

* The State Archive in Krakow

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The appropriate protection of e-archives (the entirety of files in institutions where the circulation of correspondence is done in an electronic form) is becoming a more and more important issue. In Poland the National Digital Archive has just started to operate, despite the fact that work on the procedures of safe handling of electronic data is still being developed. Another, but equally important, issue is the problem of safety in access to digital copies of archival materials. More and more archival materials have digital copies which are offered for access in reading rooms in a digital form.

MAROSZ, Magdalena, La sicurezza dei dati informatici. Atlanti, Vol. 18, Trieste 2008, pp. 141-148.

Una protezione appropriata degli archivi informatici (i file nella loro interezza negli enti dove la circolazione della corrispondenza avviene in formato elettronico) sta divenendo un tema sempre più importante. In Polonia l'Archivio digitale nazionale ha appena iniziato la propria attività, nonostante il fatto che il lavoro sulle procedure di salvaguardia dei dati elettronici sia ancora in corso. Un altro, ma altrettanto importante, tema è il problema della sicurezza dell'accesso alle copie digitali di materiali archivistici. Sempre più materiali archivistici vengono copiati in formato digitale per essere accessibili nelle sale di lettura in formato digitale.

MAROSZ, Magdalena, Zaščita in varnost elektronskih podatkov. Atlanti, Zv. 18, Trst 2008, str. 141-148.

Primerna zaščita elektronski arhivov oz. podatkov postaja vse bolj pomembna, še posebno kot celota podatkov v neki instituciji, kjer so

National Digital Archive and Integrated Archive Information System (Polish acronym: ZoSIA)

On 8 March 2008 the Minister of Culture and National Heritage, acting at the request of the General Director of the State Archives redefined the role of the Archive of Mechanical (Audio-Visual) Documentation, which had been created in 1995, and created the National Digital Archive (NAC). The National Digital Archive is one of the three core state archives in Poland.

The basic tasks of the National Digital Archive are the:

- preservation of digital materials, including “electronic documents”
- preservation of photographs, sound recordings and films
- digitisation of traditional archival materials
- rendering for access digital information and archival materials, including online availability

At present, however, emphasis has been laid on the National Digital Archive in the implementation of the project “Integrated Archive Information System” (ZoSIA). This system is to provide a complex solution for all Polish archives. It will enable researchers to study archival collections located in archives nationally and also to make collections accessible on the Internet. In this way information about Polish archival collections will be accessible to everybody. The collection of the State Archives alone takes up over 253 running kilometres of archival materials, consisting of 34 million archival units. The management of such a vast amount of data necessitates the use of appropriate computer techniques, tools which will make it possible to introduce information about archival materials and render it accessible. ZoSIA will be the sole system for accessing archival information used by the state archives. The National Digital Archive also intends to make the system available for other archives, museums, libraries, social organisations and any other institutions that collect archival materials. This system is also supposed to facilitate the study of archival collection. Thanks to a widely accessible search engine, the system will enable those interested to have on-line access to the data.

The Integrated Archive Information System” (ZoSIA) is the first I.T. system created by the state administration in Poland which is entirely based on the so-called “open source web application”. The system is totally based on open standards (ISAD(G), EAD), and its use is completely independent of a possessed computing platform. The use of the system does not require any special knowledge of computer science, archival experience or the possession of any elaborate information technology infrastructure. The only requirement will be the possession of a computer with on-line access and one of the popular Internet web browsers Firefox or Internet Explorer. Other operational services will be supplied by NAC.

According to the schedule, work on the system ZoSIA version 1.0 is due to be completed in the second half of 2008. Until then, a prototype of the system will be tested by the state archives employees and implemented in successive state archives¹.

Basic assumptions underlying the idea for the creation of the Integrated system of archival information are:

1. replacement of databases already existing in the state archives by new mechanisms which would reduce the usage costs
2. centralisation of applications management in order to improve quality and increase quantity of data supplied to the user
3. simplification and modernisation of work on and management of the archival collection
4. increasing speed of access to data
5. implementation of effective mechanisms of data verification and control of access to it, in accordance with recommendations given by the Law on Protection of Personal Data
6. adjustment of the methods of archival description to the standards (ISAD(G), ISAAR and EAD, EAC)
7. adjustment to ISO standards for registration of information
8. creation of a new system of information and archive staff management, resulting in modernisation and higher standards of efficiency in archival work.
9. reduction of costs within individual archives and transmission of supervision over the functioning and development of IT systems to the National Digital Archive
10. creation of a safe system able to safeguard efficiently the restricted data (according to regulations given by the Law on Protection of Personal Data) and protect effectively archival materials (limiting information about the places of storage, especially of the most precious collections)².

