



GHRC Cloud Operations

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Improved Operations

- Improved troubleshooting and problem resolution
- Maintained Cumulus upgrades
- Maintained OPeNDAP & Cumulus API tool
- Added support major version upgrade of ISS LIS
- Worked to resolve inconsistencies in metrics reporting (on-going)
- Created cloud work area (on-going)

Improved Operations

- Developed age-off and notification systems
- Tested and recommended improvements for ORCA
- Prototyped and tested GHRC Search Portal
 - <https://search.earthdata.nasa.gov/portal/ghrc/>

Improved Data Publications

- Split Cumulus queue into separate queues based on dataset type
- Streamlined metadata extraction from source

Ongoing Development

- Maintained OPeNDAP DMR++ integration into Cumulus
- Maintained py-cumulus-api tool
- Supported data publications
- Added to Cumulus stack with the ability to attach custom security groups
- Member of the Cumulus Tiger Team

Improved Security

- Improved CI/CD pipeline by adding SNYK
- Migrated from Earthdata Login to Launchpad(on-going)

Serverless Website Research

- Investigated serverless content management systems (CMS)

Tool	Link	S3 Host	Type	CMS	Docs Quality	Github Stars	Commercial Offering	Frontend	Backend
Webiny	https://www.webiny.com	Yes	API	Yes	Average	3K	Yes	React	TypeScript
Strapi	https://strapi.io	Yes	API	Yes	Good	28.5K	Yes	React	JavaScript
Ghost	https://ghost.org	No	API	Yes	Good	34K	Yes	React, Vue	JavaScript
Netlify CMS	https://www.netlifycms.org	Yes	Git	Yes	Average	12K	No	React	JavaScript
Directus	https://directus.io/	No	API	Yes	Good	7K	Yes	Vue.js	PHP
Keystone	https://www.keystonejs.com	No	API	Yes	Average	2.5K	No	React	JavaScript
Next.js	https://nextjs.org/	Yes	Static	No	Good	62.9k	Yes	React	TypeScript

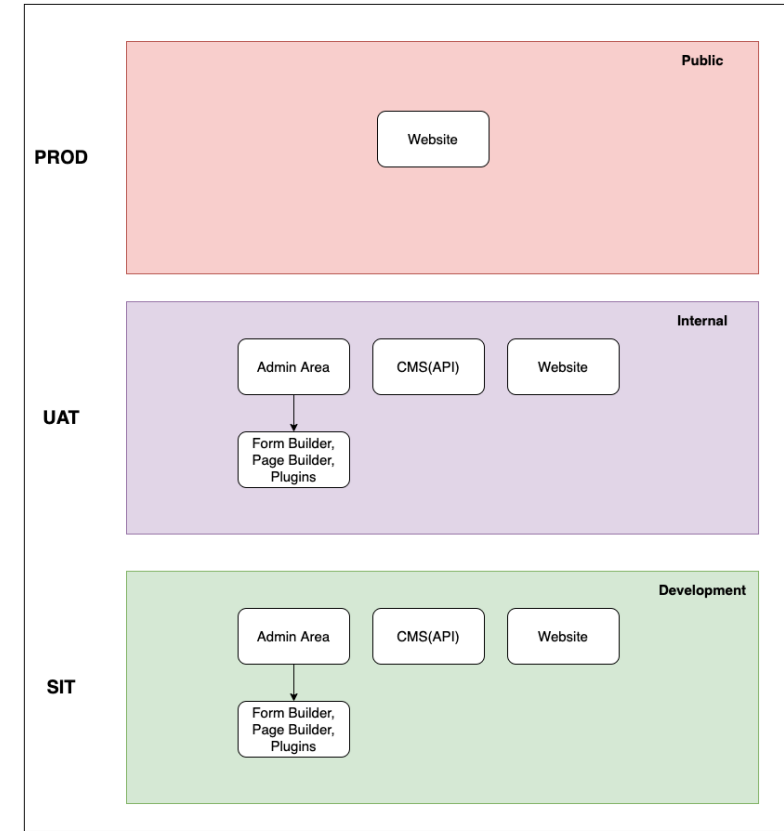
- Tested each solution in AWS

Website Prototype

- Webiny was prototyped in AWS
- Templates created
- Tailored backend configuration
- Created sample web pages

