SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

19EET304/ IOT for Electrical Sciences

III YEAR VI SEM

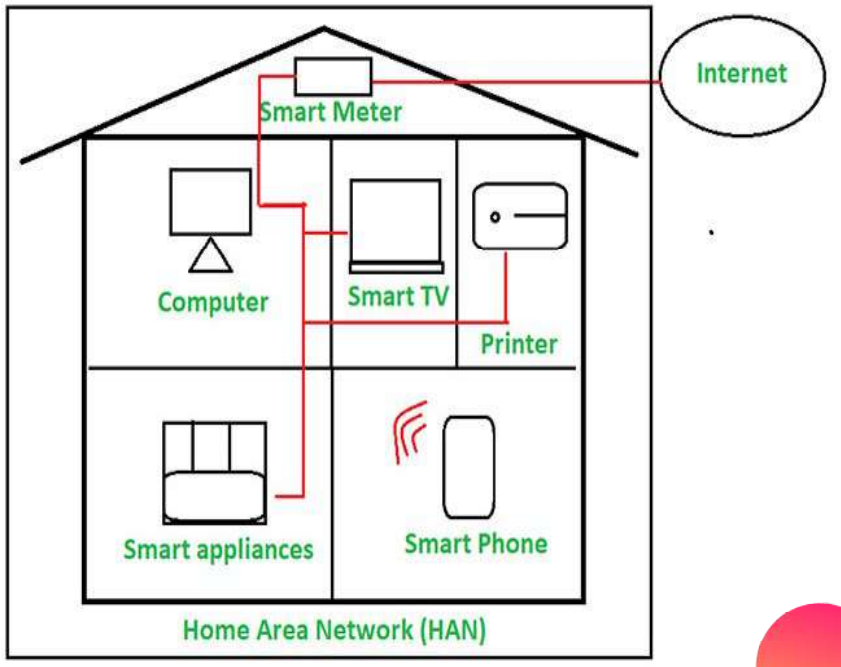
UNIT 3 COMMUNICATION INTERFACE

TOPIC 3 – HOUSE AREA NETWORK (HAN), WIDE AREA NETWORK (WAN)

HOME AREA NETWORK (HAN)

Home Area Network (HAN) is a network in a user's home where all the laptops, computers, smartphones, and other smart appliances and digital devices are connected into a network.

This facilitates communication among the digital devices within a home which are connected to the Home network.



INFRASTRUCTURE OF HAN

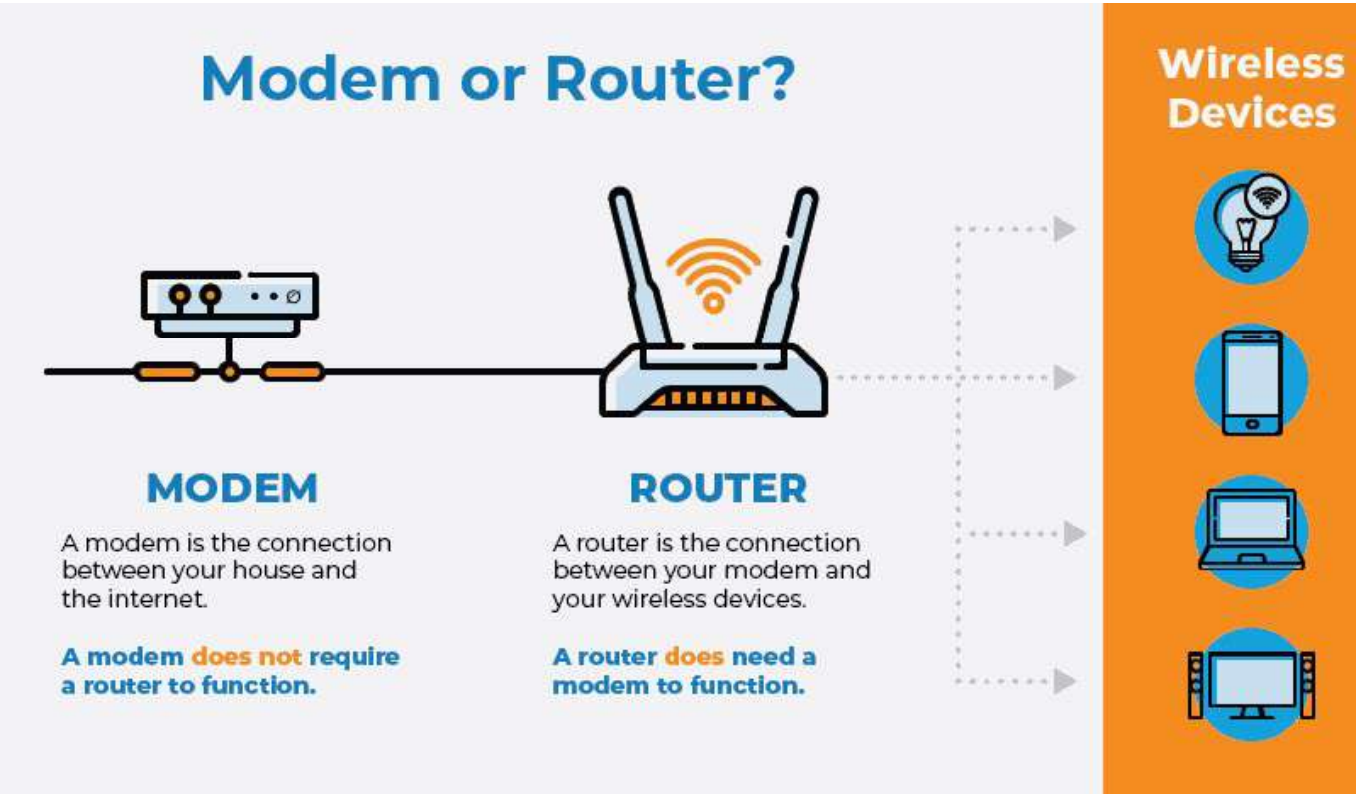
•A modem is used which is provided by an ISP to expose Ethernet to WAN. In homes they comes in DSL modem or cable modem. Digital Subscriber Line

