Protection of the National Cultural Heritage in Austria

Mag. Alexander Leiningen-Westerburg

Siemens IT Solutions and Services

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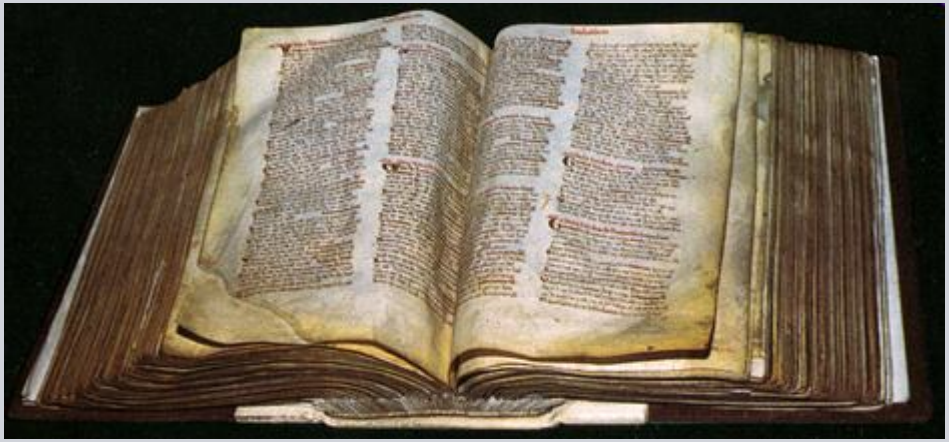
The Domesday Book



© National Archives

Domesday Book

A survey of England completed 1086

… and still readable

The Domesday book project 1986

Modern digitalised version to celebrate the 900th anniversary

- Laserdiscs (LaserVision Read Only Memory)
- To be viewed only on BBC Master microcomputer
- Software written in BCPL

In 2002 only two devices were left to read the discs

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Current trends and challenges

High level of digitalization

- To reduce costs authorities will implement digital records, workflow- and document management systems
- In some countries the electronic record is already the original one, print-outs are only copies
- The EU encourages their member states to preserve their digital heritage, which means to save their national top level domains regularly (domain harvesting)

Archives have to prepare for the digital world

- Archives must archive administrational records by law
  - Austrian laws require the archiving of the original files. Since 2004 the electronic file is the original!
- Preserving information in digital forms is much more difficult than preserving information in forms such as parchment, paper or audio files
- Public administrations must not only archive the electronic file but also the proceedings which generated the respective electronic record.

Preservation is the main challenge

- Archives have to preserve data over centuries
- Preservation must combine policies, strategies and actions to ensure access to reformatted and digital born content regardless of the challenges of media failure and technological change.
- Documents must be protected from unauthorized access and change, technical loss and criminal attacks
- Hardware change and migration is another crucial issue

Public Archives have to archive digital data forever, to keep it readable, and accessible

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National digital heritage

- According to the UNESCO the digital heritage consists of unique resources of human knowledge and expression. It embraces the following resources:
  - Cultural
  - Educational
  - Scientific

  } Web harvesting → National Library

  - Administrative → Austrian State Archive
- Digital materials include texts, databases, still and moving images, audio, graphics, software and web pages, among a wide and growing range of formats.

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The Austrian State Archive

- Central archives for the federal services of the Republic of Austria (supreme bodies and ministries)
- Collection of acts and charters of the Babenbergs and Habsburgs dating back to 816
- Keepers of the archival heritage of the
  - Habsburg Empire (1526–1918)
  - Holy Roman Empire of the German Nation (until 1806)
- 177,700 linear metres of shelves
- Library with 800,000 volumes
- They have to archive administrational records by law
  - In Austria since 2004 the electronic file is the original record
    - 8500 Users produce about 1 Mio files per year

