

# Brian Madden's Playbook for Your Journey to the Cloud



## Let's get this out of the way now: The cloud is awesome!

There... I said it. I mean, where else can you spin up seemingly unlimited resources with the click of a mouse? With the ability to deploy applications, databases, artificial intelligence, machine learning, and even virtual desktops, the cloud can be everything to everyone.

Right?

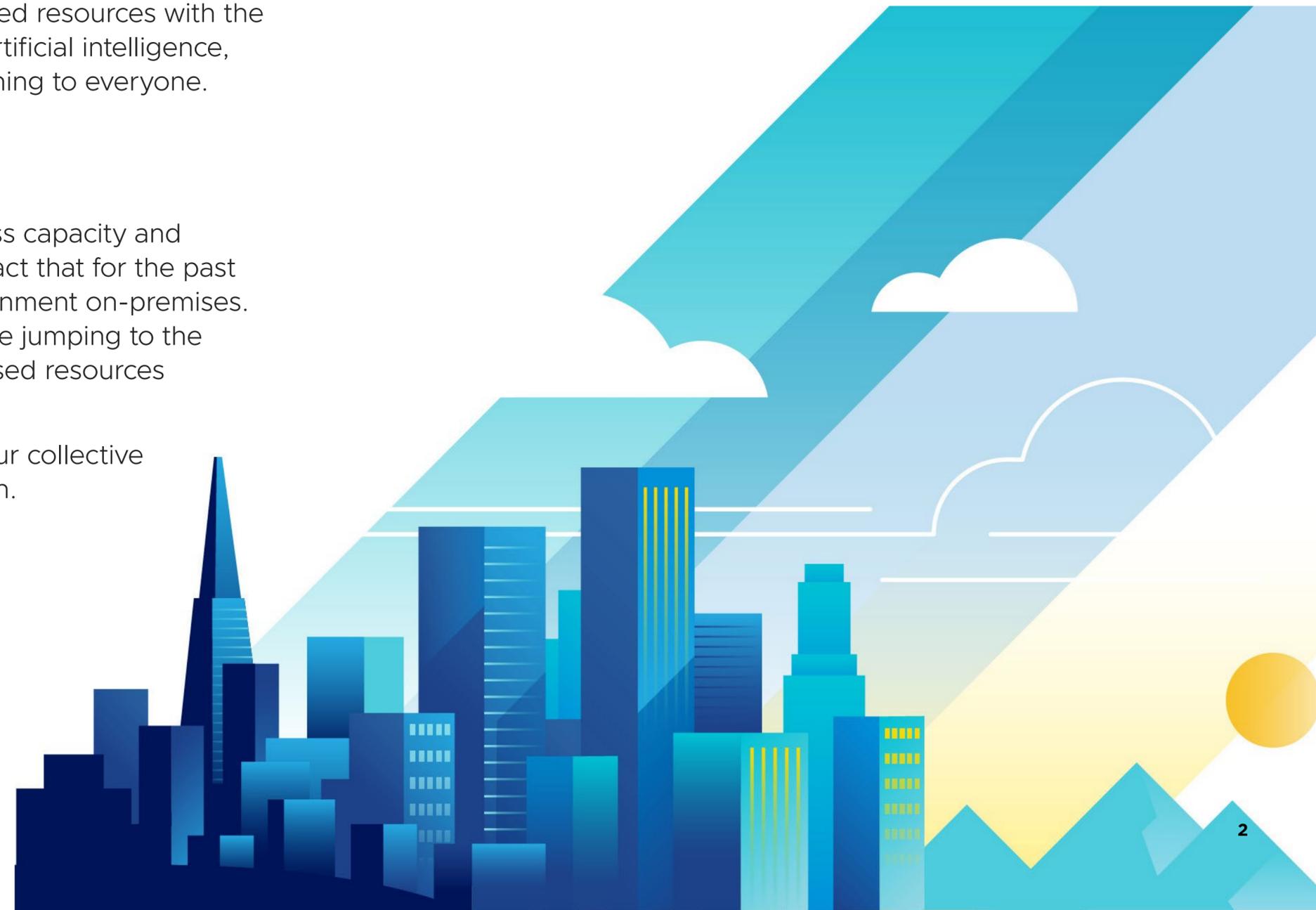
Well, maybe... Probably... Eventually...

