The DOMEA Concept

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<u>Development and Composition</u>

The acronym "DOMEA" stands for "Document Management and Electronic Archiving in Electronic Business" (Dokumentenmanagement und elektronische Archivierung im IT-gestützten Geschäftsgang). The DOMEA concept, also known as the "Paperless Office Concept", is the most important guideline for the implementation of electronic records in Germany.

This is the second appearance of DOMEA on the agenda of the DLM-Forum. In 1999, Michael Wettengel from the Federal Archives gave a lecture on the results of a pilot project of the Co-ordination and Advising Agency of the Federal Government for Information Technology in the Federal Administration (Koordinierungs- und Beratungsstelle der Bundesregierung für Informationstechnik in der Bundesverwaltung, KBSt).[1] In the wake of the move of the German Bundestag and some of the federal ministries to Berlin, the step-by-step transformation from a paper-based to an electronic document exchange between Berlin and the offices remaining in Bonn became a big challenge. Thus, the aim of this project was to provide a government-wide, one-for-all solution for the implementation of an IT-system that supports records management, creation of electronic records and cooperative business processes over long distances.

As a result of the project, an organisational concept was set up that defines detailed standards for the course of business in an electronic environment.[2] The "Recommendation for the Disposal and Archiving of Electronic Records in Federal Agencies" establishes a very detailed procedure for the disposal and archiving of electronic records. Moreover, a catalogue with 440 criteria was established that defines the functional requirements of an electronic

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[1] Michael Wettengel and Andreas Engel, Disposition and Archiving of Electronic Records: Concepts for the Information Network Berlin/Bonn, available at http://europa.eu.int/ISPO/dlm/fulltext/full_wett_en.htm.

[2] See Andreas Engel and Michael Wettengel, From project to practice, the DOMEA-project in Germany, in: ARMA July/August 2003, Vol. 37, No. 4, p. 49-56.

records management system. The DOMEA concept, however, should not be confused with the DOMEA software, which is today a registered trademark of Open Text.

Although the DOMEA concept has become a quasi-standard for electronic records management in German authorities since 1999, organisational and technological changes necessitated continual updating. First of all, DOMEA had to be adapted to the new "Joint Rules of Procedure for the Federal Ministries"[3] and to the new regulations of the "Filing Guideline for the Processing and Administration of Documents in Federal Ministries"[4]. Both were passed in the context of the"Modern State – Modern Administration" program in 2000 and 2001. They take into account classic processing with paper-based as well as with electronic records; the priority, however, is given to electronic transactions.

Furthermore, electronic records management plays a vital role in the federal government's e-government initiative "BundOnline 2005". In 2003, the federal, state and local governments presented a joint strategy titled "Deutschland online" with which they agreed to create an integrated e-government landscape in Germany. Since the services for citizens and business can only be improved if the cooperation in and between authorities is enhanced as well, electronic records management is a basic component in the framework of these e-government initiatives.

Finally, the new DOMEA concept tries to meet the requirements of the Länder and of local authorities. One example is the focus on the differences between unstructured transactions (which appear mainly in authorities with strategic tasks) and structured transactions (authorities with law-applying tasks).

In 2003, the Co-ordination and Advising Agency (KBSt) published a first draft of the revised concept on its website, where it could be discussed and commented by the interested public.[5] The final version was published in January 2005.

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[3] Bundesministerium des Innern, Gemeinsame Geschäftsordnung der Bundesministerien, Berlin 2000, available in English at: http://www.staat-modern.de/Anlage/original_549908/Joint-Rules-of-Procedure-of-the-Federal-Ministries.pdf

[4] Bundesministerium des Innern, Richtlinie für das Bearbeiten und Verwalten von Schriftgut (Akten und Dokumenten) in Bundesministerien (RegR), Berlin 2001, available at: http://www.staat-modern.de/Anlage/original_549123/Moderner-Staat-Moderne-Verwaltung.pdf.

