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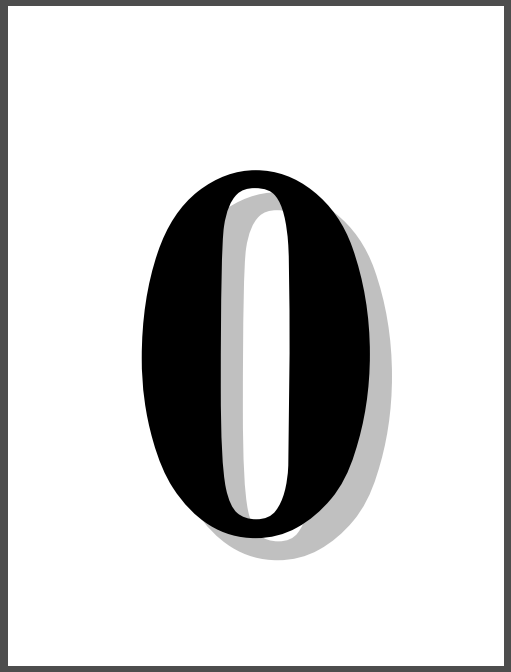
OAI metadata harvesting specifications

Workshop on OAI and peer review journals in Europe
Geneva, Switserland – March 22nd to 24th 2001



a brief history of the OAI

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the OAI roots

The Open Archives Initiative has been set up to create a forum to discuss and solve matters of interoperability between preprint solutions, as a way to promote their global acceptance.

Paul Ginsparg, Rick Luce & Herbert Van de Sompel

=> Santa Fe Convention: preprint metadata harvesting

interest from other communities

- Digital Library Federation meetings
  ~ research library community has many materials for which they would like to ‘expose’ metadata

- OAI San Antonio meeting:
  ~ interest from librarians, publishers, others, ...

resulting actions: organizational

- establish organizational stability for the OAI:
  - institutional backing from CNI & DLF
  - steering committee: policy guidance
  - technical committee: technical specifications
  - executive group: day to day coordination
  - workshops: public dissemination, feedback

resulting actions: technical

- [09/2000] revise specifications to allow adoption beyond preprints: technical committee
- [09/2000-01/2001] compile new specifications: editing by Carl and Herbert
- [11/2000-01/2001] alpha-test specifications: oai-alpha group
- [01/2001] discontinue the Santa Fe Convention
- [01/2001] release version 1.0 of the OAI protocol

the OAI Metadata Harvesting protocol

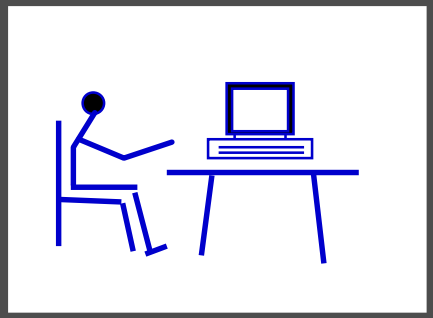
The OAMH protocol is a low-barrier interoperability specification for the recurrent exchange of metadata between systems

