VMware Telco Cloud Platform™

Accelerate Innovation and Efficiency

At a glance

VMware Telco Cloud Platform built on VMware Cloud Foundation (VCF) is a unified, automated, vendor-neutral platform

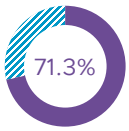
enabling network operators to deliver sovereign AI and cloud services with

operational simplicity across virtual and cloud-native functions.

It combines a horizontal architecture with future-ready flexibility to meet your organization's needs of today and tomorrow.

ACG Research - Savings over five years by shifting from siloed to a horizontal cloud model

TCO savings[2]



OpEX Horizontal Savings[2]

5G, AI, and data sovereignty have triggered a profound shift in how networks are designed, deployed, and scaled. The rise of AI-driven applications is fundamentally transforming traffic patterns across telco networks. Uplink-heavy workloads such as image recognition, real-time video translation, and interactive AI agents are placing new demands on infrastructure surpassing the traditional focus on downstream streaming and content delivery[1]. As user behavior shifts, network operators must seize the new monetization opportunities by rearchitecting their networks while ensuring sovereign control over where data is processed, stored, and governed.

Regulators demand guarantees that data and infrastructure remain under local jurisdiction, especially when AI models and workloads are involved. Operators require a flexible, policy-enforced horizontal infrastructure to comply with these regulations and provide sovereign cloud capabilities.

This transformation moves beyond basic connectivity services to end-to-end technology solutions, driven by technological innovation and shifting market dynamics. Network operators must differentiate by launching innovative, value-added services faster than competitors positioning themselves as industry leaders and capturing market share.

Although 5G opened new business opportunities, the complex, siloed architecture of operators' existing networks limits agility and hinders innovation. These vertically integrated stacks, built around vendor-specific virtual network functions (VNFs) and cloud-native network functions (CNFs) make automation and management difficult.

When operators adopt cloud-native technology to run network functions in containers alongside VNFs, complexity increases, making the network harder to operate. Traditional orchestration tools lack telco-centric features needed to automate multi-tenant, distributed cloud-native network functions (CNFs) and deliver the resiliency required in a highly regulated industry with strict SLAs and demanding consumers.

In addition, networking and security policies must be applied consistently across network functions, regardless of their deployment location. Cross-environment automation with global deployment awareness now became essential.

Furthermore, while cloud-native technology enables faster deployment and

1. https://www.fierce-network.com/wireless/op-ed-data-demand-slowing-ai-will-spike-uplink-data
2. The Economic Benefits of moving from Proprietary Cloud Silos to Horizontal Telco Cloud Networks by ACG Research

vmware® by Broadcom

Core Platform Components

VMware Cloud Foundation: Unified infrastructure stack with vSphere (compute), vSAN (storage), and NSX (networking).

VNF Management (VIM): Multi-tenant resource pooling, fine-grained control, and integration with external orchestrators.

Containers as a Service (CaaS): Carrier-grade Kubernetes with declarative deployment, self-healing, dynamic scaling, and multi-cluster lifecycle management.

Telco Cloud Automation: End-to-end automation for VNFs, CNFs, and Kubernetes clusters.

Aria Operations for Logs: Centralized, scalable logging with audit log segmentation and forwarding to external SIEM systems.

Aria Operations: Real-time platform observability with AI/ML-driven insights and customizable dashboards across infrastructure and applications.

Aria Operations for Networks: Flow-level visibility and deep network inspection

Advanced Services:

- VMware vDefend Firewall
- Avi Load balancer
- Network Observability

scalable infrastructure for 5G, many operators lack the necessary skills and experience slowing their cloud modernization efforts.

To lead in a data and AI-driven world, operators must quickly evolve into sovereign cloud providers asserting control over data, infrastructure, and operations while delivering carrier-grade performance, automation, and compliance.

VMware Telco Cloud Platform - A Modular, Vendor Neutral Cloud Native Platform

VMware Telco Cloud Platform, built on VMware Cloud Foundation (VCF), is a field-proven, software-defined sovereign cloud infrastructure solution deployed by over 150 telcos worldwide. It delivers a secure, unified, and AI-ready private cloud platform, optimized to design, deploy, and manage telecommunications-specific workloads including virtual and cloud-native network functions (VNFs and CNFs), as well as OSS/BSS systems.