[5] See Andrea Hänger, Electronic Records Management Metadata: The DOMEA-Concept in Germany, in: Frank M. Bischoff, Hans Hofman, Seamus Ross (Ed.), Metadata in Preservation. Selected Papers from an ERPANET Seminar at the Archives School Marburg, 3-5 September 2003 (Veröffentlichungen der Archivschule Marburg, 40), Marburg 2004, p. 169-184.

The concept consists of three parts: the organisational concept with its annexes and enhancement modules, the requirement catalogue and the certification procedure.
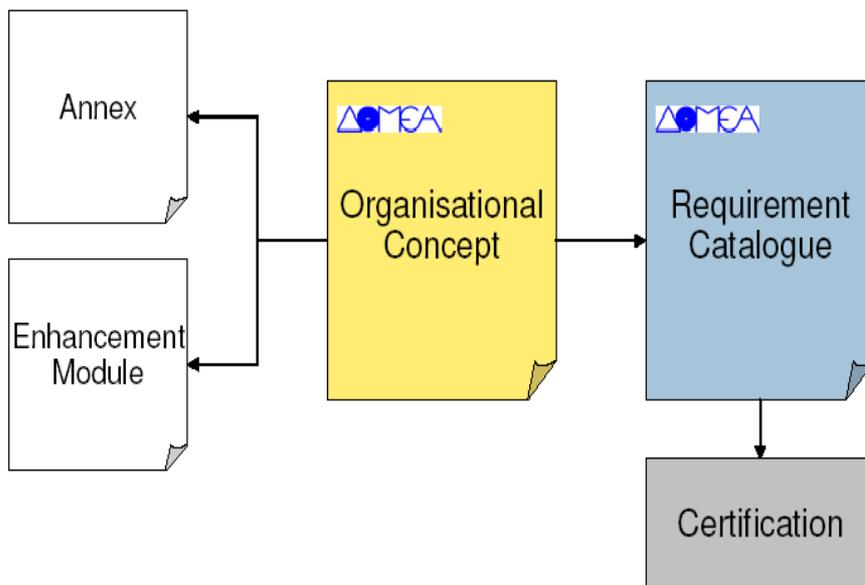

Fig. 1: The DOMEA® concept with modular structure. Source: Koordinierungs- und Beratungsstelle der Bundesregierung für Informationstechnik in der Bundesverwaltung (KBSt). DOMEA® Concept. Organisational Concept 2.0. Document Management and Electronic Archiving in Electronic Courses of Business (Schriftenreihe der KBSt, 74), Berlin 2005, p. 18.

The Organisational Concept[6]

The main objective of the DOMEA concept is to introduce electronic records management and thus the electronic file. Based on the fact that the introduction of a records management system is primarily an organisational project, the organisational concept constitutes the key document of the DOMEA concept. With its "basic principles of administrative action", it defines the legal and organisational settings for the implementation of an electronic recordkeeping system.

Additionally, it deals with the course of business and the problems resulting from the simultaneous existence of both electronic documents and paper documents and presents organisational and technological solutions. The focus on the course of business marks the

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[6] Koordinierungs- und Beratungsstelle der Bundesregierung für Informationstechnik in der Bundesverwaltung (KBSt). DOMEA® Concept. Organisational Concept 2.0. Document Management and Electronic Archiving in Electronic Courses of Business (Schriftenreihe der KBSt, 74), Berlin 2005, available at: http://www.kbst.bund.de/doc,-307933/DOMEA-organisational-concept-a.htm.

major difference to the DOMEA concept of 1999 and to the "Model Requirements for the Management of Electronic Records" (MoReq). The standard course of business in DOMEA is described as follows:

(a) Entry
(b) Processing
(c) Outgoing mail
(d) Document administration and archiving.

For all steps of processing, the current status, a problem description, the proposed organisational solution, and the resulting technical approach are illustrated.

