



OPEN SCIENCE
AND RESEARCH

Long-term access to digital research data

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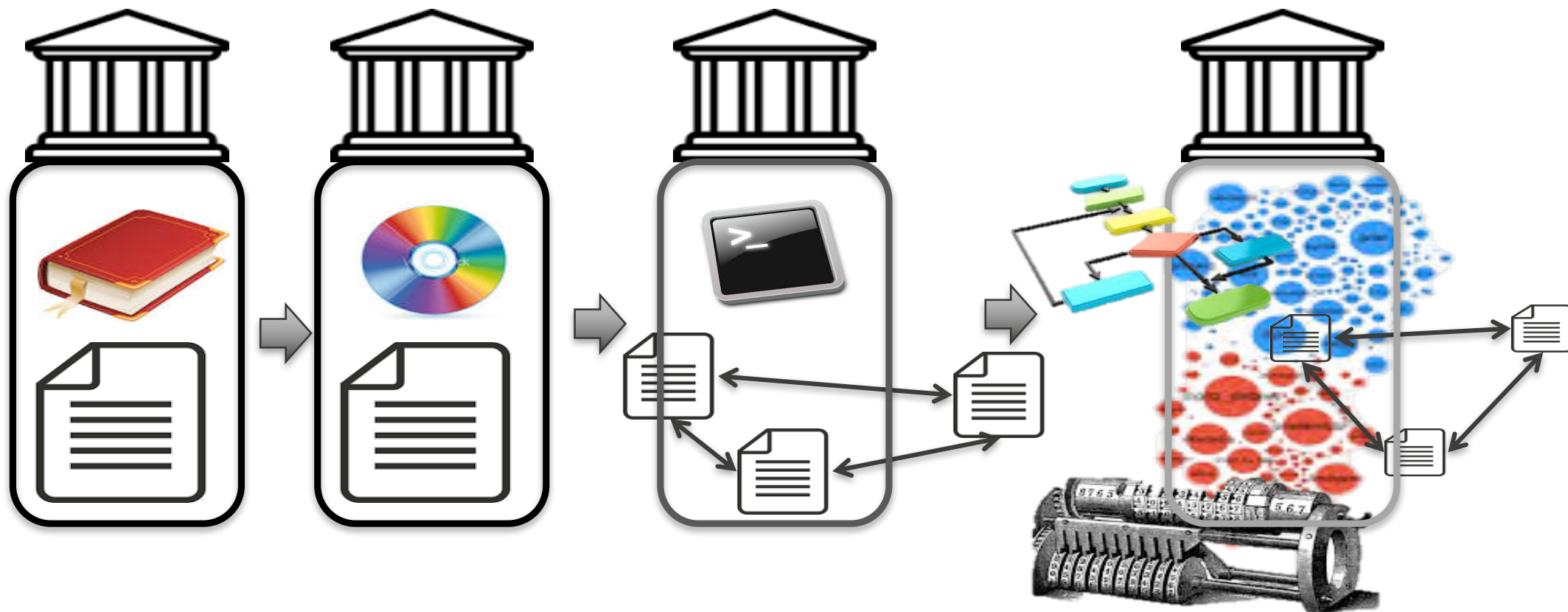


<https://creativecommons.org/licenses/by/4.0/>

<http://urn.fi/URN:NBN:fi-fe2016113030091>

What We Must Have

- Access to research output – over time
- Sustainable business model
- Network of trust
- Support to researchers
- Support from researchers

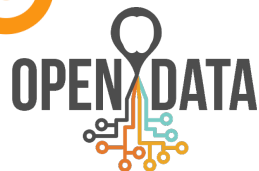


OPEN SCIENCE

OPEN ACCESS



OPEN DATA



OPEN SOURCE



OPEN COLLABORATION



OPEN NOTEBOOK



“**Open science** makes scientific research, data and dissemination accessible to all levels of an inquiring society, amateur or professional.”

All ATT objectives have a long-term aspect...

- Openness will be a **natural attitude**.
- **Tools and services** help in openness.
- Researchers get **credit and merit**.
- **Society** benefits from open research output.

