eSciDoc Infrastructure and Solutions

Matthias Razum
FIZ Karlsruhe

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Project Setup and Mission

Bundesministerium für Bildung und Forschung

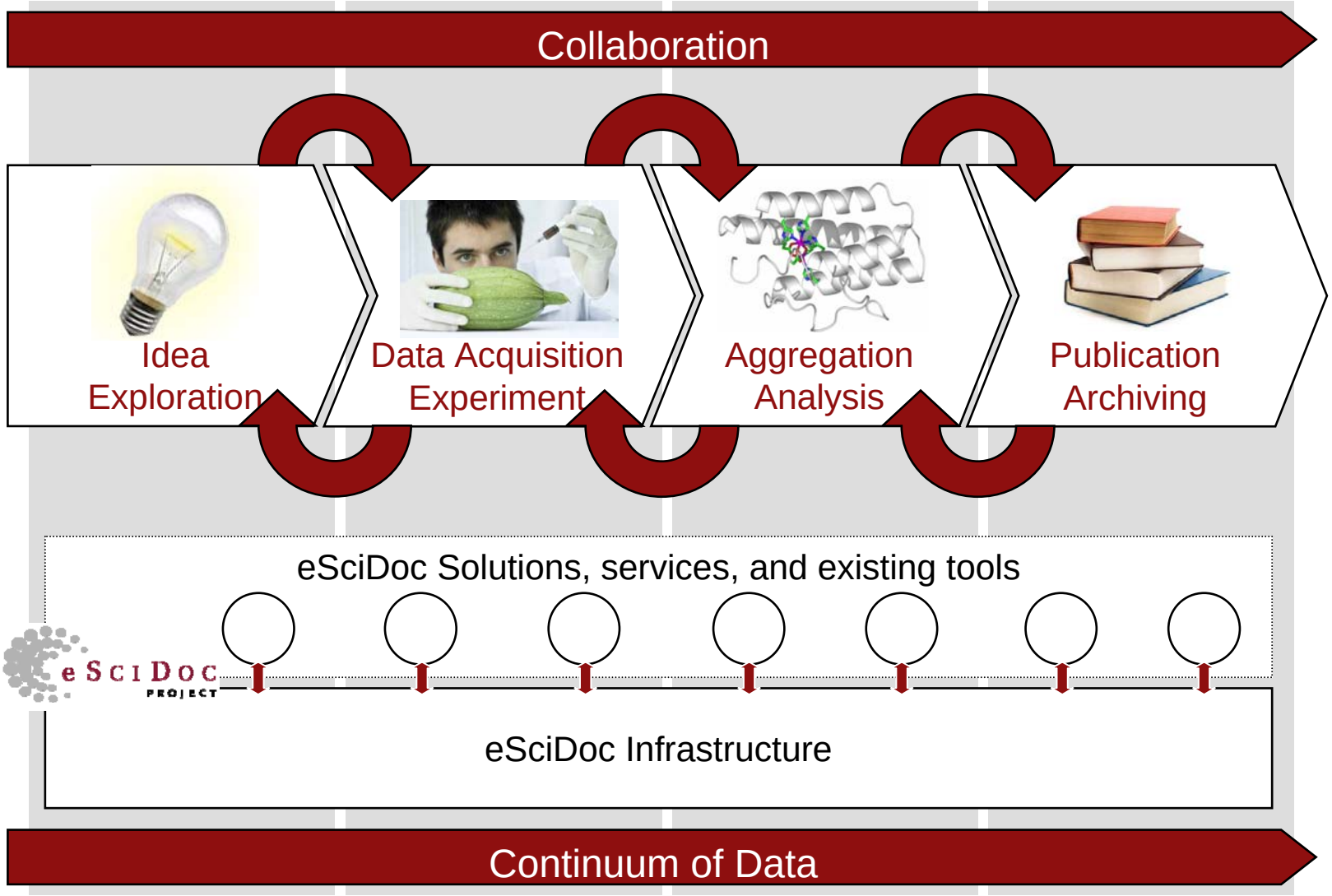
- eSciDoc is as a joint project of the Max Planck Society and FIZ Karlsruhe, funded by the Federal Ministry of Education and Research (BMBF), aimed at building an e-Science platform for multi-disciplinary research organizations.

- eSciDoc
  - integrates research results and materials in an emerging e-research network,
  - provides effective and comprehensive access to data and information
  - supports collaboration and interdisciplinary research in future e-Science scenarios
  - increases the accountability of research
  - improve the visibility of research institutions and organizations

Data and Information Infrastructures

"Equally, if not more important than its own data and information needs, today's research community must also assume ***responsibility for building a robust data and information infrastructure*** *for the* ***future****."*

(International Council for Science, ICSU, 2004).