Despite being the subject of a separate enhancement module, the organisational concept also deals with the disposal and archiving of electronic records. It distinguishes the term "archive", as used by archivists, from the technical archive definition and characterises the process of disposition and disposal as an integral part of an electronic file's lifecycle. The use of standardised datasets in the disposal process is briefly described, as well as variating possibilities.

Besides the course of business, the organisational concept also describes updated implementation scenarios. In addition to the standard step-by-step scenario, DOMEA 2.0 provides and assesses two further alternatives: organisation-oriented implementation and process-oriented implementation. A comprehensive glossary and annex with the main findings of the first DOMEA concept complete the organisational concept. The fact that it is the first module which has been translated into English reveals its central position within the DOMEA concept.

The Enhancement Modules

The enhancement modules deal with both organisational design and technical issues whose description would go beyond the desired scope of the organisational concept. On the website of the Co-ordination and Advising Agency (KBSt) the following modules are available[7]:

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[7] See www.kbst.bund.de

- Virtual mail room and records management systems

- Operational application integration

- Scan processes

- Inner/ inter-authority communication

- Disposal and archiving of electronic records

- Technical aspects of archiving [i.e. storing, A.W.]

In addition, modules for the integration of content management systems, form servers, and payment platforms are announced. A project guideline and an enhancement module on data protection are currently being prepared.

From the perspective of the archivist, the module on disposal and archiving of electronic records is the most important one. This module is based on the principles of the recommendations that had been defined in 1998. In 2004 it was revised by a group of archivists under the direction of the Federal Archives in cooperation with the Co-ordination and Advising Agency of the Federal Government.[8] It proposes a process of disposal that aims at the following:

1. Ensure permanent storage of electronic files without information loss.
2. The archived electronic files and related transaction information should document administrative action completely and accurately.
3. Rules and recommendations for the entire lifecycle of electronic documents are intended to ensure that electronic files can be permanently archived and made available also outside the authority's system environment where they originate.
4. An electronic process should support and expedite the appraisal of the files.
5. Due to the sometimes very long storage time at the file-managing authority or in the records center, the long-term readability of the saved data must be considered at an early stage. Thus, new requirements for the type of data storage and data formats used for non-current records must be set.

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[8] Koordinierungs- und Beratungsstelle der Bundesregierung für Informationstechnik in der Bundesverwaltung (KBSt). DOMEA®-Kozept. Organisations-Konzept 2.0. Erweiterungsmodul zum Organisationskonzept 2.0. Aussonderung und Archivierung elektronischer Akten, (Schriftenreihe der KBSt, 66) Berlin 2004. Available at: http://www.kbst.bund.de/Anlage306105/Erweiterungsmodul-Aussonderung-und-Archivierung-elektronischer-Akten-pdf-737-kB.pdf.

In order to put these principles into practice successfully, the disposal of electronic records needs to be regarded as an integral part of the lifecycle. From the creation of a record up to the transfer to the responsible archive the requirements of disposal have to be taken into consideration, with metadata playing a decisive role.
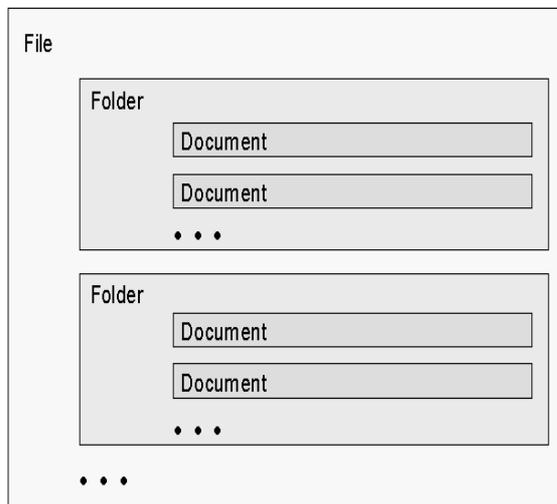

Fig. 2: The three-level object hierarchy for documents, folders and files in DOMEA. Source: Koordinierungs- und Beratungsstelle der Bundesregierung für Informationstechnik in der Bundesverwaltung (KBSt). Konzept zur Aussonderung elektronischer Akten. Teil 2: Erfahrungen zum Aufbau und zur Ablage elektronischer Akten im DOMEA®-Projekt, Bonn 1998 (Schriftenreihe der KBSt, 40), p. 54.