Already at the early stages of the expansion of the Integrated archive Information System, numerous difficulties appeared, including safety issues concerning data included in the databases and its subsequent introduction into the system. Up until the present time, state archives have been using either the local versions of databases prepared by the Head Office of the State Archives (often with “improvements” introduced by individual users), or the databases elaborated solely for their own use, working mostly in the Access. Due to the use of bases in tabular format, it often happened that boxes were mixed up or data was introduced in a non-homogeneous way. During work on the system integration, it would turn out that the

elektronski podatki velik del njihovega dela. Na Poljskem je pravkar začel delovati nacionalni elektronski arhiv, čeprav še niso vsi procesi prehajanja na digitalizacijo popolni oz. končani. Zato je varnost digitalnih podatkov zelo pomembna, še bolj na področju uporabe, saj je vedno več digitalnih podatkov, ki jih lahko obiskovalci in uporabniki arhivov uporabljajo pri usakdanjem raziskovanju.

SUMMARY

The appropriate protection of e-archives (the entirety of files in institutions where the circulation of correspondence is done in an electronic form) is becoming a more and more important issue. In Poland the National Digital Archive has just started to operate, despite the fact that work on the procedures of safe handling of electronic data is still being developed. One of the most important task of the National Digital Archive is implementation of the project “Integrated Archive Information System” (ZoSIA). This system is to provide a complex solution for all Polish archives. It will enable researchers to study archival collections located in archives nationally and also to make collections accessible on the Internet. In this way information about Polish archival collections will be accessible to everybody. The Law concerning the National Archival Collection and Archives obliges the state archives to collect electronic documents which are pre-

1. <http://www.nac.gov.pl/cms/main.php?did=1> (situation from 30 June 2008).

2. The information about ZoSIA is based on the materials from the Department of Archival Science of The Head Office of State Archives, prepared by the Team “Computer Science and Archives” and the Team appointed by the General Director of the State Archives to work on, prepare and implement the Integrated Archive Information System in the state archives in Poland.

sently being created within the public administration. Today there is no doubt that the opportunity to preserve electronic documents in an orderly way enables a much faster search for information. Moreover, access to electronic information does not depend on the employee's office hours, but solely on the legal regulations of access to documents. Hence, more and more institutions implement micro-processor I.T. systems that facilitate the circulation of documents and enable automatic registration of successive places where the documents are halted, they also help to group documents into correct categories. Thanks to such systems, information is constantly available for those who need it.

methodological advice concerning the registration of various archival materials was not coherent, which caused problems with the appropriate transfer of data into the system.

The greatest challenges, however, connected directly with the safety of the data accumulated in the Integrated Archive Information System are - in my opinion - comprised of two issues. Firstly, the necessity to build a system which would be safe enough to fully protect the data subject to protection according to of the law binding in Poland. This creates the need to introduce two levels of accessibility: one for general users and another for archive employees. It seems that the creators of the system have dealt with this problem successfully: the use of the Python programming language for the level of application software and the database management system PostgreSQL enabled them to obtain the application software at a safety level equal to those used by banks. Secondly, data from individual archives will be transferred to the system with the use of the data transmission method, so it will be physically moved from the databases of individual archives to the system and accessible to external users and the state archive employees exclusively there. Access will be possible with the use of a web browser. Of course, the archives equipped with the appropriate, professional hardware will be able to retain copies of the data transferred to the integrated system on their own servers. However, the use of data and the insertion of new data into the system will take place centrally, with the use of the hardware installed at the National Digital Archive. Very high equipment standards were set in the process of creation of the Integrated Archive Information System in order to ensure safety of accumulated data. The system is to save the current state of the integrated database every dozen or so minutes, thus not only the data already within the system but also that actually being introduced will be secured in the best possible way.

ZoSIA will constitute the basis for the system of archival information, supplying information about archival materials kept in the archives on the level of archival collections and archival units. In the future, further modules (systems) will be attached to the system: the existing Archive of Electronic Documents (ADE); Archive Digitisation System (SeDAn); NADZÓR - databases kept within the framework of supervision over the expanding archival collection (register of institutions which create archival materials belonging to the national archival collection) and the planned one, namely the system of rendering for access to the audiovisual materials (Audiovis).

