

Sponsored by: VMware Inc

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January 2019

Business Value Highlights

94% CAGR and \$3.1billion

total partner addressable market opportunity in five years with future capabilities

50%

of projected revenue for interviewed partners from incremental, value-added managed and professional services

30%

projected weighted gross margin for interviewed partners over five years

The Business Opportunity for VMware Cloud on AWS for VMware Partners

EXECUTIVE SUMMARY

Increasingly, customers are looking for hybrid cloud solutions that provide consistent infrastructure and management across private and public cloud — typically delivered and managed by valued and trusted partners. VMware's ubiquity in the on-premise IT infrastructure market positions VMware Cloud on AWS service as a leading hybrid cloud solution for customers and partners.

IDC interviewed VMware partners, including service providers, solution providers, and systems integrators, about their plans for selling VMware Cloud on AWS as well as related professional and managed services. VMware Cloud on AWS provides these partners with a differentiated and easy hybrid cloud entrée or expansion opportunity. For example:

- For existing VMware partners, VMware Cloud on AWS allows them to leverage their existing VMware expertise, tools, and intellectual property in the context of hybrid cloud.
- **Solution providers** see VMware Cloud on AWS as a way to drive incremental professional services revenue and to pivot into managed services with an asset-light strategy.
- Cloud-native AWS partners see VMware Cloud on AWS as a way to expand their addressable market opportunity.

These VMware partners perceive significant opportunity to develop new revenue streams with VMware Cloud on AWS, through the sale of both cloud services and value-added services. Interviewed partners believe that VMware Cloud on AWS offers customers a unique and compelling value proposition among cloud-based solutions because it:

Lowers the risk associated with moving traditional applications to the cloud

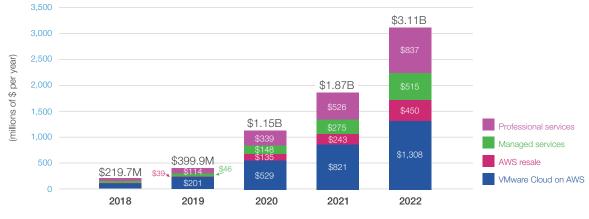


- Accelerates cloud migrations at scale, improving time to value
- Delivers a consistent experience across VMware on-premise and/or cloud environments
- Provides adjacency to native AWS, with over 100 cloud-native services
- Enables an asset-light strategy, leveraging existing expertise and an opex-focused business model

For interviewed VMware partners, VMware Cloud on AWS serves as an integrated cloud service offering differentiated from other cloud offerings because of ease of use and reduced risk for migrating applications to a hybrid cloud environment utilizing VMware technology and AWS services. Further, partners see a compelling value proposition by leveraging VMware Cloud on AWS to enable additional business opportunities as enterprise customers turn to them for professional services, technical support, and managed services related to migration to and optimization of VMware Cloud on AWS.

Taken together, this creates a significant business opportunity for the VMware partners that were interviewed. They told IDC that they expect rapid and substantial uptake of VMware Cloud on AWS and related services in the next several years as their customers conclude that it offers an efficient and low-risk path to a VMware-based hybrid cloud. Overall, across the VMware installed base and partner ecosystem, as shown in Figure 1, IDC projects that the worldwide total partner-addressable market (TAM) for VMware Cloud on AWS will see a 94% CAGR in the next five years to a total partner-addressable market of more than \$3.1 billion per year, reflecting the strong potential for VMware partners for the sale of both VMware Cloud on AWS and related services.







IDC

Overall, across the VMware installed base and partner ecosystem, as shown in Figure 1, IDC projects that the worldwide total *partner-addressable* market (TAM) for VMware Cloud on AWS will see a 94% CAGR in the next five years to a total partneraddressable market of more than \$3.1 billion per year, reflecting the strong potential for VMware partners for the sale of both VMware Cloud on AWS and related services.

In Appendix 2 of this document, IDC provides additional background on the assumptions and methodology used to calculate and validate the model for the VMware Cloud on AWS TAM.

SITUATION OVERVIEW

The cloud has increased the business importance of IT to all organizations, in all markets. Cloud has served as a cornerstone for digital transformation, allowing companies to advance strategic objectives such as facilitating innovation, speeding time to market, and increasing their competitiveness. Enterprise customers are increasingly looking for cloud-based solutions or the benefits that a cloud model provides, including consumption-based pricing, agility, and elastic scalability. This move to the cloud and other 3rd Platform technologies (mobile, social, big data analytics, and cloud) has shaken the foundation of how partners do business. Partners of all kinds (managed services providers, solution providers, systems integrators, etc.) find themselves needing to become hybrid cloud and multicloud experts to satisfy changing customer needs.

Changing Customer Needs

Customers are focusing resources on what differentiates their core business rather than on managing technology. In the process, they are demanding complete solutions that deliver digital transformation and/or business outcomes for specific use cases, which is driving much of the growth in cloud and managed services.

These customer demands have led partners to focus on developing deep domain expertise, so they can deliver higher-value differentiated solutions. IDC has found that partners that focus on specific end-customer market needs and/or use cases tend to grow faster and are more profitable than partners that pursue a broad horizontal approach. Partners that have already made this transformation have demonstrated that once a tailored solution is delivered to the customer, they can expand their footprint, providing increased customer value.

Hybrid cloud has become the foundation for delivery of higher-value solutions. VMware Cloud on AWS provides VMware partners with a simple entrée into hybrid cloud using technology in which they already have expertise. Even partners that have traditionally delivered solutions from within their own datacenters are finding it challenging to efficiently address all the new customer demands associated with digital transformation and are looking to extend their offerings with other cloud options — without the need for the high capital investments entailed by on-premise datacenter buildouts and expansion.

IDC has found that partners that focus on specific end-customer market needs and/or use cases tend to grow faster and are more profitable than partners that pursue a broad horizontal approach.

VMware Cloud on AWS provides VMware partners with a simple entrée into hybrid cloud using technology in which they already have expertise.