•A router is used to manage connection between Home Area Network (HAN) and Wide Area Network (WAN).

•A wireless access point is used for connecting wireless digital devices to the network.

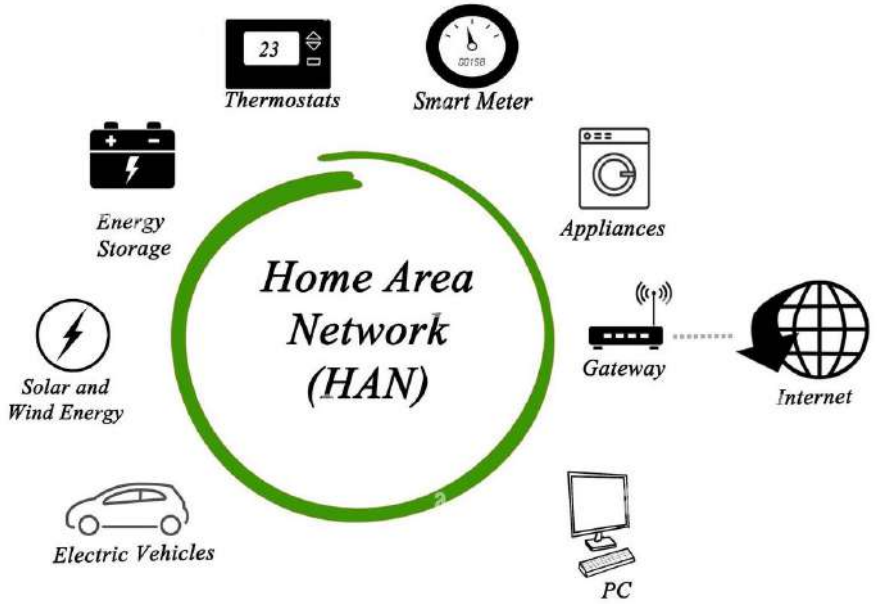
•Smart Devices/ Digital Devices are used to connect to the Home Area Network.