It should be stressed that during the system's development it has been often necessary to introduce pioneer solutions, which made the work even more difficult both for the programmers and archivists. According to my knowledge, there is just one system with possibilities comparable to ours and that is the Spanish system PARES, which has been developing for five years now.

Archive of Digitalised Documents and electronic circulation of documents within offices

The Law concerning the National Archival Collection and Archives obliges the state archives to collect electronic documents which are presently being created within the public administration³. The changes in the law were necessitated by the enactment of the legislation which came into force in 17 February 2005 on the I.T. recording of the activity of all subjects which realise public tasks⁴. The implementation of these regulations means in practice that state archives should be prepared to collect electronic documents. According to the present regulations, paper documentation transferred to the archives should be kept in good order. Consequently, the principles concerning the putting into order of electronic documents before their transfer to the state archives are also defined by the law. These are, first of all, the regulations following from Article 5 point. 2c of the Archival Law. However, in order to be able to collect and render the documents for access, at the same time protecting them from being lost or damaged, instead of storeroom shelves, the archives need the appropriate environment to make efficient and safe performance of the above duties possible.

Therefore, a prototype I.T. system was created for the management of electronic archival documents created by public administration. The aim of this system is to enable the process of safe transfer of properly ordered electronic documents to state archives, and their later safe rendering for access. Additionally, the system is to be a depository for temporary storage of existing electronic documents until the full tasks set before the National Digital Archive are completely realised⁵.

Presently, a large majority of the documentation created by public administration in Poland is written with the use of computers. It is only later that these documents are printed, signed and kept in paper form in a way which reflects the process of dealing with and settlement of issues in a given institution. This mode of operation follows from the present legal regulations⁶. In the case when the documentation of a public institution is accumulated in the traditional way, from the legal point of view there is no need to preserve an electronic version of the accumulated paper documents. This is why electronic documents are often saved in random places on individual computer discs and only the employees preparing given documents know where to find them.

Today there is no doubt that the opportunity to preserve electronic documents in an orderly way enables a much faster search for information. Moreover, access to electronic information does not depend on the employee's office hours, but solely on the legal regulations of access to documents. Hence, more and more institutions implement microprocessor I.T. systems that facilitate the circulation of documents and enable automatic registration of successive places where the documents are halted, they also help to group documents into correct categories. Thanks to such systems, information is constantly available for those who need it.

Following the implementation of changes in Archival Law, the

3. Act from 14 July 1983 on the national archival collection and archives (Journal of law (Dz. U.) 2006, no 171, point. 1396 with later changes).

4. Dz. U. 2005, No 64, point. 565 and Dz. U. 2006 No 12, point. 65 and No 73, point. 501.

5. cf.: <http://ade.ap.gov.pl/>.

6. Regulation by the Minister of Culture and National Heritage from 16 September 2002 concerning dealing with documentation, principles of its classification and evaluation and the principles and procedures of transfer of archival materials to state archives. (Dz. U. 2002, no 167, point. 1375); article 6 of the Law from 14 July 1983 on national archival collection and archives (unified text Dz. U. 2006, no 97, point. 672 i 673 with later changes).

principles of dealing with electronic documents which are to be transferred to the state archives have been defined and also rules on how to organise such electronic documents have been made⁷. In this way a legal bases have been created to enable the replacement of paper files with I.T. systems which fulfil appropriate requirements.

The above-mentioned prototype of an I.T system for the management of electronic archival documents created by the public administration can be found on the website of the Archive of Electronic Documents (*Archiwum Dokumentów Elektronicznych* - ADE)⁸.

Using this example, we can follow briefly the procedures connected with the transfer of archival documents created in electronic form to the appropriate state archive (the institution which deals with the transferred documents), but actually accumulated and kept in ADE (that is the institution responsible for safe preservation and access to the data).

In order to be able to transfer⁹ archival materials, we should first prepare an application form containing:

1. name and address of the subject transferring the archival materials
2. date of making the form
3. name of the state archive the form is directed to
4. date of preparation of the submission register of the transferred archival materials
5. name of the subject which created these archival materials
6. number of items in the submission register
7. anticipated amount of archival materials included in the submission register defined in megabites
8. signature of the person entitled to represent the subject transferring archival materials.