Paper Archive - Dossier

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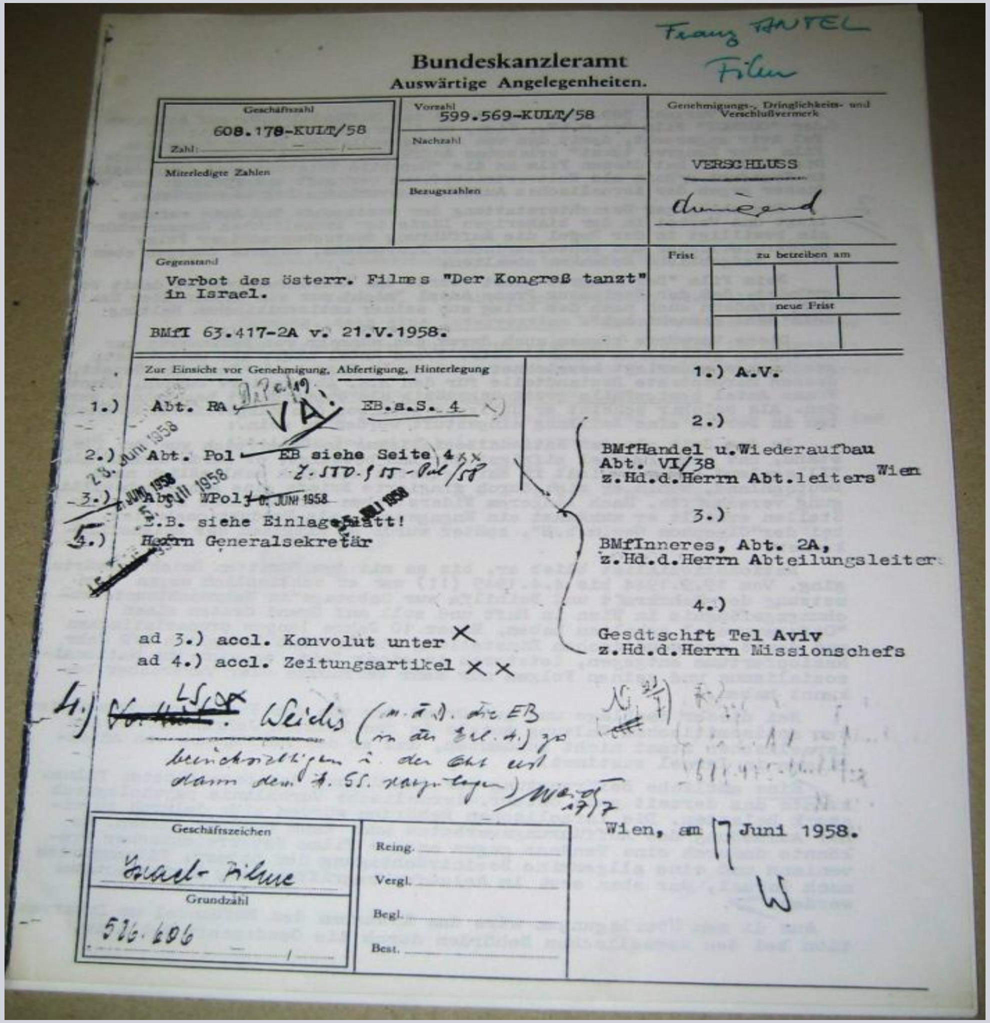
Franz ANTEL
Film

Bundeskanzleramt
Auswärtige Angelegenheiten.

Geschäftszahl	Vorzahl	Genehmigungs-, Dringlichkeits- und Verschlußvermerk
608.178-KULT/58	599.569-KULT/58	VERSCHLUSS
Miterledigte Zahlen	Nachzahl / Bezugszahlen	dringend

Gegenstand: Verbot des österr. Filmes "Der Kongreß tanzt" in Israel.

BMfI 63.417-2A v. 21.V.1958.

Zur Einsicht vor Genehmigung, Abfertigung, Hinterlegung

1.) Abt. PA VA EB.s.S. 4
2.) Abt. Pol EB siehe Seite 4 xx
3.) Abt. WPol 2. JUNI 1958
E.B. siehe Einlageblatt!
4.) Herrn Generalsekretär

ad 3.) accl. Konvolut unter X
ad 4.) accl. Zeitungsartikel XX

1.) A.V.

2.)
BMfHandel u.Wiederaufbau
Abt. VI/38
z.Hd.d.Herrn Abt.leiters Wien

3.)
BMfInneres, Abt. 2A,
z.Hd.d.Herrn Abteilungsleiter

4.)
Gesdtschft Tel Aviv
z.Hd.d.Herrn Missionschefs

Wien, am 17 Juni 1958.

Geschäftszeichen: Israel- Filme
Grundzahl: 516.696

Reing. / Vergl. / Begl. / Best.

Digital Archive –
ELAK (Austrian document and workflow management system)

