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Business Value Highlights

Migration efficiencies versus public cloud:

69%
lower cost of migration

71%
less staff time required

Migration efficiencies versus private cloud:

28%
lower cost of migration

33%
less staff time required

Value of using VMware Hybrid Cloud:

263%
three-year ROI

35%
lower cost of operations

The Business Value of Hybrid Cloud with VMware

EXECUTIVE SUMMARY

A key first step in any organization's efforts to transform its business is the move to a modernized cloud-based IT infrastructure. Cloud, however, is not about a specific datacenter or a specific cloud IaaS environment. Cloud is about the timely and effective delivery of new applications and enhancement of existing applications in internal datacenters and in a growing range of shared public cloud facilities. Easy application migration and ongoing optimization of applications and data are critical.

IDC spoke with organizations that have deployed enterprise applications in a VMware Hybrid Cloud environment to understand the impact on their IT and business operations. These VMware customers described achieving value from both the ease and security of migrating applications and from establishment of more consistent, cost-effective, and robust IT infrastructure across public cloud IaaS and on-premise cloud environments.

Like many organizations, these VMware customers considered obstacles related to cost, time, and security when deciding where to place and whether to move workloads across dedicated private and/or shared public cloud environments. With the adoption of a consistent VMware Hybrid Cloud environment, they reported that migrating applications is substantially easier and less costly than carrying out a comparable migration with either a customized private cloud or a public cloud environment.

Study participants also reported achieving strong value from upgrading their IT infrastructures with VMware Hybrid Cloud solutions. Study participants reported benefiting from enhanced IT scalability and improved application reliability while still realizing cost and staff time efficiencies. Overall, IDC quantifies the average value per year for this group of VMware customers at $355,700 per 100 VMs, which they are realizing by:

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47%
more efficient IT teams

26%
lower infrastructure costs

78%
less unplanned downtime

- **Reducing the frequency and impact of unplanned outages**, thereby reducing costs in terms of lost user productivity and limiting associated business risk

- **Establishing a cost-effective IT infrastructure** that allows for workloads to be run where most advantageous from a performance and cost perspective while requiring less physical infrastructure and staff time for day-to-day support

- **Becoming more agile and scalable,** which empowers developers and helps IT organizations support the business in a timely fashion

SITUATION OVERVIEW

Today, organizations are focused upon creating value, growth, and competitive advantage through new offerings, optimized business models, and enhanced business relationships. A major threat to these efforts for most businesses is the failure of their IT organizations to convert from being the back-office enabler of internal business processes to playing a leading role as the engine powering digital business flows between people, things, and data. This transformation depends upon the enhancement of existing business applications and their increasing linkage to newly developed customer-facing and analytic applications.

IT organizations must attain the ability to constantly balance three workload priorities: low latency, rapid resource delivery, and data control.

IT organizations must attain the ability to constantly balance three workload priorities: low latency, rapid resource delivery, and data control. For many workloads, this means keeping applications in existing datacenters, near existing users or devices whenever possible, but only if the IT organization ensures that on-premise infrastructure is modernized so it can grow and evolve quickly with changing requirements. In other cases, workloads need to move to new shared public cloud platforms that enable organizations to reach into new geographies and locations.

IDC finds that this emerging cross-datacenter dynamic is a major concern for IT organizations. In January 2019, IDC asked senior datacenter operations executives at 400 North America–based organizations to identify the key barriers they face as they deal with managing the support of applications across multiple IT locations, on-premise datacenters, colocation facilities, and public cloud environments (see Figure 1).

FIGURE 1 Top Cross-Datacenter Barriers
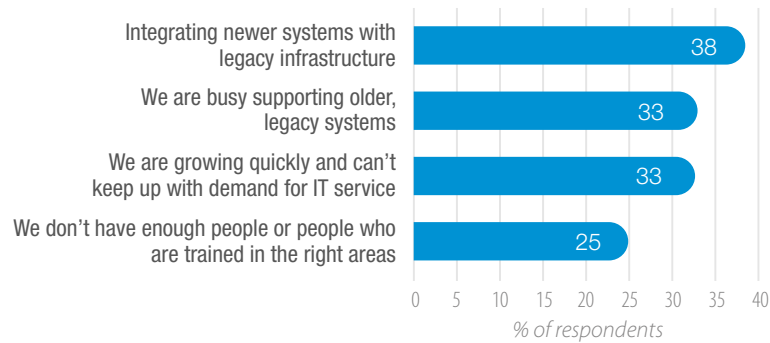
n = 400   Source: IDC's Datacenter Operational Survey, January 2019

IT organizations must play the leading role in moving the organization to a cloud-based IT foundation that enables the timely and orderly migration and modernization of existing applications as well as their linkage to new applications, all without jeopardizing reliability or data control.

