

## MOBILE NETWORK AND WIRELESS LAN

**Nishi Singh Parmar<sup>1</sup>, Kajal Lohia<sup>2</sup>**

*<sup>1,2</sup> Department of Computer Science and Engineering,*

*Dronacharya College of Engineering, Gurgaon, Haryana (India)*

### ABSTRACT

*Our analysis papers aims at "Mobile Network and Wireless Lan". Mobile network may be a network which provide the ability to the user to talk with the oldsters sitting around the world. Mobile Network and Wireless square measure quickly turning into most preferable network, not only for its property but in addition as a result of its flexibility and suppleness. A wireless native area network may be a communication medium that gives the property to the various devices whereas not the utilization of cables. With the event of very little movable devices, the Wireless network technology is popping into highly regarded. once handling fully completely different wireless networks, one mobile device need to be able to select the network (LAN) that best meets user needs .The key purpose of a network is to serve its users in resource sharing.*

**Keywords: Mobile Network; Flexibility; Adaptability; Wireless Lan; Connectivity;**

### I. INTRODUCTION

A mobile network may be a communication network where the last link is wireless. Wireless and mobile networks square measure quickly become a most troublesome network, access for telecommunication services. among the past years the transmission of information is through wires therefore the technology quickly changes from wired to the wireless transmission. A wireless native area network (WLAN) is a wireless distribution methodology for two or lots of devices that use high-frequency radio waves and generally embody associate degree access purpose to net. the companies and their employees have interconnected computers with native area networks (LANs). The computer network user can share their information, data and applications that is keep by them, in system. A wireless {local area network|WLAN|wireless fidelity|WiFi|local space network|LAN} permits users to maneuver around the coverage space ,often a home ,while maintaining a network affiliation .A wireless native space network is in addition referred to as native area Wireless Network(LAWN). Wireless technology is extraordinarily useful to change the networking by allowing multiple portable computer users at a similar time share information in associate degree extremely home or business whereas not further wiring.

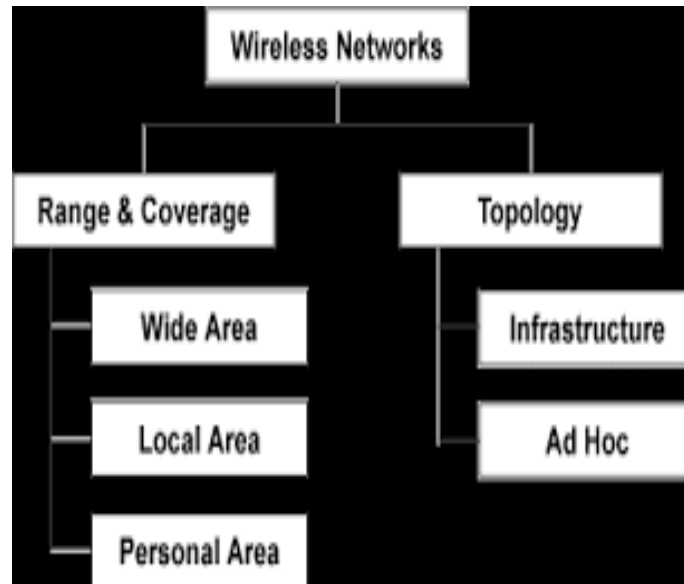
### II. MOBILE NETWORK OPERATOR

A mobile network operator (MNO) may be a telecommunications service provider organization that has wireless voice and data communication for its signed mobile users.

A mobile network operator, in addition noted as a wireless service provider, wireless carrier or mobile network carrier, may be a provider of services wireless communication that owns or controls all the weather that square

measure necessary to deliver services to the user along side spectrum allocation, wireless network infrastructure, billing, shopper care, and promoting and repair organizations.

To obtain revenue by giving retail services beneath its own complete, associate degree MNO (mobile network operator) may additionally sell access to network services at wholesale rates to mobile virtual network operator and earns profit.



