



EOSDIS

NASA'S EARTH OBSERVING SYSTEM
DATA AND INFORMATION SYSTEM

Cumulus: A Community of Collaboration

2019 Winter ESIP

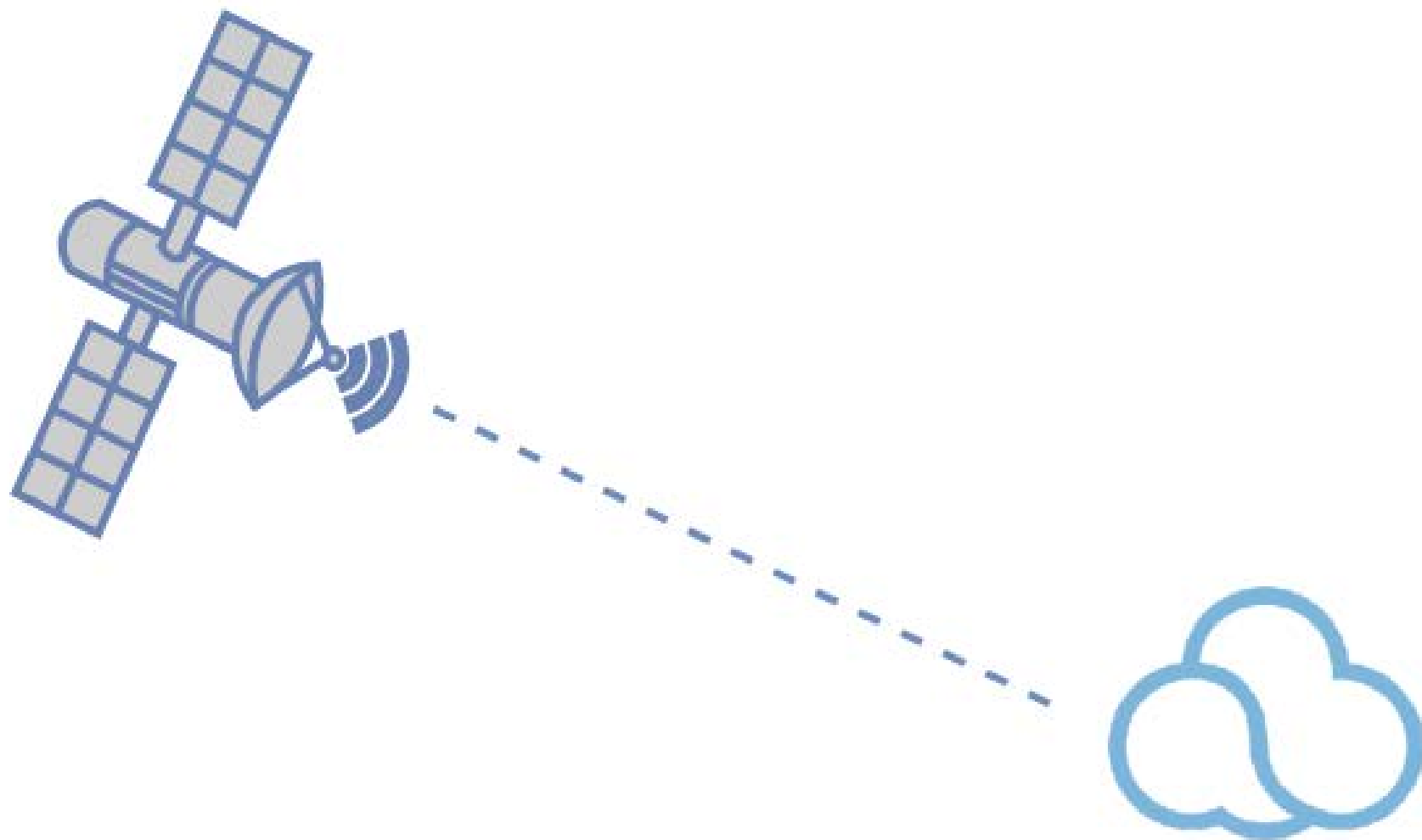
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Cumulus Lead