IT organizations must play the leading role in moving the organization to a cloud-based IT foundation that enables the timely and orderly migration and modernization of existing applications as well as their linkage to new applications, all without jeopardizing reliability or data control. The benefits that organizations gain from a move to cloud-based IT include:

● Enabling agile resource delivery at all levels (development, IT systems, and datacenters) so that the business can take early advantage of innovative technologies

● Utilizing self-service functionalities across dedicated on-premise and shared cloud environments to ensure consistent deployment of resources and migration/movement of applications to align with changing business requirements

● Automating/offloading the IT "chores" associated with deploying, maintaining, and updating compute, storage, and network assets so that internal IT personnel can focus on more strategic tasks of service creation, data control, and governance

This IDC Business Value white paper provides insights on how a number of organizations are leveraging VMware's growing portfolio of Hybrid Cloud solutions to provide a common foundation for the move to a cloud-based IT environment. By leveraging this consistent cloud-based infrastructure platform, these organizations were able to dramatically reduce the time and cost associated with migrating/moving applications between on-premise infrastructure and public cloud infrastructure. This ability allows them to optimize the placement of workloads for cost and performance while also allowing them to refactor existing applications to take advantage of new cloud capabilities without disrupting business initiatives.

VMWARE HYBRID CLOUD SOLUTIONS

As a leading provider of solutions that allow organizations to optimize their use of IT infrastructure to support modern workloads, VMware is at the forefront of enabling the move to cloud-based IT. It's committed to enabling a hybrid cloud operating environment that allows IT organizations to take full advantage of private and public cloud options. Organizations can leverage VMware's growing portfolio of Hybrid Cloud solutions to support the management and flexible use of cloud solutions that work together, be they on-premise or offsite. Organizations can confidently take advantage of VMware Hybrid Cloud solutions across both types of cloud platforms without incurring major application migration or refactoring costs.

The VMware Hybrid Cloud portfolio of products and services is continuing to expand at a rapid pace, with regular additions in the areas of cross-cloud resource and asset management, new on-premise and public cloud–as-a-service offerings, and cloud assessment, connection, and security services. Key solutions being used and under evaluation by interviewed organizations in this white paper include:

- **VMware Cloud Foundation (VCF)** is a tightly integrated portfolio of software-defined datacenter products for delivering a pool of compute, storage, and network resources on top of dedicated (private) or shared (public) infrastructure. It also includes a set of higher-level service orchestration and automation tools that reduce the complexity and costs associated to set up a consistent pool of cloud-based infrastructure resources.

- **VMware Cloud on AWS** is a VMware-owned and -operated infrastructure as a service that is built on VCF and runs in Amazon Web Services' public cloud facilities.

- **Public Cloud VMware solutions** are a broad and growing range of public cloud infrastructure services based on VCF and certified by VMware that are owned and operated by a VMware Cloud partner.

- **VMware Cloud on X** is an expanding portfolio of VMware-owned and -operated infrastructure as service options based on VCF that run in customers datacenters or edge locations. Examples include VMware Cloud on Dell EMC and VMware Cloud on AWS Outposts.

VMware also provides a portfolio of SaaS-based offerings that address the migration, connectivity, and security issues associated with establishing and running a robust hybrid cloud environment. These solutions include VMware HCX, VMware CloudHealth, and VMware Network Insight.

THE BUSINESS VALUE OF VMWARE HYBRID CLOUD SOLUTIONS

Study Demographics

IDC spoke with eight organizations about their experiences with VMware Hybrid Cloud environments that combine running workloads on both on-premise VMware-based infrastructures and VMware-based public cloud solutions (see Table 1). Interviews focused on both comparing migration requirements with private and public cloud alternatives and the impact of VMware Hybrid Cloud on their ongoing IT and business operations. Overall, study participants had an average profile of a large organization in terms of employee size and revenue, although the sample varied by size. Interviewed VMware customers provided perspectives from various industry verticals, including financial services, higher education, logistics, manufacturing (two organizations), retail, service provider, and systems integrator.

