VMware Cloud Foundation Networking

Simplified Network Connectivity and **Operations**

Organizations want to realize the benefits of public cloud, such as agility, scalability, and developer services, within their on-premises infrastructure. A cloud operating model is essential to realizing these benefits in the private cloud, delivering improved operational efficiency, infrastructure flexibility and adaptability, compliance, control, and often lower TCO. The network infrastructure must serve these same strategic business priorities.

Best-in-class Private Cloud Networking

VMware Cloud Foundation enables you to become your own cloud provider. At the heart of VCF is VCF Networking, which improves network operations and resiliency and simplifies the transition to the private cloud.

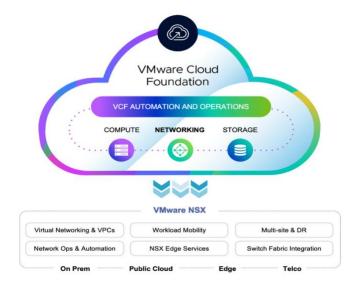


Figure 2: VMware NSX

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VMware Cloud Foundation™

is a comprehensive, privatecloud platform with integrated, enterprise-class compute, networking, storage, management, and security, resulting in an industry-leading TCO.

VMware Cloud Foundation Networking™

simplifies network connectivity, consumption, and operations with scalable multi-site connectivity, efficient infrastructure utilization, and self-service for application teams.



Why VMware Cloud Foundation **Networking?**

Cloud-Like Speed and Automation

Accelerate network provisioning with selfservice VPCs and Automate workflows using VMware Cloud Foundation Automation™, Terraform, and PowerCLI.

Unified Policy and Operations

Apply consistent networking policies across VMs, containers, and physical infrastructure.

Resilient and Agile Network

Enable seamless workload mobility and disaster recovery with a distributed architecture.

Lower Total Cost of Ownership (TCO)

Reduce CapEx and OpEx through automation, efficient resource use, and simplified operations.

Support for Any Application

Future-proof infrastructure investments with full support for VMs, containers, and Kubernetes environments.

VMware Cloud Foundation Networking components include VMware NSX for network virtualization, VMware container networking with Antrea, and VMware Cloud Foundation Operations for networks. These enable IT teams to deliver on key business initiatives enabled by VMware Cloud Foundation. The following are key enablers that make this transformation possible with VMware NSX in VMware Cloud Foundation.

Simpler Transition to Private Cloud

VCF Networking makes it easier for organizations to adopt a cloud operating model by abstracting the complexity of network configuration and automating the experience of workload connectivity, Virtual Private Clouds (VPCs), and connectivity to external networks. This simplifies the network lifecycle and aligns it with the application lifecycle.

VPCs provide project-based separation with defined quotas, RBAC, and fullstack provisioning, empowering teams to consume and manage network resources independently without impacting each other. Admin manages connectivity to physical fabric either centrally or directly from the ESX host for a simple distributed setup with a low footprint and horizontally scalable performance. Multiple teams can independently manage their VPCs and securely interconnect them using Transit Gateways, enabling high-throughput networking without changes to the physical fabric. This architecture improves agility for application teams and standardizes connectivity models across environments, enhancing consistency and governance.

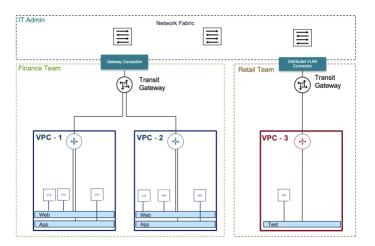


Figure 2: VPC Networking and Transit Gateways



Key Features of VMware Cloud Foundation Networking

Virtual Private Cloud (VPCs): Provide isolated, self-service network environments with standardized configurations, quotas, and RBAC. Enable rapid provisioning and scaling of application infrastructure without complex ticketing processes.

Streamlined Connectivity using Transit Gateway: Simplify inter-VPC and external connectivity with centralized or distributed Transit Gateways. Optimize traffic flows across different application environments while keeping networking configurations and operations simple.

Integrated and Scalable Container Networking: Use a common framework to configure networking and security policies for both VMs and containers. Automate incluster networking, enforce multi-cluster policies, and ensure consistent, highperformance connectivity for containerized workloads.

Full-Stack Automation: Integrate with VMware Cloud Foundation Automation™. Terraform, and PowerCLI to automate endto-end network provisioning, configuration, and lifecycle management.

