

Facing the Future:

A New Kind of Cloud for VMware Users

Exploring cloud trends
and efficiencies for
VMware environments



IBM Cloud

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Introduction



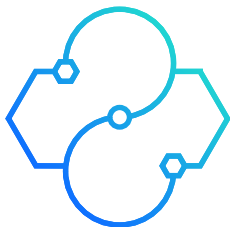
With the release of the ESX hypervisor in 2002, VMware transformed the IT industry. They did it again with the release of ESXi in 2007, and again with the release of vSphere in 2009. Server rooms were transformed. Ten servers became one, and months of deployment time became days.

The network side of the house has likewise undergone dramatic changes thanks to VMware, going back to the first virtual switch, vSwitch, which appeared alongside that first ESX hypervisor. Networking paradigms shifted again in 2013 when VMware introduced software-defined networking via NSX.

Today, cloud computing is reinventing the way IT works. With cloud technology, organizations have access to computing at an unimaginable scale. And with more than four billion people—half the world’s population—using the Internet, unprecedented scale is now accompanied by unprecedented reach.¹

But what does it mean for VMware users? This eBook takes a closer look at current trends in cloud computing and how they affect today’s VMware users, especially those who haven’t yet moved existing on-premises workloads to the cloud. It examines the unique needs of VMware shops and explores how a cloud platform designed specifically for VMware can help companies finally apply the many benefits of the cloud to their infrastructures.

Today's Clouds



According to IDC, digital transformation continues to be a top investment priority at enterprise IT organizations, with over 80 percent reporting that they have ongoing initiatives to rationalize and modernize their infrastructures.² For many organizations, this means a move to cloud computing. The number of hybrid cloud environments in particular has exploded, increasing 3x in the space of a year.³

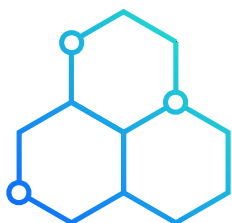
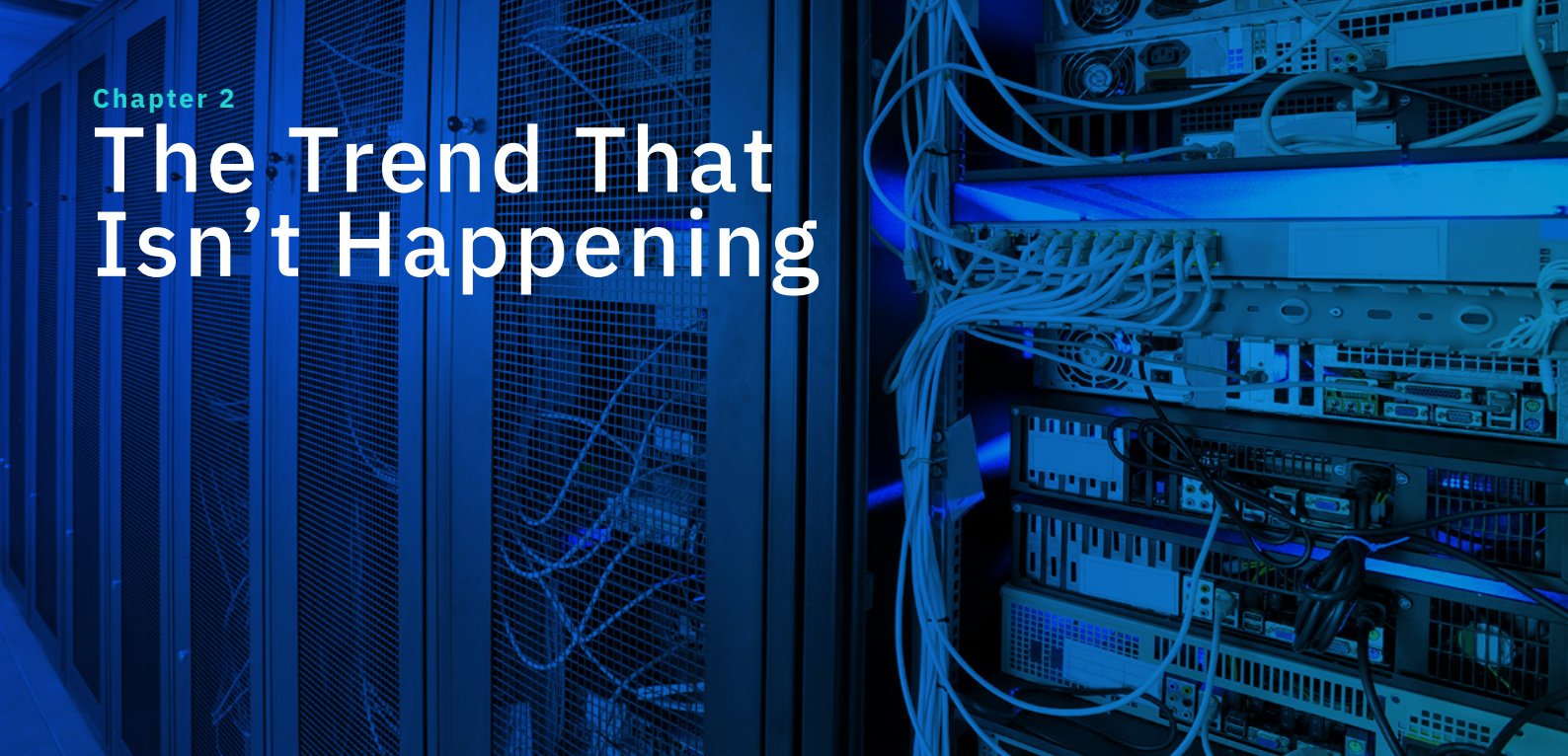
Many of these hybrid clouds reflect a double-life within IT organizations. They've adopted the cloud for new development projects or "cloud-native" applications, while keeping existing workloads on-premises. Shifting to cloud-native development is a natural choice because of the flexibility, scalability, and cost-effectiveness of cloud resources. In fact, cloud-native applications and services are expected to double between 2017 and 2020.⁴

