VMware Cloud Foundation™

Multi-Cloud Platform for Modern Apps

VMware Cloud Foundation+ Features

- New cloud-connected VMware Cloud Foundation+ reduces maintenance windows and provides immediate access to new features and capabilities

- VMware Cloud Foundation+ provides a flexible and simplified subscription model, and includes vSphere+, vSAN+, and SDDC Manager

- Access to high-value cloud-based admin, developer, and add-on services

VMware Cloud Foundation Features

- Multi-Cloud Platform that integrates an open source aligned Kubernetes runtime with a global control plane.

- Ability to quickly and easily provision VMs and Containers using virtual Graphics Processing Units (vGPUs) and DPUs as resources within VMware Cloud Foundation.

- Enhanced AI/ML workload support with NVIDIA GPUs and ability to share vGPUs across multiple users

- Cloud-scale networking with NSX based federation to enable consistent policy-based networking across sites, including enhanced multicast capabilities.

- Integration with VMware Aria Suite Lifecycle including flexible upgrades support.

VMware Cloud Foundation™

VMware Cloud Foundation is the multi-cloud platform for modernizing data centers and deploying modern apps. VMware Cloud Foundation delivers enterprise agility, reliability, and efficiency for customers seeking to deploy private and hybrid clouds. VMware Cloud Foundation is based on VMware's proven and comprehensive software-defined stack including VMware vSphere, VMware vSAN, VMware NSX®, and VMware Aria® Suite, providing a complete set of software-defined services for compute, storage, networking, security, and cloud management to run enterprise apps - traditional or containerized – across hybrid clouds.

VMware Cloud Foundation+

VMware Cloud Foundation+ delivers the benefits of cloud connectivity to efficiently manage VM and container-based workloads for on-premises, full stack HCI deployments.

By delivering the benefits of public cloud to on-premises workloads, VMware Cloud Foundation+ combines industry-leading full stack hyperconverged infrastructure technology, an enterprise-ready Kubernetes environment, and high-value cloud services to transform existing on-premises deployments into SaaS-enabled infrastructure. With VMware Cloud Console, IT teams can gain operational efficiency by reducing maintenance windows and immediate access to new features and capabilities.
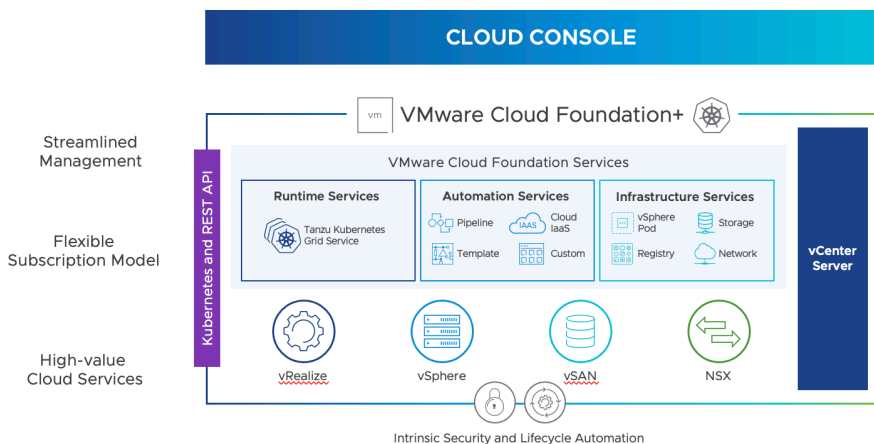
VMware Cloud Foundation Benefits

Simplified Management

Optimize performance, resilience, and availability for both VMs and Kubernetes clusters with integrated container orchestration, delivered by VMware Cloud Foundation with Tanzu.

Consistent Architecture

Simplify operations with standardized, full stack hyperconverged infrastructure and deliver developer ready infrastructure with enterprise-grade Kubernetes.

Lower Costs

Achieve reduced CapEx and OpEx and lower TCO with consistent operations and the broadest range of deployment options.

Consolidated VM and Container Management

Run workloads at scale without compromise with consistent infrastructure for both existing enterprises applications and modern containerized applications.

Figure 1: VMware Cloud Foundation+ Architecture.

