



THE UNIVERSITY
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at CHAPEL HILL



Demonstration of Policy Reification in iRODS

DICE and SILS, August 2010



Components of a Policy-Based preservation environment

- iRODS
 - records management
- iDrop
 - ingestion of records
- Arch
 - policy management

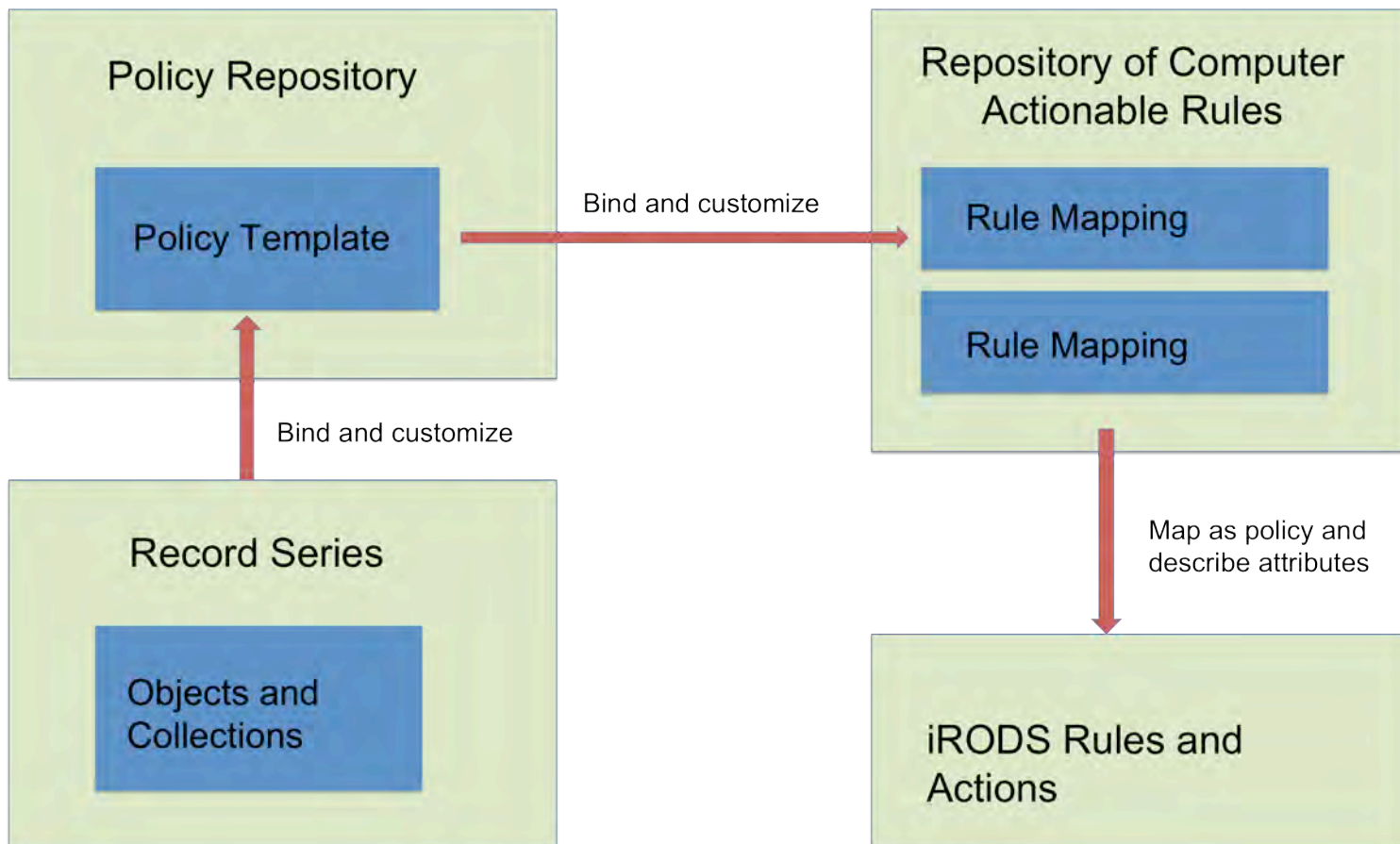


What is a preservation policy?

A plan or course of action that governs the management of a repository and its data.



Policy Composition Model



Bridging high-level declarative policies to iRODS rules



Arch: An Archivist's Interface

- Prototype/proof of concept
- User friendly interface to iRODS tailored to the needs of archivists
- Enables easy policy creation and storage from a set of menus



Defining a policy

Jargon Arch

IRODS

- Main
- Policy-Driven Service Administration
- Policy Administration
 - View/Update Policy Repositories
 - Add a Policy Repository
 - Add a Policy
 - View/Update Policies in Repository
- Staging Area Administration
- Rule Developer
- Series Administration
- Arch Conf

Add a Policy

Policy Name
demo policy with checksum

Select a Policy Repository
saa demo policy repo 1

Description
This is a simple policy that does checksum and replication.

