



Kubernetes management for ISVs

Three approaches to simplify effort and deliver a better customer experience



Give your software products the environment they need to thrive

Managing Kubernetes environments at scale is challenging in many ways, no matter which kind of organization you work for or how you use your clusters.

But there's a whole extra set of challenges if you're one of the thousands of independent software vendors (ISVs) out there.

ISVs come in many shapes and sizes, but what you have in common is that you build and deliver enterprise software for your customers to run. Software is the lifeblood of your business.

If software is what you do — you're in the right place. Keep reading to find out why.

Delivering great customer experience, start to finish

The goal, and the challenge, for every software vendor is simple: deliver a great experience for customers, from day one to day n, at any scale, in any environment.

Building for the real world

Your developers work hard to accelerate feature velocity, improve and test software quality, and secure your pipelines. But the best codebase isn't enough: it has to survive in the real world.

Nowadays the software you create may be delivered as a dedicated or multitenant SaaS experience hosted on your infrastructure, but in many cases you instead distribute software images, usually as containers, for customers to run in their own environments.

This creates all kinds of issues.

Out of the box, no surprises

While containers are designed to be portable, customer Kubernetes environments vary tremendously — and so do the skills and experience of their operations teams. If you simply provide them with a Helm chart you're taking a risk. It can be challenging to ensure that every customer has a good 'out of the box' experience deploying your software.

Some ISVs rely on professional services and remote support to bridge the gap, but this is costly for you or your partners to deliver, and may not be feasible, for example when your customers are deploying into airgapped environments or at scale across many sites.

Change with confidence

But the headache isn't over after the initial deployment is complete.

For day to day running and troubleshooting, you need visibility into the deployed fleet, across complex and diverse target environments.

And we know that software doesn't stand still: how can you rapidly innovate and release new features and patches without complicating your customers' operations processes or impacting the service they receive?

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We help ISVs navigate Kubernetes every day

We know these challenges well. At Spectro Cloud we are an ISV ourselves, and we also work with many different ISVs, from healthcare to real estate.

We built our Palette Kubernetes management platform to support ISVs through the full lifecycle of getting software to market, and in this guide we'll explore several capabilities that can hugely benefit ISVs like you, both in terms of operational efficiency, and the quality of the experience you offer your customers.

Unlocking developer productivity

Spectro Cloud Palette helps bring to life the promises of platform engineering for you and your application development teams, helping you support them to write, test and release Kubernetes-ready code faster.

Cluster vending machines?

From Palette's interface, you can quickly stand up new clusters on demand for dev and test purposes, or even give your developers safe, controlled self-service access to do it themselves.

There's no need to have teams share clusters, or keep old snowflake clusters running just in case they're needed.

Thanks to Palette's Cluster Profiles feature, you can build a library of different cluster configurations, for example representing different customer environments, and be sure that every time you provision a new cluster it's exactly the way you want it – so there's no unexpected behavior.



Go virtual for on-demand

If that's not quick enough, Palette offers a feature called Virtual Clusters, an enterprise-grade implementation of the open source vCluster project.

It lets you fire up new clusters in literally seconds, for example to run test suites triggered by a CI/CD pipeline, instead of devs testing on their local machines.

Virtual Clusters are part of a developer-centric interface called Palette Dev Engine, which enables your app makers to be more productive without having to be Kubernetes experts.

Safety with software scans

When your software is ready to deploy into testing or production cluster environments, Palette's native scanning features can help you catch all kinds of vulnerabilities, across libraries and dependencies, platform integrations and application code.

We offer integrated SBOM scans, plus KubeBench to assess against CIS benchmarks, KubeHunter for penetration testing, and Sonobuoy for testing conformance against CNCF specifications.

Palette in action: Remine

Remine's AI-powered software platform brings together home buyers, home sellers, real estate agents and lenders, unlocking a seamless real estate experience from beginning to end.

"Spectro Cloud puts us in a position where, even with a platform team of three people, we can still scale up," said Cobb. "We can now build our product quicker than ever, and with the ability to make everything repeatable, testable and scalable from the beginning".

"In every scenario in which we engage with our dev teams, Spectro Cloud makes it easier for us to support them", said Cobb, "It gives them the empowerment to self-serve and removes the 'black box' experience".

Read Remine's story here: spectrocloud.com/customers/remine.

Streamlining as-a-service software delivery

In a SaaS-style software delivery model, you host your own software for customers to access — which means you're responsible for everything from scale to security. Palette can help.

Deploy and scale

Through Palette's declarative 'blueprints', Cluster Profiles, you can automate the deployment of fully consistent, standardized Kubernetes clusters and application software stacks for each new tenant, speeding up time to market when you're onboarding new customers.

Palette is a natively multicluster, multicloud, multienvironment platform.

That means you can choose to build out your Kubernetes infrastructure to any number of clusters, wherever you need them: in your private cloud data centers, in different cloud hyperscalers, and to a spectrum of edge environments.

Simplify operations

As a software vendor, your profitability depends on controlling your operational costs — and we all know that Kubernetes can be resource hungry and burn hours of expensive engineer time.