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Background



Cumulus

Open Source



Sharing & Code Reuse

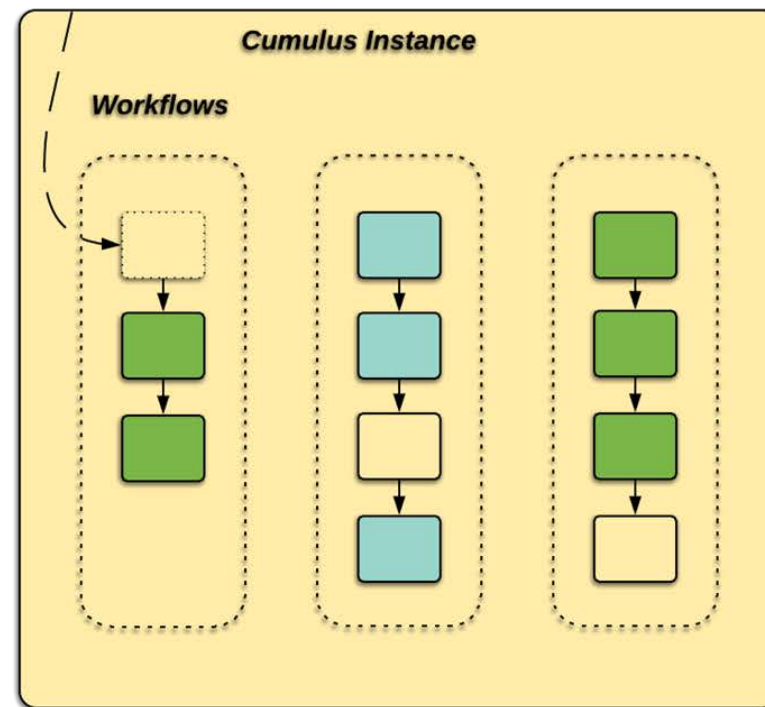
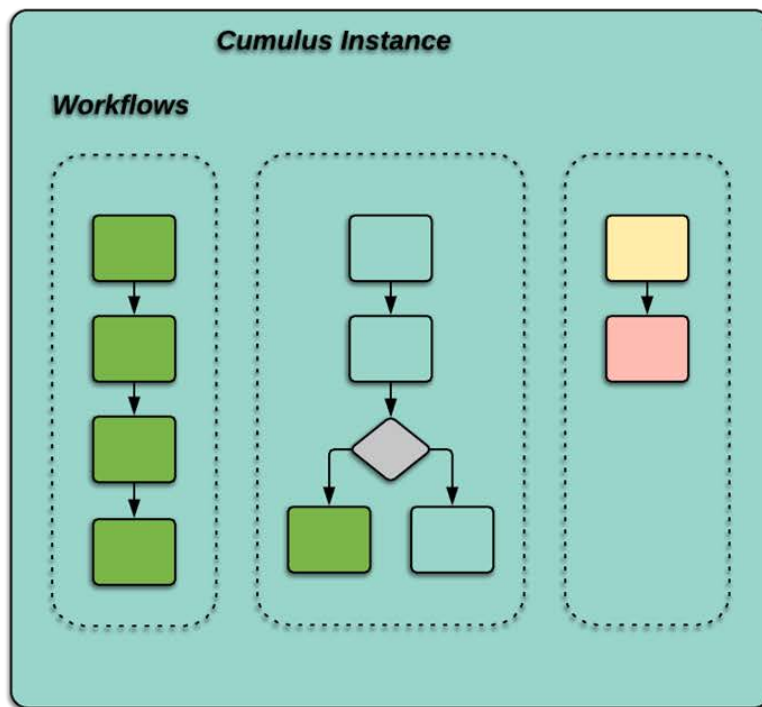
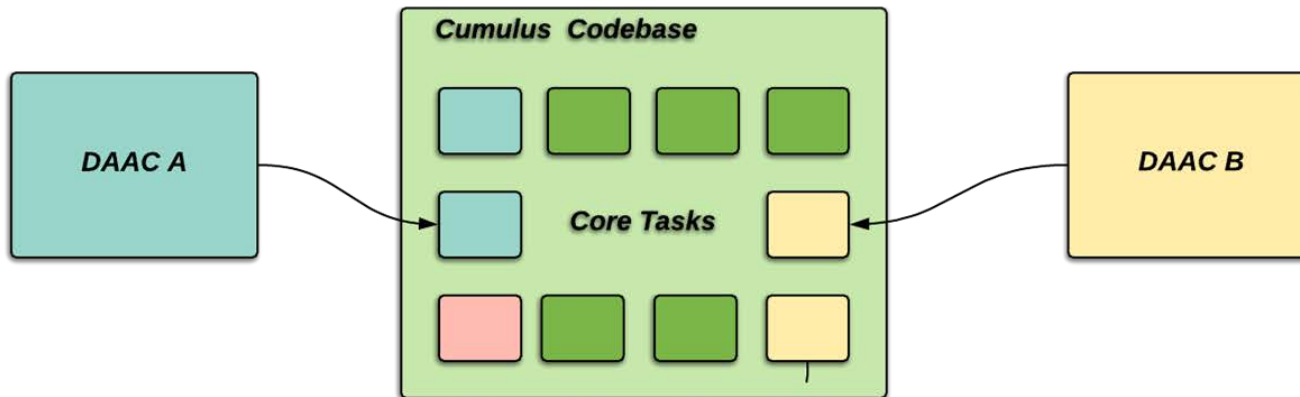