In an era where data is a strategic asset, sovereignty is no longer optional, it defines infrastructure strategy. Telco Cloud Platform enables operators to become sovereign cloud providers by embedding policy enforcement, data control, and governance across every layer from Kubernetes access and infrastructure automation to compliance with national and regional mandates.

The platform accelerates cloud-native transformation and simplifies operations by consolidating siloed infrastructure into a consistent, policy-driven environment. This empowers operators to deliver secure, sovereign services with agility reducing operational complexity, speeding time-to-market.

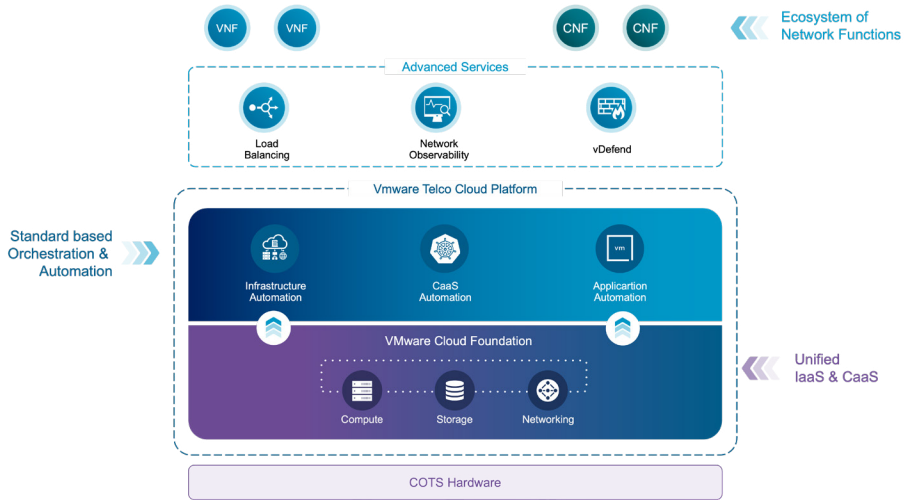


Figure 1: Delivering a consistent horizontal infrastructure with VMware Telco Cloud Platform

VMware's Proven Success

VMware Ready for Telco Cloud Platform is a globally deployed, field-proven solution. Backed by a robust partner ecosystem, it supports a wide range of pre-validated core network functions:

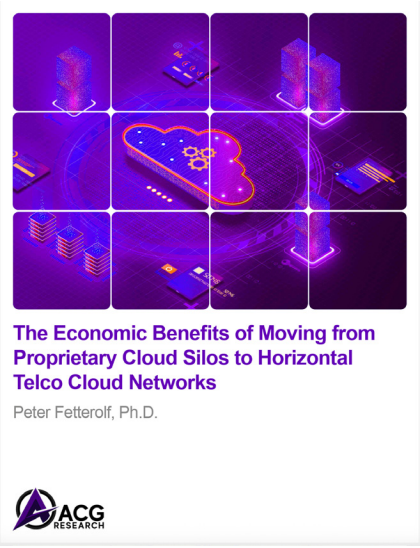
IMS: Enables VoLTE and VoWiFi with rich voice, video, and messaging over IP.

Policy & Signaling: Manages service access and controls signaling across core networks.

4G/5G Packet Core: Delivers control and data plane functions for mobile broadband.

Subscriber Data Management: Centralizes subscriber data for efficient service delivery.

IT applications (OSS, BSS, & others)



ACG Research White paper on The Economic Benefits of Moving from Proprietary Cloud Silos to Horizontal Telco Cloud Networks

VMware Ready for Telco Cloud Program

VMware Ready for Telco Cloud program presents hundreds of certified network functions on the VMware Marketplace, offering network operators a trusted catalog of VNFs and CNFs pre-validated for seamless deployment. The program is a collaboration between Network Equipment Providers (NEPs) and VMware to onboard and validate their Network Functions (NFs), whether Virtual Network Functions (VNFs) or Cloud-Native Functions (CNFs), on the VMware Telco Cloud Platform. This program speeds up the deployment of system validated network functions and limits the risks associated with interoperability. operators benefit from a catalog of system-validated NFs that meet VMware's rigorous standards accelerating lab deployment and signaling quality and deployment readiness. The program helps ensure that you can rapidly onboard and deploy multi-vendor network functions. The program now offers the unparalleled choice of 350+ network functions, so you can select the best solutions for your use cases.

