least the mandatory metadata given in *PROS 99/007 Specification 2: VERS Metadata Scheme*.
- with the content in an approved long-term format given in *PROS 99/007 Specification 4, VERS Long Term Preservation Formats* or a format otherwise approved by PROV.
- on one of the approved media formats and using the mechanisms given in *PROS 99/007 Specification 5: Export of Electronic Records to PROV*.

It is optional, but highly desirable, that the recordkeeping system be capable of importing records and folders from VERS compliant systems:

- in the standardised format given in *PROS 99/007 Specification 3: VERS Standard Electronic Record Format*. A recordkeeping system may only be capable of importing onion records (Version 1) or both onion records and Modified VEOs (Version 2).
- containing the metadata given in *PROS 99/007 Specification 2: VERS Metadata Scheme*.
- with the content in an approved long-term format given in *PROS 99/007 Specification 4: VERS Long Term Preservation Formats*.
- on one of the approved media formats and using the mechanisms given in *PROS 99/007 Specification 5: Export of Electronic Records to PROV* or a format otherwise approved by PROV.