The Business Value of VMware Cloud Foundation Solutions for Traditional and Modern Workloads

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Executive Summary

VMware by Broadcom customers are assessing the new product portfolio with VMware sales, customer support, and product management teams. These discussions are crucial for two reasons. First, they help customers develop a strategic road map for adopting VMware solutions. Second, they provide valuable insights to VMware leadership and product teams about customer demand for new features.

As customers ponder the future of their computing stack, they need to consider both traditional and modern workloads. The value proposition of a VMware relationship extends beyond just the technology itself. It encompasses the ability to modernize technology practices facilitated by VMware Cloud Foundation. Additionally, it emphasizes the importance of ease of use, integrations, and, ultimately, the delivery of strong business value for customers.

This study provides a comprehensive assessment based on in-depth interviews on the impact of running varied workloads — including traditional and modern workloads — on VMware Cloud Foundation– based infrastructures for organizations. Interviewed VMware customers consistently reported that VMware Cloud Foundation solutions are essential to their ability to provide cost-effective, efficient, agile, and high-performing infrastructure services to their businesses.

Customers' use of VMware Cloud Foundation solutions yields significant benefits across different types of workloads, which IDC quantifies as being worth an annual average of $566,100 per 100 VMs ($32.36 million per organization) by:

- **Delivering significant IT infrastructure cost reductions** and contributing to sustainability goals by optimizing capacity use and reducing carbon footprint

- **Enabling more efficient IT infrastructure and security team activities** through consolidation and automation, as well as minimizing the management burden across distributed IT environments

- **Enhancing IT agility,** enabling faster delivery of new software functionalities and promoting efficient IT resource use

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BUSINESS VALUE HIGHLIGHTS

$566,100
average annual benefits per 100 VMs

335%
three-year return on investment

8 month
payback on investment

51%
IT infrastructure team efficiencies

>$200,000
in savings per 100 VMs

68%
faster to market, new applications

>$17 million
higher revenue per organization per year

89%
less unplanned downtime

- **Ensuring reliability and performance** that meet the standards demanded by critical business applications and minimize productivity impacts from outages

- **Meeting customer demand and accelerating strategic IT and business initiatives,** resulting in improved business outcomes and higher revenue

Situation Overview

Application modernization and hybrid cloud adoption are strategies that organizations employ to modernize their IT infrastructure, improve business agility, and meet evolving customer demands while maintaining control over data. CIOs are evaluating how to modernize complex technology processes and IT infrastructure to deliver cost efficiencies and increase team productivity levels. As part of these discussions, the importance of properly evaluating application types, requirements, and costs across on-premises and cloud boundaries has never been more important. Consistent operations across teams have become a powerful control point for managing costs and achieving efficiencies using a common management stack across any cloud.

While enterprises are gradually moving to containers and modern application architectures such as microservices, the traditional and modern parts of enterprises remain tightly interlinked. According to IDC's *Container Infrastructure Software Survey*, about half of all enterprise containers were applications that were migrated from VMs and bare metal. Some of these are refactored to some extent, so some parts may have modern designs while some are left as traditional. It's also very common to have some part of an app in VMs (such as databases) while the front end is in containers, creating a "Frankenstein" type of application. Additionally, modern applications often interact with older system-of-record applications to exchange data via APIs. As enterprises continue to modernize applications and move to cloud-native infrastructures, these will not exist in silos. Integrations across multiple generations of technologies will continue to be key in maintaining consistent operations.

VMware Cloud Foundation Solutions for Private Cloud Infrastructures

As part of a hybrid cloud deployment, VMware Cloud Foundation delivers an on-premises deployment that utilizes core infrastructure building blocks of compute, storage, networking, and cloud management between on-premises private and VMware-based public cloud environments. This capability extends these infrastructure components consistently across multiple cloud boundaries, delivering a consistent operations model and application mobility between on-premises and public cloud environments.

By running both modern and traditional applications on a single VMware platform in a private cloud, a hosted provider cloud, and a public cloud, an IT organization can realize the fastest, least disruptive way to support the spectrum of application modernization. Cost optimization and operational efficiency benefits resulting from VMware Cloud Foundation deployment are driven by reduced complexity — when IT adopts a single-cloud operating model wherever workloads are deployed. Additional agility and service consumption benefits are often business specific and can have a significant boost for strategic IT service delivery.

Key components of VMware Cloud Foundation typically include:

- **VMware vSphere:** A leading enterprise workload engine for running and managing virtual machines and containers in a unified and consistent manner

- **VMware vSAN:** Storage virtualization software that is integrated directly into vSphere, providing performant, scalable, and resilient storage capabilities

- **VMware NSX:** Software-defined networking to build a streamlined, resilient, scale-out network infrastructure for all workloads

- **VMware Aria:** Comprehensive cloud management capabilities to automate service delivery and IT operations management

By integrating these components into a single solution, VMware Cloud Foundation simplifies the deployment and management of cloud infrastructure, accelerates time to market for new services and applications, and improves overall operational efficiency for organizations adopting private or hybrid cloud architectures.

The Business Value of VMware Cloud Foundation–Based Infrastructure for Traditional and Modern Workloads

Study Demographics

IDC assessed the impact of using VMware Cloud Foundation–based infrastructures, which includes the use of VMware solutions such as VMware vSphere, VMware NSX, VMware vSAN, VMware Aria, and VMware Cloud solutions, through in-depth interviews with senior decision-makers at organizations using these VMware solutions. Interviews were in depth in nature and designed to elicit feedback on the quantitative and qualitative impact of deploying and running VMware Cloud Foundation–based infrastructures. The study sought to understand the impact of running two broad groups of workloads — traditional and modern workloads — by speaking specifically with organizations about their experiences with VMware Cloud Foundation infrastructure solutions in terms of running one of these two types of business workloads.

