

ECONOMIC VALIDATION

Analyzing the Economic Benefits of VMware Tanzu Platform

TechTarget's Enterprise Strategy Group Found the Platform, Formerly VMware Tanzu Application Service, Can Accelerate Application Availability by 48% While Lowering Development Costs by 36%

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Economic Validation: Key Findings Summary

Validated Benefits of
Tanzu Platform

48% faster
time to market, as compared
to previous environments

36% lower
development costs

over 200:1
developer to platform
engineer ratio

- **Increased Application Impact:** Tanzu Platform accelerates time to market, improves application performance, reduces downtime, and facilitates a CI/CD model that improves the customer experience.
- **Reduced Costs:** In addition to lowering developer costs by 36%, Tanzu Platform streamlines IT admin tasks by 70% and lowers support costs.
- **Improved Security and Governance:** Enterprise Strategy Group found that Tanzu Platform drives complexity out of the development process and dramatically improves the patching experience. Interviewed customers shared a change in mindset that came with the shift to the platform and a substantially improved security posture.

Introduction

This Economic Validation from Enterprise Strategy Group focuses on the quantitative and qualitative benefits organizations can expect from using VMware Tanzu Platform, and specifically Tanzu Platform for Cloud Foundry, formerly known as VMware Tanzu Application Service, to create and manage applications. To form the opinions for this analysis, Enterprise Strategy Group interviewed multiple customers with varying levels of experience using Tanzu Platform and to understand why they continue to use the platform to reach their IT and business goals.

Challenges

Developers have become increasingly burdened by maintaining infrastructure, which draws their focus away from coding and generating business value as operational duties shift left. Enterprise Strategy Group studied challenges faced in the creation and management of applications and found these to be consistent across most organizations:

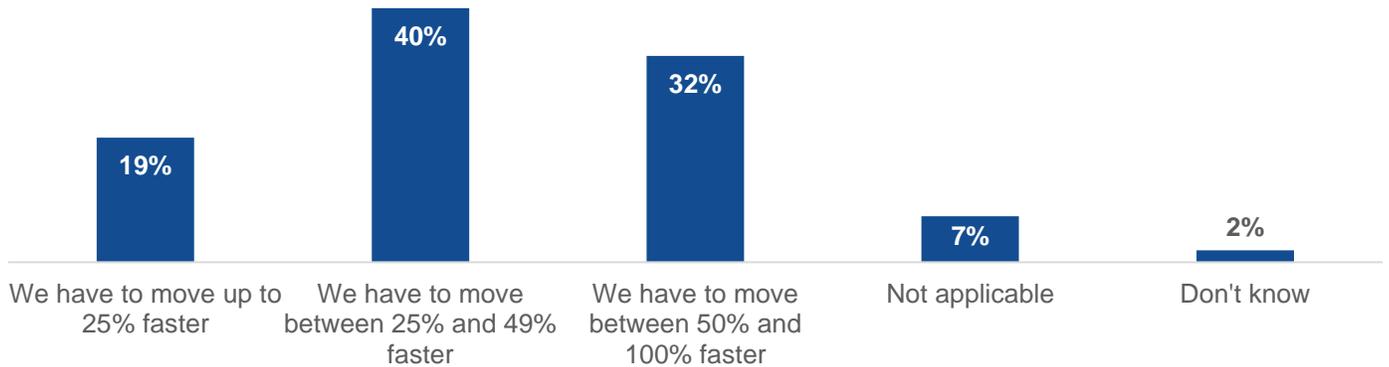
- **Long or unpredictable application release cycles.** As shown in Figure 1, demands on organizations to deploy resources have quickly increased for 91% of organizations over the past three years.¹ At the same time, the complexity of creating applications has grown.
- **Inconsistency in quality.** Organizations struggle with modernizing their applications due to varied levels of expertise across their development teams. Variance in quality, functionality, look and feel, as well as security level can keep organizations from maximizing their potential across their modern application platform.
- **High complexity.** Developers are often expected to understand and integrate multiple tools, infrastructure components, and security principles. Adding to this challenge, new technologies emerge while current ones change. Operating in this environment requires developers to master multiple specialized skills.
- **Multi-tool environments.** The addition of new tools and development requirements can inject risk into attack surfaces, the ability to enforce security posture, and overall cost containment.
- **The need for application modernization.** The concept of application modernization makes sense to most business and IT leaders; however, many lack the background or budget to effectively plan and implement a path to production. All too often, modernization is a challenge that gets pushed until tomorrow.
- **Lack of automation.** Automation can accelerate many compliance tasks as well as automatically incorporate best practices and security principles during the development process. Without consistent automation, the developer is expected to be the master of many areas.
- **A large backlog of technical debt.** The concept of *technical debt*—i.e., using today's budget to remediate short-sighted decisions of the past—is prevalent in most development organizations. Interviewed companies reported that 20%-40% of their development time was spent supporting existing applications and far too much infrastructure budget was squandered trying to support the requirements of the development teams.²

