The Business Value of VMware Cloud Director for Service Providers

INTRODUCTION

2020 has been a year of uncertainty and volatility. The unpredictability of the markets and the need for wholesale change in IT service delivery has put business agility, resilience, and security to the top of mind of CEOs, boards, and IT leaders.

High performing companies are investing to enhance their digital capabilities to ensure they can tap new markets, improve profitability, and engage in new ways to acquire and retain customers. New apps and services are being developed using cloud-native approaches such as DevOps, containers, and Kubernetes, while having to integrate with existing apps built on more traditional client-server principles.

To serve the market amid a cash flow crunch, companies are increasingly looking to public cloud services that can help them deploy and scale across both cloud-native and traditional IT estates. For many, this means working with a local public cloud provider that can run their application portfolio on a standardized and fully-featured cloud platform that is recognized and targeted by the bulk of the developer community, as well as offering additional value-added services such as Kubernetes cluster services, disaster recovery, migration, object storage services, backup services, security services and marketplace application services that solve pressing business continuity worries. One such fully featured cloud platform stack is VMware Cloud Director.

IDC spoke with VMware service provider partners around the world about their use of VMware Cloud Director to deliver next-generation infrastructure, professional, managed, and other services to their customers. Interviewed service providers reported that VMware Cloud Director has helped them achieve the levels of portfolio growth, service agility, quality, and robustness required by their customers. As a result, they are growing revenue from services running on VMware Cloud Director faster than other services and capturing more revenue by:

- Delivering attractive, agile, and innovative infrastructure, network and security services that offer self-service capabilities and are tailored to meet customer needs.
- Driving the sale of more professional and managed services by creating integrated and compelling packages of services that highlight their ability to provide value add to infrastructure and application services.
- Speeding up recognition and timing of revenue by onboarding customers and delivering new services faster.

AT A GLANCE

BUSINESS VALUE HIGHLIGHTS

- 32% higher revenue, services run on VMware Cloud Director
- 51% faster growth of services run on VMware Cloud Director
- 72% faster to onboard new customers
- 57% faster to deliver new service
- 54% faster to deliver new network capacity
- 31% more efficient IT infrastructure teams
- 7% higher service developer productivity levels
- 188% 5-year ROI
• Competing robustly on price by having a multi-tenancy platform and maintaining streamlined and efficient internal IT operations.

Interviewed service providers also linked their use of VMware Cloud Director to time savings and efficiencies for their IT infrastructure and service development teams. This makes their overall operations more efficient, allowing them to compete robustly on price and maximize the value of developers responsible for meeting customer demand for new services and functionality. Overall, IDC projects that interviewed VMware service provider partners will realize higher revenue and operational efficiencies through use of VMware Cloud Director compared to running their businesses without it, worth almost three times their total investment costs (188% five-year ROI).

SITUATION OVERVIEW

Digital services are becoming ever more important for businesses across the globe, and the major changes the world has seen in 2020 throw this into stark relief. Investing in digital capabilities across the workforce, supply chain, and go-to-market ecosystem allows companies to respond effectively to rapidly occurring changes in market conditions and helps to flatten the market impact curve of changes and accelerate recovery on the upside. This investment in technology to flatten the curve is as important for the supply side of the market — cloud providers — as it is for the buy-side end customers, if not more so.

FIGURE 1
Using the Power of Technology to Flatten the Curve

Source: IDC 2020
Global IDC research into buyer sentiment through the first and second quarter of 2020 showed that digital leaders are continuing to invest in IT even through the downturn as this helps them target new markets to grow revenue, deliver business efficiencies to sustain or enhance profitability, and increase the customer experience (CX) to retain customers and help upsell or cross-sell for increased share of wallet.

One way in which companies are accelerating improvements to their digital capabilities is to turn to cloud and a consumption-based approach to IT in which new or enhanced services can be turned on and scaled quickly without a major infrastructure design, build, and validation effort. IDC research shows that companies are indeed spending proportionally more on IT services that are hosted and delivered from the cloud. In most companies, the applications in question are an eclectic mix that has developed over time and requires hybrid integration across the public cloud together with the on-premises environment to deliver value to customers.