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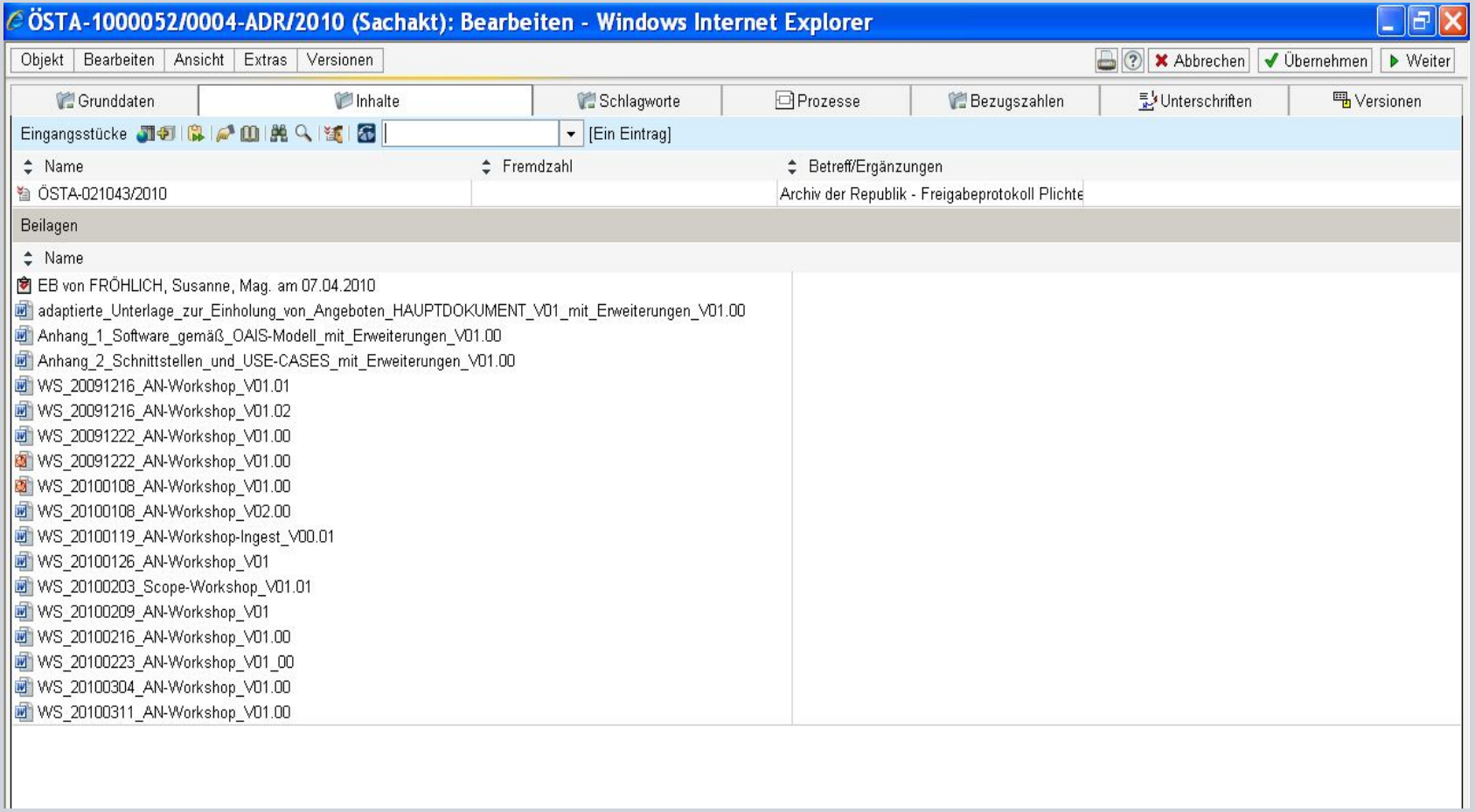

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Long term archiving in the Austrian State Archives

- Digital Memory of the Republic
  - The Austrian State Archive has rewarded Siemens on 10th of December 2009 with the design, built and maintenance of the digital Long Term Archive of the Republic of Austria
- Archive livetime
  - It shall last till the end of times or the end of the Republic
- Software
  - The software solution according to the OAIS reference model will be delivered mainly by Tessella plc (UK)
  - Siemens will deliver the national extensions and the webshop
- General license for the whole public sector
- Hardware
  - EMC Centera + renewal after 60 months
- Maintenance and Support
  - 8 years + automatic renewal

Targets

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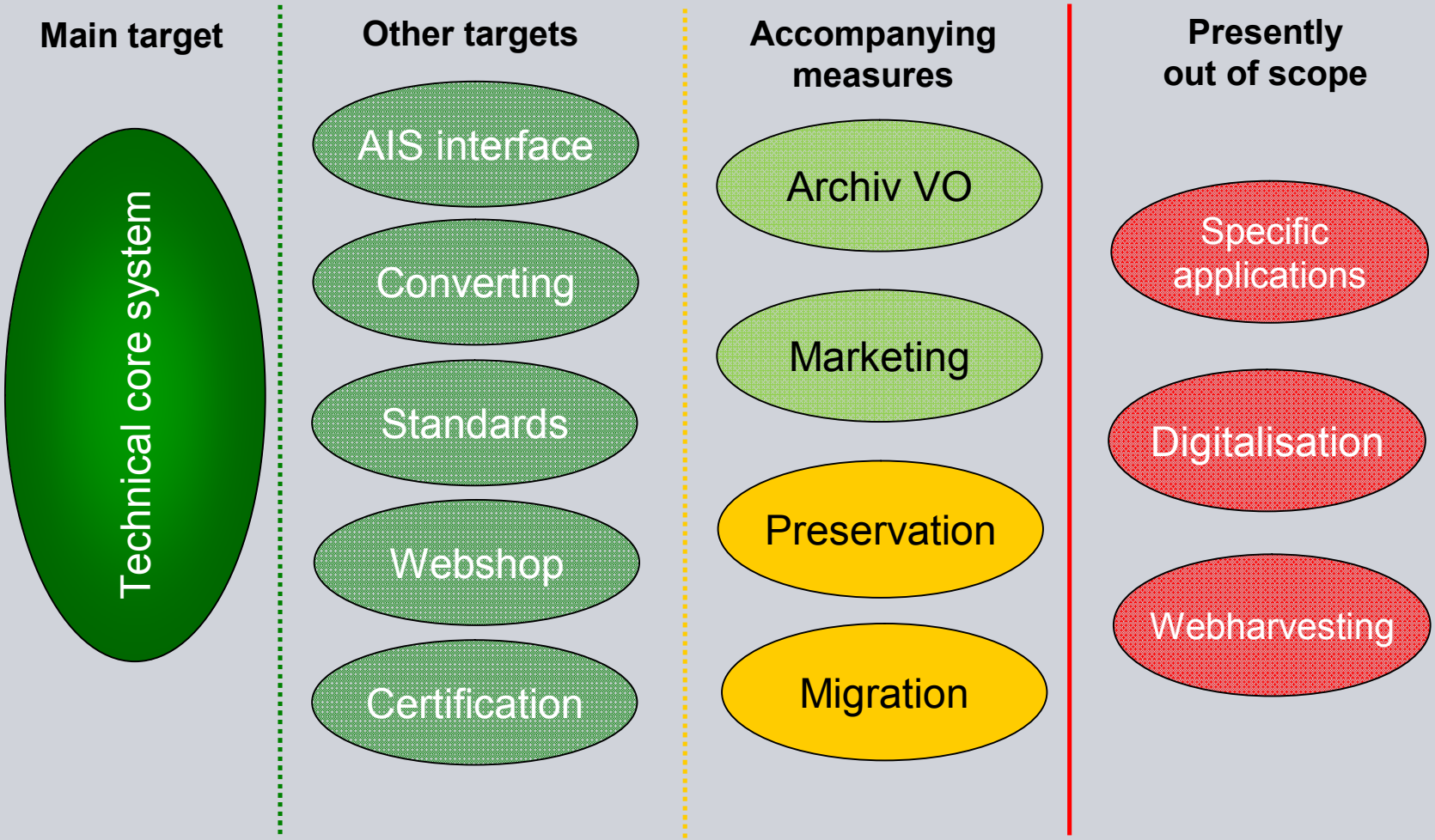

