

# Cloud-enabled VoLTE becomes commercial reality

Executive Summary

The technologies behind the telco cloud have seen steady development in recent years. In particular, Nokia Networks has conducted exhaustive research and applied stringent testing to ensure the telco cloud can meet the high-performance and high-security demands of carrier-grade operations.

Cloud technologies promise mobile broadband operators many benefits including extreme business agility to meet growing, yet unpredictable demand. The telco cloud will enable operators to scale the capacity of their networks and adapt their functionality to suit changing market demands, even when they are introducing new applications and services.

Now, Nokia Networks is turning these potential benefits into reality by delivering the first commercial Network Functions Virtualization (NFV) solution which cloud-enables services such as Voice over LTE (VoLTE). Enabling VoLTE to run in the cloud provides automated scaling of the necessary mobile network function to help operators cost-effectively cope with varying traffic.

## Achieving ETSI compliance

Nokia Networks is the first vendor to deliver a commercial telco cloud solution compliant with European Telecommunications Standards Institute (ETSI) NFV architecture for end-to-end VoLTE services. [ETSI NFV](#) standardization is one of the most comprehensive attempts to harvest the benefits of cloud computing and virtualization in the telecommunications industry. In particular, NFV addresses the evolution of the mobile network architecture and how it is changed by cloud computing. NFV addresses telco applications, but most importantly the operational management of virtualized network functions.

With a telco cloud, operators can shift application capacity to match service demand, as well as sharing capacity across and within regions and time zones. The use of commodity hardware also reduces the required investment.

## Cloud Network Director simplifies deployment

In parallel, Nokia Networks is also developing Cloud Network Director, which will automatically deploy, configure, optimize and repair a set of virtualized network functions to simplify the deployment of services like VoLTE. Nokia Cloud Network Director will meet the needs of the recently published ETSI NFV Management and Orchestration specification which defines the network-wide orchestration and management of NFV infrastructure and software that can span several locations.

Cloud Network Director will be the key component of fully automated end-to-end network lifecycle management and has open interfaces for easy integration with Virtualized Network Function (VNF) managers from Nokia (called [Cloud Application Manager](#)) and other vendors. It will also be integrated with existing operations and business support systems. This multi-vendor capability ensures telco clouds can be implemented flexibly to match mobile broadband operators' needs and integrate with existing systems.

## The critical role of expert services

Any successful deployment of cloud-based services like VoLTE depends on accurate integration with multi-vendor platforms and applications. Nokia Networks cloud wise services will provide the expertise to integrate, operate and maintain the commercial NFV VoLTE solution. The services will take into account the current network's needs, appropriate virtualization technologies and the operator's existing and potential partners. Integration with multi-vendor platforms and applications and protection against potential security breaches are essential to start with.

Nokia Networks cloud wise services are end-to-end professional services for Telco Cloud migrations. Nokia Networks services also include security analysis, design and integration of telco cloud architecture, as well as a secure data migration process to provide protection against potential security breaches.

## Partner ecosystem delivers further flexibility

Nokia Networks is also announcing a telco cloud partner certification program to strengthen its wide-ranging telco cloud partner ecosystem. The program enables third-party software to be certified to run on Nokia Networks' telco cloud to deliver extra value by working with the company's virtual network functions. This approach helps to ensure operators get comprehensive, smoothly running solutions in line with the ETSI NFV reference architecture and which meet the highest quality and security standards.

The Nokia Networks initiative to build an open partner ecosystem is an essential step in meeting operator requirements by enabling them to choose the cloud solution that best fits their [telco cloud](#) strategy. Partnering is vital to support open interface ecosystems and help operators to avoid vendor lock-in.



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