Planets, SCAPE, and Beyond

My personal digital preservation journey

Dr. Ross King

AIT Austrian Institute of Technology GmbH

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SCAPE Project Data

- Project instrument: FP7 Collaborative Project
- 20 Partners from 11 countries
- 6. Call
  - Objective ICT-2009.4.1: Digital Libraries and Digital Preservation
  - Target outcome (a) Scalable systems and services for preserving digital content
- 10. Call
  - Objective ICT-2013.11.4: Supplements to Strengthen Cooperation in ICT R&D in an Enlarged European Union
- Duration: 44 months
  - February 2011 – September 2014
- Budget: 12.0 Million Euro
  - Funded: 9.2 Million Euro

SCAPE Consortium

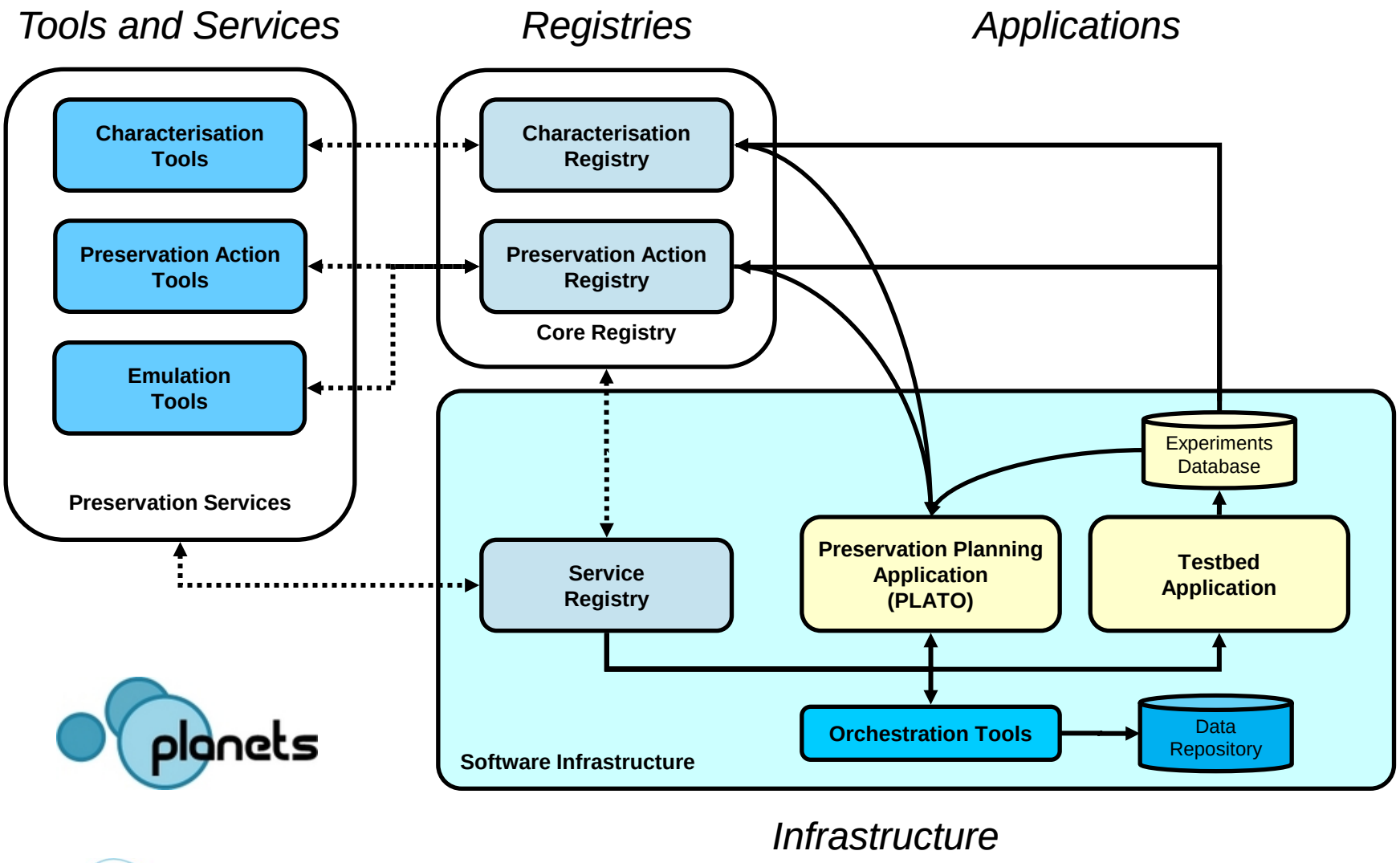
SCAPE – what is it about?

