VERS:
Building a Digital Record Heritage

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Abstract:

From a single acorn a great oak grows. This phrase encapsulates the journey, so far, of the Victorian Electronic Records Strategy; better recognised these days as VERS. From its inception in 1995 the ideas formulated and contained in the report 'Keeping Electronic Records Forever' were the starting point to an ongoing collaborative effort between the Victorian State Government, Industry and Academia to find a practical way to deal with digital records. After giving a brief background on the VERS strategy to set the appropriate context, this paper draws together the major contributing factors for the continuing impetus of the program:-

- *developing the vision*
- *strategic planning,*
- *lessons learnt from practical implementations,*
- *VERS Centre of Excellence,*
- *developing the digital archive and*
- *the future of the program.*

Background on VERS

The Victorian Electronic Records Strategy is a framework of standards, guidance and practical implementation projects centered around the goal of reliably and authentically archiving electronic records created or managed by the Victorian government.

The VERS Standard is a three-part solution for preservation of electronic records:

- **Use of Long Term Formats**

Electronic documents (generated by software such as Microsoft Word) are converted to a long-term format (PDF or TIFF). These formats were chosen because it is expected that in the future it will provide the best chance that an attempt to read the document will be successful. (That is, a person will be able to view the document in its original form). Unlike Microsoft Word, which is a proprietary format, PDF and TIFF formats are published standards and are therefore likely to remain readily available to read files. With current developments in relation to the development of an international standard for portable document format, PDF/A (PDF for Archiving) there is even more likelihood of being able to access documents over the long-term in a predictable manner.

- **Encapsulation**

One or more documents are "bundled" together with a detailed set of metadata which holds information about the documents (such as when, where, how, and by whom the document or documents were created). The metadata is stored using XML (extensible mark-up language) format, which forms a wrapper both around the documents and for the record itself.

- **Digital Signature**

A public-key digital signature is attached to the "bundle" of documents, providing a 'seal' for the record, increasing the integrity and authenticity of each electronic document as it is preserved. The product of this process is known as a *VERS Encapsulated Object* (VEO).

The VEO, as a digital record, has substantial business value in terms of interoperability, authenticity, accessibility and integrity. It can be used as the basis of business accountability, risk management and knowledge exchange for now and into the future.

The VERS strategy is underpinned by the VERS Standard (PROS 99/007). This contains detailed technical information about the type of system and functionality required to be able to create and manage VEOs, the metadata fields required, and the exact specifications for how the XML, PDF, and digital signatures should be fitted together to form a VEO.

Guidance on the strategy is supported by an extensive training program, the VERS web site (www.prov.vic.gov.au/vers), the VERS web toolkit, agency advice and consultancy assignments.

A number of projects have already been undertaken to develop the VERS strategy and provide practical experience of adopting the VERS approach. These were:-

1996	**Initial research project** Delivered the report – "Keeping Electronic Records Forever". Addressed the issue of how to ensure the retention of, and ongoing access to, digital records created today and in the future.
1998	**VERS Demonstrator System** Implementation of the VERS standard into a range of software products to support a pilot business workflow (Ministerial correspondence). Demonstrated that it was possible and practical to capture, manage and discover digital records using a VERS VEO format.
1999	**VERS Final Report** Publication of the findings of the initial VERS demonstrator project including a definition of the VERS XML digital record.
2000	**VERS standard, PROS 99/007** Development and publication of the VERS standard.
1999/02	**VERS@DOI Pilot Implementation Project** Implementation of the VERS strategy within the Department of Infrastructure. The implementation project included record capture at creation, management of the VERS Encapsulated Records (VEOs) in a VERS compliant recordkeeping system and provided the ability to export these digital records to the Public Record Office of Victoria when required.
2002/04	**VERS Centre of Excellence** Further support for the VERS program to roll out across the remaining major Departments of Victorian government and the design, development and implementation of a Digital Archive.

Developing the Vision

The vision of VERS has always been simple; it is best captured by the title of the report from the original research project, 'Keeping Electronic Records Forever'. Keeping this vision in mind has helped focus attention on the need to actively manage the long-term digital records of government throughout their life. To achieve the VERS vision, the following approaches have been central:

- **Simple and understandable**

It has always been a goal of the VERS strategy and standard to provide a simple and understandable approach to dealing with the questions posed by digital records. By adopting this approach in designing a standard record format it is envisaged that markets can be grown, practical implementations can be undertaken and organisational capability will substantially increase. However, it is also recognised that this needs to be supported by a comprehensive program of information dissemination, training, advice, guidance and consultancy support.

