



Public Record Office Standard

PROS 99/007 (Version 2)

Specification 3

VERS Standard Electronic Record Format
PROS 99/007 (Version 2) Specification 3



*Department for
Victorian Communities*

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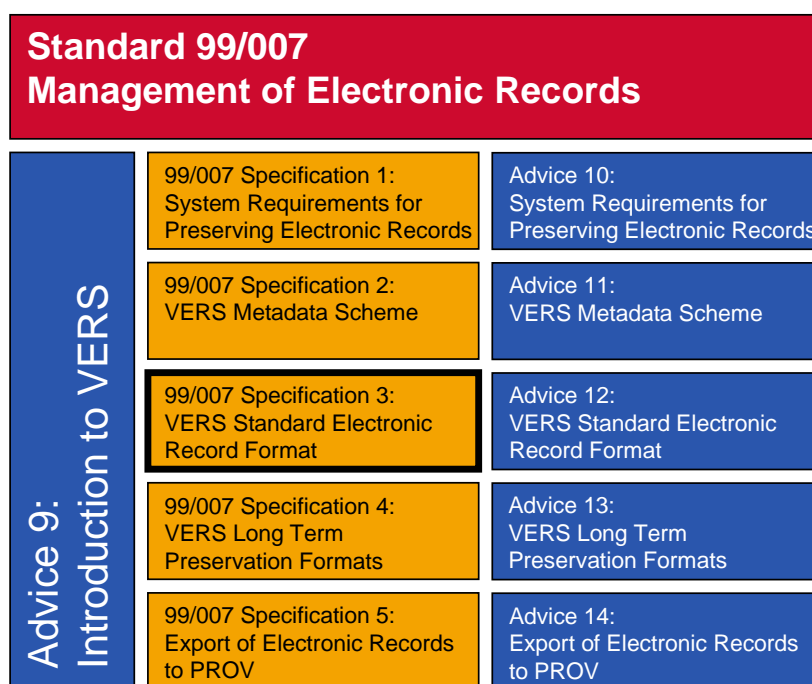
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Version	Version Date	Details
2.0	31 Jul 03	Released

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:

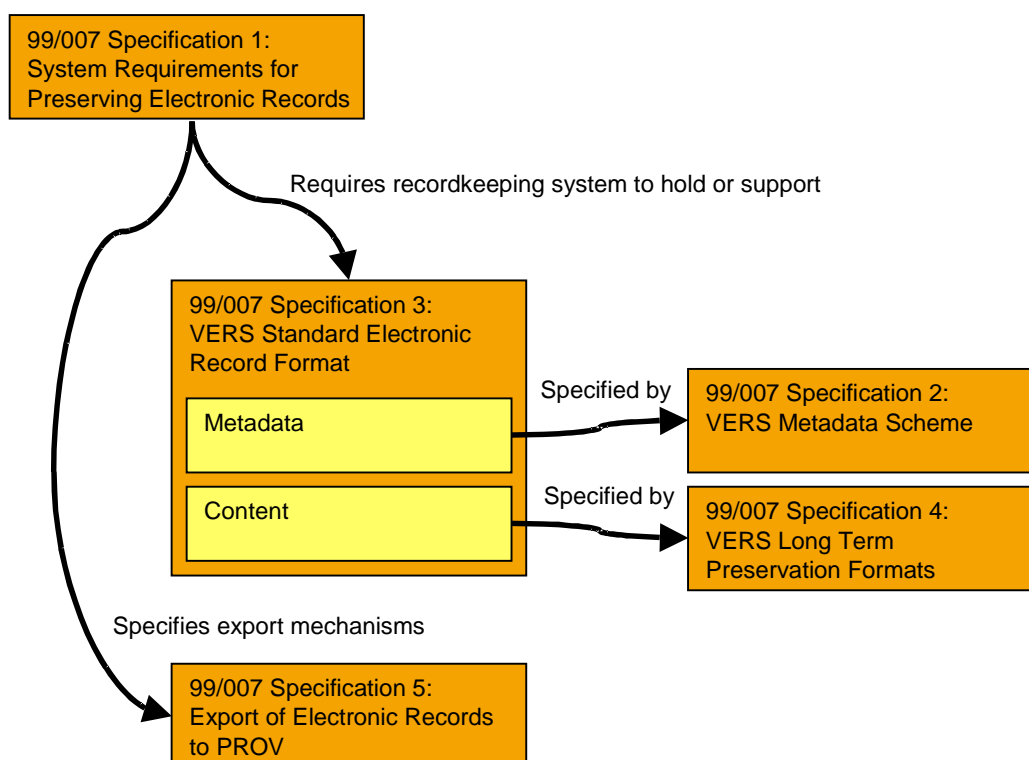
- *Management of Electronic Records*. This document is the Standard itself and is primarily concerned with conformance. The technical requirements of the Standard are contained in five Specifications.
- *Introduction to VERS*. This document provides background information on the goals and the VERS approach 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

The purpose of this Specification is to detail the VERS standard electronic record format, also known as a VERS Encapsulated Object or VEO.

As discussed in the Introduction to the Victorian Electronic Record Strategy, the VEO is used to represent a record independently of a recordkeeping system (RKS). VEOs may be used as a mechanism to transfer records between two RKSs or it may be used as a native format within a RKS.

The associated advice on this Specification includes explanatory material and examples of VEOs.