Tender Requirements

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- **OAIS**
- EDIAKT II - Schema
- PDF/A (-1b)
- International standards
- Technical design
- Multi tenancy

Open Archival Information System
OAIS reference model (ISO 14721)

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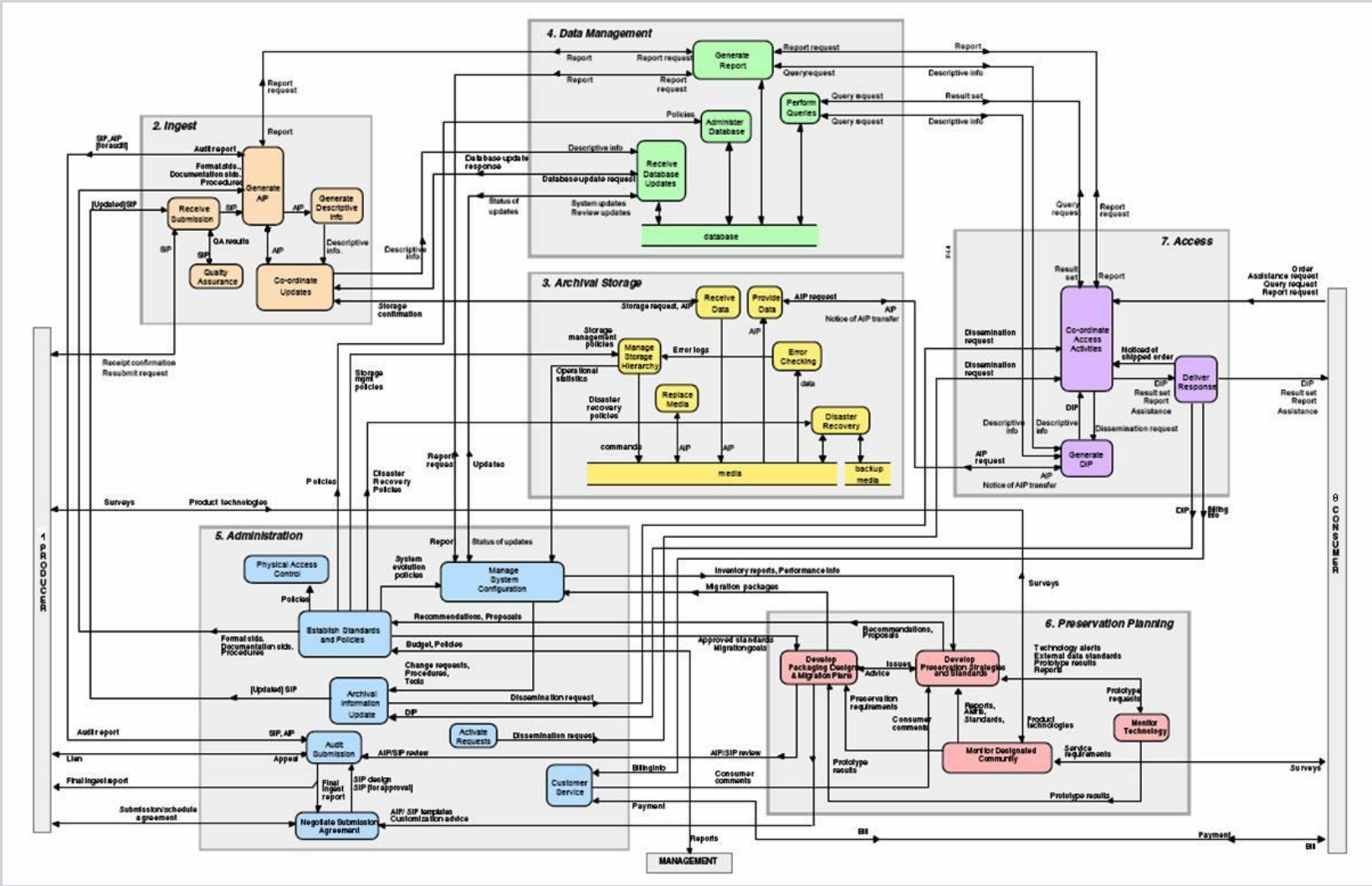

