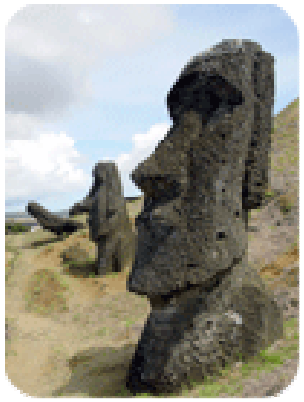
ExLibris
The bridge to knowledge



Digital Preservation System

ExLibris Rosetta

OAI6 | Geneva | June 2009

Dr. Axel Kaschte, Strategy Director Europe

Copyright Statement

All of the information and material inclusive of text, images, logos, product names is either the property of, or used with permission by Ex Libris Ltd. The information may not be distributed, modified, displayed, reproduced – in whole or in part – without the prior written permission of Ex Libris Ltd.

TRADEMARKS

Ex Libris, the Ex Libris logo, Aleph, SFX, SFXIT, MetaLib, DigiTool, Verde, Primo, Voyager, MetaSearch, MetaIndex and other Ex Libris products and services referenced herein are trademarks of Ex Libris, and may be registered in certain jurisdictions. All other product names, company names, marks and logos referenced may be trademarks of their respective owners.

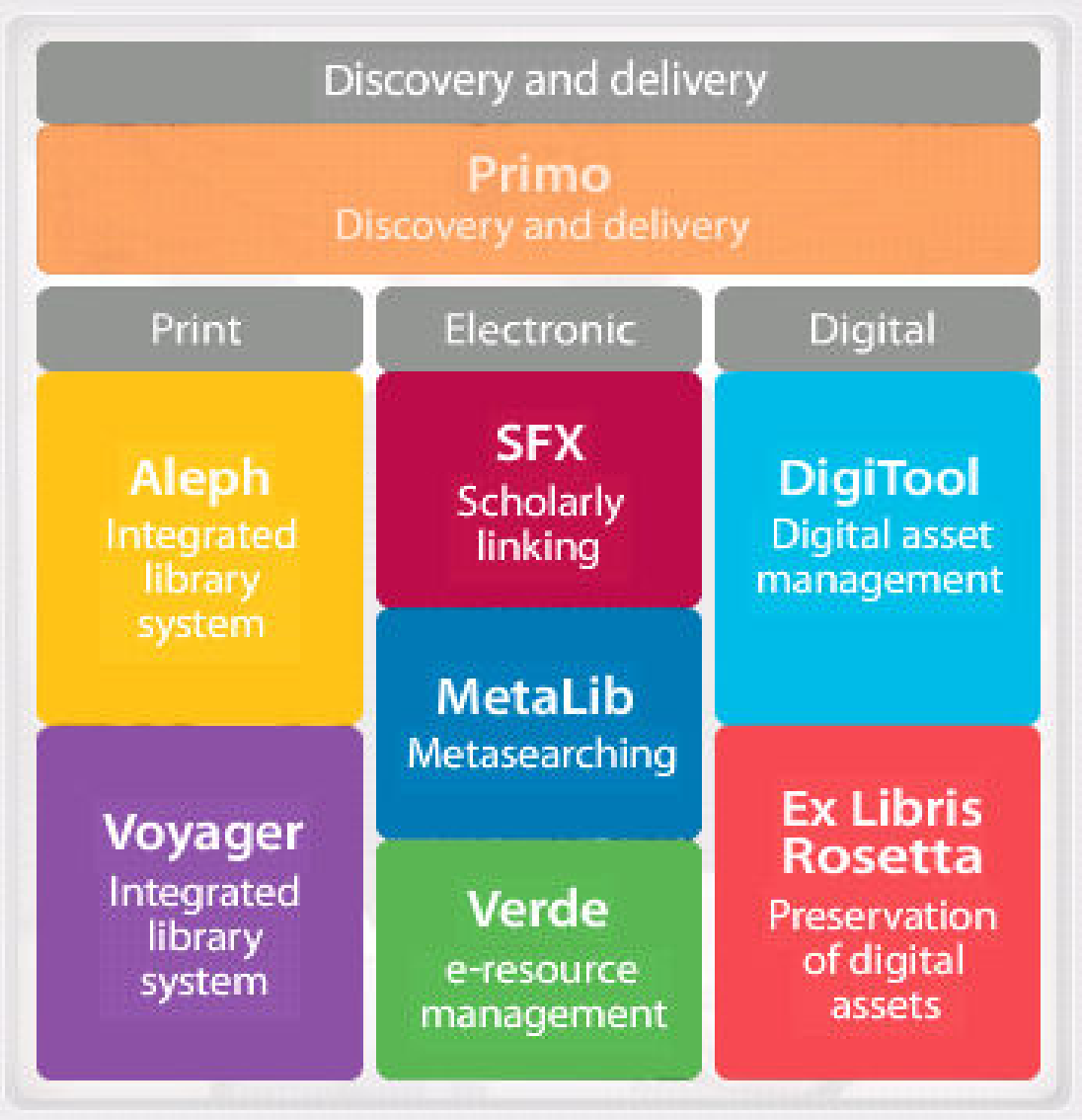
DISCLAIMER

The information contained in this document is compiled from various sources and provided on an "AS IS" basis for general information purposes only without any representations, conditions or warranties whether express or implied, including any implied warranties of satisfactory quality, completeness, accuracy or fitness for a particular purpose.

Ex Libris, its subsidiaries and related corporations ("Ex Libris Group") disclaim any and all liability for all use of this information, including losses, damages, claims or expenses any person may incur as a result of the use of this information, even if advised of the possibility of such loss or damage.

© Ex Libris Ltd., 2009

Ex Libris – a library automation company



Rosetta heritage

Te Puna Mātauranga o Aotearoa
NATIONAL LIBRARY OF NEW ZEALAND

2003 - National Library Act of New Zealand

Enable the National Library to meet its mandate
to collect,
make accessible,
and preserve in perpetuity,

New Zealand's digital heritage.