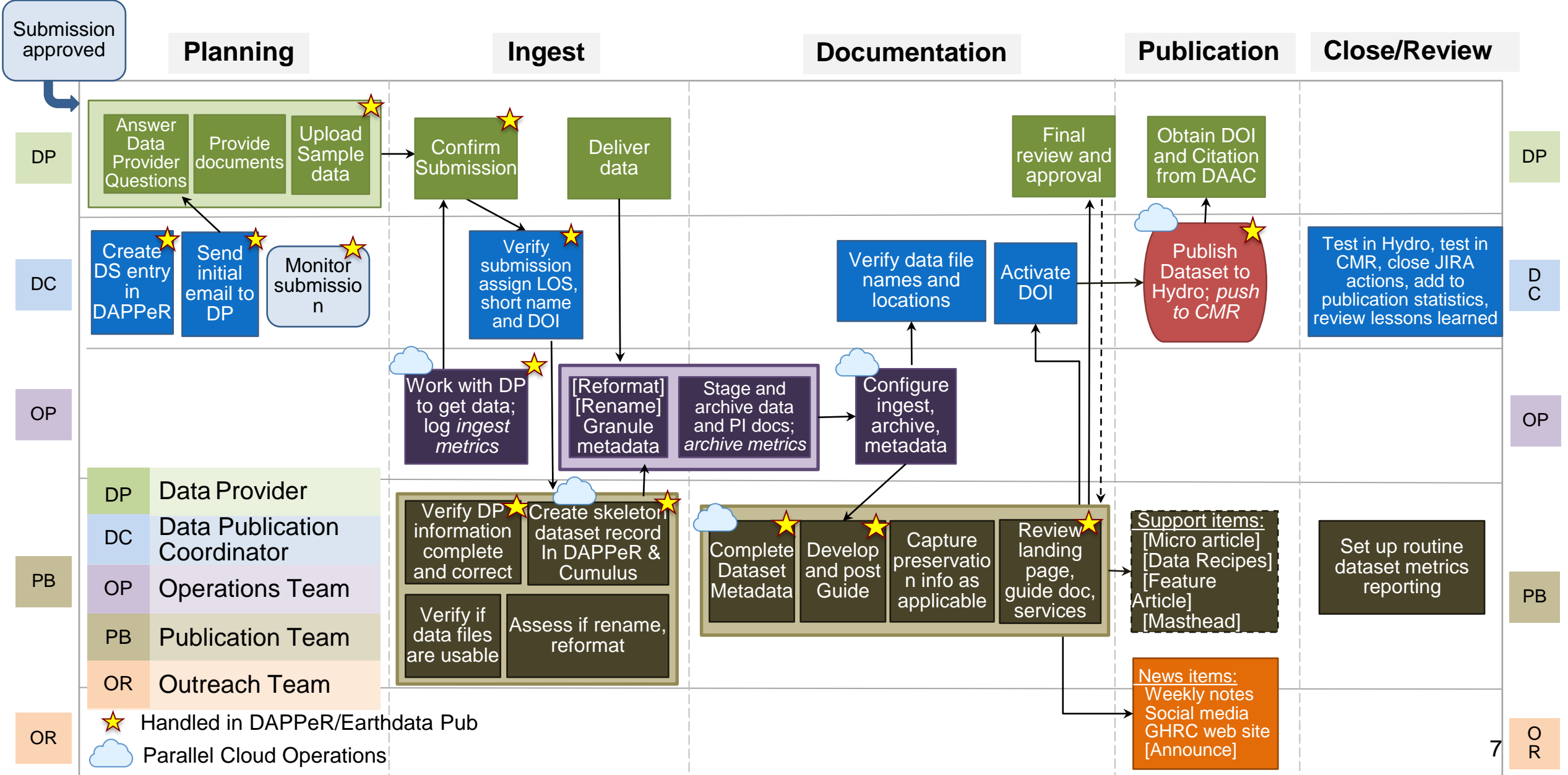
Website Testing in Earthdata Cloud

- Granted special sandbox to test NGAP permissions
- PROD – Public website (only static content - no CMS)
- UAT – Internal content creation and testing (CMS)
- SIT – New development (CMS)