the OAMH protocol

service provider

data provider

federated services



e-print

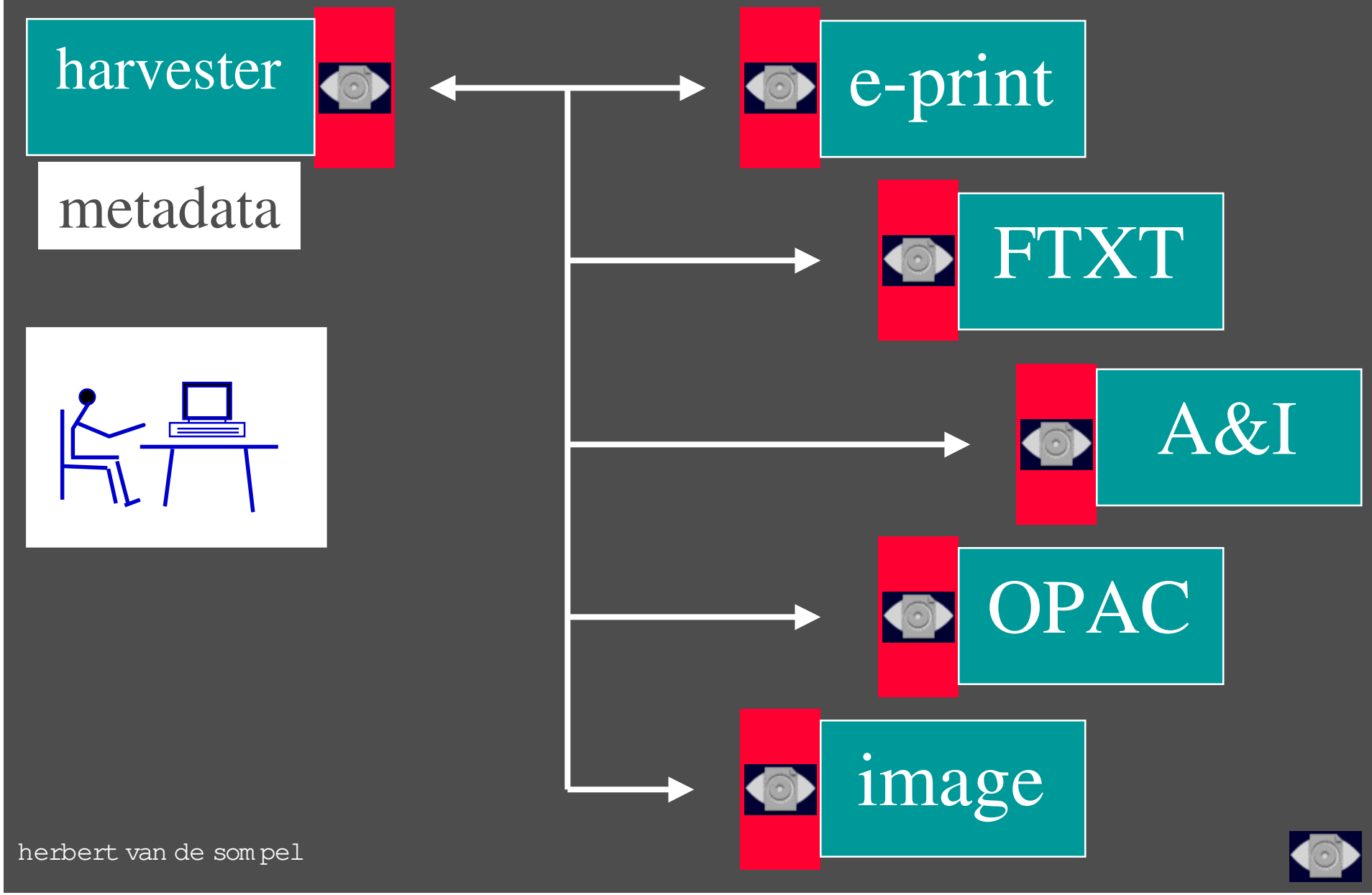
FTXT

A&I

OPAC

image

metadata harvesting via OAMH



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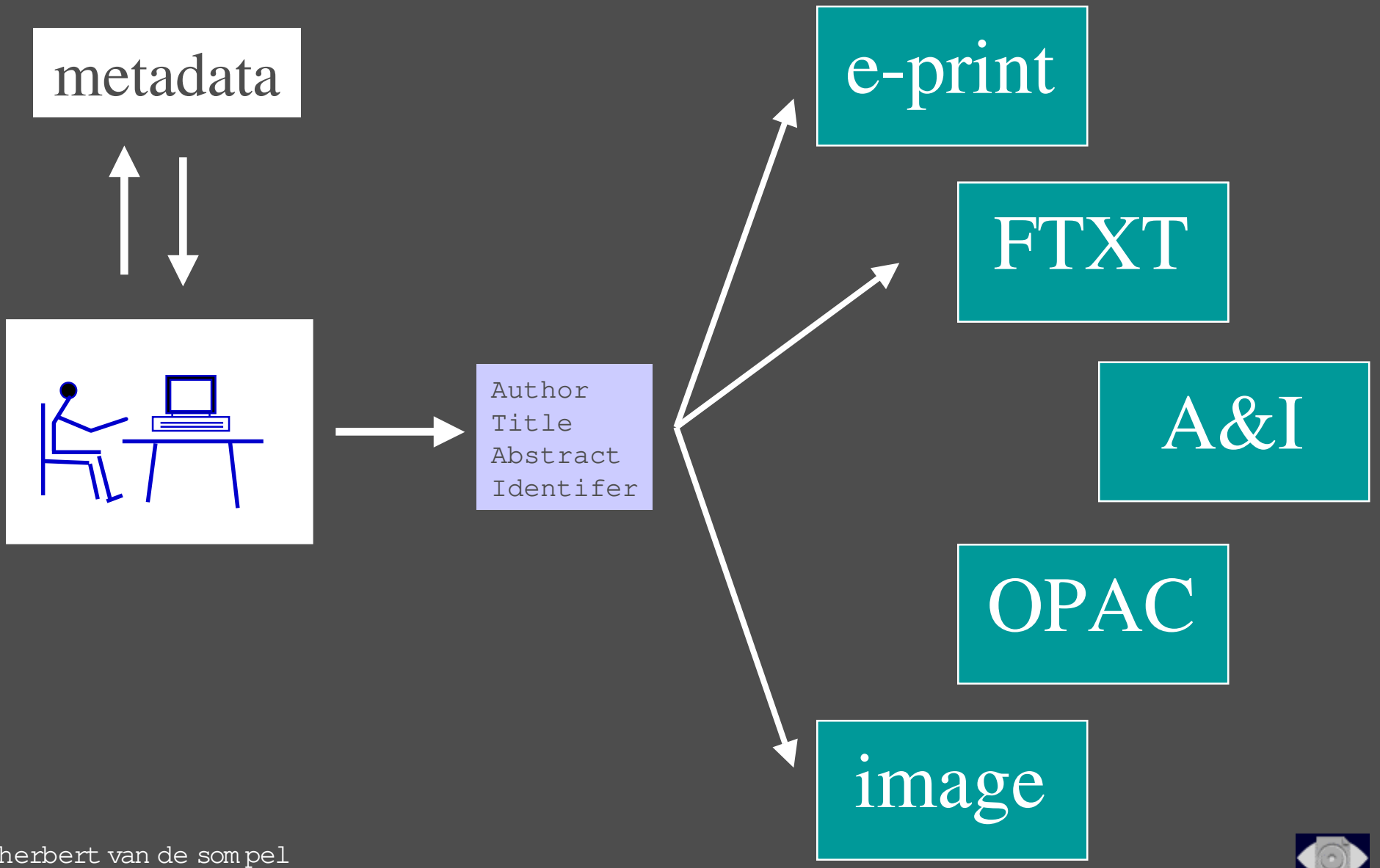
federated services via OAMH



