Background

The Drupal CMS currently uses Jenkins as a Build Release Deploy (BRD) solution, but it is being deprecated by Platform Ops. To find an appropriate replacement for Jenkins, the technical discovery was completed for various options, and Lagoon (by Amazee.io), a web application delivery platform has been identified for our needs.  The Lagoon proof of concept was completed during sprint 77 and successfully implemented on a demo environment using their Platform as a Service (PaaS), which is not FedRAMP approved and therefore not something we can use. However, Lagoon is 100% open-source and on-prem support contracts are available with 24/7 Slack and Phone support, so we can pursue this path.

The Lagoon on Amazee PaaS Solution

During technical solutioning, Lagoon was found to bring the most opportunities for maintenance and improvement for various reasons and is the best option for the CMS. The team found an opportunity to host Lagoon on the Amazee PaaS. Enacting this solution allows us to use a 100% open-source solution with a track record of [government success](https://www.amazee.io/case-study/the-next-generation-of-govcms). Unlike the alternatives, this solution is purposefully built for both Drupal and general containers with a greater ability to scale. Engineers will also receive technical and community support for continuous deployment and new features, which we currently do not have. Lagoon will allow for reduced implementation time upfront and reduced maintenance time going forward. One important call out is that this reduced engineering effort will result in an enhanced developer experience which equals ease for the content editor and, most importantly, our Veterans.

However, it should be noted that Lagoon is not currently a FedRAMP-accredited SaaS and will require an on-premise installation. Also, there are no live logs in the UI yet, but the CMS Team has started documenting this list.

Timeline and Cost

The timeline project and cost estimates are included below. The CMS Team suggests 3 months of development time (possibly during Q2 2023). This would require two DevOps engineers' capacity for development. The following chart is an estimate of the proposed cost for setting up the Lagoon on Amazee PaaS.

Graphical user interface, text, application, email

Description automatically generated

Alternative Considerations

As a part of the [technical discovery process](https://github.com/department-of-veterans-affairs/va.gov-cms/issues/6673), Lagoon was compared with the Platform-provided GitOps solution and Argo CD/Kubernetes/GitHub Actions. There is additional documentation regarding the comparison process at the linked ticket. Some of the key deciding factors are listed below.

**Alternative #1: Continuation on Build Release Deploy via Ansible**

* Large lift to maintain/secure with our small DevOps team (leaves no additional capacity for other initiatives).
* A large amount of technical debt currently around Ansible scripts.
* Container support likely won’t meet our needs and support availability is unknown.

**Alternative #2: PlatformOps/GitOps solution powered by Argo CD, Kubernetes, and GitHub Actions**

* The CMS team was not consulted during development; therefore, the solution didn’t include our needs. However, we would be responsible for extending the solution to meet our needs. This would require various custom solutions and extensive documentation to finesse for the CMS requirements.
* No paid engineering/troubleshooting support for Argo CD, resulting in the consumption of CMS development hours (large, but unknown capacity at this point).
* The software is not open source and will become as difficult to maintain as BRD.
* Can’t easily follow the whole git push to deployment trail from GitHub Actions > Argo CD, log fragmentation, resulting in numerous possible points of failure.