Digital Preservation

- Keeping resources usable
 - Over long periods of time
 - Over changes in technology
 - Over changes in people and organization
 - Over changes in research practice



Long term accessibility

- Technical:
 - we know how to open it
- Intellectual
 - we understand the contents
- Legal/Ethical
 - we can reuse it confidently

Preservation of Bits

It is lost, or it is corrupt.



- Accept only technically good resources
- Make several copies on different media
- Check, refresh, etc.

Preservation of Technical Usability

I have the data... but I can't open it!

- Control heterogeneity
 - Limit the number of technologies, file formats, etc.
- Know what you have: collect technical metadata
- Watch for changes in hardware & software
- Adapt to changes
 - Plan for e.g. file format obsolescence



Intellectual Preservation

I have the bits, and I can read them... but what are these figures?

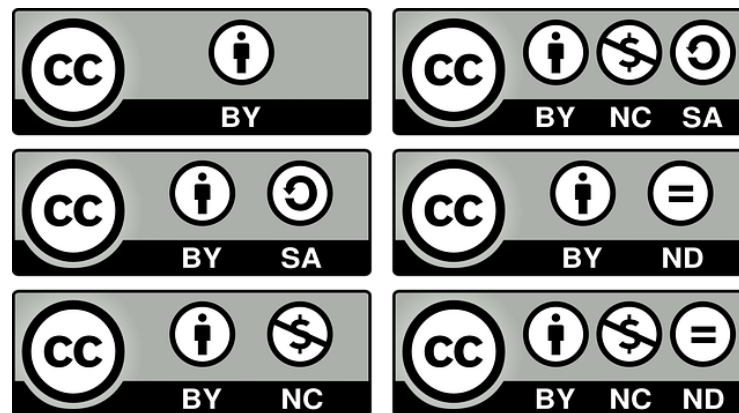
- Metadata
- Documentation
- Related publications



Legal/Ethical Preservation

Do I need a permit? Who can give it? Are they still alive?

- Clear licensing & metadata
 - CC/CC-like, if possible
- Easy and reliable way to obtain necessary permits



