EBOOK

NAVIGATING THE NEXT WAVE OF APPLICATION DELIVERY

SUSE and Amazon Web Services
Introduction: A changing application development landscape

Building and delivering applications used to take months. It was difficult to add new features and the overall process suffered from siloes between teams. Enterprises needed a way to streamline application delivery and reduce friction between teams. They got that, in part, with microservices.

A new architecture for continuous development

Microservices is a new architectural style that allows enterprises to leverage continuous development. It structures an application as a collection of loosely coupled services, creating modularity that make it easy to make changes to an application. This also makes applications more resilient and easier to understand, develop, and test. In this architectural style, your teams can deliver features to customers faster, helping create more business value.

As microservice architectures become more frequent the underlying infrastructure must be resilient and flexible to match the design pattern – and containers have rapidly become the perfect complement.

Why containers?

Containers are a software packaging method that encapsulates an application, its dependencies, and the minimal runtime resources it needs to perform its function. With containers your developers get a lightweight, decoupled unit of infrastructure to package applications across any environment. Given the rapid growth of Amazon Web Services (AWS) adoption, this portability is extremely beneficial.

Further, containers allow enterprises to add features much faster because they only take minutes to spin up. With the explosion of containers, Kubernetes has emerged to help organizations take advantage of them.

Kubernetes helps organizations deploy, scale, and manage containers with greater automation.

While the benefits are clear, many enterprises need help transitioning to a microservices environment. This eBook will explain how an all-in-one application delivery platform can streamline application delivery, while abstracting the complexity of container orchestration so you can achieve your business goals of delivering software faster.
The challenges of application modernization

Transitioning a microservices environment can be difficult at first. Transient in nature, containers are fast, which makes them harder to keep track of and manage. Further, both containers and microservices are a relatively new trend, which means many organizations lack experience and expertise to properly implement them.

Enterprises can overcome this with an application delivery platform to streamline adoption. Not having the right foundational technology to support your microservices environment can cause challenges including:

- **Sub-optimal user experience:** Complex IT configurations can hurt the developer experience around Kubernetes/containers and limit agility

- **Lack of support for hybrid cloud deployment:** Streamlining lifecycle management across on-premises and AWS-native container applications can be difficult

- **Complexity of DIY custom platforms:** Some opt to build their own application delivery platform in-house, which introduces significant time, risk and cost to operations coupled with platform lock-in risk
Why use an open source application delivery platform

Whether you are a small or large enterprise, making sure that your containers are properly organized and set up, can ensure a much more seamless experience across your organization. Implementing an application delivery platform with containers can:

- Enable a more unified developer experience
- Allow your developers to deliver applications more quickly
- Reduce the costs of managing application delivery
- Increase organizational flexibility to adapt to your needs while minimizing lock-in
- Standardize your development teams on a single container-creation method
What a strong cloud-native application foundation looks like

**Turnkey enterprise environment with guardrails**

The transient nature of containers can make them difficult to manage. Having automated scheduling and placement of containers, while considering their needs and constraints, makes it easier for IT teams to keep track and maintain the health of their containers. Furthermore, being able to scale and balance them as needed can remove roadblocks for your teams.

**Streamlined management and deployment**

Your application delivery platform should make it easier to implement and maintain your new microservices environment. This allows your DevOps teams to start building applications, instead of configuring and scaling your environment.

**Unified and consistent developer experience**

The developer experience should be self-service in nature, simultaneously maximizing utilization and resilience of the underlying containers while minimizing the management and complexity of the infrastructure itself. The platform should allow developers to focus.
SUSE Cloud Application Platform is a modern application delivery platform used to bring an advanced cloud native developer experience to Kubernetes. By simplifying manual IT configuration, organizations can accelerate innovation by getting applications to market faster. SUSE Cloud Application Platform integrates Kubernetes and Cloud Foundry technologies, providing a streamlined path to application delivery transformation. Further, it automates low-value tasks while applying best practice design patterns and implementation processes across the application lifecycle. It also enables consistency and drives efficiencies that can open the door to larger-scale production.

With SUSE Cloud Application Platform, enterprises can deliver more applications faster, and with control. Developers can serve themselves and get apps to the cloud in minutes instead of weeks, while staying within IT guidelines, and without relying on scarce IT resources to perform manual configuration each step of the way. SUSE Cloud Application Platform runs in containers rather than virtual machines, making it leaner, and faster to recover and scale. It runs on natively on Kubernetes, opening a direct path to automation capabilities for Kubernetes users.

**The benefits of SUSE Cloud Application Platform**

**Simplicity:**
Leverage existing skill-sets and tools. SUSE Cloud Application Platform is easy to install and maintain. By automatically configuring the environment, providing required dependencies, binding required services, and deploying the application as a container, enterprises gain a more seamless deployment.

**Agility:**
SUSE Cloud Application Platform brings together Cloud Foundry and Kubernetes technologies for rapid application delivery at scale. SUSE cloud application platform increases efficiency by running in lightweight containers, and has faster recovery, all at scale.

**Flexibility:**
Through multiple application delivery models, SUSE Cloud Application Platform integrates automation and customization. Run highly available and scalable Kubernetes clusters on AWS while maintaining full compatibility with your Kubernetes deployments on the SUSE Cloud Application Platform.

**Productivity:**
Boost developer productivity with one-step deployment of cloud-native applications using the language and framework most appropriate for the task. The one-step application deployment also allows developers to simply push applications from their desktop using the command-line interface (CLI) or web user interface (UI).

**Extensibility:**
SUSE and AWS collaborate upstream on integration with the AWS Service Broker - giving end-users a unified developer experience allowing consumption of other AWS services straight from the platform. Additionally, the platform is supported on a selection of certified Kubernetes distributions Kubernetes distributions including the SUSE Container as a Service (CaaS) Platform available on Amazon Elastic Compute Cloud (Amazon EC2), or on-premises or on-premises in your own data center.
How SUSE Cloud Application Platform complements AWS

With SUSE Cloud Application Platform, you can take your code and have it automatically packaged and deployed into a managed Amazon Elastic Container Service for Kubernetes (Amazon EKS) cluster. And when it is done, your container application will be in a running state able to scale to the requested and managed level.

With Amazon EKS, you can deploy, manage, and scale containerized applications using Kubernetes on AWS. Amazon EKS runs the Kubernetes management infrastructure for you across multiple AWS availability zones to eliminate a single point of failure.

SUSE Cloud Application Platform runs on Kubernetes, which in turn runs on multiple platforms, from bare metal to various cloud stacks. Your applications run on SUSE Cloud Application Platform and provide services.
Next steps and resources

Regardless of whether you are looking to adopt containers or have begun using containers to deliver applications, having the right foundational strategy can help you deliver newer offerings to your customers faster. Learn more about SUSE Cloud Application Platform or deploy SUSE Cloud Application Platform in your organization today.

https://www.suse.com/solutions/cloud/aws/cloud-application-platform/