Table 1 (next page) provides details about the organizations interviewed for this study, as well as specifics about those interviewed regarding traditional and modern workloads. As shown, study participants were enterprise-level organizations with over 100,000 employees and $60 billion in annual revenue (medians of 75,000 employees and $13.78 billion in revenue). The sample included a diverse mix of organizations in terms of both geographical locations — with representation from North America, EMEA, and APAC — and industry verticals, with representation from the retail, telecommunications, energy, financial services, hospitality, insurance, manufacturing, and professional services verticals. For additional details, including averages for the organizations running traditional and modern workloads, please see **Table 1** (next page) and Appendix 1 for additional information about the definitions of "traditional" and "modern" workloads.

TABLE 1

Demographics of Interviewed Organizations

	Average	Median	Average, Traditional Workloads	Average, Modern Workloads
Number of employees	109,205	75,000	180,400	38,010
Number of IT staff	7,684	450	10,630	4,737
Number of business applications	1,329	300	2,270	153
Annual revenue	$60.41B	$13.78B	$109.6B	$11.23B
Countries	United States (5), Australia, France, Germany, Japan, United Kingdom			
Industries	Retail (2), telecommunications (2), energy, financial services, hospitality, insurance, manufacturing, professional services			

n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

VMware-Based Infrastructures of Study Participants

Overall, study participants described VMware technologies as a core element of their IT infrastructures. As such, they have often progressed from using VMware for foundation infrastructure virtualization to more complex virtualization, orchestration, and automation across hybrid cloud environments. Still, they described common reasons for deciding to use VMware Cloud Foundation solutions and continuing to expand their use of VMware solutions, including the strength of the underlying technology both for specific purposes and as a broader IT platform; VMware support and technological capabilities; and the ability to maintain seamless, efficient, and high-performing infrastructures for many of their most important business applications and services.

Interviewed VMware customers detailed their considerations:

Leader in virtualization and a platform for modernizing IT infrastructure (Traditional Workloads):
"*VMware stands out for future proofing our infrastructure. It's the intuitive global ecosystem choice. When it's about virtualization and migrating from on premises, VMware is the only choice.*"

A platform for modernizing and consolidating IT infrastructure (Traditional Workloads):
"VMware was a factor in our modernization effort from running dedicated servers to shifting to a newer infrastructure and virtualizing our environment to maximize those investments. VMware has been part of an effort to improve the scalability and reliability of our server infrastructure for offering various services. It was also to simplify our infrastructure."

VMware met requirements for performance and simplicity (Modern Workloads):
"VMware replaced [our previous platform/solution] due to performance gaps, cost overruns, and application connectivity issues. VMware offered native performance, excess-level management, and simplified dashboard control. Its nativeness and capabilities made it the superior choice."

Alignment of technology with business needs (Modern Workloads):
"VMware's flexibility, capacity, and capabilities align perfectly with our business needs. When evaluating possible vendors and solutions, VMware consistently proves to be the optimal choice for our purposes."

While study participants evinced similar reasons for using VMware Cloud Foundation–based infrastructures, they spoke about the impact from the perspective of two types of workloads, including:

- **Traditional workloads,** defined as more monolithic, scale-up workloads with primary concerns such as throughput, latency, and reliability. For study participants, these workloads included transaction-based PoS and inventory systems, reservations and ERP systems, core business applications, and customer-facing services.

- **Modern workloads,** defined as more scale-out, distributed, and microservices-based workloads, are often deployed in containers and with significant data volume. For study participants, these workloads included AI/ML-based applications, analytics, microservices architectures, distributed applications, data streaming, IoT-based reporting, and container-based applications, including ERP systems.

Table 2 (next page) provides a view of study participants' VMware Cloud Foundation–based infrastructure environments. As shown, they are using VMware technologies to run significant hybrid IT environments that include an average of 638 physical servers and a total of 5,716 VMs between their on-premises and cloud environments. The extent of their use of VMware technologies to establish and run their IT infrastructures is further indicated by their linking an average of 63% of revenue to applications and workloads running on VMware Cloud Foundation–based infrastructures. **Table 2** also offers details about the VMware environments of study participants interviewed about their traditional and modern workload environments.

TABLE 2

VMware Cloud Foundation–Based Infrastructure Environments, Interviewed Organizations

	Average	Median	Average, Traditional Workloads	Average, Modern Workloads
Physical servers, on premises	638	501	953	322
VMs, on premises	3,773	2,500	5,900	1,645
Cloud VMs	2,015	225	3,865	165
VMs and cloud VMs, total	5,716	4,625	9,765	1,667
Number of business applications	506	100	870	52
Number of TBs	468	58	925	12
Number of internal users of applications	42,394	13,000	65,600	19,187
Percent of revenue supported	63%	60%	68%	59%

n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

Business Value and Quantified Benefits of VMware Cloud Foundation–Based Infrastructures for Traditional and Modern Workloads

Study participants described VMware Cloud Foundation solutions as pivotal for having a modern and efficient IT infrastructure. They consistently noted achieving infrastructure cost savings, staff efficiencies, and improved agility and performance through use. The participants also emphasized VMware's ability to consolidate and modernize their IT infrastructure environments, which enhances scalability, reliability, and management. Interviewed organizations cited the improved ability to align IT with their business needs, with those running modern workloads recognizing the benefit of having the necessary functionality for running data-rich and distributed applications and services.

Study participants provided insight into the impact of having a VMware Cloud Foundation–based infrastructure:

Scalability, speed, reduced complexity (Traditional Workloads):
"The most significant benefit of VMware is scalability and the speed and agility to provision resources … VMware also reduces our complexity — we can shift away from legacy servers, which allows us to modernize our environment and reduce some complexity and reduce technical debt."

Uniformity, consistency, ease of management (Traditional Workloads):
"We benefit from uniformity and a consistent VMware approach. This is important given the number of servers we run — we want a single pane of glass to manage all these different devices and virtual machines. We want the same configurations — to be more agile and nimble and manage it all with the same staff."

Strong architecture and performance for AI/ML workloads (Modern Workloads):
"VMware has a strong reference architecture, especially for AI and machine language infrastructure … On top of that, vSAN provides the necessary performance and scalability we need for AI and ML workloads and graphics, pass-through, and direct device assessment."

