Telcos can disrupt AR/VR gaming models with edge computing

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STL Partners European Summit Overview

On October 28th, STL Partners hosted the 2019 STL Partners European Summit, which included talks and discussions on innovation and growth strategies for the telecom industry. We were joined by 30+ senior telco executives from Deutsche Telekom, Vodafone, Orange, Telsta, Tata and Elisa.

In the afternoon session, Dalia Adib (Principal Consultant) led an interactive session with regards to the opportunities for telcos in gaming and manufacturing industry. During this session, attendees were divided into five groups, with each group focusing on either gaming or manufacturing industry. Our interactive session asked participants to think about telco propositions for these two industries, considering how telcos could incorporate 5G, IoT, edge computing and other capabilities into these and what the potential business models would be.

Setting the scene: challenges in the gaming industry

One of the domains we focused on in the session was the role of augmented and virtual reality in gaming. The current challenges in AR/VR lies in low adoption rate of the AR headsets, which is due to high price points, as well as form factor – headsets are heavy and difficult to use for long periods of time. On average, a VR gaming headset costs around £400, and, due to the amount of processing that occurs on the device itself, users find these devices quite uncomfortable to wear.

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One way to overcome these challenges would be to offset the amount of processing that occurs on the device. This is where edge computing could play a part; image rendering and storage would happen at an edge and the AR headsets could be reduced to a thin client, used mainly to display output.

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Core proposition: driving adoption rates of devices by improving device attractiveness

There are four key components to this proposition:

1. **Providing a cheaper device:** price of these AR/VR headsets would be more than halved if the image rendering capabilities are moved to the edge cloud. This is because the device itself will no longer require advanced compute capabilities, as the data processing will be done in the edge cloud.

2. **Providing a lighter and more comfortable device:** lower compute translates to less battery power, as the device is less power hungry. This improves wearability as the device is now significantly lighter without the additional processing and battery components.

3. **Running the AR/VR service over a high performance, dedicated network slice:** network slicing will allow the telco to operate a dedicated virtual network that is specific to the gamer, and this means that telcos can almost guarantee the quality of experience for gamers and drive up adoption rates as a result.

4. **Multiple rendering options:** this means that end-users can play the same game using a normal and heavier headset (i.e. Samsung Gear VR) as well as with a lighter device (i.e.- Oculus Quest Lite). Processing the application workload on edge clouds may also potentially drive up adoption rate if it proves to provide a more immersive experience and thus induce a comparative advantage over other normal gamers.

Telcos could play a role in enabling AR/VR gaming through edge computing

There are two main roles that telcos can play in the AR/VR gaming to climb up the edge computing value chain:

1. Telcos as enablers of edge computing: telcos can provide edge computing to AR/VR headset manufacturers and gaming companies. Telcos are well placed to take advantage of the edge computing opportunity. They can set up an edge cloud platform for gaming companies to run their games and process data, and this will improve user experience due to the low latency that edge provides.
2. Telcos as a distribution channel: telcos can act as a channel to distribute AR/VR gaming content to their subscribers (end-users/gamers). Telcos can leverage their existing customer base in their connectivity services and deliver gaming content to a wide range of customers on behalf of the gaming companies.

Telco Business Models in edge computing for AR/VR gaming

Depending on the role that telcos would play in the AR/VR gaming industry, there are two business models that telcos are able to adopt:

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Usage-based B2B model

Under this model, telcos will provide an edge computing platform for gaming companies to run their games on, and gaming companies will pay a price that is equivalent to the amount of data processed at this edge cloud. Usage-based business models are typically priced depending on how much compute, storage and networking is used. This could be an attractive model for telcos as revenues will grow along with the increasing number of AR/VR gamers.

Subscription-based B2C model bundled with core connectivity offering (5G)

This might be a relatively simple business model for telcos to adopt, as they already operate a subscription-based models for connectivity services. A subscription-based model would involve offering consumers access to game(s), with better quality of experience by incorporating edge computing. Moreover, telcos could offer subsidies for the end-devices for gamers who sign up to the subscription-based model, which could drive up adoption rates of AR/VR headsets. Telcos could even look to fund this subsidy through a content sponsorship contract with a gaming company.

Industry fragmentation could inhibit adoption of edge computing

The key question now would be whether this solution can be coordinated across all operators, as industry fragmentation could hinder the adoption of edge computing. This is because industry fragmentation means gaming companies that use an edge platform managed by a single telco would only be able to target the subscribers/user-base of that specific telco, which is less appealing to the gaming companies as they're unable to target the mass market.

On the other hand, if telcos collaborate with each other and leverage their own existing network capabilities across regions to come up with a unified edge platform, multiple edge cloud from each telcos could be combined into a single interface. This proposition is more likely to attract gaming companies to adopt the edge cloud solutions.

Visit STL Partners' Edge Hub to learn more:

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