Reimagine Telco Operations with a Unified, Agile Platform

Let's look at the key features and capabilities of VMware Telco Cloud Platform.

Break operational silos and accelerate service delivery

A Unified Platform for All Workloads and Domains

VMware Telco Cloud Platform delivers a consistent, unified experience across IT and network domains, giving operators full-stack control essential for sovereign operations and AI-ready modernization. It supports both traditional and cloud-native workloads, enabling deployment across mobile core, fixed networks, and OSS/BSS domains.

This flexibility allows operators to adopt diverse technologies including AI/ML-based applications powered by VMware Private AI Foundation—to personalize services and anticipate customer needs.

By adopting a unified cloud platform, operators can consolidate siloed infrastructure, reduce costs, and gain the agility needed to maintain compliance, control, and innovation under a sovereign cloud strategy. Integrated automation and orchestration minimize manual effort and improve scalability across VNFs and CNFs.

Proven TCO Savings

A total cost of ownership (TCO) analysis highlights the benefits of moving from siloed deployments to a horizontal cloud model. Over five years, operators can realize cumulative savings of 40.8% gaining efficiency, lowering costs, and improving resource utilization while preparing for future growth.

Resilient Architecture for Telco-Grade Operations

VMware Telco Cloud Platform features a robust architecture that integrates compute, storage, networking, container-as-a-service (CaaS), and application

Workflow Hub Capabilities

Here are examples of what you can do with Workflow Hub:

- Accelerate your IaaS and CaaS instantiation with simplified and automated operations.
- Construct an executable and repeatable workflow that uses automation to provision a telco cloud site, including CNFs, in a few hours.
- Create a pipeline that application teams can use to bring up a Kubernetes cluster for network function version testing, obtain the results, and terminate the environment.
- Link deployment steps that take place in third-party tools, such as setting up an external network, with the deployment of a network function.
- Save a predefined workflow as code so that an operations team can execute and repeat it later after customizing it to fit its environment.

automation. It is designed for high availability, tenant isolation, and compliance with SLAs and regulatory standards.

Consistent Operations across VMs and Containers

As operators evolve from virtualized to containerized network functions, operational complexity increases. VMware Telco Cloud Platform simplifies this transition through a unified, vendor-agnostic automation framework that spans VMs, CNFs, and the underlying infrastructure.

The platform supports lifecycle management for network services, network functions, virtual infrastructure, and CaaS, all on a single system that typically requires separate tools from different vendors. Each automation module is self-contained but can be orchestrated collectively for deeper cross-layer alignment.

Centralized Management and Automation

Unified Automation for NFV and Cloud-Native Networks

VMware Telco Cloud Platform delivers a unified automation framework with a consistent user interface for managing virtual and cloud-native network functions across distributed environments. Built-in capabilities optimize workload placement, ensure alignment between infrastructure and workload requirements, and streamline lifecycle operations.

The platform supports standards-compliant network functions via a shared catalog and inventory, enabling seamless deployment and integration. Northbound APIs follow open telecom standards to simplify interoperability with external systems.

Integrated CaaS automation simplifies Kubernetes operations from cluster registration and post-deployment customization to Day 2 lifecycle tasks such as version upgrades reducing operational complexity and accelerating service rollout.

Workflow Hub

Workflow Hub brings centralized operations to the next level. It allows operators to define, schedule, and execute workflows across infrastructure and workloads. Built-in tasks support network function management and integration with third-party tools. With a drag-and-drop graphical interface and prebuilt templates, operators can create repeatable, low-touch workflows that reduce operational costs. Workflow Hub also offers APIs for integration into DevOps workflows and continuous delivery pipelines.

Use Cases

VMware Telco Cloud Platform fundamentally changes the ways you can deploy innovative services. Here are some examples:

- Supporting VNFs and CNF LCM on same platform
- GitOps operations in addition to ETSI NFV
- Common IaaS LCM tools for IT and Network
- Common Management Domain for IT and Network
- Security and compliance for IaaS and CaaS layers
- Dynamic infrastructure policies to support diverse Network Function needs
- E2E upgrades across CaaS, infrastructure, and NF layers
- Telco stack interoperability and upgrades for long-term support

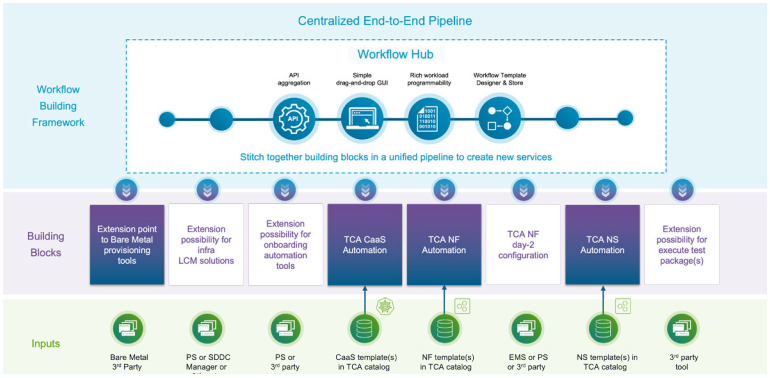


Figure 2: Workflow Hub builds and executes end-to-end workflows to automate infrastructure provisioning, instantiation, and configuration

GitOps and Git Artifact Management

VMware Telco Cloud Platform supports GitOps to manage the lifecycle of cloud-native network functions through version-controlled, declarative configurations. Operators can store and track both infrastructure and workload definitions in external Git repositories. This approach ensures automation is repeatable, auditable, and compatible with modern DevSecOps practices.

The platform also supports Git artifact management for two-way synchronization of CSAR packages with external Git repositories. Operators can import, validate, and push multiple versions of CSARs with full traceability and integrity. This capability streamlines CNF onboarding and lifecycle workflows across diverse environments.

Aligned with open standards and multi-vendor support

The platform supports leading telecom standards including 3GPP, ETSI-MANO, and TMF. Network functions that comply with ETSI-MANO standards can be onboarded into the platform catalog. A comprehensive set of APIs and software libraries is available to support rapid integration of continuous development, delivery, and testing pipelines within telco cloud environments.

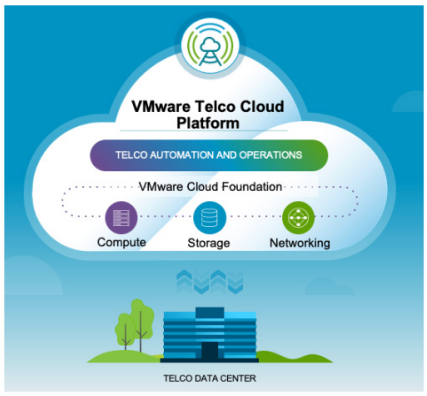
Carrier-Grade Kubernetes for Modern Telco Workloads

VMware Telco Cloud Platform provides a carrier-grade Kubernetes distribution built to meet the demands of next-generation telecom networks. This infrastructure-aware Kubernetes layer is enhanced for high availability, multi-version support, and telco-specific features that ensure consistent and scalable operations.

Carrier-grade Kubernetes:

VMware Telco Cloud Platform includes a Kubernetes runtime optimized for telecom workloads. It supports advanced features such as device attachment, NUMA alignment, resource reservation, and intelligent workload placement. Integrated support for Multus, DPDK, Enhanced Data Path (EDP) and CPU or Topology Manager enables efficient deployment of 5G and other telecom services.

Sovereign and Secure Platform for Telco On-Prem Cloud Infrastructure



Dynamic infrastructure policies:

The platform dynamically adjusts underlying infrastructure resources based on workload needs. This automation replaces manual provisioning and customization with real-time configuration alignment for telco applications. GitOps integration supports the full lifecycle management of CNFs, accelerating onboarding, deployment, and scaling activities.

Kubernetes support and lifecycle management

VMware Telco Cloud Platform offers centralized control over Kubernetes lifecycle operations. Operators can rehome workload clusters between management clusters to enable maintenance, targeted upgrades, and operational continuity. Automated Kubernetes ES to ES upgrades between supported versions, including from 1.27.15 to 1.33.1, provide streamlined access to the latest features while minimizing compatibility testing and operational burden. These capabilities allow multiple CNFs with different versions and kernel requirements to operate efficiently on shared infrastructure.

Policy governance and security

Operators must balance the need for developer agility with strict regulatory and operational controls. VMware Telco Cloud Platform addresses this with a Kubernetes-native CaaS Policy Manager based on Open Policy Agent. This policy manager enables centralized enforcement of customer-defined security policies, NSA and CISA-compliant rules, and operational guardrails across distributed clusters.

Acting as a policy gateway, the platform allows precise control over application behavior without granting broad access to underlying infrastructure. This approach supports internal compliance mandates, external regulatory requirements, and telco governance models, while still empowering development teams. The result is secure, consistent, and scalable Kubernetes governance that aligns with sovereignty principles and telecom operational best practices.

Sovereign, Secure and Compliant as A Platform

VMware Telco Cloud Platform is built to meet the highest standards of data control, compliance, and resilience. It enables organizations to operate with confidence in a landscape shaped by increasing regulatory requirements and geopolitical complexity.

Data Sovereignty Without Trade-Offs

Operators can maintain full control over where and how data is stored, processed, and accessed. This is achieved without compromising the flexibility and agility that cloud operations require.

Helpful Resources

For VMware Telco Cloud Platform Documentation, please visit here

For VMware Cloud Foundation product page, please visit here

Contact us: here

Built-In Compliance and Certifications

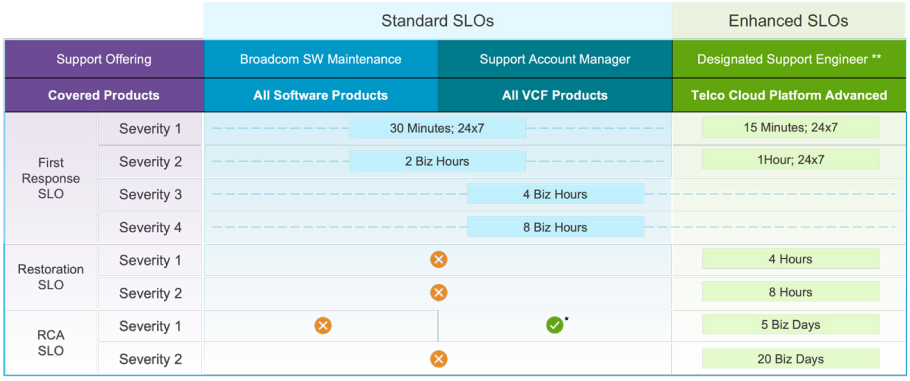
The platform provides regulatory alignment out of the box, supporting industry and regional compliance standards without requiring extensive custom configuration. This reduces organizational risk and simplifies audit and certification processes.

Cyber Resilience at Scale

Our comprehensive multi-layered security architecture includes integrated zero trust principles, automated threat detection, and proactive recovery mechanisms. These capabilities help protect infrastructure and applications from evolving cyber threats and ensure continued service availability.

VMware Telco Cloud Platform Support

VMware Telco Cloud Platform is backed by a full suite of enablement services, assessments, and professional offerings designed to ensure operational continuity, scalability, and accelerated adoption. Support includes cloud-native maturity assessments and telco-specific adoption guidance, combined with digital learning paths and validated reference architectures that streamline deployment and align with industry best practices. To meet the mission-critical demands of service provider networks, customers can benefit from the Designated Support Engineer (DSE) Advanced Support offering. This provides full-stack, personalized support with enhanced SLOs for Priority 1 and 2 incidents, including rapid restoration targets and root cause analysis timelines optimized for carrier-grade environments. Together, these services enable a prescriptive, business-aligned implementation plan that accelerates time to value and delivers long-term operational stability for network operators.



* SAM Add-on delivers RCA but no SLO.
** Quotes for Telco Cloud Platform Enhanced SLOs require both SAM and DSE volumes sized by cores count.

Figure 3: Telco Cloud Platform Software Support SLO Comparison Overview

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