



New System Architecture

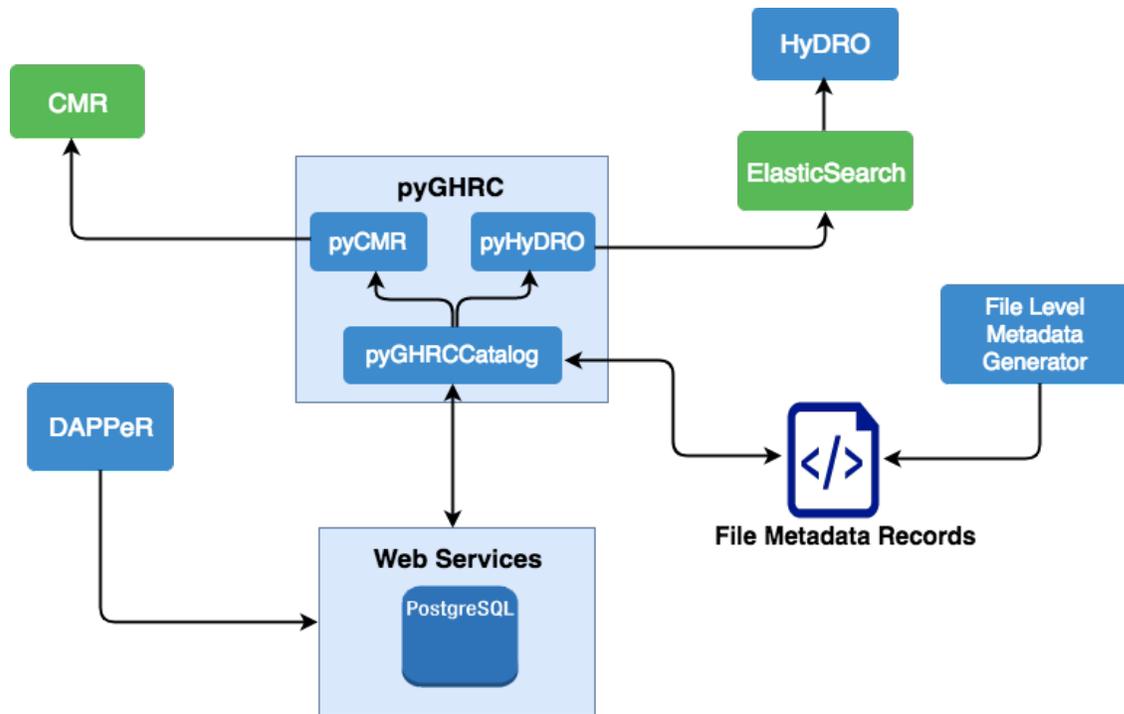
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2017 GHRC User Working Group Meeting
Sept 26-27, 2017



- Cost reduction
- Spatial support
- Simplification
- Flexibility
- Index for better search experience
- Database encapsulation
- Improve data publication rate

GHRC Publication Workflow Architecture



- **CMR**
 - Common Metadata Repository
- **HyDRO**
 - GHRC Data Search and Discover Web Interface
- **pyCMR**
 - python library to interface with CMR
- **pyGHRCCatalog**
 - python library to interface with GHRC metadata catalog
- **pyHyDRO**
 - python utility library to interface GHRC metadata catalog with ElasticSearch/HyDRO
- **DAPPeR**
 - Data Publication Portal/Tool

Blue box - new or modified component

- **New Postgres/PostGIS database**
 - Open source/Free (vs. Oracle license/support/server)
- **Service Oriented Architecture**
 - Loosely coupled components
 - Flexibility for future changes
 - Integration points for future tools
 - APIs are less prone to error
- **DAPPeR**
 - Central tool to manage end-to-end data publication workflow
 - Efficient, templates for similar datasets, keyword integration, ...
- **Better user experience - HyDRO**
 - Faceted search, reactive user inputs, map-based search
- **Increase in data publication rate – to date**
- **pyCMR (NASA open source)**

- Database Migration
 - Need to better plan for operational downtime
 - Need to prioritize migration of applications
- Software deployment
 - Need better process to transition software developed in cloud to NASA environment
 - Modern tools require modern software deployment environments
- Training
 - Need to allocate time in project plan for training Operations, DMG, GHRC Science teams
- Tools
 - Using JIRA, Smartsheet, Slack allowed better tracking and coordination



Discussion

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