Playbook for Your Journey to the Cloud

How to ensure success when leveraging the cloud for desktop and app virtualization

Get Started

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With the ability to deploy applications, databases, artificial intelligence, machine learning, and even virtual desktops, the cloud can be everything to everyone. Where else can you get seemingly unlimited resources up and running with the click of a mouse? But as amazing as the cloud is because of its endless capacity and pay-for-only-what-you-need model, you can't ignore the fact that for the past few decades you've been carefully building out your own IT environment on-premises and designed your entire ecosystem around data center–based resources. Understandably, you want to maximize the investments you've made before jumping to the cloud, and to carefully consider the ways you want to use it.

As you embark on your journey to the cloud, here are some things to consider.

- Why you can't just "flip the switch" and be done
- What you expect to accomplish upon completion of the project
- How you can use the cloud on your terms
- What you need to consider as you plan your cloud projects

Why flipping the switch isn't an option

Imagine that you've spent months rebuilding your desktop virtualization environment in the cloud. It's Friday afternoon, and you're waiting for the last users to leave before you begin the cutover. You've put a ton of effort into this project, so it's no surprise that the transition is an uneventful DNS modification without much fanfare. You head home for the weekend, ready to take it easy.

But on Monday morning, you start getting calls about application performance issues. You check the status of your VDI desktops and see nothing out of the ordinary. CPU and memory usage are low, network looks good, and so on. Then you realize the problem—the applications your users are trying to run from the cloud have their data located on-premises. What was previously a trivial request across the 10Gbps LAN is now traversing a few firewalls, a VPN, and several different networks, so of course it is slow.

That's just one example of why you cannot simply flip the switch. The environment that you've been maintaining for 10, 20 or 30 years on-premises is loaded with resources you depend on and that depend on each other. It's difficult to move one without moving others when you have one foot on-premises and the other in the cloud.

The inverse is also true. Imagine if you put all the apps in the cloud overnight, but left your desktops on-premises. The apps would still be remote from their data, and you would have the same results. This problem applies to all facets of using the cloud. As you read on, consider how data location impacts every decision you make when flipping the switch.

But you can avoid this problem by taking a phased approach and using hybrid (or multi-cloud) capabilities that let you place your users close to the workload. With hybrid desktop virtualization, you can place your desktops and apps close to the data they need to access. As you move the application back ends to the cloud, you can move the desktops or published applications to the cloud as well.

We'll take a deeper look in a bit at how VMware enables hybrid virtualization, but first let's look at why you would want to use the cloud in the first place.

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Why the cloud, and why now?

Of all the reasons to use the cloud for desktop virtualization—high availability/disaster recovery (HA/DR), data center expansion, bursting, app colocation, and mergers and acquisitions come to mind—the biggest one right now by far is business continuity in light of the importance of supporting a remote workforce.

Business continuity

2020 was an eye-opener for a lot of organizations. Even companies that had extensive desktop virtualization environments struggled to suddenly expand capacity to accommodate 80 percent or more of staff now working from home 100 percent of the time. Even without the supply chain being disrupted, the effort to rack, stack, power, cool and configure enough new hardware to support the additional workload was overwhelming.

That's where the cloud excels.

In 2020, customers turned to the cloud for their desktop virtualization workloads because of the ability to spin up the necessary hardware resources nearly instantly. VMware helped one customer spin up 35,000 desktops in just 5 days. Just think about how long it would take to deploy that on-premises!

In the cloud, you can spin up the hardware resources you need nearly instantly.

HA/DR

Some might combine HA/DR with business continuity, but there are a few fundamental differences. Business continuity is about enabling users to work when they're prevented from going to the office, where the systems are all online and working fine. Whereas HA/DR deals with single moments in time that cause outages or data loss, such as tornadoes, hurricanes, power outages, and so on.

Using the cloud as an HA/DR platform for your organization is a great lifeline, but it takes a lot of planning. Because you cannot know the source of a potential outage or its overall impact, all systems—not just desktops—need to be replicated in the cloud. However, the advantage is they don't need to run at full capacity. In fact, many companies are looking at creating a "pilot light" in the cloud so in an emergency they can spin up the necessary resources to keep things going.

Data center expansion and bursting

Data center expansion and bursting are two sides of the same coin, although expansion is permanent while bursting is temporary. In either situation, using the cloud can help you exit the cycle of building and rebuilding your data center every 3 years. By moving workloads to the cloud, you will eventually be able to shrink the size of your on-premises data center and use the cost savings to offset the costs of using the cloud.