- **Extensible and Flexible**

By creating an extensible and flexible standard, VERS supports the vision by being adaptable to the changing requirements as more is learnt about the challenges of implementing practical solutions for digital records.

The ability to extend the VERS metadata at the encoding, document or record level gives organisations the capability to add and manage their own information in addition to supporting the mandatory VERS elements.

- **Start Immediately – deal with the electronic dark ages**

Rather than waiting for someone to develop the 'final' solution, the VERS strategy has undertaken both research and practical projects, learning along the way. Through the use of extensive collaboration and communities of practice, the knowledge gained has been communicated as broadly as possible, thereby helping to grow the market for VERS. The practical experience gained though this process has enabled VERS to assume a leadership role in the area of digital records, further developing credibility for the approach, which has achieved both National and International recognition.

What has become clear over this time is that if we do nothing, it will be very difficult to recover digital records created today in as little as ten years' time.

Although VERS has developed an approach to dealing with the issues confronting digital records it is still vital to review other National and International approaches. In the event that these are more widely accepted then these will be considered carefully in context to the forward strategy of VERS.

- **Broad and Sustainable markets**

It has always been considered that the use of the VERS format for digital records could be implemented in all forms of organisations, irrespective of size and market segment.

Aiming at such a large potential marketplace provides the opportunity to engage with a wide range of vendors and service providers in developing tools and approaches that support the life cycle phases of dealing with digital records.

Development of markets that support various components of the strategy have been seen as crucial to the longevity of the strategy. Key objectives were set, to facilitate software implementations of the VERS standard into vendor products, to encourage service vendors to develop packaged VERS services and to increase the number of consultants trained through the implementation of VERS solutions.

- **Supporting the broader knowledge, information and eBusiness initiatives**

With the progression, over time, to more online business processes, there was a need to develop a strategic approach to the management of digital records. The VERS approach is positioned to support the overall ebusiness solution implementations, rather than being considered after the event. As an additional benefit, the increasing store of authentic digital

records will be valuable to support knowledge and information based activities within organisations.

- **Valuing the digital record**

The value of the VEO (digital record) is that it is independent of the software or hardware that created it. It supports the notion of digital asset protection, by decreasing the necessity to reformat or transform the digital content in the future. As the VEO encapsulates the metadata with its content, there is more likelihood that this record will be understandable in the future, again increasing its value both from a business and a heritage viewpoint.

- **People with a passion**

From the initial conception of the VERS strategy and throughout the passage of time until today, there have been many participants who have had a passion to achieve the VERS vision. These individuals have come from a diversity of disciplines, many different organisations and from varying levels of seniority. Their common bond has been the desire to put in place a practical method of identifying, capturing and managing digital records for the long-term, in an environment where no agreed standards or approaches existed. Many of the people involved at the start of the journey are still involved and provide a wealth of knowledge and experience to assist in the rollout of the strategy. Involvement of such a broad community of interest has been a significant factor in supporting the longevity of the VERS program to date.

Strategic Planning

The program has adopted a 'Think Big – Start Small – Scale Quickly' approach. By considering the size of the potential market to be worldwide, attention was focussed on the definition of standards and the implementation of these into a range of commercial products and services. Strategic marketing through a range of channels has raised awareness and demand for VERS.

This section will focus on the strategic planning for the project and will highlight the collaboration and partnerships forged to facilitate the widest adoption of the strategy and standard possible.

- **Think Big – Start Small – Scale quickly**

To position VERS for the long-term it was important to set the scope of the strategy as broadly as possible. From its initial inception it was considered that the VERS format had wide applicability, potentially at a global level. Without any existing widely adopted approach for digital records there was the opportunity to promote the VERS standard into this space.

With this global perspective in mind it was decided to start with small and manageable projects to gain experience and to help inform further strategic and tactical planning for the rollout of VERS. This approach had considerable benefits in being able to secure on-going funding for the program.

The adoption of VERS by more organisations is stimulating the marketplace for VERS and providing a growing number of product and service based solutions that can be implemented to support increasing business awareness of the need to manage their digital records.

