Cloud Storage and Valkyrie Repositories

Introductions and Defining Valkyrie

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- Valkyrie
  - Ruby software library (Gem)
  - Storage mechanisms for Samvera repository applications
  - Offers a series of adapters for different storage solutions
    - Custom adapters and experimentation are welcome!
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Valkyrie and Samvera Repositories

- Samvera Repositories and Persistence
  - Fedora Commons
  - ActiveFedora

- Samvera Solution Bundles
  - Hyrax
  - Avalon Media System

- Samvera Repositories and Valkyrie
  - Figgy is a Valkyrie repository implemented at the PUL Digital Repository and Discovery Services Team
  - Hyrax 3.0.0 will support Valkyrie as an option
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Remote Storage on the Cloud

- Defining Cloud Storage
  - Google Drive, Dropbox, Microsoft OneDrive...
  - Also, Amazon Simple Storage Service (S3) and Google Storage Buckets
  - Not Gluster, Ceph, or Swift (low-level storage for private clouds)

- Fedora is (also) not a private cloud
- Valkyrie is a series of storage adapters
- What of user interface support?
  - Fedora has a client, but primarily offers web APIs (just REST)
  - Valkyrie has no user interface support (only a Gem)
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Remote Storage on the Cloud

● Requirements
  ○ User Interface support?
  ○ Adapters for a series of Cloud Storage Services?
  ○ Preferably a community-supported solution!

● BrowseEverything
  ○ Community Gem (a Core Component)
  ○ Suite of Adapters (Drivers) for cloud storage services
  ○ Provides a User Interface for uploading files from cloud storage
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Status of BrowseEverything

● BrowseEverything Status
  ○ Currently integrated into Hyrax 2.x releases
  ○ Legacy releases are currently maintained for 1.x releases of the Gem
  ○ 2.0.0 reimplementation was underway
  ○ Global pandemic introduced delays

● BrowseEverything 2.0.0
  ○ Reimplementation uses React to provide a user interface
  ○ Ruby Project (a Rails Engine) has been restructured as a REST API
  ○ This is documented using Swagger
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Architectural Overview

Google Drive

Dropbox

BrowseEverything REST API

Ruby on Rails

Valkyrie

Storage Adapter

Metadata Adapter

File Storage

PostgreSQL

Samvera Repository
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Challenges

● Rewriting BrowseEverything for 2.0.0
  ○ Rewarding and necessary
  ○ Does address user interface improvements
  ○ However, this is still labor intensive
  ○ Maintenance is also necessary for 1.x releases

● Ambiguity
  ○ Identifying use cases for Google Drive and Dropbox are simple
  ○ Reconciling this with Valkyrie is less obvious
    - Does BrowseEverything become a Valkyrie adapter?
    - Persistence: **BrowseEverything was designed only for uploads**
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Prototyping with a Valkyrie Repository

- **BrowseEverything and Figgy**
  - Early integration with the Google Picker API
  - Provides a JavaScript-driven approach to supporting Google Drive
  - Uses few features of the REST API

- **Demonstration of Status**
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Prototyping with a Valkyrie Repository

● Future Development
  ○ Dropbox JavaScript SDK
  ○ Amazon Web Services SDK for JavaScript
  ○ Microsoft OneDrive JavaScript file picker SDK
  ○ JavaScript REST client for custom drivers
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Questions and Answers?
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Thank You for Your Attention!

For questions and comments on Slack, please join #browse-everything