

Noonlight's Kubernetes Can't Go Down & Fairwinds Makes Sure It Doesn't

OVERVIEW

Noonlight runs its connected safety platform on Amazon Elastic Kubernetes Service (EKS) with Fairwinds Managed Kubernetes-as-a-Service, a people-led Kubernetes management service. Fairwinds guided Noonlight's migration from kOps to EKS. Today, Fairwinds manages the Kubernetes layer, including the control plane, worker nodes, cluster networking, add-on upgrades, and monitoring in partnership with Noonlight.

ABOUT NOONLIGHT

Noonlight combines advanced technology with real humans to protect and comfort people so they can live freely. Launched in 2013, Noonlight has grown into a connected safety platform delivering modern, affordable 24/7 professional monitoring, video verification, false alarm filtering, and data-rich emergency response. Noonlight protects over 4 million people and has handled 3.5 million real alarms and 31 million video verification events.

EXISTING PROBLEMS

- ❗ kOps usage required careful, ordered work
- ❗ Infrastructure projects compete with product work
- ❗ Lack of deep in-house Kubernetes expertise
- ❗ Concerns related to downtime for life safety services
- ❗ Expensive GPU resources require efficient use

FAIRWINDS SOLUTIONS

- ✅ Fairwinds Managed Kubernetes and Fairwinds Insights
- ✅ Managed kOps-to-EKS migration process
- ✅ Management of day-to-day cluster operations and upgrades
- ✅ Enables Noonlight's engineers to focus on products
- ✅ Easy access to expertise for infrastructure-adjacent questions

THE CHALLENGE: EVERY ALARM HAS TO GO THROUGH

Life safety sets a high bar for infrastructure. Two pathways have to work every single time: the creation of a video, and the creation of an alarm through Noonlight's APIs.

"We're in the life safety business, so we can't really have any downtime," said Cory Buecker, Noonlight's Director of Engineering. "We're trying to avoid any outage, even if a single AWS availability zone goes down. Even a single failed creation of a video or failed creation of an alarm through our APIs is unacceptable."

To protect those pathways, Noonlight scales its services based on availability and resilience rather than capacity.

The second constraint is headcount. With a small engineering team, the team would prefer to focus on core, life-safety product work over complex infrastructure efforts.

MOVING FROM KOPS TO EKS

Noonlight's clusters were previously managed and maintained using Kubernetes Operations (kOps). The setup worked, but it had rough edges, and certain tasks had to be done carefully and in a particular order.

The migration to Amazon EKS wrapped at the end of last year, with Noonlight and Fairwinds working through it side by side.

"We solved big and small problems, one after another, to complete that migration," Buecker said.

The hardest piece was migrating the GPU workloads to the EKS managed cluster, which didn't convert from kOps to EKS as easily as the rest of the environment. Because those nodes run Noonlight's video services, the team had to make trade-off decisions late in the process.

"Being able to run the pros and cons back and forth with Fairwinds really helped our confidence that the migration was going to be successful," Buecker said, "and that we weren't going to have any issues with those critical parts of our GPU infrastructure."

Since the beginning of this year, day-to-day operations have been quiet.

"I definitely pay attention when we're doing add-on upgrades or Kubernetes version upgrades, but it feels very seamless to me," Buecker said, "which is fantastic."



HOW NOONLIGHT MEASURES SUCCESS

Noonlight measures the health of its Kubernetes environment through Datadog Watchdog, Kubernetes infrastructure reports, and uptime on two critical pathways: video creation and alarm creation.

"The stability of the platform, to have 100% or as near 100% as we can get for those two critical pathways, is really the number one thing that I'm looking at every single day."

Cory Buecker,
Director of Engineering
at Noonlight

A SOUNDING BOARD BEYOND THE CLUSTER

Asked where Noonlight would be without the partnership, Buecker doesn't hesitate. "It's really just impossible to imagine," he said. His best guess: something probably much more expensive and far less stable, built on infrastructure-as-a-service tooling, since the team would still need to focus its time on building the product itself.

Buecker has worked across a wide range of company sizes, from Oracle to a 10-to-15-person engineering team with a single dedicated DevOps resource. That team, which also ran Kubernetes, is his closest comparison to Noonlight. At Noonlight, Fairwinds handles that layer.

"We know where our areas of expertise are, and we'd very much prefer to focus on building the products," Buecker said.

One unexpected benefit Buecker shared is the day-to-day access. "At any point in time, if I have any question that is even infrastructure-adjacent, Fairwinds has been fantastic at just jumping into a Slack thread with me," he said. "Those are really valuable conversations from my perspective."

Sometimes that means weighing the pros and cons of a service Noonlight is considering, from cost and management overhead to whether it fits what Noonlight needs. Sometimes it means help with Noonlight's own Terraform, which sits outside what Fairwinds is contracted to do. "Just being able to ask Fairwinds a couple of questions is extremely valuable," added Buecker.

THE ONGOING PARTNERSHIP

With the EKS migration complete, Noonlight's infrastructure has faded into the background, which is the goal. Upgrades are routine and the two critical pathways are stable, so engineering teams can focus on their products.

The next phase is already taking shape. To meet strict model execution time constraints, Noonlight is experimenting with fractional GPUs, parallelized workflows, and backpressure mechanisms to saturate GPU nodes effectively. Looking ahead, the team also plans to evaluate Karpenter to further improve compute cost efficiency.

That is what partnership looks like: Noonlight builds life safety products to help people, and Fairwinds makes sure Kubernetes is never a blocker for completing that mission.



WHAT NOONLIGHT IS SAYING

"One of the biggest benefits of working with Fairwinds is that we don't have to maintain as much of the expertise at that level of infrastructure. It frees us up to go build life safety products and help people."

Cory Buecker,
Director of Engineering
at Noonlight