Collaboration
Idea
Exploration
Data Acquisition
Experiment
Aggregation
Analysis
Publication
Archiving
eSciDoc Solutions, services, and existing tools
eSciDoc Infrastructure
Continuum of Data

Example of a Network of Interrelated Objects

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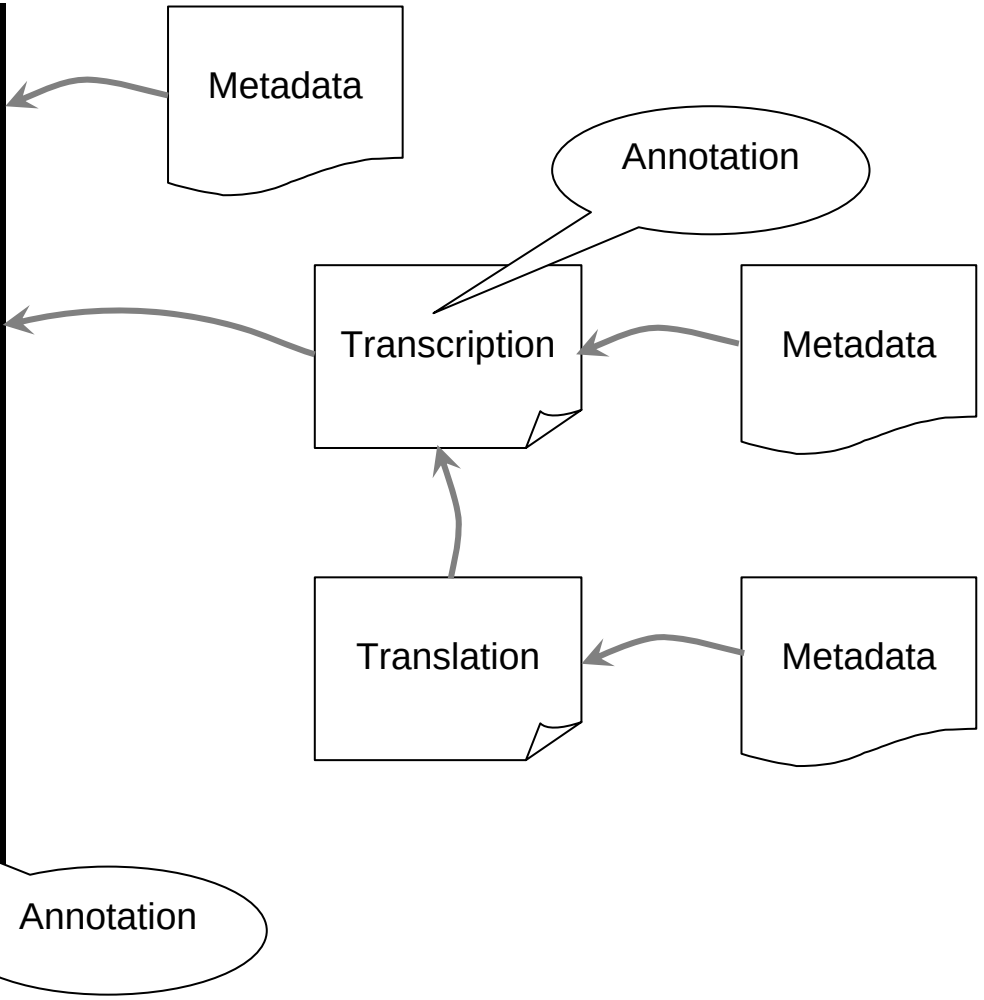
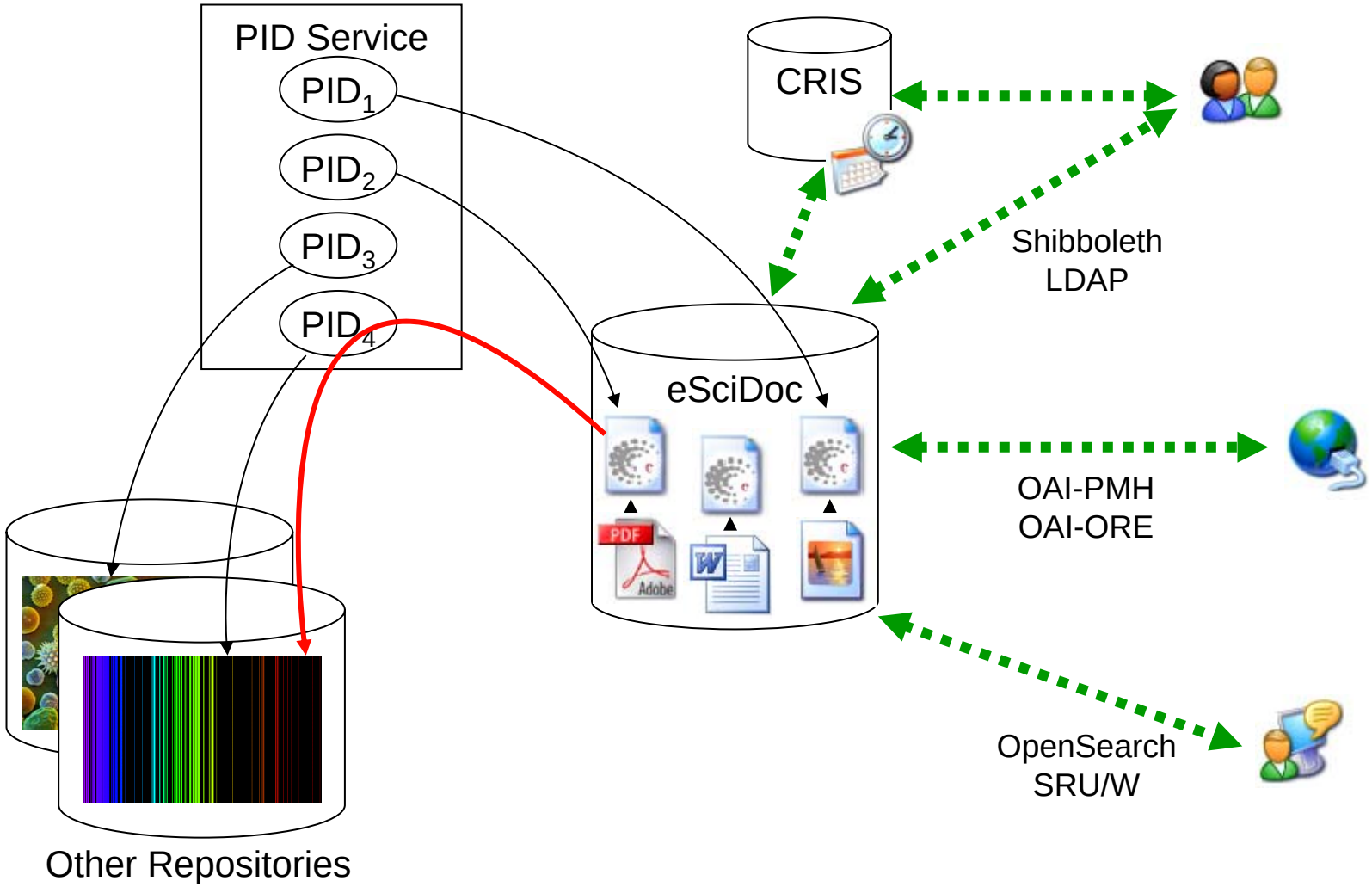
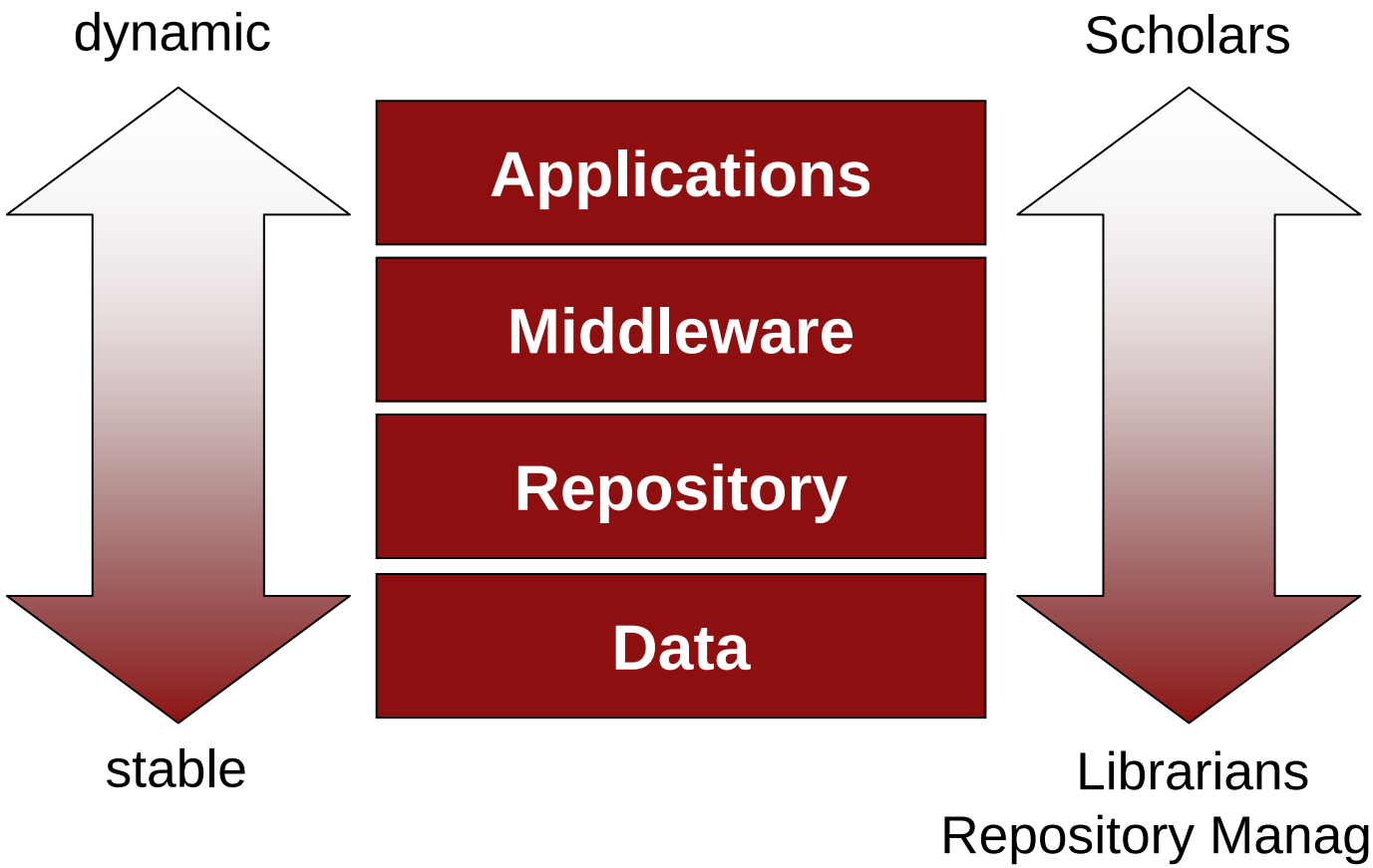