**Classification of wireless network**

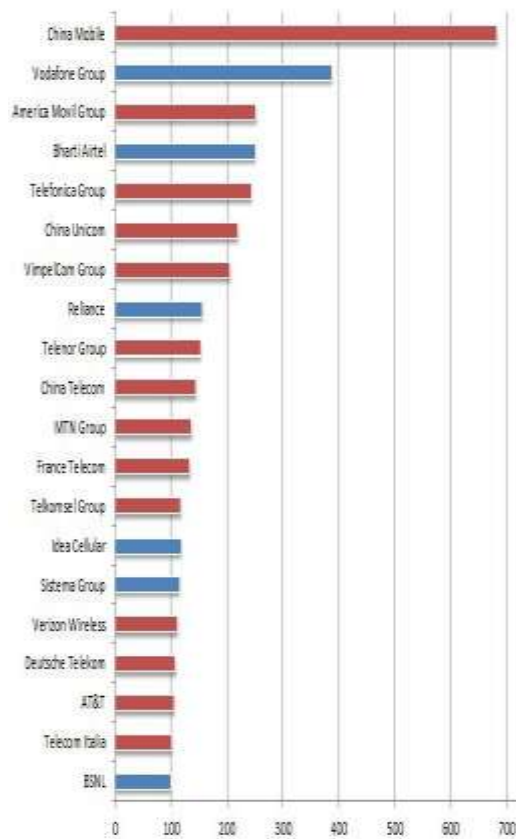
### **III. TOP 5 MOBILE SIM NETWORK IN INDIA**

- AIRTEL
- VODAFONE
- IDEA
- RELIANCE
- TATA DOCOMO

### **IV. TOP 5 MOBILE NETWORK IN WORLD**

- China mobile
- Vodafone group
- America movile group
- Bharti Airtel
- Telefonica group

### **V. TOP 20 MOBILE NETWORKS IN THE WORLD**



## VI. WIRELESS LAN

A wireless native area network (WLAN) may be a wireless network that links a pair of or lots of devices using a wireless distribution methodology among a restricted area sort of a home, school, portable computer laboratory, or edifice. the speed of transmission of information is much higher in wireless network, this network provides users the ability to maneuver around among an space coverage space and still be connected to the network, and may provide a affiliation to the broader net. native area Network that does not would really like cables to connect the varied devices. Instead, radio waves and IEEE 802.11 square measure accustomed communicate.

Wireless LANs became widespread among the house as a result of easy installation and use, and in business complexes giving wireless access to their customers; sometimes at no cost of charge, as associate degree example, has begun a pilot program to provide it.

## VII. ADVANTAGES OF MOBILE NETWORK AND WIRELESS LAN

- **Flexibility:** one in every of the benefits of wireless network is flexibility, as radio waves bear walls and wireless computers.
- **Easy to install:** wireless networks easy to setup.
- **Position:** The locations and movements of connected wireless devices is also monitored.
- **Scalable:** Wireless networks would really like less frequent changes to manage, thence it is a ton of ascendable .

- **Adaptable:** Wireless networks square measure lots of adaptable(able to control to new conditions) to vary needs than wired networks.

## VIII. DISADVANTAGES OF MOBILE NETWORK AND WIRELESS NETWORK

- **Security:** Security is tougher to make sure and wishes configuration.
- **High value:** It'll value up to fourfold lots of to line up a wireless network than to line up a wired network in some cases.
- **Coverage:** A typical wireless router will only alter folks among 100 fifty to a few hundred feet to access the network.
- **Security:** Information transmitted through the network (including encrypted information) may even be intercepted by unauthorized users.

