SOLUTION BRIEF

How Mobile Network Operators (MNOs) Can Extend Their Role as a Utility Provider

Overview

With the emerging opportunities for edge computing, MNOs are wondering how they can take their distributed network assets and formulate cloud services and solutions through edge computing.

The telecommunications industry has always been considered just a utility provider—a faceless entity to customers consuming cloud services provided by hyperscalers. These cloud services, made available through the Mobile network's pipelines, bring these cloud services and capabilities, including computing, storage, and networking, physically close to the end-users. However, operational services and trends are beginning to shift for MNOs wanting to establish a deeper relationship with customers. With their distributed network assets and a unique position to push workloads closer to devices, MNOs are well-positioned to go beyond their role as utility providers. By making these assets readily available to customers, MNOs can help push the envelope for application development to address many different use cases that meet the growing needs of Internet of Things (IoT), Artificial Intelligence (AI), Augmented Reality/Virtual Reality (AR/VR) applications, and more.

As telecommunication companies roll out 5G, scaling their network is just half the challenge; providing an edge-based, horizontal platform and end-to-end edge-based services is the other challenge.

To redefine their role and value-add within the growing edge computing market, they are looking for a solution to build their strategic approach and gain a strong partnership with customers while providing affordable edge services.

The Challenges

Competing with hyperscale cloud providers

MNOs wishing to enter this exciting frontier face stiff competition from the existing cloud service providers. Cloud service providers have dedicated finances and resources that, over the last decade, have enabled them to dominate the edge market. Cloud providers have taken the market share within the edge computing space while connecting directly with their customers with a focused approach. MNOs face many challenges to enter the edge market. The primary challenge is knowing which services to offer. Customers, innovators, and developers are selective of the services they incorporate into their personalized digital environment. So, knowing which services to provide is fundamental for success in the edge market.

Additionally, MNOs may not have access to the resources necessary to develop a set of products and services that their customers expect in an edge cloud solution. Despite a new competitor's strategic approach, it may take years to have influence and foresight with established providers inside a market.

Scaling network infrastructure

With a proven networking infrastructure, scaling may be daunting and technically challenging for MNOs. Existing network topologies may not support edge latency requirements for deployed applications and users' performance expectations, so new service locations may have to be explored. Another challenge for MNOs includes constructing complex networks that consist of several different hardware configurations working in conjunction with IaaS vendors deployed across their network. Therefore, MNOs may not seek solutions that require vendor lock-in.

The Solution

MobiledgeX has worked cooperatively with MNOs to formulate solutions to satisfy the customers' needs and meet those challenges by having a dynamic role within the application developer's digital ecosystem. We have encountered these challenges and have created a platform-agnostic deployment model that allows operators to facilitate and move workflows within the distributed, edge-cloud-based environment. Through our Edge-Cloud Resource Manager plugin, edge infrastructure is aggregated across the operator's network locations, resulting in the operator's independence from vendor lock-in and continuing opportunity to use the IaaS platform or platforms of choice.

Our platform provides service to application developers and MNOs; the additional focus was given to the developers' needs for security, expense, and performance as they shop for edge solutions. To help offset our developer-related challenges, operators that use our platform can build a dedicated private cloud that gives developers more control of the development and management of their applications. At the same time, operators have visibility into their applications and workload deployed onto their network.

Our solution provides:

- The ability to create **private cloudlets** where operators can make and offer dedicated cloudlet usage to developers. Operators may combine their resources that are sourced from the physical hardware into a shared pool of resources to either reduce instances of underused capacity or increase resource capacity to handle large compute and storage demands.
- Our **management tool** gives operators administrative controls and visibility over their infrastructure, platforms, applications, and data. This level of control allows for the tracking, optimizing, and overseeing of the overall health of their network, deployed applications, and workloads.
- We provide a **one-touch provisioning** approach (self-service component) to spin up cloudlets and quickly make them available.

Within the edge computing space, cloud service providers are normally given first thought, while telecommunication entities are frequently overlooked when customers construct their digital ecosystems. MobiledgeX helps change that landscape by offering a powerful platform so operators can move up the value chain and extend their role as utility providers. Armed with their existing infrastructure and distributed network assets, operators can take advantage of our platform and immediately offer those assets with very little overhead, thereby, connecting and fostering a deep association with customers. With MobiledgeX, MNOs are well-positioned to go beyond their perceived role.

About MobiledgeX

MobiledgeX Inc. is building a marketplace of edge resources and services that will connect developers with the world's largest mobile networks to power the next generation of applications and devices. MobiledgeX is an edge computing company founded by Deutsche Telekom AG and headquartered in San Francisco, California. Additional information can be found at https://mobiledgex.com