2004 – New Zealand NDHA founded

2005 – Requirements according OAIS

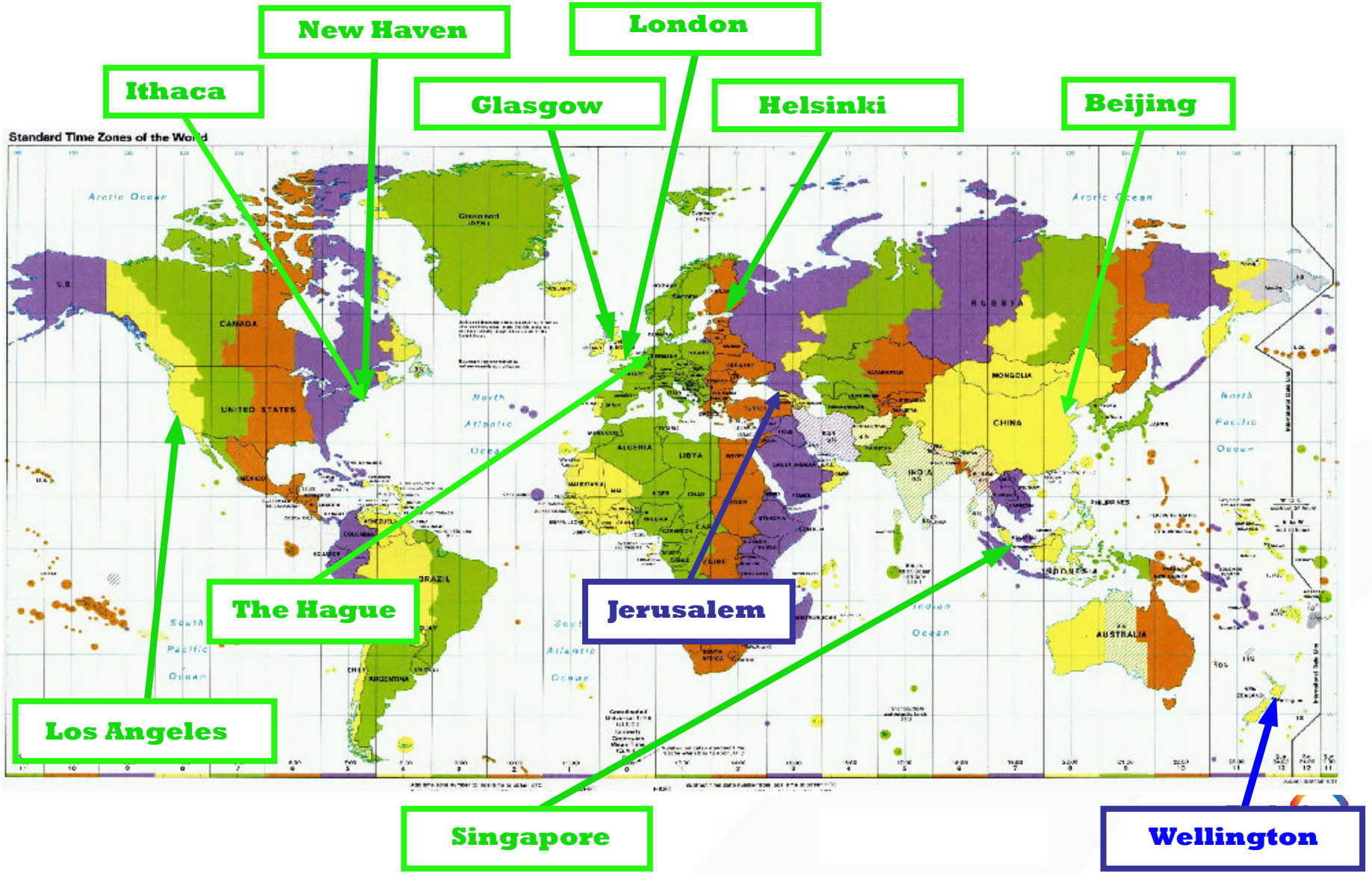
2006 – A digital repository is not enough!

NATIONAL DIGITAL HERITAGE ARCHIVE

Securing the Future

ExLibris Rosetta

International peer review group



True preservation is needed

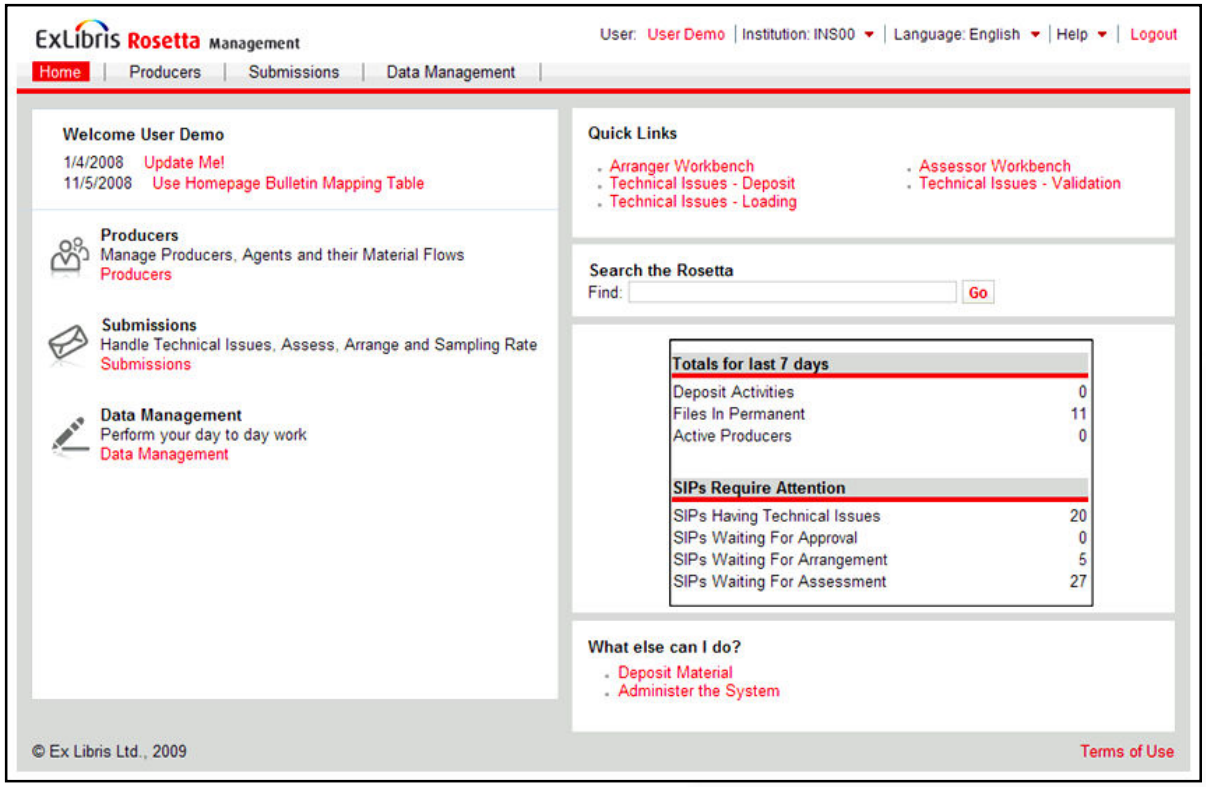
- Deterioration of the storage medium
- Obsolescence of the storage medium
- Obsolescence of the data format
- Obsolescence of the software
- Obsolescence of the hardware
  required to run the software

"The goal of digital preservation is
the accurate rendering
of authenticated digital content
over time." (ALA)

ExLibris
Rosetta

ExLibris Rosetta

- Version 1.0 released January 2009
- New digital library software package
  - Based on **preservation** needs
  - Takes **repository** solutions one step further



What makes it „preservation“?

Figure 1
The Preservation Pyramid.

based on an article by Pricella Caplan (Premis)

Availability (capture/selection)

- Availability
- Identity
- Understandability
- Fixity
- Viability
- Renderability
- Authenticity

Definition:

It is truism that you can not preserve digital objects that you do not control.

What is supported in Rosetta:

- Deposit module
- Software Development Kit
- Submission applications

Identity (description)

Availability

Identity

Understandability

Fixity

Viability

Renderability

Authenticity

Definition:

The digital object must be described in sufficient detail to allow future access and/or use.

What is supported in Rosetta:

- Supporting persistent identifiers (internal and external)
- Storing descriptive information on the AIP:
  - Using the out of the box DC editor
  - Integrating with descriptive tools

ExLibris Rosetta

Understandability (documentation)

Availability

Identity

Understandability

Fixity

Viability

Renderability

Authenticity

Definition:

The repository is responsible for providing and preserving enough information to ensure future users to understand the preserved objects.

