# Cloud in telecoms in 2021: public cloud providers will bid for a greater share of operator business

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Operators will increasingly make strategic decisions about the role of cloud (specifically public cloud) in three areas of their business in 2021: IT, enterprise services and the network. The growing readiness to take such decisions will intensify the competition among providers of cloud infrastructure and services, including the leading public cloud providers (PCPs). We expect that 2021 will be a key year in determining which cloud platform providers have the best strategies for the telecoms market and what their partnerships with operators will mean for the industry.

## Operators will firm up their plans to move IT workloads to the public cloud and adopt key cloud platform services and SaaS

The spate of announcements by large operators regarding migrating their IT estates to the public cloud slowed in 2020, although in the last few months of the year, Deutsche Telekom outlined plans to migrate most of its IT workloads to Azure by the end of 2025 and BT Global announced a SaaS-first B/OSS strategy. The pandemic-induced hiatus in 2020 gave operators both the time to plan their digital transformations and urgent reasons to cut operating costs, so we expect that the trend to migrate key IT systems to the public cloud and/or replace them with SaaS offers will accelerate in 2021. Operators will benefit from the early learnings and proof points that are expected to emerge in 2021 from first-mover operators that are working with PCPs on what is at least a 3-year migration journey. As part of their digital transformations, operators need to establish data management, AI/analytics and common software development platforms to support their aims, which include higher levels of process automation, improved and lower-cost customer support and the ability to produce their own code for the purposes of competitive differentiation. Such platforms are most easily sourced from the PCPs rather than built and maintained in-house. Operators with media businesses will continue to migrate their video platforms to PCP infrastructure to adapt to the cost economics and agility demands of the OTT market.

The quality of PCPs' migration support services will be a key factor in winning operator IT and data migration business in 2021. PCPs must also have in-depth knowledge about how specific applications can run on their infrastructure at the scale required by operators, and must be able to help operators that are struggling with the culture change needed to become 'cloud-first' in their system choices. Telecoms-specific IT application providers will need to demonstrate multi-cloud delivery strategies in 2021 in order to remain relevant. They will face increased threats from SaaS providers (such as Cerillion, salesforce.com, ServiceNow and Zuora) who will be capitalising on their growing momentum in the telecoms market.

## Cloud-inspired 'network-as-a-platform' business models will become more prevalent in 2021

Lumen, BT Global and Verizon announced network-as-a-platform strategies for enterprise customers in 2020 and we expect that more operators will follow suit in 2021. Attributes of a network-as-a-platform include:

- customer self-service configuration and management of dynamic, on-demand connectivity and security features through open APIs and portals across multiple access and transport underlay networks, including third-party network infrastructure
- a cloud-inspired pay-as-you-use business model
- support for multi-cloud diversity (that is, the ability to connect any apps in and across any cloud, including edge cloud locations)
- a marketplace for value-added operator and third-party services that can be integrated with the network-as-a-platform.

Advanced operators have been building on their experience of software-defined networking (SDN) and network function virtualisation (NFV) in their enterprise lines of business to create these network-as-a-platform models, and this trend will accelerate in 2021 for the following three key reasons.

- Enterprises need flexible connectivity for a more distributed workforce as a result of the COVID-19 pandemic.

- The enterprise demand for connectivity across multiple public clouds is rising and cannot be satisfied by a single PCP.

- Advanced enterprises are experimenting with early use cases at operator-owned edge computing locations for which they want on-demand connectivity.

Network-as-a-platform strategies will help operators to ward off threats from PCPs and SDN-based challenger service providers that have dynamic connectivity propositions of their own. Nevertheless, the success of such strategies will depend on operators forming close alliances with PCPs in order to make use of the latter's cloud technologies at operator edge locations and provide direct access to PCP data centres. PCPs expect that the symbiotic relationships that they are building to support operator business services will lead to more opportunities to win IT migration and network cloud deals in 2021.

## The blueprint for a network edge cloud will emerge in 2021 and the race will be on to realise it

Vendors will compete to define a highly distributed, real-time, cloud platform that can run at the network edge to support the virtualisation of the RAN (vRAN) and distributed and disaggregated routing architecture in 2021. This new network cloud will use cloud-native technologies (such as containers and microservices running on bare-metal hardware) based on multiple chipsets that minimise the role of energy-hungry x86 processors. The Kubernetes (K8s) ecosystem will be adapted for the low-latency needs of the network edge cloud, although DriveNets (a company to watch in 2021) currently uses proprietary orchestration that is loosely based on K8s to attain the real-time performance that it needs for the core and edge routing and 5G vRAN scenarios that it wants to support.

PCPs and cloud technology providers with an IT heritage are not yet capable of providing such a stringent network edge cloud stack. They will work to learn about its requirements in 2021 and will build the appropriate technology for operators' on-premises deployments, not least because the demands that networking is making on the cloud today are converging with those required by an emerging set of low-latency, high-throughput industrial use cases.

A host of new entrant vendors of edge cloud platforms that better address next-generation network cloud needs started making waves in 2020. Robin.io gained attention as the cloud platform underpinning Rakuten's vRAN,

Cellnex invested further in Nearby Computing (along with Lenovo) and Verizon went public with its partnership with Rafay Systems. We expect more innovation and competition in 2021, furnished by the likes of Avassa, an edge cloud orchestration venture from the original Tail-f team.