RZ Information System Meeting

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1.1 What is Fedora Commons?

- **Fedora** stands for *Flexible Extensible Digital Object Repository*.
- Fedora is a **general-purpose, open-source** digital object repository system.
- Java based conceptual framework using a set of abstractions about digital information to provide the basis for software systems that can manage digital information.
- The Fedora software distributed by **Duraspace** ([http://www.duraspace.org](http://www.duraspace.org)) is available from [http://fedora-commons.org](http://fedora-commons.org) under the terms of the Apache License, version 2.0.
1.2 Key Features [1/3]

- Store all types of content and its metadata
- Scale to millions of objects
- Access to data via Web APIs (REST/SOAP)
- Provides RDF based Resource Index search
- Rebuilder Utility (for disaster recovery and data migration)
- The entire repository can be rebuilt from the digital object and content files.
1.2 Key Features [2/3]

- Content Model Architecture (define "types" of objects by their content)
- Many storage options (database and file systems)
- JMS messaging provider (your apps can "listen" to repository events)
- OAI-PMH Provider Service
1.2 Disadvantages [3/3]

- Front-end Adaptation
  
  https://wiki.duraspace.org/display/DEV/Fedora+Tools

- Object Store Scalability Strategy
  
  https://wiki.duraspace.org/display/AKUBRA/Akubra+Project
1.3 Web Service Interface

- **Primary API's**
  Allow the creation, reading, modification, and deletion of Fedora digital objects.

- **Optional API's**
  - Basic OAI-PMH
  - RI-Search
1.4 Framework Services

- Generic Search Service
- OAI Provider Service
1.5 Who uses Fedora Commons in .de?

1- eSciDoc - The Open Source e-Research Environment
https://www.escidoc.org

2- Fedora-IRODS Integration als Grid Repository (in development)
http://www.wissgrid.de/publikationen/deliverables/wp3_de.html
2. Federico

2.1. What is Federico?
2.2. System Requirements
2.3. Content Model
2.4. Architecture
2.5. Future Plans
2.1 What is Federico?

- Fedora-Enabled Repository with Cocoon
- AJAX-based frontend for a C3Grid local repository of metadata
- Transparent Integration of Fedora with the Framework Services GSearch and OAI Provider
- Developed in the scope of the work package #3, Long-term Preservation of Digital Archives of Wissgrid, sponsored by the German Federal Ministry of Education and Research
2.2 System Requirements [1/2]

Hardware

- PC with a 1 gigahertz (GHz) processor or faster and network card
- 2 GB RAM
- 800 MB free disk space for the installation

Software

- Linux Distribution with X Window System
- Java JDK 1.6
- 3 MySQL Databases for Fedora Commons, Fedora OAI Provider, and openID accounts
2.2 System Requirements [2/2]

User

- PC with graphical interface and network card
- Keyboard and mouse
- Browser (preferably Mozilla Firefox) with Javascript enabled
2.3 Content Model [1/2]
2.3 Content Model [2/2]
2.4 Architecture
2.5 Future Plans

- Hibernate Persistence Layer
  - To support other database manager systems: Postgresql
- Reduction of code
  - One client for API-M, API-A, RI-Search
- Easier configuration and maintainability
- Upgrade of Spring 2.5 to 3.0
- Support of spatial queries
3. Federico's Live Demo

3.1. User Interface
3.2. Authentication
3.3. Ingest Collections
3.4. Full-text Search
3.5. OAI-PMH
3. Federico's Live Demo: Screenshots

Login Form
3. Federico's Live Demo: Screenshots

Browse Collections Form

- Nomenclature
- What is a Set?
- What is a Collection?

Create sets to organize your collections, and upload metadata describing these collections.
3. Federico's Live Demo: Screenshots

Metadata Upload

Upload Collection Metadata

Upload an XML file describing a collection for its online edition. Its content should conform to the community established metadata profile schema defined in Federico.

Upload File [fml.xml]
Status:
- Successful upload of fml.xml, 35589 bytes

Submit

Done
3. Federico's Live Demo: Screenshots

Metadata Edition
Summary

• Fedora as repository for digital information in research environment
  • Well defined API's
  • Content Model Architecture for the definition of “types” of objects
  • Harvesting through OAI-PMH
• Knowledge of XML is crucial
• Difficult UI implementation