

Modernize Your Network with VMware Telco Cloud Platform

Drive business success now while paving the way to the future

At a glance

Powered by field-proven infrastructure, telco automation and service assurance, VMware Telco Cloud Platform™ enables communications service providers (CSPs) to manage both virtual and cloud native network functions across distributed networks with efficiency, scalability and agility. It combines a horizontal architecture with future-ready flexibility to meet your organization's needs—today and tomorrow.

[Telco Cloud](#) objectives have transformed rapidly in recent years. Initially, the goal was simply to virtualize infrastructure. Now, CSPs are looking to scale with technology, drive continuous innovation, and deploy new services fast across the network to deliver a higher quality of experience (QoE) to customers. Meeting these new objectives requires a solution that can address business growth today while paving the way toward the future.

To accelerate this transformation, CSPs are modernizing their existing siloed monolithic clouds and embracing an operating model that leverages horizontal infrastructure with agile and flexible networks. Ultimately, the transformation must enable CSPs to thrive right now, and to continue seizing new opportunities by adopting the technologies of tomorrow without disruption.

However, there are several challenges when it comes to the implementation of new technologies. The ideal solution should provide CSPs with the flexibility to choose the telco workloads, horizontal infrastructure, and places of deployment that suit their requirements while reducing operational complexities with tightly coupled orchestration, automation and assurance solutions to meet both current and future needs.

This is no small order. Thankfully, VMware Telco Cloud Platform is more than up to the task.

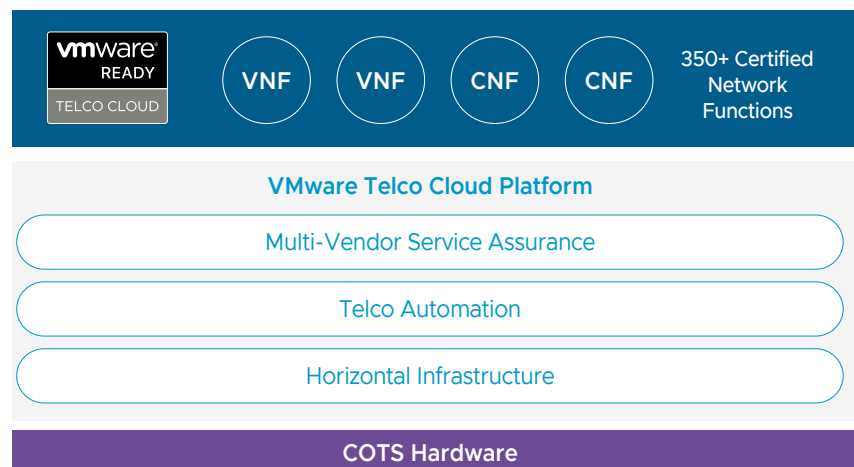


Figure 1: VMware Telco Cloud Platform

Key benefits of VMware Telco Cloud Platform

- Innovate faster by modernizing your telco cloud with speed and agility while maintaining carrier-grade performance, resiliency and quality.
- Rapidly deploy network functions and services throughout 5G and telecommunications networks, from the core to edge sites.
- Run VNFs and CNFs with consistent horizontal infrastructure.
- Accelerate the time it takes to deploy network functions and services through automated provisioning and the VMware Ready for Telco Cloud certification program..

Build a foundation for ongoing success

VMware Telco Cloud Platform is a field-proven, software-defined solution that enables CSPs to rapidly deploy and efficiently operate multi-vendor VNFs and CNFs with agility and scalability across 5G and telecommunications networks. Used by the world's leading CSPs, it removes the monolithic and siloed systems that complicate traditional telecommunications network operations to help you deliver scalable telco services, achieve new revenue streams, and lower costs. Its horizontal design supports a broad set of telco workloads, including network functions and OSS/BSS applications, creating a large ecosystem through which you can easily meet your unique requirements.

With infrastructure, automation and assurance for creating and delivering new services, VMware by Broadcom can help you modernize your existing telco clouds to match the agility of cloud service providers while providing telco-grade resiliency and service availability. The unmatched combination of horizontal architecture, multi-vendor support, future-ready flexibility, and telco-grade capabilities empowers you to achieve the full benefit of telco cloud now and position your organization for whatever comes next.

The fast path to cloud-native networks

VMware Telco Cloud Platform establishes an open, vendor-agnostic ecosystem for you to streamline your service delivery from design to lifecycle management automation while creating a unified network architecture with key capabilities for resource optimization, operational consistency, and multi-layer service assurance. Here's an overview of the capabilities that can help transform your organization.

Modern architecture

Decoupling network functions from the purpose-built hardware enables you to quickly deploy, orchestrate and optimize cloud resources and processes with intent-based placement. The platform's virtualization architecture includes not only compute, storage and networking but also containers-as-a-service (CaaS) automation and service assurance. This architecture establishes network resiliency, network service continuity, and complete multi-tenant service isolation to address various telecommunications business requirements and compliance regulations, such as high availability and service-level agreements.

Cloud-smart automation

Transform integration-intensive projects into efficient product deployments with cloud-smart automation capabilities. Natively integrated with VMware Telco Cloud Platform, these capabilities provide continuous knowledge of the telco cloud state and optimized workload placements, while also orchestrating seamless synchronization between the infrastructure and the workload requirements. By leveraging the power of cloud-smart automation, you can accelerate service deployment, simplify future upgrades, and reduce overall costs while avoiding error-prone manual configurations.

Workflow Hub capabilities

The repeatable workflows of Workflow Hub minimize manual intervention, reduce errors and save time. Here are examples of what you can do with Workflow Hub:

- 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.