Hybrid and multicloud is increasingly the most common architectural model for enterprises. That's because not all workloads are ideal for the public cloud. Many enterprises prefer to retain some highly proprietary, mission-critical workloads on-premise, even as they pursue a cloud-first strategy. Needless to say, VMware is often the infrastructure platform used in on-premise environments. In 2017, for example, VMware accounted for 76% of the \$4.3 billion worldwide market for software-defined compute software, reflective of its longstanding dominance in that sphere. Partners already familiar with the VMware softwaredefined datacenter (SDDC), including vSphere, NSX, and vSAN, are able to easily extend their existing skills to provide a hybrid cloud solution with consistent infrastructure and a common management plane across environments.

OPPORTUNITY OF VMWARE CLOUD ON AWS FOR PARTNERS

VMware Cloud on AWS gives VMware partners the opportunity to provide new cloud solutions to customers within the context and framework of the familiar portfolio of VMware products. This allows partners to leverage existing skill sets and relationships and to continue serving in their role as trusted advisors to clients as the market increasingly moves toward the cloud. What's more, VMware partners that are already cloud savvy — and perhaps already AWS partners — have an opportunity to expand the scope of their existing offerings and/or to integrate their cloud solutions with VMware's on-premise environments. VMware Cloud on AWS also offers an opportunity to partners to extend VMware and AWS offerings with their own professional, managed, and support services to create bespoke outcome-based solutions for their customers.

For organizations that do not yet partner with VMware, such as cloud-native AWS partners, VMware Cloud on AWS expands their total addressable market opportunity by introducing new use cases and opportunities, such as relatively fast and simple migration of traditional applications into AWS hyperscale infrastructure and enabling a cloud-first strategy for customers.

Partner Market Opportunity for VMware Cloud on AWS

IDC was commissioned by VMware to provide an estimate of the total addressable market for VMware partners that pursue opportunities relating to VMware Cloud on AWS. The partner-related VMware Cloud on AWS opportunity comprises several distinct elements:



VMware partners that are already cloud savvy — and perhaps already AWS partners — have an opportunity to expand the scope of their existing offerings and/or to integrate their cloud solutions with VMware's on-premise environments.

- VMware Cloud on AWS cloud consumption: This includes consumption of cloud infrastructure services only (i.e., compute, storage, and networking services for dedicated, private cloud [current], and shared, multitenant cloud [future]).
- Resale of native AWS services: This includes partner resale of AWS services, such as Application Load Balancing (ALB), Route 53 (DNS), Relational Database Service (RDS), and S3 object storage.
- Managed services: This includes 24 x 7 technical support and value-added managed services such as operating system, middleware, database, or security management services.
- **Professional Services:** This includes project-based consulting, assessment, design, deployment, and optimization services. This also includes VMware HCX migration services.

IDC forecasts that the total partner-addressable market for VMware Cloud on AWS and associated services will grow from approximately \$220 million in 2018, when VMware Cloud on AWS became available as a dedicated cloud service in a small number of regions, to more than \$3.1 billion in 2022, representing a five-year CAGR of 94%.

VMware Cloud on AWS cloud consumption will account for the largest share (about \$1.3 billion) of the TAM in 2022, but opportunities are projected to be robust across professional services (\$837 million), managed services (\$515 million), and AWS resale (\$450 million). All told, the partner-addressable VMware Cloud on AWS TAM represents an impressive and significant growth opportunity for VMware partners, serving as a fulcrum for a lucrative transition or expansion into the realm of hybrid cloud.

Bringing Together VMware and AWS

VMware Cloud on AWS represents a unique hybrid cloud opportunity for VMware partners by supporting a wide variety of cloud use cases like datacenter consolidation, datacenter extension, application modernization, and disaster recovery. VMware Cloud on AWS enables workloads to run as easily in a hyperscale environment as they do on-premise, all managed with consistent infrastructure, networking, and security through a single management plane.

Hybrid cloud, including multicloud postures, is fast becoming the preferred IT strategy for the majority of enterprises. In IDC's CloudView Survey in 2017, 85% of enterprise cloud users (private cloud, as well as SaaS and/or IaaS/PaaS public clouds) indicated they were using multiple clouds currently, while 94% said they would adopt multiple clouds within 12 months. These enterprises invariably see cloud services and operating models as essential to business agility, continuous innovation, and heightened customer engagement. But the challenge is getting there, and enterprises have two critical needs:

ANALYZE THE FUTURE

VMware Cloud on AWS represents a unique hybrid cloud opportunity for VMware partners by supporting a wide variety of cloud use cases like datacenter consolidation, datacenter extension, application modernization, and disaster recovery. Not only does VMware Cloud on AWS provide a cloud option that enables enterprises to extend familiar practices, processes, and infrastructure to the cloud, but it also makes it possible for enterprises to consider migration of certain on-premise workloads to the cloud that might otherwise not have been candidates for off-premise cloud environments.

- They want to find a relatively frictionless route to cloud that enables them to leverage existing resources, skill sets, and IT investments.
- They want to ensure that they can move forward without leaving anything behind, transitioning legacy applications to cloud, as circumstances warrant, as easily and readily as they can deploy new applications in the cloud.

VMware Cloud on AWS responds to these enterprise imperatives. Not only does VMware Cloud on AWS provide a cloud option that enables enterprises to extend familiar practices, processes, and infrastructure to the cloud, but it also makes it possible for enterprises to consider migration of certain on-premise workloads to the cloud that might otherwise not have been candidates for off-premise cloud environments. In that respect, VMware Cloud on AWS gives enterprises a new range of cloud options and possibilities — and trusted partners can play an indispensable role in helping these enterprises make the right decisions across a wide array of workloads and business scenarios.

Enabling Asset-Light Strategies

Historically, many service providers adopted asset-heavy, capital-intensive business models that required the purchase and maintenance of large infrastructure investments, from datacenters and networks to servers and software. As a result, providers often found themselves spending most of their time on maintenance and "keeping the lights on" rather than on innovating and driving business outcomes. Moreover, with the rapid emergence of hyperscale public cloud vendors, many providers have also come to recognize that they must incorporate hyperscale public cloud services into their strategies to enable broad digital transformation.

