



Modern Cloud Infrastructure Operations with VMware Cloud Foundation

Key Outcomes

- Faster issue detection and resolution with consolidated diagnostics, logs, alerts, topology, and network insights
- Continuous performance monitoring to optimize VMware Cloud Foundation compute, storage, and network infrastructure resources
- Enhanced resource utilization with full-stack visibility, cost, and capacity management, and multi-site operations
- Proactive security and strong compliance posture driven by comprehensive visibility and regulatory standards compliance across the IT infrastructure

IT organizations are increasingly dealing with complex applications and processes that span multiple data centers, creating a need to efficiently build, deploy, manage, and optimize private cloud resources to enhance application performance. In recent years, more applications have started leveraging compute, storage, and networking capabilities in the public cloud. However, for certain modern workloads—such as Generative AI—there is a growing trend to repatriate some of these applications back to on-premises infrastructure due to concerns around cost, performance requirements, security, and compliance. As a result, many organizations are opting to run their business applications in private cloud environments, whether hosted on-premises or in the public cloud.

IT teams that make day-to-day decisions about where applications should run face many challenging questions:

- How do we build a private cloud?
- How do we add existing vSphere infrastructure into a complete private cloud?
- How do we balance optimal workload performance against the cost of the underlying infrastructure?
- Are we applying consistent policies for compliance across applications and infrastructure?
- Can we get a global view of cost, security, and performance across data centers and clouds?
- Can we have a consistent operating model for VMs and containerized applications and save costs?

Controlling costs, ensuring performance, and managing consistent security policies across diverse and distributed environments are key priorities for IT teams. In addition, enterprises are dealing with a mixed environment that has been built over time and are facing a growing number of IT silos. Enterprises require solutions that simplify these management challenges and deliver the deep visibility, analytics, and operations functionality their teams need to manage their complex environments and software portfolios containing modern and traditional applications.

“With VCF Operations, we can now show our application analysts exactly how a resource is being used and how much it costs. From a cost and resource perspective, we can be more certain in planning new applications.”

Michael Miller
Technical Architect,
Mary Washington Healthcare

[Source: Mary Washington case study](#)

The solution : VMware Cloud Foundation Operations

VMware Cloud Foundation is a comprehensive private-cloud platform that delivers virtual infrastructure with integrated, enterprise-class compute, networking, storage, management, and security. VMware Cloud Foundation includes fully native support for Kubernetes, virtual machines, and traditional applications without requiring third-party integrations.

VMware Cloud Foundation Operations is available to customers exclusively through VMware Cloud Foundation or VMware vSphere Foundation. VMware Cloud Foundation Operations helps organizations build, manage, operate and secure their private cloud infrastructure by deploying and maintaining its fleet-level components, providing unified visibility and enhanced performance across the workload and infrastructure stack, and helping stay compliant with regulatory standards and organizational guidelines.

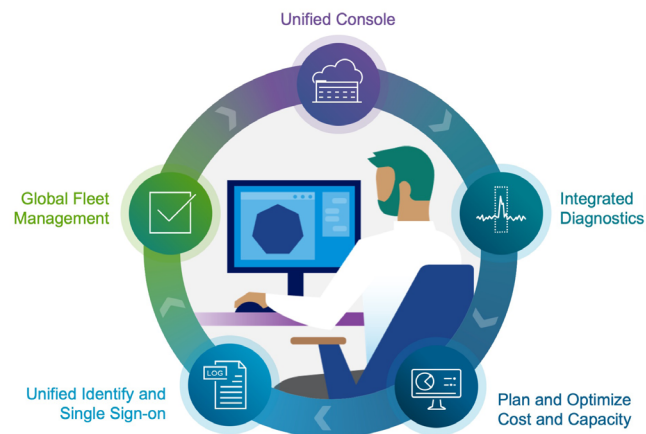


Figure 1 : VMware Cloud Foundation Operations at-a-glance

VMware Cloud Foundation Operations offers capabilities for various personas and roles who need to view applications and infrastructure environments when operating, troubleshooting, planning, and provisioning resources using integrated workflows to accelerate business agility and optimize cost, performance, and governance. It also empowers users to manage security of private cloud and ensure it is operationally secure. Operationalizing fleet, operations, and security in VCF is simple and seamless with user-friendly navigation and a single pane of glass experience.

There are three main pillars of VMware Cloud Foundation Operations as shown in Figure 2.

- **Fleet Management** enables operational consistency and efficient resource management of the VCF infrastructure at scale.
- **Operations Management** centers on monitoring and optimization of performance, cost and capacity as well as faster troubleshooting.
- **Security Management** in VCF Operations empowers users to manage security of the VCF private cloud and ensure it is operationally secure.

Infrastructure issues don't just go away, but the difference with VMware Cloud Foundation Operations is getting notified ahead of time instead of being woken up at night and having to worry about those fires without any predictability."

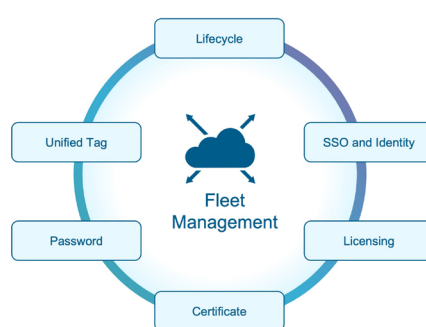
Director of Systems Engineering,
Financial Services

[Source: VCF Operations Forrester TEI](#)



Figure 2: The three main pillars of VMware Cloud Foundation Operations

Fleet Management



Key Outcomes

Operational Efficiency:

Ease of monitoring, better control and flexibility over processes reduces administrative overhead and improves infrastructure management at scale

Simplified Management:

Unified view for VCF across compute, storage, and network enables Day 0-2 operations and management to be efficient and consistent

Consistent Security:

Consistent policies, unified identity management, and easier patching reduces security loopholes, improving the security posture of the platform

The Fleet Management pillar includes six key capabilities: Lifecycle Management, SSO and Identity Management, Licensing, Certificate Management, Password Management, and Tag Management.

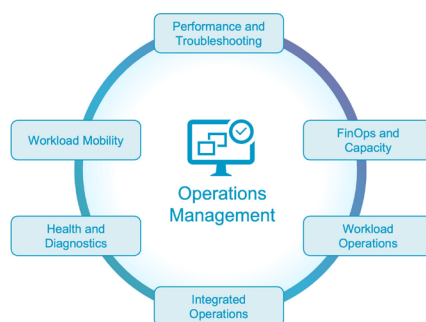
Lifecycle Management makes upgrading and patching VCF components easy and consistent. The streamlined process reduces the number of host reboots and supports automated upgrades across multiple clusters. VCF Operations allows for **Single Sign-On** across VCF and fleet of vCenters, simplifying the login configuration processes, reducing operational overhead, and enhancing user management. Various identity solutions such as Active Directory Federation Services, Azure AD, OKTA, Ping, Open Authorization 2.0 are supported. **Licensing** for VCF is simplified and unified using a secure licensing file and centralized consumption visibility. **Certificate Management** enables accurate maintenance of certificate inventory and details and reduces administrative overheads with automated certificate discovery. **Password Management** provides a centralized dashboard that offers a comprehensive view of password status and management capabilities for updates, and expiration alerts. With **Tag Management**, admins can create and manage categories and tags from a single pane of glass, enabling consistent policies across vSphere.

Benefits in numbers

- 20% reduction in issue resolution time
- 77% increase in operational efficiency

Source: VCF Operations Forrester TEI

Operations Management



Key Outcomes

Faster Troubleshooting:

Troubleshoot VCF deployments with OOTB diagnostics, significantly minimizing downtime and issue resolution

Higher Productivity:

Improved VCF admin efficiency and proactive management fueled by integrated metrics, network flows, and simplified log collection

Unified Visibility:

Single-pane-of-glass for multi-site VCF deployments with real-time monitoring and insights across the stack

Cost Savings:

Greater optimization driven by deep insights into cost and capacity utilization and predictive modeling

The Operations Management pillar includes six key capabilities: Performance and Troubleshooting, FinOps and Capacity, Workload Operations, Integrated Operations, Health and Diagnostics, and Workload Mobility.

Performance Monitoring ensures applications have continuous access to resources and AI-Driven **Troubleshooting and Remediation** enables faster time to resolution of issues while keeping costs down. With **FinOps**, VCF Operations allows customers to analyze their infrastructure costs as well as set up controls over their costs, including defining chargebacks. **Capacity Planning** helps organizations evaluate their capacity requirements based on their historical resource utilization and real-time predictive projections to plan ahead.

Workload Operations ensures that critical applications are running properly by monitoring its performance, availability and end-user experience. For container-based applications, VCF Operations provides native integration with vSphere Supervisor which enables automatic monitoring of Supervisor instances and vSphere Kubernetes Service (VKS) clusters at a granular level, shortening troubleshooting time.

Integrated Operations provides a complete network view with real-time health monitoring, traffic analysis, and application insights. It also streamlines storage management by consolidating key insights into a unified view, enabling proactive optimization, efficient resource allocation, and minimized downtime. Data and Site Resiliency Monitoring in VCF Operations provides centralized visibility into data protection metrics across private clouds. Log Operations introduces a standardized log format enabling different parts of the infrastructure to be troubleshooted together across different components.

Health and Diagnostics offers comprehensive visibility into VCF component health, root cause analysis, and proactive monitoring. It also shows a view of security risks based on CVE (common vulnerabilities and exposures).

Workload Mobility includes the migration planning function, a more streamlined and informed approach to migrating workloads into/between/within VCF.

Resources

[VCF Operations Web page](#)

[VCF Operations Hands-on Lab](#)

[VCF Operations Forrester TEI Study](#)

[VCF Technical Documentation](#)

Security Management



Key Outcomes

Improved Security Posture:

Address vulnerabilities and weaknesses in security controls, enabling better security resilience and a faster response to threats.

Compliance:

Harden your VCF infrastructure with industry benchmarks and best practice standards, reducing organizational and business risk

Accountability:

Establish accountability for access events and policy violations; important for incident response and legal proceedings

Enhanced Threat Detection:

Detect and respond to security threats more effectively, reducing the potential for data breaches and other security incidents

The Security Management pillar includes capabilities such as Security Operations, Event Auditing, and Compliance Checks.

The **Security Operations** dashboard provides a comprehensive, real-time view of user authentication, permissions, and infrastructure security, helping organizations proactively manage security across VCF deployments.

Event Auditing enhances visibility into platform interaction changes across the VCF infrastructure and provides insights into suspicious access events and policy violations. It increases user accountability as each action is registered in these events.

With **Compliance Checks**, VCF ensures the compliance of the infrastructure and cloud environments against optimum configurations and helps customers maintain a consistent configuration across SDDC components, reducing organizational and business risk.

Why VMware Cloud Foundation Operations?

Today's cloud environments are too complex to manage without modern tools. IT teams need to maximize their productivity and efficiency every day.

VCF Operations provides a single, unified interface to build, operate and secure the private cloud, significantly enhancing the cloud admin experience and eliminating operational silos. It is purpose-built for operationalizing VCF at scale while reducing complexity and operational overhead. From infrastructure provisioning to lifecycle management, everything is centralized in a single view, enabling faster deployments, streamlined upgrades, and more predictable operations. VCF Operations empowers IT teams to focus on delivering value, rather than managing infrastructure complexity.

Get started today at <https://www.vmware.com/products/cloud-infrastructure/cloud-foundation-operations>