1.1 Relationship with other Specifications

This Specification should be read in conjunction with the following two Specifications:

- VERS Metadata Scheme (Specification 2), which defines the purpose and allowed values of the metadata elements referred to in this Specification.
- VERS Long Term Preservation Formats (Specification 4), which lists the approved long-term formats for various types of record content.

1.2 Differences from Version 1 of this Specification

The following changes have been made to this Specification in Version 2 of the VERS Standard:

- XML requirements. The Specification now includes explicit requirements about the XML used to represent the VEO. This change should be minor, as it merely makes the requirements already in Version 1 clearer.
- Digital signature requirements. The Standard now collects together the requirements for digital signatures and includes more details in those requirements. This change also should be minor, as it merely makes the requirements already in Version 1 clearer.
- Mandatory digital signatures. The Standard now requires VEOs to be digitally signed. Previously, this requirement was ambiguous.
- A number of additions have been made to the VERS DTD. *VEOs that conform to Version 1 DTD will conform to the Version 2 DTD.*
- The specifications for standard encodings have been moved to Specification 4, VERS Long Term Preservation Formats
- The physical storage media requirements has been moved to Specification 5, Export of Electronic Records to PROV.
- Explanatory material on the principles behind the VERS Encapsulated Object has been moved to the Introduction to the Victorian Electronic Record Strategy (Advice 9).
- Explanatory material on applying digital signatures has been moved to the Advice on this specification.

2 VEO Types

Three types of VEOs are defined in this Specification:

- Record VEO. A record VEO contains a representation of a record. The VEO contains both the record content and the associated metadata.
- File VEO. This is a representation of a recordkeeping file (normally referred to as a folder in this Standard, as there is often confusion between recordkeeping files and computer files).
- Modified VEO. This is a VEO that has been modified since it was originally created. A modified VEO contains the original VEO. This VEO has been added in Version 2.0 of the VERS Standard and is intended to replace the onion mechanism specified in Version 1.0.

3 XML Requirements

A VERS Encapsulated Object (VEO) is a well formed XML document with the following characteristics.

3.1 XML standard

A VEO must conform to the XML 1.0 specification [XML].

All VEOs must be well formed XML documents and must be capable of being validated against the DTD in section 6.

3.2 XML declaration

All VEOs must begin with the following XML declaration options (see [XML] section 2.8):

- The *Version* attribute must be '1.0'.
- The *Encoding Definition* must be 'UTF-8' (or not be present).
- The *Standalone* control must be set to 'no' (or not be present).

3.3 XML Document Type Declaration

All VEOs must contain a document type declaration which follows the XML declaration (see [XML] section 2.8):

- The *Name* in the document type declaration must be 'vers:VERSEncapsulatedObject'.
- The *ExternalID* in the document type declaration may be present. If it is present, the ExternalID must refer to an external identity that contains exactly the VERS DTD specified in this document. The reference may be to the official copy of this DTD held

on the VERS Web site (<http://www.prov.vic.gov.au/vers/published/vers.dtd>), or to a local copy.

- If the standard DTD for a VEO defined in section 6 has been extended, the DTD declarations defining the extensions must be included in the XML document type declaration *markupdecl*.

3.4 XML Namespace Standard

All VEOs must conform to the XML Namespace specification given in [XMLName].

3.5 XML Namespace Declaration

In all VEOs, the `vers:VERSEncapsulatedObject` root element must contain the following two namespace definitions:

- `naa="http://www.naa.gov.au/recordkeeping/control/rkms/contents.html"`
- `vers="http://www.prov.vic.gov.au/gservice/standard/pros99007.htm"`

Note that neither of these namespace names point to XML schemas.

3.6 Encoding of binary objects

Any binary data in a VEO is encoded using the MIME Base64 specification given in [Base64]

4 Encryption

PROV will not accept any records where the content is encrypted.

5 Digital Signature Requirements

5.1 Digital signatures are mandatory

Each VEO must be signed with at least one digital signature.

5.2 Selection of signed portion

Not all of the contents of a VEO are signed. This portion of the VEO that is signed is selected using the algorithm in the next section.

5.2.1 VERS mechanism

The digital signatures cover the `<vers:SignedObject>` element including the start tag (`<vers:SignedObject>`) and end tag (`</vers:SignedObject>`). The first character to be included

is the '<' of the <vers:SignedObject> start tag, and the last character is the '>' of the matching end tag.

5.3 Canonicalisation

A digital signature operates on binary data. An XML document is a sequence of textual objects which may have many equivalent binary representations. This section specifies how it is ensured that the binary data being passed to the digital signature is identical each time the signature is calculated and verified.

5.3.1 VERS mechanism

All whitespace is removed from the characters selected in section 5.2.1. Whitespace is defined as the Unicode characters: tab U+0x0009, carriage return U+0x000D, line feed U+0x000A, and space U+0x0020. All remaining characters are passed to the digital signature encoded as UTF-8. UTF-8 is defined in section 3.8 of [Unicode] or the equivalent ISO standard.

5.4 Algorithms supported

5.4.1 Hash algorithms

The only hash algorithms currently approved for use are:

- SHA-1
- SHA-256
- SHA-512

which are all defined in the Secure Hash Standard [SHS].

5.4.2 Digital signature algorithms

The two digital signature algorithms approved for use are:

- RSASSA-PKCS1-v1_5 specified in the RSA Cryptography Standard [RSA].
- DSA specified in the Digital Signature Standard [DSS].

