

# Cloud Storage and Valkyrie Repositories

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# Cloud Storage and Valkyrie Repositories

## Introductions and Defining Valkyrie

- James Griffin
  - Digital Infrastructure Developer in the Princeton University Library (PUL)
  - Member of the Samvera Community
- 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!



# Cloud Storage and Valkyrie Repositories

## 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



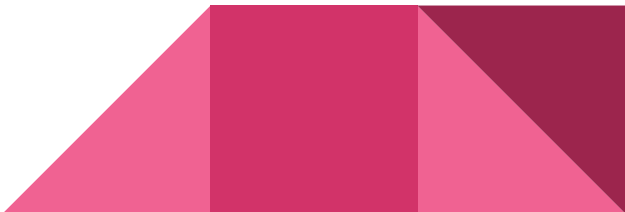
# Cloud Storage and Valkyrie Repositories



**Dropbox**

## 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)



# Cloud Storage and Valkyrie Repositories

## 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



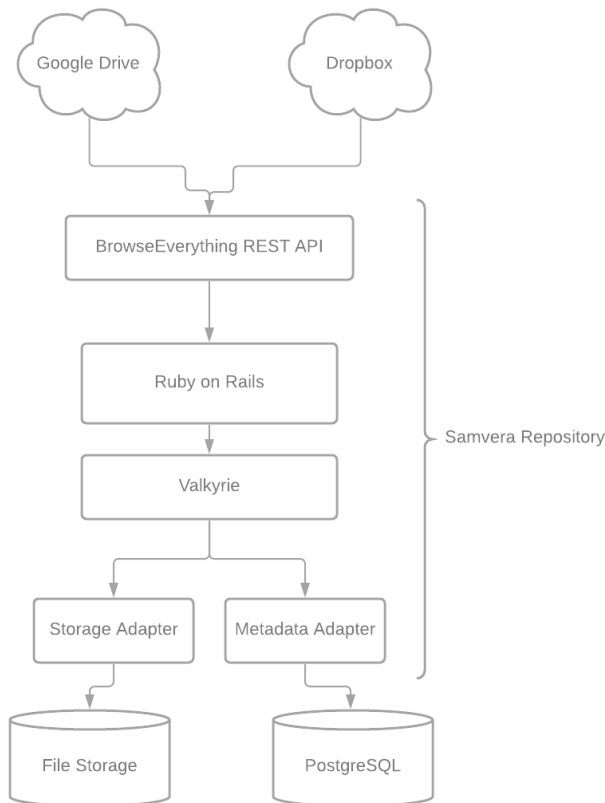
# Cloud Storage and Valkyrie Repositories

## 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 reimplementaiton 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**

# Cloud Storage and Valkyrie Repositories

## Architectural Overview



# Cloud Storage and Valkyrie Repositories

## 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**



# Cloud Storage and Valkyrie Repositories

## 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**



# Cloud Storage and Valkyrie Repositories

## 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



# Cloud Storage and Valkyrie Repositories

**Questions and Answers?**



# Cloud Storage and Valkyrie Repositories

**Thank You for Your Attention!**

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