Consistent Multi-Tenant Operations:

Leverage NSX Federation and unified configuration management to ensure consistent networking across multiple sites from a centralized console. Keep configuration and operational state synchronized and simplify disaster recovery.

Whether deploying a single VPC or orchestrating complex inter-VPC traffic through Transit Gateways, NSX delivers programmable infrastructure that can evolve with business demands and application changes. This streamlined onboarding experience accelerates the time-to-value for private cloud initiatives, making it easier to provide secure, multi-tenant infrastructure for diverse workloads.

Unified Private Cloud Experience

VMware NSX delivers a consistent, cloud-like experience across the private cloud by enabling rapid network provisioning, standardized operations, and seamless access to network services for application teams. VPCs deployment can be automated from VMware Cloud Foundation Automation, or alternately through vCenter, allowing cloud admins to isolate different application environments, assign quotas, and delegate access without manual intervention. This flexible, policy-driven model enables application teams to consume networking services efficiently while maintaining centralized governance.

Operational complexity is one of the biggest challenges in managing a scalable private cloud. VCF Networking addresses this by integrating orchestration tools like VMware Cloud Foundation Automation™, Terraform, PowerCLI, and modern RESTful APIs to automate network provisioning, configuration updates, and lifecycle management. These native integrations provide a unified interface for infrastructure teams to enforce policies, manage identity access, rotate certificates, and orchestrate network changes in a repeatable, controlled manner, eliminating the need for manual workflows and configuration changes.

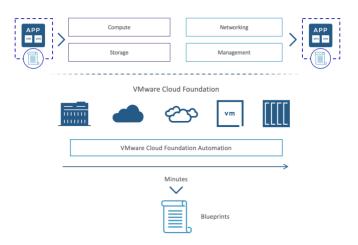


Figure 2: Unified Cloud Experience with VMware Cloud Foundation Networking

From initial deployment to Day 2 operations and ongoing maintenance, cloud administrators benefit from simplified workflows, fewer configuration errors, faster resolution times, and more efficient private cloud lifecycle management, thereby enabling a robust and unified operational experience at scale.



Improved Performance and Resiliency

VCF Networking delivers a high-performance, software-defined networking architecture fully decoupled from physical hardware. By abstracting network services such as switching, routing, and load balancing into a distributed, software-based model, it supports any underlying topology or switch fabric. VCF network virtualization integrates seamlessly with existing network implementations and switch fabrics to provide optimized capacity management, agile operations and consumption, and improved business continuity when building a private cloud with VCF. This also enables workload mobility across clusters, racks, and data centers to support large-scale data center consolidation and expansion without re-architecting the network.

To ensure operational continuity and reduce risk, network policies, configuration, and visibility are federated across all sites from a centralized console. This enables seamless workload migration, disaster recovery, and non-disruptive upgrades while preserving consistent security policies and performance. Administrators gain centralized control across distributed environments, which streamlines troubleshooting.

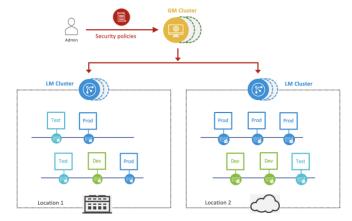


Figure 3: Global Security across Datacenter and cloud

With integrated telemetry, live traffic analysis, and system health monitoring, NSX enables IT teams to proactively address performance bottlenecks and network anomalies. These capabilities ensure a stable foundation for missioncritical applications, enabling consistent user experience and business continuity. Whether running traditional three-tier applications or distributed microservices, organizations can rely on NSX to deliver the speed and resilience required in a modern private cloud environment.



"Our developers are roughly 20% more productive with VMware NSX because they can do all their provisioning and don't have to wait for infrastructure tickets.
We've become more agile with NSX."

VMware NSX user

Learn more

To learn more about how VMware
Cloud Foundation can help you
protect your business, visit
https://www.vmware.com/ or
contact your VMware
representative

Accelerate business value today and set the stage for the future

VMware Cloud Foundation Networking provides a comprehensive private cloud networking solution designed to deliver agility, scalability, and resilience.

The tightly integrated solution based on <u>VMware NSX</u>, <u>VMware Container</u>

Networking with Antrea, and <u>VMware Cloud Foundation Operations</u>

simplifies network connectivity and operations for VMs and containers across sites.

As business needs evolve, VMware Cloud Foundation networking ensures your network remains flexible, secure, and ready to scale.