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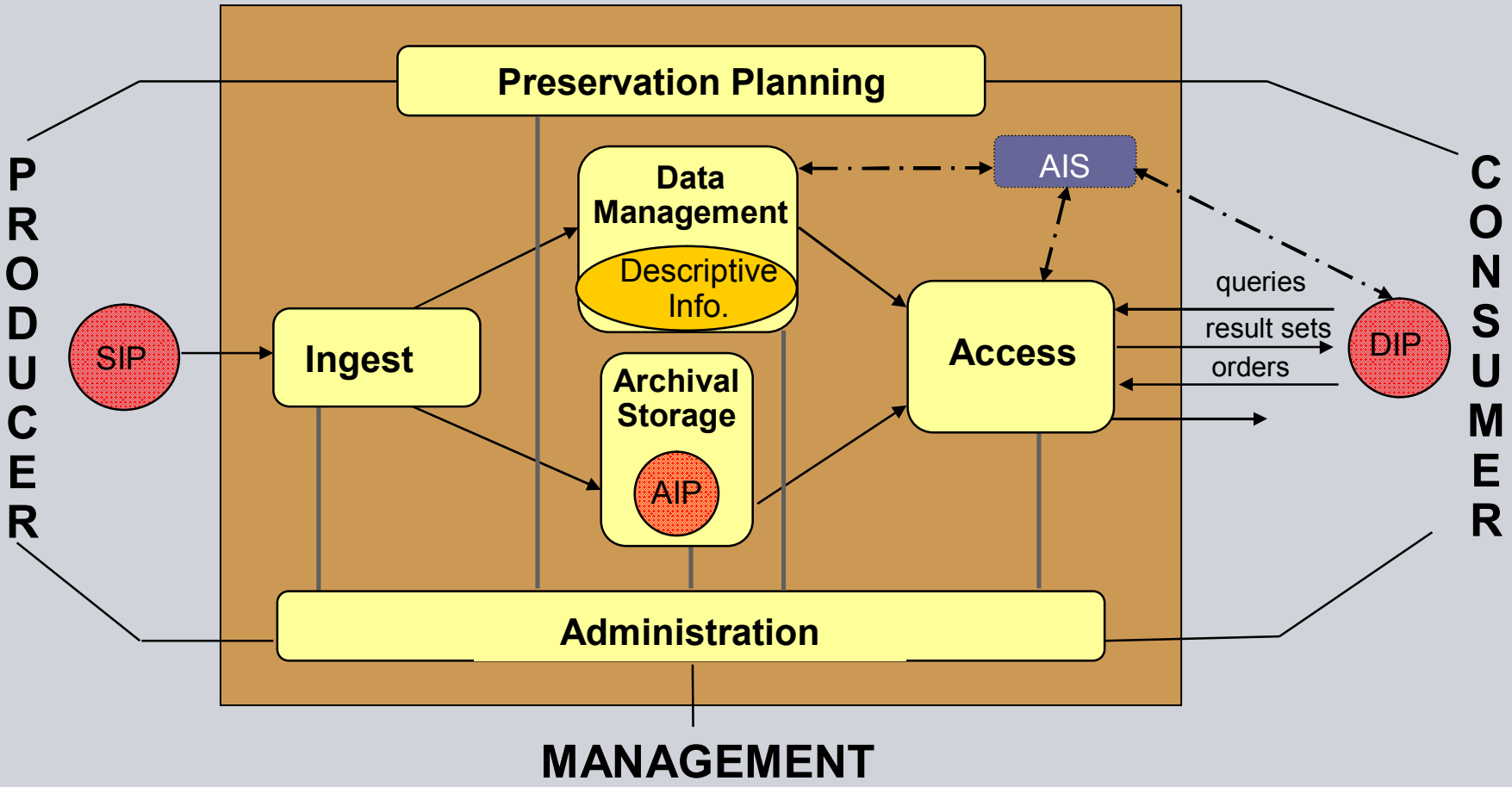
Open Archival Information System (OAIS)



SIP = Submission Information Package AIP = Archival Information Package DIP = Dissemination Information Package

Safety Deposit Box (SDB)