Configurable



Common Services





The Team

The Cumulus Core Team



10 Developers



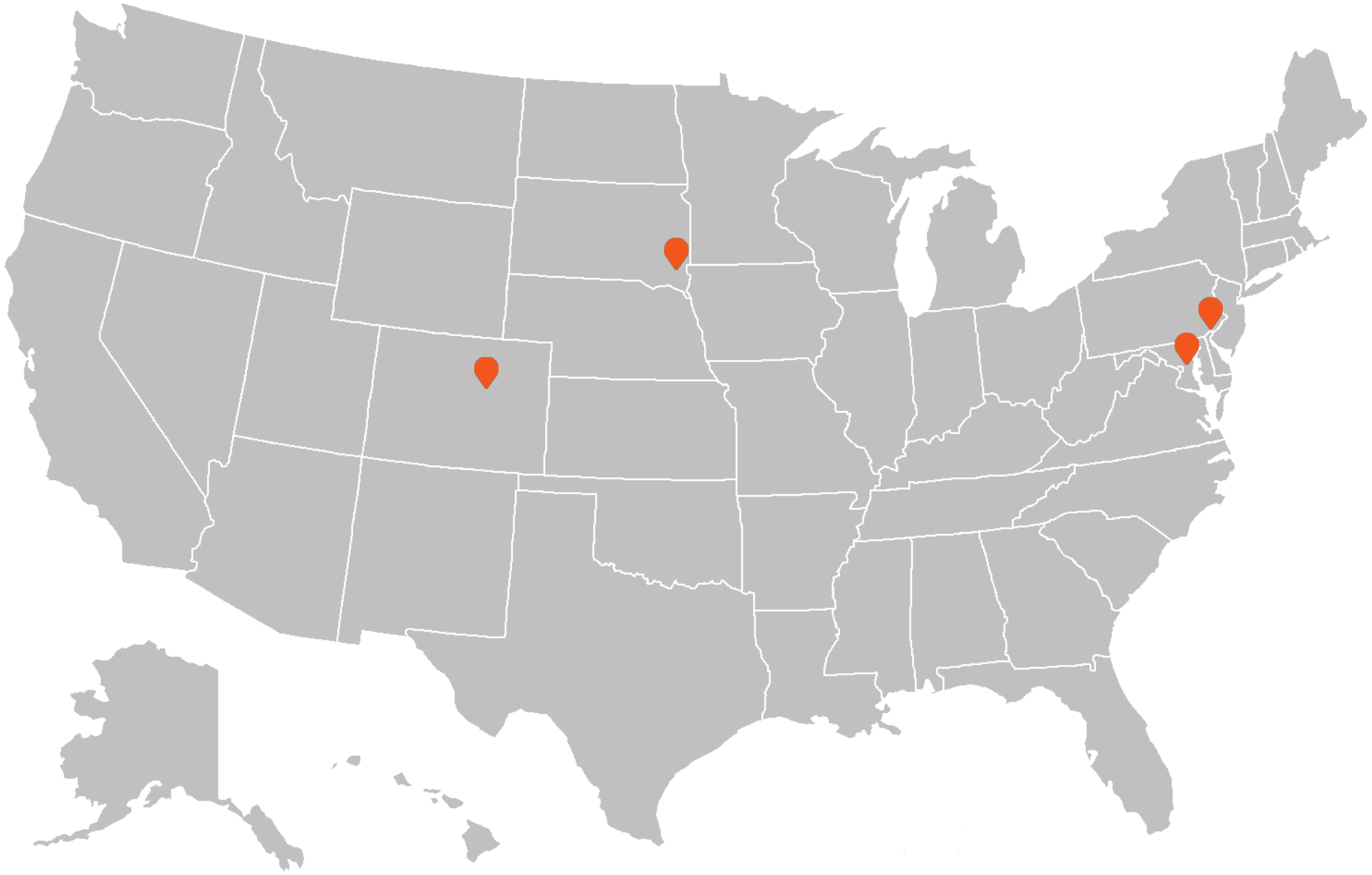
3 Companies



2 Data Centers



13 Repositories



Team Communication



Slack



GoTo Meeting / Hangouts / Video chat



Daily Scrum



Internal demos



Weekly architecture meetings

Tracking Work

Sprints

Sprint 18.3.5

5 days remaining Complete Sprint

Agile Cards

Board

QUICK FILTERS: From Jama Only My Issues Recently Updated

To Do

Blocked

In Progress

Needs Review

Done

- ✓ CUMULUS-858
Address security warnings from npm
- ✗ CUMULUS-856
addKinesisEventSource should enable eventSourceMapping by default.
- ✗ CUMULUS-837
cumulus-ecs-task 1.1.2 fails to start our workflow (ParsePdr)
- ✗ CUMULUS-839
SyncGranule should not require a collection in schmeas/config.json

- ✓ CUMULUS-744
Set up a AWS account with temporary credentials for SE TIM Demo

- ✓ CUMULUS-713
Create data cookbook entry that contains (links to) documentation on configuring choice states compatible with CMA
Feature Validation: Ingest
- ✗ CUMULUS-680
As a DAAC operator, I want instructions on where to find raw subsystem logs so I may troubleshoot any problems I encounter
System Documentation
- ✗ CUMULUS-764
Integration tests should clean up after themselves
- ✗ CUMULUS-691
As a DAAC operator, I want to view the Cumulus logs for a workflow in the dashboard so I may troubleshoot problems
Dashboard Granule Tracking
- ✗ CUMULUS-851
In-progress cumulus workflows should ignore redeployment of tasks they depend on

- ✓ CUMULUS-723
Create developer documentation describing the format of a SNS (success/failure) message
Feature Validation: Ingest
- ✗ CUMULUS-690
As a DAAC operator, I want to view the Cumulus task name and version of all code run for a workflow in the dashboard
Dashboard Granule Tracking
- ✗ CUMULUS-859
Fix two NPM circular dependencies
- ✗ CUMULUS-866