The DOMEA concept sets up a three-level object hierarchy for documents, folders and files. Documents are the basic unit for storing primary information. Documents produced in the same business process (i.e. activity) are encapsulated in electronic folders. These folders stem from particular transactions or operations that are, from a functional point of view, elementary units of action. The electronic folders are supposed to contain all relevant contextual information on business activities and transactions.

The documents and folders are subelements of files. Each file has its own title and is related to a position in a filing plan. Since electronic files tend to never become "complete", electronic folders that are no longer needed for current business are selected, joined together in files and offered to the responsible archive for appraisal.
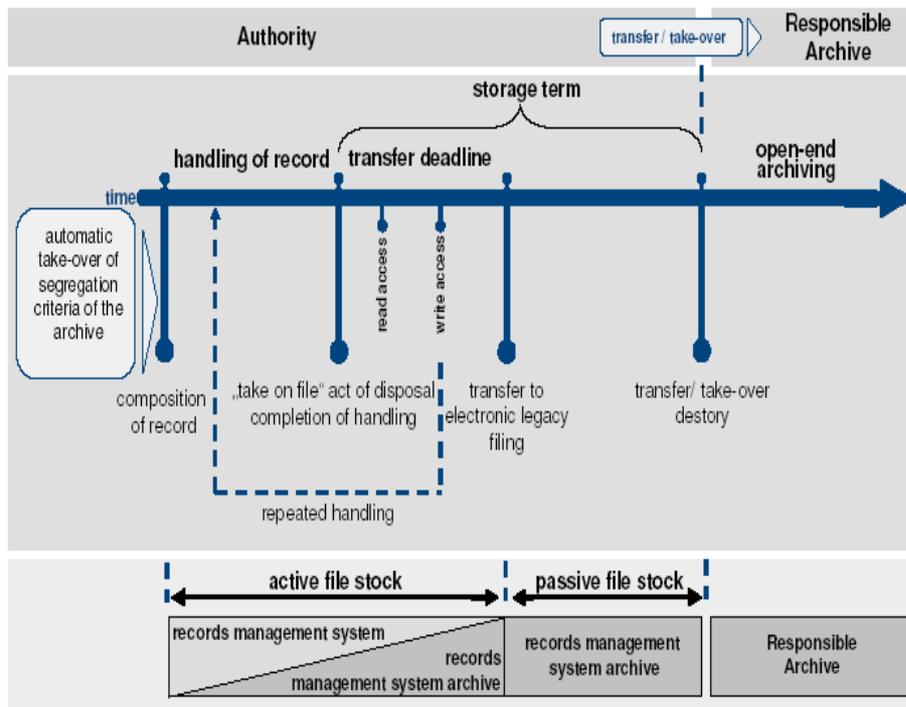
Fig. 3: Lifecycle of electronic files. Source: Koordinierungs- und Beratungsstelle der Bundesregierung für Informationstechnik in der Bundesverwaltung (KBSt). DOMEA® Concept. Organisational Concept 2.0. Document Management and Electronic Archiving in Electronic Courses of Business (Schriftenreihe der KBSt, 74), Berlin 2005, p. 78.

An orderly and automatic disposal process requires that the metadata be set on every level of this object hierarchy and in every phase of the lifecycle. The most important metadata are the so-called "retention period", the "transfer period" and the "disposal type". They have to be set as soon as a document, folder or file is created.