- Planning and executing computing-intensive digital preservation processes such as the large-scale ingestion, characterisation or migration of large (multi-Terabyte) and complex data sets

- SCAPE results include
  - Preservation scenarios
  - Preservation tools
  - Preservation workflows
  - Preservation infrastructures
  - Preservation best-practices

SCAPE is a follow-up to the highly successful FP6 IP **Planets**.

The Planets Suite



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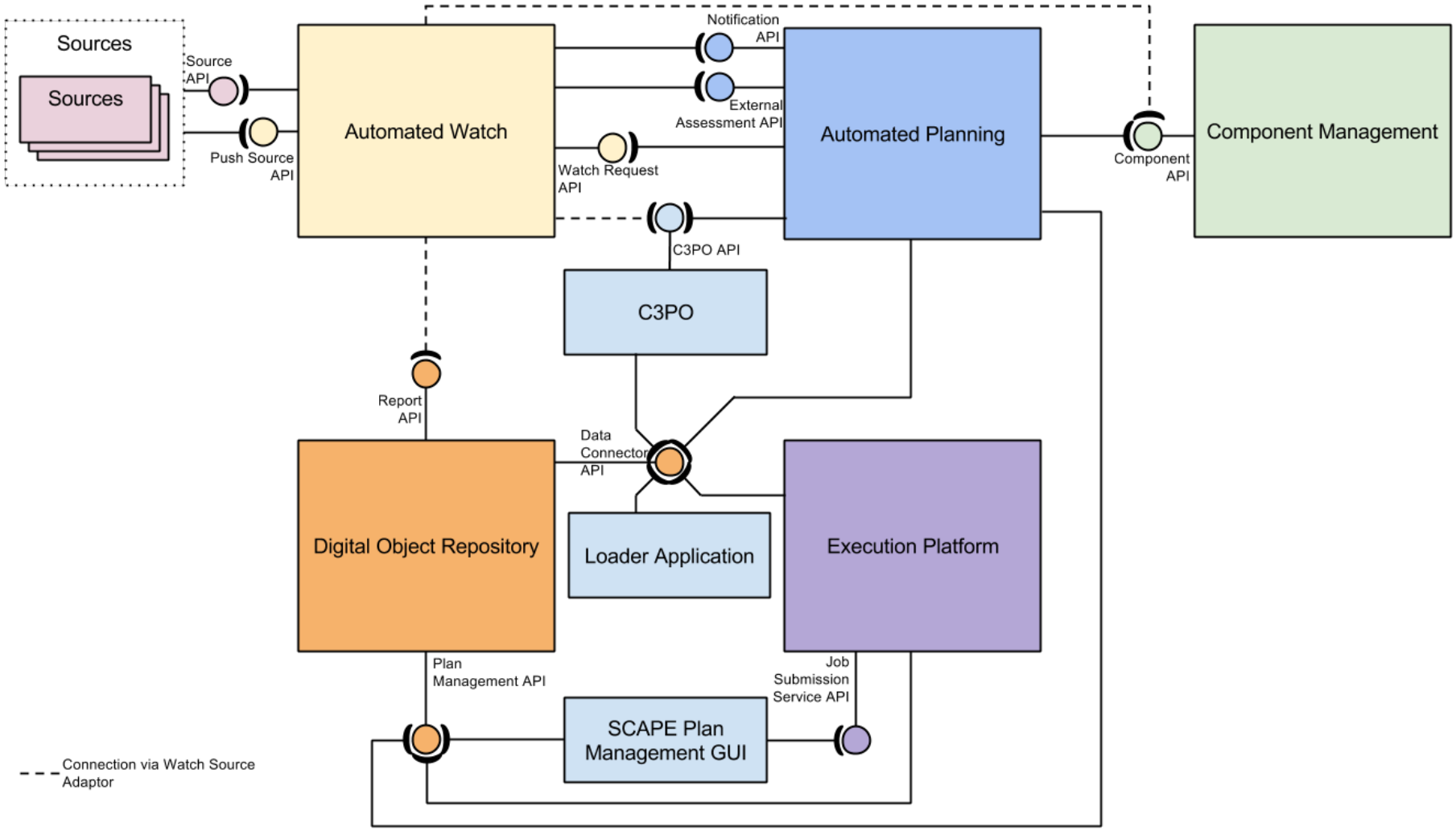
SCAPE Architecture



