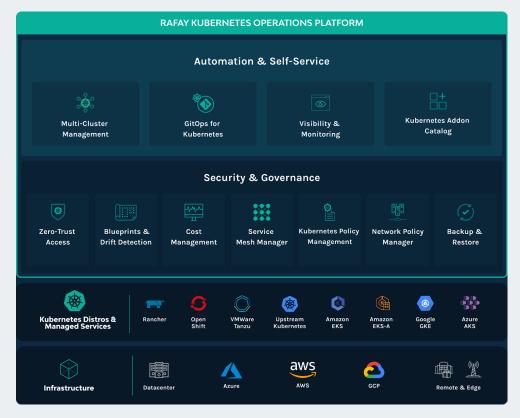# Rafay Kubernetes Operations Platform

Rafay's Kubernetes Operations Platform (KOP) provides a holistic approach for Kubernetes automation and governance for clusters located in data centers, public clouds and the edge. Building, integrating and supporting separate stovepipe services such as continuous deployment (CD), logging, monitoring, policy management, authorization, and backups are a thing of the past. Whether you're new to Kubernetes or an expert, you'll appreciate the easy-to-use, integrated services that can be deployed in minutes via the cloud or air-gapped. With Rafay, you get all the value of enterprise-grade Kubernetes services combined with peace of mind provided by Rafay's 24x7 customer service and support. Our integrated automation, security, visibility, and governance capabilities result in standardized and repeatable workflows and streamlines the management of Kubernetes clusters and modern applications.

KEY BENEFITS

- **Accelerate Deployments**: Accelerate app deployments 40% by automating and standardizing clusters and workloads.

- **Reduce Time to Market**: Instantly provide production-grade infrastructure with centralized policy management, enterprise security and multi-tenancy.

- **Reduce Time to Resolution**: Cut down MTTR (mean time to recovery) with global visibility, health monitoring and alerting across both clusters and applications.

- **Streamline Ongoing Operations**: Automate manual tasks, increase reliability, and improve cost predictability while leveraging experts to free up resources.

The Rafay Operations Platform streamlines Kubernetes cluster and modern applications lifecycle management across any distribution and infrastructure.

The Rafay Kubernetes Operations Platform augments the enterprise platform team through a broad range of services needed to accelerate application modernization initiatives. Rafay delivers the following services to platform, DevOps and Ops/SRE teams — across both Kubernetes infrastructure and modern applications. As organizations continue to adopt and scale modern applications, K8s operational complexity increases. Easily deploy, operate, scale and manage the lifecycle of Kubernetes clusters and containerized applications with a comprehensive set of enterprise-grade technologies, services, training and support. The platform delivers the following key services to ensure ongoing operations have the consistency and reliability you expect at any scale.

K8s Multi-Cluster Management

Rafay's K8s Multi-Cluster Management Service provides all the features enterprises need to manage the entire lifecycle of Kubernetes clusters deployed in data centers, public clouds and remote/edge locations. Deep interoperability with a broad range of managed Kubernetes distributions and platforms including Rancher, Openshift, GKE, AKS, EKS, and upstream Kubernetes. Simplify deployment, development, and management of containerized workloads with unified policies, blueprints and templates, log collection, storage management, and secrets management integrated across clusters. Key features include:

- Centralize deployments and management for all clusters from a single console, API, CLI and Terraform
- Turnkey integrations with dozens of technologies across the Kubernetes ecosystem
- Automated upgrades with preflight and post-upgrade validation checks
- Governance across your fleet using blueprints, policy management and custom add-ons

GitOps

Rafay's GitOps Service ensures Git is the single source of truth for your delivery pipelines, accelerating and simplifying infrastructure and application deployments and operational tasks for Kubernetes infrastructure through multi-stage, git-triggered pipelines. Use a declarative approach that can be triggered via a CI/CD system of choice or Rafay's built-in GitOps model to provide better standardization, enhanced security, and measurable productivity gains. Even Git repos deployed behind firewalls can easily be utilized by clusters deployed in remote networks without needing a network line of sight. With Rafay's GitOps Service, you can:

- Build a multi-stage pipeline to carry out multiple tasks, including workload deployment and Terraform provider execution
- Fully automate deployments and remove error prone, manual steps
- Guarantee that the desired state specified in your Git repos are instantly enforced
- Tightly integrate your Kubernetes management solution with CI/CD system of choice or via Rafay's built-in GitOps model

Zero-Trust Access

Rafay's Zero-Trust Access Service enables controlled, audited access to Kubernetes infrastructure with just-in-time service account creation and user-level credentials integrated with your identity provider of choice. Centralize and secure access to kubectl from anywhere, governing the use by user account enabling you to:

- Centralize kubectl access to your entire fleet with automated RBAC
- Stop rogue Kubernetes admins with user-level audit logs
- Comply with enterprise security and governance regulations with 1-click integrations
- Make your Security and DevSecOps teams happy with streamlined access via single sign-on (SSO)

K8s Policy Management

Rafay's K8s Policy Management Service centralizes control and administration ensuring clusters are always in compliance with company policies — fleet-wide. Automate, test, audit and maintain policies with unified policy definition and enforcement across data centers, public clouds and in remote/edge locations providing:

- Easy to use workflows for creating and managing security policies for the entire fleet of clusters
- Granular policy enforcement over the entire organization of one or more projects or clusters
- Pre-existing policies covering best-practices, enterprise compliance and security requirements
- A comprehensive view of all policy metrics, violations and audits in a central dashboard

Backup & Restore

Rafay's Backup and Restore Service delivers an easy-to-use, scalable solution for business continuity, disaster recovery and migration of Kubernetes clusters and application data across data centers, public clouds and remote/edge locations enabling you to:

- Centrally configure, automate and operationalize disaster recovery (DR)
- Eliminate manual handling of backup credentials for enhanced security
- Leverage easy to use workflows for creating and managing backups for the entire fleet of clusters
- Have flexible controls to specify what data to include and exclude as part of the backup

Visibility & Monitoring

Rafay's Visibility and Monitoring provides deep insights into your Kubernetes environments with a comprehensive view of your infrastructure and modern applications across data centers, public cloud and remote/edge locations. Remediate and resolve issues faster to:

- Visualize, monitor, and manage your global fleet of Kubernetes workloads and user activity
- Automatically collect and aggregate metrics efficiently from 100s of heterogeneous K8s clusters
- Analyze contextual dashboards for a variety of roles across the organization
- Reduce MTTR 60% by troubleshooting cluster and application issues even when located behind firewalls

Network Policy Manager

Rafay's Network Policy Manager provides centralized traffic management and visibility into your pod and namespace communication. This ensures isolation boundaries, enables secure multi-tenancy and reduces lateral attack surface via zero-trust segmentation. Strengthen security and accelerate service delivery by leveraging:

- Zero-trust segmentation, rules configuration, consistent policy for inter-pod network connectivity, namespace isolation, and cluster-wide policies
- Network Policy Profiles and Rafay Cluster Blueprinting enable automated network security deployment, consistent delivery, and standards enforcement for large scale across any cluster type or cloud provider
- Visualization of real-time and historical traffic flow across your Kubernetes infrastructure with added granular access controls for developer self-service based on assigned roles

Service Mesh Manager

Rafay's Service Mesh Manager provides platform teams with automated Service Mesh management across clusters, clouds, and hybrid environments, enabling mutual TLS (mTLS) between services by default while allowing developers to simplify managing traffic routing policies for their applications. Strengthen application security and increase visibility by leveraging:

- Policy management to secure and control cluster-wide inter-service communication, including application authentication, authorization, and encryption
- Deployment and standards enforcement at scale with Istio targeted proxy injection to secure, connect and monitor applications
- Visibility into network traffic across clusters and namespaces and the ability to quickly debug applications with real-time visibility and historic replay into traffic flows, latency, and errors

Cost Management

Rafay's Cost Management provides the platform and FinOps teams management of all Kubernetes cloud costs by providing showback and chargeback groups based on any logical grouping of resources. These groups can be created based on projects, clusters, namespaces, or labels. Once a group is created, users can generate showback and chargeback cost reports conveniently. Increase financial governance and cost transparency to:

- Effectively operationalize and allocate costs across teams in the shared cluster and multi-tenant scenarios. This is done by the collection and aggregation of very granular resource utilization metrics from fleet-wide clusters
- Visualize fleet-wide cost network traffic across clusters and namespaces and the ability to provide real-time visibility to cost metrics to platform and application teams filtered by their role. This increases transparency and reduces the time to execute any 'closing the loop' cost optimization exercises

Summary

As enterprises modernize their applications, they are quickly realizing the significant increase in the time and resources required to manage Kubernetes clusters. Rafay's platform breadth and SaaS-first approach enable companies to gain efficiencies from Kubernetes almost immediately, thus speeding digital transformation initiatives while keeping operational costs low. Rafay's Kubernetes Operations Platform provides the automation and governance capabilities that platform teams need to standardize Kubernetes toolsets, services, and workflows.

Find out why so many organizations and platform teams, like HP, MoneyGram, Verizon, and many more have partnered with Rafay to streamline Kubernetes operations with a **free trial today**.