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ECE 402 - wireless Adhoc and Sensor Networks

Unit - I Introduction.

→ Introduction to Adhoc - w/l n/w

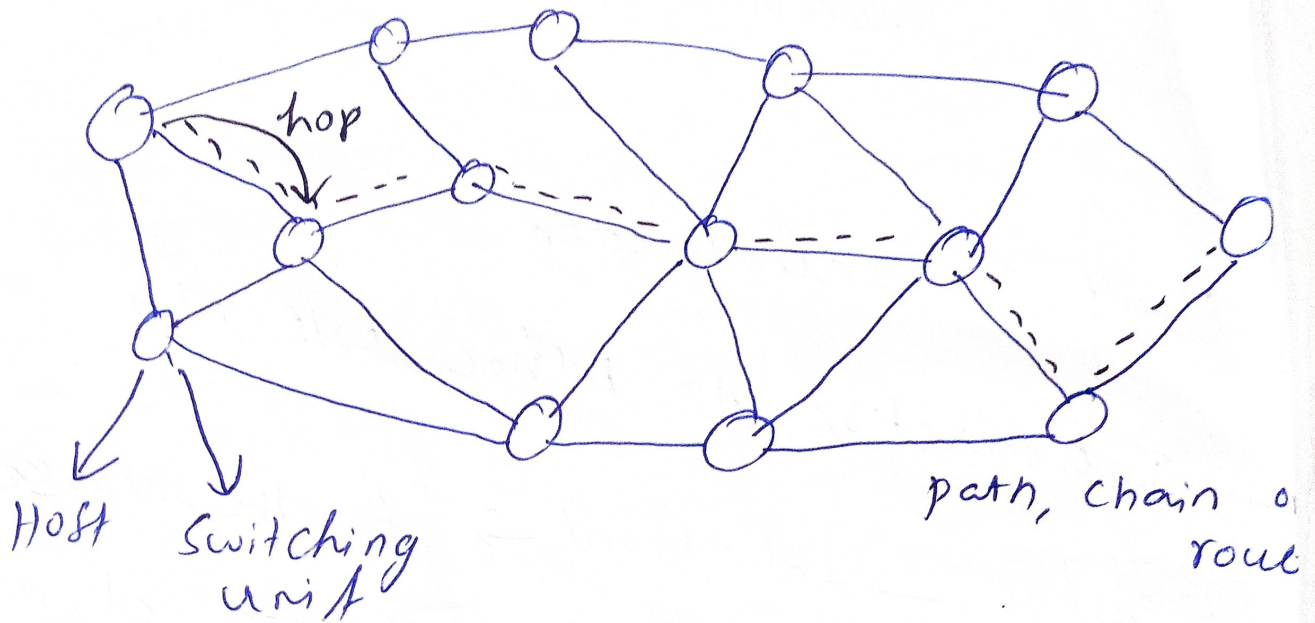
→ "Adhoc" → Latin word → "for the purpose only"

→ Adhoc networks are small area networks, especially designed with wireless / Temporary connection to the different computer assisted nodes.

→ A wireless adhoc-network (WANET) is a type of local area network (LAN) that is built spontaneously to enable two or more w/l devices to be connected to each other without requiring a central device, such as a router or access point.

When wi-fi networks are in adhoc-mode, each device in the network forward data to the others.

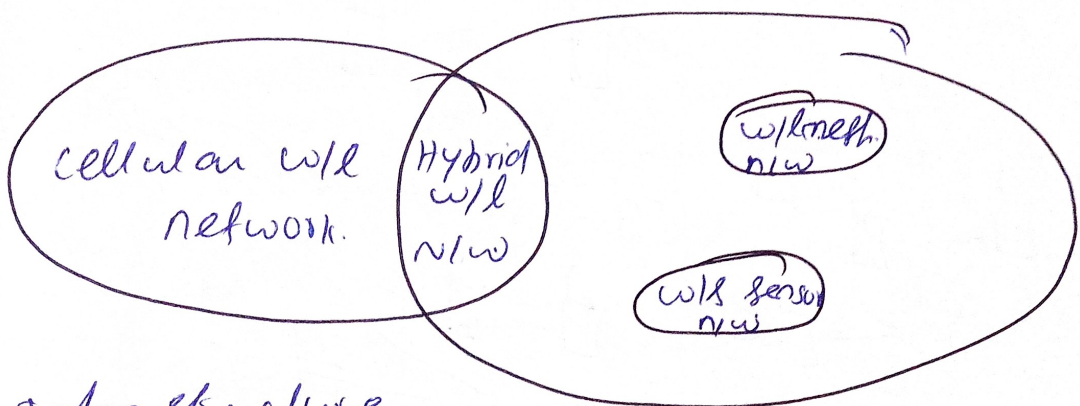
Fig (i) Multi-hop wireless Adhoc-network



→ In WANET, collection of devices or node is responsible for network operations, such as routing, security, addressing and key mgmt.

→ Fig (i) defined as a collection of nodes that communicate with each other wireless by using radio signal with a shared common channel.

Cellular and adhoc w/l network.