¹ Source: Enterprise Strategy Group Research Report, [Distributed Cloud Series: The State of Infrastructure Modernization Across the Distributed Cloud](#), November 2023.

² Source: Enterprise Strategy Group, [Does Your Organization Pay Long-term Costs for Short-term Decisions? Understanding Technical Debt](#), September 2022.

Figure 1. Demands for Applications and Infrastructure Have Increased for 91% of Organizations

Thinking of your organization's requirements today compared with three years ago, how much faster, if at all, does your team need to deploy applications and infrastructure? (Percent of respondents, N=377)



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

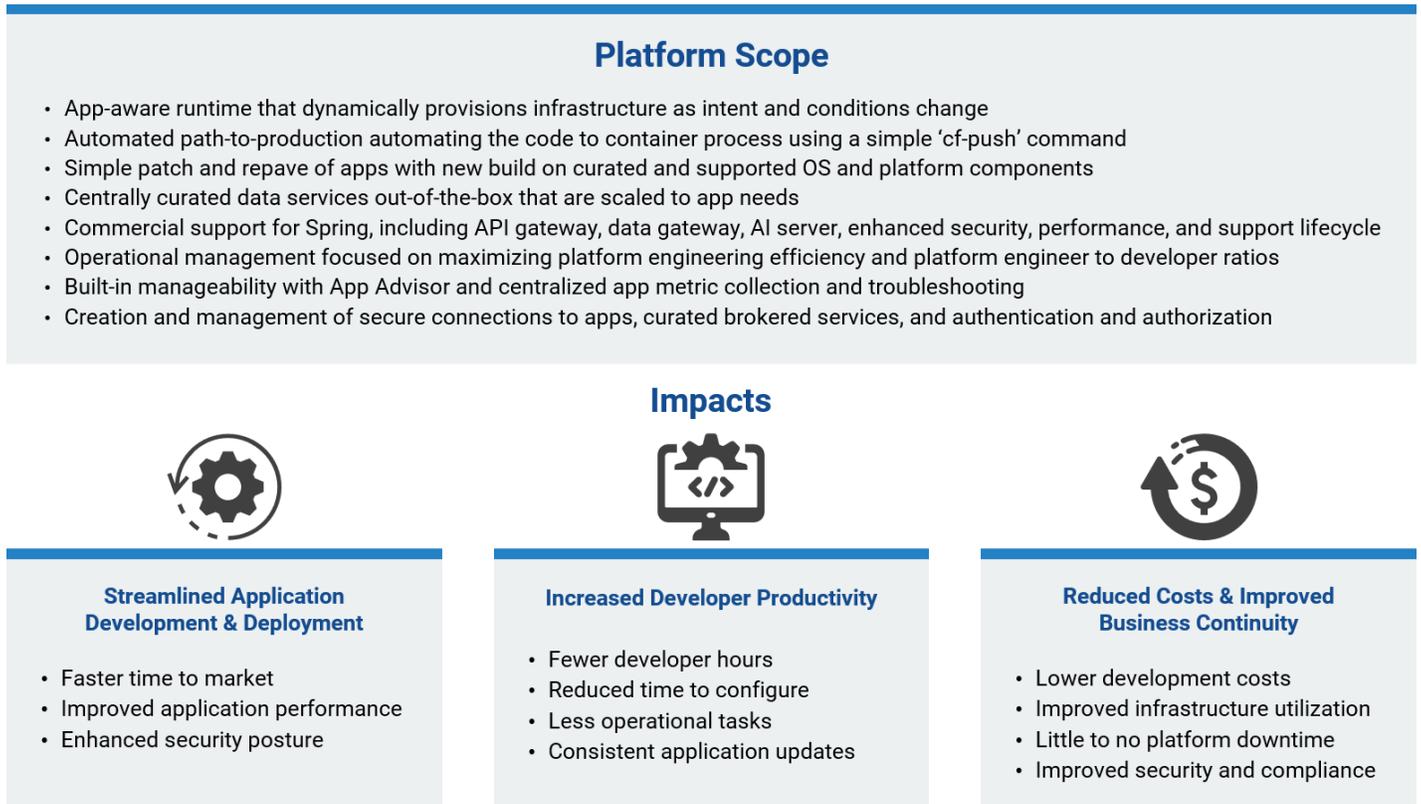
The result of these challenges is an environment where developers are under constant pressure to create more while constantly learning new techniques and technologies, resulting in applications that have less-than-optimal impact and that operate with increased levels of risk.