VMware Cloud on AWS helps providers address these challenges by enabling an opex-based, asset-light strategy that enables the provider to quickly deliver hyperscale infrastructure — without the risk and investment — and instead focus on driving services and business outcomes. This helps fundamentally transform the partner's business model, opening up new opportunities for growth and innovation. While some partners initially perceived VMware Cloud on AWS as a threat, most now recognize that VMware Cloud on AWS is a natural complement to their current service portfolio and a quick on-ramp to hybrid cloud across on-premise, hosted, and hyperscale clouds. Similarly, for resellers, VMware Cloud on AWS enables them to transform their business into managed services without requiring large, up-front capital investments.

The following partner quotes underscore the growing importance and opportunities offered by the asset-light model:



There are a number of ways we expect to add value with our ability to sell services through VMware Cloud on AWS. One of these is time to revenue because it enables an asset-light strategy.

- Supporting an asset-light business model: "We're very asset light and don't like to bring anything on the books."
- Building an asset-light business case that can sell to customers: "There are a number of ways we expect to add value with our ability to sell services through VMware Cloud on AWS. One of these is time to revenue because it enables an asset-light strategy."
- Supporting geographic expansion and agility: "There is a geographical expansion element that is very interesting in locations where we do not have one of our datacenters. So if you look at VMware Cloud on AWS, suddenly locations, availability zones in certain parts of Asia, India, or South America, become quite interesting as well as more specific country deployments in Europe where we may need to meet data sovereignty."

Partner Benefits of VMware Cloud on AWS

Beyond enabling an asset-light strategy for hybrid cloud, the interviewed partners highlighted other benefits of offering VMware Cloud on AWS. Many of the challenges inherent in moving on-premise workloads at scale to the cloud are mitigated in the VMware Cloud on AWS environment. Leveraging unique capabilities such as VMware HCX, migration of workloads and onboarding of users is easier and faster than ever, freeing up partners to address more complex, customer-specific requirements. Further:

- **Migrate quickly; transform as required:** "The speed to migration with VMware Cloud on AWS is definitely a factor We can move the workload as is for our customers and then over time add additional services to help them determine what native features in AWS they want to leverage now that they're in this new environment. So we can help them transform the application over time and not specifically have to do a full transformation and do full refactoring before moving to AWS."
- Increasing revenue by onboarding faster: "From the perspective of VMware Cloud on AWS compared with a private cloud or our legacy platform, it's far faster to onboard a new customer. It could take up to a month from a private cloud perspective, so that's a month of recurring revenue that we wouldn't see otherwise. So it speeds up and over the course of the year that's an additional 8% of revenue, getting it in month zero versus month one."
- Fast migrations for large environments: "VMware Cloud on AWS lets us deploy clients faster, especially for big deals. We maintain a nice inventory for modest-sized deals but when things are big, being able to deploy an environment in 75 minutes is pretty amazing. It's hard to beat that ..."



We had a client that was moving from their existing managed service provider and we were able to get that client migrated out of that existing provider in 20 days, allowing them to hit their need to not encounter downtime during the migration. • **Driving time to value:** "We had a client that was moving from their existing managed service provider and we were able to get that client migrated out of that existing provider in 20 days, allowing them to hit their need to not encounter downtime during the migration."

MONETIZING VMWARE CLOUD ON AWS Study Demographics

To understand the potential opportunity that VMware Cloud on AWS offers VMware partners, IDC conducted in-depth interviews with nine VMware partners. These interviews focused on both understanding the value proposition these VMware partners see in VMware Cloud on AWS and their expectations for selling VMware Cloud on AWS, reselling native AWS services, and offering related professional and managed services.

Partner interviews reflected a mix of use cases and business cases, as well as geographic diversity. IDC spoke with partners that are primarily managed services and solution focused, as well as one focused on resale only with professional services. Organization size by number of employees and revenue reflected the mix of business cases, with an average employee size of 70,000 (4,250 median) and average revenue of \$5.84 billion per year (\$1.74 billion median).

These numbers reflect the specific group of VMware partners interviewed for the study, which included several larger partners with tens of thousands of employees and billions of dollars in annual revenue, which brought up sample averages and affected the median calculations. However, the sample also included smaller partners with employee bases numbering in the hundreds and revenue in the tens of millions of dollars per year. This diversity in the sample demonstrates the potential value proposition for the sale of both VMware Cloud on AWS and associated professional and managed services that exists for VMware partners of various sizes (see Table 1). The strong results for this diverse group of partners suggests that partners of various sizes and business models should consider how the results could potentially apply to their businesses, including discussions with VMware.

That said, the partners interviewed understandably had knowledge only of current VMware Cloud on AWS capabilities, which are limited to dedicated, single-tenant environments in a limited number of geographic regions. This could explain the difference between the market estimates, including forecast growth rates, derived from and for the nine partners interviewed and the overall TAM estimate, which is predicated on VMware Cloud on AWS' gradual evolution into a dedicated and shared (multitenant) service, incorporating a growing range of additional features, available across all major regions worldwide.



	Average	Median
Number of employees	69,529	4,250
Annual revenue (billion)	\$5.84	\$1.74
Countries	United States (6), Finland, United Kingdom, and New Zealand	

TABLE 1 Firmographics of Interviewed VMware Partners

n=9 Source: IDC, 2019

Interviewed organizations also spoke about their partnerships with VMware, including their participation in VMware programs such as the VMware Cloud Provider Program. Study participants consistently described their VMware partnerships as foundational to their businesses in various ways, including the technologies supporting their services, fostering adoption of new technologies, and winning new business. Overall, interviewed VMware partners linked a significant part of their overall business (\$1.0 billion on average, but 49% of revenue by organizational average) to VMware technologies and their VMware partnerships.

