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VMware by Broadcom moves to horizontal cloud approach for telcos spanning IT and network functions

Omdia view

Summary

This analyst opinion summarizes the updates to VMware by Broadcom's strategy and roadmap for the Telco Cloud Platform (TCP), which was announced leading into MWC Barcelona 2025. The vendor is simplifying its route to market by promoting a single product bundle that combines VMware Cloud Foundation (VCF) and Telco Cloud Automation (TCA) under the TCP brand. This horizontal stack continues to support both IT applications and network functions and should appeal to operators that want a common end-to-end system that meets the needs of diverse telco applications.

Similarly, the application lifecycle management tool, TCA, can also support telco IT applications and network functions, as well as other enterprise applications that are hosted in a telco's data centers.

To reduce operational complexity in managing the lifecycle of individual components in the telco cloud stack, TCA leverages the capabilities of Workflow Hub, a workflow engine for end-to-end infrastructure management.

Future TCP releases will bundle cloud or data center infrastructure and required management tools such as TCA in a single product. The move will reduce integration efforts and cost for TCP customers.

VMware folds the Telco Cloud Platform into VCF

Following its acquisition by Broadcom, VMware introduced significant changes to the Telco Cloud Platform (TCP) in September 2024. Aligning with Broadcom's simplification strategy, the TCP product will now be based on the VCF SKU, giving customers full entitlement to all VCF capabilities while still offering TCP as a separate SKU, which also includes all TCA advanced capabilities, at the same cost as VCF. Customers that previously purchased TCP Essentials will now be entitled to all TCP Advanced automation capabilities. The first version of TCP under this new architecture supports both telco IT (business support systems/operational support systems) and network (packet core, IMS, etc.) workloads.

VCF is a comprehensive platform for software-defined data centers (SDDC), combining technologies for compute, storage, and network virtualization with cloud management and monitoring tools. While TCP leverages most VCF features, it adds specific capabilities for infrastructure and application automation tailored to the telco industry. VCF aims to enhance TCP's ability to function as a common cloud infrastructure for both IT and network-specific applications.

TCP will combine VCF and Telco Cloud Automation (TCA) to provide telco cloud infrastructure-as-a-service (IaaS) and containers-as-a-service (CaaS) automation. For the CaaS layer, TCP incorporates Tanzu Kubernetes Grid for Management Cluster (TKGm). TKGm is updated annually, and each version is supported for two years. For VCF, the long-term support is extended to five years.

VMware by Broadcom will offer advanced services such as load balancing, telco service assurance, and a distributed firewall, which are not bundled with the basic TCP. The vendor is restructuring to establish a network operations team dedicated to further developing the network service assurance product.

Unification of telco cloud operations with support for both GitOps and ETSI frameworks

Historically, the vendor has offered two different application orchestration solutions for enterprises and telcos:

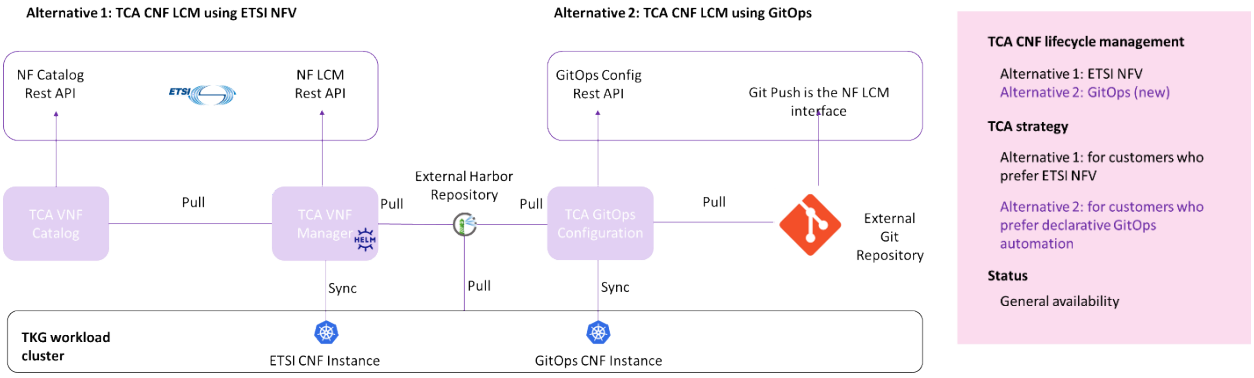
- vRealize Orchestrator for enterprise applications
- Telco Cloud Automation (TCA) for telco network functions.

As shown in **Figure 1**, TCA provides unified management of both virtualized network functions (VNFs) and cloud-native network functions (CNFs). Acknowledging the cloud-native requirements of different network function vendors, TCA now supports both ETSI NFV-based frameworks and GitOps for lifecycle management of CNFs offering options for operators and network function vendors.

According to VMware by Broadcom, some network function vendors have fully migrated to adopt cloud-native practices and prefer GitOps-based approaches, while others continue to use TOSCA for describing, deploying, and managing VNFs/CNFs. TCA achieves this by implementing a common repository, using Harbor, for storing and managing container images of CNFs.