Here's the thing. For as amazing as the cloud is because of the endless capacity and pay-for-only-what-you-need model, it does nothing to help with the fact that for the past several decades you've been carefully building out your own IT environment on-premises. Not only have you made investments that you want to maximize before jumping to the cloud, you've designed your entire ecosystem around data center-based resources that just aren't going to go away quietly.

With that in mind, I want to share what I've been thinking regarding our collective journey to the cloud, especially when it comes to desktop virtualization.

Things like:

- Why you can't just "flip the switch" and be a cloud person now.
- Why do you even want to use the cloud in the first place?
- 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 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 actual transition is an uneventful DNS modification without much fanfare. You head home for the weekend, ready to take it easy. You're a cloud person now.

But on Monday morning, you start getting the 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 that your users are trying to run from the cloud have their data located on-premises. What was once a trivial request across the 10Gbps LAN is now traversing a few firewalls, a VPN, and several different networks, so of course it's slow!

That's just one example of why you can't simply flip the switch. **The environment you've been maintaining for 10, 20, or 30 years on-premises is loaded with resources that 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 (ha!) but left your desktops on-premises. The apps would still be remote from their data, and you'd have the same results. (By the way, some organizations use multiple clouds. Imagine how hard that is. You don't have enough feet!)

This problem applies to all facets of using the cloud. So 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 that they need to access. As you move the application back ends to the cloud, you can also move the desktops or published applications to the cloud as well. BOOM!

We'll take a deeper look at how VMware enables this very thing in a bit, but first, why on Earth would you want to use the cloud in the first place?



Consider how data location impacts every decision you make when flipping the switch.

## 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 is far and away BUSINESS CONTINUITY. Why? Well, I think we've all learned a thing or two about the importance of a remote workforce.

That's not to slight other reasons, though. Let's take a look at some of them so that we don't hurt any feelings.



### 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 if the supply chain weren't disrupted, the effort to rack, stack, power, cool and configure enough new hardware to support the additional workload would be overwhelming.

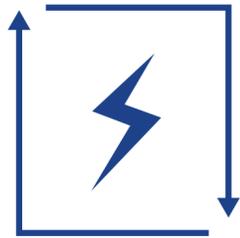
That's where the cloud shines brightest! (Well, the clouds don't shine... the sun lights them up. But you get the idea.)

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.**

Speed is a huge bonus, but as we all know, there are some cons to every pro. While this approach is extremely effective in keeping users productive compared to not working at all, in the long term it suffers from the same problem as flipping the switch. Unless the apps were also moved to the cloud, those new users are accessing apps located on-premises.



Let's see...  
**35,000 users,**  
divided by the  
number of servers  
we can get,  
multiplied by...  
equals a lot!



### HA/DR

Some might lump HA/DR together 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. Tornadoes, hurricanes, power outages, and so on all fall into that bucket.

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

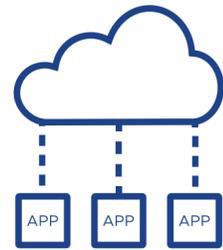


### Data center expansion and bursting

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'll eventually be able to shrink the size of your on-premises data center, which lets you use the cost savings to offset the costs of using the cloud.

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





### App collocation

I know, I already wrote about the proximity of apps to desktops and you're tired of hearing about it. Here's the thing—IT'S THAT IMPORTANT! **Applications, and the data they consume, are the single biggest technical challenge when it comes to choosing where to place your desktop and application virtualization resources.**

How many Windows apps do you have? 50? 100? 200? Be honest—do you even really know? Let's say you have 200 apps on-premises. If that's the case, you probably need to keep delivering Windows from an on-premises desktop virtualization platform. Still, 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, right?

## NOT SO FAST!

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If you have 200 apps and manage to migrate them to the cloud at the breakneck pace of one app per month, it will take ... wait for it ... **17 YEARS** to migrate all the apps! It will be **8.5 years** before even half of the apps are in the cloud.

## Bottom line

There are a lot of reasons to use the cloud for desktop and application delivery, but you can't simply flip the switch and have it all work out great. There are, however, ways to 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 has got you covered.

Today is the day you get a grip on all of this.