A proportion of modern workloads may be cloud-native and able to run natively in a variety of public cloud platforms. But most enterprise applications are likely to be designed for a more traditional client-server approach in a datacenter, and it will be a struggle for most companies to modernize them or redevelop them to be cloud-optimized or even cloud-native.

For a cloud provider, having a solution that can cater for this mix of traditional IT applications seamlessly across on-premises and the public cloud — while also supporting modern cloud-native applications built on containers and Kubernetes — is a major advantage.

In the recent past, a cloud platform with all the features required across application support, management & orchestration, as well as billing and support required a multi-vendor integration project with substantial investment of time, money, and people. As time has passed, capabilities and integration have evolved to the stage where it is now possible to deploy a standardized "cloud stack" almost out-of-the-box, with all the necessary features that provide a full-featured cloud platform today, allowing cloud providers to deliver services immediately without further work. This frees up investment capital and scarce skills to focus on adding value-added innovation on top of this platform, enabling a springboard for innovation across both service provider — with the opportunity to add monetized services in a standardized way — and for end-customers that can integrate and deploy additional apps and services from the extended ecosystem on the platform without needing modifications or integration.

**VMWARE CLOUD DIRECTOR**

VMware Cloud Director is a cloud service-delivery platform designed for use by IT services providers to build and operate scalable, secure, efficient, and elastic cloud services for end-user customers. VMware Cloud Director allows seamless provisioning and consumption of cloud computing resources and services for business and IT teams anywhere across the globe in an UI and underpinned API-driven approach. VMware has developed the Cloud Director platform to provide key benefits for a cloud provider:

- **Operational Efficiency:** Enabling cloud providers to obtain large operational efficiency gains out of their cloud infrastructure, reducing operational overheads that
come with maintaining siloed private and multicloud environments. VMware Cloud Director significantly reduces time-to-market for cloud providers to deliver new services and scales these services globally without external dependencies and ballooning costs, essentially removing hardware-based analogs and virtualizing all components of cloud.

- **Service-Extensibility and Monetization**: Enabling cloud providers to spin up new cloud services on day one. Cloud providers can bring in more revenue by publishing their own services, or integrate ISV-provided backup, DR, security, migration, and other leading cloud services that are tenant- and site-aware. VMware Cloud Director forms a unified management plane for the entire service portfolio of a cloud provider.

- **Developer-Readiness**: Providing an open platform for cloud providers and customer developers to build on. Using integrated, open programmatic interfaces, automation tools such as Terraform Provider, and extensibility frameworks, cloud providers can not only differentiate themselves by providing unique experiences to their customers but also help them get to application-building faster. With this platform, cloud providers can offer tenants various tiers of cloud-native services, secure Kubernetes clusters, and application portfolios/interfaces to meet the evolving needs of modern developers.

### THE BUSINESS VALUE OF VMWARE CLOUD DIRECTOR FOR SERVICE PROVIDERS

#### Study Demographics

IDC interviewed 11 varied VMware service provider partners with varied business models from around the world about their use of VMware Cloud Director. These organizations are using VMware Cloud Director as a foundation for delivering infrastructure and professional and managed services. They ranged from only offering services targeted at specific types of customers to large telecom service providers with huge consumer and business customer bases. The service providers interviewed had medians of 250 employees and $45.4 million in annual revenue (12,489 employees and annual revenue of $9.86 billion on average). Interviews provided diverse perspectives from North America, EMEA, and APAC.

#### TABLE 1

<table>
<thead>
<tr>
<th>Firmographics of Interviewed Service Providers</th>
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</thead>
<tbody>
<tr>
<td><strong>Average</strong></td>
</tr>
<tr>
<td>Number of employees</td>
</tr>
<tr>
<td>Number of customers</td>
</tr>
<tr>
<td>Revenue per year</td>
</tr>
</tbody>
</table>

Countries: Australia (2), Spain (2), United States (2), Canada, Mexico, Germany, New Zealand, United Kingdom

n=11
Source: IDC, 2020
Choice and Use of VMware Cloud Director

Interviewed service providers spoke of various reasons for choosing to deploy and use VMware Cloud Director, but focused on being able to serve their customers better and operate more efficiently. They concluded that these dual benefits would position them better to compete and offer attractive new services to meet changing customer demand patterns. They defined their choice criteria as:

- Provide cloud solutions to customers, Manager, Tech Cloud Division at Telefonica: "VMware Cloud Director provides cloud solution capabilities with self-management portals, as well as the ability to isolate tenants. . . Our primary objective was to create a cloud solution on VMware . . . VMware Cloud Director was the tool to go a step farther to have a real cloud solution."
- Become more efficient in delivering services, Managed Hosting: "We chose VMware Cloud Director to use more efficient methods for running our IT infrastructure. That's the same for our customers. We needed to do more good quality work, in less time, more efficiently."
- Create business and technological opportunities, RedCentric: "The long and short of it is that we thought VMware Cloud Director would provide the most opportunities for us and for our customers."
- Develop and innovate faster with automation: "Faster development with VMware Cloud Director is absolutely a competitive advantage for us. We're able to automate and do things a lot faster than our competitors that are still doing stuff manually."

Study participants are delivering significant volumes of services on their VMware Cloud Director infrastructures. They reported medians of $14.55 million in annual revenue from 400 customers ($27.77 million and 586 customers on average). By average percentage of revenue by organization, their VMware Cloud Director-driven business represents almost one-third (31%) of total annual revenue. On average, infrastructure services make up most of this revenue (77%), with the remainder divided between professional services (7%), managed services (13%) and other types of services (2%). That said, for some service providers, infrastructure and other types of services overlap, suggesting that some infrastructure services revenue could also be considered revenue related to professional or managed services. Interviewed service providers reported making extensive use of other VMware technologies, especially vSphere, vSAN, NSX, vRealize Operations, and vRealize Network Insight.

Interviewed VMware partner service providers described a number of core ways in which they use a software-defined infrastructure with VMware Cloud Director to drive their businesses:

- Improving their competitive position, including by delivering cloud services with robust self-service functionality that also leverage VMware functionality to offer professional and managed services related to disaster recovery, security, migration, and other areas.
- Offering robust hybrid and multicloud services to customers, including allowing their customers to continue to use their own on-premises infrastructure or other public
cloud environments alongside their VMware Cloud Director-based infrastructure services.
• Enabling efficient and low-risk migrations to hybrid cloud environments, including providing the ability to complete streamlined migrations that complete faster and enable their customers to continue to use and leverage VMware technologies and solutions.

**TABLE 2**

<table>
<thead>
<tr>
<th>VMware Cloud Director Environments</th>
<th>Average</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of customers</td>
<td>586</td>
<td>400</td>
</tr>
<tr>
<td>Number of physical servers</td>
<td>307</td>
<td>172</td>
</tr>
<tr>
<td>Number of VMs</td>
<td>7,060</td>
<td>4,000</td>
</tr>
<tr>
<td>Annual revenue</td>
<td>$27.77M</td>
<td>$14.55M</td>
</tr>
<tr>
<td>Percent of total annual revenue, average percent by organization</td>
<td>31%</td>
<td>24%</td>
</tr>
</tbody>
</table>

n=11
Source: IDC, 2020

**Business Value and Quantified Benefits**

Interviewed VMware service provider partners reported that use of VMware Cloud Provider allows them to offer more unique, robust, and timely infrastructure services and value-add professional and managed services to their customers while creating operational efficiencies for service development and IT infrastructure teams. For interviewed service providers, this can be the critical foundation for creating competitive differentiation and deepening connections between their services:

• Provides unique value to customers, Manager, Tech Cloud Division at Telefonica: "VMware Cloud Director is key because it is the layer that provides multiple benefits to our customers. It is the point that guarantees the isolation of the workloads from one tenant to another in a shared infrastructure environment and allows us to provide self-management portals for the customer."

• Link services, Managed Hosting: "We have an ecosystem around VMware Cloud Director IaaS builds when it comes to additional services, yearly backups, object storage, network-attached storage, automated deployment, and APIs. . . It's up to the customer if they do this by themselves or have us do it for them as a managed service."