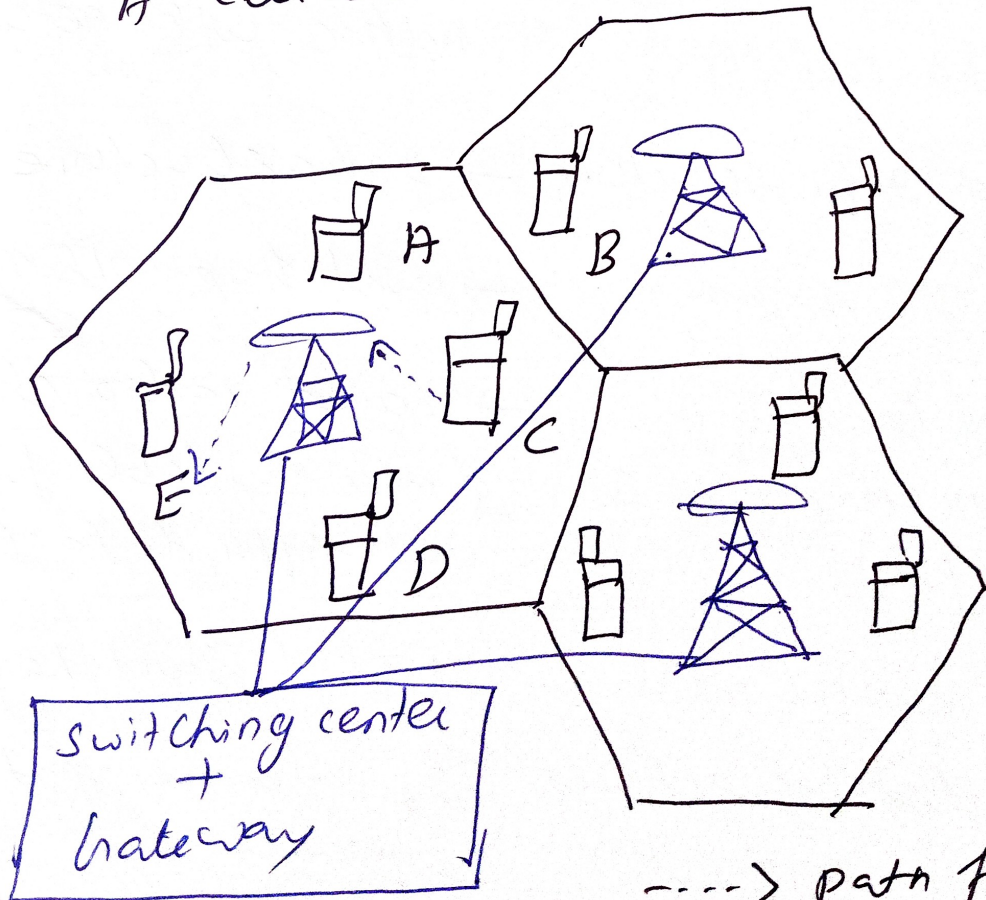
Infrastructure Dependent

(single hop w/l n/w)

Adhoc w/l n/w

(multi hop w/l) n/w

A cellular network.

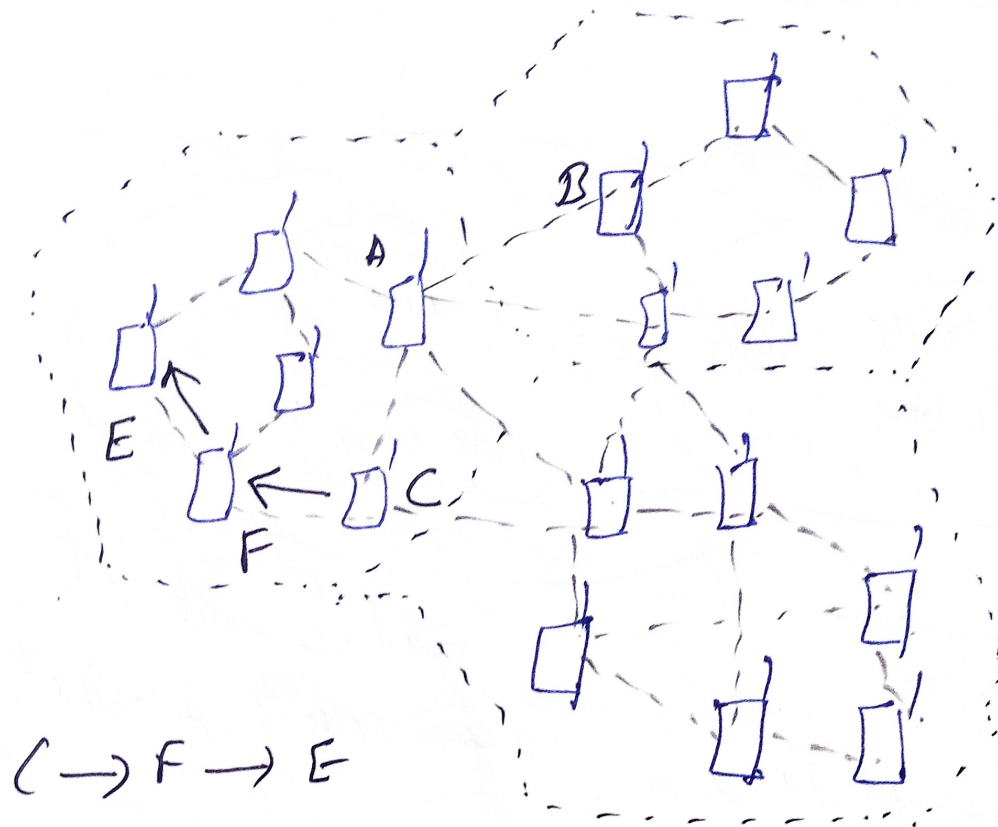


mobile node

Base station

-----> path from C to E.

Fig 4) An Adhoc wireless network.



Cellular Network.

- > Fixed Infrastructure
- > Single-hop
- > Guaranteed BW
(designed for voice traffic)
- > circuit switched
- > seamless connectivity

Adhoc wireless network

- > Infrastructureless
- > multi hop wireless
- > Shared radio channels
(more suitable for best-effort data traffic)
- > Packet switched.
- > frequency path breaks