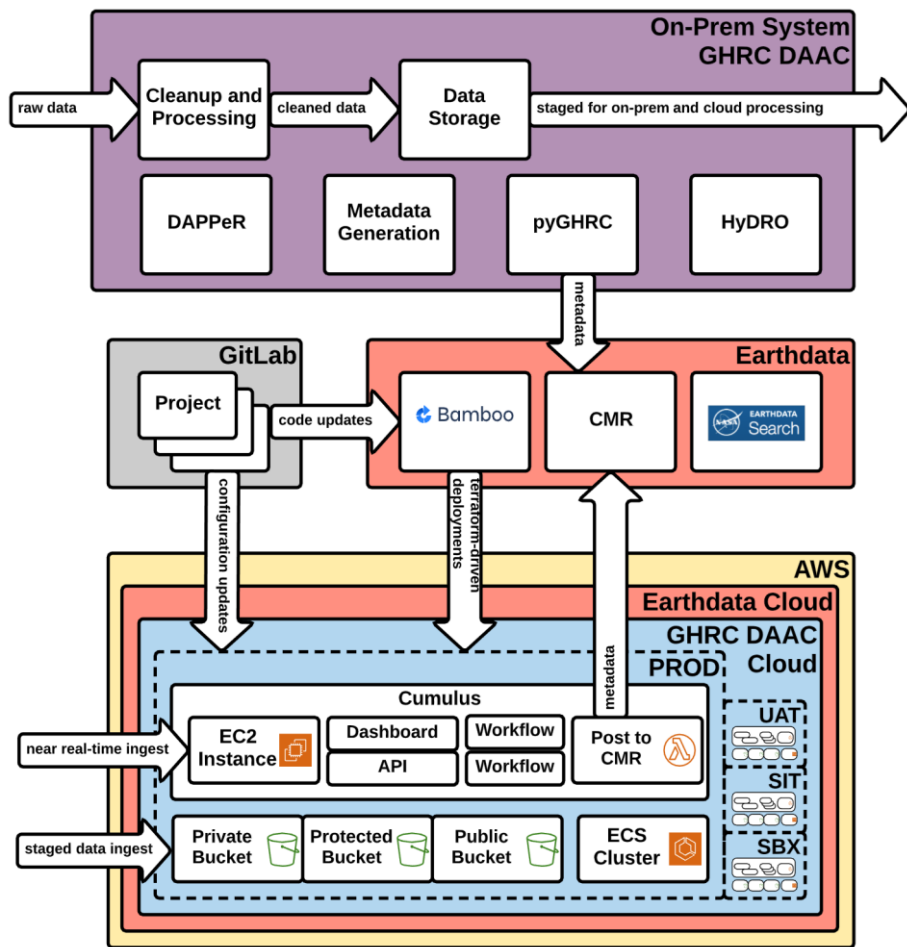


GHRC Website Environments within Earthdata Cloud

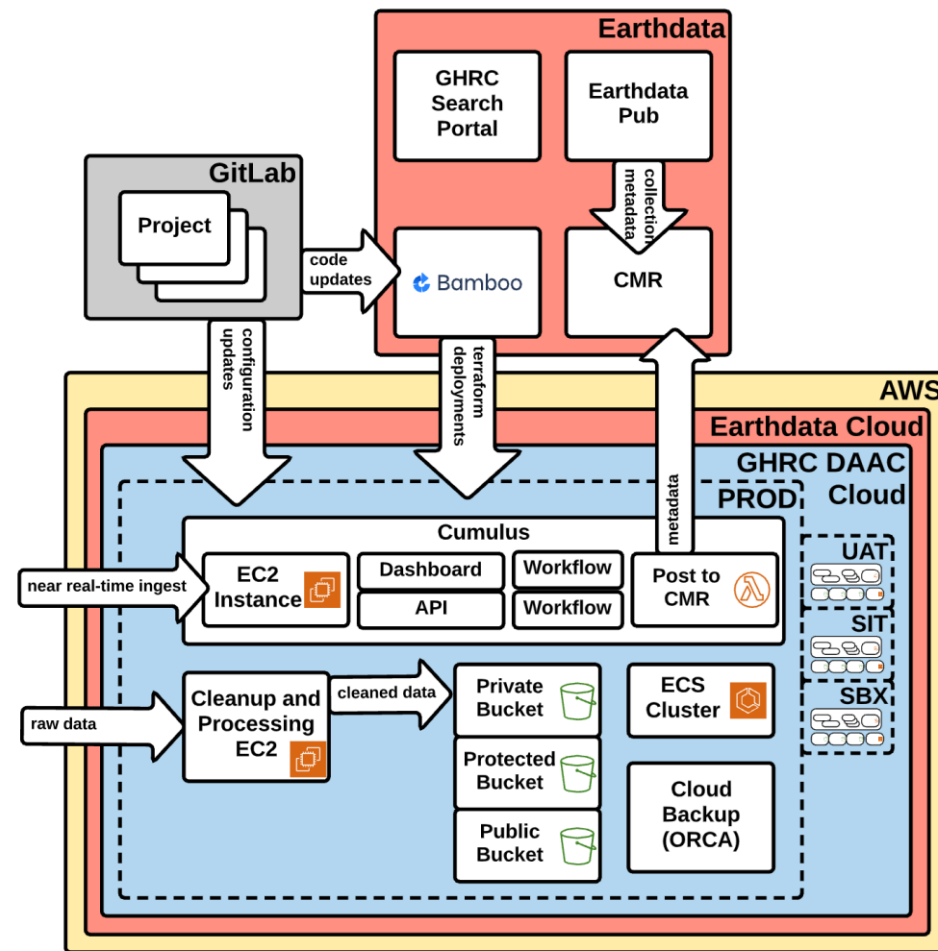
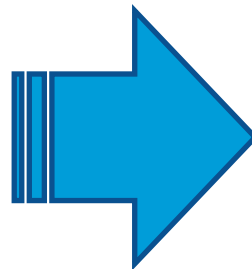
GHRC Data Publication Process



Cloud System Architectural Overview



GHRC Parallel Architecture



GHRC Cloud-only Architecture

Cloud-only Prep

- Migrate from DAPPeR to Earthdata Pub
- Migrate from HyDRO to GHRC Search Portal
- Migrate GHRC website to Earthdata Cloud
- Provide migration support for GHRC users (documentation, guides)
- Integrate ORCA into GHRC Cumulus workflow for cloud backups
- Improve Metrics reporting (working with Cloud Metrics team)
- Investigate alternatives for field campaign data uploads (on-prem)

Cloud Improvements

- Continue to support the Tiger Team providing direction for Cumulus
- Continue to recommend improvements to the Earthdata Cloud team
- Continue to streamline Data Publication process
- Continue to improve cloud metrics reporting
- Investigate adding Bulk Downloader to GHRC Search Portal
- Update GHRC datasets in cloud-optimized data format
- Prototype of services in Harmony to make FCX data available through APIs
- Distribute near real-time ISS LIS via Cloud using LDM
- Provide ISS LIS GIBS browse via cloud workflow

DAAC Support

- Provide support for ASDC DAACs migration to Earthdata Cloud

Website Migration

- Verify Webiny deployment in Earthdata Cloud UAT
- Deploy web content in UAT
- Update PROD deployment method to use API-based system
- Investigate integration of dynamic content within GHRC website
- Investigate adding new plugins to GHRC website
- Integrating pipeline to add GHRC configuration to new Webiny releases
- Create Lightning Dashboard



THANK YOU!

QUESTIONS?