Accelerate Infrastructure Delivery and Scale

VMware Cloud Foundation's automation brings true cloud agility to enterprise applications on-premises, significantly simplifying management and freeing resources for new projects. It simplifies the hybrid cloud by delivering a single integrated solution that is easy to deploy and operate through automation of the Day 0 and Day 1 steps, but also by simplifying ongoing operations through built-in automated lifecycle management.

VMware Cloud Foundation delivers automated lifecycle management through SDDC Manager, and available updates for all underlying components are validated for interoperability to consistently determine proper installation order and to maintain compliance with best practices and compatibility matrices. The updates can also be scheduled for automatic installation on a per-cluster or workload domain basis to maximize flexibility without impacting system availability. This allows the infrastructure admin to target specific workloads or environments (development vs. test vs. production) to execute updates independently and maximize productivity.

Deliver Developer-Ready Infrastructure

To keep continuous development pipelines running at peak efficiencies, it's critical to ensure that developers have frictionless access to application code, infrastructure services, runtime environments, system tools, libraries, and registries. Through the innovations introduced with VMware Cloud Foundation with Tanzu, resources are available through a set of VMware Cloud Foundation Services that are surfaced via Kubernetes and RESTful APIs.

VMware Cloud Foundation Services consist of an upstream compliant Kubernetes runtime via Tanzu Kubernetes Grid Services combined with a set of infrastructure and automation Services, including infrastructure as code, software configuration management, and infrastructure pipelines that provide frictionless access to the resources needed to support non-stop continuous integration and continuous delivery (CI/CD) pipelines to foster healthy DevOps ecosystems. By managing resources at the namespace level through vCenter Server, admins can define security policies, quota, and role-based access to a namespace, then developers always access the namespace within the pre-defined properties of that namespace, always maintaining compliance with corporate mandates.

VMware Cloud Foundation with Tanzu enables developers to consume cloud resources such as Kubernetes clusters, disks and networks using familiar Kubernetes CLI and API tools, while the admins can manage systems at scale through vCenter Server. Cloud Foundation automates infrastructure provisioning and scaling, and as a result, developers can focus on building and deploying apps while infrastructure teams become more strategic, maintaining centralized visibility and control of their global infrastructure and operations.

VMware Cloud Foundation Deployment Options

VMware Cloud Foundation can be consumed in multiple ways:

- *VMware Cloud Foundation+* : A cloud-connected subscription-based offering to centralize management and deliver new cloud services.

- *VMware Cloud Foundation Subscription* delivers a flexible, cost-effective and agile consumption model for deploying on-premises infrastructure for all applications.

- *vSAN ReadyNodes:* Cloud Foundation software can be deployed on any vSAN ReadyNode and networking switches of your choice; to learn more, visit *VMware Compatibility Guide*

- *Jointly Engineered Systems:* VMware Cloud Foundation software can be delivered as a jointly-engineered, integrated system via Dell EMC VxRail

- *As a Service On*-Premises: Consume Cloud Foundation as a service in your on-prem data centers through Dell Technologies APEX Cloud Services, Lenovo TruScale Infrastructure Services, or HPE Greenlake.

Multi-Cloud IaaS

VMware Cloud Foundation enables IT administrators and self-service enabled business units to rapidly deploy full stack enterprise HCI with fully integrated compute, storage, networking and management - utilizing automation and lifecycle management for agility, reduced complexity and lower TCO. This results in a cloud operating model that facilitates rapid deployment, automation and lifecycle management for customer deployments of all sizes, enabling the ability to dynamically scale infrastructure, resulting in better utilization and efficiency to meet the ever-changing needs of the business. Based on Forrester Consulting's Total Economic Impact research, network operations teams were able to redirect ~35% of IT staff to other high-value strategic IT projects and saw an overall reduced patching effort by approximately 35% due to automation and interoperability testing was reduced by approximately 75%. Additionally, key decision-maker interviews and financial analysis found that the composite organization experiences resulted in an ROI of 171%.

Simplify Operations

Automation and Lifecycle Management, along with intrinsic security built into the platform, help IT administrators to secure networking operations and deliver enterprise-class Day 0, Day 1, and Day 2 operations. For example, VMware Cloud Foundation administrators can simplify the creation and maintenance of a clusters desired-state vSphere Lifecycle Manager image by replicating a reference host configuration to streamline and reduce time for host upgrades.

With policy-based administration of compute, storage, networking and cloud management capabilities, administrators can easily assign security, performance, redundancy, and recovery policies to workloads. Cloud Administrators can use project-based policies, governance, and costing to manage resource access and utilization centrally. Automating the management of IT services across its lifecycle with approval policies, provisioning through APIs, declarative state enforcement, workflow orchestration, Day 2 automation, and automated configuration remediation helps further simplify operations.

Accelerate AI/ML Workloads with GPUs

VMware Cloud Foundation provides support for GPU-enabled workloads running in both virtual Machines and containers. By bringing together the automation capabilities of VMware Cloud Foundation with GPU support, IT admins can rapidly configure and deploy AI workloads with maximized resource utilization and improved performance while simultaneously enabling Data Scientists and DevOps teams to provision infrastructure capacity and workloads quickly and easily via Cloud Foundation's self-service capabilities while building AI/ML data pipelines that consume vGPUs as resources.

For more information or to purchase VMware products

Call 877-4-VMWARE (outside North America, +1-650-427-5000)

Visit product page:
vmware.com/go/cloudfoundation

Join the Cloud Foundation Community:
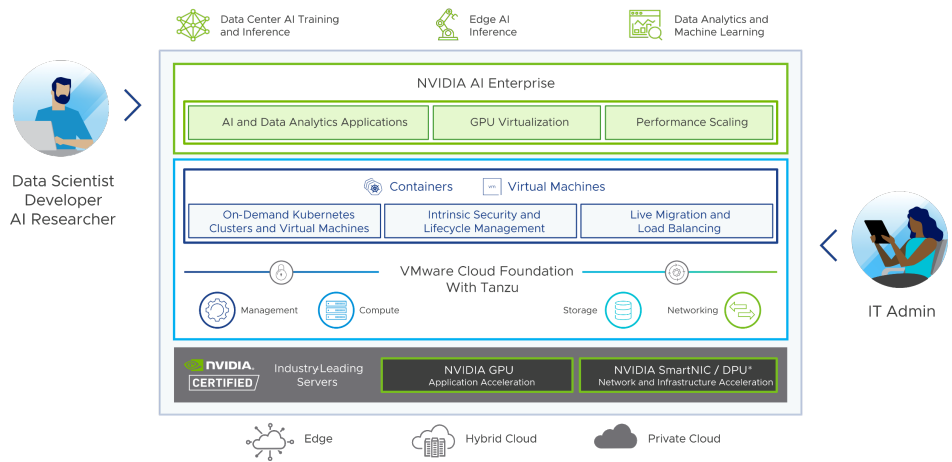*vmware.com/go/cloudfoundation-community*

Figure 2: VMware Cloud Foundation with NVIDIA AI Enterprise.

DPU offload Integration with vSphere Distributed Services Engine

VMware Cloud Foundation now supports integration of Data Processing Units (DPUs) via the vSphere Distributed Services Engine. This delivers enhanced application performance while achieving better workload consolidation, simplified management, and stronger security with network offload.

How to Get Started

Getting started with VMware Cloud Foundation is simple. For a quick hands-on experience, try the VMware Cloud Foundation Hands-on Lab. When you are ready to purchase, there are five ways to purchase VMware Cloud Foundation: (1) As a connected or disconnected subscription service from VMware Cloud (2) directly from VMware; (3) from VMware channel partners; (4) as part of an integrated system from OEM vendors; and (5) as a subscription service from a public cloud service provider.

Summary

VMware Cloud Foundation: Platform for Multi-Cloud and Modern Apps

VMware Cloud Foundation supports both traditional enterprise and modern apps and provides a complete set of highly secure software-defined services for compute, storage, network, security, Kubernetes and cloud management Increase enterprise agility and flexibility with consistent infrastructure and operations across private and public clouds.

For more information on cloud computing and VMware Cloud Foundation, please visit vmware.com/products/cloud-foundation.html