Flexibility for different workloads, including development/testing (Modern Workloads):
"VMware is easy to manage even when workloads are still in the development stage because changes are rapid … Having a VMware platform makes it easy to get a rollback plan, and we can do snapshots and distribute the workloads on every cluster with easy hardware upgrades, for example, providing the CPU and memory resources that are needed."

Based on interviews with VMware customers running traditional and modern workloads, IDC calculates that they will realize average annual benefits worth $566,100 per 100 VMs ($32.36 million per organization) in the following areas:

- **IT infrastructure cost reductions:**
  Study participants leverage both core VMware virtualization technology and other functionalities to reduce the amount of physical hardware they require and make better use of both on-premises and cloud infrastructure capacity. IDC calculates that they will save an annual average of $224,200 per VM ($12.81 million per organization).

- **IT staff productivity benefits:**
  Study participants benefit from enhanced automation, improved performance, and consolidated IT environments, which reduce the amount of staff time required to deploy, manage, support, and secure their IT infrastructures. Further, they enable

development teams with greater infrastructure flexibility. IDC puts the value of IT staff time savings and productivity gains at an annual average of $209,100 per 100 VMs ($11.96 million per organization).

- **Risk mitigation benefits:**
  Study participants suffer significantly fewer unplanned outages affecting their IT infrastructures and reduce productivity and business losses associated with outages that do occur. IDC quantifies the value of higher employee productivity at an annual value of $97,900 per 100 VMs ($5.60 million per organization).

- **Business productivity benefits:**
  Study participants have IT infrastructures that better support business needs in terms of flexibility, scalability, and performance, which allows them to better address opportunities and deliver higher-quality services and solutions to customers. IDC calculates that they will realize net revenue gains worth an annual average of $34,900 per 100 VMs ($2.00 million per organization).

FIGURE 1

Average Annual Benefits per 100 VMs
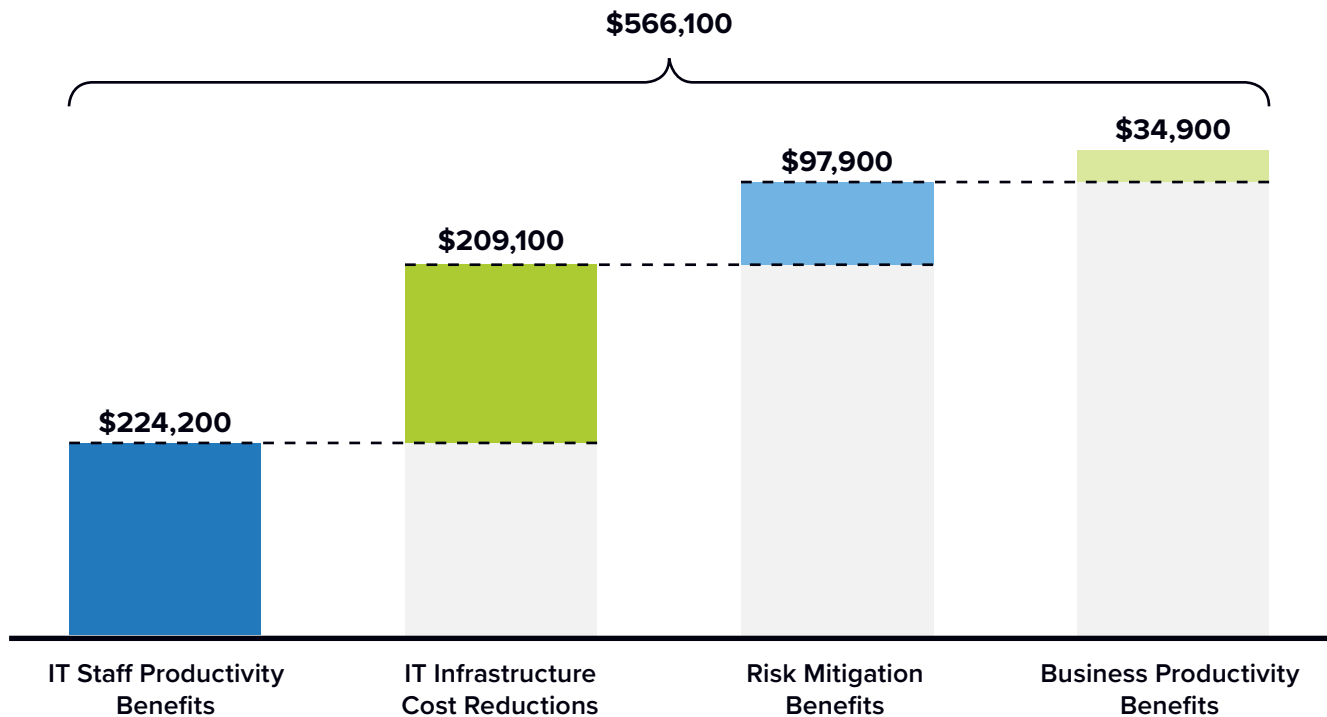
(Average annual benefits per 100 VMs)

n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

For an accessible version of the data in this figure, see Figure 1 Supplemental Data in Appendix 3.

IT Infrastructure Cost Reductions

Direct financial benefits in the form of lower infrastructure costs for running equivalent workloads were a significant focus of interviewed VMware customers. They described leveraging VMware Cloud Foundation–based infrastructures to drive IT infrastructure cost reductions through optimized capacity use, virtualization, automation, and scalability. As a result, they require less storage and fewer servers and other IT resources, which not only helps them optimize costs but also supports sustainability efforts and enables greater scalability as costs less frequently create friction for IT expansion efforts. Further, having access to VMware-based cloud offerings with the major public providers allows study participants greater freedom in deciding where to host important business workloads and applications.