The retention period describes the time the records need to be kept by the authority – at first in the registry and later on in the storage for noncurrent records. This period is usually defined by laws or other administrative regulations. Since retention periods can be rather long during this period, the authority has to make sure that the conversion into an archival format takes place as soon as the file is closed.

The transfer period defines the time the files remain within the electronic registry, that is within the "living" records group of the records management system. The given "transfer period" automatically regulates the conversion into an archival format and the renewal of electronic signatures. Moreover, it ensures that the closed files are transferred to revision-proof storage media.

The disposal type is defined by the responsible archive and based upon an archival appraisal decision. Prior to disposal, the responsible archive decides on the archival value of the records

and notes the results in a disposal schedule. In order to review and continuously update the disposal schedule, the archive needs to have limited access to the records management system of the agency. At the file level, the records are tagged either as "of archival value", "to be destroyed" or – if the appraisal has not been carried out in advance – "to be appraised". The information is to be inherited downwards to all folders and documents created within the particular file.
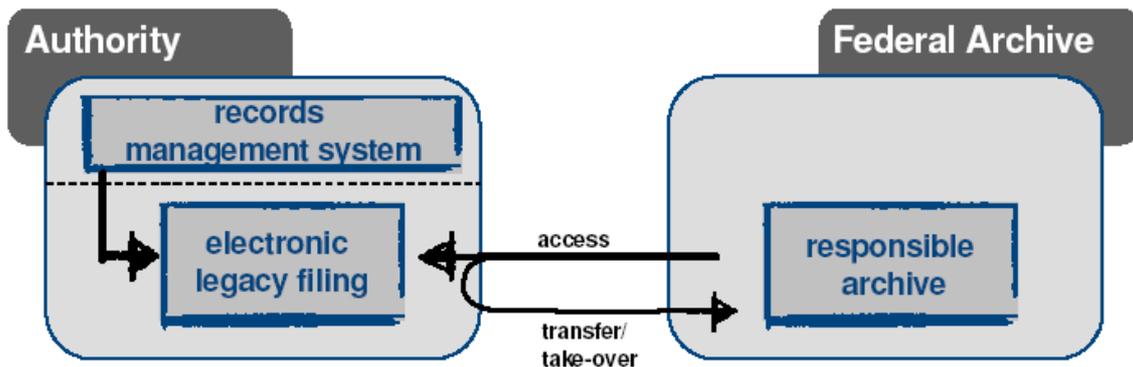

Fig. 4: The disposal procedure. Source: Koordinierungs- und Beratungsstelle der Bundesregierung für Informationstechnik in der Bundesverwaltung (KBSt). DOMEA® Concept. Organisational Concept 2.0. Document Management and Electronic Archiving in Electronic Courses of Business (Schriftenreihe der KBSt, 74), Berlin 2005, p. 77.

On the basis of these metadata, the process of disposal can be carried out for the most part automatically. The DOMEA concept recommends a two-stage disposal procedure. After the archive has delivered the disposal schedule, the authority automatically selects those files whose retention periods have expired. Only the files of archival value and those yet pending appraisal are transferred to the archive.

The DOMEA concept not only recommends a procedure for the disposal and archiving of electronic records, but also defines a set of metadata necessary for the creation and thus for the archiving of complete, authentic and reliable records. The metadata set is based on XDOMEA[9], a standard for the exchange of data within and between the authorities. Based on XML, it was established by the Joint IT-Cooperation Committee of Federal, State, and Local authorities (Kooperationsausschuß ADV Bund/Länder/Kommunaler Bereich) in order to guarantee the interoperability of record management systems. It is also compatible with XJustiz (XJustice), an XML-exchange format for case files created by courts and the state

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[9] See Andrea Hänger (see Fn. 5), p. 180 ff.

prosecution authorities. The metadata set of the DOMEA disposal concept published in January 2005, deviates from XDOMEA by defining metadata for the offering and the transfer of the files, as well as for the exchange of documents, folders, files and the filing plan.