5.5 Structure of Signature Block

5.5.1 Indication of hash and signature algorithms

To allow systems to automatically verify digital signatures it is necessary to indicate the digital signature and hash algorithms used.

The algorithms are indicated by the vers:SignatureAlgorithm (M149) element. A SignatureAlgorithmIdentifier element contains one of the standard Object Identifiers (OIDs) used to identify algorithms in X.509 certificates. These OIDs can be found in a variety of places, but a convenient source is p75 of RFC 2459 [RFC 2459] The OID is represented as a textual value in the 'dot notation' and the standard values for the approved algorithms are:

- SHA1 with RSA: '1.2.840.113549.1.1.5'
- SHA256 with RSA: '1.2.840.113549.1.1.11'

- SHA512 with RSA: '1.2.840.113549.1.1.13'
- SHA1 with DSA: '1.2.840.10040.4.3'

5.5.2 Encoding of signature

Signatures are encoded in Base64 [Base64].

5.6 Representation of certificates

All certificates must be X.509 certificates [X509] (an alternative and more accessible description of the information in X.509 can be found in RFC 2459 [RFC2459]).

Certificates are represented in their Distinguished Encoding Rules (DER) encoded form specified in the ASN.1 Basic Encoding Rules [X690]. An introduction to this form can be found in RFC 2459. Note that the certificates must NOT be represented in an encrypted form such as those defined in PKCS #7 (also known as a '.p78' form), or PKCS #12 (also known as a '.pfx' or '.p12' form). The private key of the signer must never be contained in the VEO.

The DER encoding is a binary form, so each certificate must be encoded into Base64 [Base64]

5.7 Validation of VERS signatures

When validating a digital signature the complete chain of certificates must be validated. These certificates will be found in the Signature Block which contains the signature, or as Certificates found in records referenced by the Certificate Reference (M141) element. The root certificate of the certificate chain will be self-signed and must be validated by one of the following two mechanisms:

- By means of a copy of the certificate stored in a secure place on the recordkeeping system.
- By comparing the root certificate in the signature block with those from other instances of signatures signed by the same user at roughly the same time.

6 XML DTD

The following is the XML Document Type Definition for the VERS Encapsulated Object. Definitions for each of the elements can be found in *PROS 99/007 Specification 2: VERS Metadata Scheme*.

Readers should note that an XML DTD cannot distinguish between optional and conditional elements. Consequently, a number of elements that are shown as 'optional' in the DTD are actually mandatory under certain circumstances. Such elements are marked in the DTD and a full explanation of the circumstances under which the elements are mandatory will be found in *PROS 99/007 Specification 2: VERS Metadata Scheme*.

The current version of the VERS DTD can be retrieved from

<http://www.prov.vic.gov.au/vers/published/vers.dtd>

```

<!-- VICTORIAN ELECTRONIC RECORD STRATEGY (VERS) -->
<!-- Definition of VERS Encapsulated Object (VEO) -->
<!-- VERSION 2.0.0 -->
<!-- April 2003 -->
<!-- -->
<!-- URL: http://www.prov.vic.gov.au/vers/published/vers.dtd -->
<!-- -->
<!-- Note that an XML DTD cannot distinguish between optional and -->
<!-- conditional elements. Consequently a number of elements that are shown -->
<!-- as 'optional' in the DTD are actually mandatory under certain -->
<!-- circumstances. Such elements are marked in the DTD and a full -->
<!-- explanation of the circumstances under which the elements are mandatory -->
<!-- will be found in PROS 99/007 Specification 2: VERS Metadata Scheme. -->
<!-- -->
<!-- Summary of changes from Version 1.0: -->
<!-- * Added vers:LockSignatureBlock to prevent deletion of outer -->
<!-- encapsulated layer (includes id attribute in SignatureBlock and -->
<!-- version attribute in SignedObject). -->
<!-- * Added vers:ModifiedVEO to allow documents to be modified (including -->
<!-- attributes in DocumentData). -->
<!-- * Changed definition of vers:Subject to include vers:Subject -->
<!-- * Added vers:AuxiliaryDescription element -->
<!-- * Added document structuring attributes to vers:Document, and -->
<!-- vers:CollectionType, vers:CollectionDescription, and -->
<!-- vers:DocumentIsVisible attributes. -->

<!-- BASIC VEO STRUCTURE -->

<!-- modified in version 2.0 -->
<!-- A Signature Block and Lock Signature Block is mandatory in all VEOs -->
<!ELEMENT vers:VERSEncapsulatedObject (
  vers:VEOFormatDescription,
  vers:Version,
  vers:SignatureBlock*,
  vers:LockSignatureBlock?,
  vers:SignedObject)>
<!ATTLIST vers:VERSEncapsulatedObject
  xmlns:vers CDATA #IMPLIED
  xmlns:naa CDATA #IMPLIED>

<!ELEMENT vers:Version (#PCDATA)>
  <!-- currently should be 2.0 -->
<!ELEMENT vers:VEOFormatDescription (vers:Text)>

<!ELEMENT vers:SignedObject (
  vers:ObjectMetadata,
  vers:ObjectContent)>
<!-- Attribute added in version 2.0 and is mandatory in Version 2 VEOs -->
<!ATTLIST vers:SignedObject vers:VEOVersion CDATA #IMPLIED>

<!ELEMENT vers:ObjectMetadata (
  vers:ObjectType,
  vers:ObjectTypeDescription,
  vers:ObjectCreationDate)>
<!ELEMENT vers:ObjectType (#PCDATA)>
<!ELEMENT vers:ObjectTypeDescription (#PCDATA)>
<!ELEMENT vers:ObjectCreationDate (#PCDATA)>

<!-- modified in version 2.0 -->
<!ELEMENT vers:ObjectContent
  (vers:Record | vers:File | vers:ModifiedVEO)>

<!-- SIGNATURE BLOCK (& LOCK SIGNATURE BLOCK) DEFINITIONS -->

<!ELEMENT vers:SignatureBlock (
  vers:SignatureFormatDescription,
  vers:SignatureAlgorithm,
  vers:SignatureDate?,
  vers:Signer?,
  vers:Signature,
  vers:CertificateBlock+)>
<!-- Attribute added in version 2.0 and is mandatory in Version 2 VEOs -->
<!ATTLIST vers:SignatureBlock vers:id ID #IMPLIED>