Business Opportunity for VMware Partners

VMware partners perceive an opportunity with VMware Cloud on AWS to develop significant new revenue streams. They regard VMware Cloud on AWS as having a unique and compelling value proposition for their customers that want to move to hybrid cloud environments but have been deterred by the cost and risk of migrations. In short, they believe that VMware Cloud on AWS will fill a substantial market niche for organizations that want to leverage hyperscale infrastructure for improved agility but have not yet found the right business case for doing so.

As shown in Figure 2, based on current VMware Cloud on AWS capabilities, interviewed VMware partners see a significant business opportunity in selling VMware Cloud on AWS and related services, including achieving additional incremental revenue by selling native AWS services related to VMware Cloud on AWS and connected services. While VMware Cloud on AWS is still in the early stages of the product development life cycle, interviewed partners expect rapid growth in customer take-up of VMware Cloud on AWS and related services. IDC projects that interviewed VMware partners will see up to 47% CAGR on their sale of VMware Cloud on AWS and related services over five years, with most interviewed partners expecting to reach revenue in the tens or even hundreds of millions of dollars annually related to VMware Cloud on AWS within five years.

Interviewed VMware partners see a significant business opportunity in selling VMware Cloud on AWS and related services.

With most interviewed partners expecting to reach revenue in the tens or even hundreds of millions of dollars annually related to VMware Cloud on AWS within five years.



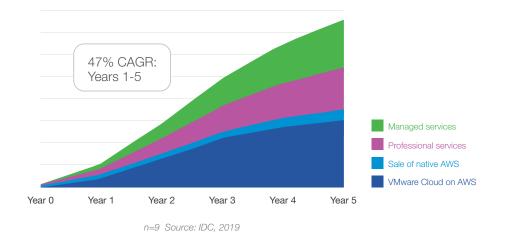


FIGURE 2 Projected Revenue Growth of VMware Cloud on AWS and Services for Interviewed Partners

Interviewed VMware partners spoke specifically of the business they expect to develop related to VMware Cloud on AWS in the next several years, including the following examples:

- Large partner: One of the larger partners interviewed for the study noted that it foresees the possibility of achieving a "hockey stick very fast" with VMware on AWS-related sales, noting that it expects to see revenue well into the tens of millions of dollars per year within two years. The partner projected that the revenue would be relatively evenly distributed between the sale of VMware Cloud on AWS and professional and managed services, noting that "we want to make sure that we're adding value" to its engagements with customers.
- Median partner by revenue in study: The partner with the median annual revenue in the study reported "quite a lot of interest from [our] customer base for running VMware Cloud on AWS," and projected revenue of over \$10 million per year within two years. This partner expects that VMware Cloud on AWS-related revenue will be divided between the sale of infrastructure capacity and services, especially related to development activities.
- Smaller partner: One of the smaller partners interviewed for this study with a total organization annual revenue in the tens of millions of dollars sees a significant potential business opportunity with VMware Cloud on AWS. It reported expecting to achieve revenue nearing or in excess of \$10 million per year related to VMware Cloud on AWS within several years. It expects this revenue to be weighted toward professional services, with the sale of capacity accounting for the remainder of this revenue.

Based on feedback of this nature from interviewed VMware partners, IDC projects significant average growth to these partners' VMware Cloud on AWS portfolios (refer back to Figure 2). Growth reflects:

One of the larger partners interviewed for the study noted that it foresees the possibility of achieving a "hockey stick very fast" with VMware on AWSrelated sales, noting that it expects to see revenue well into the tens of millions of dollars per year within two years.



- Significant growth in revenue and the number of deals in the first several years (16 times growth from time of interviews to year two), followed by continued but more moderate relative growth
- High attachment rates to VMware Cloud on AWS deals for both professional (89%) and managed (88%) services engagements
- Varied partner business cases for VMware Cloud on AWS in terms of "average" deal or engagement size, ranging from under \$100,000 to well over \$1,000,000 per year, with average weighted deal sizes calculated at \$254,400 per year for sale of VMware on AWS, \$176,000 per year for managed services engagements, and \$161,700 per year for professional services engagements (see Figure 3 for weighted average deal sizes per year)
- Growth in sales of native AWS services related to VMware Cloud on AWS, although expectations for native AWS services were more challenging for some interviewed VMware partners to articulate given that they are in early stages of determining which AWS services will best complement VMware Cloud on AWS and related professional and managed services

Although IDC has not calculated the average number of hosts or VM per deal, this can be estimated through the findings in Figure 3 by using VMware-published **pricing at cloud**. vmware.com. For example, the current list price for VMware Cloud on AWS for a one-year reserved instance in the United States is \$51,987 per host. Excluding any potential discounting, the average deal size for VMware Cloud on AWS of \$254,400 would equate to roughly a five-node configuration. The number of workloads that can run on a five-node configuration will vary based on workload characteristics and potential oversubscription considerations.

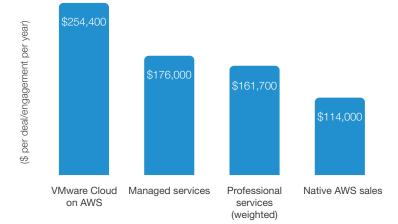


FIGURE 3 Projected Average Deal Size: VMware Cloud on AWS and Services

n=9 Source: IDC, 2019



The business opportunity for interviewed VMware partners does not end at selling VMware Cloud on AWS and native AWS services. All interviewed partners view delivering professional and managed services linked to their sale of VMware Cloud on AWS. Importantly, the business opportunity for interviewed VMware partners does not end at selling VMware Cloud on AWS and native AWS services. All interviewed partners view delivering professional and managed services linked to their sale of VMware Cloud on AWS as a strong opportunity not only for their competitive differentiation but also to increase the total value of each VMware Cloud on AWS deal. In fact, as shown in Figure 4, IDC projects interviewed VMware partners will develop VMware Cloud on AWS-related business portfolios that are nearly evenly split over five years between the sale of VMware Cloud on AWS and native AWS services and the sale of professional and managed services related to VMware Cloud on AWS. As previously noted, a number of interviewed VMware partners are still relatively early in determining which native AWS services they can best sell alongside VMware Cloud on AWS and related professional and managed services.

