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Digital archiving in Denmark – strategy and implementation

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Agenda

- Why archive digitally?
- The OAIS-model
- Strategy for digital archiving in Denmark
  - Vision
  - Notification and approval
  - Frequent submissions
  - Access
  - Preservation planning
- Questions

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Why archive digitally?

- The amount of information is growing rapidly – in digital form you can preserve more
- Both Iceland and Denmark are advanced countries in terms of e-Government – digital government creates digital archives!
- You may be able to print documents, but it makes no sense to print metadata, content from business systems etc.
- Retrieval, access, reuse of digitally created content must be handled digitally – otherwise you lose both authenticity and functionality.

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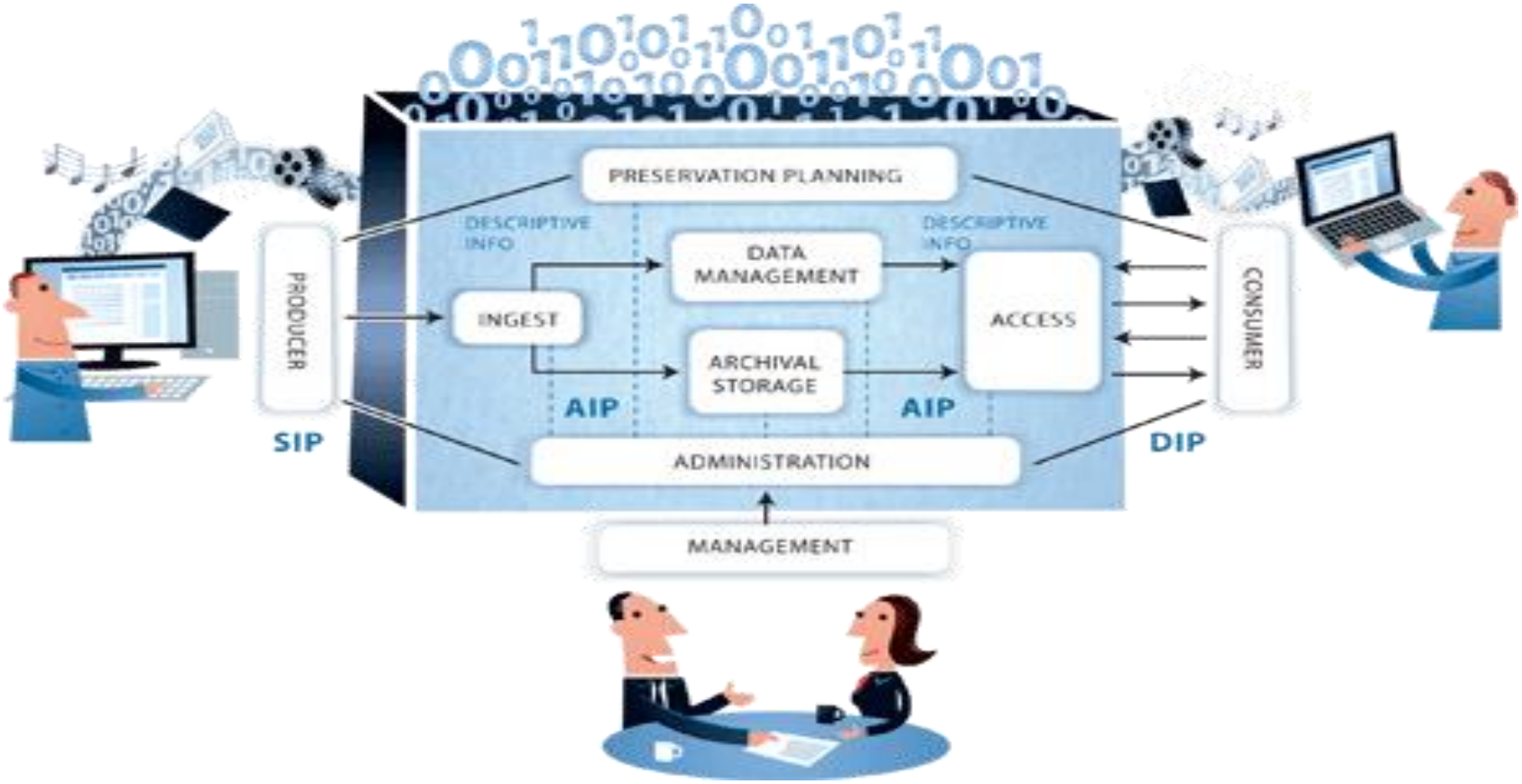
The OAIS-model



