



ARCHIVES

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STANDARDS FOR THE PRESERVATION AND EXCHANGE OF E-DOCUMENTS IN ARCHIVES

The main duty for Latvia's system of national archives is to preserve documentary information and to make sure that it is available to those who request it. Modern information technologies offer new opportunities in this regard. Preservation of new documents is a process which is part of a national programme, "Development and Improvement of the Infrastructural Foundation for Electronic Governance." The priority for the national archives today is to ensure the electronic preservation of documents. Archivists are encouraged to learn about international standards in this area and to implement them in their work.

Keywords: information systems, electronic documents, standards for securing archival material, Latvia's national archives.

Some 900 types of state and municipal services are available to the people of Latvia at this time, and in 2006, some 80% of the population made use of one or more of these services. Several digital systems are used in the administration of the services already – bookkeeping systems, statistical databases, tax revenue systems, E-mail, etc.

Over the last few decades, the Latvian government has built up a modern infrastructure. Currently this work is done under the auspices of a government initiative called "Information Society Development Guidelines 2006–2013: The Road to Growth, Competitiveness and Welfare." These guidelines are aimed at ensuring that everyone in Latvia can fully access and make use of relevant resources and services which are based on modern communications technologies.

The main policy of the aforementioned national programme, which was prepared by the secretariat of the Latvian minister with special portfolio

for E-governance, is to improve and develop existing state information systems by integrating them into a unified national system. Other aims include ensuring the online availability of public services, facilitating the implementation of E-governance, and optimising the work of state and local government institutions. The national programme covers 19 different projects. These are focused on improving the information systems of state and local governments and on mutual co-operation in this regard. This enables the exchange of data online, improving the quality and efficiency of local and state institutions, as well as the services which they provide.

The different systems produce electronic records which are to be archived. These include data from databases, graphical data, textual records from word processing systems with an electronic signature, images from scanners, etc. All of these data are summarised under the term “electronic records.”

Latvia’s law on electronic records specifies that the Directorate General of Latvian State Archives is responsible for the appraisal, description and long-term preservation of electronic records.

Preservation

The Directorate General and the system of archives only have had four years of experience in handling electronic records. Storage is often described as the passive stage in the lifecycle of archival documents and data, but the fact is that the media and formats for storing such things in our digital era have changed frequently. File formats encode information in a form which can only be processed and rendered accessible by a very specific combination of hardware and software. The issue of accessibility, therefore, is very important at this time.

There are three ways of archiving data, spreadsheets, text files, E-mails, etc. – archiving of *native* formats, archiving of *proprietary* formats, and archiving of open standard *de iure* formats.

The format in which the archival version of the records is stored is a key preservation issues. There are three main categories of file formats – *de facto* formats which are driven by market considerations, *mandated* ones which are based on regulations and are controlled by authorities, and *de iure* ones which are developed by industry.

The archiving process, of course, costs money. E-government is a key aspect in driving costs down. Regulations and standards must be developed on the archiving and long-term preservation of electronic records. Our strategy in this regard consists of four major elements, and these are incorporated in Latvian legislation about archives.

First let us consider the storage of records offline. Where it is possible, two different and standardised storage media are used for parallel archiving of electronic records. One is the CD-ROM format, which is in line with requirements that are specified in the ISO 9660 and ISO 10149 standards. The other is the magnetic tape format, which complies with the requirements of the ISO/IEC 15895 and ISO/IEC 16382 standards.

Next comes the issue of specific solutions in terms of preservation formats. Depending on the type and origin of data, the recommendation is to utilise Baltic-1257 or UCS codes and platform-independent file formats for electronic records which are selected for permanent retention – SGML (XML) for structured text, JPEG or TIFF for graphical information, CGM for vector graphics, and MPEG II for audio and video information.

There are also PDF-based *de iure* standards for archiving – PDF/A (ISO PDF/A 19005-1, September 2005). This is an open file format standard which is based on PDF 1.4 and supports reliable rendering of archived electronic records. The OpenDocument format (ODF) is an open XML-based document file format for office applications, and it is used for documents which contain text, spreadsheets, charts and graphic elements. The format makes it easy to transform data into other formats by leveraging and reusing existing standards whenever possible.

Office Open XML (OOXML) is a file format specification for the storage of E-documents such as spreadsheets, charts, presentations and word processing documents. Microsoft developed the specification for its Microsoft Office product suite, and it was standardised by Ecma International as Ecma 376 in December 2006.