Since the aforementioned demands are part of the requirement catalogue and the certification procedure, DOMEA-certificated records management systems are supposed to comply with archival requirements.

<u>The Requirement Catalogue and the Certification Procedure</u>

The fact that the DOMEA concept has become a quasi-standard for records management systems in Germany is very much due to the certification procedure derived from the DOMEA requirement catalogue. For authorities and software producers, the requirement catalogue translates the requirements defined in the organisational concept and its enhancement modules into technical specifications.

Moreover, it considers specifications defined in other national and international sources such as
  o SAGA (Standards and Architectures in e-Government Applications) that describe the recommended technical conditions for the development, communication, and interaction of the federal authorities' IT systems,[10]
  o the E-Government Manual that serves as a reference book and central information market on the e-government topic in Germany[11] or
  o MoReq, the Model Requirements for the Management of Electronic Records of the DLM-Forum[12].

Software producers can prove the DOMEA conformity of their products by completing the certification procedure. This certification procedure is conducted by certification centres, authorised by the Co-ordination and Advising Agency of the Federal Government (KBSt) and based on the requirement catalogue[13]. The requirements are structured into eight main groups.

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[10] http://www.kbst.bund.de/SAGA-,182.304386/KBSt-offers-SAGA-2.0-in-Englis.htm?global.home=1

[11] http://www.bsi.bund.de/fachthem/egov/6.htm

[12] http://www.cornwell.co.uk/moreq

[13] http://kbst.bund.de/Anlage307932/DOMEA_Requierement_Catalogue_2_0.pdf

	Weighting
Main group 1 Receipt	125
Main group 2 Processing	250
Main group 3 Outgoing mail	25
Main group 4 Segregation and archiving of electronic files	110
Main group 5 Software ergonomics	105
Main group 6 Functional administration	195
Main group 7 Technical administration	75
Main group 8 Infrastructure	115

Fig. 5: Main groups of the Requirement Catalogue. Source: Koordinierungs- und Beratungsstelle der Bundesregierung für Informationstechnik in der Bundesverwaltung (KBSt). DOMEA® Concept. Requirement Catalogue 2.0 (Schriftenreihe der KBSt, 75), Berlin 2005, p. 6.

In order to get the DOMEA certificate, a record keeping system needs to meet at least 65% of the requirements defined in every main group. From the archivist's point of view, it is of vital importance that the disposal and archiving of electronic records is weighed with at least 110 of 1000 possible points. This guarantees that record keeping systems cover the basic requirements of this process. The certification procedure doesn't replace the bidding and tendering procedure, but rather allows the authorities to compare the different records management systems and to upgrade the requirement catalogue with their special needs.[14]

Prospects

The DOMEA concept – and particularly the enhancement module on disposal and archiving of electronic records – means a milestone on the way to sustainable electronic records. However, the task of updating the DOMEA disposal concept set to a work group of archivists in 2004 is not yet completed.

First of all, the relationships between the metadata listed in the metadata set need to be defined in an entity-relationship model (ERM) in order to establish the hierarchy of the

objects described in the concept. Secondly, on the basis of this model, the metadata set has to be translated into an XML-schema that can be implemented into electronic records management systems by software producers. The XML-schema will be provided and updated by the OSCI[15]-Co-Ordination Office[16], which, among other things, co-ordinates the development of formats for the exchange of data in the e-government environment. Finally, the work group must define in addition to the metadata set the necessary information concerning the course of business and audit trails: particularly those not required for the interchange of records between the authorities but nonetheless indispensable for the archiving of complete, authentic and reliable records.

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[14] http://www.kbst.bund.de/DOMEA-Konzept/-,417/Zertifizierungsverfahren.htm

[15] Online Services Computer Interface.

[16] See www.osci.de.