- **Branding**

Brand recognition of VERS is a valuable asset in helping to promote the standard and strategy, thereby assisting in the wider adoption of VERS. A number of times during the life of VERS, questions have been raised in regard to the adoption of a new branding approach that has a more national or international focus; however, subsequent analysis of alternatives has indicated that there is more value in retaining and further promoting the VERS branding.

The main communication happens between the customer and the brand. Having a brand that successfully communicates the product's attributes, benefits, values, culture and personality, allowed our customers to develop a good relationship with this brand. Consequently it has become clear that the VERS brand (rather that the Victorian Electronic Records Strategy) has now achieved broad-based recognition.

- **Raising the awareness of VERS – presentations, training, vendor certification**

A comprehensive program of information delivery via the web, conference participation, presentations, training and vendor certification was planned and subsequently implemented to help raise the profile of VERS. The VERS vendor certification process has been designed to encourage the development of VERS capability into commercial software products and services, supported by the addition of VERS requirements into the software product procurement cycle of Victorian Government.

- **Supporting VERS for the long term**

Adoption of VERS will take place over a number of years and it has been necessary to plan for this reality. By adopting an approach which implements a range of projects in a succession of steps, it has been possible to keep the program momentum going since 1996. Each project along the path of VERS has been designed to utilise the increasing knowledge and learning in a wider perspective than the project that preceded it. Whilst the project approach has been beneficial to date, the future planning will need to take account of the transition to the delivery of VERS infrastructure and support as one of the core business functions of Victorian Government.

Lessons Learnt from practical implementations

To facilitate the adoption of VERS across government and beyond, it is necessary to apply the lessons learnt for the projects already undertaken. Reflection on the success or otherwise of particular aspects of the strategy, standard, program and projects has provided some key lessons:

Lesson 1: Having a mandated standard makes sense

The VERS standard is mandated for all Victorian Government entities to use as the format for the transfer of permanent digital records to the Public Record Office. The result of

adopting this position has meant it is possible to concentrate on how to implement the standard, rather than spending more time and resources developing alternative standards. Organisations can also gain benefits from using the VERS standard format to capture and manage long-term temporary records (up to 99 years) which exhibit most of the same issues as for permanent digital records.

Lesson 2: Design in VERS, don't tack it on

Organisations want solutions not standards. With the VERS standard built into a range of software products, it has become easier to assist the organisation in identifying solutions that will work in their business situations. In implementing these solutions (which provide VERS capability out-of-the-box), there is more chance that the digital records of the organisation will be captured.

Irrespective of having an off-the-shelf solution, it is important to consider the specific requirements of VERS (long term formats, metadata and digital signatures) that can be included in any new software implementation that will capture and manage digital records. Consider the inclusion of mandatory VERS metadata and ensure that there is a long-term format for the record. Adopting these simple steps means that there is more chance that VERS digital records (VEOs) can be created in the future from the base information.

Lesson 3: VERS is a strategy and a standard, not a system

People often have the understanding that VERS is a system, or they are unsure of what VERS is (maybe it is something to do with records?). What has become clear from this is that we need to have simple messages that support the strategy. Messages such as 'VERS is a strategy and a standard, not a system', 'Think records, not systems', 'VERS, our digital heritage'.

As part of the strategy, it is anticipated that a growing number of commercial software systems will implement the VERS standard. Digital records can then be captured in a VERS format and be transferred from one system to another, whether within the same organisation or between organisations. The benefit of this approach is to provide the capability of records to be system independent.

Lesson 4: Understand that recordkeeping is not front-of-mind for staff within the business

Staff have more to do with less time. They do not want additional tasks, such as the requirement to enter additional data, deciding that the information is a record or classifying the record, they want all of these actions to be covered as part of the automated business process. Therefore, a crucial aspect around the implementation of VERS within an organisation is to determine how to source as much as possible of the record from the digital environment as automatically as possible (using workflows, standard IT infrastructure information, consistent classifications etc).

Lesson 5: Seek out opportunities in all phases of the digital record life cycle

No one size fits all here. If it is considered that once a document/records system or content management system is implemented all the problems disappear, then this is unlikely to be the

case. It is crucial to be aware of information systems being retired, business divisions being amalgamated or divested, information of high value at risk, etc., as these may all be candidates or captured as VERS digital records.