Add logging and retry to IngestGranules' syncGranule task.

- ✓ CUMULUS-822
Complete SWOT tech qual and compat test JAMA review
- ✓ CUMULUS-728
Create integration test suite to demonstrate a CNM workflow that moves data from remote bucket to a local bucket
Feature Validation: Ingest
- ✗ CUMULUS-689
As a DAAC operator, I want to receive links to parent workflow executions when viewing workflow executions in the dashboard
Dashboard Granule Tracking
- ✗ CUMULUS-308
As an operator I want to see only relevant logs when looking at a granule, execution, etc. on the dashboard
- ✗ CUMULUS-774
Sync granule fails in Lambda for large files
- ✗ CUMULUS-693
As a DAAC operator, I want an organized, consistent location for documentation related to operating Cumulus, so I may find
System Documentation

Tracking Work

Filters Labels Milestones New pull request

<input type="checkbox"/>	🔗 4 Open ✓ 718 Closed	Author	Labels	Projects	Milestones	Reviews	Assignee	Sort
<input type="checkbox"/>	Cumulus 1063 #740 opened 5 hours ago by Jkovarik							
<input type="checkbox"/>	use permissions boundaries ✖ work in progress #738 opened 12 hours ago by laurenfrederick • Review required 🗨️ 0 of 5							
<input type="checkbox"/>	CUMULUS-1057 Update AsyncOperations model to use Postgres in review #737 opened a day ago by yjpa7145 • Changes requested							🗨️ 4
<input type="checkbox"/>	Travis branch fix ✓ needs review #735 opened 4 days ago by laurenfrederick • Review required 🗨️ 0 of 5							

Pull Requests



Review required

[Show all reviewers](#)

At least 1 approving review is required by reviewers with write access. [Learn more.](#)



All checks have passed

[Hide all checks](#)

1 successful check



continuous-integration/travis-ci/pr — The Travis CI build passed

Required

[Details](#)



Merging is blocked

[Update branch](#)









Merging can be performed automatically with 1 approving review.