- OAIS compliant archival software
- SOA Architecture – modular architecture allows cost efficient change of single modules
- Ready to go: The standard workflows allow you to use SDB as an archiving solution right out of the box
- Flexibility: The flexible workflows and open API allow you to create a solution to fully match your needs
- State of the art: The technology and processes on which SDB is based are right at the core of the international intellectual development of Digital Preservation best practice.
- Solution sharing: Each SDB user is able to share their workflows and especially their Digital Preservation steps with other SDB users.
- Annual SDB user group meeting – we listen to your needs and expectations
- Designed using experience: SDB is based on many years of delivering Digital Archiving solutions and adopts the lessons learnt from producing real systems to different customers.
- World Leading Active Preservation: SDB contains the most advanced approach to Digital Preservation available.
- Flexible Storage: SDB can be used with any storage system available

EDIAKT II

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- EDIAKT = Electronic Data Interchange Format
  http://reference.e-government.gv.at/uploads/media/ediakt-II-1-1-0-2005-1214.pdf
- XML-Schema for the interchange of electronic files (out of an ELAK system) all across Austria
- EDIAKT-Creator und -Viewer
- EDIAKT-Interface in the Ingest
- EDIAKT = Dissemination information package (DIP)

PDF/A

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- ISO-Standard ISO/CD 19005-1
- Currently PDF/A-1b (2au)
- Conversion is part of the project
- In the process of assemblying an EDIAKT-package the content will be converted into PDF/A

Other international Standards

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- PDF/A - ISO-Standard ISO/CD 19005-1
  - Text should be migrated to PDF/A for long term storage
- PREMIS (**Pre**servation **M**etadata: **I**mplementation **S**trategies)
  - Recommendations, propositions and best-practices for the implementation of metadata
- METS (**M**etadata **E**ncoding and **T**ransmission **S**tandard)
  - Standard for encoding descriptive, administrative, and structural metadata regarding objects within a digital library, expressed using XML
- PLANETS (**P**reservation and **L**ong-term **A**ccess through **net**worked **S**ervices)
  - An EU project, whose primary goal is to build practical services and tools to help ensure long-term access to our digital cultural and scientific assets.
- MoReq2 (**M**odel **Req**uirements for the Management of Electronic Records)
  - consists of a formal requirements specification for a generic electronic records management system, accompanied by testing documentation and related information. MoReq2 is generally considered a de facto standard, in Europe, but it does not have any formal status as a standard.
- EAD (**E**ncoded **A**rchival **D**escription)
  - XML standard for encoding archival finding aids, maintained by the Library of Congress in partnership with the Society of American Archivists.

Operation set-up

2 Locations:

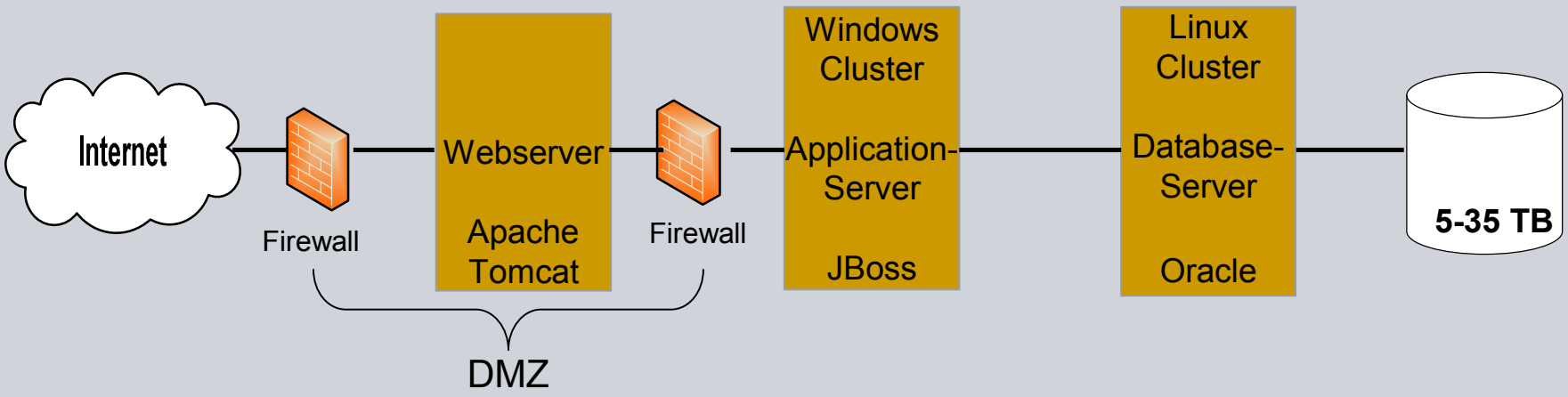
- Siemens AG Vienna
- St. Johann im Pongau

System software:

- Linux (Red Hat Enterprise Linux) and Microsoft Server 2008

Hardware:

- Intel X86 compliant single- and multi-processor engines
- EMC -Centera



Security

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- Data privacy concept
- Data security concept
- Security analysis
- IT-Security concept
- Operation concept

Any loss or tampering of information within the digital archive MUST be prevented.