Lesson 6: Capture 'born-digital' records as close to creation as possible

To increase the authenticity and integrity of the digital record, it is valuable to capture the information that forms the record as close to creation as possible. It is also valuable to convert into a long-term format at this point of time, thus reducing the requirement to re-convert at a later date. Digital records have the characteristic that an 'exact' copy can be made of the 'born-digital' record at any time, which is quite different than dealing with the paper 'original'. A copy of the VERS digital record can thus be captured, managed and transferred to the archive whilst the original digital record can remain accessible in the operational environment.

Lesson 7: Be flexible with implementation models

It is important to recognise that there will be multiple implementation approaches adopted depending on the business context. The key objective is to generate the appropriate VEOs that provide good evidence of business decisions and the context within which they were made.

For example, it is possible for a small agency to download a VERS desktop capture program and capture its own digital records. An original copy of the record can be sent to the appropriate department or archive for management. In a larger department, a commercial VERS compliant software product can be used as the basis for a document and records repository capturing digital records from the desktop and a range of business applications. The digital records being exported in a VERS format, upon request.

In some instances, a local VERS archive service will be required by departments to support the management of temporary digital records having a retention period of up to 99 years.

Lesson 8: Make the cost of participation as low as possible

There are many ways to implement a VERS strategy within an organisation. Irrespective of the approach taken, how do we make the process as cost effective as possible? There is a need for tools that span the size and maturity of organisations, from a small two-person operation in a remote area to a sophisticated ebusiness department with staff numbering in the thousands. By having a mature and sustainable market, there is more chance that a commercial product or service will be available to support the organisations need.

Lesson 9: Recognise the language gap between the different stakeholders

There is continuing need to establish and develop links between the different stakeholders and interest groups that span many professional disciplines. There needs to be ongoing recognition that although people often use the same or similar words they can actually mean quite different things. Adoption of an approach that seeks first to understand the others point of view is critical in continuing to have active participation in moving the VERS agenda forward.

Lesson 10: Think records, not systems

Software systems in Government today are unlikely to last more than five to ten years. However, the evidence of government business, the digital record, may have to last for the long-term (over 50 years) or even permanently. It is important that the information which forms the record is captured and managed in such a way that it supports discovery, accessibility, integrity and authenticity. To support these outcomes there is a need to think first about the record rather than the system(s) that contain it.

Having determined those digital records of permanent or long-term retention, the challenge is to understand when and where these must be captured, how they will be managed (in a long-term VERS format) and how they will be transferred across to the archive.

Lesson 11: VERS must remain simple and seek increased adoption at the State, National and International level.

It has been evident that although it has been a goal to keep the VERS format as simple as possible, the concepts and approaches that VERS involves is a paradigm shift in relation to recordkeeping.

A diverse range of skills is needed to address the issues from a business, information management, records management, archival and information technology aspects. By keeping VERS as simple as possible, we provide the best mechanism for increasing the adoption and growing the knowledge base of VERS.

Lesson 12: Most organisations have a mix of both paper and digital recordkeeping requirements

It will still be some considerable time before key business processes have migrated from a paper-based approach to a digital implementation. That being the case, there is a requirement to understand what components of the record must continue to be managed in paper, what can be managed in a digital form and what linkages need to occur between the paper based and digital records. Thought must also be applied to the question of whether it is useful to digitise the paper record into the information environment to provide an increased level of accessibility.

Lesson 13: Do something now

As time progresses more and more digital records are being lost. There is no universal solution to the problem and many organisations are waiting to see what will eventually happen. VERS has taken the approach that doing something to help solve this problem is better than doing nothing. It has also been recognised that it is important to keep the VERS standard as open and flexible as possible for the eventuality of convergence with other National and International digital record standards.

At the National level there are no other implemented digital record standards that deal with the issues from the point-of-capture through preservation over the long term.

The preservation approach of the National Archives of Australia through the usage of the 'Xena' product-set accepts original format digital records and then normalises these into an

XML format or long term management (the original bit stream is also preserved). One issue with this approach is the fact that the original format may be retained by the department for a considerable time, thus making it inaccessible when transferred to the National Archives for preservation. For example, a department may have a number of digital records in Wordstar format which will not be transferred for another 20 years. When they are transferred will they be accessible?

