What's New in VMware Cloud Foundation 9.1

Most Cost-Effective, Secure Platform for Production AI

VMware Cloud Foundation

VMware Cloud Foundation is a unified private-cloud platform with integrated enterprise-class compute, storage, networking, Kubernetes, management, and security, resulting in increased productivity and lower total cost of ownership.

Advanced Services:

VMware Cloud Foundation offers a comprehensive suite of advanced services designed to extend the core capabilities of the platform and address diverse business needs.

- Advanced Cyber Compliance
- Advanced Security
- Load Balancing
- Application Services
- Data Services
- Network Observability
- Business Operations
- Identity Security

Today's IT infrastructure needs have evolved significantly, driven by the demands for greater scalability, security, and agility in response to the fast-paced and complex nature of modern business environments. The rigid, siloed nature of traditional infrastructure is ill-suited to the dynamic, fast-paced demands of the modern enterprise, presenting multiple challenges that limit the ability to cost effectively address these critical business requirements.

To remain competitive in this digital-first era, businesses require a modern infrastructure solution that seamlessly integrates and orchestrates modern cloud infrastructure into a cohesive, efficient, and scalable platform. Core requirements include the ability to support traditional and container-based workloads in a self-service manner with complete automation and orchestration. To address these needs, many organizations went all-in on the public cloud but rapidly realized there are significant challenges with these solutions.

As native public cloud services scale to meet the needs of the business, operating costs dramatically increased and were very difficult to predict and control. The flexibility of public cloud provided the agility, but variable data transfer costs, egress, and hidden service fees. Security concerns also emerged as a major issue, due to the shared infrastructure and associated vulnerabilities making regulatory compliance and stringent data protection rules very complex to manage.

That's exactly where Private Cloud comes into the picture. A modern private cloud platform offers the best of both worlds - delivering the scale, flexibility, and agility of a public cloud - with enhanced security, control, resilience, and governance of on-premises infrastructure, to meet needs of each organization.

As industry moves rapidly towards a Generative AI future, delivering secure, modern infrastructure is no longer a luxury. Modern enterprises know that they must deliver advanced services while improving resource utilization and lowering costs, but the need to harden privacy, cyber-security with stringent regulatory compliance is now mission critical. Private cloud platforms have evolved to deliver a cloud operating model that spans between on-premises, edge and public cloud with consistency and uniformity.

Most Innovative Cloud Infrastructure Solution

VCF was selected as a winner of the 2025 Tech Innovation CUBEd Awards Visit: theCUBE's award page

A modern private cloud platform can deliver agility and flexibility to organizations to build and deliver services on any cloud endpoint but also offer the mobility and security to migrate apps as the business dictates. It is, of course, required that the enterprise deploy the appropriate security and governance mechanisms to ensure that all regulatory compliance requirements are met across this hybrid cloud environment.

A powerful element of modern private cloud is the ability to build standardized, predictable policies that are enabled through powerful automation layers to uniformly deploy secure infrastructure, but to lower operational costs through orchestration that simplifies operations, streamlines processes, and remediates potential threats to the organization.

VMware Cloud Foundation - A Modern Private Cloud Platform

VMware Cloud Foundation (VCF) is the industry's first unified private cloud platform that combines the scale and agility of public cloud with security, resilience, and performance of private cloud, delivering increased productivity and lower total cost of ownership. VCF accelerates customers' digital innovation with faster infrastructure modernization, a unified cloud experience, along with stronger cyber resilience and platform security.

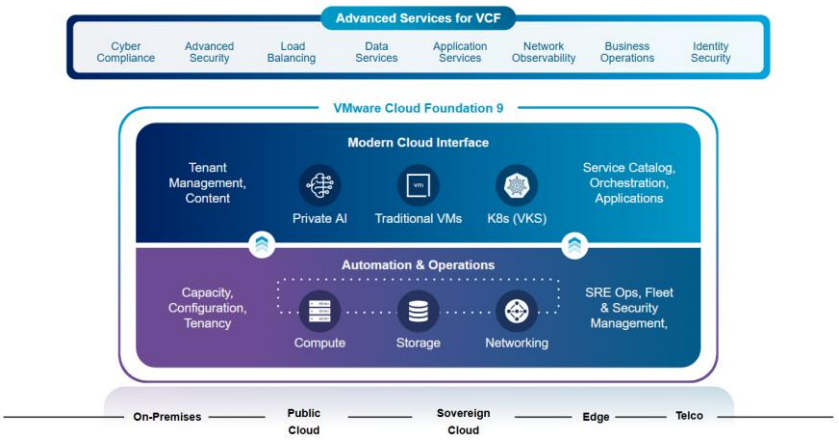

Figure 1: Delivering a modern private cloud platform with VMware Cloud Foundation.