TABLE 1 Firmographics of Interviewed Companies

	Average	Median
Number of employees	29,001	1,500–150,000
Number of IT staff	156	20–500
Number of business applications	332	6–2,000
Revenue per year	$4.99 billion	$5 million to $25 billion
Country	United States	
Industries	Financial services, higher education, logistics, manufacturing (2), retail, services provider, and systems integrator	

n = 8   Source: IDC, 2019

Choice and Use of VMware Hybrid Cloud Solutions

Study participants described choosing to deploy applications in a VMware Hybrid Cloud environment because it offered them the most efficient path to hybrid cloud while providing a robust and efficient foundation for running various enterprise-level workloads.

Several organizations noted needing a solution that offered access to the public cloud but without incurring significant migration costs or risk. They concluded that VMware Hybrid Cloud

Source: IDC, 2018

offered this path and cited the ability to continue to use VMware technologies as enabling fast and lower risk migrations. A higher education organization commented: *"VMware Hybrid Cloud has allowed us to move workloads into the cloud extremely quickly with just a few people . . . We didn't see any other potential offerings that would allow us to lift and shift our workloads. The other options would have required extensive refactoring and transformation."* Another interviewed retail organization commented: *"VMware's hybrid cloud offering definitely fits our cloud strategy because we're a VMware shop and all virtualized. It's perfect partnership for us as far as being able to run workloads both on-premise and in the VMware cloud."*

Participants also focused on the scalability and performance of the VMware Hybrid Cloud platform. An interviewed systems integrator commented: *"We're using the newest vSphere environment in our private cloud including NSX and vSAN. Now, when we need a more scale-out approach, we can use VMware Cloud on AWS."* A finance organization cited the flexibility of the platform: *"We're using VMware's hybrid cloud solutions for areas that we may have to scale up or down depending on the needs of the business . . . That way we don't have the cost of running the datacenter for these workloads on physical infrastructure."*

Table 2 provides details about these organizations' VMware Hybrid Cloud environments and where they have deployed their workloads. As shown in Table 2, interviewed VMware customers are running an average of over 500 VMs in their Hybrid Cloud environments, with around one-fifth of workloads in VMware-based public cloud environments and the remaining four-fifths of workloads divided between VMware-based private clouds in their on-premise datacenters and hosted private cloud environments.

TABLE 2 VMware Hybrid Cloud Environments of Interviewed Organizations

	Average	Range
Number of VMs	533	12–3,000
Number of business applications	245	2–1,800
Number of terabytes	223	2–1,000
Location of VMware Hybrid Cloud workloads		
Private cloud, own datacenter	65%	2–91%
Hosted private cloud	13%	0–93%
Public cloud	21%	5–50%

n = 8   Source: IDC, 2019

Higher education institution: "Using VMware Hybrid Cloud is not disruptive to busines. It takes very little staff time, and it takes very little double spend . . . Compared with public cloud, we're avoiding millions in consulting. We have a lot of applications, and we have a lot of technical debt, which makes it expensive for us to migrate."

Logistics company: "We chose AWS with VMware because it was the cheapest and the quickest way to get us to a hybrid cloud environment . . . From start to finish, we migrated to VMware Hybrid Cloud in about a month. If we had used an alternative — either private or public cloud — it probably would have taken at least double to triple that time."

Financial services organization: "The challenges for us in migrating to the cloud were related to integration with our legacy systems . . . VMware Hybrid Cloud helped solve that because it was safer and more secure, so it melted the friction away."

Value of VMware Hybrid Cloud Solutions in Migration

As noted, interviewed study participants concluded that VMware Hybrid Cloud offered the most straightforward, efficient, and low-risk path to hybrid cloud environments. They explained that other potential public and private cloud approaches would not only have required significant investment of staff time to refactor and migrate applications but also carry training and third-party costs to overcome friction and technical debt. They described the advantages of moving to a VMware Hybrid Cloud environment vis-à-vis alternative public and private cloud solutions:

- **Much more straightforward and cost-effective migration path, a higher education institution:** *"Using VMware Hybrid Cloud is not disruptive to business. It takes very little staff time, and it takes very little double spend . . . Compared with public cloud, we're avoiding millions in consulting. We have a lot of applications, and we have a lot of technical debt, which makes it expensive for us to migrate."*

- **Fastest and least expensive path to the hybrid cloud, a logistics company:** *"We chose AWS with VMware because it was the cheapest and the quickest way to get us to a hybrid cloud environment . . . From start to finish, we migrated to VMware Hybrid Cloud in about a month. If we had used an alternative — either private or public cloud — it probably would have taken at least double to triple that time."*