Using the cloud is even more beneficial if you maintain on-premises resources to support seasonal bursts of employees. If you have resources that you bought but only use in the month of December, moving to the cloud gives you a way to pay for only that month, so you don't have to dedicate data center real estate or maintenance resources for the rest of the year.

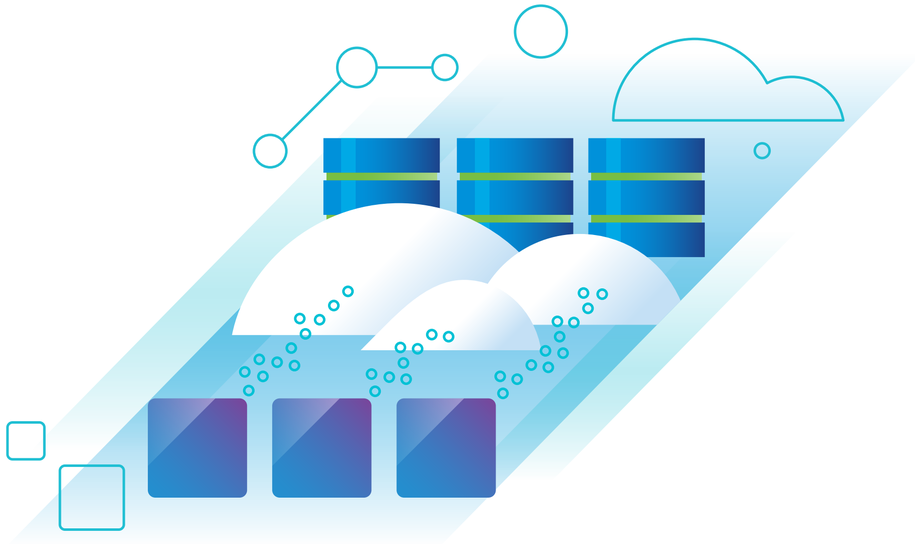
If you have 200 apps and manage to migrate 1 app per month to the cloud, it will take 17 years to migrate all of them.

App colocation

You cannot underestimate the importance of the proximity of apps to desktops. The location of applications and the data they consume is the single biggest technical challenge when it comes to choosing where to place your desktop and application virtualization resources.

First, you need to consider how many apps you have—a number that many organizations have a hard time determining. Let's say you have 200 Windows apps on-premises. In that case, you probably need to keep delivering Windows from an on-premises desktop virtualization platform. At the same time, you're probably moving some apps to the cloud, so you can see a future where flipping the switch and delivering Windows entirely from the cloud makes sense.

There are a lot of reasons to use the cloud for desktop and application delivery, but you can't just flip the switch and have it all work out. However, you can leverage each of the above benefits with your existing investments and get the best of both worlds. The key is hybrid and multi-cloud, and VMware can help you get there.



The VMware future ready, hybrid and multi-cloud platform

For every reason that organizations are looking to the cloud, there are reasons to stay on-premises. Expertise, data and app location, performance, user location, and, of course, cost all factor into the decision. The proper way to use the cloud is not an all-or-nothing approach. Rather, the most successful implementations choose where to place their workloads tactically based on the drivers listed above.

Fortunately, VMware can help you with both your overall strategy and the tactical decisions involved. You have options every step of the way, from wanting all your resources in your own data centers to putting as much as you can in as many clouds as you can.

Before we look at all the locations from where you can deliver desktops, let's take a look at the glue that holds it all together: the VMware Horizon® Control Plane.

Horizon Control Plane

The hybrid and multi-cloud capabilities of VMware Horizon all stem from the cloud native Horizon Control Plane. As a SaaS offering operated by VMware, the Horizon Control Plane provides a common set of capabilities to all Horizon implementations on-premises or in the cloud. These services include things like VMware App Volumes™, VMware Dynamic Environment Manager, Universal Broker, and Cloud Monitoring Service. By having these services delivered from the cloud, you can manage all your Horizon environments from a single pane of glass, and your users have just one interface to their apps and desktops, no matter where they are delivered from.

Let's take a look at the different places where desktops can run and how leveraging the Horizon Control Plane can be beneficial.

On-premises

With the control plane in the cloud, you can have your VDI and RDSH workloads anywhere, even on-premises, and still get the benefits of the cloud-based control plane. Even if you have multiple on-premises Horizon deployments, maybe in multiple data centers around the world, you can still realize the benefit of the Horizon Control Plane.