```

```

<!-- Element and attribute added in version 2.0 and are mandatory in -->
<!-- Version 2 VEOs -->
<!ELEMENT vers:LockSignatureBlock (
  vers:SignatureFormatDescription,
  vers:SignatureAlgorithm,
  vers:SignatureDate?,
  vers:Signer?,
  vers:Signature,
  vers:CertificateBlock+)>
<!ATTLIST vers:LockSignatureBlock
  vers:signsSignatureBlock IDREF #IMPLIED>

<!ELEMENT vers:SignatureFormatDescription (#PCDATA)>
<!ELEMENT vers:SignatureDate (#PCDATA)>
<!-- attribute added in version 2.0 -->
<!ATTLIST vers:SignatureDate scheme CDATA #IMPLIED>
<!ELEMENT vers:Signer (#PCDATA)>
<!ELEMENT vers:Signature (#PCDATA)>
<!ELEMENT vers:SignatureAlgorithm (
  vers:SignatureAlgorithmIdentifier,
  vers:SignatureAlgorithmParameters?)>
<!ELEMENT vers:SignatureAlgorithmIdentifier (#PCDATA)>
<!ELEMENT vers:SignatureAlgorithmParameters (#PCDATA)>
<!ELEMENT vers:CertificateBlock (
  vers:Certificate+,
  vers:CertificateReference?)>
<!ELEMENT vers:Certificate (#PCDATA)>
<!ELEMENT vers:CertificateReference (#PCDATA)>

<!-- COMMON ELEMENT DEFINITIONS -->

<!ELEMENT vers:Text (#PCDATA)>
<!-- Agency Identifier and Series Identifier must be present upon export to -->
<!-- PROV. VERS RecordIdentifier must be present in a Record VEO. -->
<!ELEMENT vers:VEOIdentifier (
  vers:AgencyIdentifier?, vers:SeriesIdentifier?,
  vers:FileIdentifier+, vers:VERSRecordIdentifier?)>

<!-- MODIFIED VEO DEFINITION -->

<!-- following three elements added in version 2.0 -->
<!ELEMENT vers:ModifiedVEO (
  vers:DateTimeModified,
  vers:RevisedVEO,
  vers:OriginalVEO)>
<!ATTLIST vers:ModifiedVEO vers:OriginalVEOType CDATA #IMPLIED>
<!ELEMENT vers:DateTimeModified (#PCDATA)>
<!ATTLIST vers:DateTimeModified scheme CDATA #IMPLIED>
<!ELEMENT vers:RevisedVEO (vers:SignedObject)>
<!ATTLIST vers:RevisedVEO vers:id CDATA #IMPLIED>
<!ELEMENT vers:OriginalVEO (
  vers:Version,
  vers:SignatureBlock*,
  vers:SignedObject)>

<!-- RECORD VEO DEFINITION -->

<!ELEMENT vers:Record (
  vers:RecordMetadata,
  vers:Document+)>

<!-- modified in version 2.0 -->
<!ELEMENT vers:RecordMetadata (
  naa:Agent+, naa:RightsManagement, naa:Title, vers:Subject*,
  naa:Description*, vers:AuxiliaryDescription*,
  naa:Language*, naa:Relation*, naa:Coverage*,
  naa:Function*, naa>Date, naa:Type?, naa:AggregationLevel,
  naa:Format?, naa:RecordIdentifier?, naa:ManagementHistory,
  naa:UseHistory?, naa:PreservationHistory?, naa:Location?,
  naa:Disposal, naa:Mandate*, vers:VEOIdentifier, vers:Transaction*)>