**READ ON!**

# The VMware Future Ready, Hybrid and Multi-Cloud Platform of Awesomeness\*

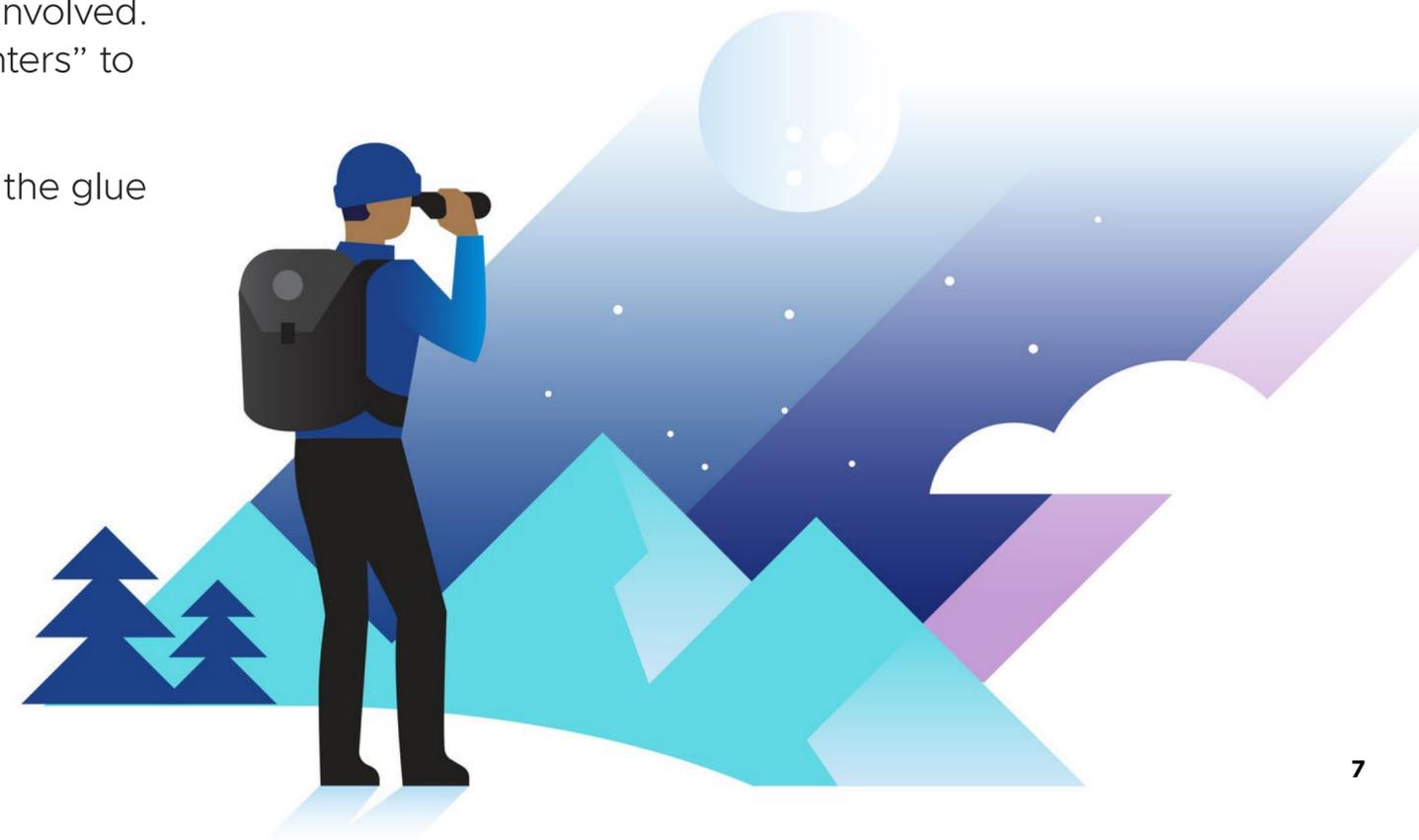
\*Not the official name.

For every reason that organizations are looking to the cloud, there are reasons to stay on-premises. We often hear things like expertise, data location, data sovereignty, performance and, of course, cost. But, as we've discussed, the proper way to "do the cloud" isn't an all-or-nothing strategy, and although that might be the goal, the way to get there is to make tactical decisions about where to place your workloads at every step of the way.

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

Before we get into all the locations from where you can deliver desktops, let's take a look at the glue that holds it all together ...

## THE HORIZON CONTROL PLANE



## Horizon Control Plane

VMware hybrid and multi-cloud capabilities 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 VMware 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 plane of glass, and your users have just one interface to their apps and desktops no matter where they're 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.