What is supported in Rosetta:

- Rosetta stores descriptive and preservation metadata
- The data model is based on a standard model - PREMIS (IE, Rep, File) and METS file.
- The elements are standard - Rosetta supports the PREMIS elements as preservation metadata

ExLibris Rosetta

Fixity (secure storage)

Availability

Identity

Understandability

Fixity

Viability

Renderability

Authenticity

Definition:

Protect digital objects from unauthorized changes, whether deliberate or in-deliberate.

What is supported in Rosetta:

- On going fixity checks
- Fixity stored for both the metadata and the files.
- Support for a write once policy – any change is a new version.
- Fixity validation upon receiving.

ExLibris Rosetta

Viability (media management)

Availability

Identity

Understandability

Fixity

Viability

Renderability

Authenticity

Definition:

Viability is the quality of being readable from media.

What is supported in Rosetta:

- Ongoing fixity and virus checks on the files stored on the permanent repository.
- Abstraction of the application and the storage layer.
- All information stored on disk, which is proven technology.

Renderablity (format strategy)

Availability

Identity

Understandability

Fixity

Viability

Renderability

Authenticity

Definition:

Ensuring that a digital file is renderable (displayable, playable…) may be the heart of the digital preservation process.

What is supported in Rosetta:

- Characterization.
- Preservation planning module.
- Support for different preservation strategies.

ExLibris Rosetta

Authenticity (authentication)

Availability

Identity

Understandability

Fixity

Viability

Renderability

Authenticity

Definition:

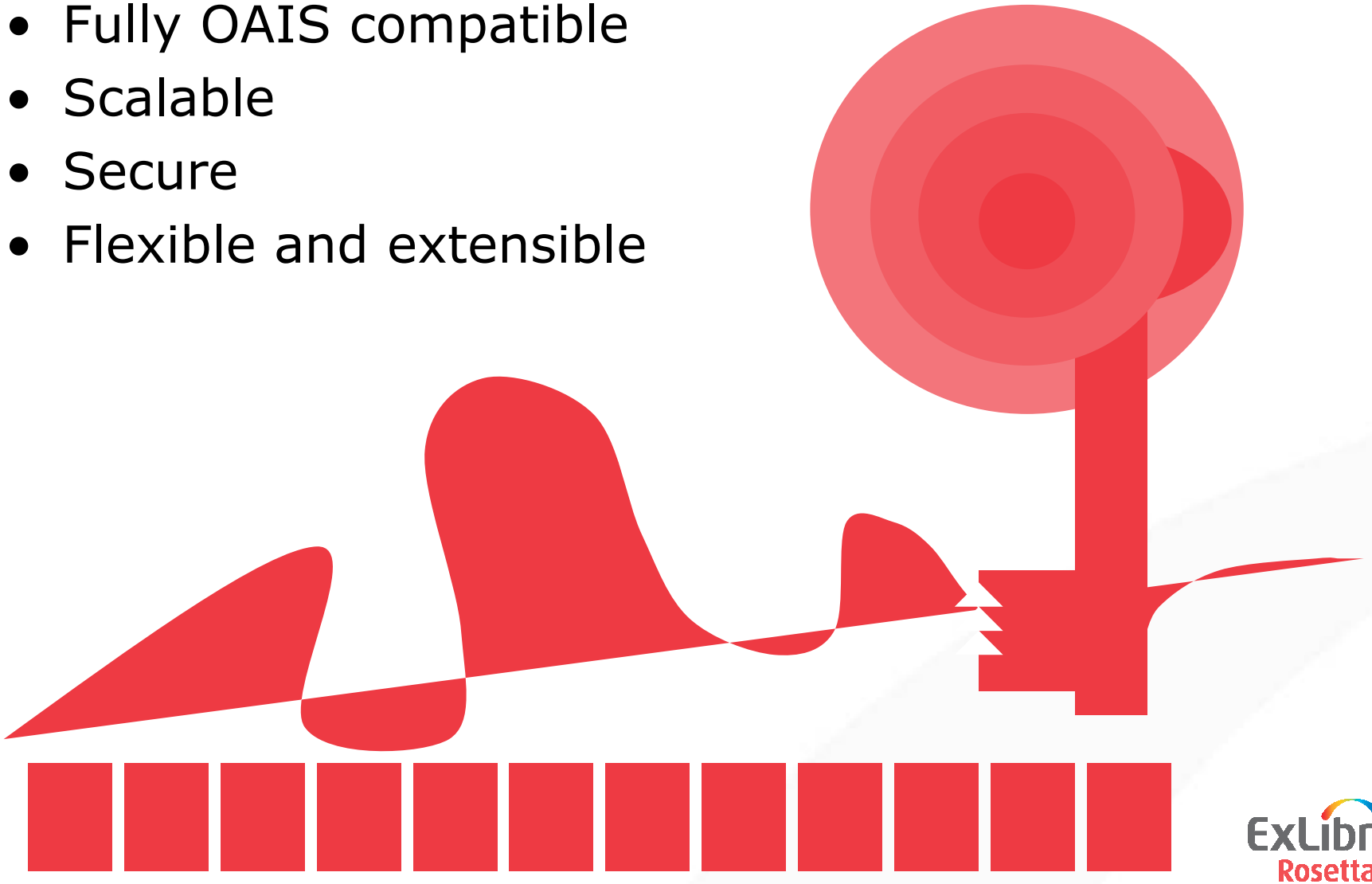
Authenticity means that the integrity of both the source and the content of the object can be verified.

What is supported in Rosetta:

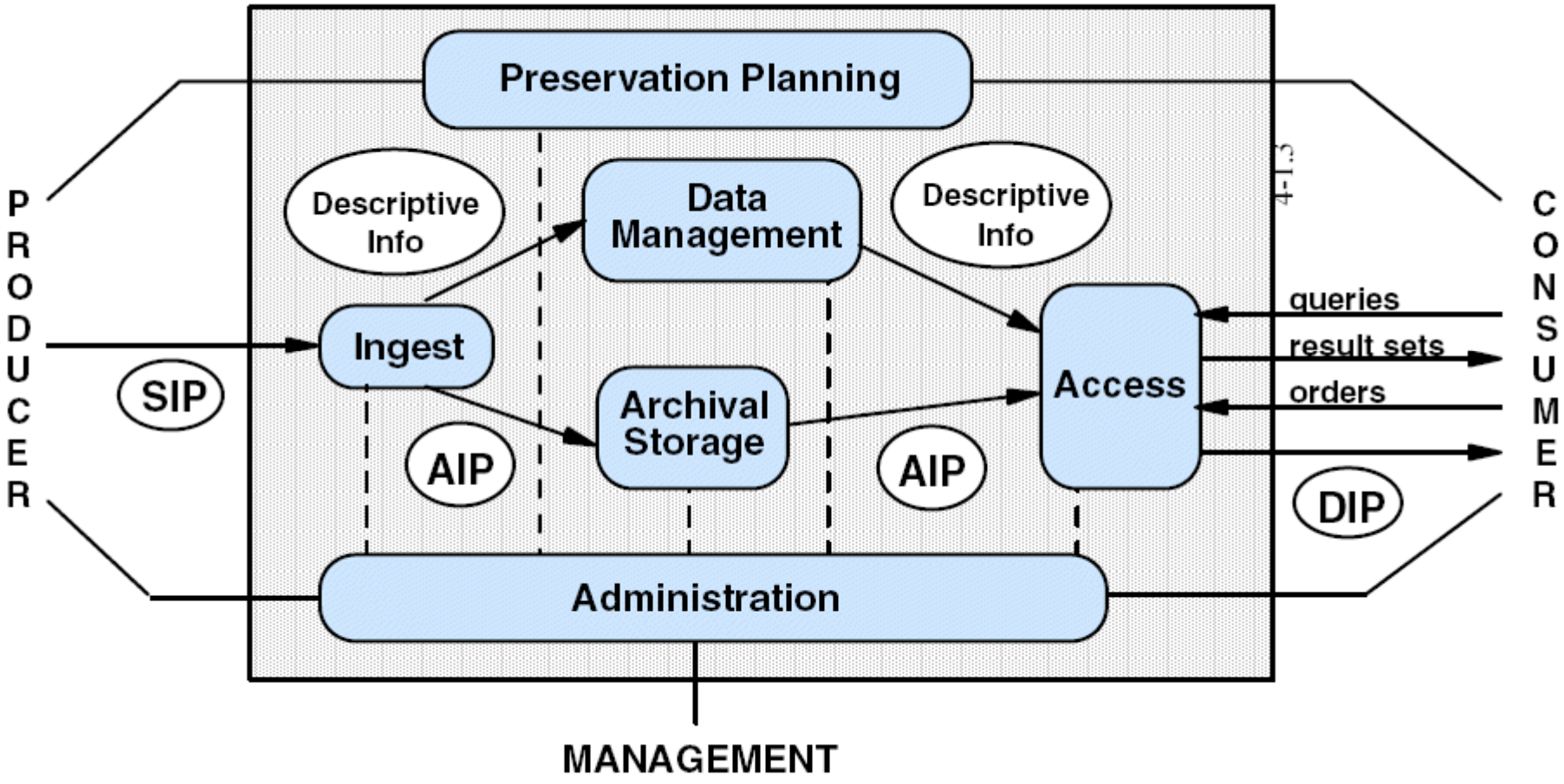
- Producer management.
- Auditing.
- Human assessment is possible.
- Write once repository.