• Support for hybrid and multicloud environments, ThinkOn: "There are advantages with VMware Cloud Director with both hybrid and multicloud models. . . It allows us to do a hybrid model where customers can get dedicated infrastructure, bring in their own infrastructure, and run it beside Cloud Director or have the ability to just utilize it on a consumption model."
Interviewed service providers attributed significant benefits to their use of VMware Cloud Director in achieving better business outcomes and more efficient operations. IDC puts the value they will achieve on annual average of $4.83 million per service provider ($8,200 per customer) in the following areas:

- **Higher revenue:** Offering more compelling infrastructure, professional, and managed services enables interviewed service providers to reach new customers and increase the value of their engagements. Enhanced service offerings include those that are fully cloud in nature, more scalable, have microsegmentation capabilities, enable self-migration of workloads, integrate easily with other services, leverage APIs, and offer robust pay-as-you-go possibilities. As a result, they achieve higher revenue, which IDC quantifies at an annual average of $2.92 million per service provider ($5,000 per customer) in revenue gains.

- **Operational efficiencies:** Having a more automated and integrated infrastructure platform allows service providers' infrastructure teams to manage growing environments more efficiently and enables service development teams. IDC estimates that interviewed service providers will realize annual average benefits of $1.91 million per service provider ($3,200 per customer) in IT infrastructure and service developer efficiencies and productivity gains compared with running similar IT operations in support of their businesses without VMware Cloud Director.

**Higher Revenue and Business Enablement**

Interviewed VMware partners reported generating significant business opportunities through the use of VMware Cloud Director, which has resulted in substantial revenue gains. They described making their infrastructure services more attractive by providing robust self-service functionality to customers and being able to onboard new customers and deliver services in less time. As a result, they have achieved stronger growth to VMware Cloud Director-driven services than other services they offer. Meanwhile, growing infrastructure service volumes and having the technological foundation to demonstrate and provide functionality and expertise in areas such as disaster recovery, security, and migrations have opened new professional and managed services revenues. On average, IDC calculates that interviewed service providers will realize revenue gains of $6.70 million per year related to use of VMware Cloud Director, representing 32% growth in these services (see Figure 2).
Faster Growth of Infrastructure Services

Interviewed service providers tied their use of VMware Cloud Director to faster growth rates for services resulting from enhanced agility, functionality, and robustness. As a result, they have generated higher revenue and established new business opportunities with services running on their VMware Cloud Director platforms. The Director of Sales at NFINIT commented on how VMware Cloud Director reduces friction that can otherwise inhibit customer use: "Our growth is higher with VMware Cloud Director. . . It's the ease with which customers move and migrate workloads to us, which is why there's so much growth." Another study participant explained that VMware Cloud Director allows it to offer shared and self-service platforms to customers, which has spurred customer take up of its infrastructure services: "We used to have no way of providing customers with a shared or self-service platform. When we could start offering those services with VMware Cloud Director, it massively accelerated our growth and the variety of customer use cases — including replication, backup, DR, security, firewalling, and traffic inspection services, for which we could offer a solution."

Figure 3 shows the noteworthy difference between growth rates for services running on VMware Cloud Director on service growth rates. IDC's analysis shows that VMware Cloud Director-driven services are growing at 31% compared with 21% for other services, a difference often worth millions of dollars per year. One interviewed service provider described positive customer feedback: "Our user interface is very simple and intuitive with VMware Cloud Director, and that is something that we've gotten good feedback on from customers. . . It's absolutely affecting our revenue; without Cloud Director, revenue is pretty flat, but with Cloud Director, it's growing at 60%/year. Overall, the 51% faster growth rate represents a significant gain in interviewed service providers' ability to monetize their services with VMware Cloud Director.
Delivering Differentiated Functionality to Customers

Interviewed service providers must consistently differentiate their services and demonstrate their value proposition to customers and prospects. Study participants consistently reported that VMware Cloud Director has allowed them to provide demonstrable and differentiated value to their infrastructure service customers in three key areas: security, self-service control, and industry- and size-segmented services. Interviewed service providers gave specific examples:

- Offering unique services and value: "VMware Cloud Director allows customers to create affinity rules to keep workloads together or separated for redundancy. You can't do that with any other platform that we run, or if you can, we can't expose that functionality to customers."
- Delivering attractive new infrastructure services, RedCentric: "With VMware Cloud Director, we've been able to give customers access to a take-down service, which provides more control for them. Feedback on these services has been immediately positive because they're in control of their own destiny when it comes to their disaster recovery environments."
- Providing services by customer profile, Imanol Rodriguez, Public Cloud Product Manager at Acens: "With VMware Cloud Director, we can offer different services to small businesses and medium businesses. As a result, there is more revenue..."

