Cloud Computing

Cloud Computing is computing that shared computing connects a great number of resources through the Internet. Users could manage, store and process data in distributed servers via the Internet compared with storing the resources locally. Cloud computing includes some features like on-demand service, network access, shared resources, scalability. Concretely, consumers could pay the storage and computing resources according to their demands. They just need to pay the services monthly or annual. It cost much lower price for companies or organization to rent it rather than deployed the services from the beginning by themselves. Furthermore, Cloud Computing resources are pooled together. They visit clouding services using the Internet as a medium. Cloud computing offers different services based on business requirements. It has some advantages like better performance, lower software prices, unlimited storage, and reliability. Because of the platform offered by could computing, it reduces the developer's task to deploy related development tools on the platform which makes them faster to develop applications without buying software, database preliminary. While it also has some disadvantages including high latency, downtime. Internet quality has a great impact on their performance.

Fog Computing

Fog computing means the fog nodes deployed to connect physical devices with the cloud. It helps the could extend closer to the end-user devices. Fog computing is distributed compared with the cloud is a centralized system. Fog computing has several use cases. For example, it could be used on connected mobile devices like cars. Fog computing improves the quality of communication between cars and manufacturers through handling real-time data. Another case concerning real-time analytics. Fog computing plays a role that contributes the data transmission from the data center to the end-user devices. Developers use fog computing to read and retrieve data through the applications written in the fog nodes[1].

The strengths of fog computing are lower latency, better security, high availability and more distributed than could computing. Because of these advantages, fog computing could reduce the latency from manufacturing to an and occupied less amount of bandwidth. Furthermore, the data could be processed close to end-point devices. It is also easy for users to place security features in the fog network. On the other hand, there are also some changes that fog computing still faces. Fog uses distributed equipment which is difficult to control compared to the centralized system. Because of dynamic scenarios, Users should consider when and where to deploy the services. Furthermore, because of many fog nodes, the system is complicated and users may pay more money buying devices to construct it.

Multi-access edge computing

Multi-access edge computing is different from the other two computing. It is much more closed to the data source and collects data from end-user devices. It helps get resources closer to access radio networks and contribute users to build services and applications at the edge of the Internet. The applications are real-time accessed because of the low-latency and high-bandwidth offered by edge computing. There are also some advantages. For example, it optimizes resource usage, increasing reliability and improving network security and efficiency. The benefits of it bring computing and storage closer to end-users. However, multi-access edge computing still has some shortcomings. For example, it's hard to get real estate when edging computing is close to users. The power of the multi-access edge computing is limited because of its installations and location. Furthermore, monitoring and security may also need to consider an account of the small edge data center.

SaaS scenario

With the advent of 5G, the performance of some technologies like virtual reality is

With the advent of 5G, the performance of some technologies like virtual reality is improving in recent years. Because multi-access edge computing has the characteristics regarding lower latency and high efficiency, we could use it to reduce latency and improve customer's experience. Consequently, we would use edge computing as the connection between the front-end client and back-end service. If it is deployed to connect AR devices with cloud servers, it will have to reduce the latency and improve high throughput, because the content is not requiring a centralized network. The front-end client includes AR devices like AR glasses or censors. Meanwhile, the back-end software contains AR applications. The multi-access edge computing technology would help to process the data between where it created and where it stored[2].

References:

[1] Fog Computing vs. Cloud Computing for IOT Projects. (2018, September 10).Retrieved November 20, 2019, from: https://www.sam-solutions.com/blog/fog-computing-vs-cloud-computing-for-iot-projects/

[2] Natalie Boyd.(2017 August 2). What is Edge Computing? A Definition.Retrieved November 20, 2019, from: https://www.sdxcentral.com/edge/definitions/what-multi-access-edge-computing-mec/