Faster, more secure path to production

VMware Tanzu Application Platform is a single, end-to-end integrated platform solution that enables companies to build and deploy more software, more quickly and securely, through a rich set of developer tooling and a pre-paved path to production.

What challenges are organizations encountering in deploying and managing Kubernetes?

95%
Difficulty in selecting, deploying, and managing Kubernetes

47%.
Meeting security and compliance requirements.

36%
Difficult to integrate with current infrastructure.

Source: The State of Kubernetes 2022 report by VMware Tanzu

In today's world, software applications are everywhere. These applications range from snippets of code that perform a minor task, all the way up to massive code sets that interact with tens or hundreds of other systems. Moreover, applications intersect in every space of our professional lives - not just our computers and our phones, but also our vehicles, our watches and more.

In this context, every company in the world essentially needs to be a custom software company. In fact, 70 percent of the top economic performers in their respective industries utilize their own software to differentiate from competitors[1] - and it's easy to see why. Good software simply drives good business outcomes, and successful companies everywhere realize that the key is developer velocity - a measure of empowering developers to innovate and develop great software with as little friction as possible.

High developer velocity has been shown to result in outstanding business outcomes, whether it's increased revenue growth and higher margins, higher shareholder returns, higher retention rates, or simply a better culture of innovation.[2]

So, what's stopping companies from unleashing their developers to achieve great business outcomes?

Complexity Hampers Software Developers

En route to meeting digital transformation initiatives, enterprises are adopting a multi-cloud strategy that encompasses a combination of public clouds, on-premises private cloud, and edge environments. Cloud native technologies like Kubernetes empower enterprises to deploy and run applications with a faster time to market; indeed, Kubernetes greatly simplifies the work of

1. McKinsey, Dec. 2022
2. McKinsey, Apr. 2020

operations. However, alongside their embrace of Kubernetes, many enterprises are also experiencing acute challenges, especially in their software development teams.

Developers must build their software pipelines on Kubernetes by combining bags of parts from infrastructure providers and public clouds, with technologies and tools they must source from the fragmented cloud native ecosystem. The complexity brought about by these disparate tools increases developer toil, requiring them to constantly switch contexts and take on governance tasks that were previously handled by operations teams. Moreover, developers face a steep Kubernetes learning curve to complete their day-to-day tasks, further burdening their cognitive load. These factors in turn increase the situational risk, whether it's through unknown vulnerabilities in open source components, or slow feedback due to communication gaps across platform engineering.

Developers Need Golden Paths

To be sure, Kubernetes is a great platform for building platforms, and developers shouldn't have to build it themselves. Nor should their platform engineering counterparts have to navigate IT and security compliance requirements for their apps. They shouldn't have to know the containers they run in or Kubernetes infrastructure they were deployed in before they can successfully deploy an app.

VMware Tanzu Application Platform is a modular, application-aware platform that runs on any compliant public cloud or on-premises Kubernetes cluster. It delivers a superior developer experience with a pre-paved path to production, including all the needed components preconfigured for developer teams to build and deploy software quickly and securely.

It's a composable platform, so teams can customize it based on their preferences and changing business needs. Since VMware Tanzu Application Platform can run on any Open Container Initiative (OCI)-compliant Kubernetes distribution or public cloud service, it supports enterprise multi-cloud architectures.

Thus, for developers, VMware Tanzu Application Platform offers a "golden path" - an opinionated and supported path to production with common tools and guidance, end-to-end tutorials and more, all resulting in quicker software development cycles. The platform enables customers to build and deploy more software more quickly and securely through:

- **A single solution**: End-to-end, integrated platform that provides a rich set of developer tooling and pre-paved paths to production.
- **A consistent developer experience:** For use across multi-cloud and multi-Kubernetes services and offerings.

- **Easy and automated paths:** Out of the box, centralized secure supply chain management for faster app building and deployment, plus repeatable processes for onboarding teammates.
- **Freedom in flexibility:** Modular capabilities allow teams to swap in their preferred 3rd party tools.
- **Enterprise security:** Secure supply chains, compliance and access controls, vulnerability dashboards, scanning tools, and more.

Meet Your Business Outcomes with VMware Tanzu Application Platform

By leveraging the VMware Tanzu Application Platform, enterprises can reduce developer toil, unleash productivity, and thus better achieve business outcomes.

Templated, customizable paths to production

With VMware Tanzu Application Platform, application teams have access to security-approved, language-specific "golden paths," enabling them to rapidly build and deploy applications or APIs to production. This is achieved through application starter templates known as Application Accelerators. Built by application architects and made available to developers, these templates consist of the skeleton code, configuration, and cloud native patterns combined with the organization's best practices and security policies that save developers significant time in bootstrapping new applications.

Along with other artifacts, an accelerator contains a declarative Workload resource specification that describes the characteristics of the Workload —this is the only YAML a developer needs to interact with. Developers run a single CLI command 'tanzu apps workload create -- file workload.yaml' and get a running Workload on a Kubernetes cluster in minutes, starting from the skeleton code provided by an accelerator. VMware Tanzu Application Platform automates the entire application deployment process via an automated Secure Software Supply Chain workflow, relieving developers from the error-prone process of editing a "wall of YAMLs."

Rapid onboarding

For onboarding processes, teams can utilize VMware Tanzu Application Platform to access security-approved environments and tools in a self-service manner, enabling seamless onboarding, learning, and consistency across projects. Moreover, VMware Tanzu Application Platform now includes five new default roles to help enterprises consistently set up permissions for users and services. The default roles provide an opinionated starting point for the most common permissions that users need while using Tanzu Application Platform.