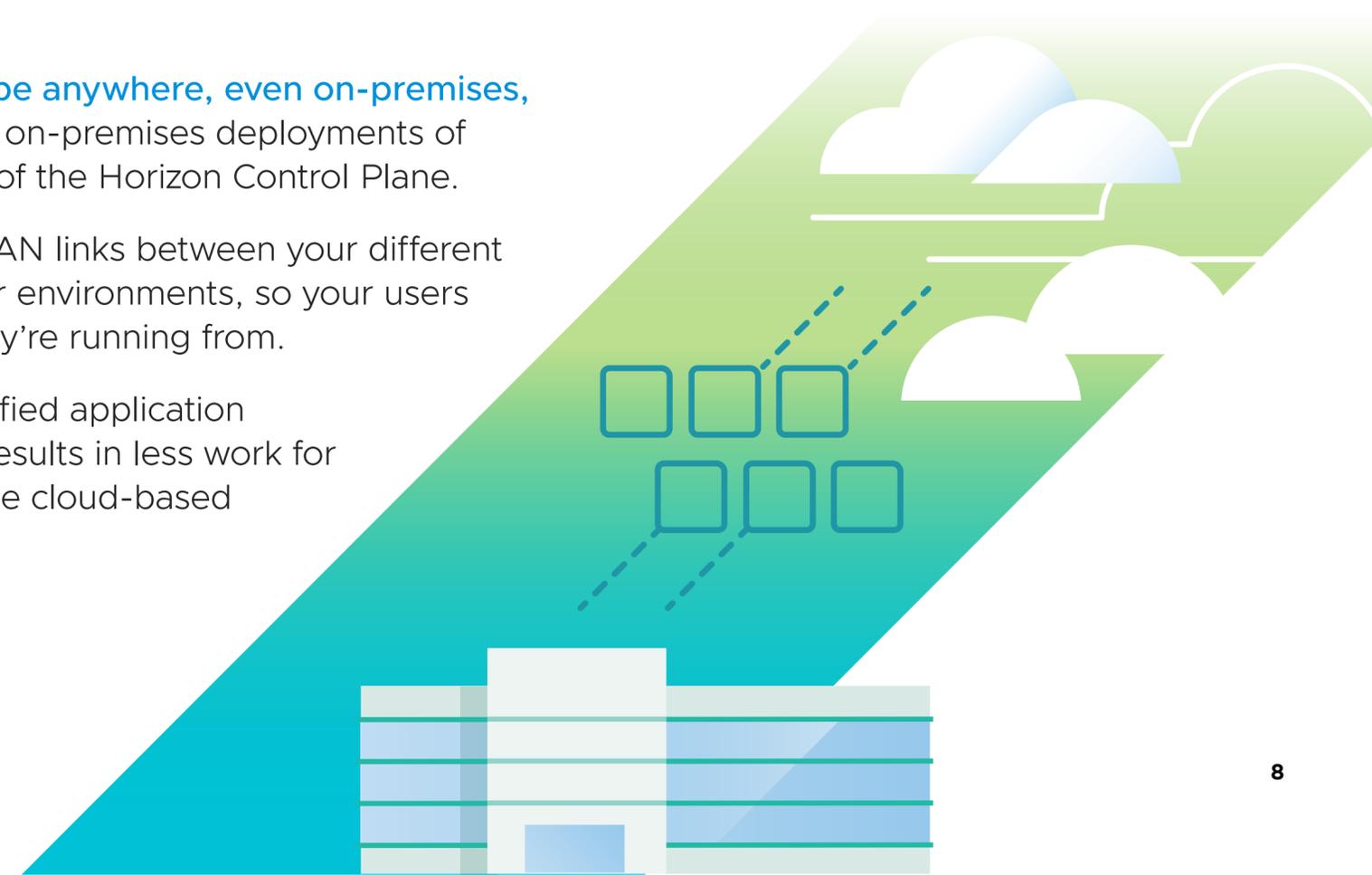
### On-premises

I can hear you. You're saying, "It's a cloud control plane—I don't want the cloud."

It's true. The control plane is in the cloud, but **your actual VDI and RDSH workloads can be anywhere, even on-premises, and you still get the benefits of the cloud-based control plane.** Even if you have multiple on-premises deployments of Horizon, 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 great example. App Volumes 4 included something 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. Plus, if your needs grow to include cloud-based resources, those same app packages work there, too.