Interviewed VMware customers running traditional and modern workloads on their VMware Cloud Foundation–based infrastructures provided detailed examples of how they have reduced and optimized their infrastructure costs:

Driver of sustainability and infrastructure cost savings (Traditional Workloads):
"Having a VMware-based infrastructure has reduced our carbon footprint. We're big on sustainability, and the fewer servers we have, the less power we're consuming and the lower our carbon emissions. We've reduced our footprint by 50% and eliminated 500 servers and their costs."

Scalability and visibility into capacity needs (Traditional Workloads):
"We're avoiding between $1 million and $2 million per year in additional infrastructure costs because we can scale our resources up and down, so we don't need to have any additional infrastructure. We get analysis reports out of our central monitoring. This allows us to make timely decisions when we add resources."
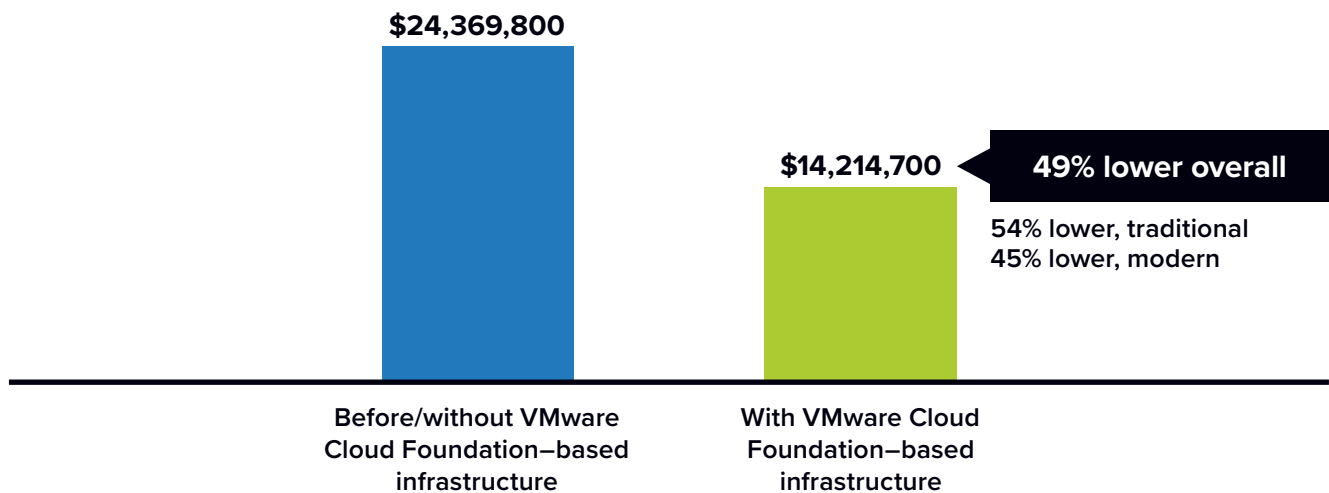
Optimal infrastructure choices (Modern Workloads):
"Our overall cost of ownership of infrastructure has gone down with VMware … VMware gives us that level of abstraction that allows us to keep managing the same VM, whether it's physically in a datacenter or it's in the cloud. That has been much better in terms of decommissioning the datacenter and moving more applications into the cloud."

Value of VMware-based cloud for cost optimization (Modern Workloads):
"One of the good things about VMware is that most major public cloud vendors offer VMware-based cloud. We can easily move VMs from on premises to the cloud … We can see that the overall cost for VMware deployment and operation maintenance is 20%–30% less compared with the other previous solution we had."

Figure 2 shows the significant impact that using VMware Cloud Foundation solutions has had on infrastructure costs for study participants. IDC calculates that they have reduced their costs by nearly half (49%), as they require less hardware and software, can more readily run workloads in the optimal on-premises or cloud environment, and provide infrastructure capacity to run business operations on an as-needed basis rather than risking costly overprovisioning. Taken together, these savings come to more than $10 million per organization per year, with study participants reporting slightly higher relative cost savings for traditional workloads (54%) than modern workloads (45%).

FIGURE 2

Average Annual Infrastructure Costs

($ per organization)

$24,369,800

$14,214,700

49% lower overall

**54% lower, traditional
45% lower, modern**

**Before/without VMware
Cloud Foundation–based
infrastructure**

**With VMware Cloud
Foundation–based
infrastructure**

n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

IT Staff Efficiencies

Study participants also emphasized the importance of efficiencies in IT staff operations through their use of VMware Cloud Foundation solutions. They attributed greater IT team effectiveness in areas such as management, support, and security to having a more reliable and available infrastructure environment and their ability to leverage a common management console and take advantage of automation and embedded security and deployment functionalities. Reducing the amount of staff time required for day-to-day activities lowers their total cost of running the same workload. It can have a value-multiplying effect by allowing IT teams to focus on higher-value innovation and customer-facing activities.

Interviewed VMware customers spoke in greater detail about how having a VMware Cloud Foundation–based infrastructure has enabled more efficient IT staff:

Higher reliability and availability generate staff efficiencies (Traditional Workloads):
"Our IT teams are more productive. Our uptime is a lot higher with VMware, so we basically have no more war rooms. Work–life balance is so much better because now we have the reliability and availability of the VMware environment."

We can focus on modernization and new IT approaches (Traditional Workloads):
"We can pivot people to focus on business continuity and disaster recovery with VMware. We're able to pivot people to focus on the cloud and upskill them for that. Efficiencies with VMware allowed them to focus on more modern technology because we weren't living in an antiquated rack-and-stack world."

Efficiencies allow the IT team to focus on innovation and customer-facing activities (Modern Workloads):
"Our IT infrastructure team is about 50% more efficient with VMware. This has opened up time for them to innovate on AI/ML workloads, regulatory adherence, infrastructure health, and the management of SLAs for customer-facing applications."

Built-in security functionality enables better security outcomes (Modern Workloads):
"VMware has built-in security features that allow our engineers to easily deploy the security capabilities as a part of the VMware environment and provide more visibility into network security, traffic flow, and everything else much better because it's a built-in solution."