- **Avoid challenges of learning new technology, a systems integrator:** *"We chose VMware Hybrid Cloud because we were already using VMware technology and it was an easy move . . . and we don't have to worry about a whole new learning curve."*

- **Reduce migration risk, a financial services organization:** *"The challenges for us in migrating to the cloud were related to integration with our legacy systems . . . VMware Hybrid Cloud helped solve that because it was safer and more secure, so it melted the friction away."*

For these organizations, the relative ease and security of migrating existing applications and deploying new applications in the VMware Hybrid Cloud delivers tangible financial and operational benefits. As shown in Figure 2, IDC calculates that interviewed organizations completed their migrations to VMware Hybrid Cloud at a 69% lower cost than public cloud (including 71% less staff time to support the migration) and 28% lower cost than building out a full private cloud (including 33% less staff time), respectively, in terms of staff time costs for deployment and training and third-party costs. As a result, these organizations saved almost $70,000 per 100 VMs compared with public cloud and $12,000 per 100 VMs compared with private cloud, a significant efficiency in beginning their move to hybrid cloud.

FIGURE 2 Cost to Migrate to VMware Hybrid Cloud Versus Public/Private Cloud Alternatives
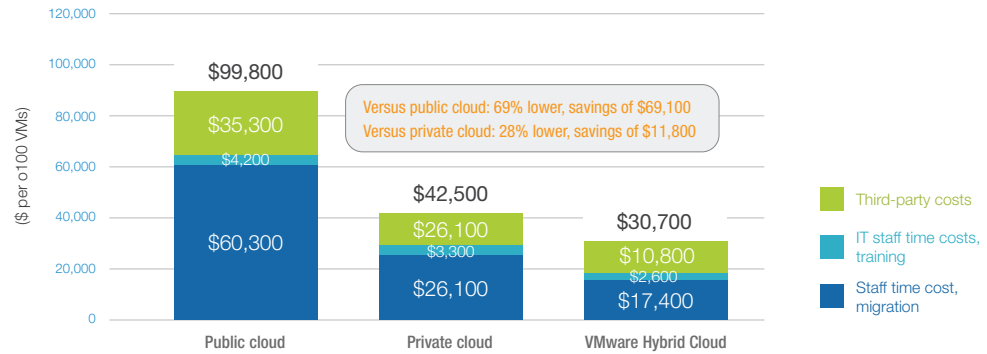
Source: IDC, 2019

In addition to higher costs, study participants noted that they were able to complete migrations to VMware Hybrid Cloud in less time compared with public cloud (4 months faster on average) or a fully private cloud (1 month faster) environment (see Table 3). This speed of deployment allows them to begin realizing benefits from their new infrastructure at an earlier time, increasing the value they derive in terms of higher developer productivity, revenue gains, and reduced operational impact of unplanned downtime. Combined with migration-related cost savings already discussed, these time to value benefits of VMware Hybrid Cloud bring total deployment-related benefits to $42,200 and $185,000 per 100 VMs compared with private and public cloud migrations, respectively.

TABLE 3 Potential Total Benefits of Faster Migration with VMware Hybrid Cloud

Value Gained per 100 VMs with VMware Hybrid Cloud	Compared with Private Cloud	Compared with Public Cloud
Additional time to migrate (months, total)	1	4
Percentage of less time required to migrate with VMware Hybrid Cloud	24	54
Value of higher developer productivity	$4,900	$18,600
Value of higher recognized revenue	$11,600	$44,000
Value of reducing lost productivity, unplanned downtime	$14,000	$53,300
Total higher value, productivity and business gains	$30,400	$115,900
Total value, migration-related cost savings	$11,800	$69,100
Total value per 100 VMs, faster migration	$42,200	$185,000

n = 8   Source: IDC, 2019

# Business Value of VMware Hybrid Cloud Solutions

Interviewed organizations are benefiting from having a robust, efficient, and cost-effective IT platform with VMware Hybrid Cloud. As shown in Figure 3, IDC puts the value these organizations will achieve at an annual average of $355,700 per 100 VMs.

In addition to allowing faster migration with less risk at a lower cost, interviewed organizations are benefiting from having a robust, efficient, and cost-effective IT platform with VMware Hybrid Cloud. As shown in Figure 3, IDC puts the value these organizations will achieve at an annual average of $355,700 per 100 VMs ($1.89 million per organization) over three years in the following areas:

- **Risk mitigation — user productivity benefits:** Having a more reliable and flexible IT infrastructure with both on-premise and public cloud resources reduces the frequency and impact of unplanned outages. IDC calculates that study participants will reduce the cost of lost user productivity by an average of $173,400 per year per 100 users ($923,500 per organization).