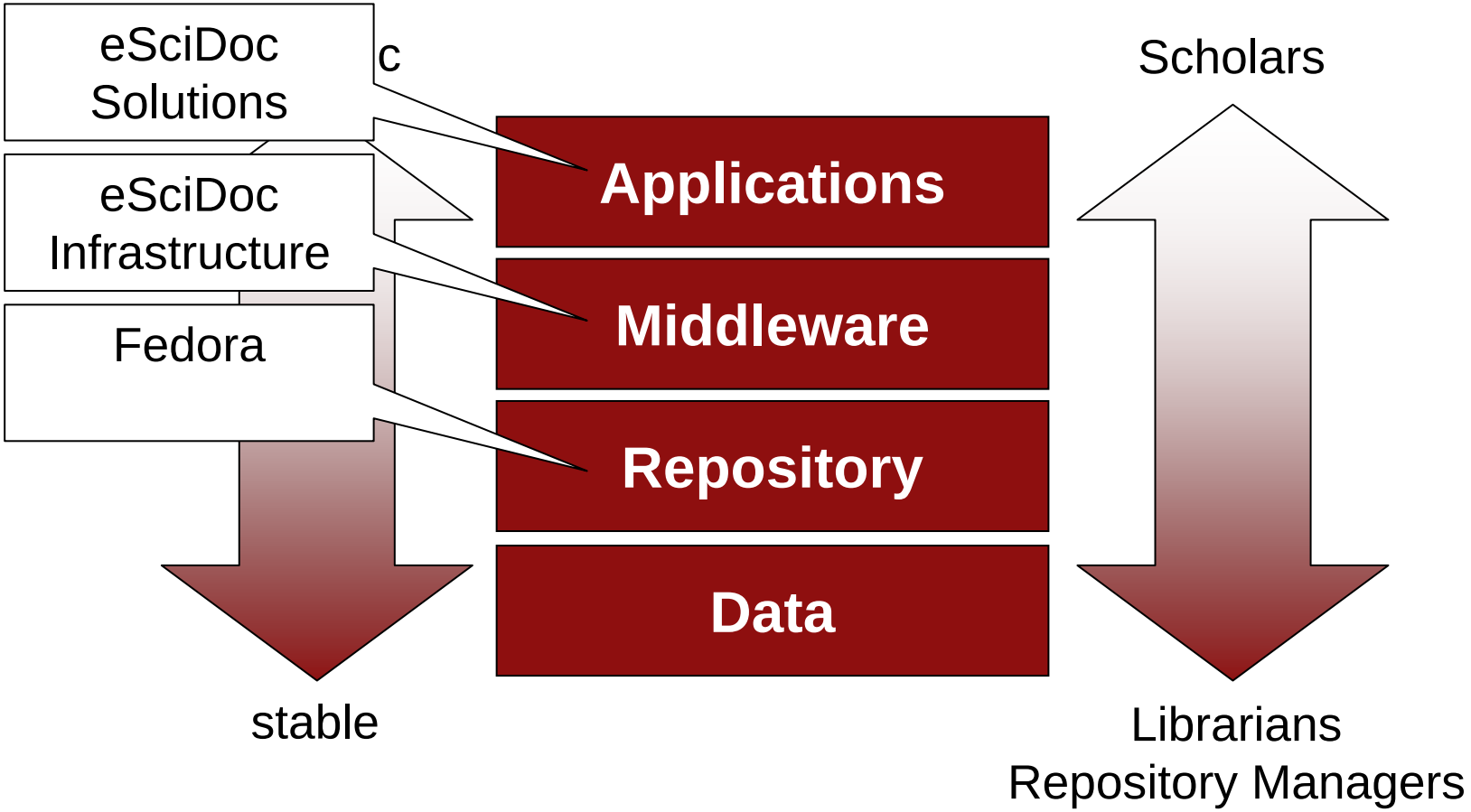
Identification, Linking, and Integration



