

# VMware Cloud Foundation Operations

## VMware Cloud Foundation

VMware Cloud Foundation (VCF) is the industry's first private cloud platform to deliver public cloud scale and agility with on-premises security, resilience and performance, while lowering total cost of ownership. VCF accelerates customers' digital innovation with faster infrastructure modernization, a unified cloud experience, along with stronger cyber resilience and platform.

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, AI/ML workloads and brings modern applications faster to the market with self-service IaaS consumption experience for the application teams.

## Efficient Infrastructure & Operations at Scale

Organizations can take the private cloud route as part of an overhaul of their IT infrastructure setup. A streamlined modern setup helps ensure improved performance and efficiency, increased reliability, a better overall security posture and optimized costs.

But setting up a private cloud and being an efficient infrastructure provider has its own set of challenges:

- Customers are struggling to meet business needs while having a high performing infrastructure.
- Horizontally scaling the infrastructure leads to a visibility issue, slowing the troubleshooting process to take quick decisions.
- Resource utilization is not optimum when a customer thinks of infrastructure modernization or consolidation projects.
- Modern AI-based applications which use containers, microservices and Kubernetes lead to an increased infrastructure management cost.
- Compliance and audit issues affecting the overall security posture.

## Key Outcomes

VMware Cloud Foundation Operations provides a single console for private cloud with integrated compute, storage and network operations.

- Faster issue detection and resolution with consolidated diagnostics, logs, alerts, network topology, and 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 multisite operations.
- Proactive security and strong compliance posture driven by comprehensive visibility and regulatory standards ensuring compliance across the IT infrastructure.

**Key Benefits**

- Unified visibility
- Lower costs
- Increased operational efficiency
- Faster time to resolution
- Reduced risk

**Key Features**

Fleet level licensing, identity management and SSO, certificates, tags, passwords, configurations with drift detection and lifecycle.

Real-time, predictive capacity and cost analytics and continuous performance optimization.

Monitoring for Kubernetes containers, VMs, and AI workloads.

Enhanced Troubleshooting experience with consolidated diagnostics, metrics, logs, events and network insights.

Real-time, predictive capacity and cost analytics and continuous performance optimization.

Continuous compliance enables organizations to reduce risks and ensure regulatory compliance standards are enabled with the VMware Advanced Cyber Compliance Add-on Advanced Service.

**What's New in VCF 9.1 for VCF Operations**

VMware Cloud Foundation Operations offers new capabilities for various people 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.

Build for VCF 9.1	
Scale Improvements	VCF per instance scale increase to 5,000 ESX hosts (2x improvement). Parallel upgrade scale improved to 256 clusters at a time (4x improvement).
VCF Installer Improvements	Improved UI, reduced input, and improved workflow.
Lifecycle Management (LCM) Operations	Simplified deployment and patching. Improved upgrade and patch monitoring alerts and notifications for warnings or failures. Improved troubleshooting and remediation steps for known issues and unknown issues.

Manage for VCF 9.1	
Identity and Access (IAM)	End-to-end workflow for SSO and roles. Persona-based roles to delegate specific permissions. VCF roles for functions such as admin, operator, planner, and auditor. Service Accounts & API access.
Password Management	Password Policy enforcement. CyberArk plugin integration for password management.
Certificate Management	Certificate support for standalone vCenter 8.0 U3+, workload mobility (HCX), and AVI ALB. 3rd Party CA integrations via APIs. Bulk operations (renew, replace, etc.).
Tag Management	Tags defined and assigned directly from VCF Ops for host and clusters.

**Learn more**

Learn more at [VMware Cloud Foundation Operations](https://www.vmware.com/cloud-foundation/operations)

**For more information or to purchase VMware products**

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**What's New in VCF 9.1 for VCF Operations**

- Note that for Protect, there are compliance and security posture management capabilities that will require the VMware Advanced Cyber Compliance Add-on Advanced Service

Operate for VCF 9.1	
Next Gen Ops Platform	Real-Time monitoring for VCF infrastructure. Comprehensive log management support within VCF Operations. AI Ready Platform with API to integrate with customer's RAG and MCP.
Infrastructure Operations	Health and Diagnostics for all VCF components. Troubleshooting Workbench enhancements.
Workload Operations	VKS Monitoring OOTB. Prometheus Support (Management Pack Builder, Prom QL API).

Protect for VCF 9.1	
Compliance <sup>1</sup>	Security Posture Management dashboard with compliance (ACC). Support for PCI (ACC). Support for Security Configuration Guide (VCF 9 Security Baseline) (ACC).
Security Forensics	Audit trail for Identity Security Posture Management (ISPM). Audit records with audit events/logs for VKS. Historical Diagnostics findings.
SecOps	Improved SecOps Dashboard including confidential computing.

**Feature Comparison**

Comparing VMware Cloud Foundation Operations capabilities across VMware Cloud Foundation, VMware Cloud Foundation Edge, and VMware vSphere Foundation.

Feature Comparison			
VCF Operations Features	VMware vSphere Foundation	VMware Cloud Foundation (Edge)	VMware Cloud Foundation
<b>Platform</b>			
Single-Sign On	Yes	Yes	Yes
Lifecycle Management	No	Yes	Yes
License Management	No	Yes	Yes
Certificate Management	No	Yes	Yes
Password Management	No	Yes	Yes
Configuration Management <sup>1</sup>	No	Yes	Yes
Tag Management	No	Yes	Yes
Built-In high availability (Automated Failover of Platform Nodes)	Yes	Yes	Yes
Continuous Availability	Yes	Yes	Yes
Energy efficiency metric	Yes	Yes	Yes
<b>Visibility</b>			
Dashboards	Yes	Yes	Yes
Reports	Yes	Yes	Yes
Views	Yes	Yes	Yes
Heat maps	Yes	Yes	Yes
Performance charts	Yes	Yes	Yes
Alerts	Yes	Yes	Yes
Metrics, Events, Logs, and Traces	Yes	Yes	Yes
Flow visibility for network traffic	No	Yes	Yes
Custom webhook payload templates	Yes	Yes	Yes
Custom email notification templates	Yes	Yes	Yes
Super Metrics, Metric Correlation and Event Mapping	Yes	Yes	Yes
<b>Performance</b>			
Performance Monitoring and Analytics	Yes	Yes	Yes
Manual Workload Optimization	Yes	Yes	Yes
Predictive Distributed Resource Scheduling DRS	Yes	Yes	Yes

## Datasheet for VMware Cloud Foundation Operations

Business and Operational Intent-Based Automated and Schedulable Workload Balancing and Optimization	Yes	Yes	Yes
Host-Based Placement	Yes	Yes	Yes
Automation Central	Yes	Yes	Yes
<b>Monitoring and Troubleshooting</b>			
<b>Real Time Monitoring</b>	Yes	Yes	Yes
VCF Health	Yes	Yes	Yes
VCF Diagnostics	Yes	Yes	Yes
Physical Datacenter monitoring	Yes	Yes	Yes
Troubleshooting Workbench	Yes	Yes	Yes
Storage Operations	Yes	Yes	Yes
Network Operations	Yes	Yes	Yes
GPU and vGPU Monitoring	Yes	Yes	Yes
Log Query	Yes	Yes	Yes
Log Partitioning	Yes	Yes	Yes
Dashboard for Data Protection and Recovery	Yes	(requires VMware Advanced Cyber Compliance add-on)	(requires VMware Advanced Cyber Compliance add-on)
Monitoring of OS Resources using Telegraf (CPU, Disk, Memory, Network)	Yes	Yes	Yes
Service and Process Monitoring (OS level only)	Yes	Yes	Yes
Physical OS Monitoring with Telegraf	Yes	Yes	Yes
Application Discovery (flows, rules, service, and names)	No	Yes	Yes
Rule-based Application Discovery	No	Yes	Yes
Application monitoring with Open-Source Telegraf	No	Yes	Yes
Curated Application monitoring with Telegraf Agent	No	Yes	Yes
Supervisor Cluster Monitoring (Metrics, logs and Dashboards)	Yes	Yes	Yes
VMware vSphere Kubernetes Service (VKS) Cluster Monitoring	Yes	Yes	Yes
Antrea IPFIX Flows for vSphere Kubernetes Service (VKS) Clusters	No	Yes	Yes
<b>Capacity and Cost</b>			

## Datasheet for VMware Cloud Foundation Operations

Predictive Capacity Management	Yes	Yes	Yes
Capacity Optimization: Rightsizing and Reclamation	Yes	Yes	Yes
Workload Optimization	Yes	Yes	Yes
What-If analysis (Workload, Infrastructure and Migration)	Yes	Yes	Yes
Total Cost of Ownership	Yes	Yes	Yes
Potential Savings	Yes	Yes	Yes
Chargeback (Tenant Operations and Metering)	No	Yes	Yes
vSphere Kubernetes Service Costing	Yes	Yes	Yes
NVMe Memory Tiering Recommendations	Yes	Yes	Yes
<b>Protect</b>			
Compliance drift and remediation <sup>1</sup>	No	(requires VMware Advanced Cyber Compliance advanced service add-on)	requires VMware Advanced Cyber Compliance advanced service add-on
VCF Security Configuration Guide <sup>1</sup>	No	(requires VMware Advanced Cyber Compliance advanced service add-on)	requires VMware Advanced Cyber Compliance advanced service add-on
PCI DSS <sup>1</sup>	No	(requires VMware Advanced Cyber Compliance advanced service add-on)	(requires VMware Advanced Cyber Compliance advanced service add-on)
Audit events	Yes	Yes	Yes
Sec Ops Dashboards	No	Yes	Yes
Security Advisory Diagnostics	Yes	Yes	Yes
<b>Integrations</b>			
Management and Content Packs	Yes	Yes	Yes
Integration SDK	Yes	Yes	Yes
API to integrate with RAG and MCP	Yes	Yes	Yes
Management Pack Builder	Yes	Yes	Yes
VMware Marketplace	Yes	Yes	Yes

## Datasheet for VMware Cloud Foundation Operations

Advanced APIs: Resource/Data Addition, Report Generation and Automation	No	Yes	Yes
VMware Cloud Foundation Operations HCX	No	Yes	Yes
Microsoft SQL Server	No	Yes	Yes
Mongo DB	No	Yes	Yes
MySQL	No	Yes	Yes
Network Devices	No	Yes	Yes
Oracle Database	No	Yes	Yes
PostgreSQL	Yes	Yes	Yes
ServiceNow	Yes	Yes	Yes
1. There are compliance and security posture management capabilities that will require the VMware Advanced Cyber Compliance Add-on Advanced Service			