Internet on mobile phones

Introduction

Mobile networks are a truly great technology that allows us to have access to the internet almost anywhere, even in remote areas. Instead of having a cable plugged into your device, you can do everything wirelessly using radio waves. It has definitely changed our lives, for the better. However, when using mobile networks in our day-to-day lives.

We do not think about the technology behind it, we simply enable our mobile data and browse away. To understand the beauty of mobile networks, we have to dive deeper into it to see how it works.

The path of your mobile data

The path of your mobile data is really simple. The device establishes a connection with the nearest cell tower using radio waves and starts sending data. Cellular tower receives that data and sends it to the data center using underground cables.

Datacenter then transfers that data to whichever service you are trying to reach and waits for the response. Upon receiving a response from the service (for example website) it then sends back the data to the cellular tower via these same underground cables and the tower transmits that data back to you using radio waves.

How different are network generations?

1G - It allowed making remote calls for the first time, however, because of its technology, the voice quality was poor and the speed reached a maximum of 2.4 Kbps.

2G - The second generation of mobile networks introduced SMS and internet browsing with speeds up to 50 Kbps.

3G - GPS, videos, voice calls. The third generation focused on improving data speeds and it offered 3Mbps speed. This has allowed the use of GPS, watching videos online, and making good quality phone calls. In a way, the third generation has allowed smartphones to be smart.

4G - Fourth generation increased data transfer speeds up to 100Mbps. That allowed viewing high-resolution content such as movies and having real-time video calls of high quality.

5G - The fifth generation is the latest generation that offers speeds of more than 10Gbps and really low latency. Such speeds and low latency pave a way for new technologies such as autonomous driving, smart cities, and much more.