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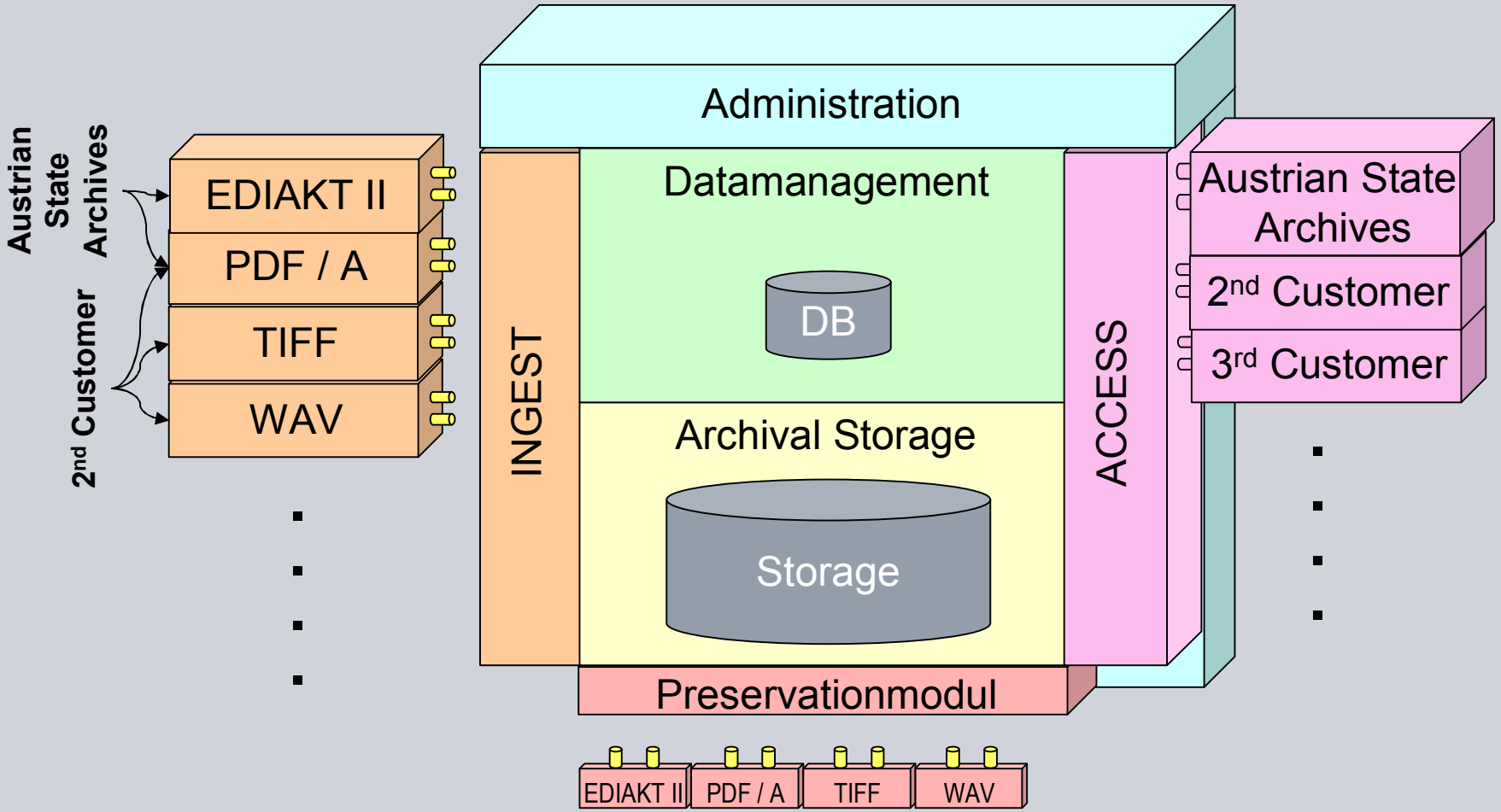
Multi-tenancy



Advantages of a multi tenant solution

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Financial benefits

- Further developments and Change requests can be divided into between more partners
- One licence for all Austrian public authorities
  - No further tender required
- Operational synergies

Organisational Synergies

- SDB User Group

Digital long term archive - creates benefits in all three dimensions: service quality, cost, security

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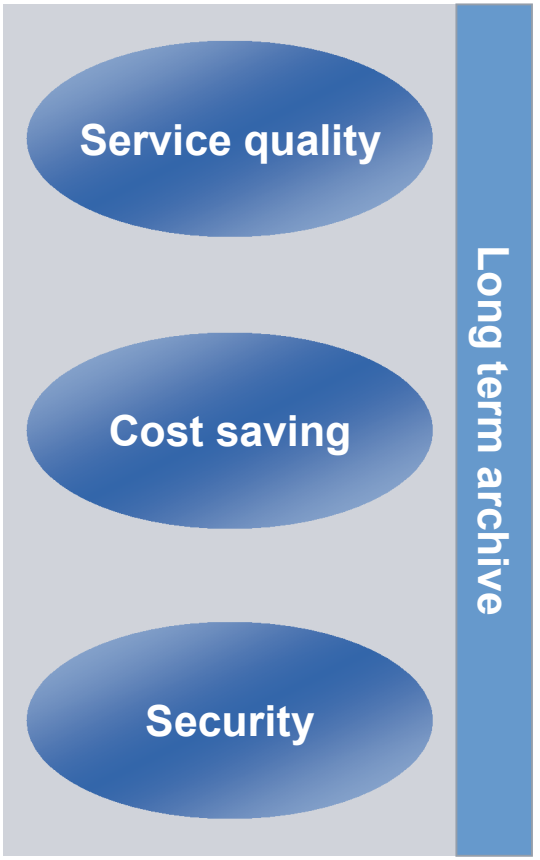
Benefits of the Long Term Archive

