

VMware NSX: Accelerating the Business

KEY BENEFITS

Granular Data Center Security

Micro-segmentation and granular security delivered to the individual workload

Automation

Dramatically improved operational efficiency through automation

Application Continuity

Workload mobility independent of physical network topology within and across data centers

Speed and Performance

Reduced network and security provisioning time from days to seconds

Inter/Intra Data Center Networking and Security

Extend networking and security across VMware vCenter™ and data center boundaries irrespective of underlying physical topology - enabling capabilities such as disaster recovery and active-active data centers.

VMware NSX® is foundational to the software-defined data center and completes the virtualization infrastructure, enabling IT to move as fast as the business demands without compromising the security or availability of critical applications. NSX embeds networking and security functionality typically handled in hardware directly into the hypervisor, delivering the operational model of a virtual machine for networking and security and unlocking the ability for IT to move at the speed of business.

Competing Demands and Compromises

Speed and agility, impenetrable security, and availability of applications are all critically important priorities for IT organizations to deliver. Businesses depend so heavily on a solid application infrastructure that increasingly, IT is the foundation for the business, enabling organizations to innovate.

“Technology continues to accelerate at an incredible pace, promising great rewards to organizations capable of seizing the initiative.”

However, the rapid pace of change and shifting expectations in IT require a continual shuffle of priorities and often compromises effective delivery.

IT is painfully aware of the frequent tension caused by accommodating multiple stakeholders to meet these demands, often being forced to give preference to one IT priority over another. For example, speed of application deployment is often a casualty of securing that application due to the rigid complexities associated with security. Similar compromises are often made for availability and continuity of applications, effectively placing the business at odds with itself.

The eventual outcome of this constant tension and compromise has tremendous implications for IT. In fact, it leads to serious deficiencies in multiple areas of responsibility: business is unable to meet demands quickly, vulnerabilities exist inside the data center, and organizations are lacking in overall agility.

Unlocking the Infrastructure

Most organizations have already virtualized compute components in their data centers, with the overwhelming majority virtualizing 50% to 100% of their servers.[1] In addition, many businesses have also made the decision to virtualize storage, with more than 70% of businesses having already adopted or planning to adopt software-defined storage.

This abstraction of functionality from hardware into software enables businesses to quickly provision applications, move virtual systems across and between data centers, and automate a number of processes.

Unfortunately, a number of these benefits are still anchored to data center components that have been slow to evolve, and are still constrained to the one piece of the data center infrastructure that has not been virtualized: networking. The full value of the software-defined data center still remains completely unavailable to most organizations because of this legacy.

KEY FEATURES

Distributed Stateful Firewalling

Distributed stateful firewalling, embedded in the hypervisor kernel for up to 20 Gbps of firewall capacity per hypervisor host.

Dynamic Security Policy

Security policy that is attached directly to the workload and “travels” with the workload, independent of the underlying network topology, enabling security to adapt to changes.

Cloud Management

Native integration with VMware vRealize® Automation™ and OpenStack, enabling advanced automation capabilities.

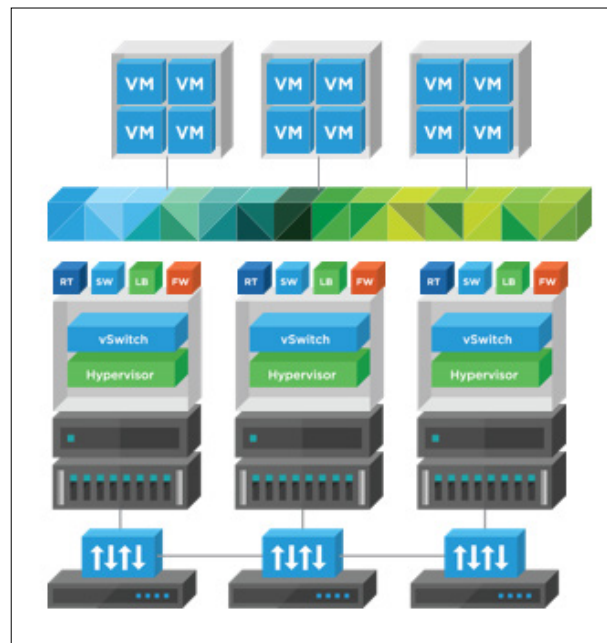
3rd Party Integration

Enhanced security and advanced networking services through an ecosystem of leading third-party vendors

The fact is that businesses that possess network architectures rooted in hardware can't match the speed, agility, or security of those running virtualized networking. The state of the business is being held hostage by the state of the network.