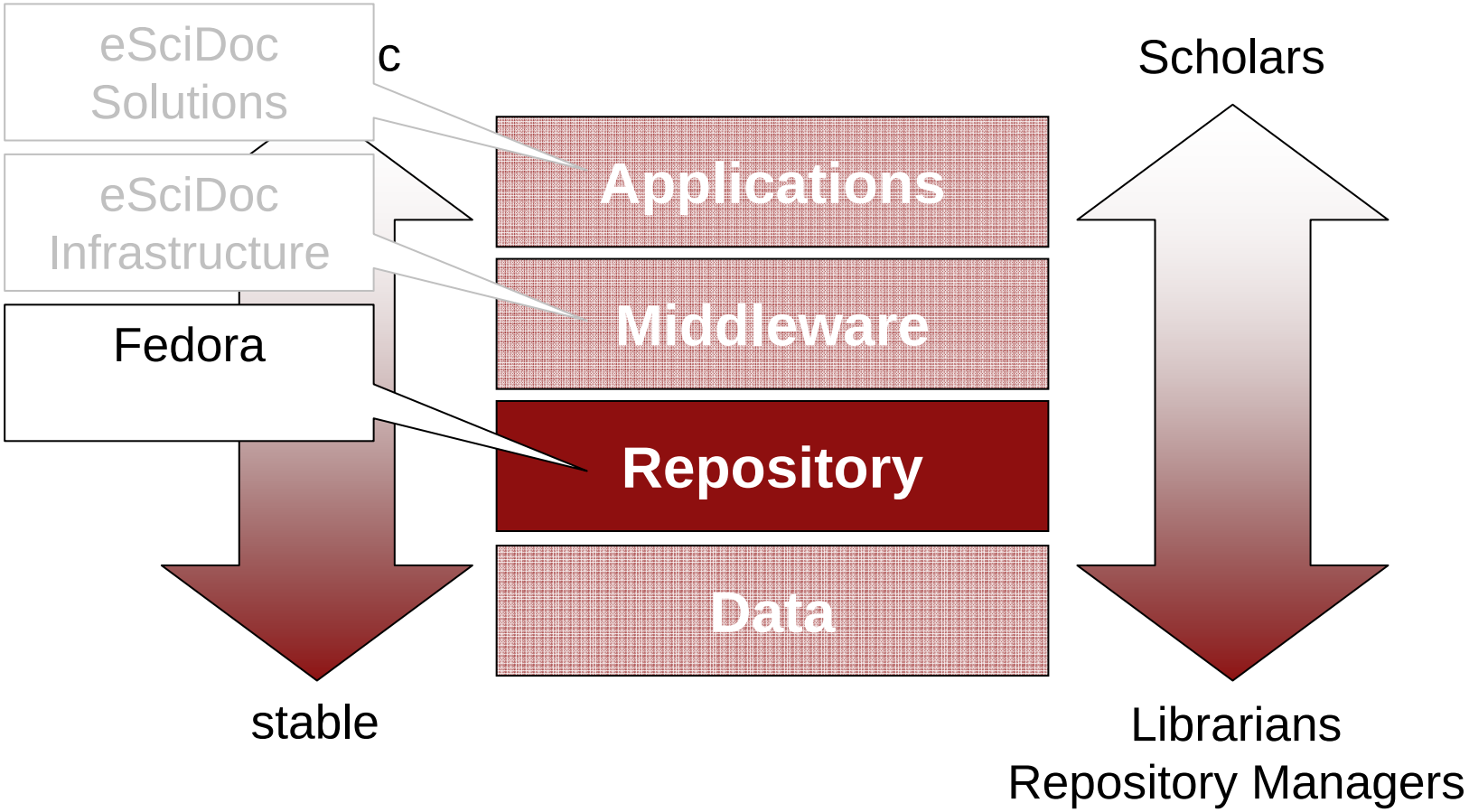
Hierarchy of Persistence



Hierarchy of Persistence

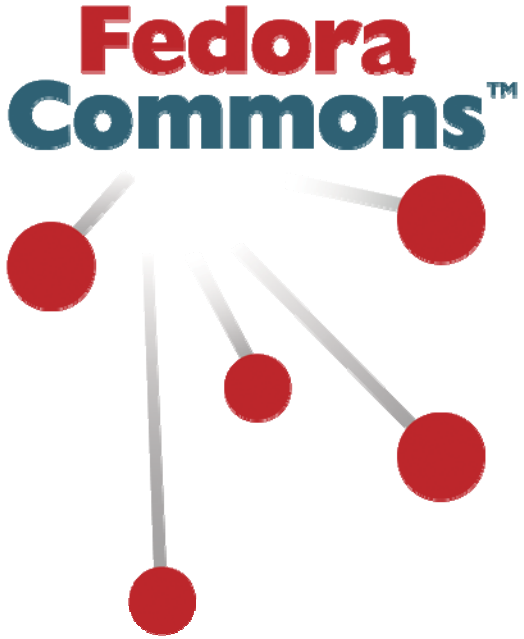


Hierarchy of Persistence



Fedora Stands for

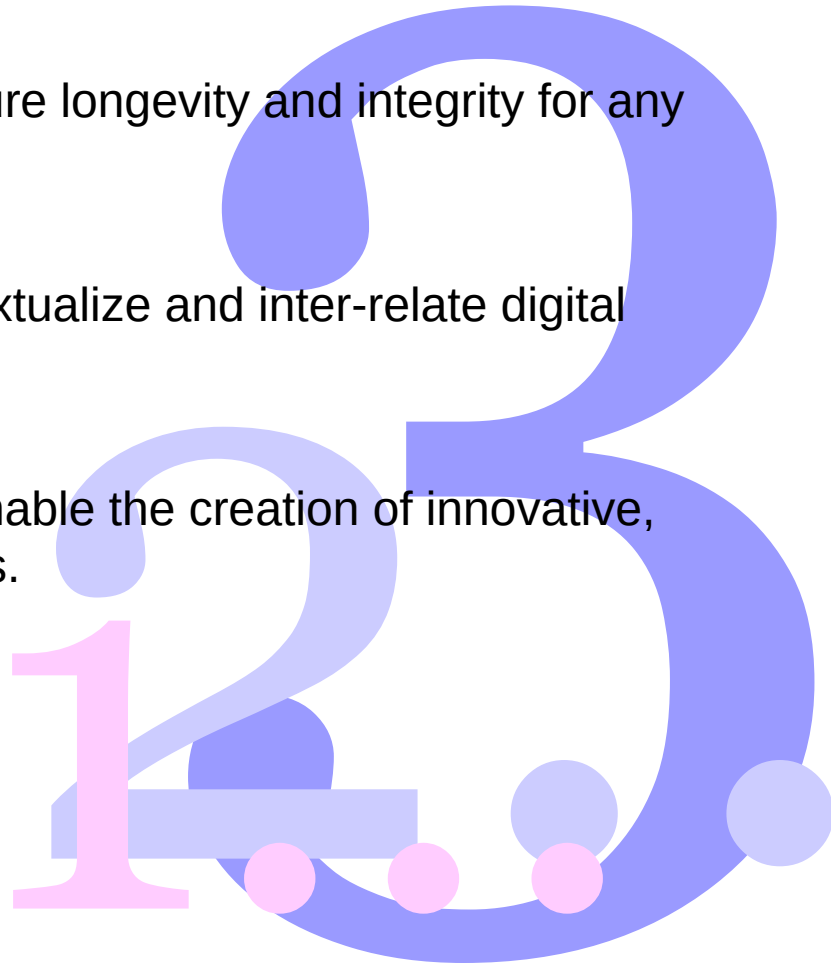
- **F**lexible
- **E**xtensible
- **D**igital
- **O**bject
- **R**epository
- **A**rchitecture