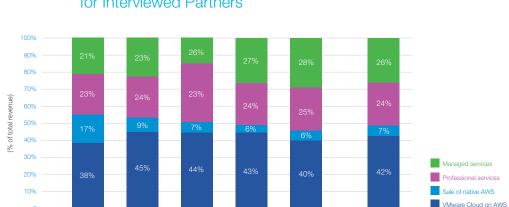


FIGURE 4 Revenue Mix for VMware Cloud on AWS and Services by Year for Interviewed Partners

n=9 Source: IDC, 2019

Year 4

Year 5

Total

Year 3

Year 1

Year 2

VMware Cloud on AWS fills a gap that we've had in our portfolio It's a technology that we and our customers are familiar with and it's easy for us to sell and engage with our customers. Further, our customers have been looking for a public cloud offering that links to their existing environments, so VMware Cloud on AWS fills that gap.

The Value Proposition of VMware Cloud on AWS

Interviewed VMware partners detailed why they believe that VMware Cloud on AWS will have a compelling value proposition for their customers. In short, they believe that their VMware Cloud on AWS offering will fill a significant void in the current cloud services market by providing a route for organizations to use AWS hyperscale cloud for more applications while creating a hybrid cloud environment that leverages their investments in VMware-based on-premise infrastructure. For their customers, the result is a more straightforward and lower risk path to the hybrid cloud. Further:

• One interviewed partner concisely described the value proposition: "VMware Cloud on AWS fills a gap that we've had in our portfolio It's a technology that we and



our customers are familiar with and it's easy for us to sell and engage with our customers. Further, our customers have been looking for a public cloud offering that links to their existing environments, so VMware Cloud on AWS fills that gap."

• Another partner summed up the value of the combined VMware and AWS approach: "Almost all organizations in our region already use VMware as a primary platform for virtualizing infrastructure. Looking at those customers migrating into or increasingly using cloud services, VMware Cloud on AWS provides very low risk and a cost-effective way of migrating those services and starting to leverage hybrid cloud solutions."

Migration to Cloud: Lowering Risk

VMware partners consistently named lowering the risk related to cloud migrations as a primary element of VMware Cloud on AWS' value proposition. For their customers, risk manifests itself in several ways, including high costs, losing investments in on-premise infrastructure, and interruptions to business operations. As a result, some customers forego use of public cloud solutions and creation of hybrid cloud environments because they cannot justify taking on these types of risk.

VMware partners view organizations with substantial on-premise VMware-based environments — of which there are many among their customer bases — as a significant and largely untapped opportunity. They know that these customers would like to migrate more applications to hybrid or multicloud environments but have limited such migrations until now because of cost and risk concerns.

Interviewed VMware partners regard VMware Cloud on AWS as the solution that provides both the requisite levels of functionality and security that will spur these types of customers to make more significant moves to hybrid cloud environments. Importantly, they believe that VMware Cloud on AWS will allow their customers to not only leverage existing investment in on-premise VMware technology but also effectuate their cloud migrations over time and at lower risk because they do not need to engage in large-scale transformation projects associated with migrating workloads to VMware Cloud on AWS.

Having a solution like VMware Cloud on AWS that combines an ability to run within AWS while being tapped into the VMware technology ecosystem gives us a much more powerful story.

Interviewed VMware partners provided various examples of the value they believe VMware Cloud on AWS will offer their customers in terms of reducing risk related to cost and migrations:

• Avoiding challenging migrations and leveraging existing technologies: "Our

advantage with VMware Cloud on AWS is that we have a lot of clients for which it's not feasible to change platforms because of how invested they are with VMware. Having a solution like VMware Cloud on AWS that combines an ability to run within AWS while being tapped into the VMware technology ecosystem gives us a much more powerful story."



With VMware Cloud on AWS, we can help our customers transform applications over time, so they don't have to do a full transformation and full re-factoring before moving to AWS It allows customers to transform their applications and change how they do business without having to do it in a kind of big bang way.

G The value of VMware Cloud on AWS is the consistency between on-premise and cloud environments and the simplicity of networking and migration.

- Lowering the risk of establishing hybrid cloud: "VMware Cloud on AWS provides an easier pathway to move customers into the hybrid cloud by moving some of the workloads into the public cloud but with common management. It also lowers risk and speeds up migrations."
- Allowing for less burdensome transformation: "With VMware Cloud on AWS, we can help our customers transform applications over time, so they don't have to do a full transformation and full re-factoring before moving to AWS It allows customers to transform their applications and change how they do business without having to do it in a kind of big bang way."
- Leveraging IT investment made and reducing transformation risk: "VMware Cloud on AWS enables customers to leverage the investments they've made in applications running onpremise and then modernize them without having to do a lot of complicated transformation."

Ongoing Efficiencies: Simplicity and Ease of Use

Interviewed VMware partners also cited VMware Cloud on AWS' functionality as contributing to its compelling value proposition. They noted that because it is built on VMware technology, organizations that have on-premise VMware environments will find the transition to the AWS cloud easier to manage and execute. Partners noted that this should not only support smoother migrations but also allow for more efficient and effective management of hybrid cloud environments. Similarly, VMware Cloud on AWS allows customers to apply the same security model and policies across their hybrid environment, obviating the complexity and risk of moving to an entirely different cloud security model. In detail:

- One study participant commented on the benefit of not needing to retrain staff upon migration to VMware Cloud on AWS: "I'll use one word and the word is consistency. Our customers have operations teams that are familiar with VMware because they've been using it for years and it works. VMware Cloud on AWS makes it easy for those teams to start utilizing public cloud without any retraining It makes it an easy migration plan for them."
- Another participant noted the value for customers of connecting their on-premise VMware environments with VMware Cloud on AWS in terms of ongoing operations: "The value of VMware Cloud on AWS is the consistency between on-premise and cloud environments and the simplicity of networking and migration. Our customers don't have to re-IP everything, management is centralized, and they can move instances back and forth. It's really about the ability to float things back and forth at the press of a button."