```

```

<!-- An encoding must be present except when the Documents are structured and -->
<!-- the Document is a non-leaf Document -->
<!ELEMENT vers:Document (
  vers:DocumentMetadata,
  vers:Encoding*)>
<!-- Attributes added in version 2.0 and vers:id is mandatory in Version 2 VEOs -->
<!ATTLIST vers:Document
  vers:id ID #IMPLIED
  vers:subordinateDocuments IDREFS #IMPLIED
  vers:subordinateDocumentRelationship CDATA #IMPLIED
  vers:parentDocument IDREF #IMPLIED
  vers:presentThisDocument CDATA #IMPLIED>
<!ELEMENT vers:ChildCollectionType (#PCDATA)>
<!ELEMENT vers:ChildCollectionDescription (#PCDATA)>
<!ELEMENT vers:DocumentIsVisible (#PCDATA)>

<!ELEMENT vers:DocumentMetadata (
  vers:DocumentAgent+, vers:DocumentRightsManagement*, vers:DocumentTitle+,
  vers:DocumentSubject*, vers:DocumentDescription*, vers:DocumentLanguage*,
  vers:DocumentRelation*, vers:DocumentCoverage*, vers:DocumentFunction*,
  vers:DocumentDate, vers:DocumentType*, vers:DocumentSource+ )>
<!ELEMENT vers:DocumentAgent (vers:Text)>
<!-- following element added in version 2.0 -->
<!ELEMENT vers:DocumentRightsManagement (vers:Text)>
<!ELEMENT vers:DocumentTitle (vers:Text)>
<!ELEMENT vers:DocumentSubject (vers:Text)>
<!ELEMENT vers:DocumentDescription (vers:Text)>
<!ELEMENT vers:DocumentLanguage (vers:Text)>
<!ELEMENT vers:DocumentRelation (vers:Text)>
<!-- following element added in version 2.0 -->
<!ELEMENT vers:DocumentFunction (vers:Text)>
<!ELEMENT vers:DocumentCoverage (vers:Text)>
<!ELEMENT vers:DocumentDate (vers:Text)>
<!ELEMENT vers:DocumentType (vers:Text)>
<!ELEMENT vers:DocumentSource (vers:Text)>
<!-- scheme attributes added in version 2.0 -->
<!ATTLIST vers:DocumentAgent scheme CDATA #IMPLIED>
<!ATTLIST vers:DocumentRightsManagement scheme CDATA #IMPLIED>
<!ATTLIST vers:DocumentTitle scheme CDATA #IMPLIED>
<!ATTLIST vers:DocumentSubject scheme CDATA #IMPLIED>
<!ATTLIST vers:DocumentDescription scheme CDATA #IMPLIED>
<!ATTLIST vers:DocumentLanguage scheme CDATA #IMPLIED>
<!ATTLIST vers:DocumentRelation scheme CDATA #IMPLIED>
<!ATTLIST vers:DocumentFunction scheme CDATA #IMPLIED>
<!ATTLIST vers:DocumentCoverage scheme CDATA #IMPLIED>
<!ATTLIST vers:DocumentDate scheme CDATA #IMPLIED>
<!ATTLIST vers:DocumentType scheme CDATA #IMPLIED>
<!ATTLIST vers:DocumentSource scheme CDATA #IMPLIED>

<!ELEMENT vers:Encoding (
  vers:EncodingMetadata,
  vers:DocumentData)>
<!-- Attribute added in version 2.0 and is mandatory in Version 2 VEOs -->
<!ATTLIST vers:Encoding
  vers:id ID #IMPLIED>

<!ELEMENT vers:EncodingMetadata (
  vers:FileEncoding,
  vers:SourceFileIdentifier?,
  vers:FileRendering)>
<!ELEMENT vers:FileEncoding (vers:Text)>
<!ELEMENT vers:SourceFileIdentifier (#PCDATA)>
<!ATTLIST vers:SourceFileIdentifier scheme CDATA #IMPLIED>
<!-- Rendering Keywords is mandatory in a Version 2 VEO -->
<!ELEMENT vers:FileRendering (
  vers:RenderingText+,
  vers:RenderingKeywords?)>

<!ELEMENT vers:RenderingText (vers:Text)>
<!ELEMENT vers:RenderingKeywords (#PCDATA)>

