



# Red Sky Ops

## Machine learning-powered AIOps platform for optimizing applications in Kubernetes environments

### Helping to Deliver on the Promise of Kubernetes

Kubernetes has the potential to deliver many compelling benefits, including more portable and scalable applications, faster and easier deployments, and major IT cost savings. That is why so many organizations are migrating to this powerful container orchestration system.

As teams make the transition, however, they soon encounter Kubernetes' complexity. Engineers without the right experience face a steep learning curve. Then there's all the manual DevOps work needed just to get applications to run, let alone optimizing their performance. As a result, the expected benefits of Kubernetes remain out of reach for many organizations.

Red Sky Ops from Carbon Relay changes this dynamic. It enables teams to break through Kubernetes' complexity, harness its powerful capabilities, and realize all of its potential benefits.

### The Optimization Challenge

Getting applications up and running in Kubernetes is often difficult, but optimizing their performance can seem nearly impossible. Most of this difficulty stems from having to figure out how to configure and fine-tune the enormous numbers of possible combinations of parameters of these applications. With limited visibility into how changes to one item impact others, engineers are forced to use ineffective and time-consuming trial-and-error.

The machine learning-powered capabilities of Red Sky Ops provide a smarter and more efficient way to get the job done.

### Other Solutions Miss the Mark

Red Sky Ops is presently the only available solution that focuses on optimizing the performance of applications running on Kubernetes. The closest alternative is application performance monitoring (APM) software products. They generally gather performance data to monitor how applications are behaving, and show the resulting metrics in dashboards and reports. Some APM

systems use "predictive analytics" to generate performance predictions. Largely reactive, they can alert teams about applications that have crashed or are experiencing degrading performance. Where they offer little to no help is automatically determining what's wrong and how to make it right — and do so rapidly and continuously. That's what sets Red Sky Ops apart from every APM tool.

### How Red Sky Ops Works – A Closer Look

Red Sky Ops is an AIOps platform with advanced, machine learning-based capabilities. Using a unique process, it automatically determines the optimal configuration, thereby eliminating the need for manual optimization.

The technologies built into the Red Sky Ops platform, which build upon established methods in data science, enable DevOps teams to automate the process of parameter tuning. By doing so, it frees them up to focus on other strategic initiatives.

Using ML-powered experimentation, Red Sky Ops paves the way for efficient exploration of the application parameter space, resulting in configurations that are guaranteed to both deploy reliably and perform optimally. As is the case with all powerful ML techniques, the ability to learn over time plays a crucial role in the platform's scalability and efficiency. With Red Sky Ops' advanced technologies



**Create Application Deployment Experiments**



**Run Experiments Under Load**



**Send Suggestions and Obtain Results Quickly and Easily**

working for them, teams can rest assured that development and scaling of their applications will fit naturally into the optimization process, which automatically becomes more intelligent over time.

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## Top Benefits and Key Features

### Operational and Financial Benefits:

- Lowers operating expenses by significantly reducing cloud costs
- Increases team productivity by freeing up DevOps engineers and IT staff to work on other strategic initiatives
- Accelerates organizational velocity by enabling greater IT automation
- Improves application performance which delivers a range of operational and competitive advantages
- Boosts operational visibility by providing key metrics that can help guide ongoing improvements

### Key Features:

- **Integrations with widely used tools:**
  - Can be deployed as a Helm chart. Integrates with most common reporting and tracking tools.
- **Built-in cost metrics:**
  - Get accurate cost estimations based on your cloud provider, or provide your own custom cost metrics
- **Automated application configuration:**
  - With advanced ML models, configuration is obtained automatically without the need for human intervention
- **OOTB ML models for common open source stacks and projects**
  - Use ELK, Rally, Postgres and more out of the box
- **Smart optimization as your application evolves**
  - Intelligent ML models learn your application's behavior and reach optimal solutions faster as your application evolves

## The Right Solution for Varied Needs

Red Sky Ops is ideal for enterprises that want to upgrade their IT environments while closely controlling costs, and for organizations that want a low-risk way to get started with Kubernetes. Red Sky Ops offers unique functionality for optimizing the performance of applications running on Kubernetes. It also delivers automatic generation and implementation of machine learning-powered suggestions for resource scheduling and configuration settings. The accuracy, speed and comprehensiveness of these suggestions results in optimal configurations and the best possible application performance at all times — with minimal human involvement.

In short, Red Sky Ops is a breakthrough solution that helps organizations to achieve their operational and business goals with Kubernetes.

## Take the Next Step

To learn more about how Carbon Relay and our Red Sky Ops platform can help your organization to smooth its transition to Kubernetes, and maximize its operational and financial benefits, please contact us at [info@carbonrelay.com](mailto:info@carbonrelay.com). Better yet, arrange a personalized demo of the solution at <https://www.carbonrelay.com/request-a-demo/>. You'll be glad you did.