Do objects need to go to a staging area first?

Is virus scanning required?

Is a checksum required?

How many replicas should be made? 3

How many days should items be retained? 0



Adding the policy to a policy repository

Jargon Arch iRODS

Main
Policy-Driven Service Administration
Policy Administration

- [View/Update Policy Repositories](#)
- [Add a Policy Repository](#)
- [Add a Policy](#)
- [View/Update Policies in Repository](#)

Staging Area Administration
Rule Developer
Series Administration
Arch Conf

List Policies in Repository

Select a Policy Repository:

Show entries Search:

Policy Name	Description	Location
bob the policy	this is a test	/renci/home/saademo/policy_repo_1/bob+the+policy.xml
saa checksum and retention policy	Policy that requires a checksum and specifies a retention policy	/renci/home/saademo/policy_repo_1/saa+checksum+and+retention+policy.xml
saa checksum policy	Policy that requires a checksum	/renci/home/saademo/policy_repo_1/saa+checksum+policy.xml
saa virus scan policy	policy that requires a virus scan	/renci/home/saademo/policy_repo_1/saa+virus+scan+policy.xml

Showing 1 to 4 of 4 entries



Binding the policy to a record series

The screenshot displays the 'Arch' interface for IRODS. On the left is a navigation menu with the following items: Main, Policy-Driven Service Administration, Policy Administration, Staging Area Administration, Rule Developer, and Series Administration. Under 'Series Administration', there are four sub-items: Add Series, View/Update Series, Series Exceptions, and Series Policy Admin. Below the menu is an 'Arch Confi' button. The main content area is titled 'Add a Series' and contains a form with the following fields:

- Add a Series:** Text input field containing 'saa_virus_scan_series'.
- Select a Policy Repository:** Dropdown menu with 'saa demo' selected.
- Series Collection Absolute Path:** Text input field containing '/series_with_a_virus_scan_poli'.
- Description:** Text area containing 'A policy that requires a virus scan'.
- Policy Name:** Dropdown menu with 'saa virus scan policy' selected.

At the bottom of the form are two buttons: 'Reset' and 'Update'.