- Standard software based on international standards
- Easy search for data and metadata
- Easy change of software modules and hardware
- Preservation strategies and migrations are supported by our software

- No printouts and media conversions necessary
- No costs caused by data loss
- According to the Austrian Federal Chancellery digital archives cost only one third of a paper archive

- Improved data protection and security
- Electronic signature to ensure authenticity and integrity
- Sophisticated IAM system
- Data storage and - if necessary - migration is done by experts



Useful links

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Documents

OAIS-Modell: http://public.ccsds.org/publications/archive/650x0b1.pdf and
http://public.ccsds.org/sites/cwe/rids/Lists/CCSDS%206500P11/Attachments/650x0p11.pdf

PREMIS: http://nestor.sub.uni-goettingen.de/handbuch/artikel/nestor_handbuch_artikel_357.pdf

Webpages

Austrian State Archives: http://www.oesta.gv.at

PDF/A-Competence Center: http://www.pdfa.org/doku.php?id=start

PLANETS: http://www.planets-project.eu/

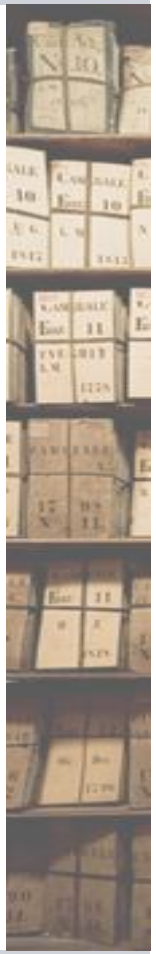
MoReq2: http://www.moreq2.eu/

EAD: http://www.loc.gov/ead/

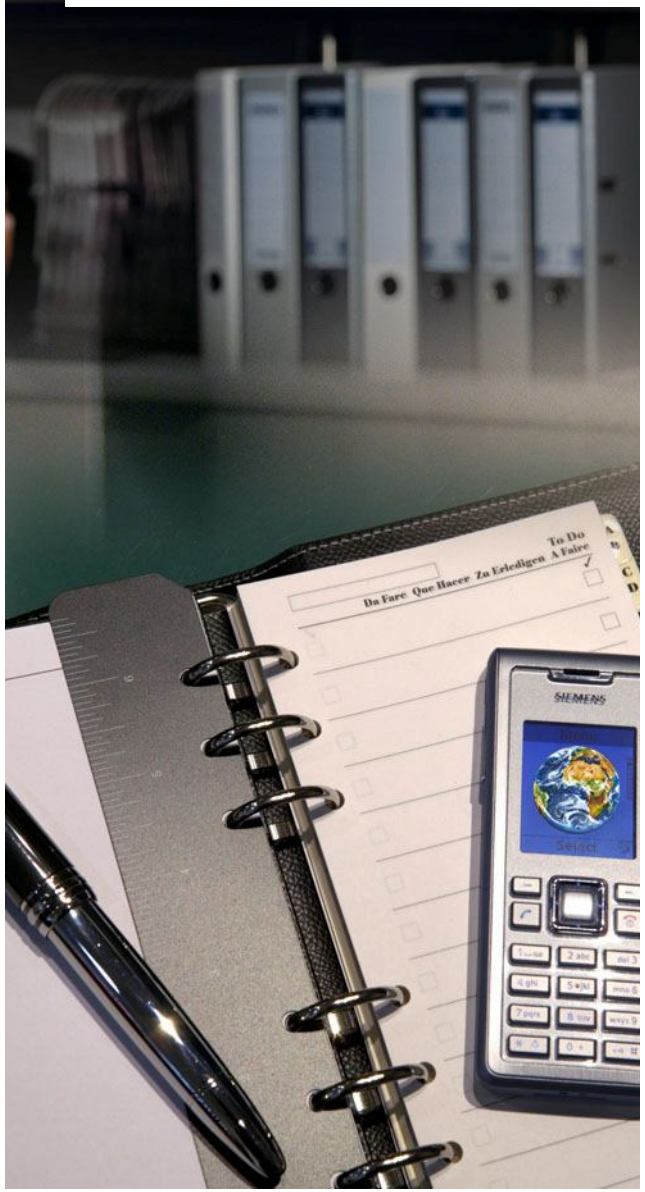
METS: http://www.loc.gov/standards/mets/mets-schemadocs.html

Siemens: http://www.it-solutions.siemens.com/COUNTRY/CEE/DE/OESTERREICH/BRANCHEN/PUBLIC-SECTOR/Pages/public-sector.aspx

Tessella: http://www.tessella.com/



Contact



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Siemens AG
Siemens IT Solutions and Services

Alexander Leiningen-Westerburg
SIS PS VSC
Telefon: +43 664 80 117 17 563
E-Mail: alexander.leiningen-westerburg@siemens.com

Internet: www.siemens.com/it-solutions