



Introduction

Research Activityflow and Middleware Priorities (RAMP) is a DEST funded project from the Systemic Infrastructure Initiative. RAMP is developing a flexible authorisation module for repositories (using the XACML open standard) and implementing this as the core of a new, fully open source front-end (or GUI – Graphical User Interface) for Fedora. **Muradora** is the product name for this new front-end for Fedora.

Architecture

Muradora incorporates a suite of software modules to deal with the needs for federated identity and flexible authorisation for repositories. It builds on the well-known scalable Fedora repository software. The four key modules of **Muradora** are:

- 1) Shibboleth authentication module for Fedora to support federated identity/single-sign-on (eg, Australian Access Federation)
- 2) New flexible authorisation framework for Fedora based on the XACML open standard
- 3) Extended XACML engine (supporting DB XML) for fast efficient management/enforcement of policies, and a web service interface for XACML requests and responses.
- 4) Java-based front-end (Web GUI) for Fedora.

The first three modules are designed to be truly independent so that they can be utilized by any repository that has a loose coupling between its core functionality and its authentication and authorisation modules. In fact, the extended XACML engine can be used by any software that employs XACML but requires an efficient management system for its XACML policies.

A key advantage of **Muradora** is that the core Fedora repository can now have consistent access control policies for **multiple front-ends** even if they are hosted across multiple machines or

spanning institutional boundaries. This is not possible with the traditional approach of having the GUI handle authentication and authorisation internally.

Features

The **Muradora** web GUI, by utilizing the other three modules, aims to showcase the power of having federated identity and flexible authorisation with the Fedora repository. The significant features of **Muradora** are:

- self-submission for authors and publishing permission for administrators
- supports for DC, MODS and MARC metadata
- hierarchical "*groupings*" of objects based on user-defined RDF ontologies
- "*dynamic groupings*" of objects based on criteria matching their metadata information (ie. "*smart-folders*")
- access control at different levels of granularity:
 - at the repository level,
 - at user-defined "*grouping*" level (including hierarchical inheritance),
 - at the object level, and
 - individual datastreams within objects.
- easy to use access control policy editor that generates the necessary XACML policies (no XML editing required).
- version control for repository objects
- search, including full-text search
- support for heterogeneous data types (eg. documents, and audio and visual objects)
- annotation
- Handles for objects and datastreams
- scalability based on Fedora and enterprise-class Java framework for the GUI
- support for multiple front-ends to Fedora for different purposes (RQF "dark" repository; general Institutional Repository, e-reserve repository; researcher resources workspace)



Flexible Authorisation
Repository

Website

<http://www.muradora.org/>

Contact

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Project Roadmap

March 2006

- Alpha release of *Muradora*

April 2007 - June 2007

- Revised requirements and designs
- Ongoing development focusing on core features
- Beta release of *Muradora*
- Evaluation of *Muradora* by Sandy Payette

June 2007 - Oct 2007

- Ongoing development focusing on performance and stability
- Initiate *Muradora* trials with partners and collaborators in Australia and overseas
- Gather and evaluate feedbacks from trials
- Release V1.0 of *Muradora*

Oct 2007 - Dec 2007

- Further support for trial partners
- National roadshows to demonstrate *Muradora*
- Continuous development focusing on bug fixes and enhancements as requested by the community
- Establishing a self-funding model for the project; may include optional fee-based services, support and/or hosting.

Dec 2007 - Dec 2008+

- Continuous development and support based on community feedback and requirements.

Muradora Code and License

Muradora and its user guides can be downloaded from

<http://drama.ramp.org.au/software>. All

Muradora source code is freely available and released under the Apache 2 open source license – there are no license fees to install and use *Muradora* as well as no limits on users or objects. *Muradora* can be deployed seamlessly on top of the current Fedora 2.2.1 release and does not require modification of the original Fedora code. *Muradora* development will always remain freely available as open source software, and will aim to support the latest version of Fedora.

Further Information

- *Muradora download and wiki*
<http://www.muradora.org>
- *Muradora demonstration*
<http://demo.muradora.org>
- *RAMP website*
<http://www.ramp.org.au>
- *Australian Access Federation*
<http://www.aaf.edu.au>
<http://www.federation.org.au>