



Advancing Core Networks with Samsung CNF Certifications

VMWARE READY FOR TELCO CLOUD AT A GLANCE

The VMware Ready for Telco Cloud program strives to accelerate the adaptation of software-based network functions, move in the direction of a cloud-native future, and elevate 5G innovation.

The program seeks to ensure that a network function interoperates with the underlying cloud platform and lets CSPs automate deployment and lifecycle operations. The scope of the certification focuses on the following aspects of onboarding, automation, and validation:

- Platform compliance checks
- Seamless VNF or CNF onboarding
- Zero-touch or near zero-touch Cloud Service Archive (CSAR) deployment artifacts
- Functional interoperability with the applicable components of VMware Telco Cloud Infrastructure, VMware Telco Cloud Platform, and VMware Telco Cloud Automation

The scope of certification does not include system validation, functional testing, or performance testing.

See the [program documentation](#).

VMware and Samsung Collaborate to Deliver Powerful 5G Solution

The rapid pace of 5G deployments is advancing telecommunications networks, with a particular focus on the 5G Core. This evolution is critical for communication services providers (CSPs) in 5G – it enables the delivery of more reliable and efficient network services, as well as innovative applications that can drive revenue growth and enhance customer experiences. Failure to upgrade core networks can lead to inefficiencies, security vulnerabilities, and an inability to keep up with evolving customer demands and industry progress.

To aid CSPs in their quest to advance their core networks, Samsung and VMware have teamed up to offer a powerful and comprehensive solution – Samsung 5G Core and VMware Telco Cloud Platform 5G. Through their joint efforts, Samsung received certification for its 5G Core network functions by the VMware Ready for Telco Cloud program, ensuring compatibility and reliability with VMware technology. In collaboration, VMware and Samsung are helping CSPs unlock the full potential of 5G networks so they can stay ahead of the curve.

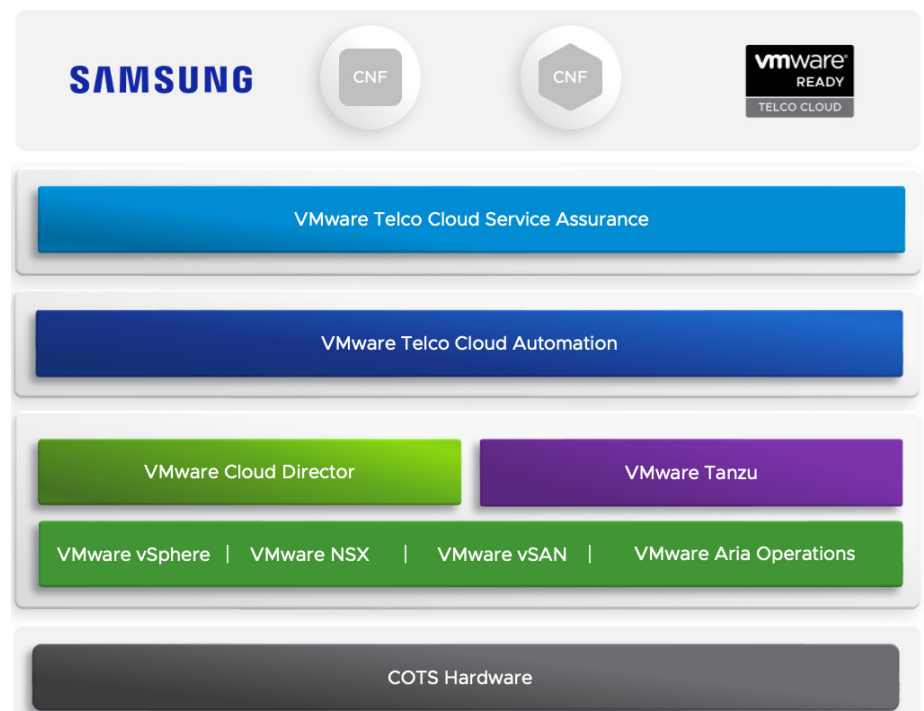


FIGURE 1: The Samsung core CNFs in the architecture of the VMware telco cloud.

Key Benefits

The collaboration between VMware and Samsung offers a range of key benefits for CSPs seeking to advance their 5G networks. Joining Samsung’s expertise in 5G Core with the power of the VMware telco cloud, the combined 5G solution improves the performance and reliability of core networks. In addition, the collaboration offers increased agility and scalability for network infrastructure, enabling CSPs to rapidly adapt to changing market conditions and customer needs. These benefits are critical to empower CSPs to advance their networks, and the solutions from VMware and Samsung are helping CSPs achieve these goals.

