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Cell : 9595 359 435, Ph No: 02172372010 Email: ayisrj@yahoo.in Website: www.ror.isrj.org

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ADVANCE TECHNOLOGY IN WIRELESS COMMUNICATION- 5G

Sujit Kumar Chakravarty

Department of Electronics & Telecommunication Engg. ,KIIT Polytechnic,
KIIT University,Odisha, India.

Abstract:-Today wireless services are the most preferred services of the world. The rapid increase in the service is due to the advancement of technology consecutively. The worldwide revolution in mobile and internet technology have changed our way of living life. The paper is definition of 5G (Fifth Generation) mobile network concept .

Keywords: Advance Technology, Wireless Communication- 5g, Worldwide.

INTRODUCTION

In early 1980's when the wireless communication just started, it started with the zero "0G" technology commonly known as radio wireless transmission technology. This technology was wide spread but further it provided facility of voice call only but not data transfer, that was the drawback of 0G technology.

The OSI layers are

Physical/MAC layers Physical and Medium Access Control layers i.e. OSI layer 1 and OSI layer 2, define the wireless technology. For these two layers the 5G mobile networks is likely to be based on Open Wireless Architecture

Network layer The network layer will be IP (Internet Protocol), because there is no competition today on this level. The IPv4 (version 4) is worldwide spread and it has several problems such as limited address space and has no real possibility for QoS support per flow. These issues are solved in IPv6, but traded with significantly bigger packet header.

Open Transport Protocol (OTA) layer The mobile and wireless networks differ from wired networks regarding the transport layer. In all TCP versions the assumption is that lost segments are due to network congestion, while in wireless networks losses may occur due to higher bit error ratio in the radio interface. Therefore, TCP modifications and adaptation are proposed for the mobile and wireless networks, which retransmit the lost or damaged TCP segments over the wireless link only.

Application layer Regarding the applications, the ultimate request from the 5G mobile terminal is to provide intelligent QoS management over variety of networks. Today, in mobile phones the users manually select the wireless interface for particular Internet service without having the possibility to use QoS history to select the

best wireless connection for a given service. The 5G phone shall provide possibility for service quality testing and storage of measurement information in information databases in the mobile terminal.

BASIC COMPARISON BETWEEN 1G &5G

1G	5G
It works on analog signals	It is based on virtual private network
It supports data band width in kbps	It support data band width up to 1GB
It is based on basic mobility	It is based on IPv6
It has no security and Poor carrier aggregation	It has very high security and Multiple carrier aggregation
Band width per frequency channel of 1G is up to 30Khz	Band width per frequency channel of 5G is up to 28Ghz

CONCLUSION-

The 5G mobile phone is designed as an open platform on different layers, from physical layer up to the application. Networking technologies play an important role in the 5G systems . The Hyper-Cellular architecture splits coverage of signaling and data to meet the evolution of mobile networks.

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Sujit Kumar Chakravarty
 Department of Electronics & Telecommunication Engg., KIIT Polytechnic,
 KIIT University, Odisha, India.

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