

SUSE Cloud Application Platform and Google Kubernetes Engine

Getting applications running quickly can give you a competitive edge. Ensure that you keep that edge with a flexible, cloud-based application delivery platform. Build and deploy apps faster and easier with the joint solution from SUSE® and Google.

Bring DevOps to Life

The pressure is on for developers and IT organizations. Modern business requires rapid application development and deployment to cope with changes in market and customer demand. This creates a need for more responsive and nimble IT. Traditionally, neither developers nor operations teams have been able to give organizations everything they want.

Enter DevOps. The DevOps model uses standardized processes and configurations to smooth the issues between teams and power rapid delivery of applications. But to bring DevOps to life, you need the right tools. SUSE Cloud Application Platform on Google Kubernetes Engine can make your developers more productive and boost your operational efficiency, eliminating manual IT configuration and accelerating innovation by getting applications to market faster.

The Road to Both Speed and Stability

Organizations need to develop new applications faster than ever these days to keep up with both their competitors and their customers. In the past, though, fast development has led to challenges in testing and production. With developers prizing speed and operations teams married to stability, organizations struggled.

The DevOps model blends the two teams to deliver what both want: fast development and stable apps. Containers and microservices can be the key to making this model work successfully. Building a service-oriented DevOps team also requires standardized processes and configurations.

Building a container- and microservices-based infrastructure from scratch is possible, but it's not necessarily simple. Achieving the automation that gives the DevOps model its value isn't easy, and the more time your IT team spends building and maintaining that infrastructure, the lower your return on investment.

A better path is to take advantage of flexible cloud resources and open source solutions such as Cloud Foundry and Kubernetes. By working with SUSE* and Google, you can get both open source innovation and enterprise scalability in a solution designed for rapid and flexible app delivery.

Streamline Application Delivery

SUSE Cloud Application Platform and Google Kubernetes Engine combine the expertise of two industry leaders to help you take advantage of open standards and get the app portability and infrastructure flexibility you need to deliver apps in today's world.

Unsurpassed Expertise

SUSE is the world's largest independent open source software company, with an unrivalled track record in open source technology and world-class support built up over the past 27 years. Google is a company that is familiar to everyone. What everyone does not know, however, is that Google created Kubernetes before the Cloud Native Computing Foundation took over maintenance of the project. Google launched Google Kubernetes Engine in 2015—a managed, production-ready environment for deploying containerized applications that builds on Google's experience running services such as Gmail and YouTube in containers for over 12 years. With the combined expertise of SUSE and Google, you get an unsurpassed ability to bring these open source solutions to your organization.

Open Standards

As the open, open source company, SUSE takes pride in making open source technology easier for enterprises to consume. SUSE Cloud Application Platform is a certified distribution of Cloud Foundry and is built to run on Kubernetes. Both Cloud Foundry and Kubernetes are popular open source projects that have seen a considerable amount of growth in usage and popularity in recent years. The diverse and innovative communities behind Kubernetes and Cloud Foundry means that you can enjoy the security of regular updates and patches, while avoiding being locked in to a single vendor's offering.

Easy Portability

The combined solution provides predictability after an application leaves the developer's hands. Because containerized applications carry their dependencies with them, the applications work the same on a developer's workstation, a testing system or in production. There is no need for replatforming or modification. This predictable behavior is key to unlocking the savings in time and frustration that come with a DevOps model.

Google Kubernetes Engine is a Certified Kubernetes platform, which helps to ensure application portability across clouds and on-premises as well. You can take applications and run them anywhere that supports Kubernetes, even on your own on-premises

servers. From the SUSE Cloud Application Platform console, you can view multiple development environments seamlessly, so on-premises and cloud Kubernetes instances appear as one, further easing portability.

New cloud-native applications aren't the only apps that can benefit. You can also build traditional applications in the combined solution, or use the combined solution to help break apart legacy applications into small, containerized pieces that you can then run in a much more predictable and scalable fashion.

