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Technology Involved in Network Slicing and Advantages

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DESCRIPTION

A network setup that makes it possible to build many networks—both independent and virtualized—on top of a single physical infrastructure. The overall 5G architectural environment has developed to heavily rely on this architecture. In the technique of network slicing, a shared network domain, or collection of shared network and computing resources, is stacked with many virtual networks. Because this capability is required by the 5G standard, the phrase “network slicing” is most usually used when discussing 5G networks. 4G and earlier generations of cellular communication service, however, were unable to accommodate it and could not. Each slice of a network can have its own logical design, security policies, and performance characteristics within the limitations imposed by the underlying physical networks.

Advantages

Network slicing: In order to provide connection that is better suited to particular demands, 5G also enables the implementation of virtual networks (network slicing) and the creation of subnets. As a programmable network, the creation of subnetworks will give specific characteristics to a portion of the network and enable prioritizing connections, such as the emergencies in front of other users, by using different latencies or prioritizing them in the connection to the network so they can avoid being impacted by potential mobile network overloads.

Increased capability: More than a hundred times more data might be handled by 5G than by 4G. Since it enables the analysis to transition between mobile and Wi-Fi wireless solutions, performance is greatly improved. It also offers useful ways to connect to the internet.

Drawbacks

- Consumer benefits from gigabit mobile communications have not yet been very significant.
- Still insufficient supply (especially in rural areas).
- Need for new devices.
- For consistent network coverage, more transmission antennas are needed than with 4G. The question of whether mobile radiation poses health risks has not yet been resolved.

TECHNOLOGY-5G

The goal of 5G wireless technology is to provide more users with faster multi-Gbps peak data rates, extremely low latency, enhanced reliability, vast network capacity, and a more consistent user experience. New user experiences are enabled by increased performance and efficiency, which also connects new industries. By the end of 2022, there will be over 1 billion 5G subscribers worldwide, leveraging 5G to advance experiences and value creation. 5G is more

than just a link. Discover Ericsson's specialized and progressive approach to 5G network evolution, created for future-proof 5G. We anticipate that by the end of 2022, there will be 1 billion 5G subscriptions, surpassing the growth of any prior mobile generation. Our objective is to assist service providers in managing this ongoing significant traffic growth while lowering energy consumption as new use cases emerge. Our main goal is to develop cutting-edge network solutions that let service providers launch new services while emitting fewer greenhouse gases.

The ideal way for operators to create and operate a network that meets and surpasses the changing needs of a wide range of users is through network slicing. The process of splitting a network into a number of logical networks on top of a common infrastructure results in a sliced network. Each logical network is built with all the necessary network resources, configured, and connected end to end to support a specific business function.

The idea of operating numerous logical networks as practically independent business operations on a shared physical infrastructure in an effective and cost-effective manner is embodied in network slicing. Compared to current solutions, this represents a fundamental paradigm shift.