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Planets and SCAPE: A comparison

Component	Planets	SCAPE
Tools	Characterisation (DROID) Action (migration) Validation (JHove) Emulation	Characterisation (TIKA/Nanite, FITS) Action (migration) Validation (Jpylyzer) Quality Control
Services	Web Services	Web Services APTs with Hadoop
Registries	Service Registry (custom) Format Registry (Tessella)	Component Registry (myExperiment)
Preservation Planning	PLATO	PLATO 4.4
Workflow	Custom engine JBoss BPEL	Taverna Apache Pig, ToMaR
Data Management	JCR 170 repository (custom)	Data Connector API (RODA, Rosetta, Fedora4)
Other stuff	Testbed Application	Automated Watch (SCOUT, C3PO)

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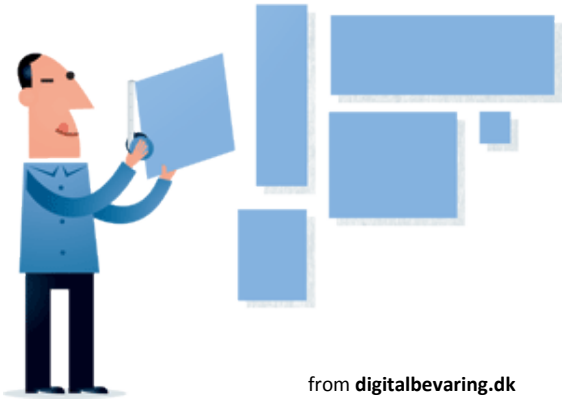
Solving Preservation Problems the SCAPE Way

- Open Source Development
  - And/or implementation of open APIs
- Uniform Deployment
  - Use the SCAPE Toolspec+Toolwrapper to publish tools
    - As Advanced Packaging Toolkit (APT) packages
    - As SCAPE Components



from **digitalbevaring.dk**

- Preservation Planning
  - Use PLATO to test tools (as SCAPE Components) and make policy-based plans
- Process Modelling
  - Use Taverna to model preservation workflows
    - Taverna works directly with SCAPE components for experimental workflows
    - Taverna workflows can be converted to Hadoop/Pig workflows in some cases
- Hadoop Deployment
  - Use APT packages to deploy to a Hadoop environment
- Scalable Execution
  - SCAPE ToMaR can directly access tools through the toolspec