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Vision

- To ensure that digital records are preserved so as to maintain their authenticity and so that they can be found and reused

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Born-digital records, challenges

- Logical preservation
- Physical preservation

- Possible strategies for logical preservation:
  - Emulation
  - Migration

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Implementation

- Early identification and approval of it-systems
- Frequent submissions in archival formats
- Preservation planning and migration as necessary

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Identification & appraisal/approval

- National authorities must notify the National Archives on all it-systems
- Appraisal at an early stage
- Systems with digital content that is to be preserved must go through a process of approval

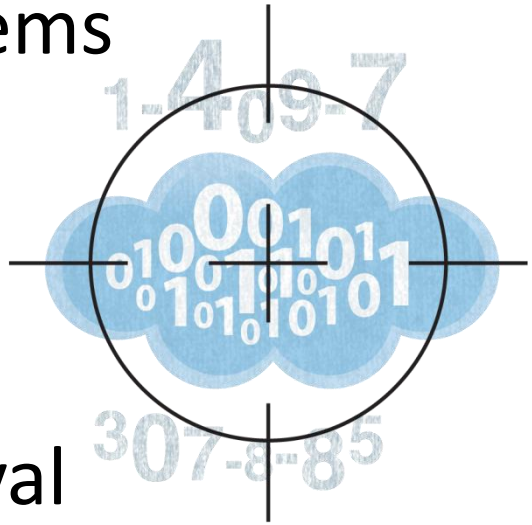

Illustration: digitalbevaring.dk

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Requirements for approval

- Data structure: relational database – or the potential to create one (All)
- Limited by organisation or subject (ERMS)
- Limited “archival period” (5 years) (ERMS)
- Instructions for the use of the system, including file formats (ERMS)
- Instructions for migration to archival format (All)

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Mandatory Metadata?

- Only a few, because the agencies should use the metadata they need, not the metadata the National Archives can think of
- All metadata is transferred to the National Archives as tables in a relational structure
- Certain key metadata must be registered about files and documents

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Mandatory Metadata

- Files: ID, title, classification according to file plan
- Documents: ID, title, date, sender/recipient (for letters), which file it belongs to

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Evolving Concept of ”System”

Until recently: IT-system = a database and an application

Today: Service Oriented Architechture; loosely coupled systems etc.

→ what is the unit that can be handled by the archives in terms of appraisal, approval, transfer and dissemination?

→ Must be defined by the records creator at the time of notification – and responsibility for ”archival considerations” must be in place

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Set-up for Submission of Digital Records

- Submissions to the National Archives must take place as non – system dependent SIPs, at times determined by the National Archives
- ..usually every 5 years to avoid technological obsolescence. This means that current records can be submitted, while still in use by the records creator
- All submissions are tested to ensure compliance with requirements

Illustration: digitalbevaring.dk

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Delimitation of SIP's from RM-systems

- 1. Archival period: All files are closed, unfinished files must be reopened in a new archival period
- 2. Snapshot: All files and documents including metadata from a fixed period (e.g. 1.1.2007-31.12.2011).
- 3. Snapshot with closed files: A variation of model 2, with only closed files, but metadata from all documents and files from a fixed period

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Formats for submission/preservation

Requirements are defined in an Executive Order on Submission Information Packages:

- relational databases
- XML (modified SIARD) & UTF-8
- TIFF, JPEG-2000, MP3, MPEG-2, MPEG-4, GML
- standardized documentation
- standardized structure

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Standardized Mark-up of Certain Columns