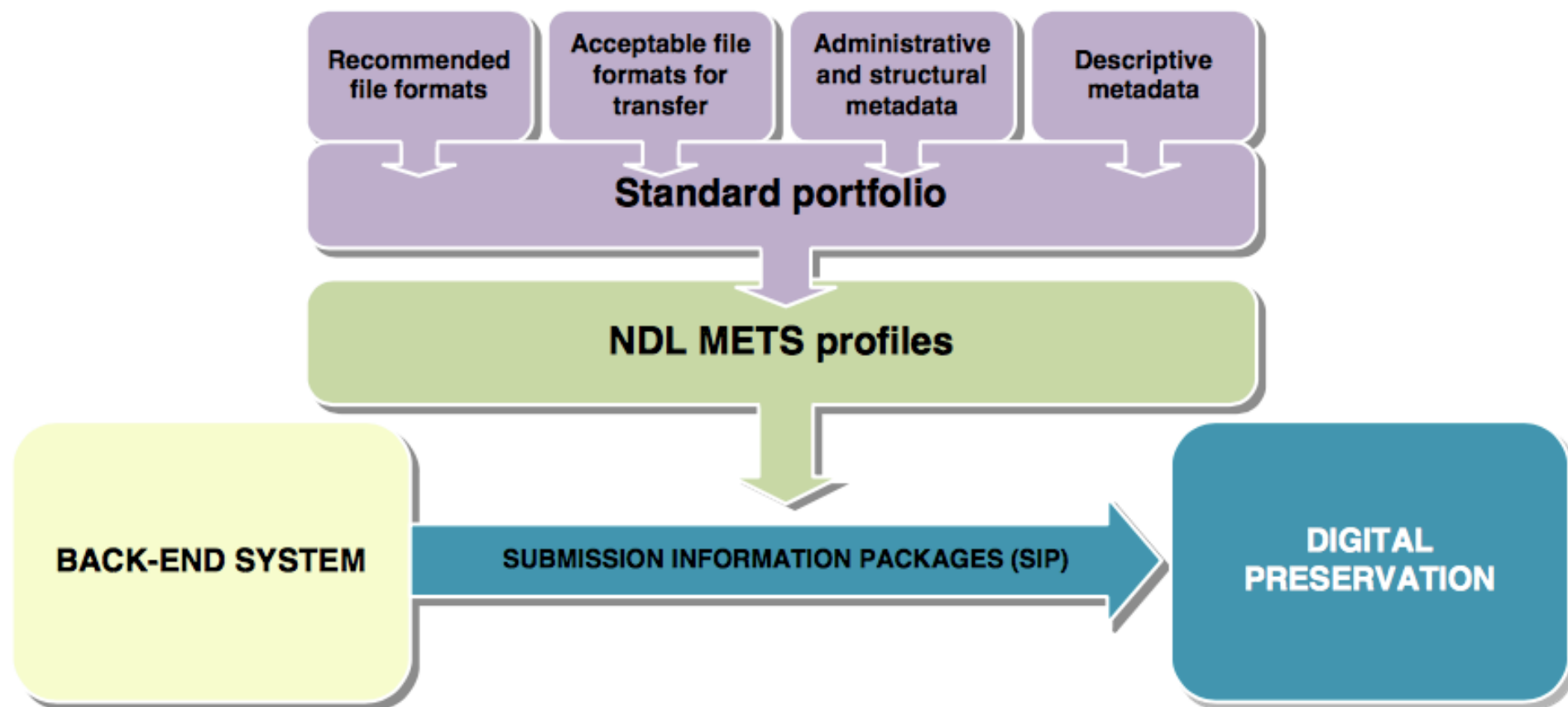


The National Digital Library

National Digital Library Initiative on Digital Preservation of Cultural Heritage

- <http://www.kdk.fi/>
- Cooperation of libraries, archives, museums
- Concentrated effort to preserve
 - Archival materials
 - Electronic Legal Deposit
 - Digitized cultural heritage (books, sound, film, etc.)

Managing Heterogeneity

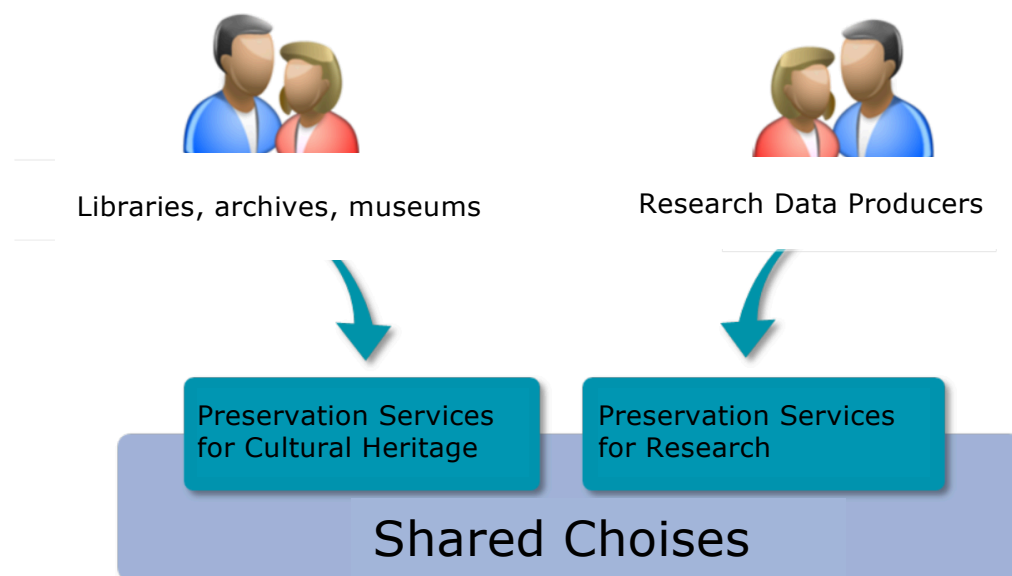


Open Standards & Technologies

- OAIS reference model for preservation
- METS packaging and structuring
- PREMIS preservation metadata
- In-House Software Development based on & will be published as open source