Enhanced Flexibility

The flexibility of the cloud and its ability to scale rapidly is what leads many organizations to begin building cloud-native applications. SUSE and Google can help you capture this flexibility in the development of both traditional and cloud-native apps. SUSE Cloud Application Platform can use Google Kubernetes Engine to spin up new containerized applications and services as needed, all supported by the hyperscale Google Cloud.

The solution also provides valuable flexibility for developers, enabling them to work with multiple languages, protocols and runtimes, maximizing their productivity.

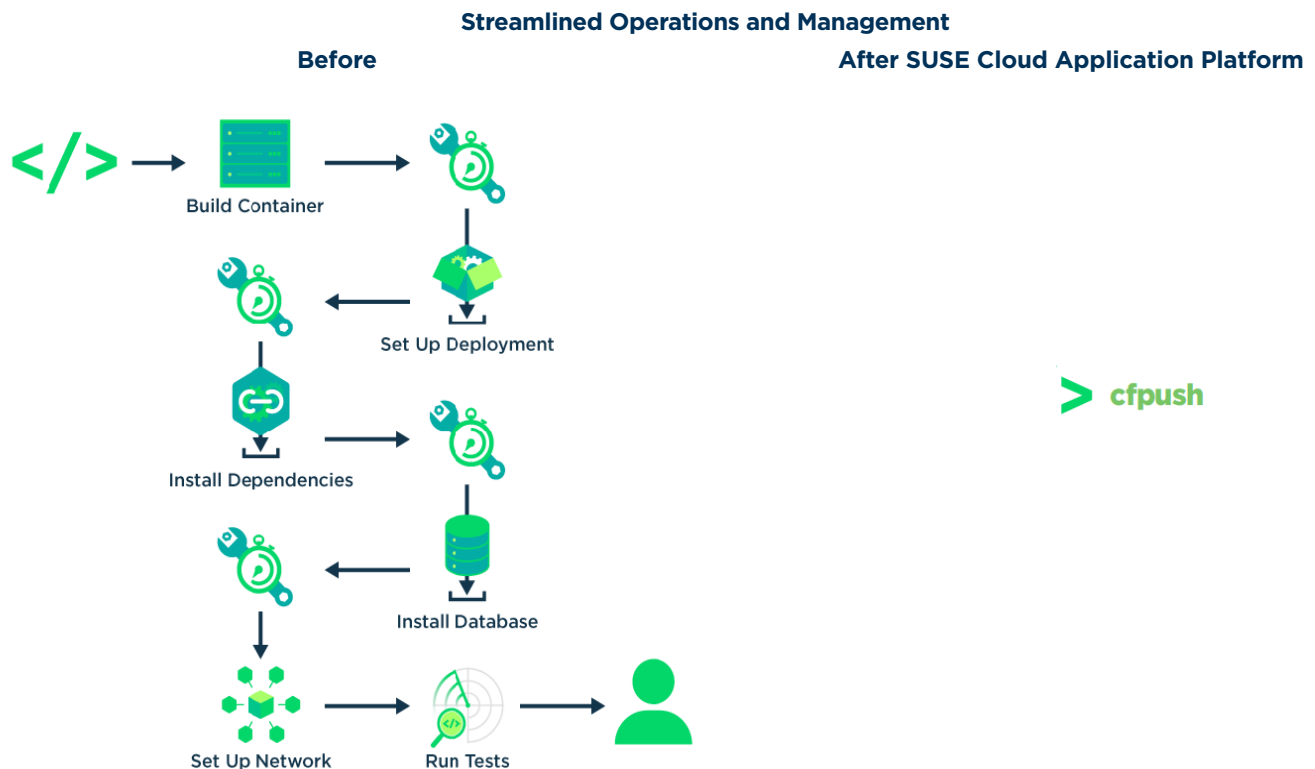


Figure 1. Streamlined operations.

Without a cloud application delivery platform, an operations team has a long list of tasks to make an application work. They must first build the container and set up deployment; they have to install a number of dependencies as well as one (or more) databases; they must configure the networking to support the app and then test the stack to ensure that everything works.