- Identification of agency, if the system is used by more than one
- Document identification
- Storage form (paper, digital, irrelevant)
- Case file identification
- Case file title
- Document title
- Document date
- Sender/recipient
- Digital signature (i.e. information that has been extracted from a digital signature) [hardly ever used]
- Appraisal decisions

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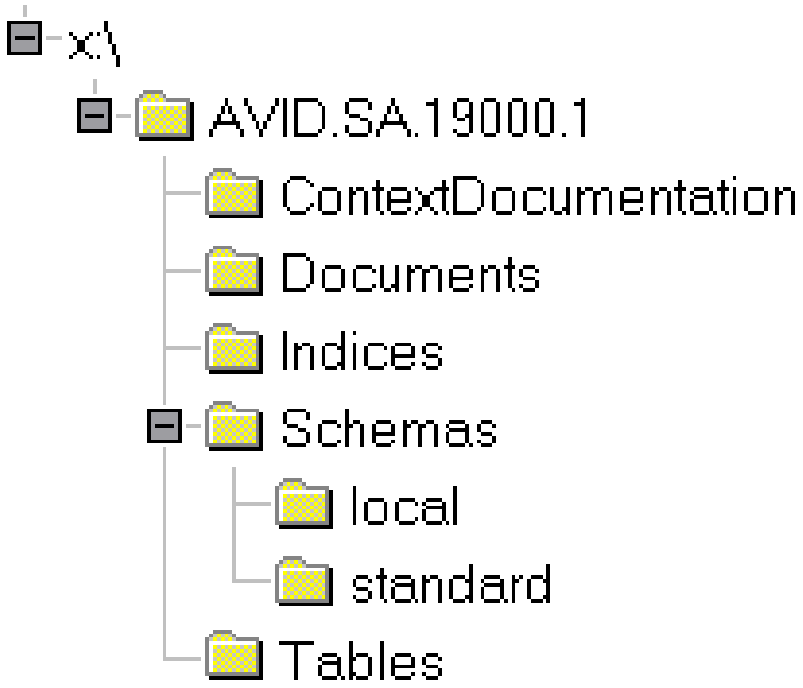
Structure and Content



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Indices

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Test

- All submissions are tested using the test tool ADA
- The automated test is combined with a manual test
- Usually submissions are sent back to the records creator for corrections 2-3 times

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Physical Preservation

- Distributed Digital Preservation
  - Several identical independent copies
  - Both optical and magnetic media
  - Several locations
- Currently about 100 TB born-digital data (in three copies), more than 4500 individual AIP's.

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Access: SOFIA

- AIPs from Electronic Records Managements Systems
  - have the same structure
  - solution: specific model for producing DIP resulting in a search form
  - usabilty: HIGH
- AIPs from other systems (business systems)
  - are very diverse
  - solution: general tool for making queries, general tool for making search forms
  - usabilty: LOW

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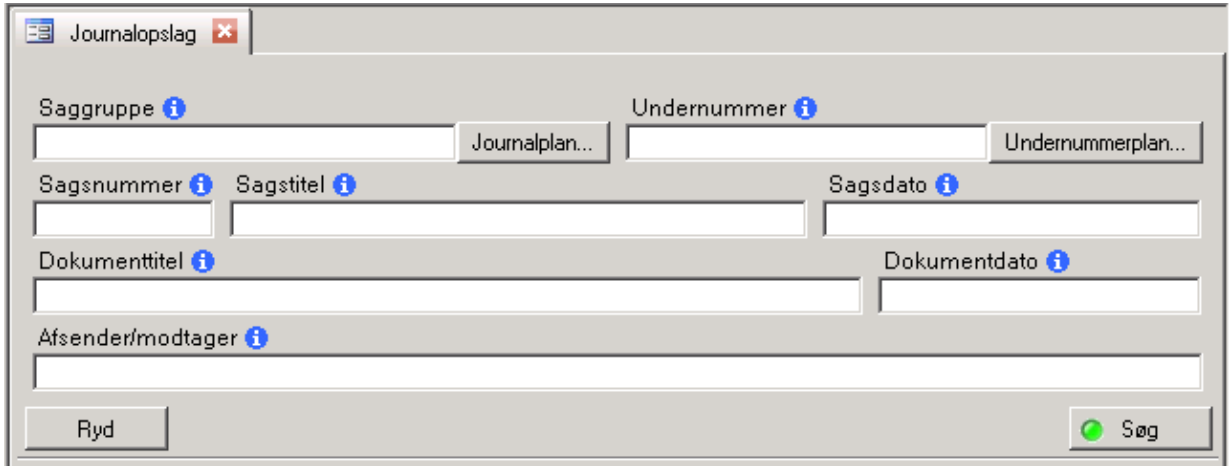
Searching in DIPs of Records Management Systems

- Standardized interface



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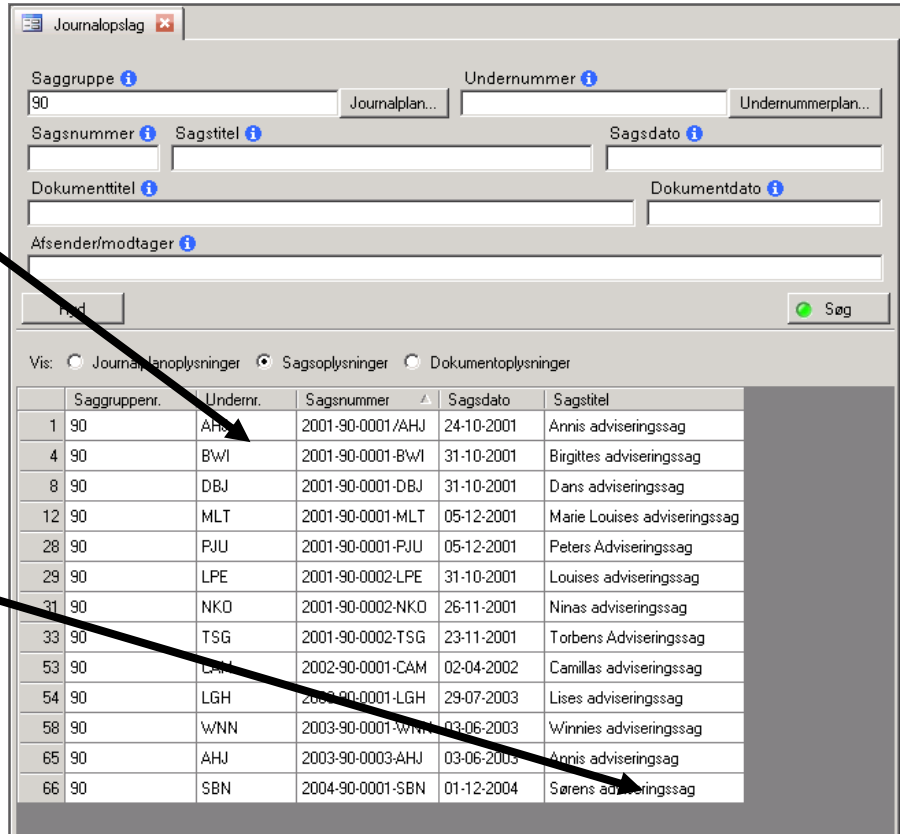
Show only case file information