The initial application may be submitted to the archive both in the traditional form (on paper) or in the form of an electronic document signed with an electronic signature. On the basis of data from the initial application, the appropriate state archive prepares accounts for the submitting public institution which enables it to submit the submission register and then the archival material itself by the means of the Prototype. To make sure which persons representing a given public institution can have access to the Prototype (first name, surname, post, contact data), the archive will ask this institution to provide such data. The submission register of the transferred archival materials has to be attached to the application form. The Prototype makes it possible to send the submission register and receive an automatic verification of its technical correctness. Automatic verification of the correctness of the submission register with the transferred archival materials is also possible. In this way the procedure of sending archival materials in two stages (first the register, and only then the materials themselves) provides an additional safeguard against any possible attempts at interference into the content of the documentation. Having sent the register and after its acceptance we should send the archival materials corresponding to the accepted register. If there is no accordance between them, the archive will not be able to accept such data as reliable. Thus even if the prepared archival parcel is in accordance with the Regulation by the Minister of the Interior and

7. Article 5 par. 2a, 2b i 2c of the Law from 14 July 1983 on national archival collection and archives (unified text Dz. U. 2006, no 97, point. 672 i 673 with later changes).

8. <http://ade-bazawiedzy.nask.pl/>.

9. Regulation by the Minister of the Interior and Administration from 30 October 2006 on particular ways of dealing with electronic documents (Dz. U. 2006, no 206 point. 1518).

Administration from 2 November 2006, should the technical requirements for the rules of saving data materials transferred to state archives be correct¹⁰, but is not in agreement with the registersent previously, the Prototype will not accept the materials and reject them automatically, indicating the list of irregularities. Due to the requirements of accordance between the register and the “archival parcel” (important because of the reliability of the data) and relatively complex structure of such a parcel, the only possibility to deal with the proper arrangement of the materials is a simultaneous preparation of the register and the archival parcel corresponding to it. Tests which have been conducted confirm that such practice is applicable. It should be added that the preparation of archival materials for transfer should be done automatically, since it is only in this way that the coherence between the register and the corresponding archival parcel will be secured. It follows from the Regulation by the Ministry of the Interior and Administration concerning the particular procedure according to electronic documents¹¹, that the I.T. system of the submitter transferring the materials should assist in the activities connected with the preparation of the documents. In particular:

- it should single out automatically the documents destined for transfer
- automatically prepare the register in the form of an electronic document
- export the documents and their metadata
- mark the documents transferred to the state archive in a way which will make it possible to distinguish them from the documents which have not been transferred.

Having transferred the archival materials which have been accepted to the Archive, the transferring public institution does not have to fear loss of access to the documents. The persons appointed and authorised by the head of the transfer will be able to search any electronic documents (not only the ones in public domain) as well as to correct or add metadata in order to facilitate searching (which will not affect the content of the transferred source metadata)¹².

While developing an I.T. system for the management of archival electronic documents created by public administration, great stress is put on the safety of data: both their transfer, preservation and rendering for access. This is why the ADE was created, which has departed from the present binding rules of the transfer of paper documentation to state archives according to which each state archive takes over and preserves documents of the institutions from the area where it functions. Electronic documents will be saved in one place and the appropriate archives will only manage them according to the rule of territorial attachment. For safety reasons the system is being built and tested in cooperation between the Head Office of the State Archives and Scientific and Academic Computer Network (Polish acronym NASK)¹³. The Prototype has been in development since 2006 and is constantly being tested to eliminate any possible danger in the transmission and preservation of data. Additionally, the transferring institution may keep copies of all the transferred data, of course if it wishes to do so and has appropriate technical means.

Correct functioning of the system is becoming more and more necessary in connection with the introduction this year by legal regu-

10. Dz. U. 2006, no 206, point 1519.

11. Dz. U. 2006, no 206, point. 1519.

12. <http://ade.ap.gov.pl/>.

13. http://www.nask.pl/nask_en/.

lations of the possibility to use an I.T. system in document management in all public offices in Poland. We should take into account the fact that the electronic circulation of documents in offices will gradually replace the circulation of paper documents. However, the present binding regulations¹⁴ bring about the danger of keeping a double documentation of the cases dealt with by offices: one in the files, another one in the I.T. system. Such a legal situation has made some offices (the more advanced ones in the implementation of I.T. system) apply to the minister responsible for the development of I.T. with a request to initiate changes in the legal regulations, some of presently binding regulations actually hinder the development of I.T. in the public administration.

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REGULATION by the Minister of the Interior and Administration

14. cf.: the legal acts quoted in bibliography and referring to the way of creating, preservation and transfer of archival materials to state archives.

from 2 November 2006 concerning the technical requirements for the format of saving and I.T. data bearers on which archival materials transferred to state archives were recorded (Journal of Law - Dz. U. 2006, no 206 point 1519)

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