

Standard

PROS 15/03
Standard for the encapsulation of digital information

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Establishment of Standard

Pursuant to Section 12 of the *Public Records Act 1973*, I hereby establish these provisions as a Standard applying to the records of all government agencies, courts or persons acting judicially in Victoria. This Standard, as varied or amended from time to time, shall have effect for a period of ten (10) years from the date of issue unless revoked prior to that date.



Justine Heazlewood
Keeper of Public Records

Date of Issue: 1 June 2015

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Acknowledgements

The Public Record Office Victoria would like to acknowledge and thank the valuable contribution of the people who took the time to comment during the development of this Standard.

Under section 12 of the *Public Records Act 1973*, the Keeper of Public Records is responsible for the establishment of Standards for the efficient management of public records and for assisting public offices to apply those Standards to records under their control. Officers in charge of public offices are responsible under section 13 of the Act for carrying out, with the advice and assistance of the Keeper, a program of records management in accordance with the Standards established under section 12 of the Act

Executive Summary

This Standard assists Victorian Government agencies in providing long term access to information that must be kept, but is not being managed in an operational management system.

It does this by defining an encapsulation format in which the content and context of the information can be expressed and subsequently managed. This encapsulation format must be used when transferring records to the Public Record Office Victoria (PROV). It may also be used by agencies when it is necessary to archive information outside an operational management system, or to migrate information from one operational management system to another¹.

The Standard requires that records be held in a system capable of:

- Holding or generating the metadata listed in *PROS 15/03 Specification 2: Adding Metadata to VEOs*.
- Holding the information content in one of the long-term preservation formats listed in *PROS 15/03 Specification 3: Long Term Preservation Formats*, or is capable of converting the contents to one of the listed formats.
- Exporting the information as VERS Encapsulated Objects (VEOs) according to *PROS 15/03 Specification 1: Constructing VERS Encapsulated Objects*.

This Standard replaces PROS 99/007 (Standard for the Management of Electronic Records), except that PROV will continue to accept transfer of records that conform to PROS 99/007 (Version 2).

PROV will not accept records for transfer unless they are in conformance with either this Standard, or the previous Standard (Standard for the Management of Electronic Records PROS 99/007 (Version 2)).

The Public Records Act (1973) gives the Keeper of Public Records the power to set Standards for the management of public records. The person in charge of an agency is responsible for establishing record management practices within the agency in conformance with these Standards.

¹ See footnote 2 for a definition of 'record' and 'information'.

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1 Introduction

1.1 Purpose of this Standard

This Standard assists Victorian Government agencies in providing long term access to information² that must be kept, but is not in operational use³.

It does this by defining a method of encapsulating the information in a form that can be managed over time. The format can be thought of as a digital equivalent of the archival box, containing the information that must be kept and metadata about the information, to facilitate economic long term storage and access.

Information that is of permanent value to the State of Victoria must be eventually transferred, in this encapsulation, to the custody of the Keeper of Public Records. PROV will not accept records for transfer unless they are in conformance with either this Standard, or the previous Standard (PROS 99/007 (Version 2)).

The encapsulation can also be used by agencies to:

- Express and manage information that must be kept for a long period, but which is neither in operational use or needs to be transferred to PROV.
- Transfer information between management systems (either within the same agency, or between agencies).

This Standard is a component of the Victorian Electronic Records Strategy (VERS).

1.2 Background to the Standard

Information management requires a long-term approach, but computer systems and applications change or become obsolete very rapidly. Several issues have been identified as an impediment to the long-term management of digital information:

- Document formats change and become unreadable over time.
- Digital information can be subject to undetectable change, thereby making it difficult to maintain the evidentiary and accountability status of the information.
- The context of digital information, and its relationship to other information, can easily be lost.
- Existing systems for managing digital information often do not preserve the content, structure, context, and evidential integrity of the information for as long as the information may be required.

A key part of VERS is the definition of an encapsulation format for information to address these issues.

² Under the Victorian *Public Records Act 1973*, a record is defined sufficiently broadly to encompass virtually all information received or created by an agency. The term 'information' is used in this document to refer to the actual objects that need to be preserved. 'Information' is preferred over the term 'record' because many people have a restricted view of what a 'record' is, but an expansive, and more accurate, view of information. The term 'record' is used when specifically referring to information that is transferred to PROV for permanent retention.

³ Information in operational use is managed in operational systems within agencies. Operational systems include business systems such as CRM systems, financial systems, HR systems. They also include generic organisational systems such as email. The focus in this Standard is on the information that has been removed from these operational systems, but which needs to be archived for long term access.

An encapsulation format must be able to support:

- Long life. Information may have an indefinite life. That is, a piece of information must be capable of being viewed forever. This has three aspects:
 - Preservation. The information must be in a form that can be physically preserved (for example easily copied from one media to another without loss of quality).
 - Accessibility. It is useless to save information unless it can be found again.
 - Readability. Information must be able to be viewed as the creators and users originally saw it.
- Comprehensibility. Information must be able to be understood in its context.
- Evidence. Information must be admissible as evidence and given due weight in a court of law. This requires the ability to prove that the information has not been altered in an unauthorised or undocumented fashion since creation, and to demonstrate who created the information and when it was created.
- Disposal. It must be possible to evaluate and determine information and, where authorised, subsequently transfer or destroy information in a controlled manner.
- Modification. It must be possible to be able to modify information without disturbing the evidentiary integrity of the record.

The encapsulation format defined in this Standard is able to support all these functions.