INFRASTRUCTURE OF HAN



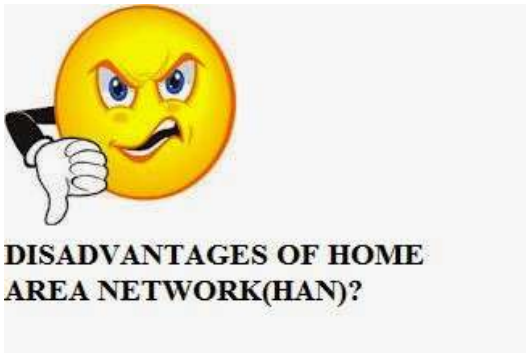
ADVANTAGES OF HOME AREA NETWORK (HAN)

1. Accessibility
2. Resources sharing
3. Security
4. Management
5. Maintenance
6. Multiuser
7. Comfort Life



DISADVANTAGES OF HOME AREA NETWORK (HAN)

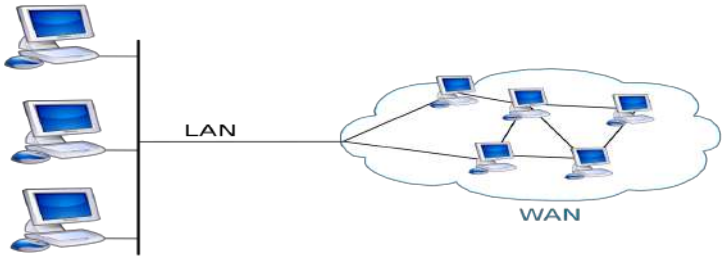
1. Expensive
2. Slow Connectivity
3. High Security



WIDE AREA NETWORK (WAN)

A wide area network (WAN) is a computer network that covers a large geographical area comprising a region, a country, a continent or even the whole world.

WAN includes the technologies to transmit data, image, audio and video information over long distances and among different LANs and MANs

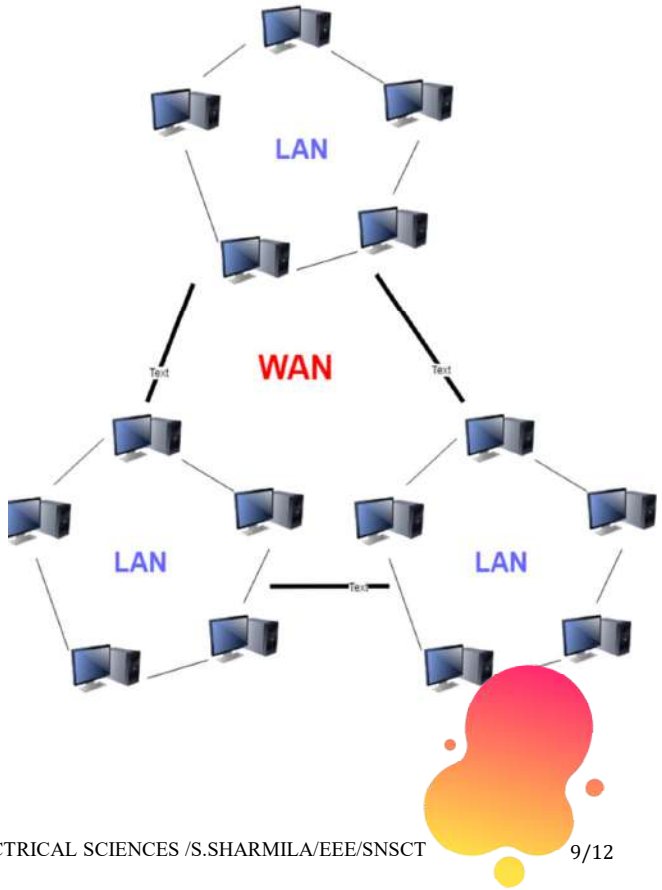


DIFFERENCE BETWEEN WIDE AREA NETWORK (WAN) AND LOCAL AREA NETWORK (LAN)

LAN	WAN
1. Private communication network connected by a length of cable that serves a company located within a radius of 10 m – 3 km 2. Modems are not always needed 3. Telephone circuit not required 4. High data transmission rates 5. Low cost transmission	1. Connects LANs, MANs and covers a much wider geographical area more than 3 km. 2. Modem, routers and other communications h/w are required to complete the WAN 3. Telephone circuit required 4. Low data transmission rates 5. High transmission link cost