With an application delivery platform such as SUSE Cloud Application Platform, that entire process is automated and reduced to a single command: `> cf push`. Along with the orchestration provided by Kubernetes, you get a combined level of automation that eliminates enormous amounts of provisioning, configuration and management.

Solution Components

SUSE Cloud Application Platform

SUSE Cloud Application Platform provides a modern application delivery platform that brings an advanced cloud-native developer experience to Kubernetes. It can help you shrink the software development lifecycle and simplify application deployment. It automates provisioning and configuration of resources for both application deployment and scaling.

SUSE Cloud Application Platform is based on Cloud Foundry, but unlike other Cloud Foundry distributions, it runs in containers, not virtual machines. That means it consumes a fraction of the memory footprint of other distributions, while being faster to recover and scale.

Google Kubernetes Engine and Google Cloud Platform

Google Kubernetes Engine delivers a managed, production-ready environment for deploying containerized applications. Google Cloud Platform is a hyperscale cloud that was named a leader in Public Cloud Platform Native Security by Forrester.¹

The engine's rapid application development and iteration capabilities make it easy to deploy, update and manage your applications and services. It lets you attach persistent storage and run databases in your clusters. You simply describe the compute, memory and storage resources needed by the application containers, and Google Kubernetes Engine automatically provisions and manages the required cloud resources.

Google Kubernetes Engine's autoscaling feature helps you handle increased user demand for services. You can scale from one machine to thousands, to keep up with any demand. Once a

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demand spike passes, you can scale back to reduce costs or schedule low-priority jobs to consume spare cycles.

The engine is perfectly suited to run machine learning, general-purpose GPU, high-performance computing and other workloads that can benefit from specialized hardware accelerators.

Using Kubernetes on Google helps to streamline management as well. The Google Cloud console offers a built-in Kubernetes Engine dashboard, so you can control deployments from one centralized location. Plus, Google Site Reliability Engineers constantly monitor your clusters and their compute, networking and storage resources, enabling you to stay focused on your applications.

Implementation

Installing SUSE Cloud Application Platform on Google Kubernetes Engine is straightforward, it requires only a Google Cloud Platform account and Google and Kubernetes command-line tools. Once you've installed the cluster and the Kubernetes package manager, you configure the DNS and deployment details and can then deploy SUSE Cloud Application Platform. A full step-by-step guide is available in the **SUSE Cloud Application Platform documentation**.

An Aid for Any Development Model

The combined solution can provide your organization with the tools it needs to create true cloud-native applications, but it can also help with on-premises development and legacy application modernization.

Traditional Development

An on-premises application development team can significantly modernize its approach with the SUSE and Google offering. The solution gives operations teams a tool to address the challenge

¹ *The Forrester Wave: Public Cloud Platform Native Security, Q2 2018 and Q3 2019*

of application development not being able to keep up with business demands. By automating application delivery and workload management, it can help make the development process more agile and responsive.

Legacy Applications

The solution can also help organizations that want to move existing applications to public clouds. By containerizing these applications, organizations can move them to a Kubernetes-based platform to gain orchestration and automation benefits.

Cloud-Native Applications

Finally, the SUSE-Google solution enables DevOps and true cloud-native applications. You get repeatable, controlled application development services on top of a container platform. This helps you deploy applications quickly on the public cloud, iterate and scale those applications and respond quickly to business demands.

Google Cloud Platform was named a leader in Public Cloud Platform Native Security by Forrester. ²

Nimble Development for Better Business Results

The faster and more efficiently your development and operations teams can work, the easier it will be for your organization to achieve its goals. Combine the expertise of an open source pioneer and the Kubernetes inventor to get the tools you need. With SUSE and Google, you can speed your application delivery, enable a DevOps model and help to power your digital transformation.

² *The Forrester Wave: Public Cloud Platform Native Security, Q2 2018 and Q3 2019*

Additional contact information and office locations:
www.suse.com

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