VMware Cloud on AWS enables our business because our strategy is around providing multicloud services and supporting multicloud and hybrid cloud environments. VMware Cloud on AWS makes this much easier.

Enabling Hybrid Cloud with Consistent Infrastructure

VMware partners also expect that offering customers a consistent and robust experience across their hybrid cloud and multicloud environments with VMware Cloud on AWS will be attractive. However, the value of this consistency is not entirely customer facing; VMware partners noted that they also view VMware Cloud on AWS as fitting within their broader strategies of emphasizing hybrid cloud delivery models for their services. Further:

- One interviewed partner commented: "We're working closely with VMware and another vendor partner to drive a hybrid cloud delivery model. We want a service-type delivery model or a consumption model."
- Another noted: "VMware Cloud on AWS enables our business because our strategy is around providing multicloud services and supporting multicloud and hybrid cloud environments. VMware Cloud on AWS makes this much easier."

That said, VMware partners emphasized the importance for their customers of being able to leverage the public cloud to establish hybrid cloud environments that complement or extend the capabilities of their on-premise environments. VMware partners tied this back to VMware Cloud on AWS enabling cloud use while leveraging their existing knowledge and investments. As one interviewed partner explained: "VMware Cloud on AWS allows for service delivery to our customers in the same way that it's done inside our datacenters, but our customers can consume it alongside the environment where they are doing their cloud-native development."

Leveraging AWS: The Importance of Adjacency

Interviewed VMware partners also stressed the importance of adjacency to other AWS services to the value proposition of VMware Cloud on AWS. These partners' customers have made separate investments in the AWS cloud and increasingly view AWS services related to databases, storage, and analytics as core to their IT and business operations. Thus it makes little sense for their customers to invest in a cloud solution that does not allow for easy access to and integration with their broader AWS environments. Further, adjacency to AWS provides their customers with more opportunities for leveraging the AWS cloud as they transform and enhance their business applications running on VMware Cloud on AWS over time.

Interviewed VMware partners detailed the importance of adjacency to AWS:

 Adjacency due to cloud-native applications: "Adjacency to AWS as new applications are built is another benefit of VMware Cloud on AWS. With more cloud-native applications using Amazon services like Lambda, Kinesis, and Redshift, adjacency becomes pretty important."



VMware Cloud on AWS enables our customers to leverage the investments they've made and then modernize them without having to do a lot of complicated transformation. They can move existing applications adjacent to or effectively into AWS without having to change them. The time to start building the new functionality is shorter and is lower risk.

Because of the unique and differentiated value proposition of VMware Cloud on AWS, VMware partners expect that many, if not most, of their customers will look to them to help manage migrations, extensions, and optimization of these environments.

- **Enabling modernization without requiring immediate transformation:** "VMware Cloud on AWS enables our customers to leverage the investments they've made and then modernize them without having to do a lot of complicated transformation. They can move existing applications adjacent to or effectively into AWS without having to change them. The time to start building the new functionality is shorter and is lower risk."
- Generate value by leveraging AWS features over time: "We can move a workload as is for our customers and then over time add additional services to help them determine what native features in AWS they want to leverage now that they're in this new environment It allows customers to transform their applications and change how they do business without having to do it in a kind of big bang way."

Beyond the benefit of access to AWS services and functionality, selling VMware Cloud on AWS can also create opportunities for partners to resell native AWS services. Sale of native AWS services not only opens up new potential revenue streams for partners but can have the effect of deepening their customer relationships when customers come to them for AWS capacity and services. Moreover, this allows partners to consolidate usage billing for both VMware cloud on AWS and native AWS to provide a better customer experience and drive cost optimization over time.

Interviewed partners are already realizing revenue through the sale of native AWS services, and IDC projects that they will continue to realize more revenue through the sale of native AWS services as their VMware Cloud on AWS business cases expand (refer back to Figure 1). As previously noted, interviewed partners are still determining how to optimize their sale of native AWS services alongside VMware Cloud on AWS and related professional and managed services.

Opportunity for Selling Professional and Managed Services

Interviewed VMware partners emphasized that their business cases for VMware Cloud on AWS go beyond selling cloud capacity to providing value-added professional and managed services to their customers. Because of the unique and differentiated value proposition of VMware Cloud on AWS, VMware partners expect that many, if not most, of their customers will look to them to help manage migrations, extensions, and optimization of these environments. Further, partners see an opportunity to establish expertise related to VMware Cloud on AWS that will have a freestanding and unique value proposition for their customers.



Interviewed partners underscored that they view the business potential of professional and managed services related to VMware Cloud on AWS as substantial, with many expecting revenue from these services that matches or exceeds revenue from the sale of VMware Cloud on AWS and native AWS. As one interviewed partner explained: "Our goal is definitely to considerably grow our revenue that's coming from professional services and multicloud management."

IDC projects that interviewed partners will realize half of all VMware Cloud on AWS-related revenue over five years through professional and managed services (refer back to Figure 3). Further, partners expect to realize higher gross margins through delivery of these services (40% for professional services, 41% for managed services, refer to Figure 5) than for either the sale of VMware Cloud on AWS or native AWS services, highlighting the importance to these VMware partners of establishing and selling these services attached to VMware Cloud on AWS.

Professional Services Opportunities

As previously explained, VMware partners view the ability of their customers to effectuate fast and low-risk migrations to a hybrid cloud environment with VMware Cloud on AWS as a competitive differentiator. Still, interviewed partners expect near-ubiquitous demand from their customers for their support and expertise in carrying out migrations through professional services engagements. In addition, interviewed VMware partners believe that engagements related to migrations will often lead to additional professional services engagements tied to optimizing VMware Cloud on AWS environments.