1.3 History of this Standard

The Standard for the Management of Electronic Records, PROS 99/007 (also known as the VERS Standard), was issued in 1999 and last revised in July 2003. It has been used for a substantial volume of transfers to PROV and this enabled the identification of a significant number of areas for improvement.

During 2014-15 PROV reviewed the Standard for the Management of Electronic Records, PROS 99/007. The overall goals of the review were to:

- *Reduce the costs of producing information* for long term storage (either by PROV or by agencies) without increasing the risks to the longevity or usability of the information. 'Long term' is a length of time likely to cause technical problems due to the evolution of computer hardware or software. Long term is considered to be more than seven years, however, this could be shorter or longer depending on how rapidly the technology is changing.
- *Increase the flexibility of the Standard.* Flexibility allows easy inclusion of a range of different types of records, produced from a variety of systems.
- *Update the Standard* to take into account developments that have taken place since the original VERS Standard was published.

The technical goals of the review were to:

- *Provide a simple flexible encapsulation format* that can be used to package information whether being held by agencies (long term temporary records) or PROV (permanent records).
- *Make the construction of VEOs simple and easy to understand.*
- *Allow the inclusion of application specific metadata* that could not be easily included in PROS 99/007 (Version 2).
- *Support efficient encapsulation of large binary data types* (e.g. audio, video, GIS, CAD, and databases). These binary data types will still need to be in an approved long term preservation format, but the method of including the data is more efficient than in the previous Standard.
- *Reduce format migration costs and to support a wider variety of formats.* PROV still requires content not in an approved long term preservation format to be migrated to an approved format. However, the range of approved formats has been increased and care taken to avoid unnecessary migration of commonly used formats.
- *Reduce the size and complexity of the Standard* and supporting specifications and guidelines. External standards and practices have been adopted where possible.
- *Reflect the principles and requirements of the seven PROV Recordkeeping Standards* (available from <http://prov.vic.gov.au/government/standards-and-policy>).

- *Future proof the Standard.* The structures and concepts are simple, regular, and general so that future changes can be easily accommodated.

1.4 VERS Principles

This Standard has been designed so that it does not increase preservation risks. To achieve this, the basic VERS preservation principles have been retained:

- Encapsulation of information content and record metadata into a single physical object that can be managed.
- Ability to digitally lock the encapsulated object so as to detect corruption of the content or metadata.
- Inclusion of representational information so that future users of information can easily inspect the contents of the encapsulated object.
- Use of the encapsulated object for ingest into a digital archive. Production of the encapsulated object may be by the source management systems, by agency staff, by contractors, or by PROV.

1.5 Structure of this document

This Standard should be read in conjunction with the following Specifications:

- PROS 15/03 Specification 1: Constructing VERS Encapsulated Objects
- PROS 15/03 Specification 2: Adding metadata to VEOs
- PROS 15/03 Specification 3: Long term preservation formats

1.6 Relationship with previous Standard

In order to protect the investment already made by vendors and agencies, PROV will continue to accept VEOs conformant to the previous VERS Standard (PROS 99/007 (Version 2)) for the indefinite future.

1.7 Acknowledgements

We would like to acknowledge and thank the people who took the time to comment on earlier drafts of this proposal. Nearly all the comments have been included in this draft, and where this is not possible we have included footnotes to explain the reasons.

2 Standard for the Long Term Management of Electronic Records

2.1 Requirements

Compliance with this Standard requires that an agency manages information in a system that complies with this Standard. Such a system has the following characteristics:

- Holds or is capable of generating the mandatory metadata listed in *PROS 15/03 Specification 2: Adding Metadata to VEOs*. It must also hold or be capable of generating the conditional metadata listed in that specification if the relevant conditions apply.
- Holds the information content in one of the long-term preservation formats listed in *PROS 15/03 Specification 3: VERS Long Term Preservation Formats*, or is capable of converting the contents to one of the listed formats.
- Is capable of exporting the information as VERS Encapsulated Objects (VEOs) according to *PROS 15/03 Specification 1: Constructing VERS Encapsulated Objects*.

The specifications for electronic information that accompany this Standard are designed to ensure uniformity in record structure and management without limiting an agency's choice in systems and support processes for business activity.

PROV will not normally accept transfer of digital records that are not in compliance with either:

- This Standard
- The previous version of this Standard (PROS 99/007 (Version 2))

PROV will continue to accept VEOs generated in accordance with PROS 99/007 (Version 2) indefinitely.

2.2 Compliance

Under various provisions of the *Public Records Act 1973*, Public Record Office Victoria and agencies share responsibility for the management of records in all formats and, where appropriate, their long-term preservation. In order to assist agencies to meet their responsibilities under the *Public Records Act*, Public Record Office Victoria publishes Standards for the management of public records⁴. This is one of those Standards.

⁴ Available from the PROV Web site <http://www.prov.vic.gov.au/>

3 References

Legislation

Public Records Act (1972)

[http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/LTObject_Store/LTObjSt9.nsf/DDE300B846EED9C7CA257616000A3571/B82A1B22720E6634CA257D72001B9C1B/\\$FILE/73-8418aa041%20authorised.pdf](http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/LTObject_Store/LTObjSt9.nsf/DDE300B846EED9C7CA257616000A3571/B82A1B22720E6634CA257D72001B9C1B/$FILE/73-8418aa041%20authorised.pdf) visited 27 March 2015

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

Other Resources

VERS Standard web page <http://prov.vic.gov.au/government/vers>

You can obtain relevant publications, supplies of relevant forms, and answers to any enquiries you may have by first contacting your agency's records manager or the Public Record Office Victoria:

For more information about digital recordkeeping, please contact:

Government Services

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