- **IT staff productivity benefits:** Reducing the time spent on manual processes frees up time for IT infrastructure and help desk teams, while application developers benefit from having a more agile, scalable, and functional infrastructure. IDC projects that interviewed VMware customers will realize IT team efficiencies and productivity gains worth an average of $146,900 per 100 VMs per year ($782,500 per organization).

- **IT infrastructure cost reductions:** Running workloads more cost effectively and leveraging public cloud resources lower hardware and other infrastructure-related operating costs. IDC estimates that study participants will save an average of $35,400 per 100 VMs per year ($188,400 per organization).

FIGURE 3 Average Annual Benefits per 100 VMs

Average annual benefits per 100 VMs: $355,700
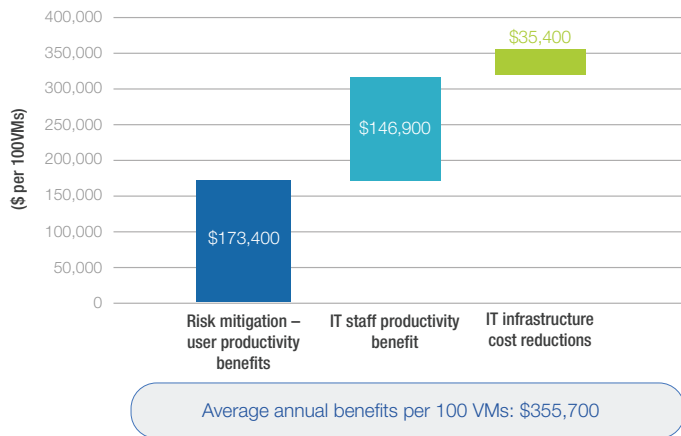
n = 8   Source: IDC, 2019

Improved Performance and Reliability

Study participants cited improved IT platform performance and reliability as core benefits of running workloads in their VMware Hybrid Cloud environments. They have a more modern IT platform with enhanced functionality and access to public cloud resources to augment their on-premise environments. As a result, they can better distribute and balance workloads across different environments, helping them ensure more effective disaster recovery and backup operations. Further, they can leverage automation built into their VMware Hybrid Cloud platforms that helps ensure that infrastructure-related issues do not become impactful outages. Interviewed organizations described these performance- and availability-related benefits of their VMware Hybrid Cloud environments:

Higher education institution: "We have better disaster recovery with VMware Hybrid Cloud because we can have a disaster recovery location in a different state . . . If a piece of equipment fails, it can be programmed to be replaced within minutes rather than having to wait for weeks for replacement parts and staff time to fix it."

- **Better disaster recovery, reduced risk, a higher education institution:** *"We have better disaster recovery with VMware Hybrid Cloud because we can have a disaster recovery location in a different state . . . If a piece of equipment fails, it can be programmed to be replaced within minutes rather than having to wait for weeks for replacement parts and staff time to fix it."*

- **Reduced risk, a financial services organization:** *"VMware Hybrid Cloud helps us reduce compliance risk. We're in the finance industry, so we face various data privacy laws, and we can use their security software tools to demonstrate compliance by ensuring zero vulnerability for sensitive customer information."*

Table 4 shows the extent to which study participants have minimized the impact of unplanned outages with VMware Hybrid Cloud. On average, study participants reported experiencing 71% fewer outages and reducing the impact of unplanned downtime by 78% from over 1 hour of lost productivity per user per year to less than 15 minutes per year (see Table 4).

TABLE 4 Impact on Unplanned Downtime

	Previous Environment	With VMware Hybrid Cloud	Increased Value with VMware Hybrid Cloud	Benefit with VMware Hybrid Cloud (%)
Number of unplanned outages per year	8.8	2.5	6.2	71
MTTR (hours)	3.4	1.9	1.5	43
Hours of lost productivity per user per year	1	0.2	0.8	78
Value of lost productive time per year per organization (FTEs)	15.6	3.4	12.2	78

n = 8   Source: IDC, 2019

More Efficient and Cost-Effective Infrastructure

In addition to improving IT performance and reliability, study participants reported achieving more efficient and cost-effective IT operations with their VMware Hybrid Cloud environments. They leverage access to public cloud capacity and enhanced server, storage, and network virtualization to reduce costs associated with hardware, while IT teams benefit from deeper automation and virtualization across a common IT platform.

