

# Automation Framework for App Lifecycle Management

## An automation framework that customizes Kubernetes and enables applications operations

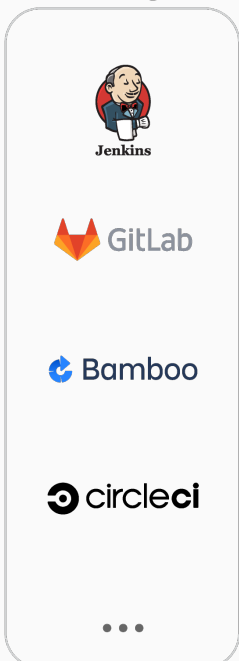
Rafay delivers a turnkey SaaS offering that automates lifecycle management for containerized applications. Rafay's unique set of capabilities address the acute pain faced by DevOps and SRE teams when operationalizing containerized applications across cloud and on-premise Kubernetes clusters. Companies can leverage Rafay to accelerate their application modernization journeys and deliver new applications to market faster.

Kubernetes is a crucial innovation that has fast-tracked the industry's adoption of containerized applications running in any cloud, hybrid or edge environment. But Kubernetes presents a steep learning curve to companies deploying and operating containerized applications. At Rafay, we are on a mission to make Kubernetes easy to use. Whether you are running Kubernetes clusters in the cloud, on premises, or both, Rafay's lifecycle management platform is the right solution to automate cluster customization and application operations workflows.

### Benefits

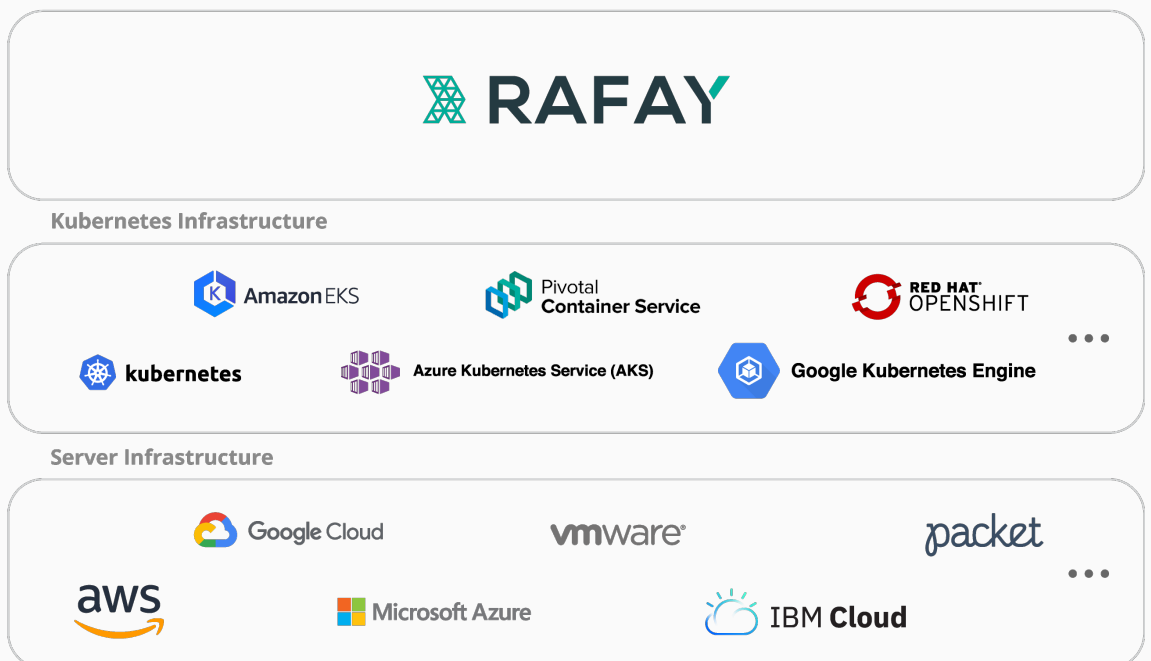
- ◆ **Faster Time-to-Market:** Companies can roll-out more applications, more rapidly to more locations in order to take advantage of market opportunities and handle competitive threats.
- ◆ **Reduced Complexity:** Companies can leverage Rafay's abstraction and blueprinting capabilities to simplify ongoing operations for their containerized apps.

#### Continuous Integration (CI)



- Jenkins
- GitLab
- Bamboo
- circleci
- ...