The customers interviewed for this analysis were at different levels of maturity and came to Tanzu Platform from a variety of previous environments. While each set of challenges was unique, Enterprise Strategy Group found consistency across them in spending too much of their IT effort pulling together and supporting a sophisticated maze of platforms, cloud services, commercial software, and open source tools.

The Solution: Tanzu Platform

Tanzu Platform simplifies and accelerates the development, deployment, and maintenance of cloud-native applications by abstracting infrastructure management from development and is deployable for either Cloud Foundry or Kubernetes runtimes. Tanzu Platform runs microservices securely at scale and gives developers the flexibility to concentrate on code and let the platform manage the infrastructure. It provides an end-to-end application platform for on-prem or cloud-based infrastructure that accelerates app delivery even at massive scale. It provides a simple developer framework and operations to build apps, bind them to services on and off platform, deploy them on a resilient platform, and provide health-based restarting and scaling. The platform interprets developer intent with zero downtime with a dynamic application runtime. It also provides continuous updates to secure apps and the platform itself, whether that's by repaving the platform and underlying infrastructure entirely, automatically repairing apps, or continuously rotating certificates and credentials.

Figure 2. What Is Tanzu Platform?



Source: Enterprise Strategy Group, a division of TechTarget, Inc. and VMware by Broadcom

Tanzu Platform helps enterprises develop, operate, and optimize modern applications by streamlining tools and processes, improving security and compliance, reducing downtime events, scaling infrastructure without service disruption, and continuously updating applications and the platform without business disruption.

Enterprise Strategy Group Economic Validation

Enterprise Strategy Group completed a quantitative economic analysis to understand the impact of using Tanzu Platform for Cloud Foundry. Our Economic Validation process is a proven method for understanding, validating, quantifying, and modeling the economic value propositions of a product or solution. The process leverages Enterprise Strategy Group's core competencies in market and industry analysis, forward-looking research, and technical/economic validation. The qualitative and quantitative findings were used as the basis for a simple economic model comparing the expected costs and benefits of Tanzu Platform against a development ecosystem consisting of a combination of native public cloud services along with open source methods to customize and stitch it together.

Tanzu Platform Economic Overview

Enterprise Strategy Group's economic analysis revealed that Tanzu Platform can provide numerous savings and benefits in areas such as:

- Increased application impact.** Tanzu Platform was quickly integrated into existing workflows to enable a focus on application operation and intent. The result was better performing, more stable, and more impactful applications—all better aligned with end-user/customer needs.