Interviewed VMware customers described achieving substantial efficiencies for IT infrastructure, security, and help desk teams. These efficiencies create an opportunity to make IT operations more efficient and to allocate staff resources to more valuable activities, which they described in detail:

- The interviewed systems integrator commented on efficiencies: *"We're saving staff time on hardware because we don't have as much hardware. We're avoiding around 1 to 2 people . . . Before VMware Hybrid Cloud, we had less automation, and we had more people to provide support. We're pushing our ratio of staff to VMs from 100:1 to 250:1."*

- An interviewed services provider described how VMware has freed up time for other activities: *"Moving to VMware Hybrid Cloud has freed up a lot of people's time. We're moving older systems like databases onto more modern platforms and providing more time for IT endeavors like this."*

IDC finds that these IT teams are on average 47% more efficient on their VMware Hybrid Cloud platforms (see Figure 4), with IT infrastructure (49%), IT security (38%), and help desk (53%) teams achieving similarly strong efficiencies. Overall, this means that these VMware customers are freeing up about one full-time staff member's time per 100 VMs per year.

An interviewed services provider described how VMware has freed up time for other activities: "Moving to VMware Hybrid Cloud has freed up a lot of people's time. We're moving older systems like databases onto more modern platforms and providing more time for IT endeavors like this."

### FIGURE 4   Total IT Staff Time per 100 VMs
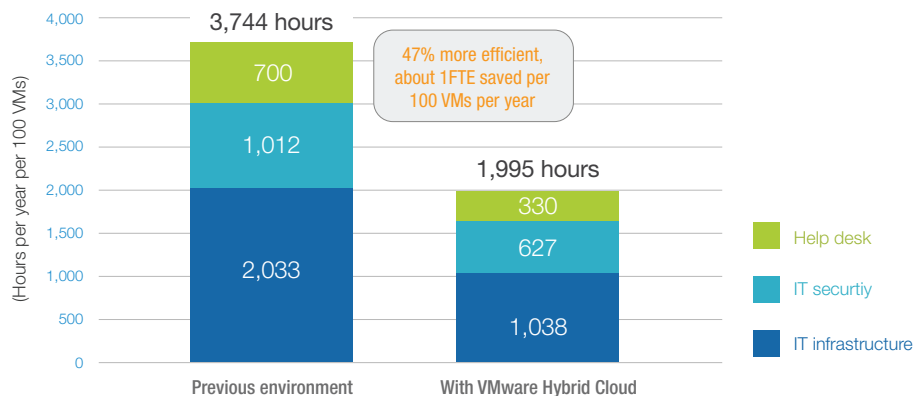
n = 8   Source: IDC, 2019

The systems integrator described how agility helped it optimize costs: "We've got expandability by moving to the hybrid cloud with VMware. When we want to spin up another environment for testing, we can start it in one and then expand out to another."

Meanwhile, study participants have also benefited from having a more cost-effective IT platform. They have not only consolidated on-premise hardware, but they have the ability to choose between on-premise, hosted, and public cloud environments depending on application needs. One study participant commented: *"If we had continued without VMware Hybrid Cloud, we would be refreshing equipment more often . . . We're avoiding 200 servers over four years."* The systems integrator described how agility helped it optimize costs: *"We've got expandability by moving to the hybrid cloud with VMware. When we want to spin up another environment for testing, we can start it in one and then expand out to another. We save because, when we don't need those machines, we can just get rid of them."* IDC calculates that study participants will reduce their IT infrastructure costs on average by 26%.

As noted previously, these IT staff efficiencies and lower costs of providing infrastructure contribute to a much lower cost of running workloads on VMware Hybrid Cloud than legacy environments, which were primarily virtualized on-premise and/or private cloud in nature. IDC puts this cost efficiency at an average of 35% over three years (see Figure 5).

