

CASE STUDY | FRAMEBRIDGE

# Moving from kOps to EKS for Simpler Kubernetes Infrastructure Management

#### **OVERVIEW**

Framebridge, a fast-growing custom framing company, sought to modernize its technology infrastructure by moving from Kubernetes Operations (kOps) to Amazon Elastic Kubernetes Service (EKS) to support its business goals. As the company scaled, it faced challenges with its existing Kubernetes deployment using kOps, prompting the team to rebuild its clusters on EKS.

# **READY TO MOVE OFF KOPS**

An early Kubernetes adopter, Framebridge evaluated EKS when it was first released, but at the time it wasn't mature enough to fit their needs. They chose kOps as the best solution available at the time. After years of relying on kOps, however, a significant Container Network Interface (CNI) change in kOps now required unavoidable downtime on the clusters during the upgrade to Kubernetes 1.26, so Framebridge opted to migrate over to EKS. Staying on kOps would have required significant effort in terms of maintaining and upgrading the Kubernetes clusters, limiting the team's ability to focus on innovation and growth. The lack of consistency across clients and the challenges in managing the infrastructure efficiently were becoming increasingly problematic.



- Difficulty ensuring a smooth kOps upgrade process
- kOps dropped support for specific CNIs
- Upgrades had to be performed off-hours and required downtime

#### FAIRWINDS SOLUTIONS

- Fairwinds Managed Kubernetes
- Allowed internal engineering resources to focus on Framebridge's growth
- Improved reliability and availability with simple, consistent upgrades



# SOLUTION

Fairwinds provided a comprehensive solution to address Framebridge's challenges:

- **Migration to Amazon EKS:** Fairwinds SREs guided Framebridge through the transition from kOps to Amazon EKS version 1.26, leveraging their expertise in Kubernetes management.
- Infrastructure as Code: Implemented Terraform for managing EKS, ensuring consistency and simplifying infrastructure management.
- Streamlined Upgrades: Established a process for smoother, documented upgrades within specified work hours (9-5 ET).

# THE EKS MIGRATION

Framebridge already relies on Fairwinds Managed Kubernetes-as-a-Service to run its workloads, working closely together to ensure that the company's infrastructure is reliable and secure. When Framebridge was ready to move from kOps to EKS, Fairwinds SREs conducted a comprehensive analysis of the existing infrastructure and workflows to ensure a seamless migration and minimal downtime during the process. Fairwinds set up a maintenance window to ensure a clean zero-downtime cutover, taking steps to mitigate any potential issues. The team also created a rollback plan in case the transition did not go as smoothly as planned. Fairwinds SREs built out clusters in parallel to ensure consistency across environments.

#### PLANNING

The engagement kicked off with a comprehensive analysis of the current infrastructure and workflows to understand their specific challenges and objectives. Following this collaborative planning phase, Fairwinds deployed its Managed Kubernetes-as-a-Service, focusing on:

- Ensuring a smooth transition to EKS 1.26, avoiding the potential pitfalls of undocumented changes sometimes encountered with kOps upgrades.
- Minimizing downtime. Unlike kOps, which required scaling down and up during upgrades, EKS ensured future updates with minimal to no downtime.
- Availability and scalability. The new EKS environment efficiently handled traffic spikes and supported Framebridge's growth initiatives.
- Seamless integrations. Native to Amazon's ecosystem, the EKS migration provided seamless integrations with other AWS services, including AWS Identity and Access Management (IAM), AWS networking services, and Fargate configurations.
- Simpler infrastructure management. A Terraform implementation ensured consistent infrastructure management.

# WHAT FRAMEBRIDGE IS SAYING

"Fairwinds' Kubernetes expertise allowed us to accelerate our infrastructure modernization while ensuring our systems are secure, efficient, and scalable. The transition to EKS has significantly improved our upgrade processes and overall system reliability. With Fairwinds, we don't need to worry about what version of Kubernetes we are running on or what add-ons we need to update, they just handle all of that for us so we can focus on improving our product."

Brock Wilcox VP Engineering at Framebridge

#### **IMPLEMENTATION**

Framebridge experienced significant improvements following the migration from kOps to Amazon EKS:

#### White-Glove Kubernetes Management

Fairwinds implemented a fully managed EKS solution, providing end-to-end management of the company's Kubernetes infrastructure. This service included cluster setup, configuration, monitoring, and ongoing optimization.

#### Operational Efficiency

By taking over the heavy lifting of Kubernetes management, Fairwinds significantly reduced the operational burden on the company. This shift allowed the company's engineers to focus on building and enhancing services rather than K8s infrastructure management.

# Specialized Expertise and Advisory

Fairwinds operates as an extension of the internal tech team, providing deep Kubernetes expertise. Regular advisory sessions and best practices sharing empowered the in-house teams to leverage Kubernetes more effectively.

## Seamless Integration with Development Workflows

Fairwinds ensured that the Kubernetes solution was fully compatible with the company's existing development workflows and tools, especially GitLab. This integration streamlined CI/CD pipelines, enhancing deployment velocity and reliability.

## CONCLUSION

The partnership between Framebridge and Fairwinds highlights how expert guidance from a Managed Kubernetes-as-a-Service provider streamlines complex Kubernetes transitions. To simplify Kubernetes management and upgrades, Fairwinds has built multiple open source tools for itself and the cloud-native community as a whole, including **Rok8s-Scripts**, which the team leveraged during the migration process to easily deploy applications to the new cluster. By leveraging Fairwinds' expertise and Amazon EKS, Framebridge successfully updated its infrastructure to EKS, enabling the company to focus on its core business of delivering exceptional custom framing services to its customers.

**F** Fairwinds

WWW.FAIRWINDS.COM