#### AUTOMATION FRAMEWORK FOR APP LIFECYCLE MANAGEMENT



The diagram illustrates the automation framework for app lifecycle management, structured as follows:

- RAFAY** (Central Platform)
- Kubernetes Infrastructure** (Layer):
  - Amazon EKS
  - Pivotal Container Service
  - RED HAT OPENSIFT
  - kubernetes
  - Azure Kubernetes Service (AKS)
  - Google Kubernetes Engine
  - ...
- Server Infrastructure** (Layer):
  - Google Cloud
  - vmware
  - packet
  - aws
  - Microsoft Azure
  - IBM Cloud
  - ...

# Capabilities

## Application Abstraction

**Rafay's prescriptive application framework makes it easy to define and manage the lifecycle of containerized apps - from deployment to ongoing operations.**



Kubernetes is a highly flexible and pluggable orchestration platform that supports a broad set of use cases. But with flexibility comes complexity, which need to be addressed by developers.

Rafay provides an elegant abstraction layer that hides underlying Kubernetes complexity by translating business requirements into the underlying Kubernetes YAML. This application abstraction flattens the learning curve and the investment required to support Kubernetes deployments, resulting in increased DevOps productivity and faster time-to-market.

## Cluster Blueprinting

**Rafay's Kubernetes cluster management and customization capabilities ensure reliable cluster operations and efficient bring-up in any environment.**



Customizing a managed or internally-developed Kubernetes clusters can be relatively straightforward. But deploying clusters on demand, potentially across multiple regions or clouds, is a massive effort.

To make Kubernetes cluster customization reliable, fast and conformant to best practices, Rafay's unique set of cluster blueprinting capabilities enables DevOps team to provide canned, repeatable workflows to developers, QA teams and SREs. These blueprints can subsequently be used to replicate clusters in different environments across public and private clouds and across managed Kubernetes solutions such as Amazon EKS, Google GKE, and Microsoft Azure AKS.

## Multi-cluster Operations

**Rafay's container and metadata distribution capabilities enable seamless federation and operation of applications across Kubernetes clusters in cloud, on-premise or hybrid environments.**



Every team starts their Kubernetes journey with a single cluster. And every team quickly progresses to using multiple clusters. Multi-cluster usage may be driven due to the varying needs of different sub-teams (QA, development, support, etc.), or because the business needs applications deployed across multiple regions or hybrid environments. But the current state of continuous deployment and cluster federation implementations leave a number of gaps with respect to synchronizing container images, runtime configuration and secrets across clusters. This is particularly true in scenarios where network connectivity between the command issuing authority and a given cluster is not guaranteed.

Rafay's multi-cluster operations capabilities provides a federation framework to seamlessly deploy applications across multiple Kubernetes clusters in multiple regions or in hybrid environments. The platform's scalable distribution capability enables seamless data and metadata aggregation to easily move logs, metrics and other operational information to central/regional locations for fast fault detection, debugging and audit.

## Enterprise Integrations

**Rafay's broad suite of integrations simplify the adoption of critical technologies, such as secrets management, runtime configuration updates, log and metrics aggregation.**



Now that Kubernetes is the de facto standard for container orchestration, companies are actively working to figure out how it plugs into their existing governance, visibility, monitoring, assets. Organizations also find themselves developing integrations with Kubernetes to make applications work with their chosen systems for CI, security, logging, monitoring, access control, and other needs. These efforts require the development and ongoing maintenance of a variety of tools, each with its own lifecycle. All this adds complexity, which will only grow over time.

Rafay provides turnkey, one-click integrations with common IT platforms for security, monitoring, debugging, governance, etc. The platform also provides out-of-the-box integrations with a number of continuous integration (CI) systems as well as commonly used container registries. These integrations make the Rafay platform a key productivity driver for DevOps and SRE teams.

# Use Cases

### ◆ Operate Containerized Apps in Multi-Cloud & Hybrid Environments

Enable companies to operate apps across cloud and on-premise environments with a single toolchain, with single-pane-of-glass management for your Kubernetes clusters, as well as your containerized applications.

### ◆ Automate Rapid Bringup of Apps for Dev, QA and Support

Enable companies to standardize rapid prototyping, reduce QA cycle duration, and respond to customer issues faster by spinning up testbeds and deploy apps programmatically in cloud and on-premise environments.

### ◆ Deliver Consistent End-user Experience Globally

Easily extend your application footprint to where your end users are by automating multi-region deployment and lifecycle management of your applications.

### ◆ Extend SaaS Footprint to Customer Environments

Extend your SaaS offering's reach into your customer's VPCs or data centers by automating the distribution of your application and all related metadata into customer environments.