Figure 1: TCA common framework for GitOps and ETSI NFV

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Source: VMware by Broadcom

According to the vendor, TCA has been adopted by most of its telco clients using TCP for VNFs and CNFs. It will continue promoting a horizontal cloud platform that positions TCA as a common orchestrator for all types of applications running on TCP.

TCA extends orchestration capabilities with Workflow Hub

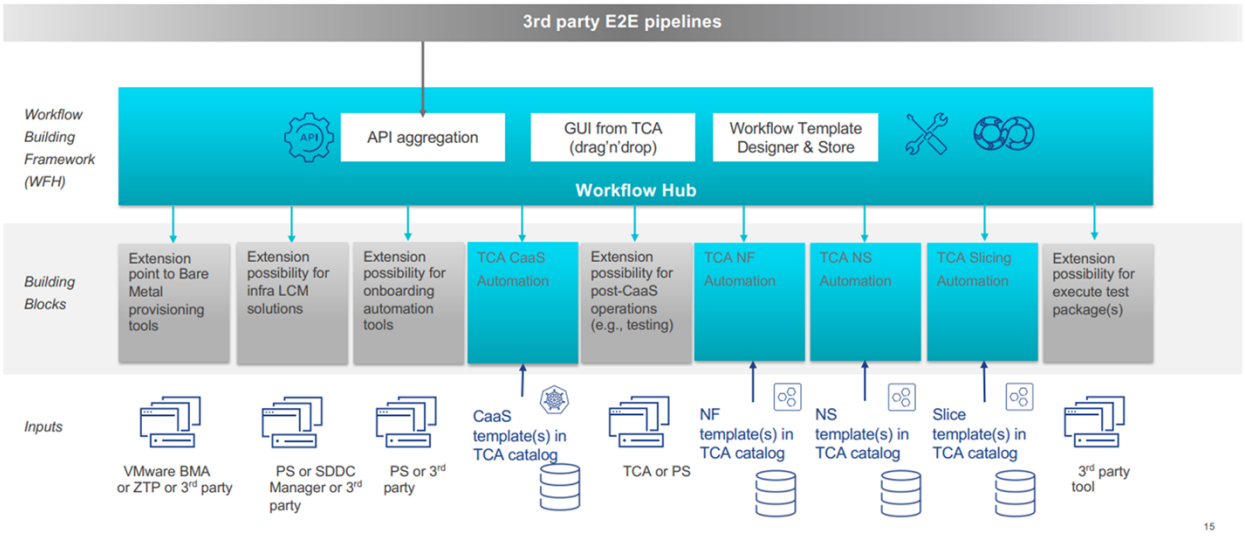
To enhance orchestration capabilities beyond application lifecycle management, TCA has introduced Workflow Hub. This is a workflow manager that enables TCA to provide end-to-end infrastructure orchestration, covering various aspects of the cloud stack such as SDDC lifecycle management, Kubernetes lifecycle management, and CNF/VNF lifecycle management.

Customers are facing increasing complexity in managing end-to-end services as they migrate to a horizontal cloud architecture. Typically, telcos need to upgrade network functions, Kubernetes versions, operating systems (Linux, etc.), hypervisors, and multiple other components with independent update cycles. Workflow Hub simplifies this operational complexity by providing a single tool that integrates all individual API calls across different stack areas into one specific API call, facilitating end-to-end upgrades, including pre- and post-checks and integration with various ecosystem tools.

TCP has created proprietary plugins for both internal and external components, allowing customers to model end-to-end operations using a common language and a drag-and-drop user interface (see **Figure 2**). This enables connection to all product APIs and external tools, significantly reducing operational expenses. According to VMware, introducing the workflow engine and building APIs has helped reduce operational expenses by up to 40% for some customers.

Figure 2: Workflow Hub integration with TCA

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Source: VMware by Broadcom

VMware shifts focus away from RAN to mobile core and near edge

VMware by Broadcom is sunsetting its dedicated telco cloud platform for radio access network (RAN) workloads, known as TCP RAN. Although TCP RAN has not had many deployments, the vendor has a few customers, including Boost Mobile (formerly Dish Wireless). Boost is now replacing the platform with Wind River. Although VMware by Broadcom will continue to support its existing TCP RAN customers, the vendor will not be actively seeking new customers. The company will continue to assess the RAN ecosystem's progress and may resume its access virtualization investment depending on business needs and overall traction in the industry.

Alongside TCP RAN, VMware by Broadcom is also stopping future work on its RAN Intelligence Controller (RIC) and Service Management and Orchestration (SMO) platform.

The vendor believes its TCP horizontal cloud architecture is suited for central data centers, where telcos can benefit from multi-tenancy by hosting telco IT (OSS/BSS), IMS, 4G packet core, 5GC, broadband, and other enterprise applications. TCP will also address near-edge deployments where multiple workloads can be co-located, involving several servers in a cabinet, but excluding single-node-type deployment scenarios at the telco far edge.

Appendix

Further reading

Cloud Native in Telco Networks – Current State and Future Directions (November 2024)

BT's Network Cloud: Optimizing Resource Utilization in a Horizontal Cloud Architecture (January 2025)

2025 Trends to Watch: Telco Cloud and Network Automation (December 2024)

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