Although strong defaults make it easier to get started, if one of VMware's choice of components doesn't work, platform engineers can swap out components based on their organization's requirements and preferences. Built with modularity in mind, VMware Tanzu Application Platform is composable and lets teams set their own guardrails.

Compliance and controls

Tanzu Application Platform offers RBAC (role-based access control) to provide appropriate access to workloads, deliverables, supply chains, and continuous integration and continuous delivery (CI/CD) pipelines, including related environments, stages, and workflows. RBAC is a mechanism that restricts system access based on a person's role within the organization. It makes it possible to systematically implement and manage the principle of least privilege across a large, globally-distributed organization running multiple apps in a multi-cluster environment. It saves IT administrative time, simplifies tasks related to managing users and permissions in bulk, and allows compliance for faster audit reporting.

Automated builds

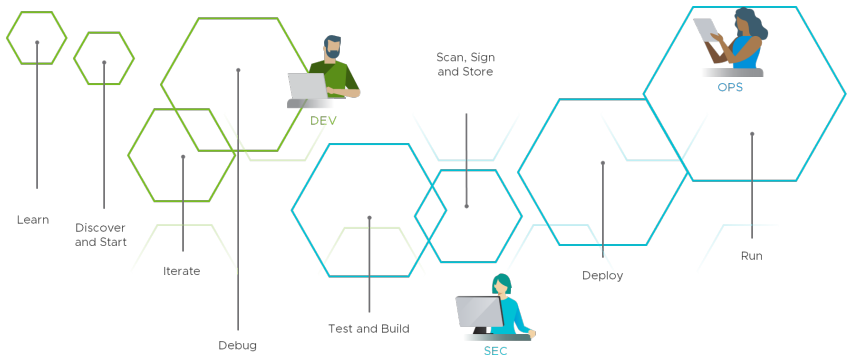
Platform engineers have automated builds with a documented process and provenance data, so that they are aware of any security gaps in what is deployed.

Security analysis and secure open-source software ingredients

The Security Analysis tab in VMware Tanzu Application Platform helps teams spot vulnerabilities along with their severity levels and impacted workloads. Avoid the manual task of asking teammates to check on this, and more importantly, increase confidence that you have accurately and completely identified all affected packages.

By providing an opinionated set of tools, VMware Tanzu Application Platform lets development teams leverage secure open source solutions and services that are needed in an application.

Using VMware Tanzu Application Platform to Achieve Success



How we help

VMware Tanzu Application Platform automates the application lifecycle. It does so in a way that is responsive to the software being built and deployed within it. Since the entire platform is application aware, it can "read" an application and automatically know how to build the code into a container, establish new pipelines for the application, and deploy it in any environment such that it conforms with reliability, security, and compliance guardrails pre-established by operations and security teams.

Utilize the Tanzu Application Platform today to achieve success in your organization.

Deliver and deploy your applications consistently

VMware Tanzu Application Platform includes the entire end-to-end supply chain, with its components pre-instrumented to work together seamlessly out of the box. A streamlined "golden path" to production with a set of strong, best practice defaults reduces friction, by eliminating many decisions that teams would normally have to make when building the platform from the thousands of possible combinations of technologies available in the Kubernetes ecosystem.

Improve your developers' experience and boost productivity

Make your developers' lives easier by masking the complexity and toil they typically face. VMware Tanzu Application Platform includes several key features to enable greater developer productivity such as Application Accelerators and extensive role-based access controls.

Moreover, serverless abstractions built into the platform make it easy to achieve advanced, cloud-native applications patterns like microservices and event-driven architectures, as well as address operational concerns, such as

Additional resources

- Tanzu Application Platform (Solution Page)
- VMware Tanzu Application Platform Creates a Better Developer Experience (Demo)
- Getting Started with VMware Tanzu Application Platform (Tanzu Developer Center)

Modernize a complex system

Reduce risk and determine a strategy based on business goals, and informed by hands-on modernization work. We'll help you execute and deliver value faster than you thought possible. Contact your VMware account team or reach us at: https://tanzu.vmware.com/labs

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automatic application scaling and connecting to systems not running in Kubernetes using APIs. The platform automates key aspects of securing, building, testing, verifying, and deploying applications to Kubernetes environments (including dev, test, and staging).

Finally, the platform provides a consistent graphical user interface (GUI) to underlining services and APIs, making them easy to discover and integrate, and thus increasing developer productivity. Get continuous testing updates (Live Update) and monitoring of test instances (Live View).

Ensure continuous security of your applications

Secure your software supply chains with VMware Tanzu Application Platform. Take advantage of continuous vulnerability scanning, container image verification at time of build, and pre-set policy enforcement. The platform introduces new supply chains that allow users to leverage container images built externally, in addition to the existing supply chains that build images from source code. This lets developers and operations use their existing ecosystem for faster time to market, and safeguards the investments enterprises have already made in tooling. The platform reduces risk by providing a secure mechanism to connect to shared data, messaging, and business services (with service claims and service bindings).

The Supply Chain Choreographer (SCC) workload visualization feature enables users to view the execution status of the out-of-the-box supply chains. With supply chain data readily available in easy-to-consume visualizations, it makes it easy for users to pinpoint issues and fix them quickly.

Start your journey with VMware Tanzu Application Platform today

Want to empower your application teams with a faster, more secure path to production?

Contact your VMware account team or reach us at tanzu.vmware.com/application-platform to learn more.