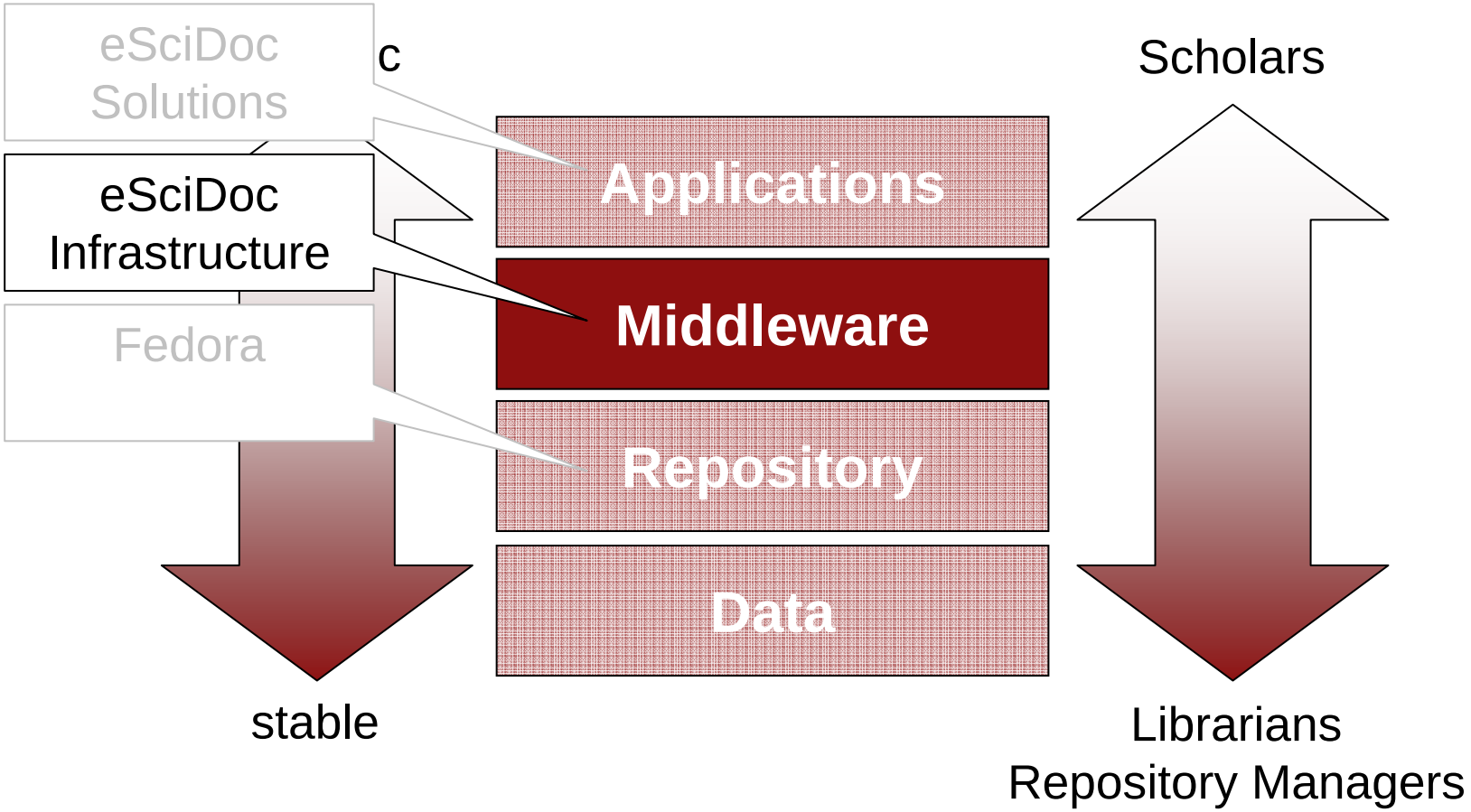
http://www.fedora-commons.org/

The Fedora Triple Play

- Storage
  - Repository technologies to ensure longevity and integrity for any kind of digital content.
- Semantics
  - Semantic technologies to contextualize and inter-relate digital content from many sources.
- Services
  - Collaborative technologies to enable the creation of innovative, collaborative information spaces.



Hierarchy of Persistence



Key Features of the eSciDoc Infrastructure

