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# iRODS for CineGrid

(Policy-Oriented Data Cloud Management)

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## CineGrid CyberInfrastructure Requirements

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### Storage & Access of **Distributed Data**

- Heterogeneous & Autonomous Storage Systems
- High Speed Data Transfers – Video Streaming

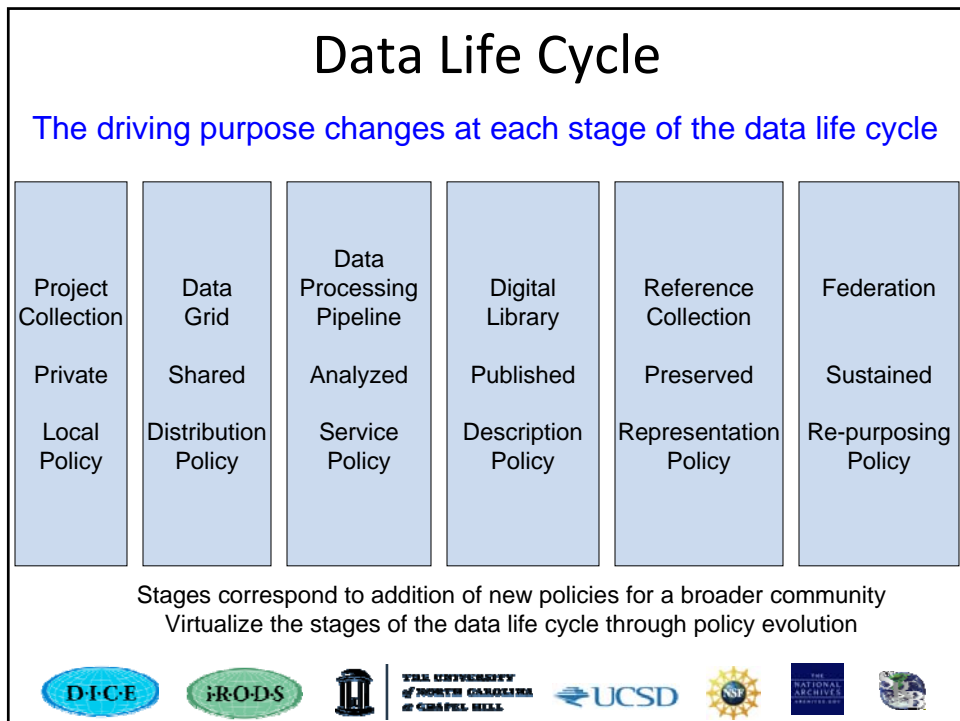
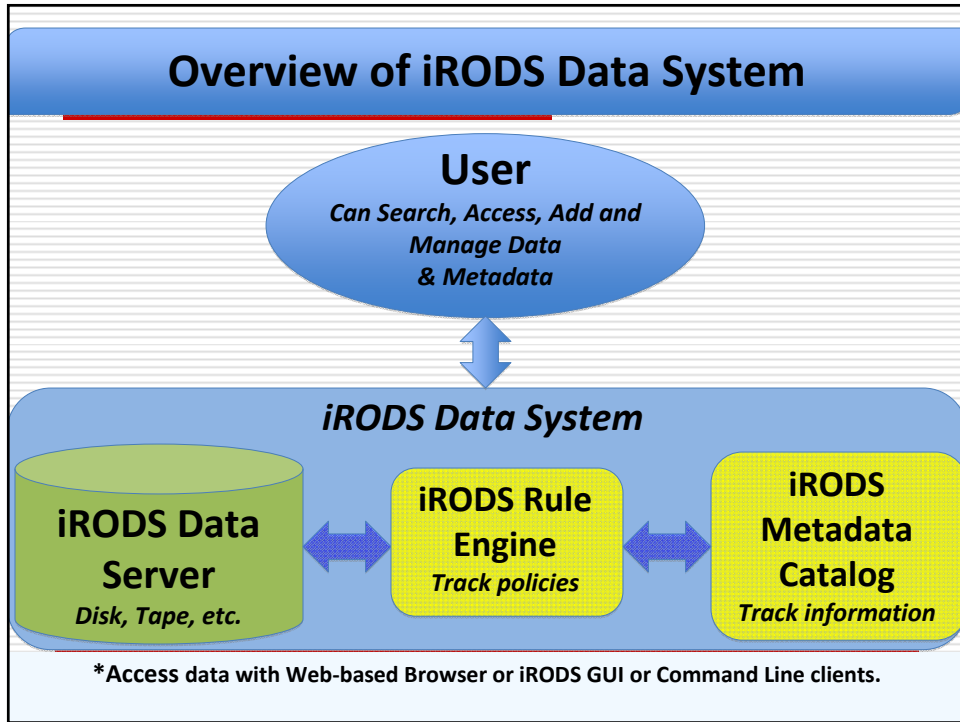
### Support for **Rich Metadata**