```

```

<!-- Note: DocumentData may be empty, contain character data, or a -->
<!-- VERSEncapsulatedObject (if a Version 1 VEO). The '*' is an artifact of-->
<!-- XML. -->
<!ELEMENT vers:DocumentData (#PCDATA | vers:VERSEncapsulatedObject)*>
<!-- Attributes added in version 2.0 and vers:id is mandatory in Version 2 VEOs -->
<!ATTLIST vers:DocumentData
  vers:id ID #IMPLIED
  vers:forContentsSeeElement IDREF #IMPLIED
  vers:forContentsSeeOriginalDocumentAndEncoding CDATA #IMPLIED>

<!-- FILE VEO DEFINITION -->

<!ELEMENT vers:File (
  vers:FileMetadata,
  vers:FileDisposal?)>

<!ELEMENT vers:FileDisposal (
  vers:DisposalSchedule,
  vers:DisposalDate,
  vers:AuthorizingOfficer)>
<!ELEMENT vers:DisposalSchedule (#PCDATA)>
<!ELEMENT vers:DisposalDate (#PCDATA)>
<!ELEMENT vers:AuthorizingOfficer (#PCDATA)>
<!ATTLIST vers:DisposalSchedule scheme CDATA #IMPLIED>
<!ATTLIST vers:DisposalDate scheme CDATA #IMPLIED>
<!ATTLIST vers:AuthorizingOfficer scheme CDATA #IMPLIED>

<!ELEMENT vers:FileMetadata (
  naa:Agent+, naa:RightsManagement, naa:Title, vers:Subject*,
  naa:Description*, vers:AuxiliaryDescription?, naa:Language*,
  naa:Relation*, naa:Coverage*, naa:Function*, vers:Date, naa:Type?,
  naa:AggregationLevel, naa:Format?, naa:RecordIdentifier?,
  naa:ManagementHistory+, naa:UseHistory*, naa:PreservationHistory*,
  naa:Location?, naa:Disposal, naa:Mandate*, vers:VEOIdentifier)>

<!ELEMENT vers:Date (
  naa:DateTimeCreated, naa:DateTimeTransacted,
  naa:DateTimeRegistered, vers:DateTimeClosed?)>
<!ELEMENT vers:DateTimeClosed (#PCDATA)>
<!ATTLIST vers:DateTimeClosed scheme CDATA #IMPLIED>

<!-- NAA METADATA DEFINITIONS -->
<!-- Sourced from Recordkeeping Metadata Standard for Commonwealth -->
<!-- Agencies, Version 1.0, National Archives of Australia -->
<!ELEMENT naa:Agent (
  naa:AgentType+, naa:Jurisdiction*, naa:CorporateId?,
  naa:CorporateName+, naa:PersonId?, naa:PersonalName*,
  naa:SectionName*, naa:PositionName*, naa:ContactDetails*,
  naa:Email*, naa:DigitalSignature*)>
<!ELEMENT naa:RightsManagement (
  naa:SecurityClassification, naa:Caveat*, naa:Codeword*,
  naa:ReleasabilityIndicator*, naa:AccessStatus?,
  naa:UsageCondition*, naa:EncryptionDetails?)>
<!ELEMENT naa:Title (
  naa:SchemeType+, naa:SchemeName, naa:TitleWords,
  naa:Alternative*)>
<!-- modified in version 2.0 -->
<!ELEMENT vers:Subject (
  vers:KeywordLevel?, vers:Keyword+, vers:Subject*)>
<!ELEMENT naa:Relation (
  naa:RelatedItemId+, naa:RelationType+,
  naa:RelationDescription*)>
<!-- following element modified in version 2.0 -->
<!-- Note: RelatedItemId may contain character data or a vers:VEOIdentifier -->
<!-- The '*' is an artifact of XML -->
<!ELEMENT naa:RelatedItemId (#PCDATA | vers:VEOIdentifier)*>
<!ELEMENT naa:Coverage (
  (naa:Jurisdiction | naa:Jurisdiction)*, naa:PlaceName*, naa:PeriodName*)>
<!ELEMENT naa:Function (
  naa:FunctionDescriptor+, naa:ActivityDescriptor+,
  naa:ThirdLevelDescriptor*)>
<!ELEMENT naa:Date (
  naa:DateTimeCreated, naa:DateTimeTransacted, naa:DateTimeRegistered)>
<!ELEMENT naa:Format (
  naa:MediaFormat, naa:DataFormat, naa:Medium, naa:Extent*)>
<!-- following element modified in version 2.0 -->
<!-- Note: RecordIdentifier may contain character data or a -->

```

```

<!-- vers:VEOIdentifier. The '*' is an artifact of XML -->
<!ELEMENT naa:RecordIdentifier (#PCDATA | vers:VEOIdentifier)*>
<!ELEMENT naa:ManagementHistory (vers:ManagementEvent+)>
<!ELEMENT vers:ManagementEvent (
  naa:EventDateTime, naa:EventType, naa:EventDescription)>
<!ELEMENT naa:UseHistory (vers:Use+)>
<!ELEMENT vers:Use (
  naa:UseDateTime, naa:UseType, naa:UseDescription?)>
<!ELEMENT naa:PreservationHistory (
  vers:Action+, naa:NextAction?, naa:NextActionDue?)>
<!ELEMENT vers:Action (
  naa:ActionDateTime, naa:ActionType, naa:ActionDescription)>
<!ELEMENT naa:Location (
  naa:CurrentLocation, naa:HomeLocationDetails,
  naa:HomeStorageDetails, naa:RKSid?)>
<!ELEMENT naa:Disposal (
  naa:DisposalAuthorisation+, naa:Sentence,
  naa:DisposalActionDue?, naa:DisposalStatus?)>
<!ELEMENT naa:Mandate (
  naa:MandateType+, naa:RefersTo+, naa:MandateName+,
  naa:MandateReference*, naa:Requirement+)>
<!ELEMENT vers:Transaction (
  vers:TransactionIdentifier, vers:Originator, vers:Recipient*,
  vers:ActionRequired*, vers:OriginatorsCopy,
  vers:TransactionType*, vers:BusinessProcedureReference*,
  vers:TransactionReference*, vers:TransactionLinkage*)>

<!ELEMENT naa:AgentType (#PCDATA)>
<!ELEMENT naa:Jurisdiction (#PCDATA)>
<!ELEMENT naa:CorporateId (#PCDATA)>
<!ELEMENT naa:CorporateName (#PCDATA)>
<!ELEMENT naa:PersonId (#PCDATA)>
<!ELEMENT naa:PersonalName (#PCDATA)>
<!ELEMENT naa:SectionName (#PCDATA)>
<!ELEMENT naa:PositionName (#PCDATA)>
<!ELEMENT naa:ContactDetails (#PCDATA)>
<!ELEMENT naa:Email (#PCDATA)>
<!ELEMENT naa:DigitalSignature (#PCDATA)>
<!ELEMENT naa:SecurityClassification (#PCDATA)>
<!ELEMENT naa:Caveat (#PCDATA)>
<!ELEMENT naa:Codeword (#PCDATA)>
<!ELEMENT naa:ReleasabilityIndicator (#PCDATA)>
<!ELEMENT naa:AccessStatus (#PCDATA)>
<!ELEMENT naa:UsageCondition (#PCDATA)>
<!ELEMENT naa:EncryptionDetails (#PCDATA)>
<!ELEMENT naa:SchemeType (#PCDATA)>
<!ELEMENT naa:SchemeName (#PCDATA)>
<!ELEMENT naa:TitleWords (#PCDATA)>
<!ELEMENT naa:Alternative (#PCDATA)>
<!ELEMENT vers:KeywordLevel (#PCDATA)>
<!ELEMENT vers:Keyword (#PCDATA)>
<!ELEMENT naa:Description (#PCDATA)>
<!-- Added in version 2.0 -->
<!ELEMENT vers:AuxiliaryDescription (#PCDATA)>
<!ELEMENT naa:Language (#PCDATA)>
<!ELEMENT naa:RelationType (#PCDATA)>
<!ELEMENT naa:RelationDescription (#PCDATA)>
<!ELEMENT naa:Jurisdiction (#PCDATA)>
<!ELEMENT naa:PlaceName (#PCDATA)>
<!ELEMENT naa:PeriodName (#PCDATA)>
<!ELEMENT naa:FunctionDescriptor (#PCDATA)>
<!ELEMENT naa:ActivityDescriptor (#PCDATA)>
<!ELEMENT naa:ThirdLevelDescriptor (#PCDATA)>
<!ELEMENT naa:DateTimeCreated (#PCDATA)>
<!ELEMENT naa:DateTimeTransacted (#PCDATA)>
<!ELEMENT naa:DateTimeRegistered (#PCDATA)>
<!ELEMENT naa:Type (#PCDATA)>
<!ELEMENT naa:AggregationLevel (#PCDATA)>
<!ELEMENT naa:MediaFormat (#PCDATA)>
<!ELEMENT naa>DataFormat (#PCDATA)>
<!ELEMENT naa:Medium (#PCDATA)>
<!ELEMENT naa:Extent (#PCDATA)>
<!ELEMENT naa:EventDateTime (#PCDATA)>
<!ELEMENT naa:EventType (#PCDATA)>
<!ELEMENT naa:EventDescription (#PCDATA)>
<!ELEMENT naa:UseDateTime (#PCDATA)>
<!ELEMENT naa:UseType (#PCDATA)>