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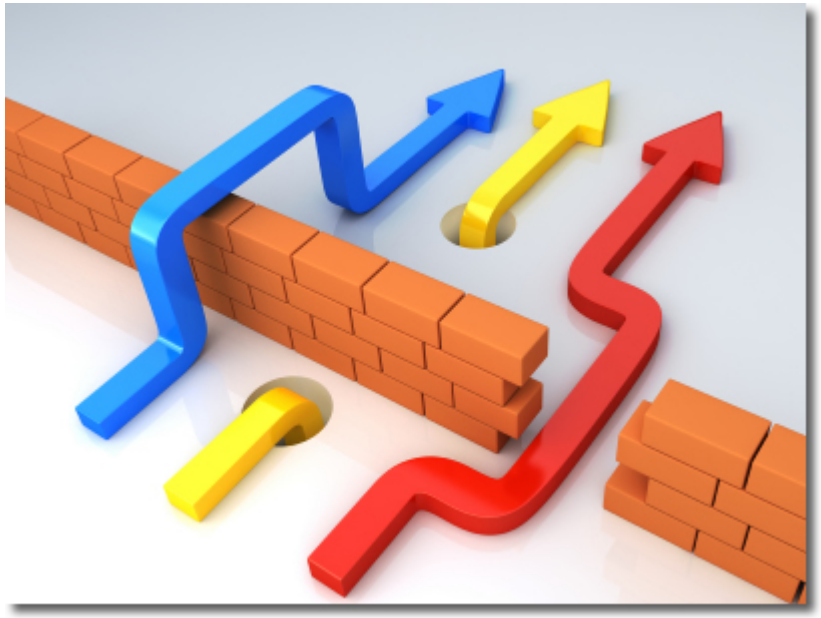
Lessons Learned

Lessons Learned

- Lesson 1: Research projects often face structural impediments



The Wall

Production

- Practitioners
- Focus on daily business needs
- Service availability is a priority
  - Services are stable
  - Enjoy a large maintenance pool

Research and Development

- Developers
- Focus on innovation
- Services are prototypes
  - Unstable
  - Buggy
  - Maintenance pool limited to a few (or one) expert(s)

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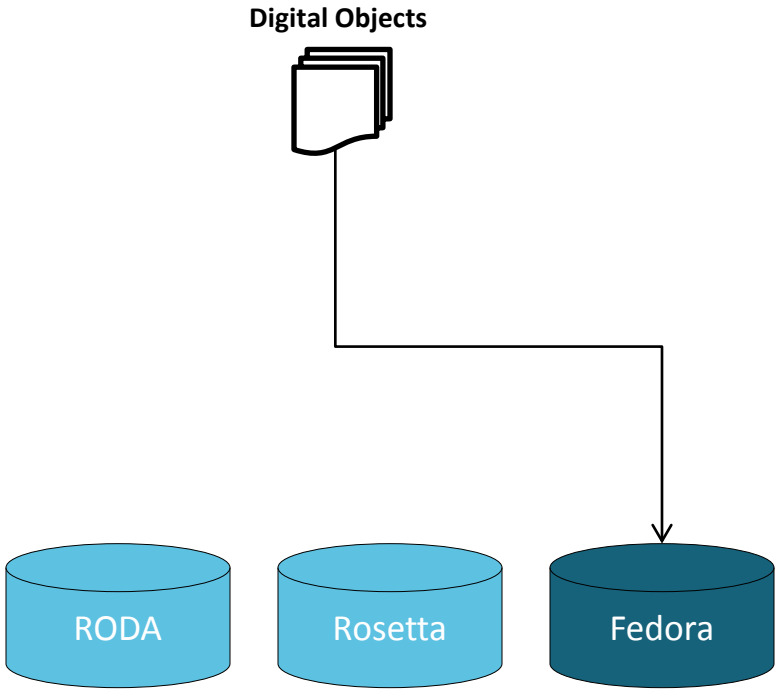
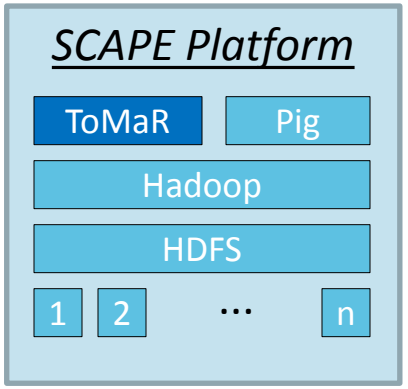
The Wall