A fundamentally new approach to the network infrastructure is needed — one that no longer demands compromises between speed and security or between security and agility. The rules of the data center that have held businesses back from unleashing their full potential need to be rewritten to enable IT to perform without compromises. As thousands of businesses have now realized, network virtualization is that new approach.

Realizing Data Center Potential with VMware NSX



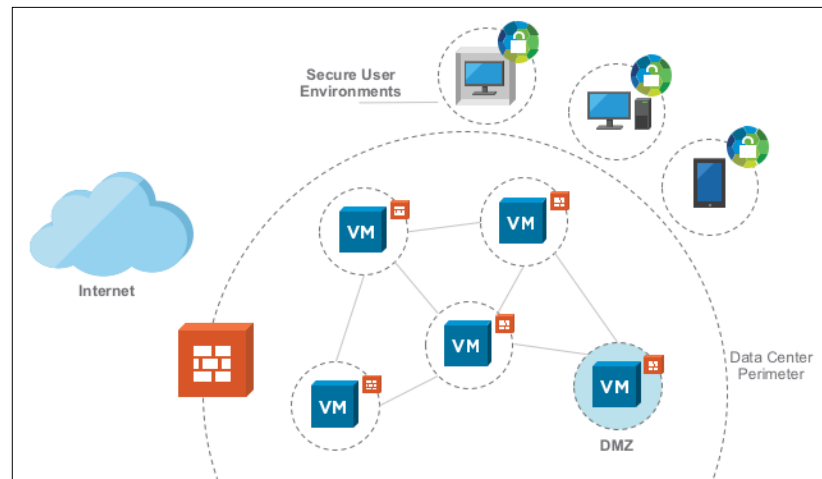
By moving network and security services into the data center virtualization layer, network virtualization enables IT to create, snapshot, store, move, delete, and restore entire application environments with the same simplicity and speed that they now have when spinning up virtual machines. This, in turn, enables levels of security and efficiency that were previously infeasible.

VMware NSX is the network virtualization platform of the software defined data center. It takes the functionality that was formerly embedded in network hardware—such as switching, routing, and firewalling—and abstracts it to the hypervisor.

By doing this, NSX creates what can be thought of as a “network hypervisor” that is distributed throughout the data center. With it, IT is able to become an enabler of innovation for the organization, effectively saying “yes” to multiple stakeholders instead of treating their requests as competing and mutually exclusive. Not only is IT now able to provide unprecedented levels of security; it is able to do so at a speed that keeps pace with the demands of the organization. The continuity of applications, automation of manual IT processes, and critical security of the data center are all able to work in harmony with business-driven time constraints and schedules in a way that significantly reduces operational complexities and associated costs.

Security

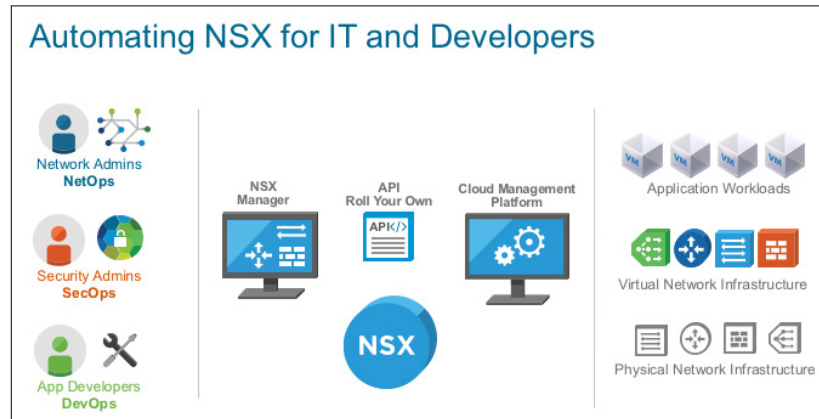
Traditional hardware-defined solutions rely on placing rigid security constructs primarily on the data center perimeter, leaving the inside of the data center unguarded. By contrast, NSX enables a fundamentally more secure the data center by integrating virtualized security and distributed firewalling directly into the infrastructure. This creates policy enforcement points for every workload. For the first time, it is operationally feasible to provide granular security with policies that travel with the workloads, independent of where workloads are in the network topology. This dramatically reduces risk to the business by enabling security actions to adapt quickly to changing threats, while significantly simplifying the operational model for security.