Double click on case file



	Saggruppenr.	Undernr.	Sagsnummer	Sagsdato	Sagstitel
1	90	AHJ	2001-90-0001/AHJ	24-10-2001	Annis adviseringssag
4	90	BWI	2001-90-0001-BWI	31-10-2001	Birgittes adviseringssag
8	90	DBJ	2001-90-0001-DBJ	31-10-2001	Dans adviseringssag
12	90	MLT	2001-90-0001-MLT	05-12-2001	Marie Louises adviseringssag
28	90	PJU	2001-90-0001-PJU	05-12-2001	Peters Adviseringssag
29	90	LPE	2001-90-0002-LPE	31-10-2001	Louises adviseringssag
31	90	NKO	2001-90-0002-NKO	26-11-2001	Ninas adviseringssag
33	90	TSG	2001-90-0002-TSG	23-11-2001	Torbens Adviseringssag
53	90	CAM	2002-90-0001-CAM	02-04-2002	Camillas adviseringssag
54	90	LGH	2003-90-0001-LGH	29-07-2003	Lises adviseringssag
58	90	WNN	2003-90-0001-WNN	03-06-2003	Winnies adviseringssag
65	90	AHJ	2003-90-0003-AHJ	03-06-2003	Annis adviseringsag
66	90	SBN	2004-90-0001-SBN	01-12-2004	Sørens adviseringssag

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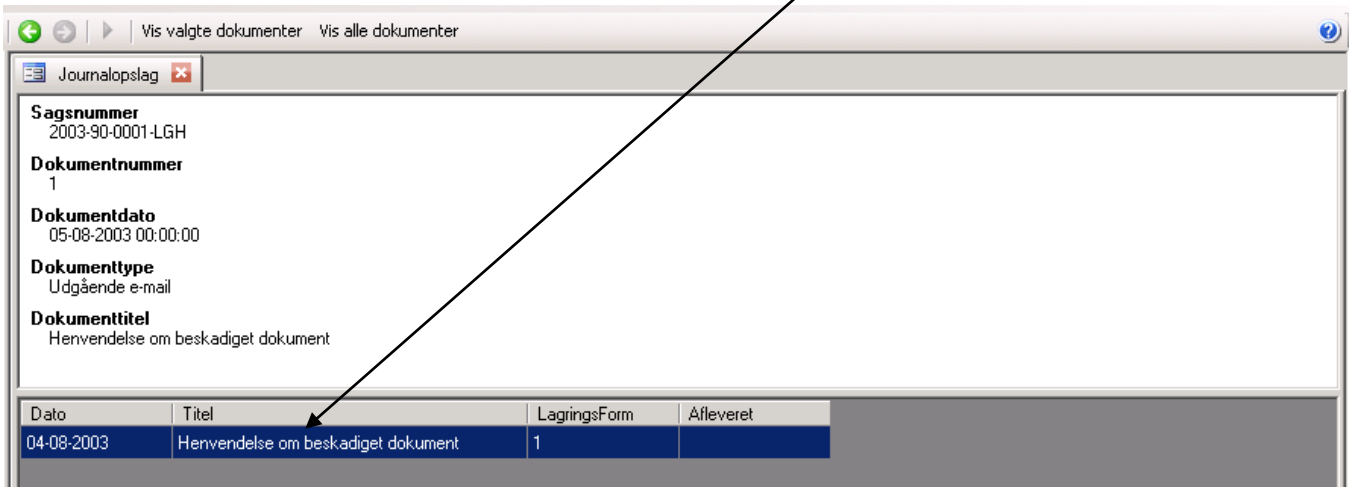
Information of the document and link to the electronic document

