

Latest Technologies use in Wire Local Area in Wireless Network

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Abstract— This paper we have use to the latest technologies use in local area in wireless network. We all known the wire local area networks (LANs) very well. This is most important use in wireless network in local area. In this network security in the malware and cybercrime attack of local area. In order to get rid of the wiring associated with the interconnection of in PCs in LANs, research in radio wave and infrared light in the wire. In this achive the management centralized of the local area network. This is resulted in the emergence of wireless LANs i.e. WLANs. It is one of transmission. It is used for networking of portable and very small computers, cell phones, printers, speakers, microphones etc.

Keywords: Smart Automation, Future smart home, IOT, Home automation

I. INTRODUCTION

We all know wired local area network(LANs)is very well. In this purpose of wireless network to offer their residents a better quality life. that use network in daily routing. The institution of electrical and electronics engineers has developed the layered architecture and other standard of LAN. This architecture, management and internetworking of the local area wireless network.

It is the sensor network localization is one of the mandatory of physical sensing function. This sensor localization that syetm utilizes wire local area network in wireless network of the access point is widely available .wi-fi is a popular technology which allows an electronic devices as exchange daa or to connect to the internet radio waves. Wireless communication is one of the fastest growing technologies. It is most important of two wireless technologies: wireless LANs, Bluetooth.

II. RELATED WORK

Wireless network of the central place among these technology. It is virtual and physical using the wireless communication of contextual communication. in this specification for a wireless LAN it gives the specification for the physical and data link layers. then uses the principle of simply listening to other transmission and only transmit if no one else is transmitting. This is Bluetooth technology using short range radio links which could replace the cables connecting portable fixed electronic devices. step down from WLANs. The WLANs cover in smaller areas use less power

III. ARCHITECTURE WIRELESS NETWORK

Wireless network defines two types of services:

- 1) Basic Service set(BSS)
- 2) Extended Service set(ESS)

A. Basic Service Set (BSS):

The BSS has been define as the basic building block of wireless LAN. A BSS of stationary or moving wireless stations and a central base station is called access point (AP).

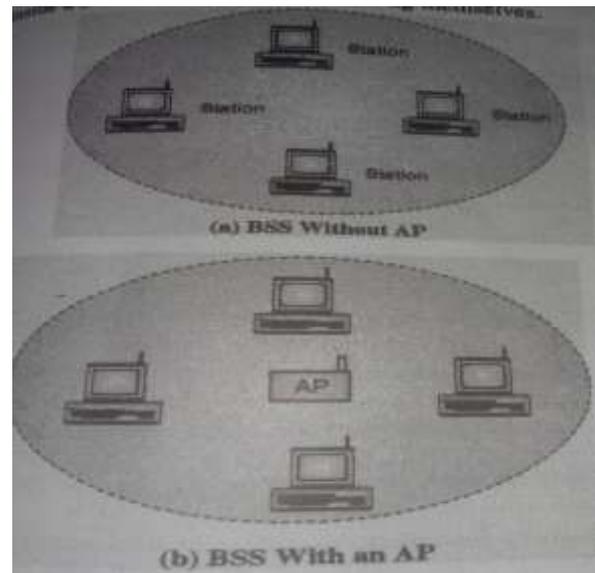


Fig. 1: Basic service set(BSS)

Thus a BSS can be either without AP and with AP. the BSS without AP cannot send data to another BSS. So no data exchange can take place outside that bss. Hence it is known as a stand alone network or ad hoc architecture.

B. Extended Service Set(ESS)

Extended service set consist of multiple BSSs with APs. The BSS system are connected to each other via of a distributed system or wire LANs. The APs are connected to each other via the distribution system as shown. The distribution system can be any type of LAN such as the Ethernet.

The ESS contains two types of staions:

- 1) Mobile stations which can move and change location.
- 2) Stationary of non-moving stations.



Fig. 2: Extened service set (ESS)

Out of these the non-moving stations are the APs which are a part of wired LANs. Whereas the mobile stations are those contained in the BSS.in this type of is very similar to that the cellular communication. Wire local area network cellular phone in wireless network a station having ESS transition mobility is the one which can move from one ESS to any other ESS. It is does not guarantee a continuous communication when the station is moving in wireless network.

C. Wire local area network use layered of wireless network

This is use of local area network in wireless network there is two layered used:

- 1) Physical layer
- 2) MAC layer

1) Physical layer:

It has defined the specification for converting bits to signal in the physical layer. It is one of the infrared frequency spectrum and the other Four specification are in RF range

- 1) FHSS
- 2) DSSS
- 3) OFDM
- 4) HR-DSS

- 1) FHSS (Frequency Hopping spread spectrum):

FHSS is conversion of bits into signal. In FHSS sender send one carrier frequency for a short period of time. Then another carrier frequency and transmits it the same amount of time.

- 2) DSSS (Direct Sequence Hopping spread Spectrum):
It has define a direct sequence spread spectrum technique in order to convert the bits into signal . the DSSS also uses the same frequency band as that of the FHSS. In DSSS each bit being sent by the sender is first converted into a group of bits as the chip code. The time required to send each chip code should be equal to the time period of the original bit in order to avoid the buffering.
- 3) OFDM(Orthogonal Frequency Division):
OFDM stand for orthogonal frequency division multiplexing. It is used by as the signal conversion technique. It is the basic principle of OFDM is same as that of FDM.
- 4) HR-DSSS (high rate DSSS)
HR-DSSS is the short from high rate speed direct sequence spread spectrum. it is method of signal generation of HR-DSS it is HR-DSSS is the very similar that of DSSS technique but only different of encoding method use. This used in frequency band of 2.4 GHz.

D. What is problem occur in wireless LAN network:

It try to access method used for wired LANs for the wireless LAN, then the it uses the principle of simply listening to other transmission and only transmit if no one else is transmitting . but there are two problems in using CSMA. They are hidden station problem and exposed station problem.

1) Hidden station problem

Check the medium to see if anyone is transmitting it will not hear station 1 because it is out of range.

2) Exposed station problem

It is falsely decide that it should not transmit to station

E. Bluetooth wireless Network

Bluetooth is the name given to a new technology using the short range radio links which cloud replace the cable connecting portable fixed electronic devices. Bluetooth replaces cables that connect one device to another with one universal radio link.

It is key features are robustness, low complexity, low power, low cost. It is operate on nosy frequency

environment the bluetooth radio uses a fast acknowledgement and frequency hopping schema to make the link more reliable. thus bluetooth

Is a wireless LAN technology which can connect devices such as telephones, computers, printers, cameras etc. without using wires.

F. Advantages of wire local area network:

- 1) WLAN is a cheaper than wired LAN because wires are not required.
- 2) WLAN can be layer down where it is difficult to run cables
- 3) It is possible to form WLAN using laptops
- 4) Any standard WI-FI device can work anywhere in the world
- 5) WPA2 protocol used for wi-fi is secure protocol so WLANS are safe

G. Limitation of wire local area network:

- 1) it is spectrum assignment and operational condition are not same world wide.
- 2) Radiated power is limited to 100mw .
- 3) WI-FI connectios can be easily disrupted
- 4) There are data security risk
- 5) WI-FI networks are not protected thoroughly.

IV. CONCLUSION

In this study proposed system that can collect share local information and distributed in this system can communicate the wireless connection network of the local area network which is network validates its effectiveness and feasibility. It is improved the enhance whole system performance. This reducing device time which is task for future work.

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