ExLibris Rosetta system characteristics

- Fully OAIS compatible
- Scalable
- Secure
- Flexible and extensible

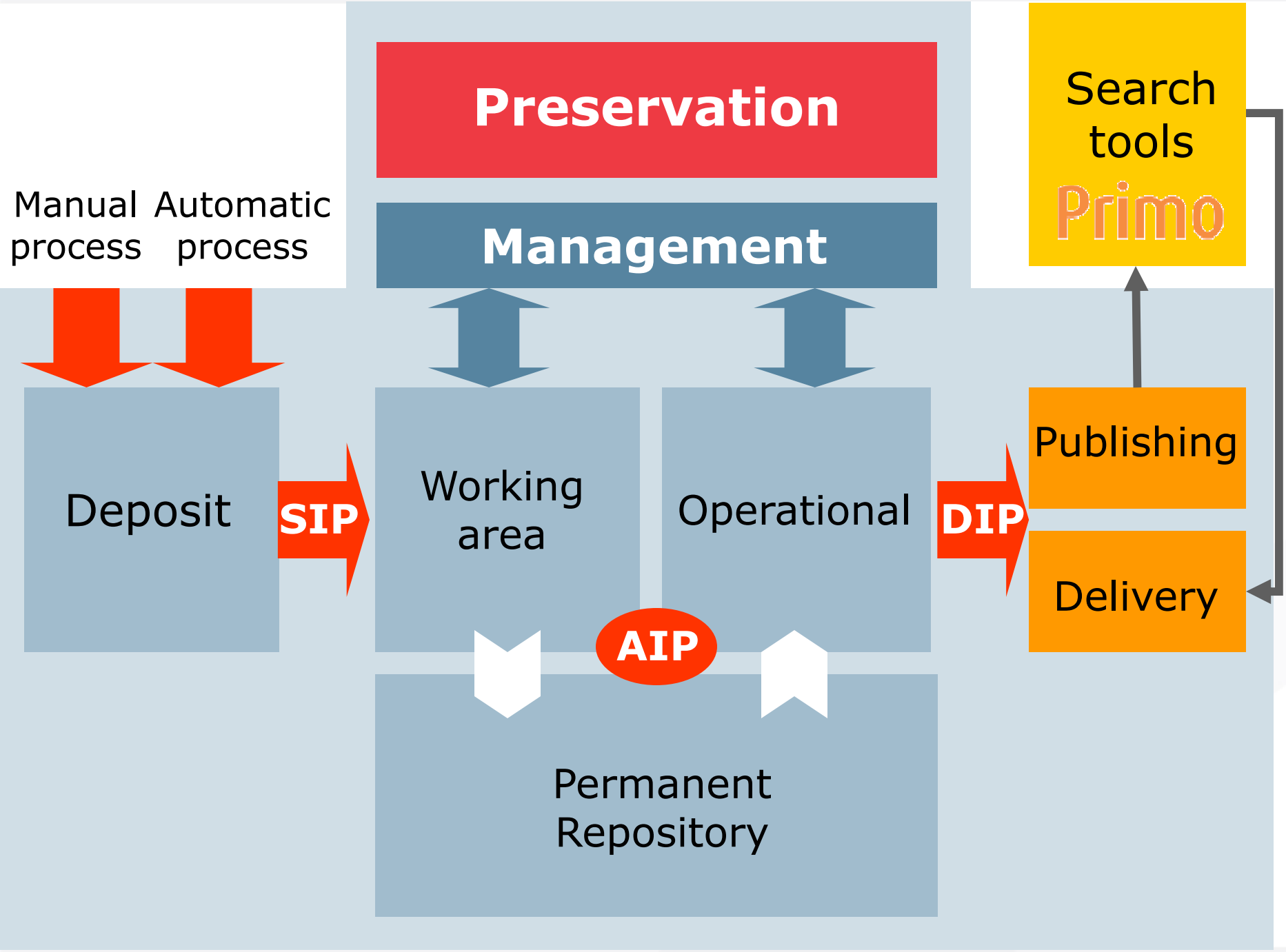


OAIS Model

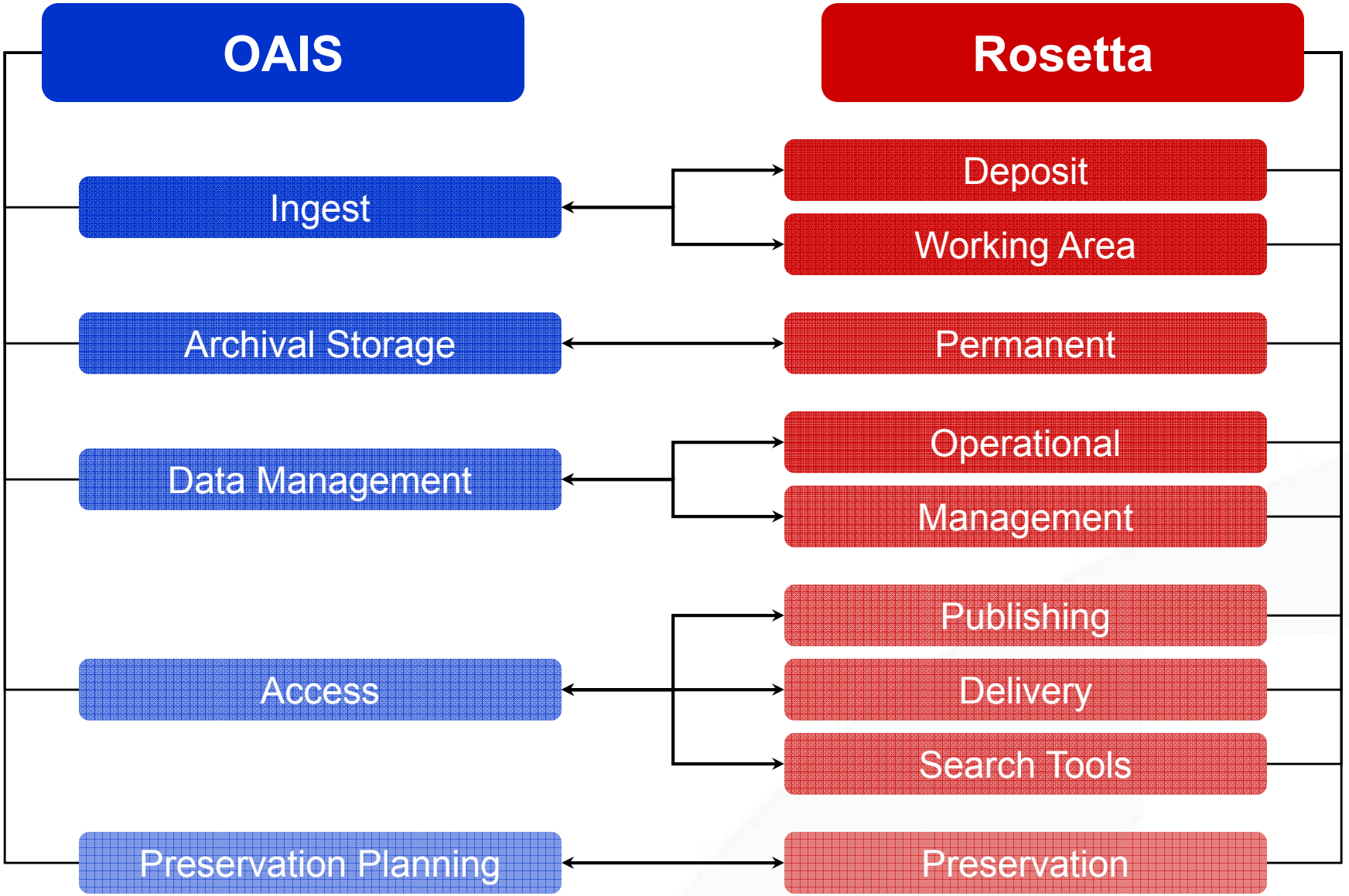


OAIS Functional Entities

Rosetta

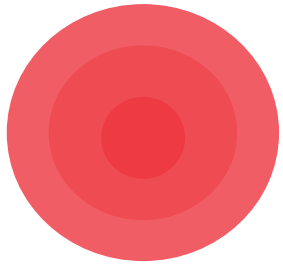

Preservation
Management
Manual process
Automatic process
Deposit
SIP
Working area
Operational
DIP
Publishing
Delivery
Search tools
Primo
AIP
Permanent Repository

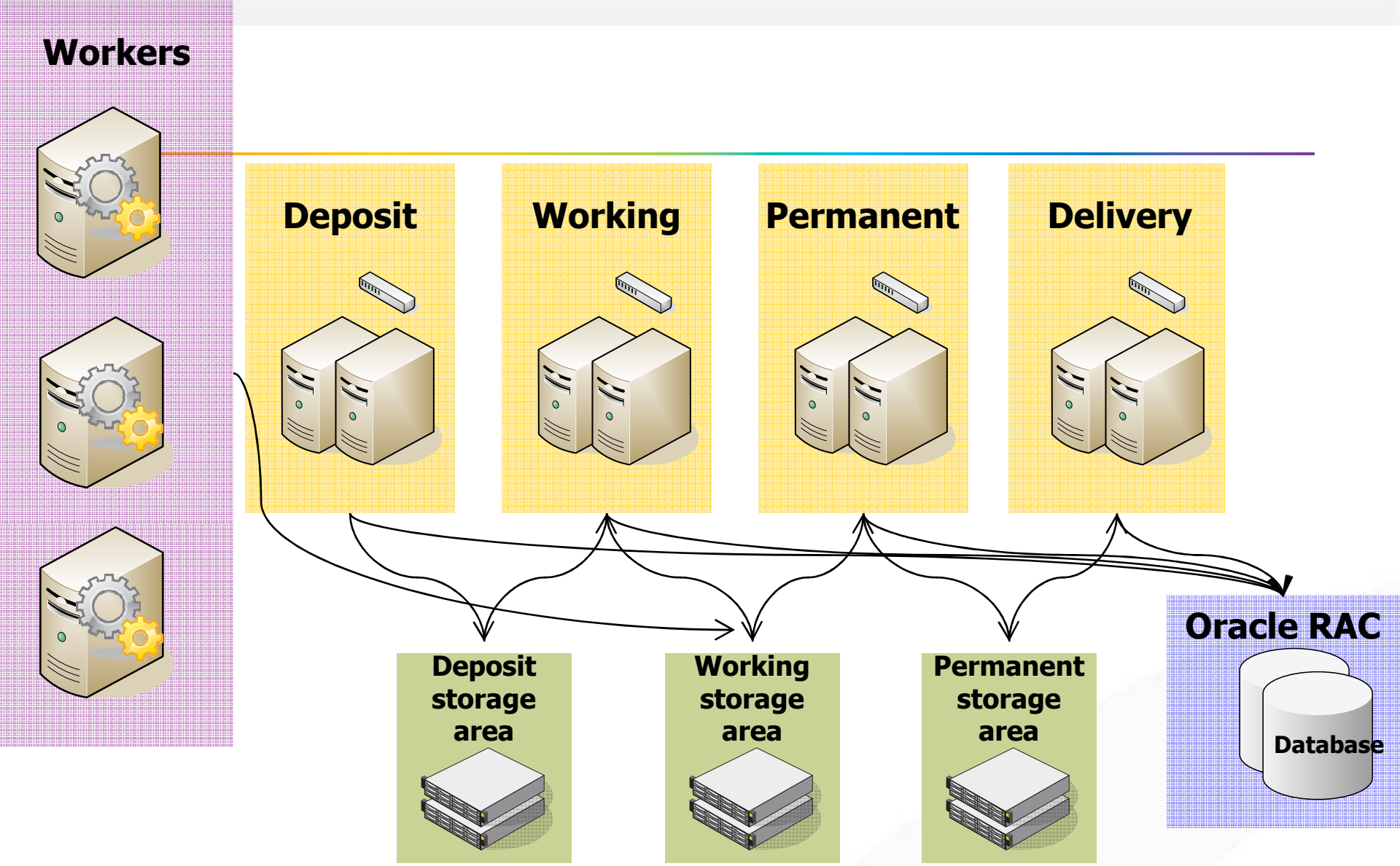
OAIS and Rosetta



Scalable

- Manages tens of millions of objects, petabytes of storage
- Supports ingest of and access to tens of thousands of objects per day
- Scalable both vertically and horizontally
- Deployed in a distributed manner
- Has no single point of failure; all software components are redundant