## IX. SECURITY ISSUE WITH MOBILE AND WLAN

1. **SMS WORMS:** SMS can crash a mobile, these were the first SMS "viruses", first real SMS viruses appeared late 2000, 2001, or they're going to be worms.
2. **VIP Access Laxness:** The proliferation of overly permissive connectivity allotted to legitimate partners continues to prove very dangerous. A quick look at some of the largest data breaches in recent history highlights that organisations must improve their ability to track and control these important pathways into their network.
3. **Cookies:** although cookies do not carry viruses and cannot install malware on the host portable computer but typically they become vast issue for security of our automatic processing system.
4. **Share Hosting:** If you are running a business and have an online web site with access to your internal network, Shared Hosting is not the because of go! A shared web hosting service is where many netsites reside on one net server connected to net, it ought to cause the matter.
5. **Quality Instability:** presently most are attempting to handle the great tide of hand-held attacks that have finally arrived as a result of mobile instability, before specialists telling us that the rise of mobile malware would be an oversized draw back really presently therefore nothing happened.

## X VARIOUS TOOLS FOR WLAN

- **Air Protection:** it's an advert wireless network intrusion protection and management system that discovers network vulnerabilities, detects and protects a wireless native space network from intruders and attacks, and assists among the management of a wireless native space network. action in addition has the potential to seek out vulnerabilities associate degreed threats in an extremely wireless native space network like scalawag APs and surprising networks. apart from securing a wireless native space network from all the threats, in addition provides a robust wireless native space network.
- **Use durable encryption:** once we tend to install our network, we have got to line up the strongest wireless committal to writing as we tend to area unit able to. Wired Equivalent Privacy (WEP) committal to writing is adequate, but WPA and WPA2 offer us stronger decisions.

- **Change the default network name:** once we tend to discovered our network instrumentality, then modification the default name to make it tougher for hackers to hunt out. we've an inclination to do not choose our name, company signal, or different information regarding our company that is easy to guess or understand on net.
- Use **VLANs** or **MAC** address management lists combined with committal to writing to limit user access.

## XI. CONCLUSION

Wireless network provides high speed data communication. the pc network is confined to relatively very little areas like buildings. However, mobile and wireless networks in addition gift many challenges to application, hardware, software, and network designers and implementers. throughout the past four years, analysis has targeted on the restrictions of wireless and mobile surroundings. among a pair of to a number of years, these networks will compete with “wired” networks for applications with low to medium metric wants. However, with exaggerated frequency allocations, advances in semiconductor technology, and lots of economical cryptography of information over wireless channels, mobile and wireless networks will become the networks of choice for several users and applications, making wired networks relics of the past. wireless native space network is not only providing us edges but in addition providing us the various security issues and in addition the event of security protocols enhances the protection issues with Wireless network security .Hackers square measure attacking the wireless network so we have got to use the only technology to secure our network.

## REFERENCES

- [1] Wireless Networking Basics, NETGEAR, Inc. Oct 2005, v1.0, Oct 2005.
- [2] R.A. Hamid, Wireless LAN: Security Issues and Solutions [Press release], 2003.
- [3] Wireless Networking Basics, NETGEAR, Inc. Oct 2005, v1.0, Oct 2005.
- [4] P. Ye &G. Yue, Security Research on WEP of WLAN,2nd International Symposium on Networking and Network Security (ISNNS'10) Proc., Jingtangshan, PR China, 2010.
- [5] P. Feng, Wireless LAN security issues and solutions, IEEE Symposium on the Robotics and Applications (ISRA), 2012.
- [6] J.S.Park &D. Dicoi, WLAN security: current and future. IEEE Internet Computing, 7(5), 2003,60-65
- [7] E. Sithirasanen, V. Muthukkumarasamy &D. Powell, IEEE 802.11i WLAN security protocol-a software engineer's model, 4 th Asia Pacific Information Technology Security Conference (AusCERT'05) Proc., 2005.
- [8] What's New in Security: WPA (Wi-Fi Protected Access), [http://kb.netgear.com/app/answers/detail/a\\_id/1105](http://kb.netgear.com/app/answers/detail/a_id/1105).
- [9] Wireless Vulnerabilities and Attack Methods, [http://www.unix-edu.se/student/wlan/Chapter\\_9.pdf](http://www.unix-edu.se/student/wlan/Chapter_9.pdf).