VMware partners believe that the core value proposition for their customers of these professional services offerings will be clear: they will enable fast and effective migrations to optimized hybrid cloud and multicloud environments without distracting them from their core business operations. Further:

- As one interviewed VMware partner explained: "Our customers struggle to keep up with all of the best ways of doing things on platforms like AWS where they're constantly changing ways of doing things. It's usually not our customers' core business, so they're usually quite keen to have some specialized help in that area so that they can focus on their core businesses."
- Another interviewed partner commented on the value of its professional services offering: "Professional services bake right into our existing hybrid cloud offering, so they're really an extension of those offerings. If we can crack the code, we'll absolutely sell everything from strategy transformation to migration to run. It's an extension of our core hybrid cloud solutions."



Managed Services Opportunities

In addition to professional services associated with migration and transformation, interviewed VMware partners identified substantial opportunity in selling managed services related to VMware Cloud on AWS to their customers. While specific managed services opportunities vary by partner, demand from customers for support was identified in areas such as operating system, database and application management, DevOps, and security operations.

One partner noted the reasons its customers look to it for managed services: "Our customers are coming to us for managed services, so they can increase their expertise and reduce their spend on personnel and do more with less." As with professional services, partners expect strong attachment rates for managed services engagements with VMware Cloud on AWS deals (88%), as their customers turn to them to provide expertise in capturing maximum value from their investment in VMware Cloud on AWS.

Generally, study participants differentiated managed services from professional services as being related to the ongoing operations of VMware Cloud on AWS rather than migration or transformation. One partner explained: "We will offer datacenter and consolidation services, which would be more of a transformation-type project or what we call 'infrastructure consulting' and strategy and consulting and then managed services. The bigger deals will be managed services, although they will probably include significant transformation aspects."

Another partner commented on the opportunity it has with VMware Cloud on AWS to develop expertise that it can sell to customers through its managed services offering: "We've built a set of tools and professional services around storage with VMware Cloud on AWS that allow our customers to consume storage in a way that they cannot otherwise. We've focused an entire segment of our business on being really good at VMware Cloud on AWS. We feel like we stand alone in that pursuit."

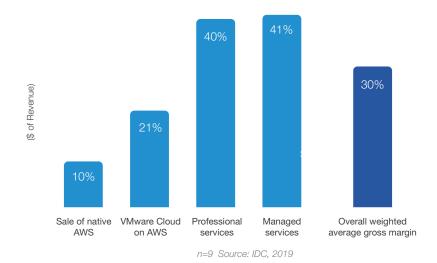
Drive Margin Growth with VMware Cloud on AWS

Taken together, VMware partners expressed the significant business opportunity for them related to the sale of VMware Cloud on AWS and related professional and managed services. As noted previously, they ascribed a significant revenue opportunity with VMware Cloud on AWS that will vary by partner depending on their size and customer base but that will reach into the tens or even hundreds of millions of dollars per year within five years. As noted previously, IDC projects that this revenue will be almost evenly split between the sale of infrastructure and associated professional and managed services.



Given the blend of VMware Cloud on AWSrelated business these partners expect to develop, this would mean achieving approximately a weighted 30% gross margin over five years. As previously mentioned, partners expect to realize strong gross margins on professional and managed services, and lesser, but still significant, gross margins on the sale of VMware Cloud on AWS (21%) and native AWS services (10%). Given the blend of VMware Cloud on AWS-related business these partners expect to develop, this would mean achieving approximately a weighted 30% gross margin over five years, as shown in Figure 5. This weighted gross margin expectation reflects the business cases and expected lines of VMware Cloud on AWS-related businesses specific to the group of VMware partners interviewed for this study. The weighted gross margin achieved by any particular VMware partner will depend on its own business model related to VMware Cloud on AWS.

FIGURE 5 Expected Gross Margins Ratios for VMware Cloud on AWS and Services for Interviewed Partners



The aforementioned margin profile assumes VMware Cloud on AWS is delivered and supported by the partner as a service as opposed to reselling VMware Cloud on AWS.

CHALLENGES AND OPPORTUNITIES

For VMware and its partners, the VMware Cloud on AWS opportunity is clear and compelling. The partner interviews and the VMware Cloud on AWS TAM featured previously present insights and perspective on the full range of opportunities.

In practical terms, VMware Cloud on AWS offers a way for enterprise customers, and for the VMware partners that serve them, to seamlessly transition from on-premise, client/server



In practical terms, VMware Cloud on AWS offers a way for enterprise customers, and for the VMware partners that serve them, to seamlessly transition from onpremise, client/server environments to hybrid cloud environments that can address the needs of a complete spectrum of enterprise workloads. environments to hybrid cloud environments that can address the needs of a complete spectrum of enterprise workloads. What's more, these workloads, irrespective of where they ultimately reside, all run on familiar infrastructure and leverage familiar management models and processes. As such, VMware Cloud on AWS is likely to represent an attractive option for many enterprises looking to expedite and consummate their hybrid cloud journeys.

With regard to challenges for VMware and its partners, the primary obstacle will be ensuring that enterprises are cognizant of all the capabilities, features, and use cases that VMware Cloud on AWS can address. This will mean not only reaching out and engaging with traditional VMware constituencies and buying centers but also ensuring that cloud-oriented lines of business and developers are aware of the convenience, reach, and value that VMware Cloud on AWS can provide. Ensuring that the VMware Cloud on AWS value propositions are appreciated and understood across all enterprise constituencies and buying centers will be essential for VMware and its ecosystem to fully capitalize on the market opportunity.

Of course, there will be competitive challenges as well. Other IT infrastructure vendors are devising their own hybrid cloud strategies and building their own bridges to public clouds through partnerships. An opportunity and a challenge are represented by multicloud, as enterprises increasingly look to multiple public clouds, as well as on-premise environments, as they consider optimized workload placement in an increasingly cloud-native world.

CONCLUSION

Organizations increasingly want to leverage hybrid cloud environments to optimize their IT environments from the perspectives of cost, staffing, agility, performance, and ability to support business growth. This presents a challenge to partners, which must offer solutions that meet these requirements and provide consistency in infrastructure and management across private and public clouds.