By having the ability to deliver differentiated services, interviewed VMware partners win both net-new business and increase the depth of existing relationships. One interviewed service provided commented: "Our average deal size changes with VMware Cloud Director because we're able to attract larger customers that we wouldn't otherwise be pursuing... The average VMs per deal is probably 10 with Cloud Director and 5 without it."
Interviewed service providers also described other ways that they leveraged VMware Cloud Director to provide unique or differentiated services to their customers, including:

- Offering a single service catalogue with consistent performance across worldwide locations with flexible payment options including pay-as-you-go for customers.
- Providing more types of services tied to the VMware Cloud Director platform, including self-migration services.
- Creating segmentation between customers easily and transparently improves security, customer comfort, and infrastructure use rates.
- Leveraging VMware NSX functionality to offer fully cloud-like and virtualized services with enhanced scalability and workload security with microsegmentation.
- Linking VMware Cloud Director to other third-party software and solutions to drive take up of integrated and robust new services.
- Having the ability to offer customers an API-like cloud environment when they otherwise would not have the capabilities to use or leverage APIs.

For interviewed service providers, the impact of being able to deliver compelling and high-quality services is reflected in customer reaction to their services. Among other results, study participants reported:

- Increasing customer satisfaction rates by 35% on average.
- Recording 54% higher average customer spend for VMware Cloud Director-based services.

**Improved Business Agility**

Interviewed organizations also spoke of the value of VMware Cloud Director in increasing the agility with which they can serve their customers. This increased agility has practical business implications, including speeding up recognition of revenue based on earlier consumption of services and increased use of services by customers. Interviewed service providers described these benefits in more detail:

- Much faster migration, earlier revenue recognition: "We've seen VMware Cloud Director massively impact migration times and the time to revenue. For example, before, if we had a customer coming on board with 200 VMs, we'd be looking at a three- to six-month migration. With Cloud Director, we've seen that come down to two weeks."
- Delivering services in much less time, RedCentric: "VMware Cloud Director provides the ability to deliver and run a new contract within a very short time. If it is relatively simple, like just a resource-only requirement, we can deliver that and close that contract within half an hour to a day, compared with 1–3 days previously."
- Getting services to market faster, Ian McClarty, President at phoenixNAP: "VMware Cloud Director has definitely made it a lot easier for us to take VMware technologies and get to market a lot faster than developing on our own."
- Ability to scale by vertical, ThinkOn: "VMware Cloud Director allows us to scale our services by vertical very fast, because we’ve automated the provisioning and set up and it allows us to offer a cornerstone service that we can deploy in under 5 days."
Figure 4 shows how VMware Cloud Director has affected two critical measures of business agility. First, interviewed service providers reported markedly reducing the time it takes to onboard a new customer from over three weeks to under one week (72% faster on average). Second, they described delivering new services to existing customers in less time, going from over one day to under four hours on average (57%).

**FIGURE 4**
**Impact on Business Agility**

![Time required to onboard a new customer and deliver a new service](image)

- Time to onboard new customer, weeks: Previous/other = 3.3, VMware Cloud Director = 0.9 (72% faster)
- Time to deliver new service to customer, hours: Previous/other = 8.7, VMware Cloud Director = 3.8 (57% faster)

**n=11**  
Source: IDC, 2020

**Higher Revenue from Professional and Managed Services**

As interviewed service providers extend and grow the infrastructure service portfolios that they sell to customers, they want customer take up of value-add professional and managed services to correspondingly increase. These services provide the opportunity for service providers to demonstrate their expertise and technological capabilities, and often have higher margins than infrastructure services. Interviewed service providers explained that VMware Cloud Director has allowed them to grow these services both by deepening their customer relationships and offering services that leverage technologies that form the basis of professional and managed services related to disaster recovery, security, migration, and hybrid clouds. Interviewed service providers also cited their ability with VMware Cloud Director APIs to integrate, allowing for easy connection of infrastructure and other types of services. They provided specific examples of having the ability to increase customer take up of professional and managed services, thereby increasing associated revenue:

- Creating a strong link between infrastructure and other services, Manager, Tech Cloud Division at Telefonica: "Our approach is to have a full self-managed offering, which is basically infrastructure, and then provide managed services on top of those services. This allows the customer to choose which option best suits them."
The Business Value of VMware Cloud Director for Service Providers

Increasing attach rates with the ability to offer services that meet customer demand: "VMware Cloud Director positively affects our attach rates for services. It's very rare that a customer that comes to us for a cloud offering just buys the cloud offering. They normally also consume backup, support, professional, and security services, and if we didn't have Cloud Director, they would probably do those things with whichever provider they went to besides us."