Double click on document



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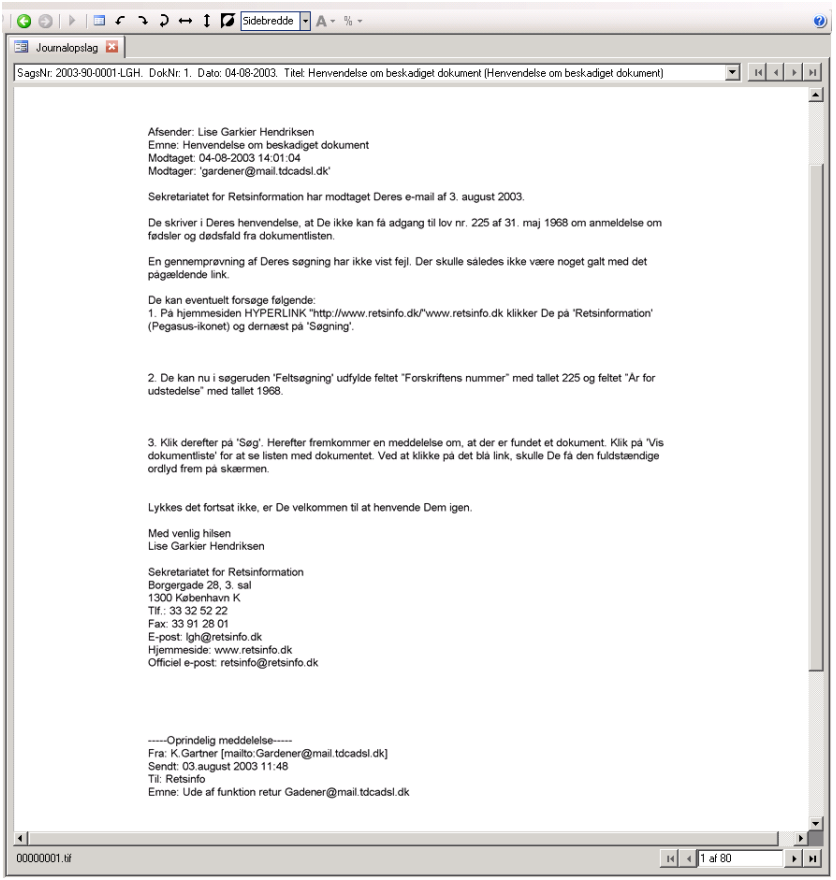
Viewing the electronic document



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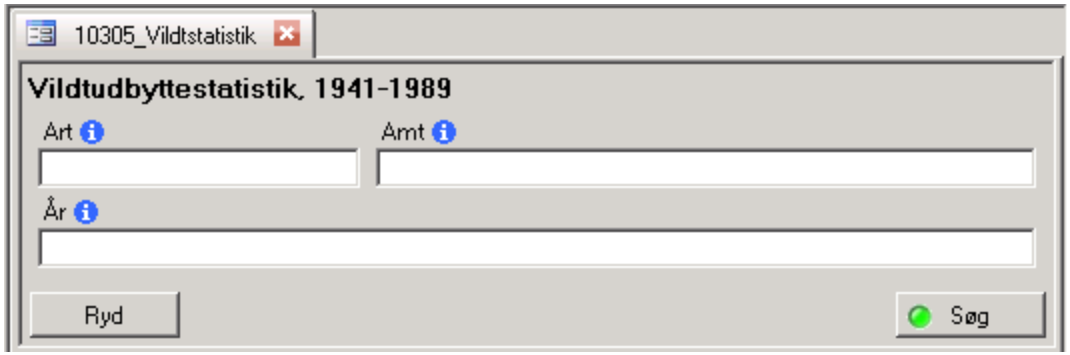
Searching in DIPs of other digital records



Two options:

1. Use search form
2. Make your own query into the database

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Preservation planning

- When should the preservation formats be changed?
- When should we migrate media or formats?
- What developments do we see in the use of IT among the authorities, and how may that affect us?

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Questions?

E-mail: jds@sa.dk
Twitter: jdalsten

See also www.sa.dk
and www.digitalbevaring.dk

Risk assessment

- In digital preservation you will often find that there is no single correct answer
- Risk assessment is at the core of the development of a strategy

