

An Overview of 5G Wireless Technology and Its Evolution

¹Himanshu Singh, Assistant Professor, Department of ECE, Arya College of Engineering & Research Centre, Jaipur

²Purva Sakhuja, Assistant Professor, Department of ECE, Arya College of Engineering & Research Centre, Jaipur

³Smriti Jain, Assistant Professor, Department of ECE, Arya College of Engineering & Research Centre, Jaipur

Abstract

This paper present about 5G wireless communication network. The main advantage of 5th generation is to provide better wireless network connectivity to the entire world that is free from any restrictions or obstacles as compared to previous generations. So our main moto is to describe about 5g networking technologies.

Non-orthogonal multiple-access (NOMA) is an necessary technology for the 5th generation wireless network.

- In case of speed 5g is 10times better than 4g network.
- In case of radiation its ionizing radiations are hazardous because this radiation can break the chemical bonds.

The main purpose of 5G is to create a real wireless world that is free from boundations of the previous coming generation. This requires a combination of networks.

Keywords: Heterogeneous demand, latency, sub-carriers, reliability, blockchain.

Introduction

5G technology means 5th generation mobile technology. 5G technology has very high Bandwidth in cell phones. The 5G technologies contains all types of modular features which makes 5G technology most competitive and have large scale demand in the upcoming future. Efficiency of mobile phone users has increased due to 5g networking.

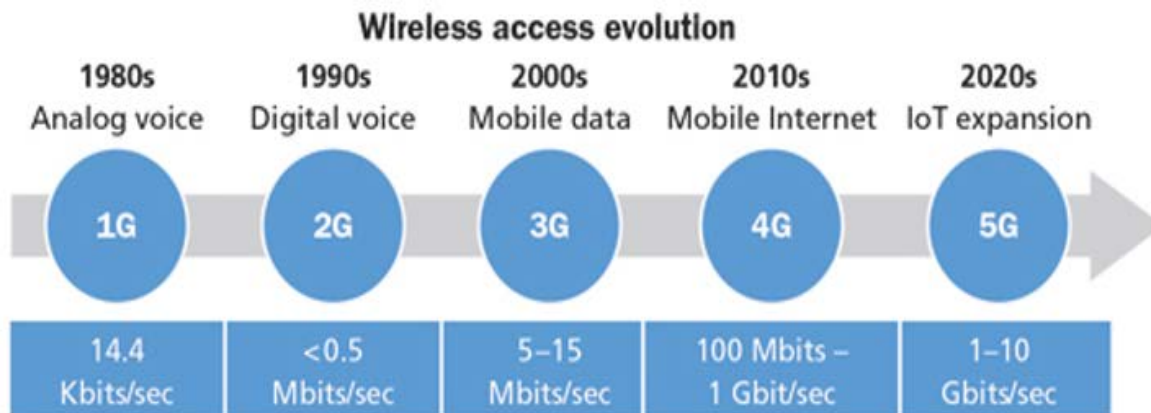


Fig. 1: Wireless Access Evolution

There are two views of 5G system:-

- 1) Evolution
- 2) Revolutionary

This technology also provides remote analyze (determination) Features:- gives a speed of 25 megabytes per second connectivity. 5G technology also supports the VPN (virtual private network).

Basic Architecture of 5G



Fig. 2: Basic architecture of 5g

Need of 5g Networks

The IOT required reliable and fast network in order to process huge amounts of data and information, as well as carrying out thousands of calculation and decisions every seconds.

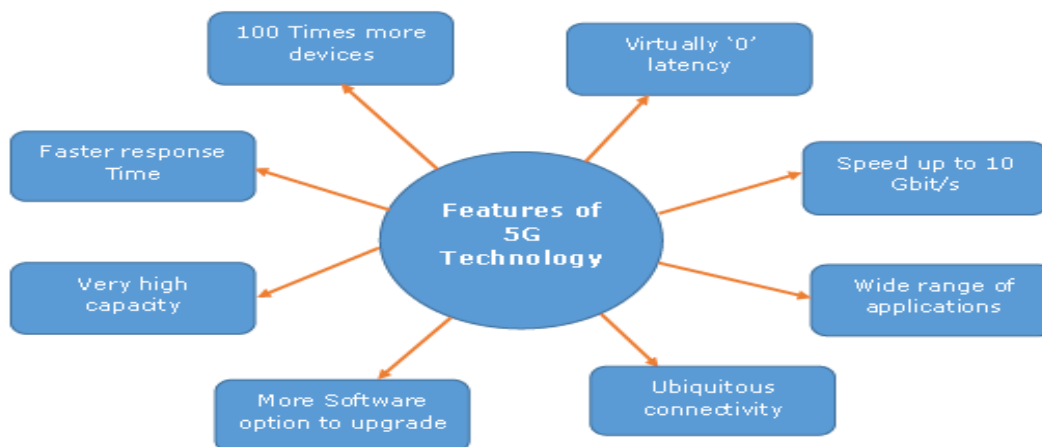


Fig. 3: Features of 5g network

Advantages of 5G

There are three main merits of 5g:

1. **Faster Speed:** Data transfer speed are 10 times higher of 5G than 4G.
2. **Shorter Delays:** To watch high speed virtual reliaity videos with no delays 5G is required.

3. **Increased Connectivity:** Communication gets stronger due to 5g networking capabilities so that more people can communicate at the same time.

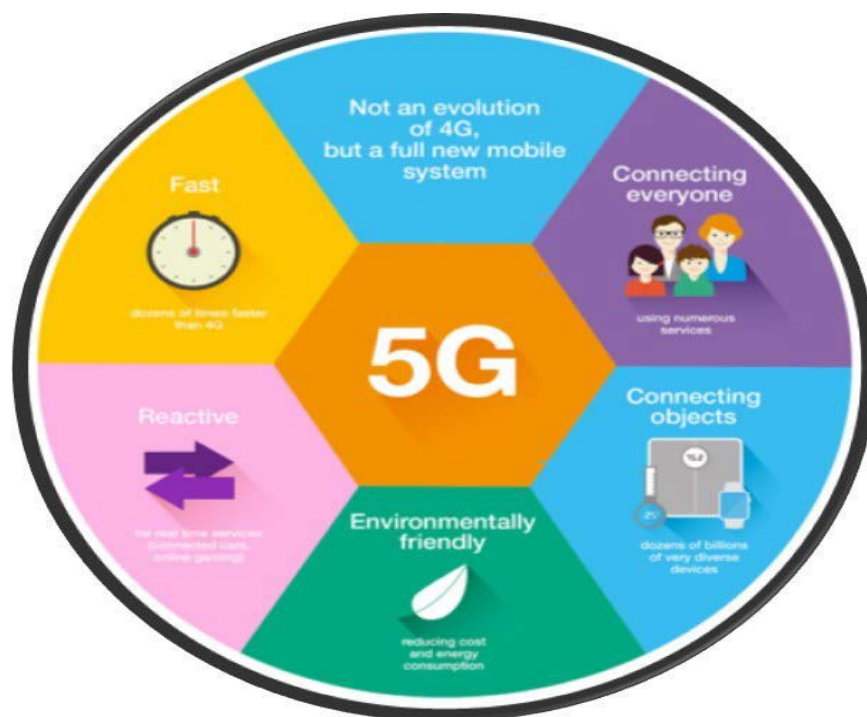


Fig 4: 5g cycle

5G Benefits For Business

- Increase speed and bandwidth.
- It puts pressure on incumbent wan market prices.
- It is improved wan connection.
- Better battery life for remote IOT devices.
- Low-latency capability for branch offices.
- Enhanced security with hardened end points.

Availability of 5g

According to assumptions of network researchers 5g will be available soon (figures say that 2020-2025).

Applications

5G technology is used for

1. 5G is used with most wearable devices AI (Artificial Intelligence) capabilities.
2. 5G works as a global network around the world.
3. 5G is used for better management of radio resources.
4. It provides us warning information against natural disasters like floods, earthquakes before it occurs.

Demerits of 5G

1. 5g Technology is still under working.
2. Requires high cost for establishing infrastructure.
3. Security and privacy issues.

4. Higher cost in manufacturing.
5. Extremely high frequency long distance applications.
6. Interferences with oxygen and rain also.
7. Mobile manufacturing.
8. Equipment has not been fully developed for network.
9. Very expensive.
10. Having speed technology issues in the structure of 5g networking.

Conclusion

In this paper we have mentioned about 5G networking techniques of mobile phones concept and architecture which is main benefaction of the paper. The 5G mobile phones is built as an open platform on various layers. The new 5G technology will be available in market in affordable rates, high peak future and much reliability there its previous technology. 5g Networks gives a hope to satisfy rapid wireless traffic growth (avoiding jammers). In this paper we study how to promote 5g wireless network structure in high production and low energy consumption ways. The 5g technology provides better and high resolution for heavy cell phones user, 5g technology is helpful in great utilization of communication skills.

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