Merge pull request





You can also [open this in GitHub Desktop](#) or view [command line instructions](#).



✔ Unit test and stack deployment

✔ # 2367.2		 eslint
✔ # 2367.3		 Unit tests except API
✔ # 2367.4		 API unit tests
✔ # 2367.5		 Deploy Integration Test Stack



✔ Integration tests

✔ # 2367.6		 Run integration tests
------------	---	---

✔ Redeployment integration tests

✔ # 2367.7		 Run redeployment integration tests
------------	---	--

✔ Cleanup integration tests

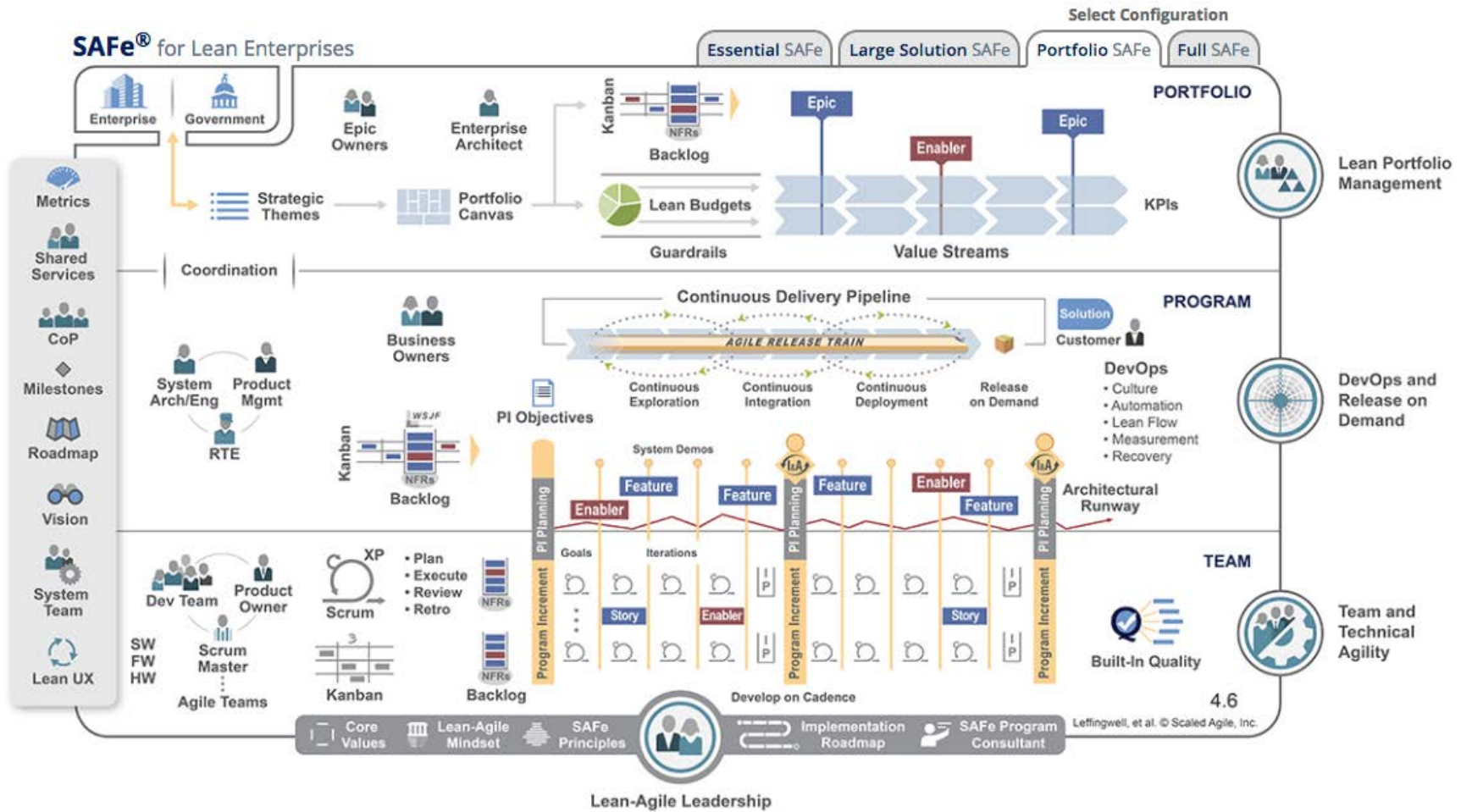
✔ # 2367.8		 Cleanup integration tests
------------	---	---