Production



Research and Development



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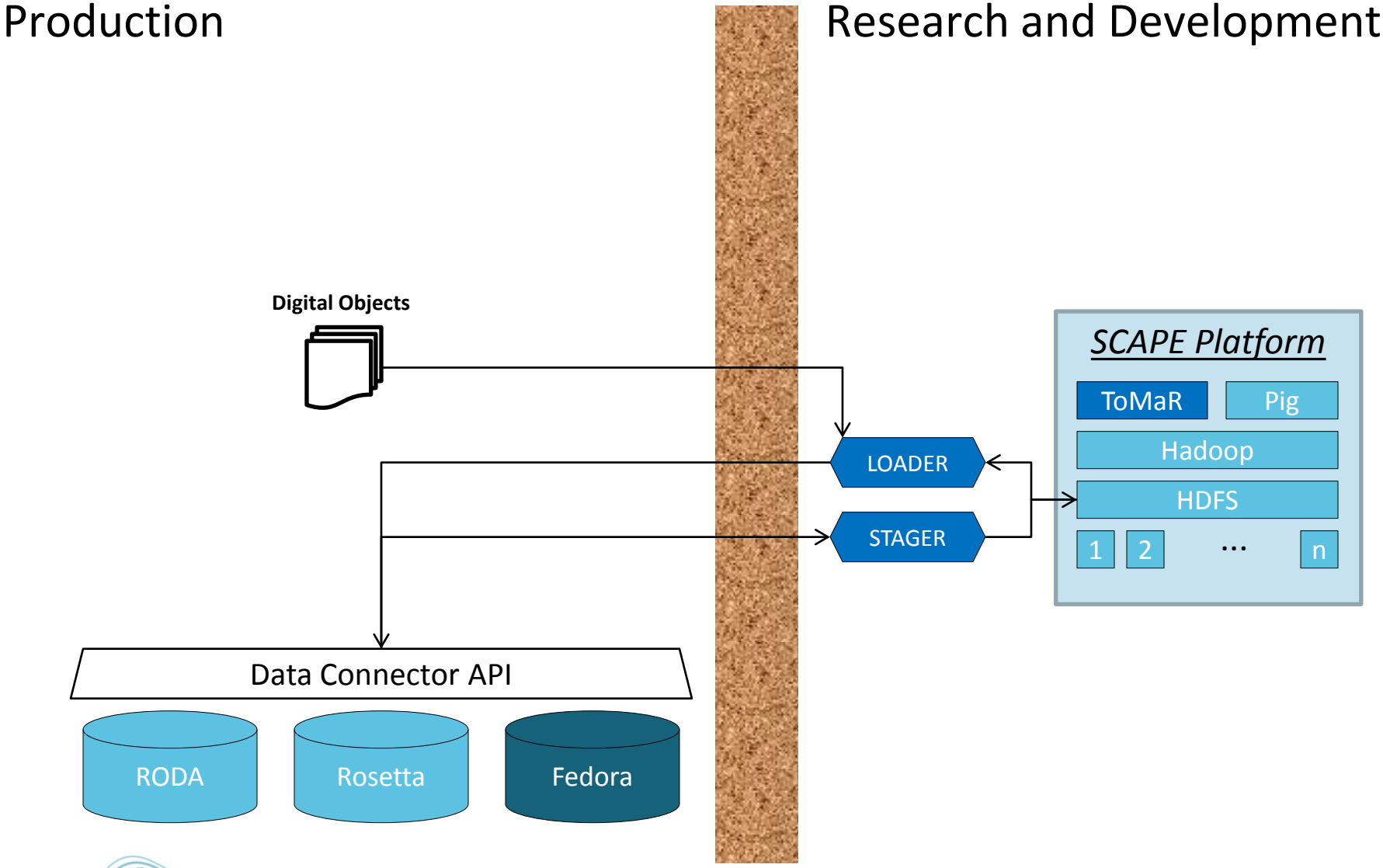
The Wall