FIGURE 5   Three-Year Cost of Operations
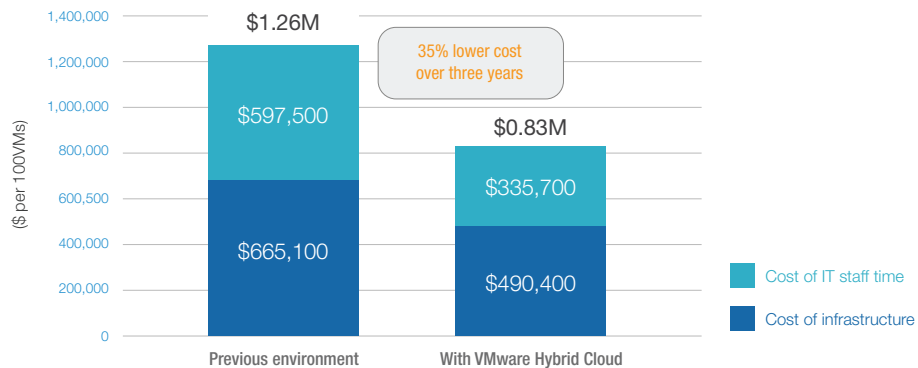
n = 8   Source: IDC, 2019

"With VMware Hybrid Cloud, we are quicker to deploy our applications when changes are requested or needed. It's important because we want to be more technologically in sync with our clients."

More Agile IT Infrastructure

Study participants also reported benefiting from having a more agile and responsive infrastructure on their VMware Hybrid Cloud platforms. They leverage having access to both on-premise and public cloud capacity to choose the optimal environment for hosting and running workloads based on cost and performance requirements. Further, they benefit from having a common management overlay and increased automation for deploying VMs and other IT resources. The interviewed logistics company discussed the impact of improved agility: *"With VMware Hybrid Cloud, we are quicker to deploy our applications when changes are requested or*

needed . . . It's important because we want to be more technologically in sync with our clients." Table 5 shows the gains study participants have made in terms of the overall and staff time required to deploy new servers and VM resources, with efficiencies ranging from one-third (33%) to two-thirds (66%) faster on their VMware Hybrid Cloud platforms.

TABLE 5 Impact on IT and Business Agility

	Previous Environment	With VMware Hybrid Cloud	Increased Value with VMware Hybrid Cloud	Benefit with VMware Hybrid Cloud (%)
Deployment of new physical servers				
Time required per server (days)	39.5	1.4	25.9	66
Staff time required per server (hours)	38	17	20.9	55
Deployment of VMs				
Time required per VM (hours)	0.5	0.3	0.2	33
Staff time required per VM (minutes)	7.5	4.1	3.4	46

n = 8   Source: IDC, 2019

"With VMware Hybrid Cloud, we're able to provide the systems much quickly; it used to take days and we can now do it in less than a day. Obviously, that's an increase in productivity for our developers because the faster they can get the systems, the faster they can do the work."

Study participants explained that a major impact of enhanced agility is having more effective and efficient development operations. They described how development processes on their legacy infrastructure environments were too often slowed by inefficiencies in terms of providing resources for testing and deployment activities. The interviewed retail company reported: *"With VMware Hybrid Cloud, we're able to provide the systems much quickly; it used to take days and we can now do it in less than a day. Obviously, that's an increase in productivity for our developers because the faster they can get the systems, the faster they can do the work."* For interviewed VMware customers, increased agility has helped development teams deliver more applications (54%) and features (46%), which means that they are delivering more value with 25% higher productivity levels on average (see Table 6).

TABLE 6 Application Development KPIs

	Previous Environment	With VMware Hybrid Cloud	Increased Value with VMware Hybrid Cloud	Benefit with VMware Hybrid Cloud (%)
Number of new applications/features developed				
Number of new applications per year	9.8	15.1	5.3	54
Number of new features per year	14.5	21.2	6.7	46
Development life cycle (weeks)				
New applications	15.8	15.4	0.4	2
New features	3.5	2.9	0.6	18
Productivity of impacted developers				
Developer productivity per organization (FTEs)	11.6	14.5	2.9	25

n = 8   Source: IDC, 2019

ROI Summary

IDC's analysis of the benefits and costs for study participants of running workloads on their VMware Hybrid Cloud platforms is shown in Table 7. IDC calculates that this group of VMware customers will realize discounted benefits on average worth $844,200 per 100 VMs over three years ($4.50 million per organization) compared with total discounted investment costs of $232,800 per 100 VMs over three years ($1.24 million per organization). This would result in an average three-year ROI of 263%, with breakeven on investment occurring after an average of five months. For more details about IDC's Business Value and ROI methodology, please see the Appendix section.