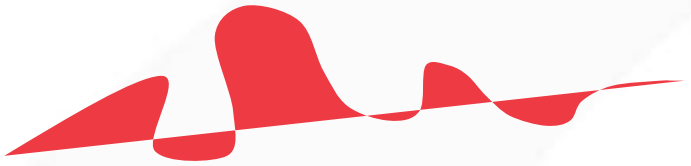

Workers
Deposit
Working
Permanent
Delivery
Deposit storage area
Working storage area
Permanent storage area
Oracle RAC
Database

Secure

- Manages audit trails:
  - Every event is audited
  - Events can be logged, reported on, or stored as provenance
  - Audit information is configurable
- Performs routine checks to ensure system integrity e.g., virus and fixity checks

Flexible and extensible (1)

- Embedding of third-party tools:
  - Validations tools, e.g., JHOVE, DROID, NLNZ extractor tool, antivirus, checksum.
  - Enrichment tools
  - Delivery conversion tools
- Embedding of pre-transforms
- SDK to allow external Submission Applications

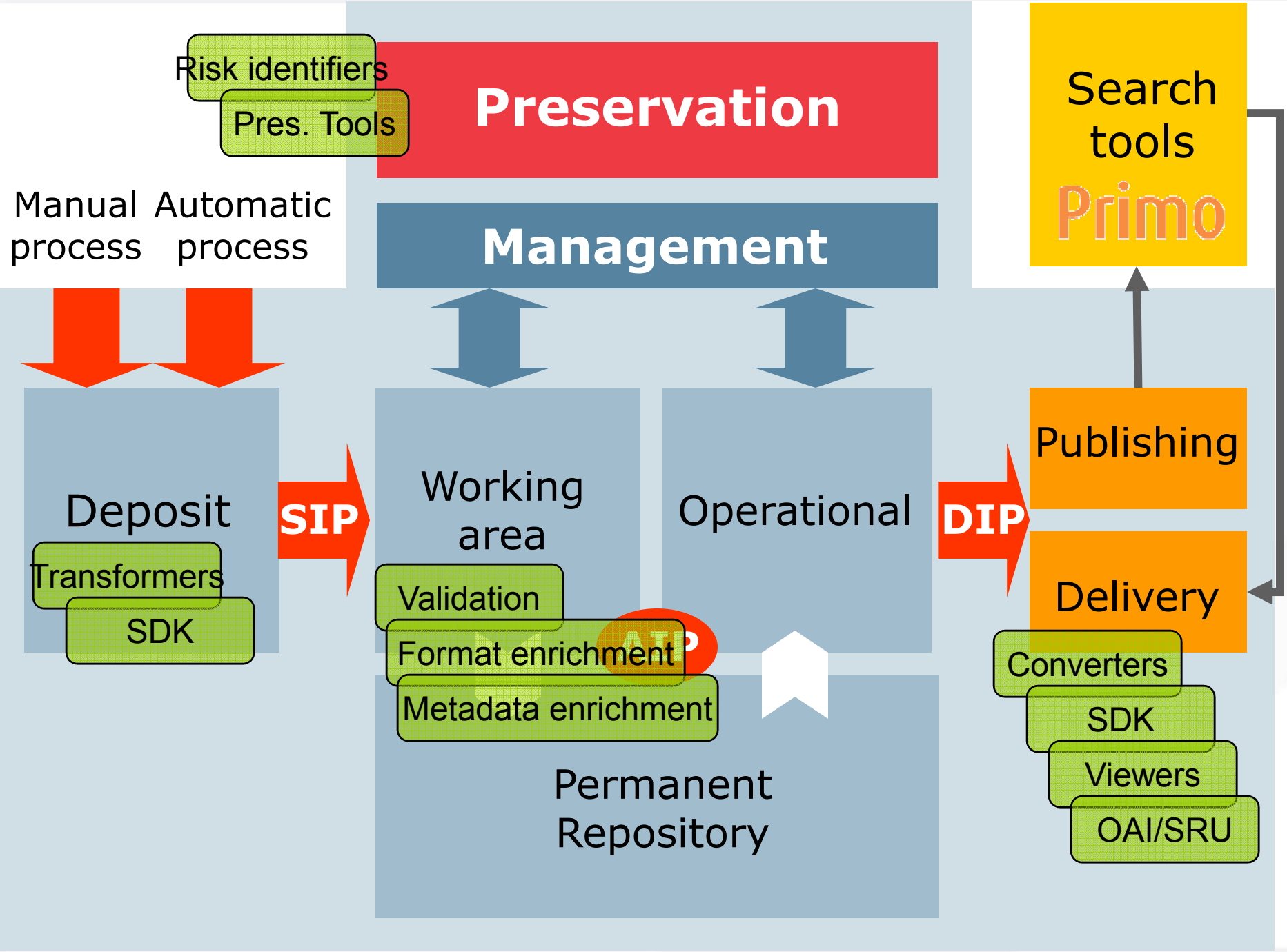


ExLibris Rosetta

Flexible and extensible (2)

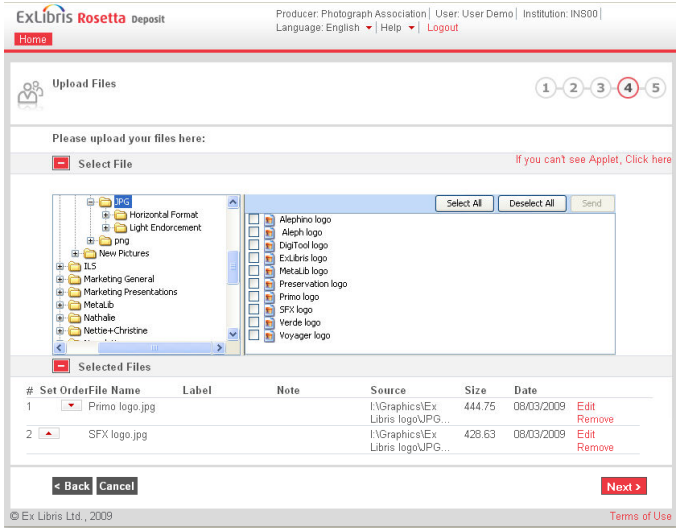
- Embedding of on the fly conversion tools for DIP creation
- Enabling the customization of processes through configurable rules and workflows
- Forming an open architecture through API and Web services
- Integrating with existing library applications

ExLibris Rosetta

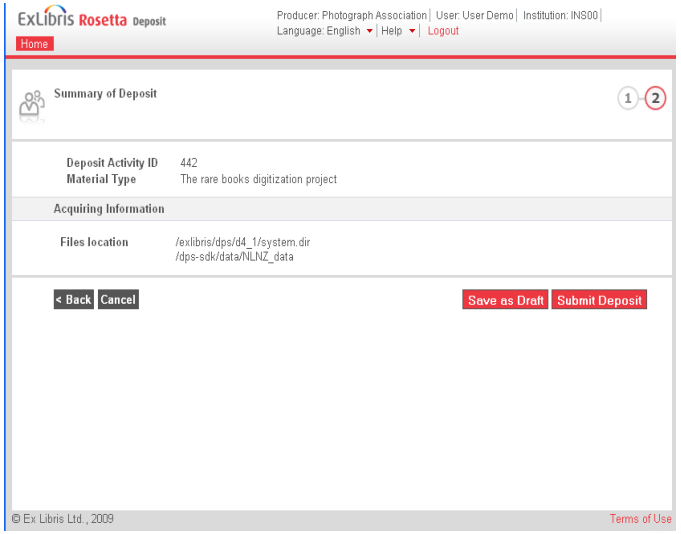

Risk identifiers
Pres. Tools
Preservation
Search tools
Primo
Manual process
Automatic process
Management
Deposit
Transformers
SDK
SIP
Working area
Validation
Format enrichment
Metadata enrichment
ATP
Operational
DIP
Publishing
Delivery
Converters
SDK
Viewers
OAI/SRU
Permanent Repository