Table 3 (next page) demonstrates the significant impact that VMware Cloud Foundation solutions have had on the efficiency and effectiveness of IT infrastructure and security teams.

TABLE 3

IT Staff Efficiencies

	Before/Without VMware Cloud Foundation–Based Infrastructure	With VMware Cloud Foundation–Based Infrastructure	Difference	Improvement
IT Infrastructure Team				
Equivalent FTEs required for same workloads	45.9	22.6	23.3	51%
Value of equivalent FTE time required ($ per organization per year)	$4.59M	$2.26M	$2.33M	51%
IT Security Team				
Equivalent FTEs required for same workloads	11.0	5.5	5.5	50%
Value of equivalent FTE time required ($ per organization per year)	$1.10M	$550,700	$550,700	50%

n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

IT Agility and Development Benefits

Study participants consistently referenced establishing more agile and flexible IT infrastructures as a leading benefit of their use of VMware Cloud Foundation solutions. They underscored the agility and development benefits provided by VMware's virtualization and automated deployment capabilities, which enable faster access to capacity and significantly reduce time to market for new software functionalities. In particular, study participants connected improved agility with supporting development teams in delivering higher volumes of work on time.

For study participants, the foundation agility value of having a VMware Cloud Foundation–based infrastructure is the ability to deploy new IT resources — whether compute, storage, or other — in a more seamless and timely fashion. Instead of going through manual steps or even procurement cycles, they can instead provide resource capacity on an as-needed, near-real-time basis.

Interviewed VMware customers provided specific examples of improved agility:

**Significantly faster access to capacity, which benefits (Traditional Workloads):**
"The ability for us to spin up a virtual server on our existing VMware infrastructure takes minutes — versus having to order a server, get it shipped, rack it, power it, and build it, which would take a month … The agility VMware offers for us to be able to pivot and provide rapid provisioning it accelerates the provisioning of servers to deliver a new service, software, or application."

Ability to provide capacity for development activities (Modern Workloads):
"With VMware, we can easily spin off a development server before our developers move into production servers … We can clone the virtual machine or the virtual server in production and clone it as a development server so that they can spin up the actual data, existing data, or current setup of the server. So that's the impact, the productivity for them."

Figure 3 (next page) provides IDC's findings on the impact on study participants of having a VMware Cloud Foundation–based infrastructure on core measures of IT agility. As shown, study participants reported having the ability to deploy new VMs 84% faster and new storage 87% faster, which underscores the extent to which they have minimized friction associated with providing additional or new IT capacity to development and business teams as required. Results were strong for both organizations with traditional workloads and organizations with modern workloads. However, relative gains were somewhat stronger for those organizations with traditional workloads, perhaps demonstrating the stronger relative benefit that these organizations gain from moving away from more static and monolithic IT environments with VMware Cloud Foundation–based infrastructures.

FIGURE 3

Impact on IT Agility

(Number of hours)
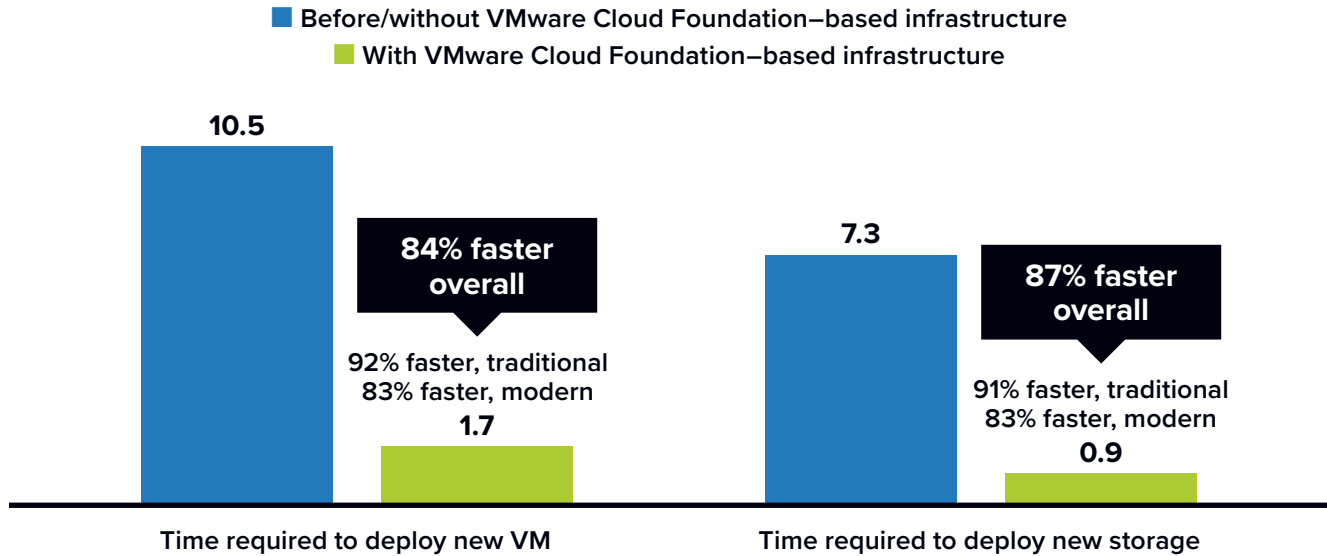
■ Before/without VMware Cloud Foundation–based infrastructure
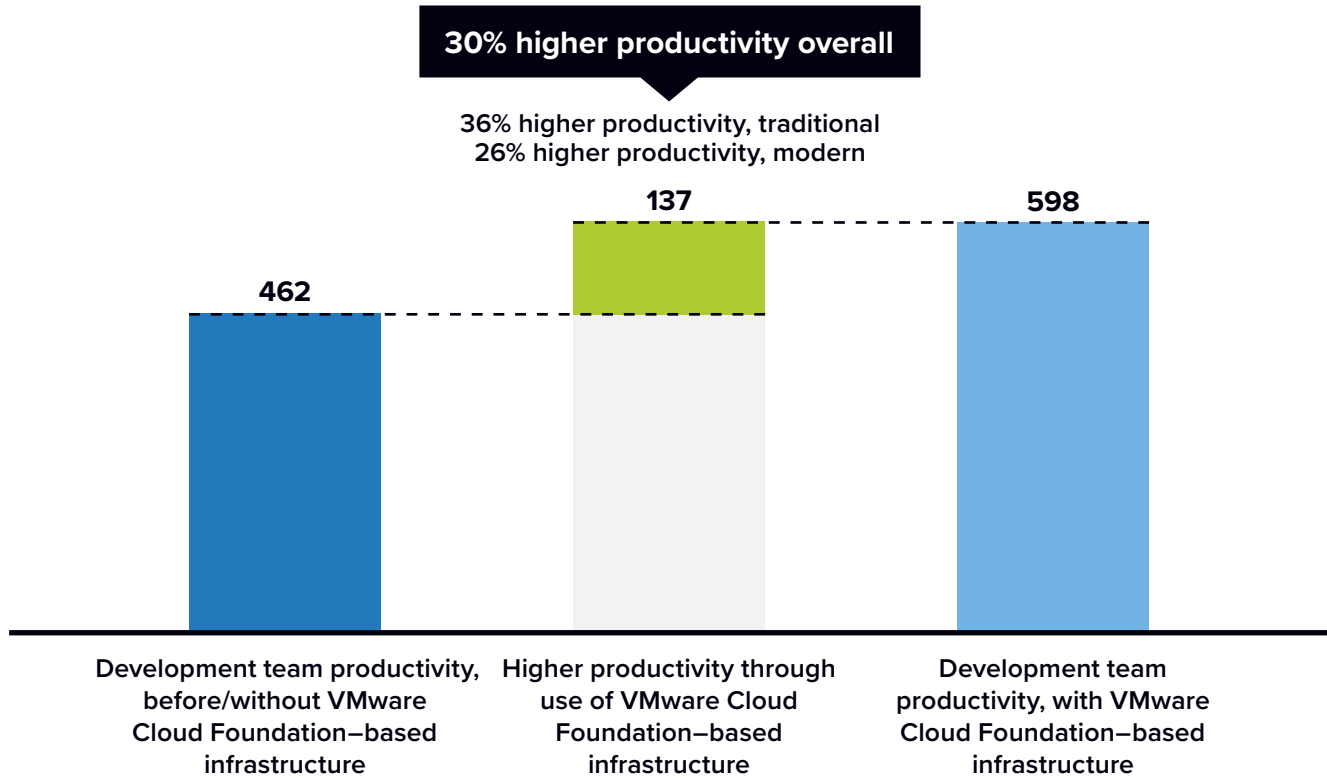■ With VMware Cloud Foundation–based infrastructure

