UNIT-IV

Mobile Ad-Hoc Networks : Concept

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AP/CSE
SSNCE

Ad-Hoc Network

- Sometimes an user may be interested in using a laptop computer without making routing functions via global internet.

- For such cases internet protocol (Mobile IP) not required.

- Thus the mobile computer users can be allowed to set up a short lived network with wireless communication devices, for a particular moment.

- This network is known as Ad-Hoc network

- It is independent of infrastructure.

- Thus even when there is no infrastructure available an adhoc network can be formed.

Ad-Hoc Network

- The wireless devices are able to communicate with each other in ad-hoc networking, even there is no,

- Routers or

- Base stations

- Internet service providers

Characteristics of Ad-Hoc networks (MANET)

- Topology of ad-hoc network is dynamic in nature and changes in their topology is possible. But frequent changes can be avoided to achieve high throughput
- Due to wireless transmission their physical security is limited
- Capacity is lower when compared with wired networks
- Experience high loss rates, higher delays
- They use either exhaustible power supply or batteries. In network design it is very important to consider power saving.
- It supports all seven OSI layers.

Characteristics of Ad-Hoc networks (MANET)

- Designing Ad-Hoc having high complexity with physical layer setups. (In mobile computing base station will taken care physical layer setups).

- Information's related with network destiny, link failures, nodes distributions has to be clearly defined for adhoc networks.

- Adhoc network is independent of any central control or infrastructure.

- To obtain a better network structure it is important that the MAC layer and network layer should collaborate with each other

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Advantages of Ad-Hoc networks (MANET)

- **Instant infrastructure** in case of sudden meetings, unplanned interpersonal communications, disaster, etc. Planed infrastructure is not required.

- **Remote area networking:** in parsley populated areas where infrastructure setup is difficult. Adhoc networks can be established.

- **Effective system:** ad-hoc is packet oriented network setup, less expensive and effective.