Ease of offering additional value-add services to customers, Managed Hosting: "We are setting up new managed services for backup with virtual machines. This is a functionality of VMware Cloud Director... which allows us to integrate APIs more easily. It's a central point of management which we can more easily offer services, connect to, and make it available for our customers."

Extend markets for services, Director of Sales, NFINIT: "VMware Cloud Director helps us serve more markets with our services. We would be very localized without it. It extends a lot of our ability to provide disaster recovery services — we serve 10 markets, but it would probably be two without it."

Operational Efficiencies

Interviewed service providers also reported relying on VMware Cloud Director to deliver services in a timely, efficient, and robust manner. These benefits, which tie to operational efficiencies, are of high importance in ensuring their ability to compete on price and meet customer demand.

At the core of the ability of interviewed service providers to deliver timely and robust services to their customers is the agility of their own infrastructures. Without the ability to effectively and seamlessly provide access to compute, network, storage, and security capacity, they struggle to meet customer demand and enable their own service developers to work as effectively as possible. Figure 5 shows the significant impact for interviewed service providers of using VMware Cloud Director in enabling agility for their infrastructures supporting their service ecosystems. They reported cutting the time required to deploy new network, compute, and security resources by more than half (54%, 51%, and 51% respectively), and new storage capacity by 40%. For interviewed organizations, this represents a significant gain in the agility and efficacy of the infrastructure that forms the foundation of their services-based businesses.
FIGURE 5
Impact on IT Agility

With significant IT infrastructure foundations that include hundreds of physical and virtual servers, interviewed service providers need to manage these environments as efficiently as possible. As shown in Table 3, they reported that they require significantly less IT infrastructure team time to manage infrastructure for equivalent levels of services with VMware Cloud Director, averaging a 31% efficiency that reduces their staffing requirements by an average of over eight FTEs per organization. One interviewed service provider described the impact of VMware Cloud Director on its staffing requirements: "We spend roughly half as much time administering and supporting the VMware Cloud Director environment compared with private dedicated customer cloud environments. If we didn’t have Cloud Director, our team of 20 supporting these workloads would be a team of 30 people." A manager in the Tech Cloud Division at Telefonica described how it can apply a common design across its services: "VMware Cloud Director is the key to scale a standard design and have compatibility with many vendors. It really helps to grow very quickly." For study participants, these efficiencies represent significant value, both in terms of the total cost of delivering services to customers and in allowing their high-value IT teams to focus on service quality and functionality rather than day-to-day IT infrastructure management activities.

TABLE 3
IT Infrastructure Management Team Impact

<table>
<thead>
<tr>
<th></th>
<th>Previous/other</th>
<th>With VMware Cloud Director</th>
<th>Difference</th>
<th>% Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff time to manage infrastructure for equivalent services, FTEs per organization</td>
<td>25.9</td>
<td>17.8</td>
<td>8.1</td>
<td>31%</td>
</tr>
<tr>
<td>Equivalent value of staff time to manage infrastructure per organization per year</td>
<td>$2.59M</td>
<td>$1.78M</td>
<td>$0.81M</td>
<td>31%</td>
</tr>
</tbody>
</table>

n=11
Source: IDC, 2020
Interviewed service providers also spoke of the benefit for several of their service development teams from using VMware Cloud Director. These teams are responsible for creating and delivering infrastructure, professional, and managed services consumed by their customers. To work effectively, they require an agile and high-performing infrastructure, which VMware Cloud Director helps to provide. Interviewed service providers also pointed to their ability to templatize services with VMware Cloud Director as beneficial for their development activities. Interviewed VMware partners provided examples of how VMware Cloud Director has enabled their service development efforts:

- Development efficiencies linked to enhanced agility, Top-Tier Service Provider with operations in 25 countries: "Our developers are saving time because of self-service with VMware Cloud Director. They can set up development environments by themselves through API integrations and set up their infrastructure as code. Generally, before, they would wait five days to get an environment ready for them — firewalls, VPNs, etc. — now, that could be done in around a day."