n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

For an accessible version of the data in this figure, see Figure 3 Supplemental Data in Appendix 3.

Like many organizations, interviewed VMware customers have significant development activities designed to ensure that their employees and customers have timely access to new and improved software functionality. The ability of development teams to provide the highest-quality software in a timely manner depends significantly on the infrastructure upon which they work. Study participants reported across the board that having a VMware Cloud Foundation–based infrastructure has enabled more fluid and seamless development processes. An organization running modern workloads commented: *"Time to market is one of the most significant benefits with VMware because it is much better. We can provide a result that is analyzed without the need for a development team. Now, anything you want to create, you can do that as a user through the dashboard. We can create our reports and dashboards, so decision-making skills have become better, and our developers' productivity has increased."*

As shown in **Figure 4** (next page), IDC calculates that developers benefit from a 30% average productivity gain from having a VMware Cloud Foundation–based infrastructure, with traditional workload–related productivity gains at 36% and modern workload–related productivity gains at 26%. These strong productivity gains reflect the improved ability of study participants' development teams to meet business needs and expectations in terms of the timing, quality, and relevance of new applications, features, and updates.

FIGURE 4

Impact on Development Team Productivity

(Equivalent productivity, FTEs per organization)

30% higher productivity overall

**36% higher productivity, traditional
26% higher productivity, modern**

462 **137** **598**

| Development team productivity, before/without VMware Cloud Foundation–based infrastructure | Higher productivity through use of VMware Cloud Foundation–based infrastructure | Development team productivity, with VMware Cloud Foundation–based infrastructure |

n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

For an accessible version of the data in this figure, see **Figure 4 Supplemental Data** in Appendix 3.

Performance and Reliability Benefits

Study participants discussed the performance and reliability benefits of having a VMware Cloud Foundation–based infrastructure from the perspective of both reliability and providing a high-quality user experience. These organizations know that their business success increasingly depends on consistent and seamless access to key business applications, which makes outages or even poor performance a significant potential business inhibitor. They reported that their VMware Cloud Foundation–based infrastructures are significantly more reliable and capable of running these business applications as needed. One interviewed organization running modern workloads explained: *"If there's a longer downtime, the business will suffer and lose revenue. So, with the support of VMware, we are resolving issues as quickly as possible, which is very helpful and prevents us from losing money."*

Table 4 presents IDC's findings on how VMware Cloud Foundation–based infrastructures have enabled study participants to minimize the frequency and impact of outages that affect their business operations. They reported experiencing 72% fewer outages and resolving outages 63% faster, factors that contribute to bringing down the amount of impactful downtime by a strong average of 89%. This means that the typical application user at these organizations benefits from reduced productivity losses with VMware Cloud Foundation solutions, going from an average of 4.1 hours to only 0.4 hours of lost productivity per year.

TABLE 4

Impact on Unplanned Downtime

	Before/Without VMware Cloud Foundation–Based Infrastructure	With VMware Cloud Foundation–Based Infrastructure	Difference	Improvement
Number of unplanned outages per year	20.4	5.8	14.6	72%
MTTR, hours	13.9	5.2	8.7	63%
Productivity loss per year in FTEs per organization	91.4	9.7	81.7	89%
Value of lost productivity time per organization per year	$6.40M	$675,700	$5.72M	89%
Lost productive hours per user per year	4.1	0.4	3.6	89%

n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

Business Benefits

From a business perspective, IDC's interviews illustrate how VMware-based infrastructures enable organizations to scale better to address customer demand and provide higher-quality services. Study participants especially noted the ease of expansion and the ability to support new applications and business demands, along with VMware's role in facilitating quick moves to address new business needs, such as mergers and acquisitions (M&A) activities and accelerating business strategies.