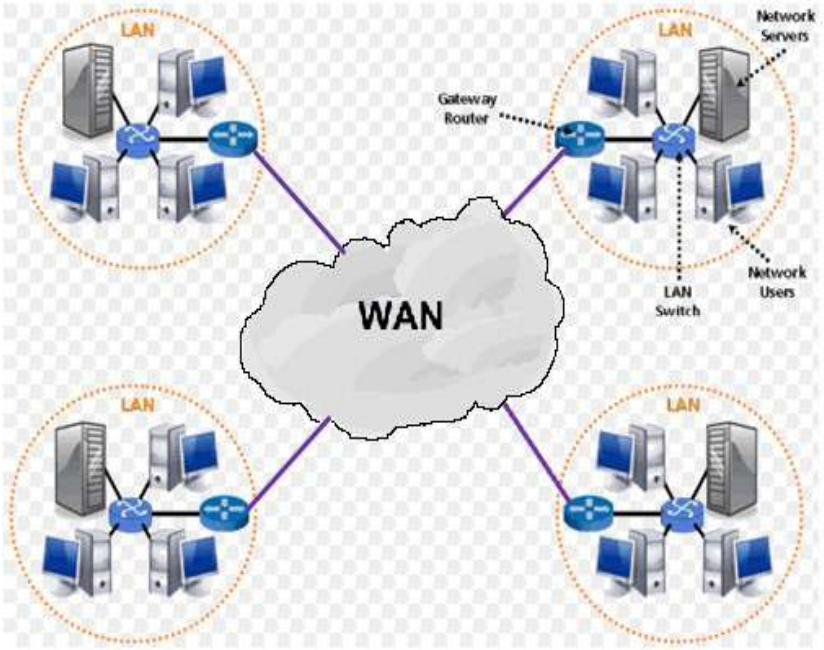
FEATURES OF WAN

1. WANs have a large capacity, connecting a large number of computers over a large area, and are inherently scalable.
2. They facilitate the sharing of regional resources.
3. They provide uplinks for connecting LANs and MANs to the Internet.
4. Communication links are provided by public carriers like telephone networks, network providers, cable systems, satellites etc.
5. Typically, they have low data transfer rate and high propagation delay, i.e.they have low communication speed.
6. They generally have a higher bit error rate.



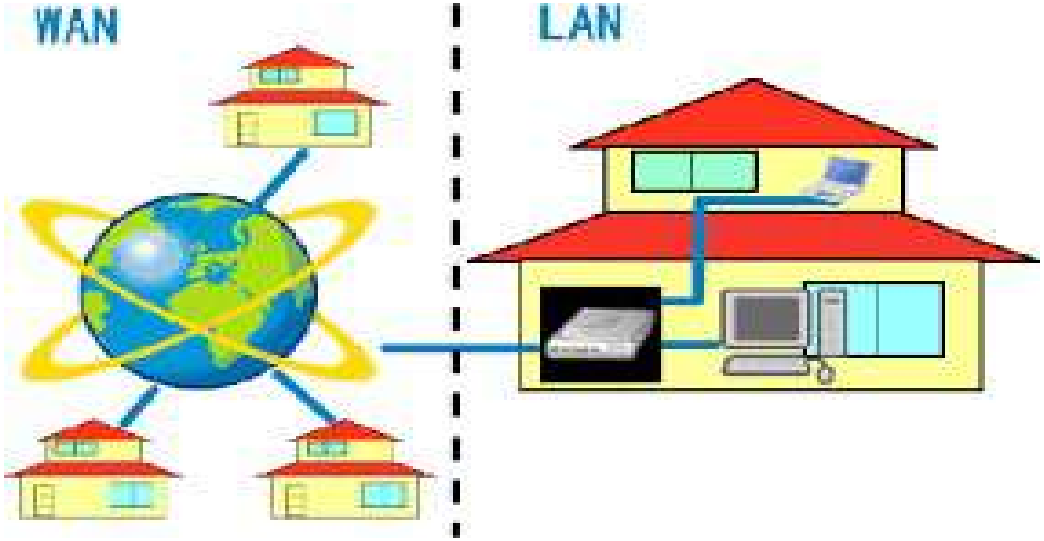
EXAMPLE OF WAN

1. The Internet
2. 4G Mobile Broadband Systems
3. A network of bank cash dispensers.



ASSESSMENT – 1

DO HOUSES USE WAN OR LAN?



ASSESSMENT – 2

WHAT IS AN EXAMPLE OF WAN IN REAL LIFE?

References

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- https://www.tutorialspoint.com/Wide-Area-Network-WAN
- https://www.atikaschool.org/kcse-computer-studies-questions-and-answers-836310/list-three-differences-between-wide-area-networks-wan-and-local-area-networks-lan