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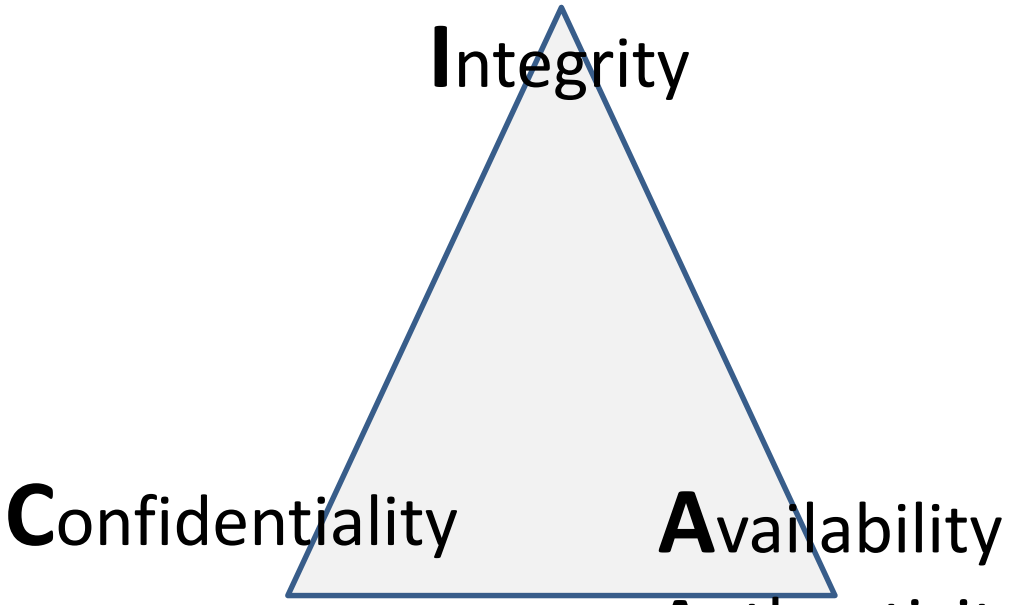
The CIA-Triad



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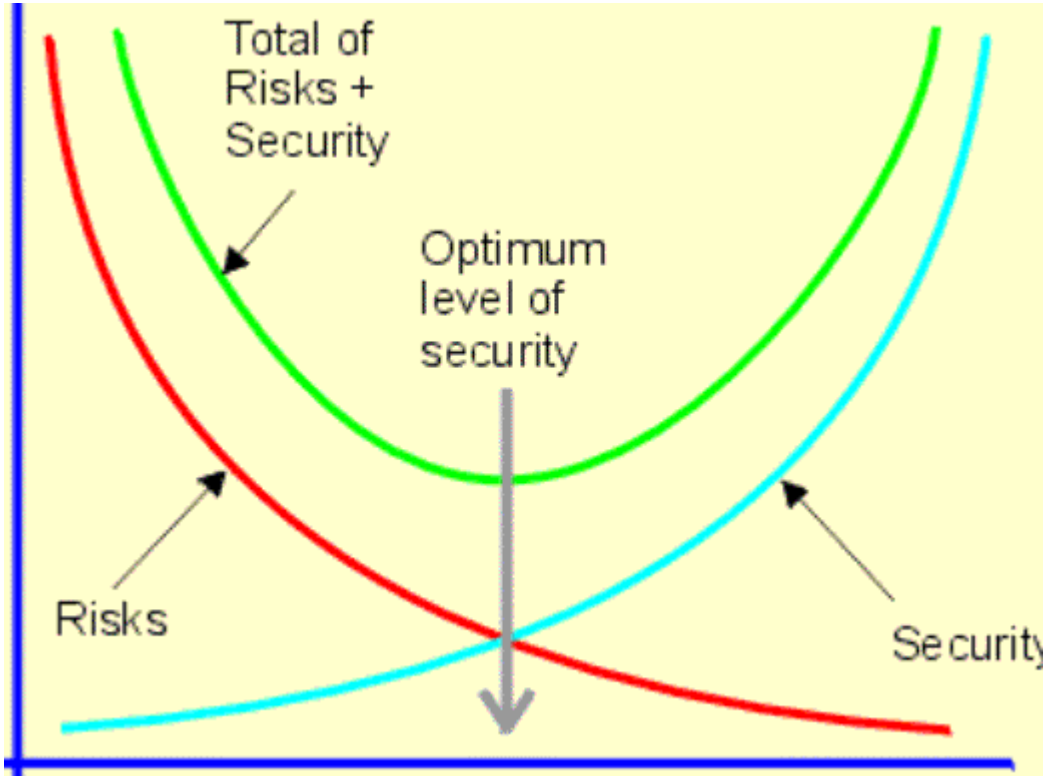
Cost-benefit analysis