Automation

Automation is at the heart of IT agility and consistency, which in turn significantly improve overall operational savings. However, IT organizations that are still constrained by hardware are not able to implement a meaningful automation strategy that meets the often competing goals of the organization. Networking hardware in particular depends heavily on error-prone manual configuration and maintenance of a sprawling library of scripts. The result is a labor-intensive process that impacts IT's ability to support the business as it moves quickly to seize emerging opportunities.

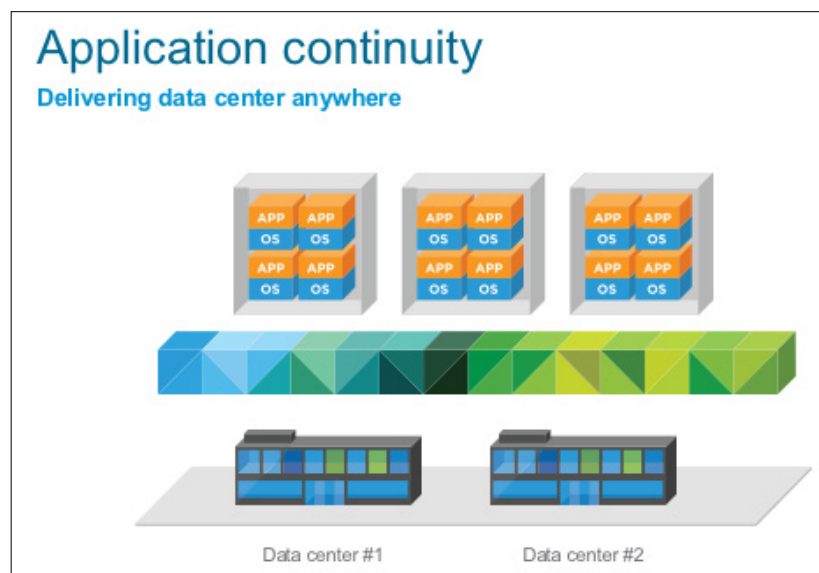
NSX completely removes this hardware-centric barrier to the automation of networking operations. By moving networking and security services into the data center virtualization layer, NSX delivers the same automated operational model of a VM, but for the entire network. Whether through VMware vRealize Automation, OpenStack, or other tool, NSX is able to automate a number of processes, significantly accelerating service delivery and reducing provision times from months to minutes. The positive business impacts of this cannot be overstated and include dramatically reduced operational complexity and cost, as well as improved governance, compliance, and consistency.



Application continuity

Whether for disaster recovery or for pooling of data center resources, application continuity is a top priority for IT. However, due to network complexities and an inflexible infrastructure, the ability to move workloads quickly between data centers or to pool data center resources across multiple locations has been out of reach for most organizations. Moving workloads seamlessly requires matching network and security configurations across multiple domains. With hardware-based networking, replicating networks in different domains is difficult to achieve, so critical tasks like disaster recovery remain slow and cumbersome.

NSX enables organizations not only to move virtual machines between data centers, but also to move all of their associated networks and security policies. On a virtualized networking infrastructure, IT can now move live workloads running on a virtual machine between continents in just minutes without any interruption to the running application, achieving active-active data centers and immediate disaster recovery options. For the business, this means maximum application uptime, significant cost savings, cloud-scale service availability, and elimination of unplanned outages.



NSX Accelerates Business Value Today and Sets the Stage for the Future

Businesses that have deployed NSX are finding that it is quickly becoming the defining factor for the success of their IT organizations and a foundational part of their data center infrastructure. Today, thousands of NSX customers are accelerating the delivery of value to their business, delivering some of their most sensitive and critical applications on top of fast, agile, and secure virtual networks in a way that simply cannot be achieved on legacy hardware-based networks.

While this evolution in networking and security has allowed NSX customers to reap significant and immediate benefits, it has also removed the time consuming and arduous tasks that previously occupied so much of their organizational bandwidth. This, in turn, has given these organizations the latitude to consider their most strategic moves as they plan for the future of the business and for the necessary functions of IT to support that vision.

Learn More

For more information visit www.vmware.com/go/nsx

¹ Bart van Ark, Ph.D., executive vice president, chief economist and strategy officer at The Conference Board, which surveyed 605 CEOs about their most pressing concerns