At the International level the National Archives and Records Administration (NARA) ERA program is developing an approach to address the growing need within the US to manage the growing volumes of digital records. To date this program has been focussed predominantly in the research and development area but now is moving to the establishment of a practical infrastructure.

Lesson 14: Retain the original format

It is not possible to predict which digital information formats will survive the test of time so it is prudent to also retain the original 'born-digital' format.

VERS Centre of Excellence

The VERS Centre of Excellence is a two year program (Financial Years 2002-2004) supporting the adoption of the VERS strategy across the ten Victorian State Government Departments. This section describes the major concurrent streams undertaken within the Centre and how these work together to provide support for the implementation.

The program forms the core part of the establishment of an effective electronic recordkeeping regime for Victorian Government. Initially, this is targeted at the inner budget departments of government but there is also a requirement, over time, to promulgate the strategy across local government, outer-budget agencies, hospitals and schools.

The VERS strategy has a strong linkage to the Victorian eGovernment agenda, which is aimed at the delivery of citizen centric services online. The VERS strategy provides a mechanism by which the 'born-digital' records of business can be recorded for the long term as required by departmental disposal schedules.

As part of the eGovernment agenda, a review of the whole of the Victorian Government Standard Corporate Information and Communication Technology (ICT) Infrastructure strategy was undertaken during the period October-December 2002. The VERS strategy is a key component in achieving the document and records imperative identified within this framework.

Within the departments, there is the potential to leverage off integration and interfacing work undertaken within one department for the benefit of others. It is vital in ensuring this occurs by the establishment and ongoing support of an effective community of practice. As departments progress along their own implementation of the VERS strategy, there is an important role for the VERS Centre of Excellence to facilitate communications with other departments that may find value in approaches already adopted.

- **Establishing the Centre**

The establishment of a VERS Centre of Excellence has been designed to provide a focus point for government in relation to the management of digital records. Within the VERS Centre are resources that cover strategic planning, program and project management, business planning, research, records management, archival management, information technology, information management and legal issues. It has been found that this range of skills has been imperative in dealing with the diverse range of requests generated by the departments, agencies and other bodies interested in VERS.

- **Planning and Management Regime**

The Centre has established a whole of government planning and management regime for VERS, including both directive committees and reference groups. The development and management of a VERS program plan is used to ensure a coordinated, effective approach to roll-out.

- **Marketing and Relationship Management**

A number of specific activities have been undertaken in the VERS Centre to support the raising of awareness of VERS at the Department, State, National and International levels.

A marketing strategy has been developed which seeks to position the VERS strategy as the key method of managing electronic records for both long term temporary and permanent value digital records throughout government departments and other interested organisations.

A customer relationship management strategy has been developed covering the key VERS stakeholders and interested parties. The strategy identified the key stakeholders, information needs, processes and approaches adopted by the Centre of Excellence in dealing with its customers.

The key stakeholders for the VERS program include the VERS Steering Committee, Departments, agencies, Local Councils, Office of the Chief Information Office, Software Service Vendors, Records Managers, Business Managers, Information Management Specialists, Knowledge Managers, CSIRO, VERS Adopters and the Australian Archives. Significant interested parties include a range of Standards Bodies, Expert Advisory Groups, Commercial Organisations, Industry bodies, Academia and International Archives.

- **VERS Standard - PROS 99/007 Review**

The VERS standard has been reviewed, based on the experience from the vendor compliance program and the VERS @ DOI implementation project. The new standard (PROS 99/007 Version 2) was released in July 2003.

- **Departmental Implementation Strategies**

Assistance has been provided in the development of implementation strategies for the efficient introduction of VERS across the remaining (aside from the Department of Infrastructure) inner budget departments.

To assist the Centre in terms of meeting the service requirements of the departments, a departmental assessment process was undertaken. This commenced with the development of a 'VERS-Ready' matrix that identifies measures by which to assess the departments' readiness and progress along a path of VERS compliance. The undertaking of the assessment process with all inner-budget sector departments identified the current status with respect to the matrix measures. The assessment process will be executed both at the commencement and towards the end of the program and the documented process is now available on the VERS web site.

- **Implementation Models and Support Services**

To assist the departments to implement successful VERS initiatives, it is important to develop a range of effective implementation models and accompanying support services to take advantages of the approaches already adopted for VERS.