- **Reduced costs.** While customers did not initially choose Tanzu Platform specifically to reduce costs, each of them reported a significant reduction in hours needed to create applications, with streamlined IT tasks and lower operator, staffing, and infrastructure costs.
- **Improved security and governance.** Customers reported dramatic improvements in their overall security posture, patching strategy, and the ability to increase their business with organizations that require strict adherence to standards and guidelines.

Increased Application Impact

In each interview we held with established Tanzu Platform customers, we asked what success looked like for their applications. There were consistent themes across customers, such as the need to modernize applications and pressure to develop and deliver applications more quickly. They needed to expand the capabilities of their applications while maintaining security. Customers also needed more flexibility to adapt to evolving ecosystem trends. Enterprise Strategy Group found the following benefits of Tanzu Platform were achievable for most customers:

“Since we adopted Tanzu Platform, we are much more nimble than in the past. We are exponentially better at reacting to changing market conditions and pursuing new opportunities. These new opportunities help us keep our current customers happy and help us get new ones.”

- **Faster time to market.** We found that customers on Tanzu Platform could deliver applications 48% faster, on average, compared to a custom-built environment. In our economic model, when applied to 167 new applications created annually, this equates to 1,837 gained application-weeks per year. With each application-week generating an estimated \$8,637, this equates to \$15.9M of annual revenue gained by having the capabilities of those applications in production sooner.
- **A shift to continuous integration/continuous delivery (CI/CD).** Many of the customers interviewed already had a CI/CD model while a few made the shift to CI/CD as part of their move to Tanzu Platform. Those who already had CI/CD were able to explain how they strengthened their processes when moving to Tanzu. One shared, **“Our main application used to be extremely monolithic. Change was too hard, too expensive, and too complex. With Tanzu Platform, we can break that large app into logical groups and have seen our releases go from 4 per year to over 90. This continuous release cycle puts new capabilities in the hands of our customers sooner and allows us to consistently fine-tune our offerings.”** With an average of an 18x increase in releases with Tanzu Platform across our interview base, organizations found that they could better meet customer expectations, chase new business opportunities, and remedy issues with a CI/CD model.
- **Improved application performance.** Enterprise Strategy Group reviewed multiple customer-provided examples of improved application performance with Tanzu Platform. The numbers we found for application performance varied based on the previous environment and type of application, we found examples such as an increase of 40% to a specific example of a 6000x increase in performance. Customers attribute these increases to the power of the platform to eliminate complexity, automating best practices into the development process, and better management of resource utilization.
- **Reduced impact of downtime.** Organizations report a substantial improvement in overall stability when running on Tanzu Platform. When asked about downtime, half of the interviewees reported that downtime has reduced to the point of nonexistence, with the others reporting a reduction of 40%. They consistently

“Now that our developers fully understand Tanzu Platform, our applications run twice as fast as before.”

mentioned the change in attitude about best practices that permeated their organization once they committed to the platform and about the consistency across their applications, regardless of developer.

- **Reduced customer churn.** Customers value stable and effective applications that offer the services they expect to find with an automated and seamless user experience. When end users are frustrated with a digital service, they look for an alternative. Enterprise Strategy Group evaluated the impact of customer churn by applying the input of interviewees and found that a reduction in customer churn from 7.4% down to 6.7%, a shift of only .7%, equates to \$18.5M of annual revenue recovered. We believe that an organization's shift to Tanzu Platform can achieve this level of change in their customer perception.

“We used to have both development and infrastructure teams, each of which injected bottlenecks into our process. After our switch to Tanzu Platform, we have streamlined our operations to the point of seeing a 300% acceleration in the time from idea to the capabilities being available to our customers.”

Reduced Costs

Each of the customers interviewed reported substantial cost savings stemming from:

- **Reduced development hours.** Enterprise Strategy Group's financial model found three distinct cost savings when measuring development hours. First, we found an average of 30% fewer development hours needed to create and maintain the current application load compared to developing applications without using Tanzu Platform. Additionally, customer interviews showed that the cost per developer hour was reduced by 15% due to the way that Tanzu Platform can enable new developers, create isolated environments to ensure that development efforts do not bleed into other areas, and generate much faster feedback cycles to enable development teams to quickly iterate and make updates to their existing, familiar code. The third cost reduction metric was a 10% decrease in overall developer count on the measured projects that happened over a 12- to 18-month period. Customers shared that this was because of normal attrition and shifts to new applications, however; with the empowerment of other developers covering the workload, there was no pressure to immediately replace the lost heads.