Technical Details

The collaboration between VMware and Samsung has brought certified network functions to deliver improved performance, enhanced security features, and increased agility and scalability for core networks. The various network functions from Samsung feature dynamic routing, network virtualization, and automation capabilities. The network functions require technical specifications for implementation.

VMware Ready for Telco Cloud certification has been granted to Samsung’s Core network functions, including UPF, NSSF, SMF, AMF, and NRF. The Ready for Telco Cloud certification ensures that network functions are ready for deployment and lifecycle operations with VMware technology.

SAMSUNG NETWORK FUNCTION	DESCRIPTION
Access and Mobility Management Function (AMF)	AMF is responsible for mobility management, registration management, connection management, reachability management, access authentication, access authorization, location services management.
Session Management Function (SMF)	SMF is responsible for session management, UE IP address allocation, selection and control of UPF, policy control function interworking, charging data collection and charging function interface.
User Plane Function (UPF)	UPF handles the user plane path of PDU sessions. UPF is responsible for anchor point for RAT mobility, UE IP address allocation, external PDU session point of interconnect to Data Network, packet routing and forwarding, traffic detection, traffic usage reporting.
Network Repository Function (NRF)	NRF is responsible for NF and service discovery. It receives NF Discovery Requests from NF instances, and provides the information of the available NF instances. NRF maintains the NF profile of available NF instances and their supported services.
Network Slice Selection Function (NSSF)	NSSF is responsible for Network Slice selection. It maintains the network slice related information for the selection of the set of network slice instances.

Continuous Testing and the Certification Scope

VMware and Samsung are engaged in continuous testing, certification, and validation efforts to ensure that Samsung’s 5G Core network functions are fully compatible with VMware Telco Cloud Platform 5G. The validation also ensures that VMware Telco Cloud Automation can quickly and easily deploy Samsung’s 5G Core network

TECHNICAL SCOPE OF THE CNF CERTIFICATIONS

The technical scope of the VMware Ready for Telco Cloud certification level includes the following checks for the CNFs:

PLATFORM CONFORMANCE

- CNF packaging conformance
- Verify CNF alignment to VMware Telco Cloud Platform 5G versions
- Method of procedure for deployment and automation analysis
- Network function manual onboarding to VMware Telco Cloud Platform 5G

AUTOMATION

- Generate NF Descriptor using the VMware Telco Cloud Automation network function designer
- Configuring CNF-specific properties and requirements
- Create custom CNF workflows
- Generating a ready-to-instantiate SOL-004-compliant CSAR to catalog without manual intervention

LIFECYCLE MANAGEMENT OPERATIONS

- Instantiating the CNF
- Run custom workflows (as appliance)
- Ensuring the network functions are in a desired state on VMware Telco Cloud Platform 5G
- Lifecycle management operations on the CNF by using VMware Telco Cloud Automation
- CNF Validation
- VIM-specific operations for the CNFs to check resource management, high availability, and performance.
- CNF decommissioning

LEARN MORE

For more information about the VMware Telco Cloud, call 1-877-VMWARE (outside North America, dial +1-650-427-5000) or visit <https://telco.vmware.com/>



FIGURE 2: The scope of the VMware Ready for Telco Cloud certification for the Samsung CNFs.

functions. VMware Telco Cloud Platform 5G is being tested in Samsung's lab and a proof of concept is being conducted at a Tier 1 CSP to confirm the compatibility between Samsung's 5G Core network functions and VMware Telco Cloud Platform.

For more information about the scope of the certification program, see the [VMware Ready for Telco Cloud solution overview](#).

Conclusion

The collaboration between Samsung and VMware offers a comprehensive and powerful solution for advancing telecommunications networks, particularly the 5G Core. This partnership enables CSPs to deliver more reliable and efficient network services as well as innovative applications that can drive revenue growth and enhance customer experiences.

Samsung's 5G Core network functions with VMware Telco Cloud Platform 5G advance the networks of CSPs through features such as dynamic routing, network virtualization, and automation. The VMware Ready for Telco Cloud certification ensures compatibility and reliability with VMware technology. The partnership between Samsung and VMware empowers CSPs to maintain a competitive edge in a rapidly evolving 5G landscape.