Service-aware infrastructure

VMware Telco Cloud Platform empowers you to simplify the operations of your networks and services, ensuring high availability while providing superior performance, closed-loop automation, and issue remediation. With the inherent service assurance capabilities, the platform can monitor and collect data from an entire network, including cloud infrastructure and VNFs and CNFs, as well as physical networking devices. This information, coupled with automated Day 1 and Day 2 operations like healing and scaling, enables closed-loop action for issue remediation.

Dynamic infrastructure policies

VMware Telco Cloud Platform dynamically adjusts the underpinning infrastructure resources to accommodate the requirements of each workload, enabling you to automate the formerly complex task of manual infrastructure provisioning and customization to support a specific telco workload. With dynamic infrastructure policies, cloud resources are configured on demand based on the workload requirements. For example, GitOps facilitates the lifecycle management of CNFs, expediting their onboarding, deployment and scaling processes.

Workflow Hub

This automation feature enables you to easily define repeatable workflows that are less error prone and require less manual intervention, saving time and reducing OpEx. By using pre-built templates as building blocks in a simple drag-and-drop GUI, Workflow Hub lets you quickly stitch together processes that address various use cases. VMware Telco Cloud Platform also provides APIs to act as a single point of integration to your DevOps practices, along with continuous integration and continuous deployment (CI/CD) tools.

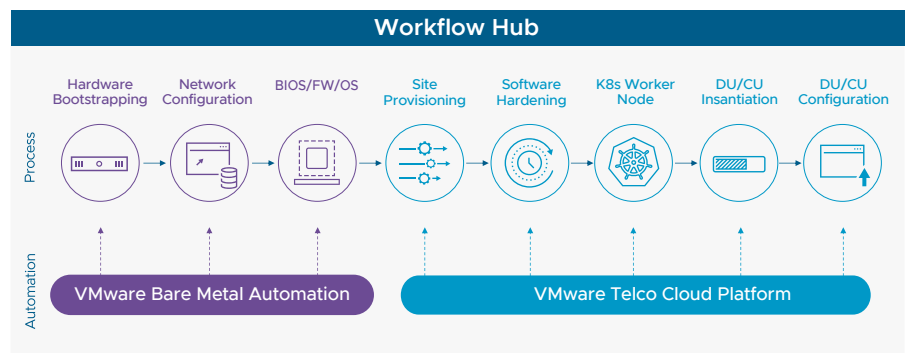


Figure 2: Deployment of 5G and Telco Cloud Site

CI/CD pipeline integration

Deploy lean and agile DevOps practices across operational functions by integrating a CI/CD pipeline to deploy, redeploy and upgrade network functions quickly and reliably, helping you achieve telco-grade resiliency and always-on service availability.

Innovative use cases

With its horizontal architecture, VMware Telco Cloud Platform fundamentally changes the ways you can deploy innovative services. Here are some examples:

- **Mobile core** – Offer differentiated services with flexibility and scale in wired and wireless environments.
- **Voice services** – Deploy IP telephony services with virtualized IMS quickly, efficiently and reliably.
- **OSS/BSS** – Run the business-critical apps powering the delivery of revenue-generating services.
- **Virtual CDN** – Make processing power available at the edge to optimize video and auxiliary apps.
- **Smart cities** – Develop smarter and sustainable public services with a multitude of telco workloads.

Best-in-class partner ecosystem

Since the inception of its telco workloads certification program in 2015, VMware has been enhancing the program by investing significant resources to ensure the interoperability and operational readiness between VMware Telco Cloud Platform and partner solutions. With more than eight years of continued commitment, the certification program now offers the unparalleled choice of 350+ certified network functions, so you can select the best solutions for your use cases.

Carrier-grade Kubernetes

Use microservices with a resource-optimized Kubernetes runtime for device attachment, NUMA alignment, resource reservation, and placement. Roll out 5G and telecommunications networks with Multus, DPDK modules, an SR-IOV plugin, CPU/Topology Manager, and Kubernetes cluster automation tailored for telco use cases.

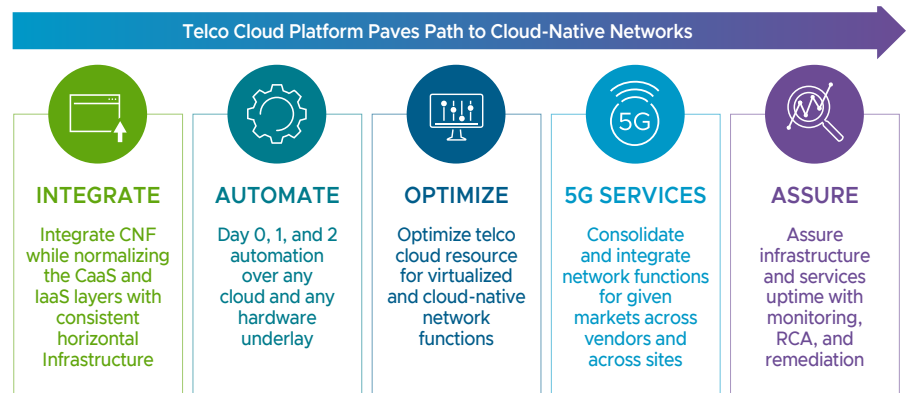


Figure 3: VMware Telco Cloud Platform paves path to cloud-native networks. Horizontal infrastructure, automation, and assurance tailored for network modernization.

Power your services forward

With VMware Telco Cloud Platform, you can deploy a multitude of telco workloads to support diverse use cases while paving a clear and simple path toward cloud-native technologies for the future. The inherent agility and flexibility of the platform help protect your investments, so you can deploy and manage virtualized network functions today while reshaping your telco cloud environments to host cloud-native network functions whenever you're ready.

To learn more about VMware Telco Cloud platform, visit telco.vmware.com/products.