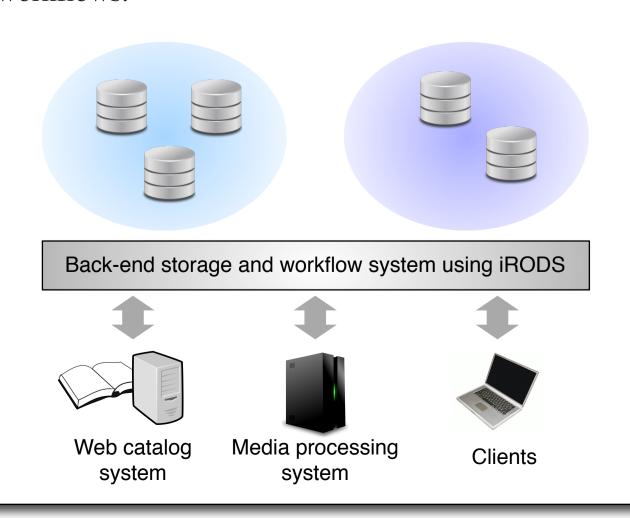
Global Media Curation Platform Using iRODS

Yuma Matsui*, Qian Liu*, Nathan Brock*, Jeffrey D. Weekely**, Dana Plepys***

* Calit2, UC San Diego ** MOVES Institute, Naval Postgraduate School *** Electronic Visualization Laboratory, University of Illinois at Chicago e-mail: * {yumatsui, qianliu, nabrock}@ucsd.edu ** jdweekle@nps.edu *** dplepys@uic.edu

Overview

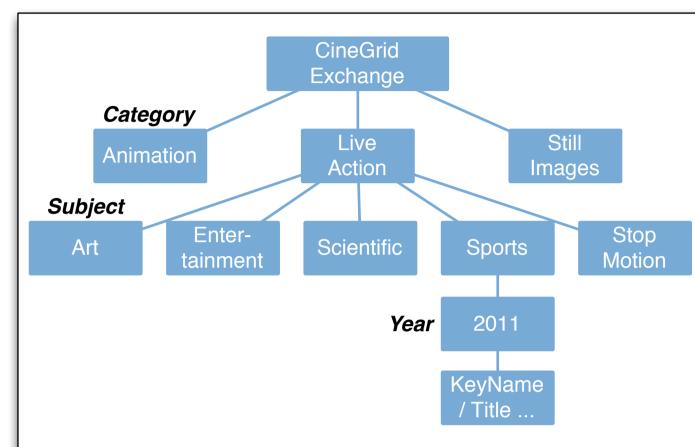
- In CineGrid Exchange project, we use iRODS to curate and preserve super-high-definition media content such as 4K movies.
- Our media curation platform enables long-term data preservation and streamlined workflows for curators to handle large amount of media data in a crossorganizational environment.
- The platform consists of a front-end web catalog system and a back-end storage and workflow system.
- The front-end is a web-based content management system and brings ease-of-use in metadata management and data retrieval. The back-end is an iRODS-based distributed storage system that guarantees data consistency and redundancy. It also provides an event-based rule engine to realize flexible workflows.



Media Curation Workflow The main curation workflows in CineGrid Exchange are media submission and media access. Media Submission Media Access Curators receive and Users request content via evaluate content from the web catalog creators Curators collect and input The web catalog queries metadata information iRODS to send content through the web catalog files The web catalog sends Files are transferred from metadata information to iRODS to accessible **iRODS** servers iRODS creates metadata-Users download assets based directory structure from servers as a content placeholder Curators upload content to iRODS replicates files to the created directory in other geographically dispersed servers **iRODS**

Following iRODS rules are implemented to realize the curation workflows.

- Metadata handler parses metadata XML messages from the web catalog and creates corresponding directory structure as illustrated in the figure.
- Content handler replicates uploaded content files to other distributed iRODS servers.
- System maintainer checks file corruption and server connection to detect errors instantly.



CineGrid Exchange directory structure to store media data

Development Status

We developed and deployed preliminary iRODS rules at Calit2 and are testing communication with the web catalog system. We will populate them on a global scale and also integrate the system with a highperformance media processing system.



Group	Location	Capacity
Center	San Diego	110TB
North America	Monterey, Chicago	40TB
South America	Brazil	TBD
Europe	Amsterdam, Prague	40TB
Asia	Tokyo, Hong Kong	10TB