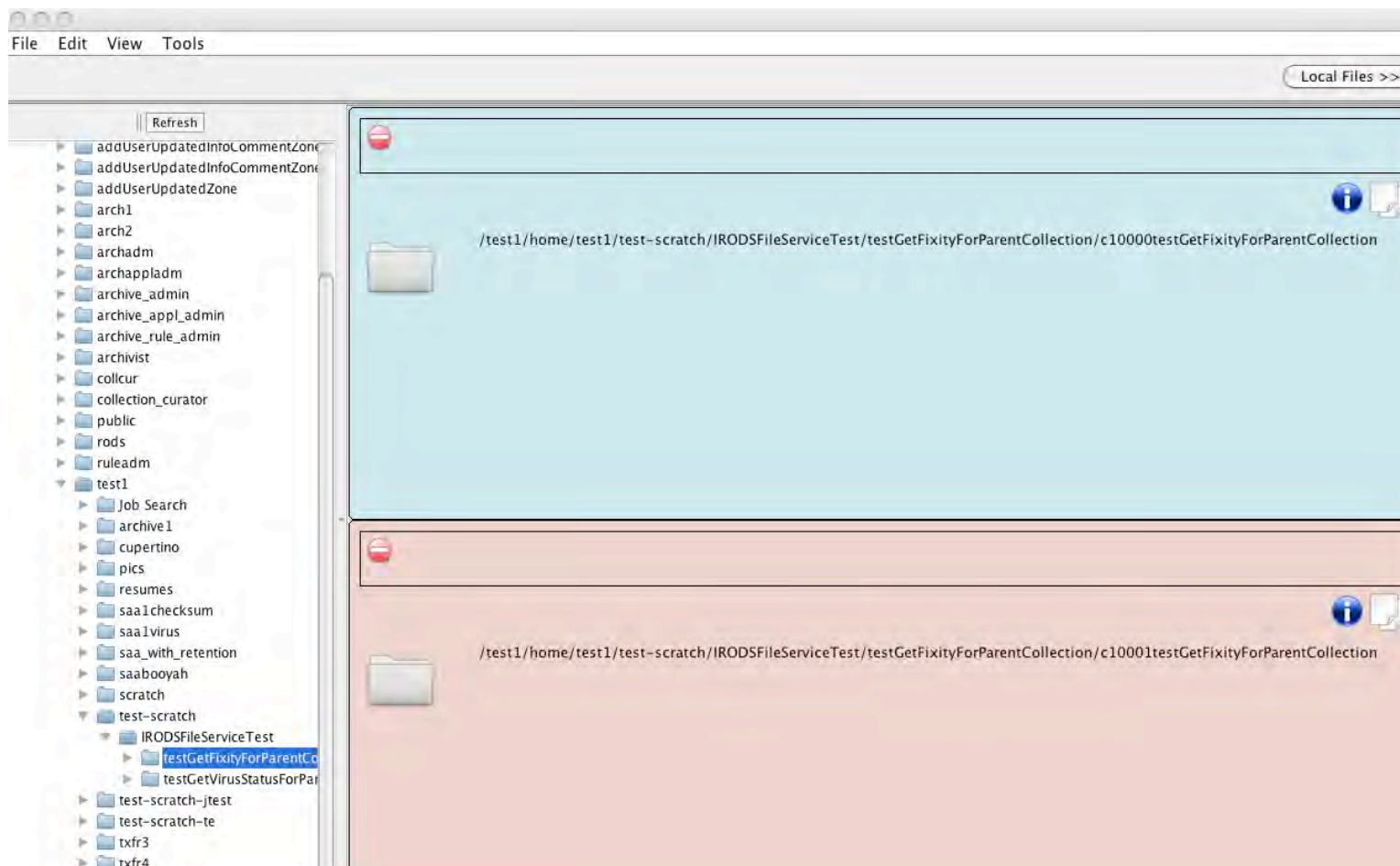


Updated series/collection view



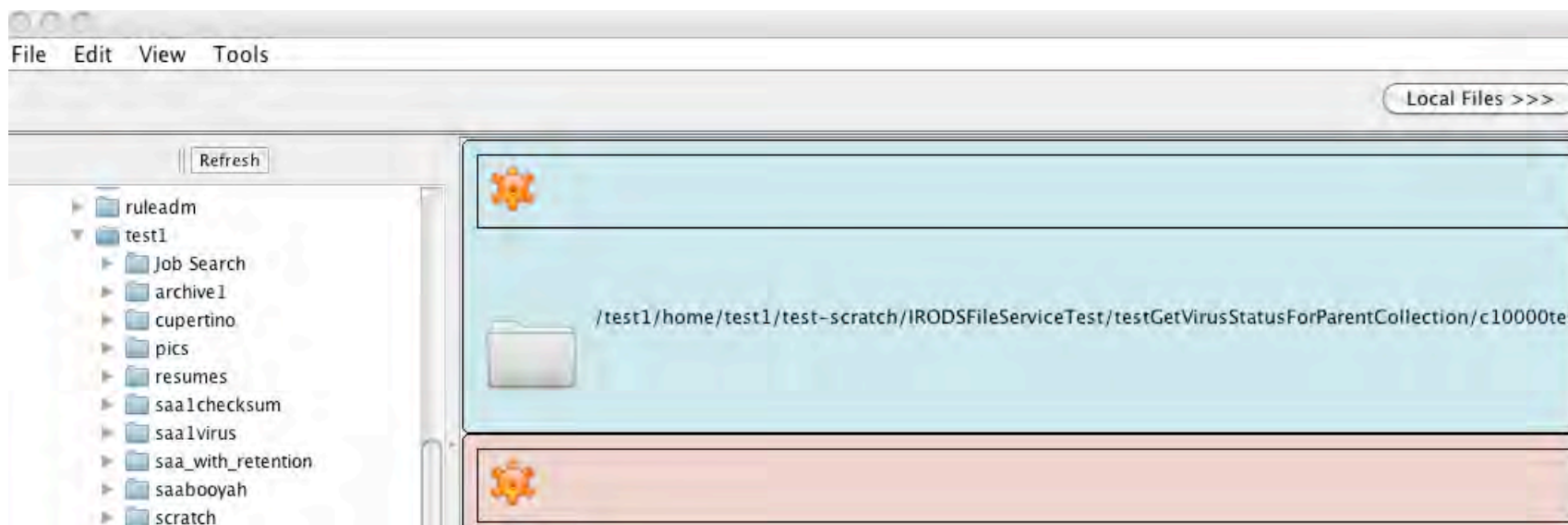


Automatic policy enforcement





Another example: scanning for malware





Lessons learned

- Computer actionable rules can automatically enforce a set of desired preservation properties
- At this point the creation of preservation policies still requires significant knowledge of the underlying data grid technology