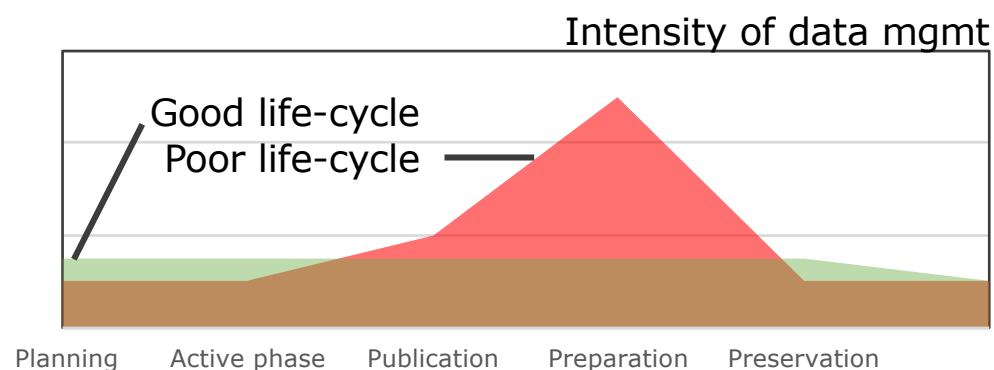
Building on Existing Infrastructure

- Existing preservation service for cultural materials
- → Will be expanded to cater for research data materials