In the meantime, the cloud is changing before our eyes. "Public cloud has been around for many years now and server virtualization for at least twice as long," says Jim Rapoza, of Aberdeen Group.⁵ "But while both of these technologies are in some ways 'mature' both are also completely new. That's because each has been transformed by other emerging technologies."

For example, cloud enables more mobile connections, which creates more data, which leads to richer analytics and more informed AI. More informed AI creates better use cases for edge computing and IoT, both of which mean more storage and computation demands on the cloud. Each of these technology "superpowers" is feeding the other and spurring acceleration. Global revenue from enterprise AI applications, for instance, is predicted to grow from \$1.6B in 2018 to more than \$31B in 2025.⁶

But perhaps the most interesting cloud trend is the one that isn't happening. Despite phenomenal growth in cloud computing, recent research by Ovum indicates that 80 percent of mission-critical and sensitive workloads are still running on-premises.⁷ While organizations have adopted the cloud for cloud-native development and have started migrating the "low-hanging fruit," the bulk of their business applications have stayed right where they are.

The Trend That Isn't Happening



Why are the vast majority of business-critical workloads still on-premises? Why are organizations eager to put new apps in the cloud but not their traditional data-center workloads? The short answer is that many of those workloads are critical to the survival of the business, so the stakes are much higher. For those workloads, the cloud migration path may not be clear, much less straightforward. And in those cases, the potential costs, risks, complexity, and disruption appear to outweigh any potential benefits. To put it another way, since it's not broken, companies aren't fixing it.

One of the major showstoppers for companies, including VMware shops, is that many cloud services don't provide the type of virtualization VMware users are accustomed to having. For example, they may offer a flavor of Citrix Xen or Microsoft Hyper-V, and they may offer only multi-tenant environments. Essentially, these cloud providers require organizations to conform to them, rather than providing cloud services that conform to the organization.

But the cloud still holds tremendous promise for these workloads, despite the fact that many of them were not initially designed for a cloud environment. With the right cloud platform, you can boost performance, introduce new capabilities, align IT spend with business use, scale quickly to address growing pains, enhance your disaster recovery strategy, and take advantage of sophisticated security solutions—all of which can have a dramatic impact on those critical workloads.