TABLE 7 ROI Analysis

	Three-Year Average per Organization	Three-Year Average per 100 Users
Benefit (discounted)	$4.50 million	$844,200
Investment (discounted)	$1.24 million	$232,800
Net present value (NPV)	$3.26 million	$611,400
Return on investment (ROI)	263%	263%
Payback period	5 months	5 months
Discount rate	12%	12%

n = 8   Source: IDC, 2019

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CHALLENGES/OPPORTUNITIES

Solutions like VMware Hybrid Cloud that provide a consistent cloudlike operating environment for infrastructure in enterprises' own facilities as well as across a range of public cloud environments will play a critical role in extending the value/reach of existing applications while enabling faster introduction of new, innovative services, all while dramatically shortening implementation time frames and reducing operational overhead. They do, however, pose challenges for many IT organizations, which VMware must continue to minimize as much as possible.

To fully take advantage of the on-premise VMware Cloud solutions, VMware and its hardware partners must help organizations acquire/deploy the latest and greatest hardware. These systems have power, cooling, and network connection speed requirements that are not always readily available in existing enterprise datacenters. They must deliver site assessment and remediation services to ensure that the critical new systems needed to enable sustained use of a hybrid cloud approach can be deployed in a timely fashion and maintained as needs and capabilities change.

As VMware (with partners) is taking greater responsibility for monitoring, patching, and updating the infrastructure software (and in some cases hardware), it must have the ability to remotely monitor/manage systems in many enterprises' internal datacenters. This requirement means that VMware will need to work closely with customers' network security teams to ensure this necessary connectivity is secure and delivered in a timely fashion. It must also provide transparent and consistent SLAs and policies when it comes to the collection and use of data from customers' diverse assets.

CONCLUSION

IDC research indicates that within two years, the percentage of organizations spreading their budgets across multiple cloud options will surpass 90%. Hybrid cloud will be the norm. The most obvious impact of this trend is that timely and cost-effective workload and application migration will become a critical part of every IT team's objectives. The goal for adopting any hybrid cloud solution must be to ensure a controlled transition to a cloud model while maintaining control over data and application availability, performance, and security. In a hybrid cloud world, workload migration/movement can't be a one-time activity. It must be a standard operating procedure.

Based on IDC's study, VMware Hybrid Cloud solutions can enable organizations to pursue a

hybrid cloud strategy that both delivers cost savings and speeds application migration and modernization while reducing staff time spent on cloud migration activities.

APPENDIX

Methodology

IDC used the following three-step method for conducting the ROI and business value analysis informing this study's results and conclusions:

1. **Gathered quantitative benefit information during the interviews using a before-and-after assessment for interviewed organizations of using VMware Hybrid Cloud solutions and a comparison of anticipated time and costs required for migrating compared with private and public cloud alternatives.** In this study, the benefits of using VMware Hybrid Cloud solutions included cost savings, IT staff time savings and efficiencies, and higher user productivity and 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 deploying and using VMware Hybrid Cloud solutions 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 Hybrid Cloud solutions over three years. ROI is the ratio of the net present value (NPV) and the discounted investment. The payback period is the point at which cumulative benefits equal the initial investment.

IDC's standard ROI methodology was utilized for this white paper. This methodology is based on gathering data from current users of VMware Hybrid Cloud solutions. Based on interviews with eight organizations, IDC performed a three-step process to calculate the ROI and payback period:

● Measure the benefits from use of VMware Hybrid Cloud solutions in terms of IT staff efficiencies and productivity gains, reductions in IT costs, and higher user productivity and revenue.

● Ascertain the investment made in deploying VMware Hybrid Cloud solutions and associated migration, training, and support costs.

● Project the costs and savings over a three-year period and calculate the ROI and payback for use of VMware Hybrid Cloud solutions.

IDC bases the payback period and ROI calculations on assumptions that are summarized as follows:

- Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and productivity savings. IDC assumes a fully burdened salary of $100,000 per year for IT staff, including developers, and $70,000 for other employees, with an assumption of 1,880 hours worked per year.

- Downtime values are a product of the number of hours of downtime multiplied by the number of users affected.

- The impact of unplanned downtime is quantified in terms of impaired end-user productivity and lost revenue.

- Lost productivity is a product of downtime multiplied by burdened salary.

- 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.

- Because every hour of downtime does not equate to a lost hour of productivity or revenue generation, IDC attributes only a fraction of the result to savings. As part of our assessment, we asked each company what fraction of downtime hours to use in calculating productivity savings and the reduction in lost revenue. IDC then taxes the revenue at that rate.

- Further, because IT solutions require 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.

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

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

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