A list of different models is detailed later in the "Future of the Program" section. .The support services being delivered by the VERS Centre of Excellence include:-
- Compliance Certification - Further development of the vendor certification program to identify those products and services that are compliant with one or more of the PROS 99/007 specifications. All products that are compliant with one or more of the VERS specifications are listed on the VERS Web site.
- VERS Service Delivery Options - The development and implementation of a strategy to facilitate the development of VERS related services. It has also included an assessment of the VERS @ DOI environment in being able to provide a shared service capability.
- VERS Software Development - Facilitating the design and development of software tools to encourage the adoption of the VERS standard in as broad a user base as possible.
- Consultancy Support - Provided to projects across Government that are required to capture their records in a VERS long-term format.

- **Digital Archive**

The design, development and implementation of a digital archive to manage and provide access to the Government's permanent and high value digital records. (This point will be explored in more detail in the next section)

- **Intellectual Property**

The development of a framework to allow the effective management and leverage of the IP created as part of the VERS program. This includes IP generated from activities within the Centre of Excellence and the VERS @ DOI project.

- **Training, Advice and Guidance**

VERS Toolkit - The further development of the web toolkit to provide information, templates and guidance to assist records and information professionals within the departments and beyond to deal with the issues related to the management of electronic records.

Training **-** The development and delivery of a training program that covers the various aspects of VERS from a stakeholder perspective.

Policy Development **-** The development and maintenance of policies related to electronic recordkeeping.

Guidelines **-** The development and maintenance of guidelines to support organisations in the implementation of a VERS based strategy.

Developing the Digital Archive

To provide confidence that the permanent digital records captured by means of the VERS strategy will be actively managed, a digital archive is being designed and developed. This section will cover the key issues that will need to be solved in the design and development of the digital archive.

- **Business Requirements**

As the archive of the state of Victoria, Public Record Office Victoria (PROV) is responsible for ensuring best-practice management of Victorian Government records, and preserving and providing access to those government records which are permanent.

Victorian government includes central government departments, local government, statutory authorities, educational and judicial institutions and health organisations.

Part of the program of the VERS Centre of Excellence (COE) is to develop a Digital Archive at PROV, to preserve and provide access to electronic records in the PROV collection.

A Digital Archive is a system, including technical infrastructure, standards, policies and procedures, for managing and providing access to digital objects and their associated metadata. A Digital Repository is the component of the digital archive that provides storage of the digital objects and their metadata.

The PROV Digital Archive consists of six mega-functions: Records Transfer, Records Storage, Data Management, Records Access, Administration and Management.

- **Records Transfer**

The records transfer refers to the transfer of permanent VEOs and associated metadata from various departments to the PROV Digital Repository.

- **Records Storage**

Record storage covers the ongoing physical maintenance of VEOs within the Digital Repository, including storage, media management and security. It includes comprehensive mechanisms (relating to backup, high availability and disaster recovery) to ensure that records are never lost. Record Storage also covers all operational activities carried out on VEOs by PROV staff.

- **Data Management**

Data Management covers the management of the metadata associated with the VEOs. It includes the processes of updating the repository with new metadata, maintaining the metadata, querying the data and providing responses to queries. Data Management also covers all operational activities carried out on VEO metadata by PROV staff.

- **Records Access**

This element covers the provision of online access to records in the PROV collection (paper and electronic) to PROV Users. This includes browsing, searching, ordering and viewing records and descriptive metadata. For paper records, access refers to the ability to search or browse descriptive metadata about records, and to order the records. For electronic records, access also covers the ability to search or browse metadata about the records as well as viewing VEOs.

- **Administration**

This element covers the administrative tools needed to manage the PROV Digital Archive components and the system as a whole. This includes generic system administration activities, as well as security, audit, back-up and restore, disaster recovery, virus checking and queries and reports.

- **Management**

This element covers management components of the PROV Digital Archive, including appraisal, disposal, managing transfers. It also covers the development of standards, policy and procedures and providing training. The Records Transfer, Records Storage and Data Management, Administration and Management mega-functions of the PROV Digital Archive will manage and preserve only the electronic records (VEOs) in the PROV collection. The Records Access element of the PROV Digital Archive however will provide online access to all records in the PROV collection, both paper and electronic, though a single interface.