- Greater agility and ability to grow without interruption, Managed Hosting: "We're more agile with VMware Cloud Director. There's a single pane of glass through Cloud Director of the entire infrastructure stack. We are able to grow infrastructure as needed without interrupting services or compromising SLAs."

As Table 4 shows, having an infrastructure with VMware Cloud Director has helped service development teams work more effectively. IDC calculates that these teams — which average almost 185 team members across all interviewed service providers — are 7% more productive on average with VMware Cloud Director, representing an important incremental increase in their ability to deliver services and functionality demanded by their customers.

| TABLE 4 |

<table>
<thead>
<tr>
<th>Service Development Team Impact</th>
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<tbody>
<tr>
<td>Equivalent productivity value of service development teams, per organization (FTEs)</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Equivalent value of service development teams per organization per year</th>
<th>Previous/other</th>
<th>With VMware Cloud Director</th>
<th>Difference</th>
<th>% Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>$18.39M</td>
<td>$19.66M</td>
<td>$1.27M</td>
<td>7%</td>
<td></td>
</tr>
</tbody>
</table>

n=11
Source: IDC, 2020

ROI Summary

Table 5 provides IDC's summary of the financial benefits and costs for interviewed service providers related to their use of VMware Cloud Director. IDC projects that they will achieve benefits from higher revenue and staff efficiencies and productivity gains worth a discounted average of $17.03 million per organization over five years ($29,100 per customer). These benefits compare with total discounted investment costs of $5.91 million per organization ($10,100 per customer). These levels of benefits and investment costs would result in a five-year ROI of 188%,
representing almost a three-to-one average return on these service providers' investment in VMware Cloud Director.

**TABLE 5**

<table>
<thead>
<tr>
<th>ROI Analysis</th>
<th>5-Year Average per Organization</th>
<th>5-Year Average per Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit (discounted)</td>
<td>$17.03M</td>
<td>$29,100</td>
</tr>
<tr>
<td>Investment (discounted)</td>
<td>$5.91M</td>
<td>$10,100</td>
</tr>
<tr>
<td>Net Present Value (NPV)</td>
<td>$11.13M</td>
<td>$19,000</td>
</tr>
<tr>
<td>Return on Investment (ROI) (%)</td>
<td>188%</td>
<td>188%</td>
</tr>
<tr>
<td>Payback period</td>
<td>8 months</td>
<td>8 months</td>
</tr>
<tr>
<td>Discount Rate (%)</td>
<td>12%</td>
<td>12%</td>
</tr>
</tbody>
</table>

n=11
Source: IDC, 2020

**CHALLENGES/OPPORTUNITIES**

One of the challenges for cloud providers is the market dominance of the hyperscale cloud providers such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform. Each of these is looking to win as much share of wallet as possible and are recruiting partners to sell to and service end-user companies. VMware Cloud Director helps smaller cloud providers to compete by providing an end-to-end cloud platform stack for their own infrastructure, as well as integrating with the hyperscale service providers. This allows independent cloud service providers to participate in the hybrid multicloud opportunity as the face to the customer and the aggregation and control point of the multicloud solution.

Another challenge is the scarcity of skills and the development of the IT skills base and culture to accommodate cloud — both in the service provider and end customers. Moving to a cloud platform with built in automation and orchestration significantly alters the job requirements of many of the IT team, moving on from familiar low-level installation or maintenance and patching up to high-level application development and service delivery. This does require forward thinking to set expectations appropriately and have a plan in place to train the customer, or for the cloud provider to take on this role as a managed service in its own right: "Some of our customers don't like moving to Cloud Director because they find that it's hard work. It's a lot harder to set up and manage themselves — but I think as part of the managed services that we're going to be providing, we'll be able to show customers how to automate and actually show how beneficial it actually is to use."