Enterprise Strategy Group's model found that the total of 647,000 developer hours saved resulted in a \$53.5M annual possible benefit, driving these freed developer hours into initiatives that can produce \$87.9M in new revenue.

- **Reduced time to configuration.** Improving overall agility has a major impact in decreasing development hours and helping teams have a faster time to market. One specific area that was mentioned by multiple customers was the streamlining of configuring development environments. We heard multiple stories of needing to wait months to have dev environments provisioned when customers were not using Tanzu Platform. This delay often caused scheduling chaos, as the developer may have turned their focus to a different project while waiting. With Tanzu Platform, these customers said environments were ready in less than two days, and often on the same day. One explained, **“It used to take us up to two months to get resources procured, set up, and allocated to our developers. Now, so many things are automated and standards-based that time is down under two days. This lets our developers work on something while the idea is fresh.”**
- **Lower support costs.** Customers reported an average of 60% reduction in incidents that required contacting support due to an application's operation or performance after the development and infrastructure ecosystems were switched to Tanzu Platform. Overall, they saw their support staff workload reduced by 36%, saving \$5.8M annually. When looking at the impact of alleviated support events on end users, the 60% reduction in events is also modified by a 53% reduction in user downtime per support event. This frees up \$11.8M annually in recovered end-user productivity due to alleviated support events.
- **Fewer IT tasks.** Enterprise Strategy Group interviews found a much improved developer-to-platform engineering ratio with Tanzu Platform ecosystems. While many studied examples showed developer-to-

platform engineer ratios of 500:1 and higher, to remain conservative, we used 200:1 for our economic forecasting. Our economic model reveals that IT administrative tasks were reduced by 70% when shifting from previous environments. Much of this comes from the reduction of complexity that the platform brings, as well as the elimination of legacy infrastructure that must be maintained. When analyzing the other environments that interviewed customers reported, we found that they spent an enormous amount of IT time pulling together and supporting a sophisticated maze of platforms, cloud services, commercial software, and open source tools. Our financial model shows that this 70% reduction in IT administrative tasks saves \$12.2M annually.

- **The value of reduced complexity.** Reduced complexity drives many of the benefits that we found in switching to Tanzu Platform. Additionally, we built a section in our financial model to calculate the value of reduced complexity based on eliminating human errors. Our sample company has 1,070 employees with some role in development, support, or infrastructure administration. These employees make 134 mistakes per month, 45% of which would be eliminated by using Tanzu Platform. With a \$400 per mistake remediation cost in their other environment, compared to only \$200 with Tanzu Platform, this leads to an annual benefit of \$412K in eliminating human mistakes. Enterprise Strategy Group also believes there is a reputational benefit in reducing mistakes but left that as unquantified in this analysis.
- **Improved infrastructure utilization.** Enterprise Strategy Group found an average of 15% in infrastructure savings stemming from a better level of utilization. Applications created with Tanzu Platform were leaner, requiring fewer resources, and the configurability of the platform enabled granular assignment for the appropriate level of resources.

Improved Security and Governance

Customers reported a much better security posture and level of overall governance with Tanzu Platform. We found the following items are drivers of these improvements:

- **Improved security vulnerability patching strategy and implementation.** Customers that use Tanzu Platform report a complete change in their approach to patching. Without using Tanzu Platform, only 25% of applications were patched. Now, each of the interviewee organizations were at least 90% patched within a week of patch availability. They also shared that this improvement in patching strategy came at little cost in effort for them due to the platform's automation and awareness of dependencies that fully handles the patching processes.
- “Patching is now a no-brainer. It is fully automated and gets done within a week. It used to take us three months.”**
- **Reduced number of security incidents.** While the customers were unable to provide specific security incident numbers for their environments, we were able to vet the Broadcom-provided reduction of an average reduction in security incidents of 38%. Each of the interviewees said this number was a low estimate and cited a change in mindset and best practices that came along with the benefits of the platform that helped solidify a mindset of enhanced and continuous security.
 - **Increased consistency across applications.** Enterprise Strategy Group found a drastic improvement in the consistency of standards and code quality in applications developed with Tanzu Platform. This consistency accelerates development and supportability and enhances the security posture across all applications.
 - **Improved business resilience.** Enterprise Strategy Group uncovered quite a few examples of how running workloads on Tanzu Platform contributed to improved business resilience. One specific case was described by the customer: **“Because Tanzu is so cost-effective and time-effective, we have been able to drive more thought and resources into what-if planning to help us in the event of business disruption.”**
 - **Enhanced integrations.** Integrations are a major factor in adding capabilities to applications. However, with each one comes the risk of setting it up incorrectly. Additionally, when an organization uses an integration, it assumes the security posture of the resource it is connecting with. Enterprise Strategy Group found that the visibility and control that the platform provides improves the security of integrations.

Enterprise Strategy Group Analysis

Enterprise Strategy Group leveraged the information collected through vendor-provided material, public and industry knowledge of economics and technologies, and the results of customer interviews to create a financial model that compares the costs and benefits of Tanzu Platform with an environment that uses a mix of tools and environments. Our interviews with customers that have recently made the transition, combined with experience and expertise in economic modeling and technical validation of application development, helped to form the basis for our modeled scenario. As shown in Table 1, our modeled scenario is a blend of the different organizations studied for this analysis.

Why This Matters

Enterprise Strategy Group studied multiple companies of different sizes and in different industries to verify the findings of our economic model. While each situation is different, and your specific return may vary, we consider the benefits described in this paper to be achievable, realistic, and repeatable for most organizations.

Table 1. Consolidated Customer View - Sample Company Used for Financial Model

Category	Value
Number of employees in organization	10,000
Annual revenue	\$2.5B
Data footprint	4.0 PB
Number of applications (new annually)	167
Number of existing applications	946
Number of developers	842
Number of platform engineers	4

Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Table 2 shows a high-level view of the benefits uncovered.

Table 2. Benefits Uncovered in This Analysis

Category	Previous Solution Costs	Benefit	Tanzu Platform Value
Number of development hours	1,751,004	30%	1,103,648
Annual development costs	\$117.4M	\$53.5M	\$64.0M
Platform engineers	13	73%	4
IT admins	80	70%	24
Technical debt (squandered budget)	\$9.1M	\$4.5M	\$4.5M
Revenue per employee	\$250,000	13%	\$282,500
Development time (weeks)	24	48%	13
Customer churn	7.4%	10%	6.6%

Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Conclusion

Applications are the core of success for many businesses, but the challenge of creating them is compounding each year. Enterprise Strategy Group research shows that 91% of organizations are facing the pressure to create applications faster than they were three years ago, and interviews we conducted showed companies are facing a level of complexity that is extending release schedules and injecting risk into infrastructures.

VMware Tanzu evolved Tanzu Application Service into Tanzu Platform, a streamlined application development, deployment, and management ecosystem with a container-based runtime environment making it easy to manage and see multiple foundations in one place. Tanzu Platform is a cloud-native platform that removes complexity from the development process while enabling advanced capabilities in applications. The platform enables developers to focus on code without having to worry about underlying infrastructure.

Enterprise Strategy Group studied the impact that Tanzu Platform can have on an organization's ability to meet IT and business goals. We found substantial benefits in acceleration of development, increased impact of applications, reduced costs, and improved security and governance.

In addition to the obvious benefits of the platform, customers we interviewed shared the value of the best practices and the change in mindset that came with the adoption of Tanzu Platform. They explained that benefits were immediately visible and continued to increase as more of their applications were developed and deployed on Tanzu Platform.

Enterprise Strategy Group believes that if your organization is dependent on applications for its success, you should evaluate the impact that Tanzu Platform can have on your organization's application development and delivery efforts.

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