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Telcos expected to invest $1 billion on average in network cloud transformation to enable a future connected world

Paris, February 16 2023 – New research from the Capgemini Research Institute - 'Networks on cloud: A clear advantage' - reports that nearly a half of telco (46%) network capacity will be entirely cloud-native[1] in the next 3-5 years. To achieve this transformation, telco companies are each predicted to invest at least $200 million per year on average in cloud transformation during the same period. 'Early adopters'[2] are expected to reap the most benefits from a financial, business and sustainability perspective.

The report highlights that investment priorities within the next 5 years are focused on technology infrastructure, representing one third of overall telco cloud[1] investment, followed by Research & Development (18%) - this includes making networks more automated through the support of Artificial Intelligence (AI) and Machine Learning[3]. Private cloud is the preferred cloud deployment model.

According to the research, 'early adopters' of cloud-based telco platforms expect to recover almost half (47%) of their investment within this period. The financial benefits from telco cloud make a convincing business case for investment: Telcos are expecting to optimize network Total Cost of Ownership (TCO) by 13%, resulting in cost savings of up to $260 to 380 million per year per operator. They also expect to realize $110 to 210 million per year in additional revenues from attaining early-mover status in markets enabled by cloud-based platforms.

An ecosystem approach via telco cloud will enable new business opportunities
Telco companies that have initiated their cloud transformation over the last 3 to 5 years cite notably increased 'customer lifetime value'[4], and improved customer experience amongst the top business drivers. Customer lifetime value can increase as a result of cross-selling and upselling more value-added services to existing customers and increasing loyalty benefits to mitigate attrition.

One of the key opportunities offered by cloud telco transformation is the deployment of an Open RAN[5] network architecture, an ecosystem-based approach that has the potential to unlock innovation, lower TCO, and uncover new revenue opportunities.

According to the research, the telco cloud transformation is expected to also enable quick rollout of some industry-specific use cases for enterprises and end-consumers, especially in the 5G context; for example, highly automated smart factories, private 5G networks at distribution centers, ports, oil fields, mines, chemical storage, and processing units, remote surgeries, Augmented reality/Virtual reality (AR/VR) or Metaverse-enabled remote operations, monitoring, and training.

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[1] 'Cloud-based' or 'cloud-native' networks as those composed of network functions in a containerized form and deployed directly on cloud infrastructure as "cloud-native".
[2] 'Early Adopters' refer to the most advanced on the below 3 dimensions: presence of a comprehensive telco cloud strategy with well-defined goals and timelines; Proportion of network functions that have been virtualized; they expect a majority of their network capacity (>50%) to be on cloud.
[3] Machine learning (ML) is a field of inquiry devoted to understanding and building methods that "learn" – that is, methods that leverage data to improve performance on some set of tasks. It is seen as a part of artificial intelligence.
[4] 'Customer lifetime value' the total amount of money a customer spends with a business during the lifetime of a typical transactional relationship.
[5] Open RAN stands for open radio access network where network functions in RAN can be assembled from a variety of providers collaborating on a standard set of protocols and specifications.

More than a third of greenhouse gas emission reduction achieved through telco cloud

The report highlights that besides business benefits, telcos that have undertaken cloud transformation expect to reduce their greenhouse gas (GHG) emissions by 5%, which represents one third of expected overall reduction of networks carbon footprint in the next 3 to 5 years. Owing to their strong preference for private cloud architecture, Telcos are expecting sustainability benefits on emissions from their direct sources (Scope 1 and 2[6]) due to lower emissions from facilities, including reduced physical hardware footprint, reduced power usage, auto-scaling of network on demand, and managing power consumption of mobile towers by using AI and Machine Learning.

"Cloud transformation is a fundamental change in the evolution of the network, that has been dominated by physical devices and infrastructure. It represents a significant change of mindset for Telcos," said Jacques Assaraf, Global Head of Telco Industry at Capgemini. *"Telcos are ideally placed to explore opportunities offered by cloud and federate an ecosystem around themselves to unlock innovative use cases, uncover new sources of revenue, and capture the full value of 5G and connected industries. Early adopters will reap the most benefits in markets enabled by cloud-based platforms, not just financially but also from a business and sustainability perspective."*

For more information or to download the report, visit: link to report.

Methodology

The Capgemini Research Institute surveyed 270 executives from large Communications Service Providers (CSPs), Network Equipment Providers (NEPs), Niche Equipment Vendors (NEVs), hyperscalers, Containers as a Service (CaaS) vendors, and large cloud providers. Of these, 170 executives belong to CSPs, 50 to NEPs and NEVs, and 50 to hyperscalers, CaaS vendors and large cloud providers. In-depth interviews were also conducted with 25 industry executives.

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[6] Scope 1 greenhouse gas emissions are direct emissions released to the atmosphere from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy.