Policy Based Data Management

iRODS - integrated Rule-Oriented Data System

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Policy-based Data Environments

• **Purpose** - reason a collection is assembled (which stage)
• **Properties** - attributes needed to ensure the **purpose**
• **Policies** - control for ensuring maintenance of **properties**
• **Procedures** - functions that implement the **policies**
• **Persistent state information** - results of applying the **procedures**
• **Assessment criteria** - validation that **state information** conforms to the desired **purpose**
• **Federation** - controlled sharing of **logical name spaces**

These are the necessary elements for a curated collection
Policy Based Interoperability

- **Client**
  - **Resource Provider 1**
    - **Storage**
  - **Shared Collection**
  - **Resource Provider 2**
    - **Storage**

**Policies** – computer actionable rules that manage properties of the shared collection

**Procedures** – computer executable workflows that manipulate the records
Data Life Cycle

The driving purpose changes at each stage of the data life cycle

Stages correspond to addition of new policies for a broader community
Virtualize the stages of the data life cycle through policy evolution
iRODS is a "coordinated NSF/OCI-Nat'l Archives research activity" under the auspices of the President's NITRD Program and is identified as among the priorities underlying the President's 2011 Budget Supplement in the area of Human and Computer Interaction Information Management technology research.

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