Interviewed VMware customers provided examples of how having a VMware Cloud Foundation–based infrastructure has served to enable their business efforts:

Ease of expansion, ability to support new applications and business (Traditional Workloads):
"From a business demand perspective, we've been able to successfully deploy and expand our store base significantly with a VMware-based infrastructure … The other part is that we really haven't had to decline any new applications or SaaS offerings from the businesses that are running on top of our infrastructure because VMware can handle it."

A strong platform for moving quickly with M&A activity (Traditional Workloads):
"VMware has definitely helped our business because we can stand things up faster, especially when we go into M&A. We can stand things up much quicker than we could in the past and get things on our standardized platforms faster."

Accelerated business strategy with quality and performance (Modern Workloads):
"VMware has allowed us to accelerate our business strategy because infrastructure is something that, if you don't have it in place as a foundational piece of work, you cannot progress. So, in terms of being able to quickly stand up infrastructure and then not worry about that and focus on the actual application and on the business outcomes for that, having VMware has been very good. It's been an enabler."

Table 5 (next page) demonstrates that study participants directly connect having a VMware Cloud Foundation–based infrastructure to improved business results, as they better address opportunities and better serve existing customers. On average, they reported higher revenue of $17.17 million per year, which equates to an average net revenue gain of $2.58 million per organization when applying a 15% margin assumption to overall revenue gains. Interestingly, organizations interviewed about their use of VMware Cloud Foundation solutions for modern workloads reported more than a six times higher average relative revenue gain than the overall sample, suggesting the outsized importance of having a robust, flexible, and high-performing IT infrastructure for workloads based on new technologies for which performance is essential.

TABLE 5

Business Impact, Use of VMware Cloud Foundation–Based Infrastructure

	Per Organization	Per 100 VMs
Higher revenue per year	$17.17M	$300,500
Assumed operating margin	15%	15%
Higher net revenue per year	$2.58M	$45,100

n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

ROI Summary

Table 6 (next page) provides IDC's calculations of the financial benefits and investment costs for study participants from deploying and running a VMware Cloud Foundation–based infrastructure. As shown, IDC calculates that interviewed VMware customers will realize discounted three-year benefits worth $76.08 million per organization ($1.33 million per 100 VMs) in lower infrastructure costs, IT team efficiencies, development productivity gains, user productivity gains, and higher net revenue. To achieve these benefits, study participants will invest a discounted total of $17.48 million per organization over three years ($0.31 million per 100 VMs). IDC projects that interviewed VMware customers will achieve an average three-year ROI of 335% based on these benefits and investment costs and reach breakeven on their investment in an average of eight months.

TABLE 6

ROI Analysis

	Per Organization	Per 100 VMs
Benefit (discounted)	$76.08M	$1.33M
Investment (discounted)	$17.48M	$0.31M
Net present value	$58.61M	$1.03M
ROI (NPV/investment)	335%	335%
Payback	8 months	8 months
Discount factor	12%	12%

n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

Challenges/Opportunities

Opportunities

• The new VMware bundling now includes core Kubernetes capabilities with vSphere, which provides modern container features to the sizeable VMware install base. Giving a friction-free introduction to containers on vSphere can introduce future opportunities for VMware to expand its modern applications presence in enterprises.

• Enterprises will be running a mix of traditional and modern infrastructures and applications for the foreseeable future, and these estates will be interwoven in many ways. By integrating both management and operations, VMware can help solve many pain points during the long and slow transition to cloud architectures, cloud operating models, and container-native applications.

Challenges

- With a major reset of product bundling and licensing with the recent Broadcom acquisition, customers may be focused on absorbing those changes, with few spare cycles to consider new VMware products, such as the larger Tanzu modern applications portfolio.

Conclusion

Technology executives are considering their opportunities with VMware and realizing that the discussions go well beyond important product discussions. Additional value streams include product road mapping, the value of broader portfolio adoption, and a new perspective on VMware and its organizational focus. For example, the company has four major business units, and one of them is the owner of the VMware Cloud Foundation. This enables improved focus on core franchise product areas, an increase in proper spending for R&D budgets, and an improved ability to work with customers on product innovation. Many customers are identifying that the increased focus offers benefits that they had not considered in the past within their VMware relationship.

IDC's research shows that VMware Cloud Foundation stands as a core platform for organizations aiming to modernize and efficiently run and manage their IT infrastructure, whether for traditional business workloads or for modern business workloads. Its ability to drive significant cost savings, enhance IT and staff efficiencies, improve agility and development benefits, and ensure performance and reliability positions VMware Cloud Foundation as an important tool for businesses striving to align their IT infrastructure with their strategic goals and sustainability objectives. The findings presented in this study underscore the substantial value and competitive advantage that VMware Cloud Foundation–based infrastructures offer to organizations navigating the complexities of managing traditional and modern workloads. This value is underscored by both the benefits laid out in this study in terms of cost, efficiency, agility, and performance and the average 335% ROI that IDC calculates study participants will achieve through their investment in VMware Cloud Foundation solutions for their IT infrastructure environments.

Appendix 1: Methodology

IDC's standard Business Value/ROI methodology was utilized for this project. This methodology is based on gathering data from organizations currently using VMware Cloud Foundation solutions to create and run a VMware-based infrastructure.

Further, interviews were focused on understanding the value for study participants using these VMware Cloud Foundation–based infrastructures for two different types of workloads:

- **Traditional workloads/applications** are defined as more monolithic, scale-up workloads where factors such as throughput, latency, and infrastructure reliability are primary concerns, including ERP systems, transaction processing platforms, and other traditional business workloads.