Ingest: Receive Submission (deposit module)

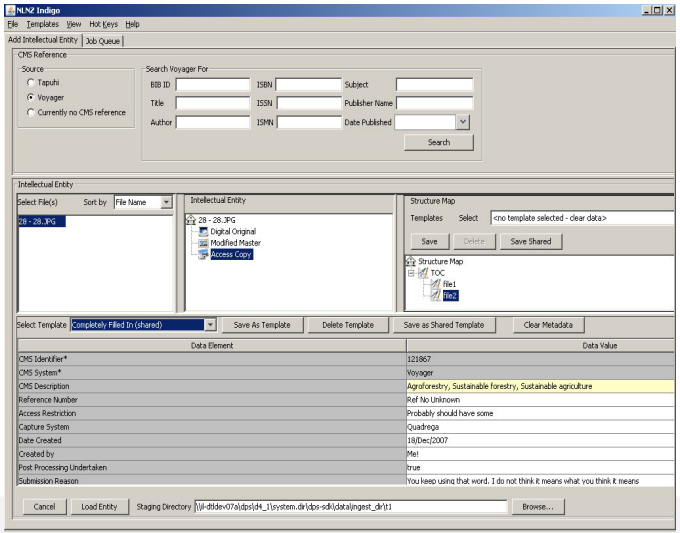
Use web interface to load info



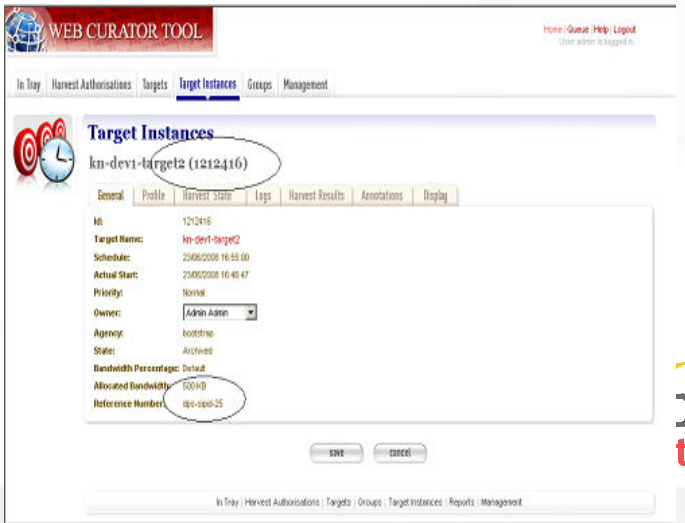
Use FTP to load info



Use submission applications

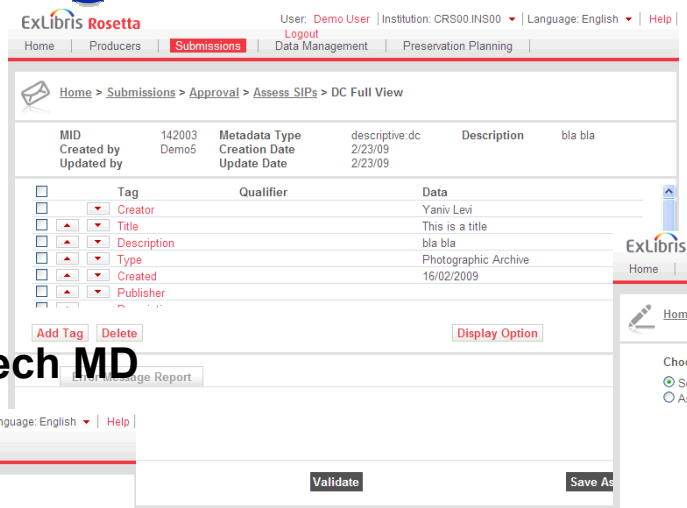


Integrate with existing applications

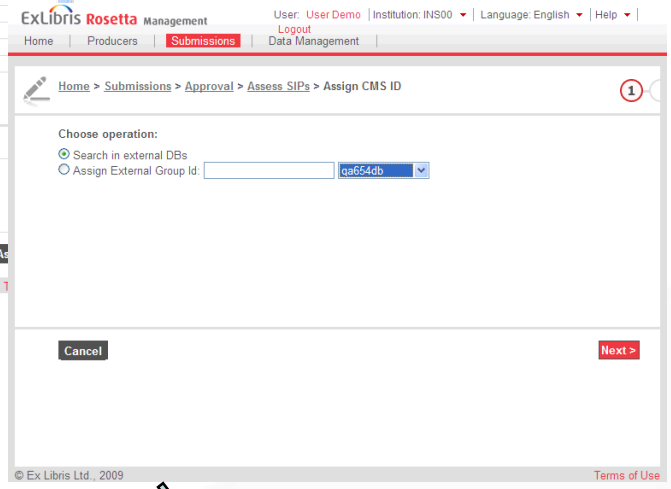


Metadata Enrichment