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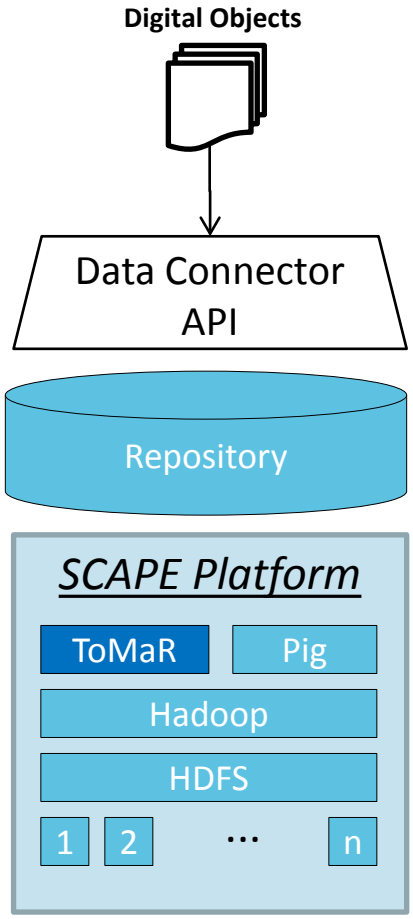
The Goal

Research and Development in Production



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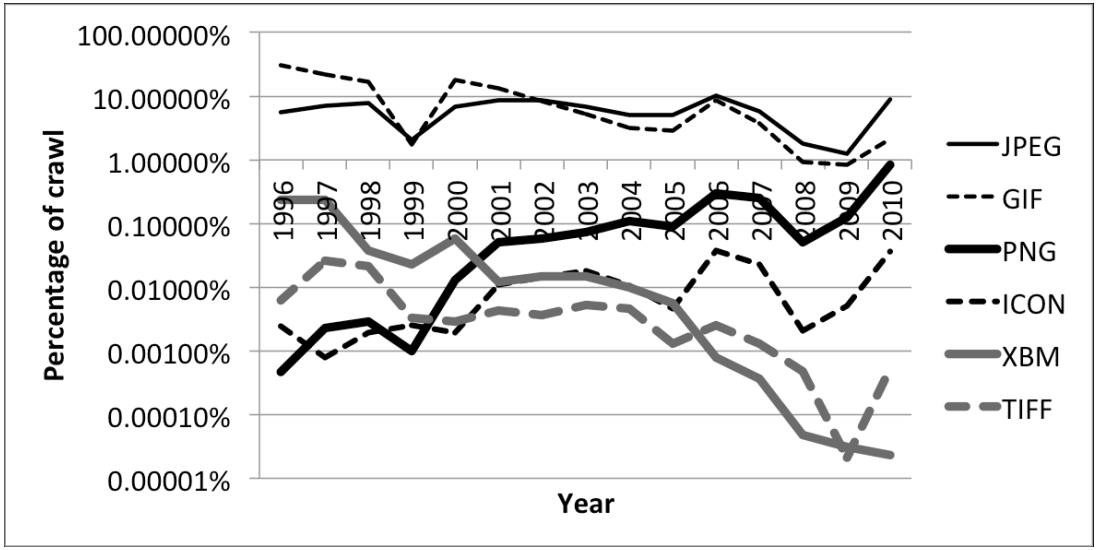
Lessons Learned