Palette reduces your cost to serve by simplifying how you manage, update, patch, monitor, backup and secure your Kubernetes-based infrastructure. We have a rich suite of day-2 operations capabilities baked into our platform, available via our UI, CLI, or your preferred tool such as Terraform or Crossplane.

Tasks like patching can be rolled out automatically, in parallel across hundreds of clusters, saving your team massive amounts of manual rework. Mundane but critical activities like certificate rotation are taken care of automatically.

Isolate and secure

When you're hosting workloads and data for your customers, it's sometimes important to keep those different tenants isolated from each other, to varying degrees.

Palette makes it easy, with a choice of isolation models. Of course you can rely on the 'soft' isolation of namespaces, but you can also take advantage of Virtual Clusters for a greater degree of logical isolation. And if you need full separation, Palette makes it easy to operate a multi-cluster architecture.

Isolation also means controlling who has access to do what. Palette gives you extremely granular RBAC so you can govern who can access particular clusters or perform certain tasks. We've innovated new concepts like tags and workspaces to help you take this granularity to the next level, across clusters.

Of course, we work hard to make sure that Palette as a platform is secure from top to bottom. If you're curious about our security architecture, ask your Spectro Cloud account manager for the latest version of our security white paper.

Palette in action: Snackpass

Snackpass is a software platform for quick-service restaurants (QSRs). The Palette platform enables Snackpass's platform engineers to set up and manage their EKS clusters with minimal effort and optimize their cloud costs.

"Spectro Cloud gave us that sweet spot" said Principal Engineer Nathan Probst. "We have the power of Kubernetes without all of the headaches. Using Palette to set up a new failover environment was just as easy as the first time."

Read Snackpass's story here: spectrocloud.com/customers/snackpass

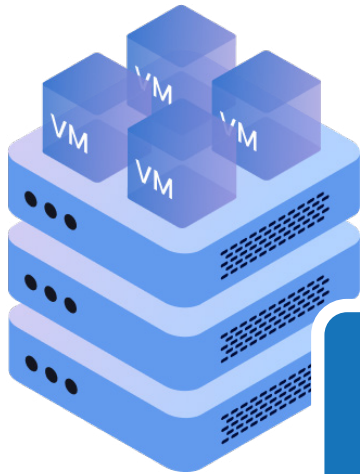
Derisking customer-hosted installations

For customers that need to host and run your software in their own environments, it can be challenging to ensure a good experience — and keep control of tasks such as updates.

Go virtual appliance

In a scenario where you need to provide your software for customers to deploy in their own environments, Palette enables you to provide them with a packaged full-stack virtual appliance in OVA format.

This approach has two main advantages: easy deployment and predictable control.



Deploy easily

An OVA is easy to deploy and runs consistently in any customer environment, without your customer having to share their vCenter credentials or cloud keys with you, and without having to deploy via Helm chart into their Kubernetes clusters.

Our virtual appliance based Edge solution can support single-appliance (non-HA) or multi-appliance HA cluster deployment for mission-critical software.

Their system administrator just needs to launch one or more VMs based on the virtual appliance image you provide.

Keep full control

You retain full control of the entire stack, from OS and Kubernetes to all the software integrations. This can help you with not only regulatory approval (for example FDA approval in the healthcare sector) but also with troubleshooting issues after deployment.

If the deployed virtual appliance has internet connectivity, you can access and manage it centrally from your Palette management instance, simplifying operations (such as upgrades) and troubleshooting for you and your customers. If the installation does not have internet access, deployment and management happens via a local user interface.

Palette in action: RapidAI

RapidAI's flagship product helps clinicians analyze medical images to detect stroke. The software is deployed in around 2,250 hospitals across 100 countries. Currently, it processes around 14,000 scans per day.

"Using Palette, we can monitor everything, both on cloud and on-prem," says Amit Phadnis, chief innovation and technology officer at RapidAI. "And we can automate deployment and upgrade the entire stack — from the operating system to all of our algorithms in the field — seamlessly, with a single click, without impacting patient care. This was absolutely critical for our customers and our operations team, given the scale of deployment."

Read RapidAI's story: thenewstack.io/how-rapidai-uses-edge-kubernetes-and-ai-to-boost-stroke-care/

A world-class platform from a partner you can trust

At Spectro Cloud we care about your software as much as you do – because we're an ISV too.

When you choose any vendor, you need to know you can rely on their products, and their team.

Our Palette platform has been proven with some of the largest enterprises and public sector organizations around, from telcos like T-Mobile to the US Air Force.

We've earned a first-class reputation as a leader in Kubernetes management with **recognition and awards** from analysts and industry experts, plus five-star **reviews from real customers too**.

We take our responsibilities seriously, and ensure that our business processes and technology are compliant with the highest standards, from ISO 27001 to SOC 2. We offer 24x7 **enterprise-grade support** and back our SaaS platform with a 99.9% uptime SLA.

And we're not doing this alone. We have a **strong ecosystem of partners**, from system integrators to hardware vendors to cloud hyperscalers, meaning you get expert assistance and a complete solution.



Start your journey with us

Whatever your software, whatever your delivery model, we can help you deliver a great customer experience – quickly, efficiently, and securely.

Set up a consultation today by speaking to your preferred technology partner, or visit:

spectrocloud.com/get-started