



Review paper on communication over Wi-Fi

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Abstract-: *Internet has become a huge source of communication and information. Every person prefers to be online without being in the restriction. Organization strives to provide the Wi-Fi facility. There are various facility through which internet can be provided. Wi-Fi is one of it. Wi-Fi is used as a medium for voice transmission. It enables the user to connect to the router and to communicate. This provides us the flexibility to connect mobile devices like laptops, tablet, cell-phones etc as there is no restriction of cables. This paper has focused on the work done in the field of Wi-Fi especially for communication. Problems and solution for the same has been discussed in the paper.*

Keywords: *Wi-Fi, VoIP, Bluetooth.*

I. INTRODUCTION

Internet has become the most important part of today's lifestyle for the purpose of information and communication. Every person finds an easiest way to connect and convenient way through which efficient communication can be established. A system is required to develop that should survive the purpose of communication which will be easy for deployment, run and for access. Facility of internet can be provided through various ways such LAN, WAN, MAN connectivity which can be elaborated further. Wi-Fi is also one of the facilities for providing internet connectivity. Many organizations are using it for the same purpose. Mobile devices like laptops, cell-phones, tablets to the Wi-Fi router. The new trend of using wi-fi for voice calling has gained so much popularity. This trend is extremely popular indoors because of the poor the cellular connectivity. Wi-Fi calling allows cellular packets to be transferred to carrier over internet. It allows the user to call with their actual number. The increase in the wi-fi network can be seen in [2] Wi-Fi is predicted to grow 25 percent in smart meters and automation products, 109 percent in automotive applications, 39 percent in health, fitness and medical applications between 2011-2016. More than 1 million new Android devices are activated. 1.5 billion Android apps are being downloaded in a month and figure still continues to rise [1]. mobile devices are using Android platform in more than 190 countries. Looking towards the growth in Wi-Fi and android applications are created that runs using Wi-Fi networks. Intercom System is the traditional developed system. There is limitation to the traditional system. As the system works through the wire connectivity while establishing the new connection additional wiring is done and trained person is required for the job. Also the factor of mobility is affected because the phone is fixed on the table. A solution is also proposed for the limitations use of existing Wi-Fi network in which additional facility is enhanced. It is provided on the cell phones for providing and maintaining mobility. While adding a new system an entry is updated in IP table by administrator. WLAN can be used as communication medium and want to provide a free voice call facility. There are various applications of it .When making a call through Wi-Fi or voice call through Wi-Fi there is no problem of coverage of service provider because the call through this application does not depend on the service provider .Any sector which pays to the service provider can use the calling facility. Organizations also started using this facility for internet connectivity. Organization that may be school, colleges, malls management etc.. voice call over Wi-Fi provide us benefits but as like LAN there is limitation of range. Device has to be in the certain range for being in connection.



Fig.1. Range of WiFi

II. RELATED WORK

Voice communication over network is based on different technologies. Following are some of these technologies with features.

Voice over Internet Protocol (VoIP):

Here voice over the internet make feasible connection between two different clients. One phone application is designed for providing interfacing between telephone signals and that android phone application. In existing system phone communication by using LAN is available but there phones are of fixed types. Thus they result in violation of users' mobility. As there is existence of Internet Service Provider so cost of system is increases.

Voice Transmission by using Bluetooth over LAN:

As we know that Two cell phones, connected via Bluetooth, can transfer file using Bluetooth device. But geographical area as constraint is limitation for transmission. Also, Bluetooth enabled laptops and desktops are in the market, using which we can obtain the wireless communication. Limitation for voice transmission using Bluetooth is user's mobility. The major issue of wireless connection is consumption.

Calls over Bluetooth of Laptop in Windows 7:

Call is connected to laptop by using Bluetooth where service charge is applicable to user by service provider. Here drawback is caller has to use microphone of laptop for proper voice transmission. Actually here all communication takes place through the laptop. That's why mobility of user is violated as user has to work within range of Bluetooth.

Voice Calls over Wi-Fi

In [4] author has proposed the technology in which Wi-Fi enabled phones are communicated with client by using WLAN. In paper routing of table is updated whenever mobile device is connected to the WLAN router. By sending packets to the router communication occurs between source and destination. Paper shows that security is to tackled as it is vital issue. Encryption method can be used to survive the purpose of security. In which packets in headers can be encrypted by one encryption and payload can be encrypted by other.

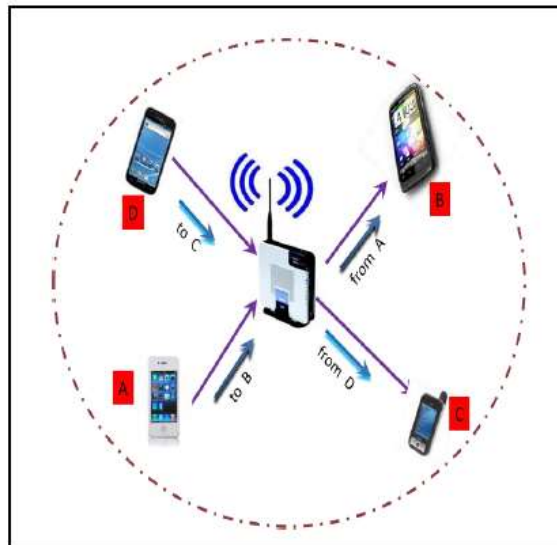


Fig.2 voice communication over Wi-Fi

➤ SYSTEM ARCHITECTURE

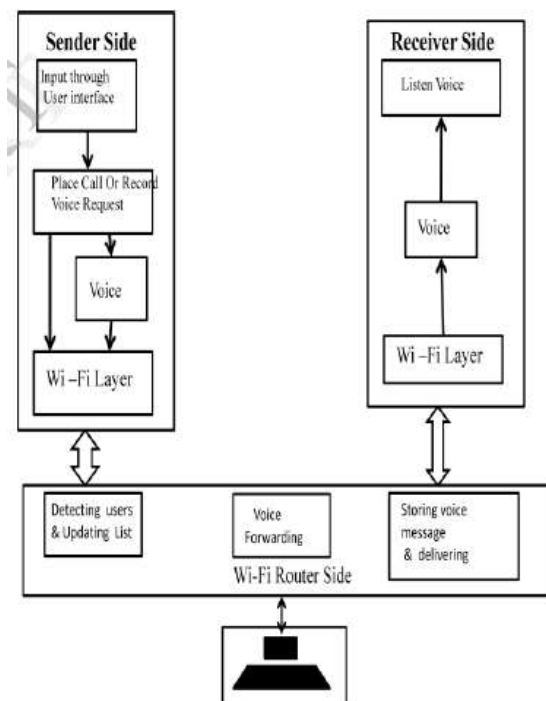


Fig. 3 System Architecture

CONCLUSION

Lot of work has been done by the researchers in the field and has proved that Wi-Fi router when used for voice communication as medium is beneficial. Wi-Fi eliminates several issues such as cost, coverage etc. also it is free of cost for the users as the communication is done without any service provider. Problems are also there with it which can be worked on. Related work gives an idea that whenever the communication is essential and frequent this voice calling over Wi-Fi is immensely useful.

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