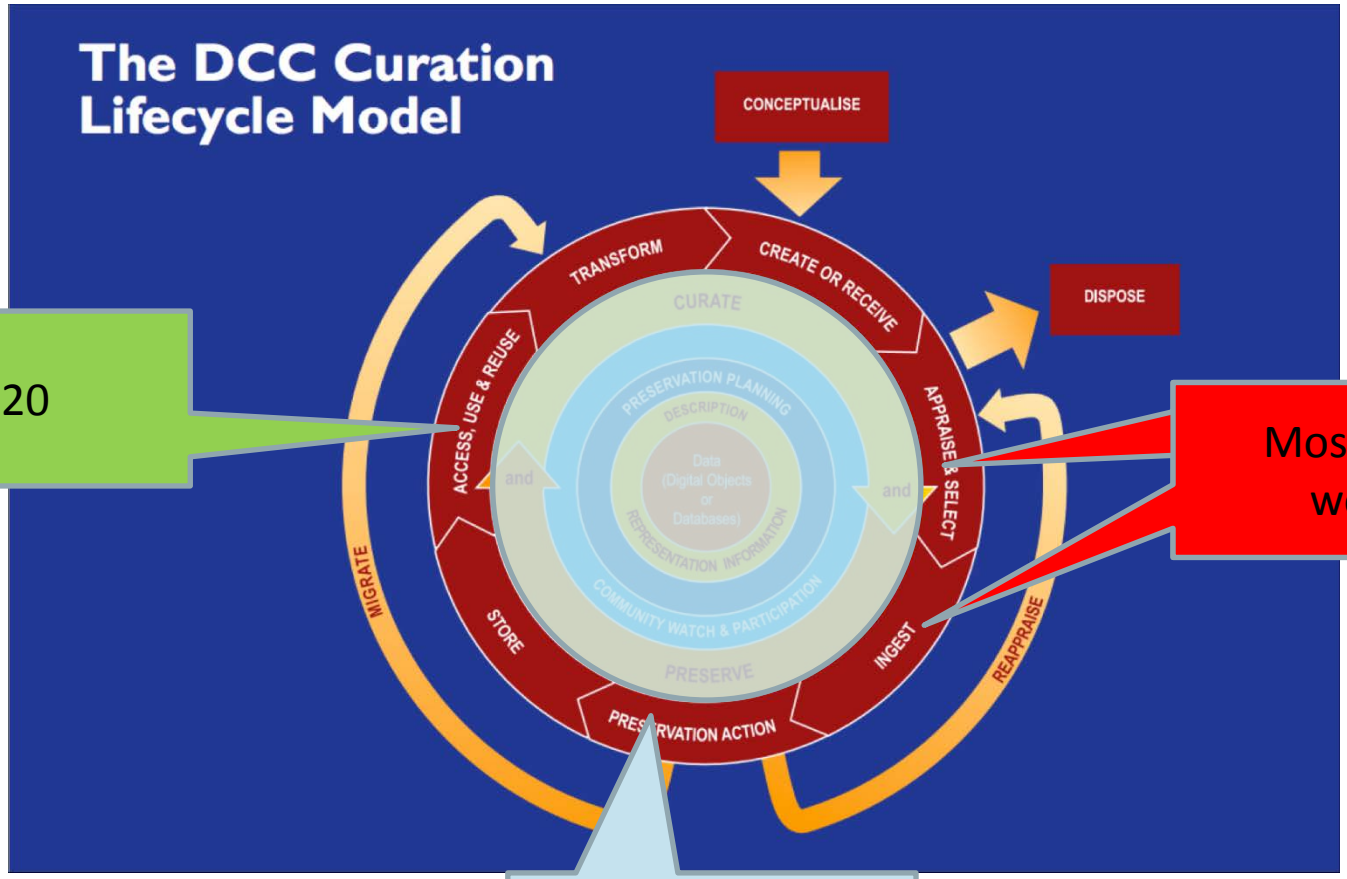
- Lesson 2: The time horizon for preservation problems is an order of magnitude too far for most decision makers

Lessons Learned

- Lesson 3: Format Migration may not be as important as we thought it was



Lessons Learned



H2020

Most of the world?

FP6, FP7 Projects

H2020 Thoughts

- Research versus Production
- Storage versus Computation
- Access and Re-use versus Preservation

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SCAPE Additional Information

Additional Resources of Interest

- Development Infrastructure
  - Code repository hosted by the Open Planets Foundation and GitHub
    - https://github.com/openplanets/scape/
  - Development Wiki
    - http://wiki.opf-labs.org/display/SP/Home
- Experimental Workflows
  - http://www.myexperiment.org/search?query=SCAPE&type=all&commit=Search
- Publications
  - http://www.scape-project.eu/category/publication
- Public Deliverables
  - http://www.scape-project.eu/category/deliverable
- Tools
  - http://www.scape-project.eu/tools

SCAPE Contact Information

- http://www.scape-project.eu/
- Twitter: #scapeproject
- office@list.scape-project.eu

- Dr. Ross King
  AIT Austrian Institute of Technology GmbH
  Donau-City-Strasse 1
  A-1220 Wien

Thank you for your attention!