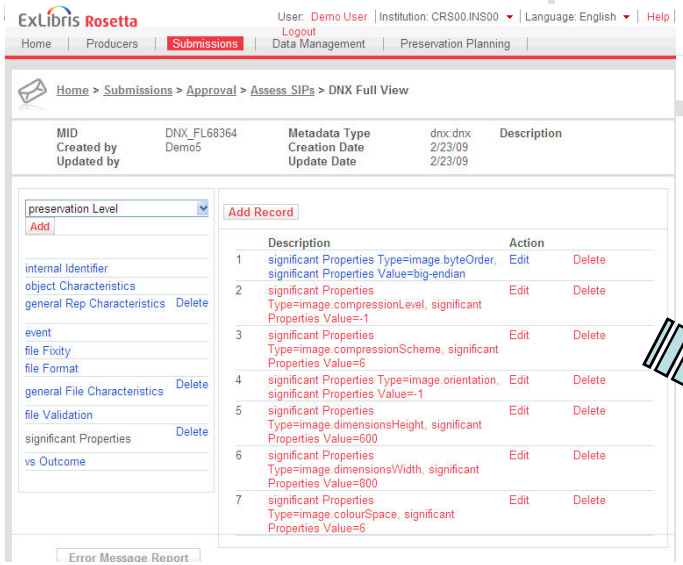
2 Edit MD manually

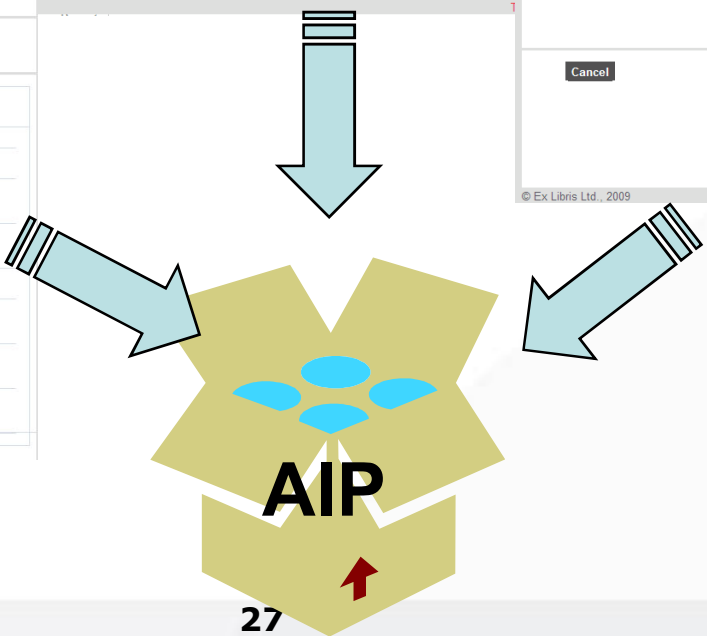


3 Automatic import of External MD



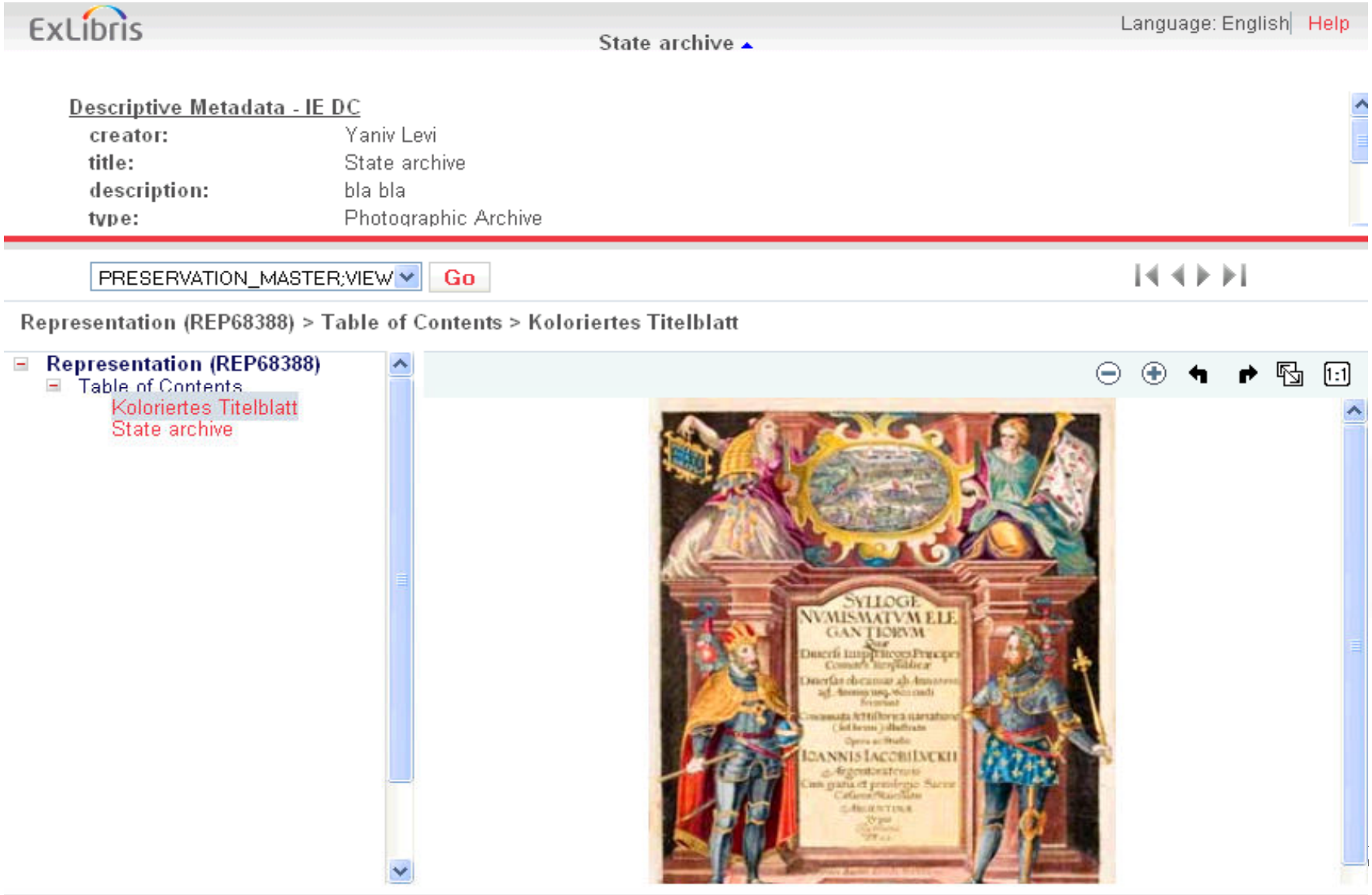
1 Automatic extraction of Tech MD



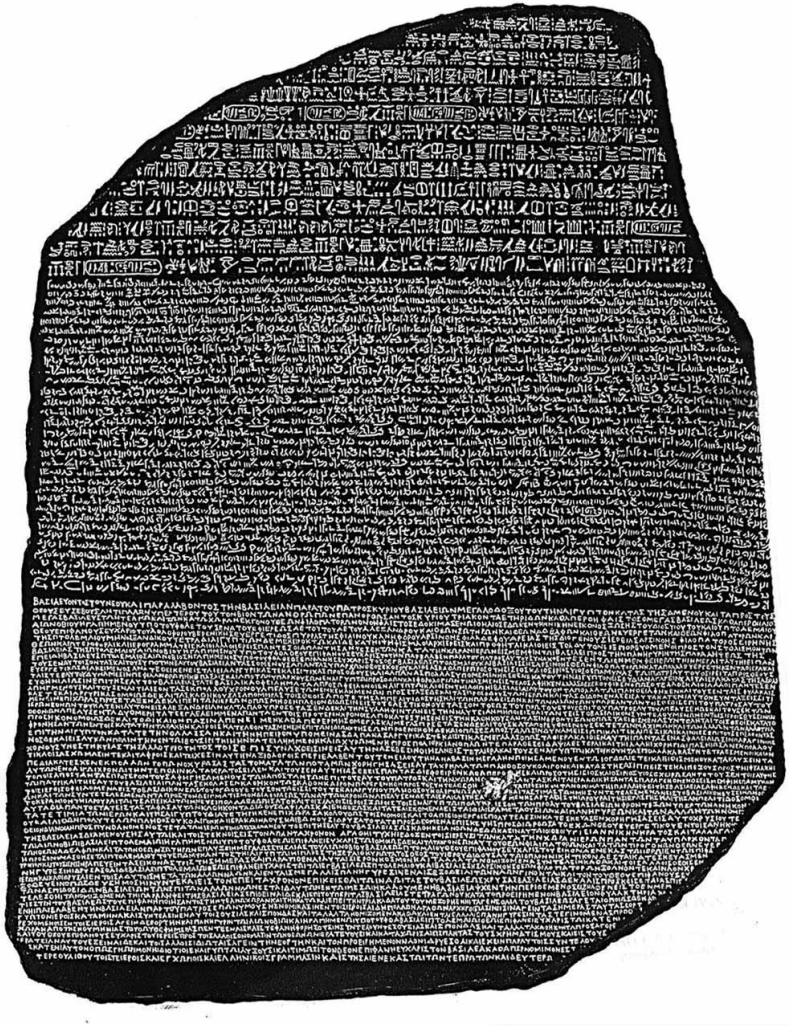


ExLibris Rosetta

Access Viewers



Thank you



Axel.Kaschte@exlibrisgroup.com