- Ease of cataloging & discovery
- Sustainability & Re-purposing (Transformability)

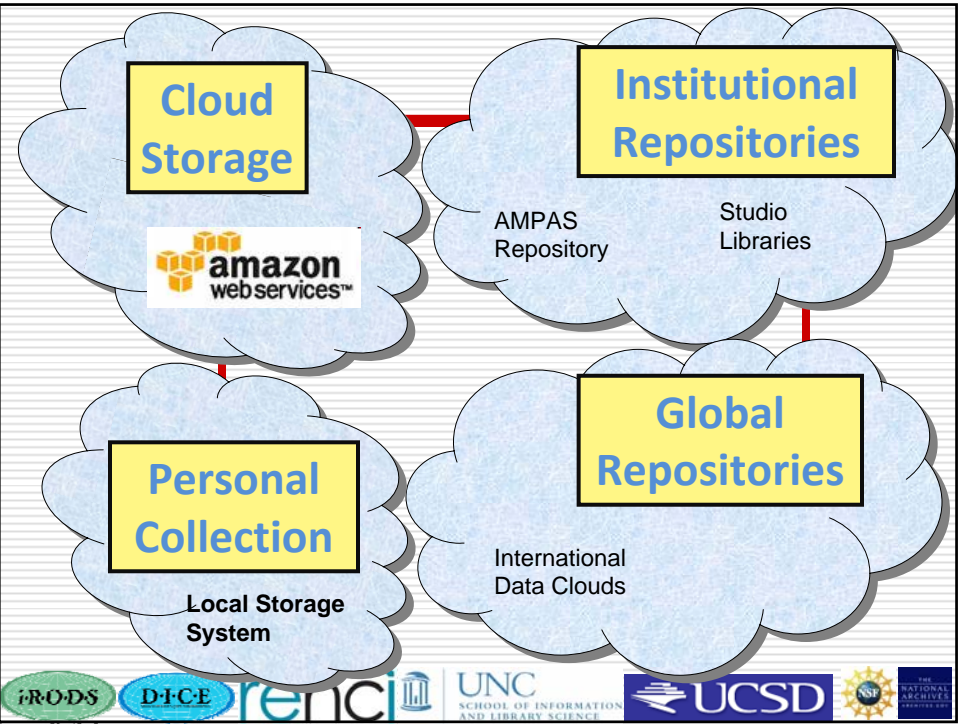
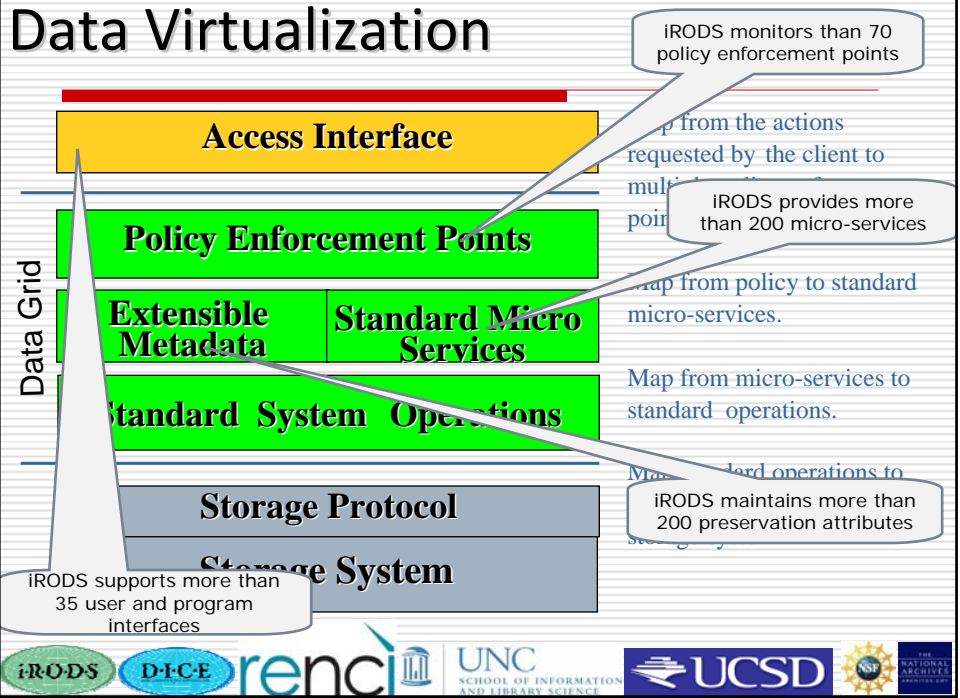
### **Policy-based Administration** of Data Cloud