- The service-oriented architecture fosters the creation of autonomous services, which can be re-used independently from the rest of the infrastructure
- Flexible content models
- Arbitrary metadata profiles
- Application-independent design
- Support for object relations and multiple ontologies
- Search (OpenSearch, SRW/SRU)
- Distributed Authentication/Authorization (Shibboleth)
- The multi-disciplinary nature of the MPS ensures the coverage of a broad range of generic and discipline-specific requirements

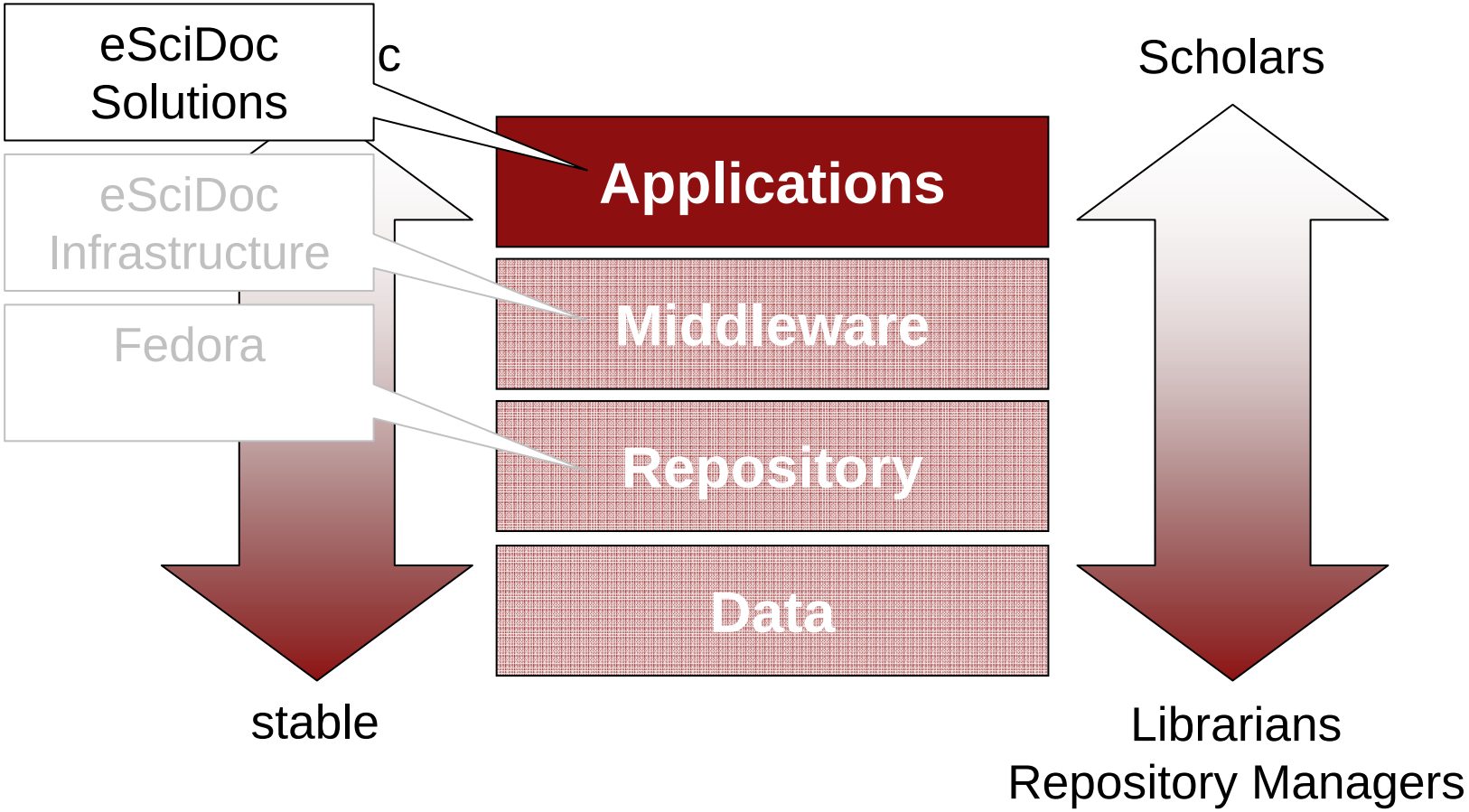
eSciDoc Infrastructure is “Enabling Technology”

