

4 Reasons to Embrace Multi-Cloud with Network Virtualization



Don't stop before your digital transformation is complete

Customer expectations have acted as a catalyst for change in every industry. From financial services to airlines, organizations increasingly focus on delivering value to customers through apps and digital experiences. Today's modern applications and the demands of their developers require an agile, scalable infrastructure. To keep up with the rapid pace of their businesses, organizations turn to the cloud to maintain a competitive advantage.

Many businesses have adopted a multi-cloud strategy with workloads distributed across onsite data centers, private clouds, and public clouds. There are more environments to manage than ever before, and more things to connect and secure—from apps to data, devices, and users. And it can't be done without an increasingly powerful network designed to meet the needs of the digital era.

IT organizations have long realized the value in virtualized compute and storage, which began their digital transformations and allowed them to trade slow, inflexible processes rooted in hardware for a more agile, software-defined model. To get ahead of all the demands of today's digital business, IT teams must now complete the final building block of the software-defined foundation. This can only be achieved through virtualizing the network.



Multi-cloud is on the rise. Organizations leverage almost five clouds on average.¹

Is your network ready for multi-cloud?

In an application-centric world, leveraging hybrid and multiple clouds allows access and innovation anywhere in the world. But a multi-cloud environment comes with its own set of management, security, and connection challenges. And when apps can make or break a business, your ability to use a flexible and programmable network is crucial to your future success. It's time to take a new approach to networking. Think software first.

Virtualizing your network is crucial because:

- **Application architectures are changing.** It's all about the app, but the way they're developed and built is evolving. To enable rapid, flexible app deployment, IT organizations take advantage of containers, microservices and platform as a service (PaaS). Supporting these technologies requires a modern network.
- **Applications drive new infrastructure requirements.** When applications can exist anywhere, people expect connectivity, high performance, and availability everywhere. But that's not feasible when you depend on a hardware-based network. You need a network delivered in software to connect users to apps and businesses to data, regardless of location—across data centers, private clouds, public clouds, and hybrid clouds.
- **Protecting the data center perimeter is no longer enough.** From bring-your-own-device (BYOD) programs to branch offices and the cloud, there are more endpoints and behavior patterns now than ever, and threats have evolved right along with them. Without a comprehensive strategy for keeping all your apps and data secure—driven by the ability to apply and enforce security policy consistently across clouds—it's simply a matter of when an attacker will take advantage, not if.

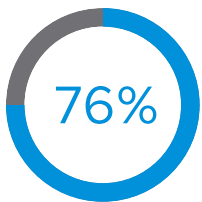
Hardware isn't obsolete; it just plays a different role

Network hardware continues to play an important role in a reliable, high-performing infrastructure, but it's not sufficient on its own. Hardware-centric networking simply can't match the speed, agility, or security of a software-defined solution.

A virtualized networking solution complements the network underlay, allowing you to extend your existing hardware investments—there's no need to rip and replace. Instead of being locked into rigid refresh cycles that demand investment based on an arbitrary timeline, you can non-disruptively deploy virtual networks over existing networking hardware to extract more value out of what you already have.

With a software-based approach to networking, you can:

- **Provide consistent networking** and security policies for existing and next-generation applications.
- **Simplify management** with a unified operational model and common interface across the entire network to scale operations across a growing number of virtual networks, availability zones, regions, and clouds.
- **Build security** into the platform, vastly simplifying the operational model of firewalling every workload for streamlined, intrinsic application protection.



76% of enterprises are challenged with managing multi-cloud.²

Embrace hybrid cloud and multi-cloud with network virtualization

Even as the digital landscape continues to shift and change, organizations must have a solid foundation while remaining flexible and open to whatever comes next. With a virtual network, you obtain networking and security consistency with the ability to adapt to future demands.

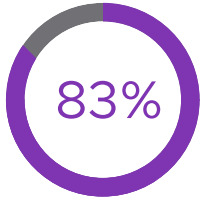
Network virtualization makes it possible with four key capabilities.

1. Enables agility through automation

Automation lies at the heart of IT agility and consistency. But IT organizations that still rely solely on hardware-based solutions can't implement an effective automation strategy. Networking hardware depends heavily on manual configuration and maintenance of scripts—a job that's often labor intensive and error prone, ultimately becoming the bottleneck to faster delivery of IT services.