Automation brings a huge number of benefits for cloud providers, but there is also the potential for mistakes to propagate quickly. This means that implementing solidly tested and strict processes around automation and policy development is key. Forward looking impact prediction will be critical, as will be the ability to gradually roll out updates with monitoring of the impact and a plan to rollback changes that cause noticeable issues: "Occasionally, we'll get a customer administrator who does something incorrectly in Cloud Director, and in the old world they wouldn't have the access or the capability to do anything to cause issues like this."
Having a solid cloud platform really does position a service provider to deliver enhanced cloud services, allowing a provider to capture a greater share of wallet, and also enhances the competitiveness of a provider, helping prevent a switch to a competitor. As a senior manager at RedCentric put it: "Having a software-defined datacenter with VMware Cloud Director allows us to extend our customer base and service offerings. We can give customers the power and control. . . If it's not working out, then what is to stop a customer from picking up and moving to a different provider?"

A key opportunity for service providers is to utilize the development effort that VMware has put into enhancing and integrating Cloud Director to really deliver true software-defined-infrastructure across servers, storage, and networking. While servers and storage have begun to adopt this more widely, it has been a challenge to include the network in many instances. With VMware NSX included as an integral component of the platform, new services and configuration changes can be fully automated, hugely reducing the time and effort spent to onboard customers and enabling any changes over time: "This is one of our first projects with Cloud Director with NSX, and it is fully automated and reduces time and cost significantly. This enables innovation because VMware takes care of having the platform ready with new features and we can focus on operating the cloud business."

Conclusion

Companies are increasing their investment in digital platforms to engage with customers, change with market conditions, and increase their competitiveness. IDC research shows that the most advanced also make the most use of cloud, but this needs to be something that aligns with and complements their existing IT, as public cloud services make up a minority of their IT infrastructure spend. Customers are moving far beyond basic infrastructure-as-a-service and are looking for the entire application platform and beyond into full application and IT service delivery. Service providers looking to grow with their customers need to be looking at a fully featured cloud stack that can enable them to offer a comprehensive set of features and services, as well as onboarding and managing them with ease over time.

Interviewed service providers linked their VMware Cloud Director-based software defined datacenters to their ability to grow their businesses by better serving existing customers and bringing unique and compelling services to the market for new customers. VMware Cloud Director enables them to offer infrastructure services that are tailored to their customers' needs, including robust multitenancy and self-service capabilities, while driving increased customer take-up of professional and managed services around network- and security-related functionality. Further, they reported that VMware Cloud Director has enabled them to speed up the recognition and timing of revenue streams, while helping them better compete on price by optimizing the costs of building and running their underlying datacenter environments. For service providers in highly competitive markets facing challenging economic conditions, these advantages from VMware Cloud Director can have a significant impact on establishing differentiation for their services and ultimately their businesses, reflected in this study's results, such as 32% higher average revenue for services run on VMware Cloud Director and a five-year ROI of almost three-to-one (188%).
APPENDIX — METHODOLOGY

IDC's standard Business Value methodology was utilized for this project. This methodology is based on gathering data from service providers currently using VMware Cloud Director to deliver their services to customers. Based on interviews with service providers using VMware Cloud Director, 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 Director, the benefits included revenue gains and service developer and IT staff productivity gains.

2. Created a complete investment (five-year total cost analysis) profile based on the interviews. Investments go beyond the initial and annual costs of using VMware Cloud Director 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 Director over a five-year period. 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 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 productivity savings. For purposes of this analysis, IDC has used assumptions of an average fully loaded $100,000 per year salary for IT staff members, and an average fully loaded salary of $70,000 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 five-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.
- For the purposes of the ROI model, revenue gains were counted after applying average margins provided by VMware partners: 46% for infrastructure services, 45% for professional services, and 50% for managed services.
- Further, because using VMware Cloud Director requires a deployment and migration period, the full benefits of the solution are not available during deployment and migration. 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 the Analysts

Andrew Buss, Research Director — European Enterprise Infrastructure

Andrew Buss is research director for IDC's European Enterprise Infrastructure program. Based in London, he is responsible for driving IDC's research covering present and future trends impacting servers, storage and networking and IT service delivery.

Matthew Marden, Research Director, Business Value Strategy Practice

Matthew Marden is a Research Director in the IDC Business Value Strategy team. He 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 (ROI) of their use of enterprise technologies.
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IDC UK
5th Floor, Ealing Cross,
85 Uxbridge Road
London
W5 5TH, United Kingdom
44.208.987.7100
Twitter: @IDC
idc-community.com
www.idc.com

Global Headquarters
5 Speen Street Framingham, MA
01701 USA
P.508.872.8200
F.508.935.4015
www.idc.com

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