Accelerate Your Application Modernization Journey with VMware Cloud Foundation

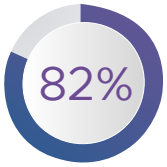
Core needs for modern app transformation:

- Self-service and on-demand infrastructure provisioning
- End-to-end automation and orchestration
- Consistent platform experience
- Seamless integration of DevOps practices
- Support for modern application development
- Unified user interface and APIs
- Scalability and flexibility



of containers are projected to run within VMs by 2028

Source: IDC White Paper, sponsored by Broadcom. "The Convergence of Containers and VMs in Modern It Infrastructure" #US53889225, November 2025.



of container users deploy Kubernetes in production.

Source: 2026 CNCF Annual Cloud Native Survey

With modern infrastructure, your application teams can consume all necessary tools, infrastructure resources, and services through a single, integrated platform. This enables them to build, test, deploy and manage all kinds of applications, including traditional apps, modern apps, cloud-native apps, and AI/ML apps, without having to deal with the complexities of infrastructure management. However, application modernization poses several challenges that can affect the efficiency and productivity of application teams:

- **Lack of automation and orchestration capabilities**
- **Infrastructure silos and interoperability challenges**
- **Inadequate support and skills for development of modern apps**
- **Limited infrastructure visibility and monitoring**
- **Security and privacy concerns due to outdated infrastructure**

The solution: VMware Cloud Foundation

VMware Cloud Foundation (VCF) is a unified private cloud platform that combines scale and agility of public cloud and security, compliance and performance of private cloud. VCF delivers a complete platform to securely deploy and manage modern applications at scale through three core services that include VMware vSphere Kubernetes Service (VKS), KubeVM Service, and Container Service.

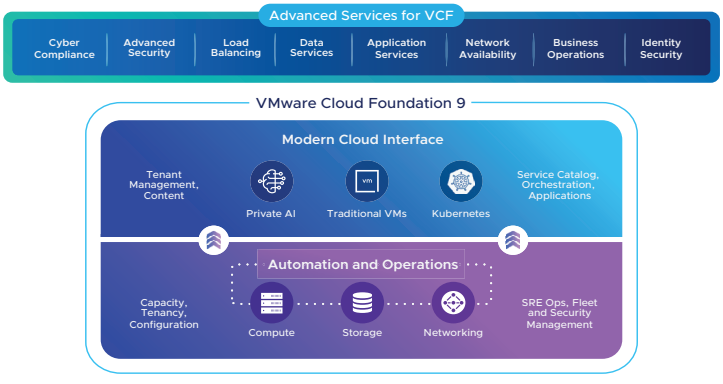


Figure 1: VMware Cloud Foundation Solution Overview

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Key benefits of leveraging VCF to enable self-service infrastructure:

- Achieve faster time to market
- Improve application team productivity
- Provide unified consumption experience
- Reduce costs
- Deliver consistent experience across all workloads

"Having a self-service private cloud has completely changed the dynamics of our global IT set-up and has provided an ideal way for local teams to consume IT. We now offer infrastructure, network, applications and platform as a service."

Jean-Michel Blanc
Group Head of System Engineering, Loomis

Use Case: Enable self-service infrastructure and accelerate modern app delivery at scale

Organizations are adopting cloud automation to deliver self-service IaaS to developers, DevOps engineers, platform engineers, and data scientists. This approach enables application teams to rapidly consume infrastructure on demand while continuously enforcing security and governance guardrails.

Accelerate innovation for all apps
VMware Cloud Foundation Automation accelerates innovation for all applications by removing the friction between developers and the infrastructure they need. Through a unified interface spanning UI, CLI, and Kubernetes APIs, application teams provision VMs, VKS clusters, and containers on demand without waiting on IT tickets. A Kubernetes control plane embedded directly on the hypervisor allows DevOps engineers to deploy clusters and manage containers and VMs on a single platform, and native integrations with CNCF open-source tools like ArgoCD enable platform teams to adopt source-controlled GitOps workflows without replacing what already works.

Scale governance and compliance
Administrators define approvals, leases, Day 2 action policies, and infrastructure placement rules centrally while allowing developers to self-serve within those guardrails. Policy as Code using YAML gives organizations programmatic control over infrastructure as a service (IaaS) resources. VCF Automation acts as the central orchestration engine, dynamically applying VMware vDefend[1] security policies and networking rules at deployment time. By defining network and security constructs within blueprints, platform teams enable a zero-trust posture that is consistently codified and deployed across every environment. Furthermore, automated Canonical Ubuntu OS image delivery eliminates risky manual uploads by locking image sourcing directly to verified Canonical repositories, ensuring every team works from trusted, standardized content across the entire organization.

Reduce CapEx and OpEx spending
VCF Automation drives down CapEx by enforcing automated lease expirations and resource reclamation workflows. Built-in cost tracking dashboards provide application teams with real-time visibility into running costs, giving IT the insights needed to proactively manage spending and prevent resource sprawl. Meanwhile, the self-service model eliminates the labor costs associated with manual provisioning and ticket-driven workflows, freeing IT staff for higher-value initiatives. Together, these capabilities lower both the capital cost of infrastructure and the ongoing operational cost of supporting enterprise applications and data workloads.

Use Case: Deploy and manage all workloads with unified and flexible application services

VCF supports modern workloads through three integrated runtimes that run side by side on the same infrastructure. VKS provides full Kubernetes clusters for containerized workloads, giving application teams the access to upstream-conformant Kubernetes with built-in governance and lifecycle management.

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1. VMware vDefend is an advanced add-on service that requires a separate license.

Key benefits of leveraging VCF to deploy, run and manage modern apps:

- Maximize value and cost savings
- Achieve faster time to market for modern apps
- Improve developer productivity
- Enhance operational efficiency
- Deliver infrastructure scalability, consistency and reliability

"VMware vSphere Kubernetes Service, as the built-in Kubernetes runtime of VCF, empowers our operations team to easily deploy, scale, and manage our most critical applications."

Alexander Hopfgartner
Head of Technology
Notruf Niederösterreich

KubeVM Service delivers virtual machines on demand through Kubernetes style APIs, so teams can provision and manage VMs using familiar declarative workflows. Container Service offers a lightweight, simplified Container-as-a-Service experience for running containerized workloads without provisioning an entire cluster.

Accelerated deployments, faster time-to-value
VCF reduces VKS cluster deployment times by up to 70%[2], moving workloads from concept to production in minutes. Application teams deploy both containers and VMs using familiar Kubernetes tools and existing CI/CD pipelines, with no need to retool or rebuild workflows. Intelligent workload placement and resource optimization takes away the cognitive burden on platform teams and enables large-scale deployments. Non-disruptive import of existing VMs to VCF gives platform teams the option to manage existing applications using Kubernetes. Broadcom ships a VKS release approximately 60 days after an upstream Kubernetes version is delivered, giving teams consistent access to the latest open-source innovations. Self-service Kubernetes with governance lets teams deploy independently, with policy enforcement at the time of cluster creation and throughout the cluster lifecycle.

Simplified operations, reducing hidden cost of ownership
VCF eliminates the operational overhead of assembling and validating individual infrastructure components by delivering deeply integrated compute, storage, networking, and upstream conformant third party tools out of the box. Desired state lifecycle management automates provisioning, patching, upgrade pre-checks, and add-on lifecycle support across the entire cluster fleet, reducing manual intervention and the risk of configuration drift. Fleet-wide visibility and automation through VCF Automation simplifies multi-cluster management at scale, with built-in data protection, backup, and restore. Self-service access with common policies and governance covers both VMs and containers from a single control plane. High availability with enhanced fault tolerance across six layers from infrastructure to application ensures non-disruptive maintenance and intelligent failover through vSphere HA, vMotion, and DRS.

Enhanced security, hardened posture, and audit-readiness
VCF enforces a zero-trust security posture across six layers of threat isolation, from the infrastructure up to the application. Data security with encryption at rest and in motion protects workloads throughout their lifecycle. A hardened system architecture with rapid Common Vulnerabilities and Exposures (CVE) mitigation ensures vulnerabilities are addressed quickly. Governance controls are embedded in the self-service experience, ensuring security and policy requirements adhering to compliance framework are applied at the time of cluster creation and maintained throughout the cluster lifecycle. Distributed application security through Istio service mesh extends that posture to the microservices layer, with integrated backup and restore for recovery readiness. Continuous compliance enforcement keeps the environment audit-ready without requiring manual intervention.

Use case: Enable AI-ready Applications with Built-in Observability

VCF combines the proven security, networking, and operational maturity of a private cloud with Private AI Services that simplify governance, privacy, and

2. Results based on internal Broadcom study

Key benefits of leveraging VCF to deploy, run and manage Private AI:

- Enable privacy and security of AI models
- Simplify infrastructure management
- Streamline model deployment
- Lower TCO
- Improve control and customization

"By implementing VCF Private AI Services, we have strengthened our intelligent service capabilities. Running AI on our own private cloud infrastructure with VCF allows us to significantly reduce costs and improve real-time automated detection efficiency, while ensuring seamless integration with our existing systems."

Tung-Liang Chen
Vice President
Chunghwa Post

Helpful resources

VCF website

Application Modernization Solution Page

VCF datasheet

VCF TCO white paper and infographic

VCF technical documentation

VCF HoL catalog

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model deployment. Supported by a broad ecosystem of hardware, model, and integration partners, VCF gives enterprises total choice while maintaining a consistent operational posture.

Enable privacy and security for AI models, agents and data
VCF embeds privacy and security directly into its platform architecture by governing the entire AI lifecycle across model adoption, agent interaction, and environmental isolation. The Model Gallery enables MLOps and data scientists to curate and provide secure LLMs with integrated RBAC. For AI agents, Model Context Protocol (MCP) support provides a secure and standardized method to integrate AI assistants with internal content repositories and external tools. Finally, complete air-gapped support allows organizations with strict regulatory or data sovereignty mandates to deploy AI infrastructure, drivers, and models in fully isolated environments without compromising privacy and security through outbound network calls.

Simplify infrastructure management
VCF simplifies AI infrastructure management by providing native capabilities that optimize infrastructure setup and operations, streamline lifecycle management, availability, and scale while consolidating resources to lower infrastructure and energy costs. The platform provides unified, single-console visibility into vGPU profiles and real-time monitoring across hosts, VMs, and clusters to eliminate manual tracking of GPU allocations. Administrators can rapidly deploy AI workloads through self-service AI Blueprints, deep learning VM templates, and native pgvector support for PostgreSQL RAG workflows. Furthermore, VMware Distributed Resource Scheduler (DRS) and built-in multitenancy ensure that multiple teams can safely share physical GPU hardware without compromising performance, data privacy, or isolation.

Streamline model deployment
VCF streamlines AI model deployment by integrating automated data preparation, standardized API access, simplified agent deployment, and full-stack observability into a cohesive platform. Automated document processing keeps RAG data pipelines to be current, while a dedicated Model Runtime and OpenAI-compatible API gateway decouple model endpoints so upgrades never disrupt downstream applications. Developers can leverage the CPU-based inferencing to compose AI agents that support cost-effective CPU-based inferencing without requiring dedicated GPUs. Finally, the AI Metrics Dashboard surfaces real-time telemetry, including token throughput, request latency, and GPU health, to fine-tune performance and improve efficiency.

Get started

Learn more about how VCF can help you accelerate your application modernization journey. Want help in your cloud journey? Our Private Cloud Modernization Program is designed to guide you through every step, no matter where you are in the process. Please contact your Broadcom representative to learn more.

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