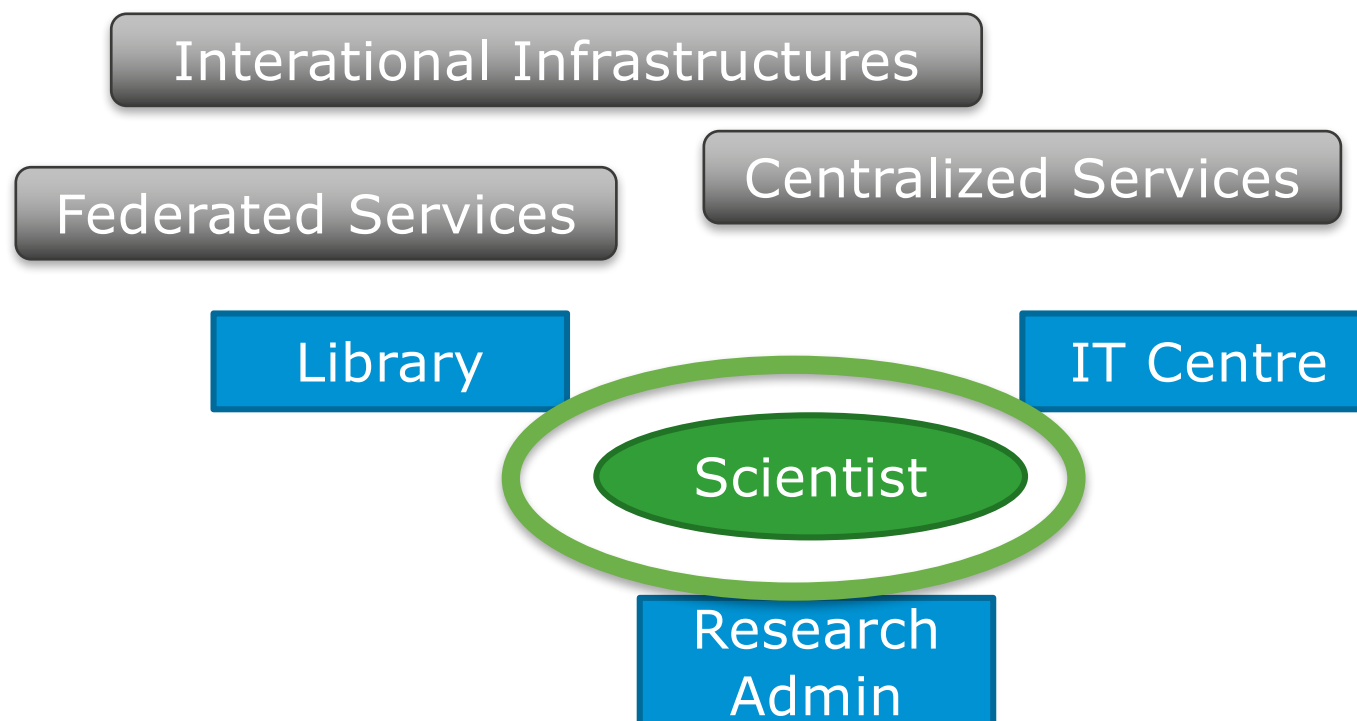


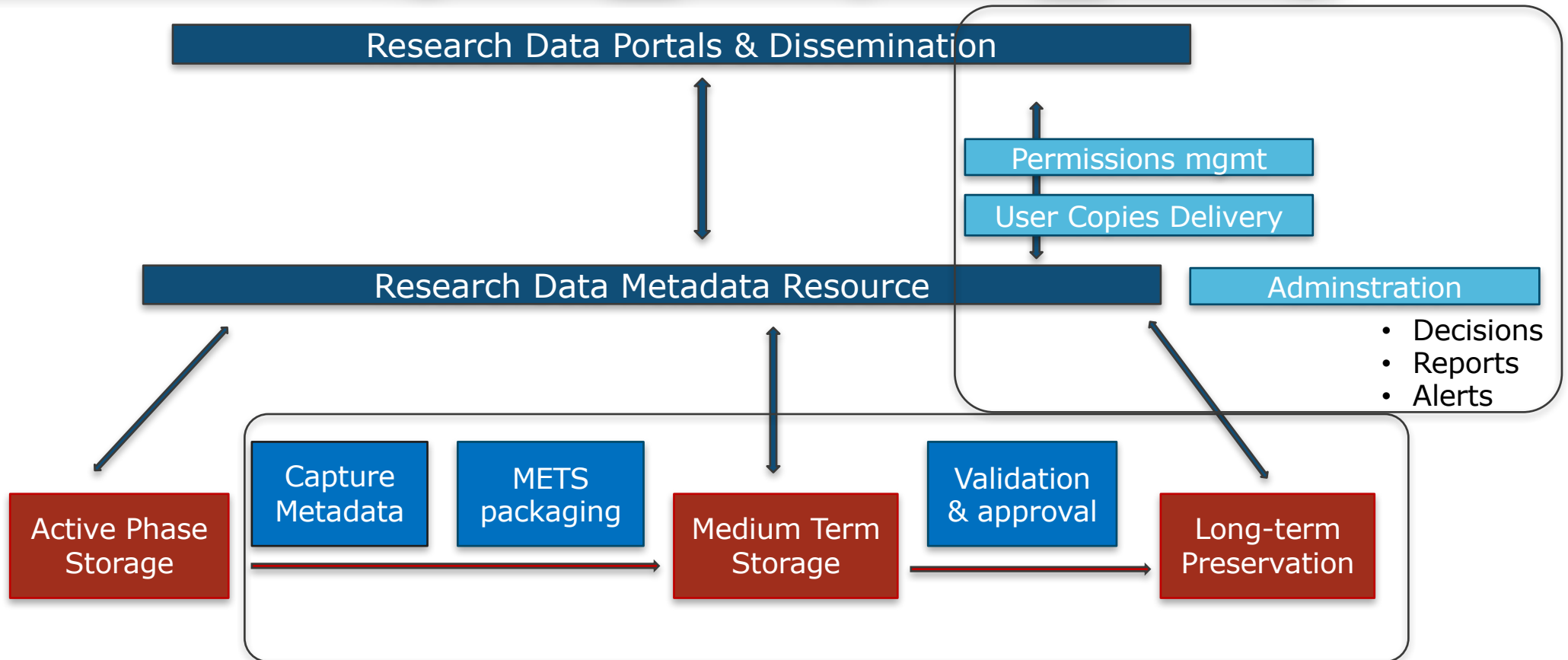
Challenge of data management practices

- Long-term considerations in life-cycle management
- Metadata capture
- Heterogeneity
- Legal issues
- Evaluation



Challenges of Service Design





Thank you!

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