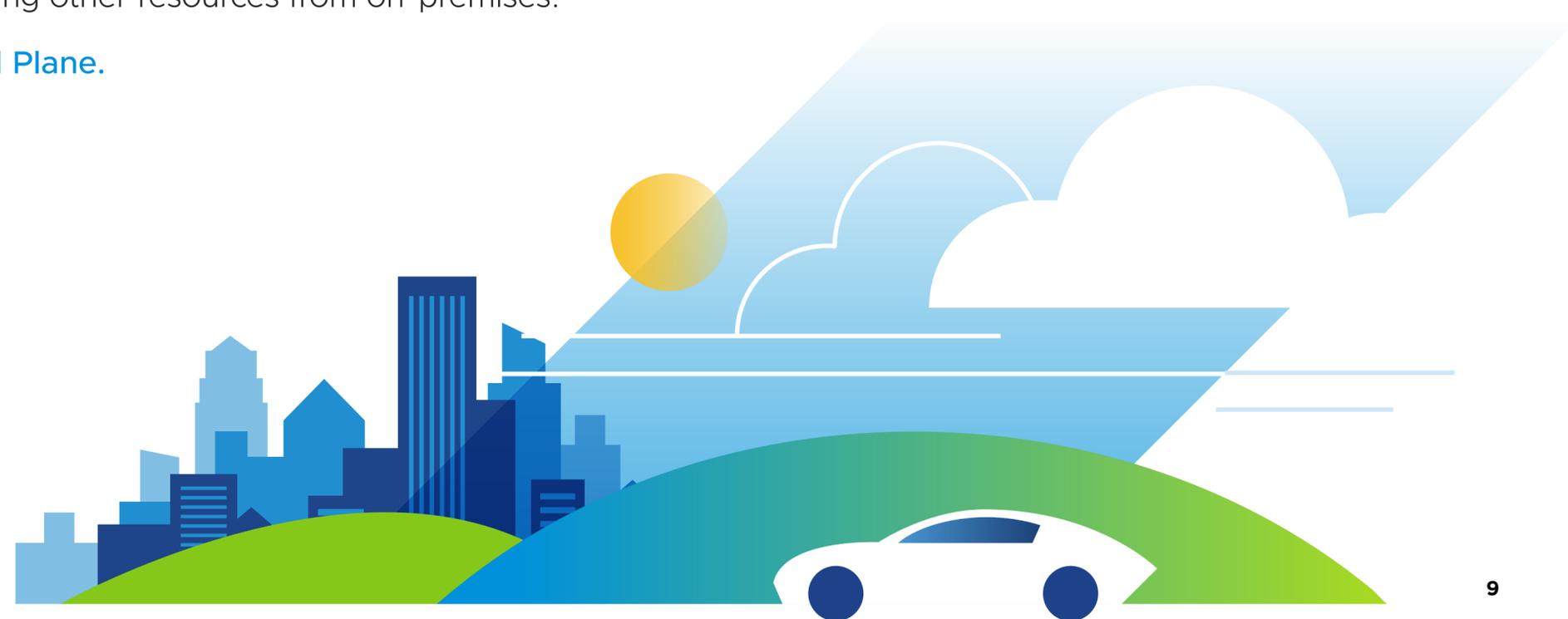
### Horizon in Google Cloud VMware Engine, or VMware Cloud on AWS, or Microsoft Azure VMware Solution, or IBM Cloud, or...

So, Horizon is awesome, but you might have heard that we have this other small thing called VMware vSphere®. Horizon runs only on vSphere, and this gives it superpowers! Seriously.

One of those superpowers is Instant Clone Technology, which can provision desktops in the blink of an eye. There are also intrinsic security benefits, integrations with App Volumes, and more. Of course, if you're an on-premises Horizon customer, you already know this. But what you might not know is that vSphere, and the entire VMware software-defined data center stack, is also available as a managed service on Google Cloud, VMware Cloud™ on AWS, Microsoft Azure, and IBM Cloud! 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.

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 we've 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, at the end of the day, 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 service 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 ... wait for it ... Horizon Control Plane, and VMware handles the rest. That means that 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 Windows Virtual Desktop to Horizon Cloud on Microsoft Azure. That means that you can take advantage of the Windows Virtual Desktop benefit that you have as part of your Microsoft Enterprise Agreement (which includes things like Windows 10 Enterprise multi-session, Windows 7 with free Extended Security Updates until January 2023, discounted Azure pricing, and no VDA 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, but there's one thing we haven't discussed ... [licensing](#).

We know. Nobody likes to talk about that. Fortunately, we're in the business of simplifying your life and that extends to licensing, too.