- Researchers can focus on domain-specific application logic when building new solutions
- Existing and proven implementation of common functionality (existing services)
- Ensures interoperability and compliance with important standards
- Operation of the production environment can be managed by a specialized service organization
- Integrates into a wider e-Science landscape in Germany and internationally

Services of the eSciDoc Infrastructure

- Object Manager (Contexts, Containers, Items)
- Organizational Unit Handler
- Authentication & Authorization (Users, Roles, Policies)
- PID Handler
- Validation Service
- Workflow Manager
- Statistics Manager
- Semantics Handler
- Search & Indexing Service
- Duplication Detection
- Technical Metadata Extraction
- Digilib

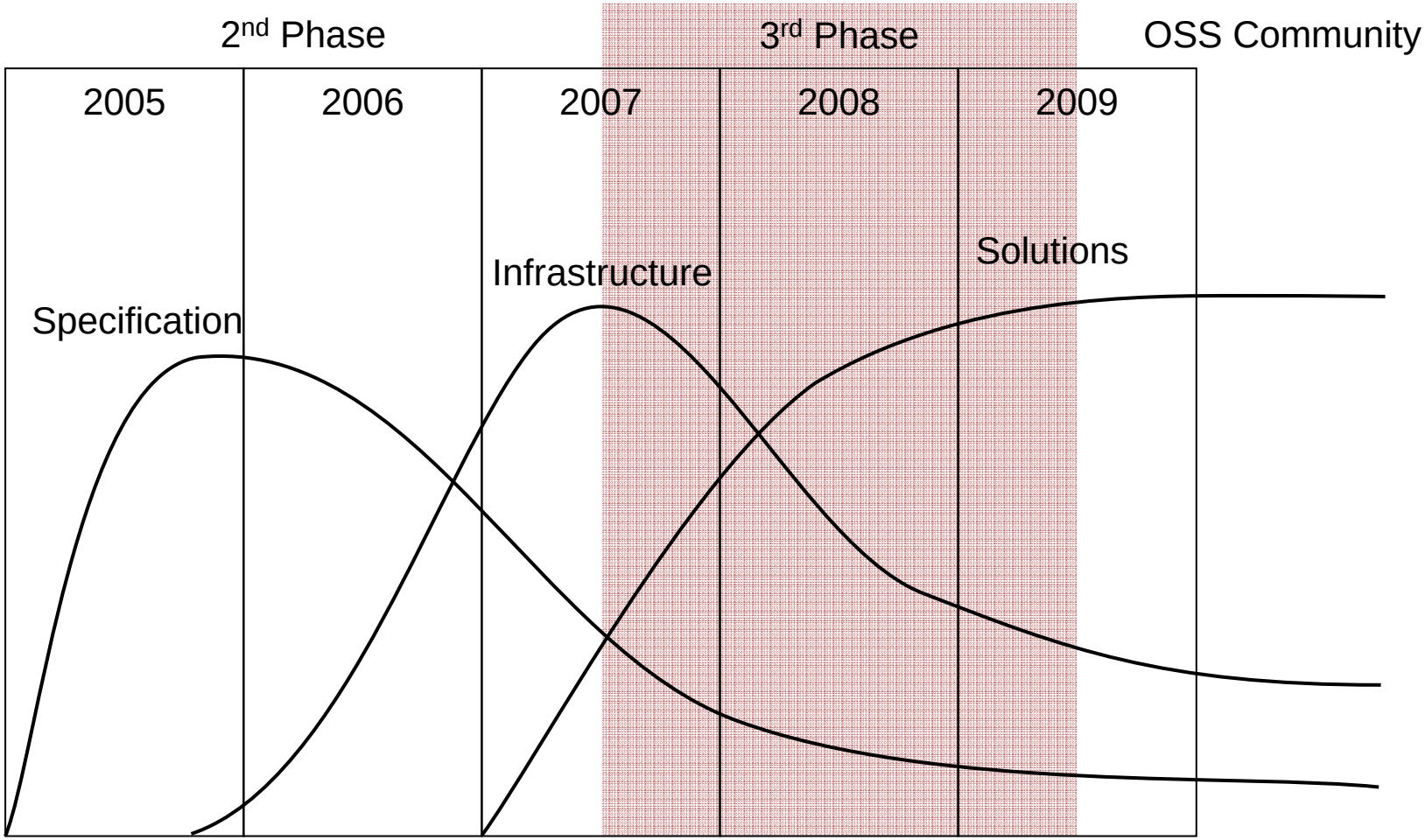
Hierarchy of Persistence



Solutions

- Publication Management
  - Management and digital curation of research publications
  - Addresses researchers, librarians, and IT staff
  - Customization and configuration is a key feature
- Faces
  - Lifespan database of adult emotional facial stimuli
- ViRR
  - Covers information about the law of the Holy Roman Empire
- WALS Online
  - World atlas of language structures

eSciDoc Project Phases



Thank you!

Questions?

Matthias Razum
matthias.razum@fiz-karlsruhe.de

http://www.escidoc.org/