```



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<!ELEMENT naa:UseDescription (#PCDATA)>
<!ELEMENT naa:ActionDateTime (#PCDATA)>
<!ELEMENT naa:ActionType (#PCDATA)>
<!ELEMENT naa:ActionDescription (#PCDATA)>
<!ELEMENT naa:NextAction (#PCDATA)>
<!ELEMENT naa:NextActionDue (#PCDATA)>
<!ELEMENT naa:CurrentLocation (#PCDATA)>
<!ELEMENT naa:HomeLocationDetails (#PCDATA)>
<!ELEMENT naa:HomeStorageDetails (#PCDATA)>
<!ELEMENT naa:RKSid (#PCDATA)>
<!ELEMENT naa:DisposalAuthorisation (#PCDATA)>
<!ELEMENT naa:Sentence (#PCDATA)>
<!ELEMENT naa:DisposalActionDue (#PCDATA)>
<!ELEMENT naa:DisposalStatus (#PCDATA)>
<!ELEMENT naa:MandateType (#PCDATA)>
<!ELEMENT naa:RefersTo (#PCDATA)>
<!ELEMENT naa:MandateName (#PCDATA)>
<!ELEMENT naa:MandateReference (#PCDATA)>
<!ELEMENT naa:Requirement (#PCDATA)>
<!ELEMENT vers:AgencyIdentifier (vers:Text)>
<!ELEMENT vers:SeriesIdentifier (vers:Text)>
<!ELEMENT vers:FileIdentifier (vers:Text)>
<!ELEMENT vers:VERSRecordIdentifier (vers:Text)>
<!ELEMENT vers:TransactionIdentifier (vers:Text)>
<!ELEMENT vers:Originator (vers:Text)>
<!ELEMENT vers:Recipient (vers:Text)>
<!ELEMENT vers:ActionRequired (vers:Text)>
<!ELEMENT vers:OriginatorsCopy (#PCDATA)>
<!ELEMENT vers:TransactionType (vers:Text)>
<!ELEMENT vers:BusinessProcedureReference (vers:Text)>
<!ELEMENT vers:TransactionReference (vers:Text)>
<!ELEMENT vers:TransactionLinkage (vers:Text)>