The Future of the Program, including challenges to be addressed

The last section of the paper covers the potential future directions of the strategy to enable the realisation of the VERS vision.

- **Transfer of substantial volumes of records of permanent value to PROV**

It is critical to support the number of practical projects that are being undertaken across the Victorian Government departments to gain practical experience of utilising the VERS format. With the implementation of these projects the volume of permanent digital records transferred to the Public Record Office will grow thus testing out the processes and procedures being developed for the Digital Archive.

- **Building and maintaining relationships across stakeholders and interested parties**

To continue to progress with the VERS strategy will require the ongoing commitment to maintaining the relationships already established and forging new ones to address emerging priorities. It is also important to be sensitive to additional opportunities that may occur by connecting various stakeholders and interested parties together in delivering new services and solutions that support VERS objectives.

- **Promoting the value of digital records**

When a digital object is captured in a VERS format, the resulting digital record (the VEO) gains additional attributes that are valuable both immediately and for the longer term. As the record has been 'sealed', it exhibits a level of integrity not necessarily available in the original digital object. With the converting of the encapsulated original digital objects into long-term formats, accessibility of the information is improved.

For example, take a record containing a Microsoft Word document, PowerPoint presentation, Microsoft Project file and an email originating from a Lotus Notes email environment. As these will all have been captured and converted into a PDF format, the record may be sent to users who do not have Microsoft Office (irrespective of the version) or Lotus Notes installed and the information will still be accessible via the PDF formats.

In another example, consider a business transaction where the originator wants to ensure that, no matter who accesses the information, they can be sure that it retains integrity from the originator. The creation of a VERS record means this can be sent and verified at the receivers site to ensure that no 'tampering' or 'bit loss', which may affect the content, has occurred.

- **VERS adopted across Australia as the method of capturing, managing and transferring digital records**

As a method of dealing with digital records, VERS has a substantial part to play in the development of a National Digital Records framework. By working towards the endorsement of the VERS format as an acceptable approach to support the capture and transfer of records to the archive, the market size for the software and services vendor community will increase dramatically. This will then have a flow-on effect in encouraging a range of new vendors to enter the market space.

- **Increasing the number of COTS products that support the VERS standard**

Ensuring that users have the widest possible selection of low cost commercial software and services requires the implementation of the VERS standard into as many products as possible. This can be positively influenced by requiring software products tendered to be VERS-compliant when undertaking the procurement process for new software acquisition. With the potential to increase the market size at a state, national and international level, there is also significant vendor interest in positioning their companies in this market by investing the necessary funding to achieve VERS certification. The VERS certification process has been developed and is maintained by the VERS Centre.

- **Developing a range of easy-to-engage implementation models**

As more departments and organisations adopt and implement VERS a number of different implementation models are being used. These currently range from:
  - manual capture of the VEO at the desktop;
  - periodic capture of the VEO from line-of-business applications;
  - capture of mandatory metadata and long-term formats within the business application;
  - export VEO compliance for commercial-off-the-shelf packages and;
  - 'vers-on-wheels' service to eliminate the need to implement and maintain VERS compliant software onsite

It is probable that many other implementation strategies will be adopted to capture the digital records of permanent value that need to be transferred to the PROV. It must be remembered, though, that the further away from the point of creation of these digital objects become the more the authenticity and integrity will be in question. For some sets of records this may not be a significant issue but for others this issue must be considered carefully.

- **Recognising organisational capability and maturity**

The capability of an organisation to deal with the practical issues related to digital records needs to be realistically assessed. Some organisations will have sophisticated enterprise information architectures into which the generation of digital records can be 'slotted'. In others, they may well be struggling with basic information management concepts and processes. Consider that not all can be achieved at once and a gradual approach to the issue of managing digital records often needs to be adopted.

In all cases it is vital for the records managers to identify key digital record sets (from the disposal schedule) and establish a strategy to capture, manage and transfer these records. This will involve working closely with the business, information technology and information management specialists.

Conclusion

The VERS approach to dealing with the issues confronting digital records capture, management and preservation for the long term has gained considerable recognition and support at the local, national and international level. Dealing with paradigm shift from paper records management to the digital context in an increasingly litigious and risk-conscious society poses significant business and cultural heritage issues. VERS is a strategy that offers practical approaches to dealing with these issues now and helping to shed some light on the 'digital dark-ages'.

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