- **Modern workloads/applications** are defined as more scale-out, distributed, and microservices-based workloads, often deployed in containers and using significant data volumes that require fast access to additional compute, storage, and other IT resources with robust orchestration, including AI/ML workloads, analytics workloads, microservices architectures, distributed applications and data streaming (using message queues such as RabbitMQ and Kafka), and other modern data workloads.

Based on interviews with organizations using VMware Cloud Foundation–based infrastructures, IDC performed a three-step process to calculate the ROI and payback period:

1. **Gathered quantitative benefit information during the interviews using a before-and-after assessment** of the impact of using VMware Cloud Foundation–based infrastructures. In this study, the benefits included cost savings, IT staff and development team efficiencies and productivity gains, reduced costs associated with risk, and higher revenue.

2. **Created a complete investment (three-year total cost analysis) profile based on the interviews.** Investments go beyond the initial and annual costs of using VMware Cloud Foundation–based infrastructures and can include additional costs related to migrations, planning, consulting, and staff or user training.

3. **Calculated the ROI and payback period.** IDC conducted a depreciated cash flow analysis of the benefits and investments for the organizations' use of VMware Cloud Foundation–based infrastructures over three years. ROI is the ratio of the NPV and the discounted investment. The payback period is the point at which the cumulative benefits equal the initial investment.

IDC bases the payback period and ROI calculations on a number of assumptions, which are summarized as follows:

- Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and manager productivity savings. For the purposes of this analysis, IDC has used assumptions of an average fully loaded salary of $100,000 per year for IT staff members and an average fully loaded salary of $70,000 per year for non-IT staff members. IDC assumes that employees work 1,880 hours per year (47 weeks x 40 hours).

- The net present value of the three-year savings is calculated by subtracting the amount that would have been realized by investing the original sum in an instrument yielding a 12% return to allow for the missed opportunity cost. This accounts for both the assumed cost of money and the assumed rate of return.

- IDC applies a net margin assumption (15%) for gross revenue gains attributed to interviewed organizations' use of VMware Cloud Foundation–based infrastructures, resulting in net revenue calculations that are applied to IDC's model.

- Because the use of VMware Cloud Foundation–based infrastructures requires a deployment period, the full benefits of the solution are not available during deployment. To capture this reality, IDC prorates the benefits on a monthly basis and then subtracts the deployment time from the first-year savings.

Appendix 2

Quantified Benefits of Use of VMware Cloud Foundation–Based Infrastructures for Traditional and Modern Workloads

Table 7 provides specifics about the areas of quantitative and financial value that study participants achieve through their use of VMware Cloud Foundation solutions for their infrastructures. As shown below, IDC calculates that they will realize total benefits worth an annual average of $32.36 million per organization.

TABLE 7

Average Annual Benefits

IT infrastructure cost reductions	49% lower cost, saving $11.95M per year	$11.95M
IT infrastructure team efficiencies	51% efficiency, worth 23.3 FTEs, $100,000 salary	$1.81M
Security team efficiencies	50% efficiency, worth 5.5 FTEs, $100,000 salary	$426,700
Development team productivity gains	30% higher productivity, worth 137 FTEs, $100,000 salary	$10.58M
Unplanned downtime, productivity gains	89% less unplanned downtime, worth 81.7 FTEs, $70,000 salary	$4.43M
Disaster recovery cost savings	$869,800 additional cost savings per year	$673,900
Disaster recovery staff efficiencies	45% efficiency, worth 6.4 FTEs, $100,000 salary	$492,700
Higher net revenue	$17.17M higher total revenue, 15% margin assumption	$2.00M
Total average annual benefits per organization	**$32.36 million per organization**	

Note: *includes 8.1 month deployment time in year 1. n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

Note: All numbers in this document may not be exact due to rounding

Appendix 3: Supplemental Data

This appendix provides an accessible version of the data for the complex figures in this document. Click "Return to original figure" below each table to get back to the original data figure.

FIGURE 1 SUPPLEMENTAL DATA

Average Annual Benefits per 100 VMs

	Average Annual Benefits per 100 VMs
IT Staff Productivity Benefits	$224,200
IT Infrastructure Cost Reductions	$209,100
Risk Mitigation Benefits	$97,900
Business Productivity Benefits	$34,900
Total	**$566,100**

n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

Return to original figure

FIGURE 3 SUPPLEMENTAL DATA

Impact on IT Agility

	Time Required to Deploy new VM	Time Required to Deploy New Storage
Before/without VMware Cloud Foundation–based infrastructure	10.5	7.3
With VMware Cloud Foundation–based infrastructure	1.7	0.9
Difference	**84% faster overall**	**87% faster overall**

n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

Return to original figure

Appendix 2: Supplemental Data (continued)

FIGURE 4 SUPPLEMENTAL DATA

Impact on Development Team Productivity

	Development Team Productivity, Before/Without VMware Cloud Foundation–Based Infrastructure	Development Team Productivity, With VMware Cloud Foundation–Based Infrastructure	Higher Productivity Through Use of VMware Cloud Foundation–Based Infrastructure
Equivalent productivity, FTEs per organization	462	598	30% higher productivity overall 36% higher productivity, traditional 26% higher productivity, modern

n = 10; Source: IDC Business Value In-Depth Interviews, March 2024

Return to original figure

About the IDC Analysts

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Stephen Elliot manages multiple programs spanning IT operations, enterprise management, ITSM, agile and DevOps, application performance, virtualization, multicloud management and automation, log analytics, container management, DaaS, and software-defined compute. Stephen advises senior IT, business, and investment executives globally in the creation of strategy and operational tactics that drive the execution of digital transformation and business growth.

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Matthew is responsible for carrying out custom business value research engagements and consulting projects for clients in a number of technology areas with a focus on determining the return on investment of their use of enterprise technologies. Matthew's research often analyzes how organizations are leveraging investment in digital technology solutions and initiatives to create value through efficiencies and business enablement.

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