Test Suite Challenges

- Resource Contention
- Stability
- Length of time
- Dependency on outside services

The Train

Scaled Agile Framework



Scaled Agile Framework



In-person planning every 12 weeks



5 sprints, 2 weeks each



2 week Innovation & Planning sprint

Communication in the Train



Slack channel for users + team



Leadership meetings 2x per week



Demo each sprint



Office hours



Dashboard meetings

Work Prioritization

Project Management Board



sets the vision for



Project Leadership Team



provides the "what" for



Technical Leadership Team



guides the "how" for



Committers



Contributors

Project Structure

This diagram lays out the relationships between the various roles in the team, showing how each team interacts at a high-level.

Issue Prioritization

1 Critical Bugs and Vulnerabilities

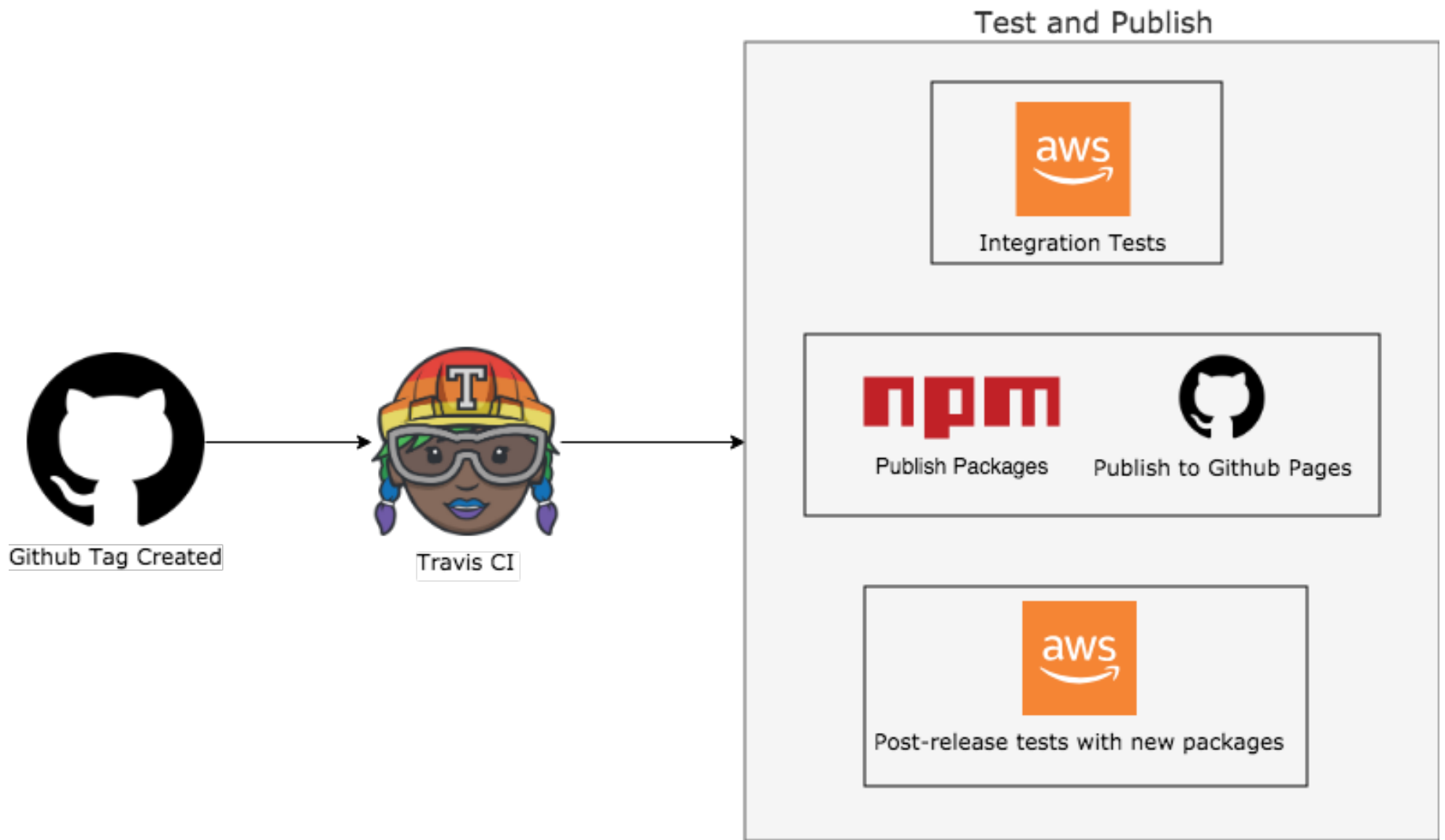
2 PI Objective Work

3 Low-impact bugs

Technical Debt

Innovation

Release Process



Documentation

About Cookbooks

[About Cookbooks](#)

[Data Cookbooks Setup](#)

Cookbooks

[HelloWorld Workflow](#)

[SNS Notification in Workflows](#)

[Science Investigator-led
Processing Systems \(SIPS\)](#)

[CNM Workflow](#)

[Error Handling in Workflows](#)

[Choice States](#)

[Cloudwatch Retention](#)

About

What is a data cookbook?

The following data cookbooks are documents containing examples and explanations of workflows in the Cumulus framework. Additionally, the following data cookbooks should serve to help unify an institution/user group on a set of terms.

[Adding a page](#)

As shown in detail in the "Add a New Page and Sidebars" section in [Cumulus Docs: How To's](#), you can add a new page to the data cookbook by creating a markdown (`.md`) file in the `docs/data-cookbooks` directory. The new page can then be linked to the sidebar by adding it to the `Data-Cookbooks` object in the `website/sidebar.json` file as `data-cookbooks/${id}`.

More about workflows

[Workflow general information](#)

[Input & Output](#)

[Developing Workflow Tasks](#)

[Workflow Configuration How-to's](#)

[DATA COOKBOOKS SETUP →](#)

Documentation

Cumulus Versions