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core concepts in OAMH

- low-barrier interoperability
- data-provider & service-provider model
- metadata harvesting model

  OAMH protocol

  HTTP based

  Reply
  - XML Schema
  - Self contained

- shared metadata format and parallel, community-specific metadata formats

  Dublin Core

OAI harvesting tools

service provider

data provider

harvester

repository

Datestamp
Identifier
Set

Records

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OAI harvesting tools

service provider

data provider

harvester

repository

Supporting protocol requests:

- Identify
- ListMetadataFormats
- ListSets

Harvesting protocol requests:

- ListRecords
- ListIdentifiers
- GetRecord

supporting protocol requests

service provider

data provider

harvester

repository

ListMetadataFormats

ListMetadataFormats / Time / Request

REPEAT

- Format prefix
- Format XML schema

/REPEAT

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harvesting requests

service provider

data provider

harvester

repository

* from=a
* until=b
* set=klm

ListRecords * metadataPrefix=dc

ListRecords / Time / Request

REPEAT

- Identifier
- Datestamp
- Metadata

/REPEAT

Applications of the OAMH protocol?

- federated services [S&R, SDI, alerting, linking, ...]
- database synchronization
- harvesting the deep Web
- ...

OAI – status

revision of specifications

- freeze specifications for 12 -18 months:
  - stable for experimentation; not definitive
  - minimize risk for early adopters
  - maximize chances for future interoperability across communities

software to run OAI repository

- eprints.org - U. Southampton
- open source metadata server - OCLC
- NT OAI server - U. Illinois
- Aleph 500 - Ex Libris
- Z39.50 ⇔ OAI gateway - Virginia Tech (ongoing)
- MARC to DC convertor - OCLC
- we expect a lot more ...
- listed on OAI site

tools to support OAI implementation

- Hussein's Repository explorer
- W3C XSV Schema Validator
- XML Spy
- the OAI comformance tester:
  - part of OAI registration service for repositories
- listed on OAI site

modes of running OAI 1.0 repository

- mode 0:
  - no registration of repository in the OAI registry

modes of running OAI 1.0 repository

- mode 1:
  - registration of repository in public OAI registry

    [includes validation of replies]

existence of the repository is visible

modes of running OAI 1.0 repository

- mode 2:
  - registration of repository in public OAI registry
  - usage of the OAI format for identifiers

existence of the repository is visible

resolver for OAI formated identifiers

implementation status

- early adoption by preprint community
- but also by others

implementation status

- data providers:
  - 20 registered repositories (US and Europe)

    arXiv
    OCLC Thesis and Dissertations
    Perseus Digital Library
    PhysNet
    Oxford Text Archive
    Library of Congress -- American Memory
    CogPrints
    Humboldt University
    MIT Thesis
    Linguistic Data Consortium
    Resource Discovery Network

implementation status

- service providers:
  - ARC
  - Open Language Archives
  - soon to be listed on OAI site

implementation status

- Mellon Foundation funding for OAI-based projects: data providers and service providers
- NSF DigitalLibrary interest in OAI-related projects
- Close contacts with SPARC, DLF, CNI

communication re OAI

- lists: subscribe via http://www.openarchives.org
  - oai-general list
  - oai-implementers list
- web: http://www.openarchives.org
- FAQ: http://www.openarchives.org/faq.htm
- mail: openarchives@openarchives.org

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