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. We call it the Horizon Universal License, and 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, a Horizon Universal subscription 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's inherent to VMware Horizon has never been more important. Moving to the cloud isn't 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.**

**Learn more about how to achieve maximum flexibility on your journey to the cloud. Check out our Horizon Control Plane Services white paper.**

[DOWNLOAD](#)

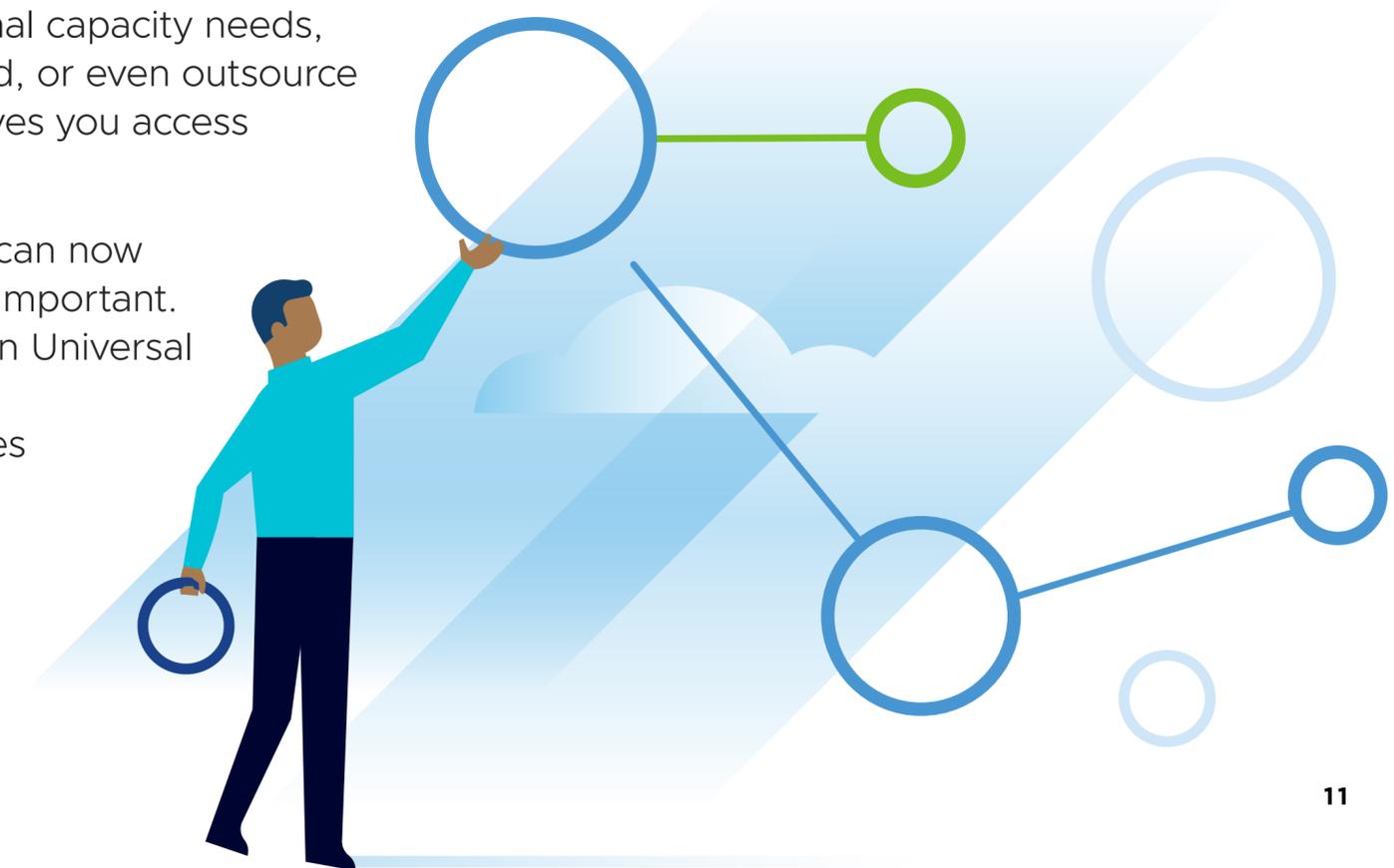
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# About the Author

Brian Madden is Lead Field Technologist, End-User Computing at VMware. He has been in the EUC industry for 25 years, and is currently the lead field technologist in VMware's EUC Office of the CTO. Prior to joining VMware, he was known as the creator of BrianMadden.com and the BriForum conference series. Brian has written six books, thousands of blog posts, and given hundreds of speeches around the world.