The versions on this page correspond directly to release versions in [npm](#) and [GitHub](#).

Current version (Stable)

1.11.0	Documentation	Release Notes
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Pre-release versions

master	Documentation	Release Notes
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Past Versions

v1.10.4	Documentation	Release Notes
v1.10.3	Documentation	Release Notes
v1.10.1	Documentation	Release Notes

You can find past versions of this project on [GitHub](#).

The Community

Open Source!

cumulus

Cumulus Framework + Cumulus API

JavaScript ★ 30 🍷 19 Updated 14 hours ago



cumulus-dashboard

Cumulus API Dashboard

JavaScript ★ 7 🍷 8 Updated 3 hours ago



cumulus-message-adapter

A command-line interface for preparing and outputting Cumulus Messages for Cumulus Tasks

Python ★ 4 🍷 4 Updated 29 days ago



cumulus-api

Cumulus API Documentation

JavaScript ★ 3 🍷 3 Updated 3 minutes ago



cumulus-process-py

Python utilities library for Cumulus

Python ★ 1 🍷 6 Apache-2.0 Updated on Aug 2



cumulus-message-adapter-java

Java handler for the Cumulus Message Adapter

Java ★ 1 🍷 4 Updated on Oct 9











CHANGELOG.md

CONTRIBUTING.md



LICENSE

README.md



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Cumulus Community Edition (CCE)

- Cumulus is highly-configurable and open source, it can be used outside of the NASA ecosystem and on arbitrary data
- Now supports Google OAuth
- Community Edition's roadmap will make Cumulus lightweight

Other Applications

- Ingest and process of data for:
 - A World Resources Institute (WRI) satellite-derived air quality model
 - The Group on Earth Observations (GEO) Global Agricultural Monitoring applications ([GEOGLAM](#))



WORLD
RESOURCES
INSTITUTE



GEOGLAM
Global Agricultural Monitoring

Other Applications

- MAAP project
- Estimating hurricane wind speeds

Come Find Us



Check us out on github!

<https://github.com/nasa/cumulus>



Read up

<https://nasa.github.io/cumulus/>



Use our packages

<https://www.npmjs.com/org/cumulus>

Questions?

Thank You!

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Raytheon

in partnership with