IDC believes that VMware Cloud on AWS offers partners a service that meets this demand from their customers while also providing partners the opportunity to provide value-added professional and managed services. Importantly, VMware partners can leverage their existing expertise, tools, and intellectual property in the context of offering VMware Cloud on AWS as a hybrid cloud solution to their customers. In addition, existing AWS partners can expand their total addressable market opportunity, bringing their deep expertise around native AWS services to traditional applications. The significant potential for VMware Cloud on AWS is evident in IDC's forecast of its total partner-addressable market, which IDC predicts will grow from approximately \$220 million in 2018, when VMware Cloud on AWS became available as a dedicated cloud service in a small number of regions, to reach more than \$3.1 billion in 2022.



Interviewed partners consistently reported that they regard VMware Cloud on AWS as a differentiated offering that will meet a clear area of latent customer demand.

Further, these partners almost without exception have identified an opportunity for them to generate even more revenue with VMware Cloud on AWS by selling associated professional and managed services that will allow them to deepen relationships with their customers and develop new revenue streams. IDC's research with VMware partners that have already begun selling VMware Cloud on AWS and associated services demonstrates the scale of the potential business opportunity they have. Interviewed partners consistently reported that they regard VMware Cloud on AWS as a differentiated offering that will meet a clear area of latent customer demand. In particular, they have substantial numbers of customers that want to move more workloads to hybrid cloud environments but have put off migrations because of concerns about the financial and operational risk of migrations.

Despite their varied sizes and business cases, interviewed VMware partners consistently identified common aspects of the VMware Cloud on AWS value proposition that will resonate with their customers. Importantly, they reported that VMware Cloud on AWS will allow their customers to migrate workloads faster, leverage existing investments and expertise in on-premise VMware technology, maintain continuity across VMware environments as they move workloads to the hybrid cloud, and allow for less burdensome transformation of applications over time. Further, these partners almost without exception have identified an opportunity for them to generate even more revenue with VMware Cloud on AWS by selling associated professional and managed services that will allow them to deepen relationships with their customers and develop new revenue streams. IDC's analysis shows that the resulting business related to VMware Cloud on AWS for these partners will be substantial as most of these partners anticipated developing revenue streams in the tens or even hundreds of millions of dollars per year in the next several years. Meanwhile, IDC forecasts that the partner-addressable TAM related to VMware Cloud on AWS will see a five-year CAGR of 94% to reach over \$3 billion per year by 2022.

APPENDIX 1: BUSINESS VALUE METHODOLOGY

IDC's standard Business Value methodology was utilized for this project. This methodology is based on gathering data from VMware partners that sell and intend to sell VMware Cloud on AWS, native AWS services, and professional and managed services related to VMware Cloud on AWS. Based on interviews with these VMware partners, IDC has calculated the revenue and gross margin that these partners will expect to realize on a per organization basis over a fiveyear period.

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



APPENDIX 2: VMWARE CLOUD ON AWS TAM ASSUMPTIONS AND METHODOLOGY

As noted previously in the VMware Cloud on AWS section dealing with the total partneraddressable market (see Partner Market Opportunity for VMware Cloud on AWS section), cloud consumption estimates relate exclusively to revenue derived from cloud infrastructure.

IDC has assumed that VMware will aggressively position VMware Cloud on AWS to enterprises early in the 2018–2022 forecast period, but that many of those enterprises will move cautiously at first, initially transitioning workloads incrementally to VMware Cloud on AWS before accelerating the pace as their comfort levels grow.

IDC also assumes that early promotional pricing for VMware Cloud on AWS will attract the patronage of midsize enterprises and smaller businesses, and that the anticipated broad base of demand has led us to infer a moderating effect on average deal size.

Initially, VMware Cloud on AWS will be a dedicated offering, akin to hosted private cloud, but in 2020, VMware Cloud on AWS is scheduled to be available also as a shared, multitenant, and dedicated offering. Further, we assume that VMware will continue to expand in terms of geographic availability as well as add new features and services. IDC believes that as these enhancements roll out, it will expand the overall market addressability for VMware Cloud on AWS while also giving VMware partners latitude to serve an increasing number of smaller customers.

IDC made informed estimates regarding the percentage of total VMware Cloud on AWS customers that would avail themselves on native AWS services. These estimates were further informed by IDC's interviews with VMware partners. IDC used publicly available AWS pricing and guidance from the VMware partner interviews to develop average per-customer revenue estimates pertaining to native AWS services.

For managed services, IDC assumed an annual attach rate relative to customers' total cloud consumption. IDC assumed that midsize and smaller customers, due to their relative lack of inhouse technical expertise, would derive the greatest degree of value from managed services. IDC also leveraged insights from the partner interviews as guidance in estimating percentages for the managed services forecast.

For professional services, IDC assumed that 80% of customers would opt for up-front consultative services as part of their VMware Cloud on AWS adoption. These services will be



essential to helping enterprises develop the business case for pursuing specific use cases and understanding the optimal placement for on-premise workloads. Revenue attributable to professional services also includes post-optimization services, which VMware partners indicate will be a robust source of revenue growth as enterprises move on-premise workloads to off-premise clouds and move workloads between clouds. HCX migration services are included in the estimates for professional services.

The five-year CAGR for the TAM is higher than the five-year CAGR for the partner interviews. First, as noted previously, we assume customers will initially transition workloads incrementally to VMware Cloud on AWS before accelerating the pace as their comfort levels grow. Second, the five-year TAM CAGR assumes that additional features/capabilities will become available over time that expand the addressable market opportunity, such as shared, multitenancy, additional geographies, and additional features. The CAGR for the partner interviews reflect the current and immediate opportunity that interviewed partners perceive with VMware Cloud on AWS. The CAGR pertaining to the partners interviewed reflects a bottom-up approach that informed and contributed to the comprehensive, worldwide fiveyear total partner-addressable market included in this document.

Message from Sponsor

If you have any questions or want more information on VMware Cloud on AWS, please contact your VMware or Aggregator contact. Alternatively, you can email VMware at VCPP_GTM@vmware.com or visit Cloud.VMware.com.

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