Next there is the issue of security precise documentation about E-records and the systems from which they come. Without documentation of the data, long-term preservation and description are not possible. Documentation must include information about files, technical details, media which can be used, etc.

Description

Technical documentation must be accompanied by information about the origin and context of the relevant electronic records – their agency of origin, their legal foundations, the aim and function of the relevant IT system, the date of existence, the quantity, etc.

Latvian standard LVS 369:2004 addresses the issue of general principles related to archival descriptions. The standard is based on the ISAD (G) standard of the International Council on Archives and Committee on Descriptive Standards (ICA/CDS) – General International Standard: Archival Description. This standard offer general guidance on the preparation of archival descriptions – explaining the context and context of archival material so as to promote its accessibility.

Another important standard aimed at securing the accessibility of archival material is the ISAAR (CPF) standard – the International Standard Archival Authority Record for Corporate Bodies, Persons and Families. The Latvian professional standard is based on this international standard, and it is very important for all public institutions of collective memory, because it delivers a common access point to search through the Latvian Library Information System, the National Comprehensive Catalogue of Museum Artefacts, and the Unified Latvian State Archives Information System. Guidelines are being elaborated at this time for the implementation of the two standards. These will provide a unified methodology to facilitate the implementation of the standards in all organisations, including archives and other institutions, as well.

An important tool in developing an archival information system is the EAD Document Type Definition (DTD). It is a standard for encoding archival finding aids with the help of the Extensible Markup Language (XML). The Society of American Archivists (SAA) and the Library of Congress are the maintenance agency for the EAD DTD, and the SAA's Committee on Archival Information Exchange and its EAD Working Group did much work to develop it.

Management

As I have already said, national archives ensure that state and local government archives provide for the storage and accessibility of electronic documents, as well as that they have the necessary authorisation to carry out consultative functions in relation to records management.

The reliability and authenticity of electronic records which belong to the Latvian National Archival Fund depend on common principles of record management and the quality of the records management system. For that reason, it is important to implement ISO/TR 15489: 2001(E) Information and documentation – Records management in Latvia.

Another significant prerequisite for the efficient management of E-records is the MoReq specification (Model Requirements for the management of electronic records), which describes a fairly wide range of functionality that is to be implemented. The MoReq specification is primarily intended to serve as a model and a practical tool which helps organisations to satisfy their business needs in the management of both computerised and paper-based records. This specification is a widely used *de facto* standard.

An important stage in ensuring long-term preservation of electronic records is their transfer to the national archives. The most popular standards in this regard are OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting) and METS (Metadata Encoding and Transmission Standards). The OAI-PMH standard supports an application-independent interoperability framework that is based on metadata harvesting. The METS standard focuses on encoding descriptive, administrative and structural metadata concerning objects within a digital repository, expressed with the XML language of the World Wide Web Consortium.

The ability to exchange electronic records with other users and IT systems is often an important consideration. Formats which are supported by a wide range of software or are platform-independent are, therefore, highly desirable in many situations.

Conclusion

Accessibility of information is a general human right, and our main task is to ensure the availability of archival information. The long-term

preservation of authentic electronic records is a very complicated task, and success in our work depends not only on our will to do the work, but also on the information resources and knowledge that are available to us. From this point of view, the exchange of information and best practice with colleagues from other countries and from related fields of activity is very helpful in the work that we do.

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E-DOKUMENTU SAGLABĀŠANAS UN APRITES STANDARTI ARHĪVOS

Dokumentārās informācijas saglabāšana un pieejamības nodrošināšana ir galvenais Latvijas valsts arhīvu sistēmas uzdevums. Modernās informācijas tehnoloģijas piedāvā jaunas iespējas šā uzdevuma īstenošanā. Mūsdienās radīto dokumentu glabāšanu nosaka nacionālā programma “Elektroniskās pārvaldes infrastruktūras bāzes attīstība un pilnveidošana”. Viena no Latvijas valsts arhīvu darba prioritātēm ir elektronisko dokumentu saglabāšanas nodrošināšana, tas rosina arhīvistus apgūt un ieviest praksē elektronisko dokumentu glabāšanas starptautiskos standartus.

Latvijas Valsts arhīvu ģenerāldirekcijas un valsts arhīvu sistēmas pieredze elektronisko dokumentu glabāšanā mērāma vien četros gados. To uzkrāšana maina arī dokumentu lietojumu, – tā iespējas ir daudz lielākas, aktīvākas un daudzveidīgākas.

Atslēgvārdi: informācijas sistēmas, elektroniskie dokumenti, arhīvu materiālu drošības standarts, Latvijas valsts arhīvi.