- Adapt policies for user levels & usage models
- Fault-tolerance & Integrity Maintenance (Resilience)
- **Distributed Workflow Services** for Archival Processes





# Data Virtualization



## Policies

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- Retention, disposition, distribution, arrangement
- Authenticity, provenance, description
- Integrity, replication, synchronization
- Deletion, trash cans, versioning
- Archiving, staging, caching
- Authentication, authorization, redaction
- Access, approval, IRB, audit trails, report generation
- Assessment criteria, validation
- Derived data product generation, format parsing
- Federation



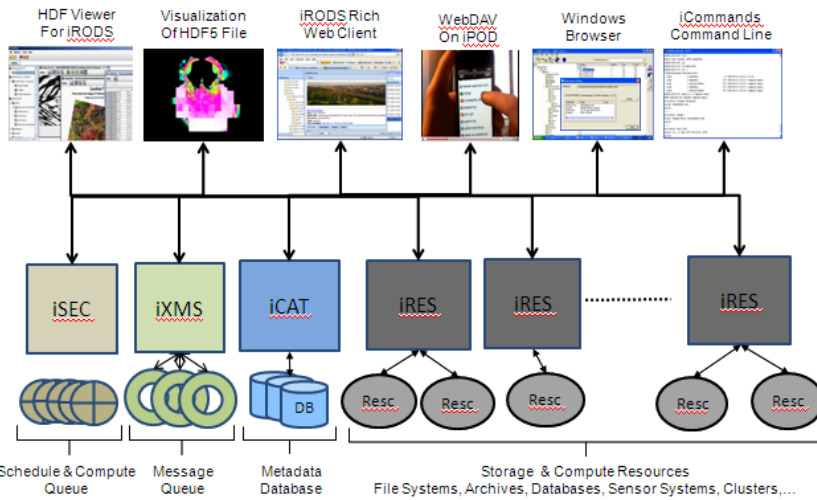
## Administrative Policies: Examples

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- What resource pools to use when storing an object in a collection?
  - can differ based on size, type, user, metadata
- How many replicas are needed? how are they distributed?
  - by location, resource-type, vendor, ...
- What metadata needs to be extracted; how to do the extraction
  - Local, remote, immediate, deferred
- Who needs to be notified? How?
  - Email, twitter, Xmessage, ...
- What pre-usage processing needs to be done?
  - Anonymization, integrity check, format conversion,...



# iRODS Distributed Data Management



## Time is up

- For more information

[www.irods.org](http://www.irods.org)

- Contact

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