How you benefit from automation:

- **Accelerate service delivery.** Automate day-to-day processes, eliminating manual configuration, avoiding the risk from human error, and reducing provisioning time from months to days.
- **Your IT organization maintains visibility.** You can eliminate shadow IT by providing a self-service framework for lines of business and developers. The framework allows you to maintain compliance and security, while developers get the ability to move their projects forward.



83% of organizations believe workloads will move freely across clouds. The primary driver will be to leverage different application services.¹

2. Decouples apps from infrastructure with abstraction

Traditional infrastructure breeds complexity. That's because network and security configurations must be matched across multiple domains. The more environments you have, the more challenging it becomes. Network virtualization solves that by abstracting network operations from the underlying hardware onto a distributed virtualization layer. It allows you to create a unified, seamless and resilient pool of infrastructure resources to run apps across multiple data centers and to the cloud.

How abstraction benefits you:

- **Apps can be deployed in any location.** They can connect to resources located across sites, aiding in disaster avoidance, management of planned and unplanned outages, or for better resource utilization.
- **You'll be better prepared for public cloud.** As operations continue to shift toward the public cloud, workloads and their policies will be mobile and consistent across different environments.
- **The business benefits quickly and directly.** You'll be able to achieve maximum app uptime, significant cost savings, and cloud-scale service availability, as well as eliminate unplanned outages.

3. Scales operations and maintains standardization

Today, most businesses want the ability to embrace and work across multiple clouds, both public and private. This is a huge departure from the traditional IT model. With network virtualization, you can deliver consistent networking and security services across private and public clouds, streamlining operations—and costs.

How you benefit from more efficient network operations:

- **It reduces complexity.** A virtual network makes disparate policies obsolete, unifying the operational model and simplifying operations across clouds.
- **It works with the tools you already use.** As you extend to the cloud, you can continue to use the IT operations and management tools you use today.
- **It helps you maintain standards and compliance for apps.** Once you apply a policy to an individual application, the policy automatically follows the app no matter where it goes—across virtual networks, regions, and clouds.
- **It adds value to the business.** Your company benefits from improved cloud choice. You can embrace multiple clouds without losing agility, while scaling cloud operations and reducing OpEx.



The greatest barrier to workloads moving freely will be ensuring security across multiple platforms.¹

4. Provides intrinsic security for applications and data

Security is a pain point for every company. The traditional security approach focused on hardening the data center perimeter. But with apps and data now increasingly distributed across your infrastructure, you need to be able to protect them wherever they are. Intrinsic security allows you to build policies around apps and apply a consistent security model that ensures they are secure wherever they run.

How you benefit from intrinsic security:

- **It allows you to shrink-wrap security around every workload**, making it as agile and scalable as the apps and data it protects
- **It simplifies policy management.** Overcome the differences between public cloud vendors. Write a single policy based on your intent and then apply it across your on-premises data centers and public cloud.
- **Policies follow applications, services and devices.** Security is embedded into the platform, delivering protection at all endpoints, from data center to cloud to edge. Policies stay consistent across deployment models and environments.
- **Create a security abstraction layer between data centers and clouds.** Protect new and existing apps everywhere by eliminating manual network configuration and achieving operational efficiency through automation.

Realize the benefits of multi-cloud without the usual hassles

It's time to provide a consistent platform for app development that ensures the integrity and security of your apps and data. With an established history of helping companies address complex IT challenges, VMware delivers a network virtualization solution that enables consistent networking and security across heterogeneous sites and network-wide automation to streamline multi-cloud operations. Network virtualization with VMware NSX® delivers a completely new operational model for networking defined in software, forming a cornerstone of VMware Cloud Foundation™ and providing you with the tools to openly embrace public clouds and cloud-native technologies. With VMware, you can maximize your existing hardware and position your business for the digital future.

Get more out of your network, say goodbye to the rack-and-stack mentality, and say hello to a platform for innovation.

Get started today

Take the next step to unify multi-cloud through consistent networking and security.

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Try a Hands-on Lab to test drive VMware NSX® Data Center solutions in minutes with no installation required.

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¹ Flexera. "RightScale 2019 State of the Cloud Report." 2019.

² Turbonomic. "2019 State of Multicloud." 2019.