<!ATTLIST naa:AgentType scheme CDATA #IMPLIED>
<!ATTLIST naa:Jurisdiction scheme CDATA #IMPLIED>
<!ATTLIST naa:CorporateId scheme CDATA #IMPLIED>
<!ATTLIST naa:CorporateName scheme CDATA #IMPLIED>
<!ATTLIST naa:PersonId scheme CDATA #IMPLIED>
<!ATTLIST naa:PersonalName scheme CDATA #IMPLIED>
<!ATTLIST naa:SectionName scheme CDATA #IMPLIED>
<!ATTLIST naa:PositionName scheme CDATA #IMPLIED>
<!ATTLIST naa:ContactDetails scheme CDATA #IMPLIED>
<!ATTLIST naa:Email scheme CDATA #IMPLIED>
<!ATTLIST naa:DigitalSignature scheme CDATA #IMPLIED>
<!ATTLIST naa:SecurityClassification scheme CDATA #IMPLIED>
<!ATTLIST naa:Caveat scheme CDATA #IMPLIED>
<!ATTLIST naa:Codeword scheme CDATA #IMPLIED>
<!ATTLIST naa:ReleasabilityIndicator scheme CDATA #IMPLIED>
<!ATTLIST naa:AccessStatus scheme CDATA #IMPLIED>
<!ATTLIST naa:UsageCondition scheme CDATA #IMPLIED>
<!ATTLIST naa:EncryptionDetails scheme CDATA #IMPLIED>
<!ATTLIST naa:SchemeType scheme CDATA #IMPLIED>
<!ATTLIST naa:SchemeName scheme CDATA #IMPLIED>
<!ATTLIST naa:TitleWords scheme CDATA #IMPLIED>
<!ATTLIST naa:Alternative scheme CDATA #IMPLIED>
<!ATTLIST vers:KeywordLevel scheme CDATA #IMPLIED>
<!ATTLIST vers:Keyword scheme CDATA #IMPLIED>
<!ATTLIST naa:Description scheme CDATA #IMPLIED>
<!ATTLIST vers:AuxiliaryDescription scheme CDATA #IMPLIED>
<!ATTLIST naa:Language scheme CDATA #IMPLIED>
<!ATTLIST naa:RelatedItemId scheme CDATA #IMPLIED>
<!ATTLIST naa:RelationType scheme CDATA #IMPLIED>
<!ATTLIST naa:RelationDescription scheme CDATA #IMPLIED>
<!ATTLIST naa:Jurisdiction scheme CDATA #IMPLIED>
<!ATTLIST naa:PlaceName scheme CDATA #IMPLIED>
<!ATTLIST naa:PeriodName scheme CDATA #IMPLIED>
<!ATTLIST naa:FunctionDescriptor scheme CDATA #IMPLIED>
<!ATTLIST naa:ActivityDescriptor scheme CDATA #IMPLIED>
<!ATTLIST naa:ThirdLevelDescriptor scheme CDATA #IMPLIED>
<!ATTLIST naa:DateTimeCreated scheme CDATA #IMPLIED>
<!ATTLIST naa:DateTimeRegistered scheme CDATA #IMPLIED>
<!ATTLIST naa:DateTimeTransacted scheme CDATA #IMPLIED>
<!ATTLIST naa:Type scheme CDATA #IMPLIED>
<!ATTLIST naa:AggregationLevel scheme CDATA #IMPLIED>
<!ATTLIST naa:MediaFormat scheme CDATA #IMPLIED>
<!ATTLIST naa:DataFormat scheme CDATA #IMPLIED>
<!ATTLIST naa:Medium scheme CDATA #IMPLIED>

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<!ATTLIST naa:Extent scheme CDATA #IMPLIED>
<!ATTLIST naa:EventDateTime scheme CDATA #IMPLIED>
<!ATTLIST naa:EventType scheme CDATA #IMPLIED>
<!ATTLIST naa:EventDescription scheme CDATA #IMPLIED>
<!ATTLIST naa:UseDateTime scheme CDATA #IMPLIED>
<!ATTLIST naa:UseType scheme CDATA #IMPLIED>
<!ATTLIST naa:UseDescription scheme CDATA #IMPLIED>
<!ATTLIST naa:ActionDateTime scheme CDATA #IMPLIED>
<!ATTLIST naa:ActionType scheme CDATA #IMPLIED>
<!ATTLIST naa:ActionDescription scheme CDATA #IMPLIED>
<!ATTLIST naa:NextAction scheme CDATA #IMPLIED>
<!ATTLIST naa:NextActionDue scheme CDATA #IMPLIED>
<!ATTLIST naa:CurrentLocation scheme CDATA #IMPLIED>
<!ATTLIST naa:HomeLocationDetails scheme CDATA #IMPLIED>
<!ATTLIST naa:HomeStorageDetails scheme CDATA #IMPLIED>
<!ATTLIST naa:RKSid scheme CDATA #IMPLIED>
<!ATTLIST naa:DisposalAuthorisation scheme CDATA #IMPLIED>
<!ATTLIST naa:Sentence scheme CDATA #IMPLIED>
<!ATTLIST naa:DisposalActionDue scheme CDATA #IMPLIED>
<!ATTLIST naa:DisposalStatus scheme CDATA #IMPLIED>
<!ATTLIST naa:MandateType scheme CDATA #IMPLIED>
<!ATTLIST naa:RefersTo scheme CDATA #IMPLIED>
<!ATTLIST naa:MandateName scheme CDATA #IMPLIED>
<!ATTLIST naa:MandateReference scheme CDATA #IMPLIED>
<!ATTLIST naa:Requirement scheme CDATA #IMPLIED>
<!-- Remaining added in version 2.0 -->
<!ATTLIST vers:Originator scheme CDATA #IMPLIED>
<!ATTLIST vers:Recipient scheme CDATA #IMPLIED>
<!ATTLIST vers:ActionRequired scheme CDATA #IMPLIED>
<!ATTLIST vers:TransactionType scheme CDATA #IMPLIED>
<!ATTLIST vers:BusinessProcedureReference scheme CDATA #IMPLIED>
<!ATTLIST vers:TransactionReference scheme CDATA #IMPLIED>
<!ATTLIST vers:TransactionLinkage scheme CDATA #IMPLIED>
```

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