A Unified Platform for All Applications and Environments

VMware Cloud Foundation delivers a consistent private cloud experience across ANY Environment - whether it's a customer managed data center, edge location, or any cloud endpoint. VCF supports both traditional as well as modern workloads such as containers, VMs, AI/ML workloads and brings modern applications faster to the market with self-service IaaS consumption experience for the application teams.

A Leader in G2 IaaS Segment

VCF was named as G2 Leader in IaaS category, Winter 2025
Read: G2 Reviews on VCF

What's New in VMware Cloud Foundation 9.1

VMware Cloud Foundation 9.1 features and capabilities make it easier than ever for customers to deliver efficient infrastructure and operations at scale, high-performing application delivery, and cyber resilience with secure data. Let's look at the key features and capabilities of VMware Cloud Foundation 9.1

Efficient Infrastructure & Operations at Scale

VMware Cloud Foundation 9.1 modernizes infrastructure economics and operations by delivering higher workload density on fewer physical resources while enabling efficient scale across larger fleets and distributed edge environments. Reduce TCO while preserving enterprise grade performance, resilience, and automation.

Driving Cost Optimizations

- **Enhanced NVMe Memory Tiering**

  NVMe Memory Tiering now adds built-in software mirroring and eliminates dependency on hardware RAID, reducing server total cost of ownership (TCO) by up to 40%. VCF Operations provides recommendations and health insights to guide optimal tiering decisions, while reboot-free enablement ensures zero disruption during activation.

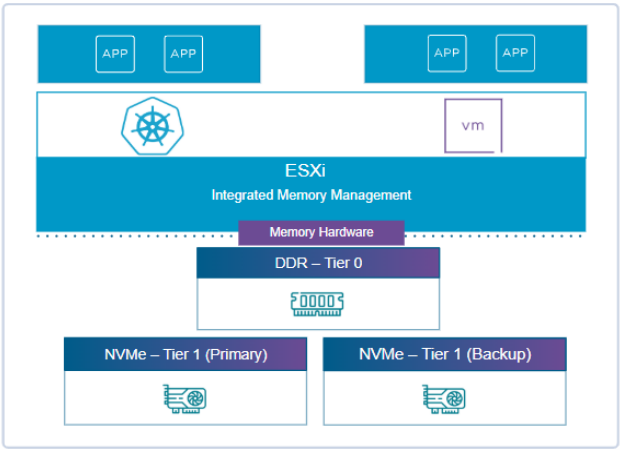

Figure 2: Improving Performance and Efficiency with NVMe Memory Tiering.

- **Advanced Storage Deduplication & Compression**

  Next-generation compression combined with global deduplication significantly reduces storage footprint for compressible workloads. This delivers industry-leading data efficiency and can lower total cost of ownership by up to 39% compared to external traditional storage arrays.

- **Topology Aware Scheduling**

  Optimizes workload placement using NUMA-aware intelligence and fairness models to maximize CPU utilization. This eliminates inefficiencies and can deliver performance improvement for modern, high-core workloads.

"I don't have people patching in the middle of the night. I'm not spending months trying to get a patch in place because we've got multiple dependencies to secure. We know maintenance windows in advance, and everything is much simpler."

Roger Joys
Vice President of Enterprise Cloud Platform, GCI Communications

- **Automated delivery of VCF-optimized Ubuntu OS**

  Secure access and automated delivery of VCF-optimized Ubuntu OS images from Canonical via the VCF Automation content catalog, eliminating manual downloads to accelerate modern workload deployments.

Scaling Infrastructure & Operations

- **Real-Time Operational Observability**

  Integrated observability across compute and networking provides end-to-end visibility within a single dashboard. Real-time insights across ESX, NSX, and networking components enable faster troubleshooting and significantly reduce mean time to resolution (MTTR).

- **Increased vSphere Kubernetes Service (VKS) Scale and Performance**

  Supports up to 500 VKS clusters per Supervisor, delivering more than 2.6x improvement in scalability and flexibility. This enables enterprises to confidently run large-scale, production-grade Kubernetes environments.

- **vSphere Elastic Provisioning (ZTP)**

  Automates and parallelizes ESX host deployment, eliminating manual provisioning bottlenecks. This ensures consistent, rapid scaling and simplifies infrastructure expansion in growing private cloud environments.

- **Expanded Fleet and Upgrade Scale**

  Re-engineered Supervisor architecture removes scaling bottlenecks. VCF 9.1 doubles host capacity to 5000 and increases parallel upgrades from 64 to 256 clusters, enabling faster, more efficient lifecycle operations with reduced maintenance windows.

Fast and Reliable Application Delivery

VMware Cloud Foundation 9.1 unifies VM, Kubernetes, and AI workload management on a single platform with native object storage. This enables developer self-service while platform engineers maintain enterprise governance and full-stack visibility. This unified approach accelerates application delivery and eliminates the operational complexity of managing fragmented, multi-vendor toolchains.

Platform Services for Modern and AI Applications

- **Faster VKS and VM Deployment**

  Linked-clone technology dramatically reduces VKS cluster deployment times by up to 69% for new clusters and up to 75% for upgrades, enabling up to 5x faster environment provisioning.

"By ensuring our critical clinical applications are protected and always available with vDefend security solutions, we advance St. John's Health's reputation as a trusted partner with the community."

Tyler Wertenbruch
IT Technical Manager, St. John's Health

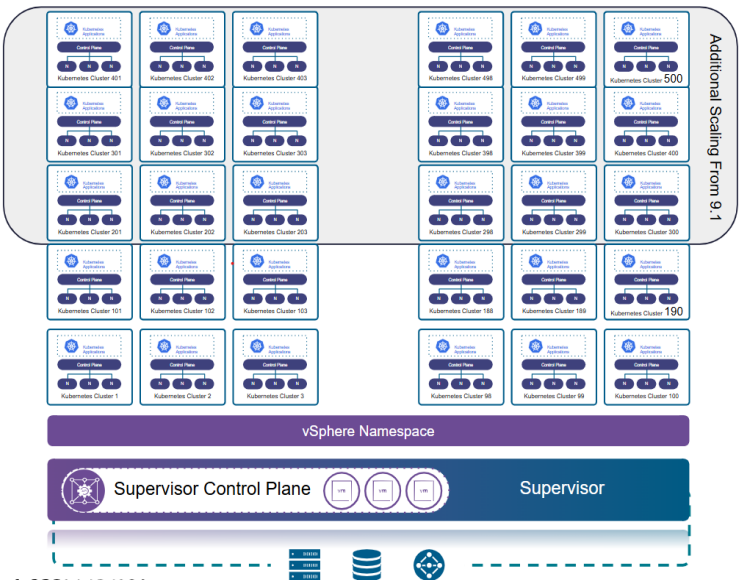

Figure 3: Deliver large-scale Kubernetes with higher efficiency.

- **Simplified Container-as-a-Service**

  vSphere Pods provide a lightweight, easy to use container runtime without requiring full Kubernetes management. Developers can quickly run containers, generate Kubernetes-compatible YAML, and choose the right runtime (VMs, Pods, or full VKS clusters) based on workload needs.

- **Native Object Storage (S3-Compatible)**

  Integrated vSAN object storage provides multi-tenant, S3-compatible buckets within the same platform used for block and file storage. This enables developer self-service while simplifying operations, reducing tooling sprawl, and eliminating additional licensing costs.

- **Tanzu Marketplace Integration[1]**

  Through Tanzu Platform 10.4, you can enable developers to discover and provision Tanzu-supported services for VKS clusters, providing a curated, self-service experience through a governed marketplace.

Continuous Operations and Delivery

- **AI Workload Observability and Insights**

  Built-in observability dashboards provide deep visibility into AI model and agent performance, tracking critical metrics such as active agents, token throughput, and cache utilization. This granular data enables rapid troubleshooting and the continuous optimization of AI workloads for peak efficiency.

- **Live App Stack Formation (Blueprint Based Deployment)**

  Capture and standardize multi-tier application environments, including compute, networking, and storage into reusable blueprints.

"VMware Cloud Foundation is a robust and comprehensive solution that is ahead of its time, enabling us to move in an agile, secure, and simple manner between the public cloud to the private cloud and vice versa."

Rita Saul Antonio Reyes
Director of Technology and Information Systems, UNIMINUTO

Deploy consistent, production-ready environment on demand, reducing configuration drift and accelerating delivery across development, testing, and production stages.

- **SQL Server DBaaS**[1]

  VMware Data Services Manager now supports fully managed SQL Server DBaaS simplifies provisioning, scaling, backup, and governance through automation and self-service. This reduces operational complexity while enabling faster, standardized, and enterprise-ready database deployments.

Cyber Resilience & Data Security

VCF 9.1 delivers compliant, sovereign cyber recovery and end-to-end platform security. This protects critical workloads while preserving jurisdictional control by securing operations from the hypervisor to the agent level. This integrated design prevents lateral attacks and reduces operational complexity without the need for bolt-on tools or platform sprawl.

Cyber Resilience and Recovery

- **vSAN for Recovery**

  Any-to-vSAN replication protects all VCF workloads, regardless of their primary storage, by replicating them into a vSAN-powered cyber recovery environment. This provides a consistent, high-performance recovery path while reducing costs through a unified private cloud operating model.

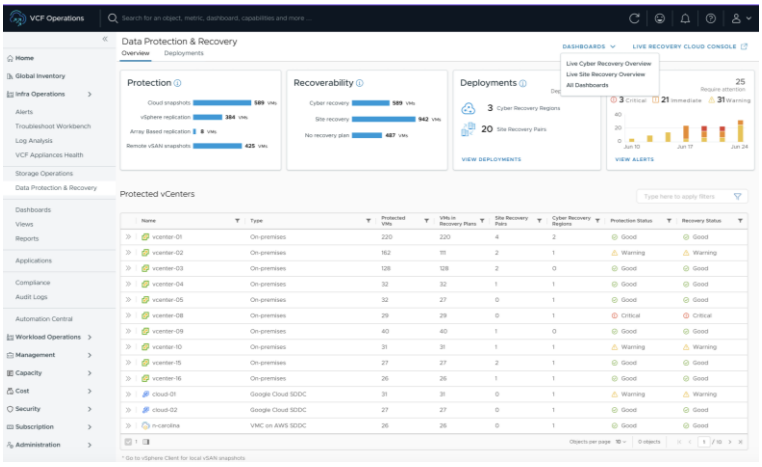

Figure 4: Extending Cyber Resilience with vSAN for Recovery.

- **Accelerated Encrypted vMotion with Intel QAT**

  Hardware offload of encryption significantly reduces CPU overhead (up to ~ 70%), enabling faster migrations, improves application performance during moves, and greater compute efficiency for production workloads.

- **On-Prem Ransomware Recovery**[1]

  Advanced Cyber Compliance (ACC) provides automated, end-to-end

Helpful Resources

For VMware Cloud Foundation product page, please visit: here

For VMware Cloud Foundation Edge, please visit: here

For VMware Cloud Foundation feature comparison, please visit: here

For Private Cloud Modernization Program, please visit: here

Join the Cloud Foundation Community: here

Contact us: here

cyber recovery using isolated clean rooms, AI-powered malware detection, intelligent restore point selection and centralized management for cyber and disaster recovery operations at scale.

- **Continuous Compliance Enforcement[1]**

  Advanced Cyber Compliance (ACC) continuously monitors environments for drift and automatically remediates deviations from security baselines. Centralized visibility and policy enforcement accelerates audit readiness while strengthening the overall security posture at enterprise scale.

End-to-End Platform and AI Security

- **Live Patching for TPM Workloads**

  Live patching support for TPM-enabled hosts (covering the vast majority of modern infrastructure) allows organizations to apply updates without VM evacuation or downtime, improving uptime and operational continuity across nearly 80% of patching scenarios.
- **Self Service Lateral Security[1]**

  With VMware vDefend, self-service lateral security provides unified tagging and pre-defined security profiles, allowing platform engineers to delegate firewall configurations to tenants while maintaining enterprise governance.
- **Automated Load Balancing[1]**

  VMware Avi delivers automated, integrated load balancing and Kubernetes ingress. With zero-touch deployment and lifecycle management, teams can accelerate application delivery while improving performance, resilience, and operational efficiency across the VCF stack.

Get started

Learn more about how VMware Cloud Foundation can help you build a modern private cloud. 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. Interested in joining the program? Complete this form or contact your Broadcom representative to learn more.

1. Advanced Service requires separate licensing.

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