For example, with Universal Broker, you no longer need to deploy GSLB and configure WAN links between your different Horizon pods. Plus, because Universal Broker lives in the cloud, it has visibility into all your environments, so your users need to go to only one place to log in to their desktops and apps, regardless of where they're running from.

App Volumes is another example. App Volumes 4 includes what we call simplified application management, or SAM. SAM essentially means "package once, deploy anywhere," which results in less work for admins and a more consistent experience for end users. If your needs grow to include cloud-based resources, the same app packages also work there. However, the best part about App Volumes is that it is simple to use and deploy. No need to fundamentally change the way you do anything else to use it.

Horizon is available wherever you need it

Because Horizon runs on VMware vSphere®, it can leverage unique, exclusive capabilities, like Instant Clone Technology, deeper integrations with App Volumes, and end-to-end security. Of course, if you're an on-premises Horizon customer, you already know this. In addition, the entire VMware software-defined data center stack is also available as a managed service on Google Cloud, VMware Cloud™ on AWS, Microsoft Azure, IBM Cloud and more. This managed service gives you the ultimate lift-and-shift capability because you can move your desktops and applications, as well as the application back ends, to the cloud and keep operating the same platform you do on-premises with the same skills that you already have.

Of course, you don't have to go that far. The benefit of hybrid and multi-cloud is that you can place desktops and apps in the location that makes the most sense. So if an application back end has moved to the cloud, you can also publish the app's front-end Windows app from the same cloud while delivering other resources from on-premises.

The flexibility is endless, and it's all because of the Horizon Control Plane.

Horizon Cloud on Microsoft Azure

So far, every deployment option discussed has been Horizon running on vSphere (with vSphere running in your data center, or in AWS, or in Azure, or …). One of the downsides of that option is that you have to maintain all the Horizon infrastructure in addition to your VDI and RDSH hosts. Even if you're using VMware Cloud on AWS or Azure VMware Solution, you're still running the traditional, on-premises Horizon components.

But what if you just want to focus on running your VDI and RDSH instances rather than the actual underlying infrastructure? In that case, you can use VMware Horizon Cloud on Microsoft Azure, a desktop-as-a-service (DaaS) offering where VMware deploys and manages the desktop virtualization infrastructure in your Microsoft Azure subscription. With Horizon Cloud, you just manage the desktops and apps from the Horizon Control Plane, and VMware handles the rest. That means you can manage your Horizon Cloud on Microsoft Azure environments from the same location and with the same capabilities as you do any other Horizon environment.

Plus, Microsoft and VMware have partnered to extend the capabilities of Microsoft Azure Virtual Desktop to Horizon Cloud on Microsoft Azure. That means you can take advantage of the Azure Virtual Desktop benefit that you have as part of your Microsoft Enterprise Agreement (which includes things like Windows 10 Enterprise multi-session, discounted Azure pricing, and no built-in licensing requirement) with the power of Horizon and the Horizon Control Plane.

With the combination of Windows Virtual Desktop and the hybrid capabilities of VMware Horizon, you can begin to leverage the cloud at your own pace, placing workloads in the most appropriate location based on cost, user experience and application performance, all while knowing that you're getting the best overall value, management capabilities and user experience—on-premises or in the cloud.

What's next?

Now you understand how VMware can meet you wherever you happen to be on your journey to the cloud.

Everything we've talked about so far—the Horizon Control Plane, App Volumes, Dynamic Environment Manager, all the supported platforms—is available from one subscription license: the Horizon Universal License. Although it comes in a few flavors (apps only, VDI and apps, concurrent, named user), the bottom line is that for one price, you can deploy all of VMware Horizon anywhere you need.

Whether you want to take advantage of the elasticity of the cloud to ebb and flow with seasonal capacity needs, rapidly ramp up to ensure business continuity, start your transition to moving apps to the cloud, or even outsource management of your entire desktop infrastructure with DaaS, a Horizon Universal License gives you access to the full benefits of VMware hybrid and multi-cloud capabilities.

With workloads spread between clouds and on-premises, and a decentralized user base that can now span the globe, the kind of flexibility that is inherent to VMware Horizon has never been more important. Moving to the cloud is not always a straightforward journey. So having the benefit of the Horizon Universal subscription, paired with the Horizon Control Plane management capabilities to deploy virtual desktops and applications from the locations that make the most sense for your business, gives you the flexibility and choices you need as you continue your journey to the cloud.

Get Started Today

Learn more about how to achieve maximum flexibility on your journey to the cloud.

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