And by taking a hybrid cloud approach, you can adopt cloud at your own pace and leverage your team's existing skills and expertise. You can take a thoughtful approach to the migration process, evaluating the options for moving, extending, modernizing, and operating your workloads. Perhaps best of all, organizations can begin to get out of the business of running data centers, allowing them to focus instead on innovating products and services.

A Wishlist for VMware Users

For the companies still running those 80 percent of business-critical workloads on-premises, it would take a particularly compelling solution to inspire them to migrate those workloads to the cloud. They would need a secure and powerful platform on which to essentially emulate their on-premises environment. A cloud wishlist for VMware users, for example, might include the following items:



Leverage our existing investments in VMware



Bring our own licenses (or get cost-effective CPU-based pricing)



Migrate without refactoring applications



Migrate without retooling security



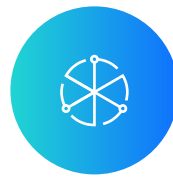
Have full access to the VMware stack



Be able to configure infrastructure components according to our needs



Use trusted, single-tenant servers suitable for highly regulated workloads



Get consistently high performance and reliability



Achiever higher availability than we get on-premises



Apply our existing VMware skill sets



Use the same tools, scripts, and control panel to manage our workloads in the cloud



Connect to regional/global cloud resources

IBM and VMware have partnered to satisfy this ambitious wishlist, combining enterprise-grade IBM Cloud services with VMware best-in-class networking and virtualization solutions. This partnership allows VMware users to move, modernize, and operate any application in the cloud.

A Cloud Made for VMware



IBM and VMware have joined forces to offer a first in the industry—a cloud made specifically for VMware users like you. IBM Cloud for VMware Solutions combines IBM’s comprehensive suite of trusted cloud computing services with the VMware technology stack that forms the engine of your infrastructure. IBM Cloud for VMware Solutions essentially allows you to recreate your VMware environment in the cloud, so you can migrate business-critical workloads without the costs and risk associated with rearchitecting applications and reinventing security and operations.

With IBM Cloud for VMware Solutions, you can check off all the items on your wishlist while reaping the benefits of the highly available, global IBM Cloud architecture.

Flexibility



IBM Cloud for VMware Solutions allows you to configure CPU, memory, storage, and networking for the underlying servers so you can optimize the solution for your specific workload requirements.

Visibility and control



IBM Cloud provides full access to the native VMware stack to manage resources as you would on premises. With IBM Cloud for VMware Solutions, you get visibility down to the Intel® chipset.

Security



IBM Cloud provides secure, single-tenant bare-metal servers. IBM Cloud is the first cloud provider to offer Intel TXT hardware-assisted security technologies to help secure your infrastructure.

Performance



IBM Cloud data centers are built with best-in-class networking infrastructure and virtualization software for exceptional bandwidth and connectivity, providing you the highest speed and reliability.

Availability



IBM Cloud for VMware Solutions can enable higher levels of availability than what some VMware users can currently achieve with on-premises environments.

IBM Cloud for VMware Solutions also provides tools that can help enterprises not only migrate and extend their applications, but also use containers to modernize their applications, whether deploying on-premises, in a private cloud, or in the public cloud. IBM Cloud for VMware Solutions is now integrated with the IBM Cloud Kubernetes Service, providing a fully managed container environment—so you can focus on application development.

And with IBM Cloud, VMware users can take advantage of IBM's catalog of higher-layer cloud data services, including Blockchain, analytics services, and IBM Watson for AI and machine learning. These new services and solutions allow you capitalize on your most important VMware workloads, equipping you with powerful tools for further innovation and business differentiation.

Next Steps



VMware is the infrastructure platform choice for 100 percent of the Fortune 500. IBM Cloud won the VMware Global Cloud Partner of the Year Award in 2017, an accolade that reflects strong engineering collaboration and roadmap alignment between the two companies. The result is a solution that empowers IT to migrate any application—whether virtualized or containerized, basic or business-critical—to the IBM Cloud.

See how much an IBM Cloud for VMware Solution can save you versus a comparable on-premise environment.



Sources

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