Analysis of Noise in Phase Stepping Interferometry Mobile AD - HOC Networks – Issues and Challenges

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Abstract: — **This paper presents the mobile ad-hoc network's which is also termed as (MANET's) are less mobile networks that have no fixed routers. All nodes are able for movement and it can be connected dynamically in a proper way by using radio waves.This paper focuses on the Mobile ad – hoc networks (MANET's), it's classification and characteristics. This paper also focuses on the issues and challenges that are given by Mobile ad – hoc networks (MANET's)..**

Index terms: **MANET's, WLAN, Quality of Services, Router, Non – Repudiation, Handoff, Quality of Service.**

I. INTRODUCTION

As we all know that wireless networks have become increasingly popular in computing industry, since 1970s and now a days it is also popular in other fields also. This is particularly or eventually true that within the past decade which has seen wireless networks being adapted to enable mobility for do our works easy and faster. There are presently two types of mobile wireless networks. The first is known as building networks, i.e., those networks with fixed and wired gateways. Those networks which are connected by bridges can be termed as base stations. A unit within these networks connects to and communicates with to also , within the nearest base station. As the mobile travels out of range of one base station and goes into the range of another, a "handoff" occurs from the old base station to the new, and the mobile is able to continue communication seamlessly throughout the network. Typical applications of this type of network include wireless local area networks (WLANs).

The second type of mobile wireless network is the building less mobile network, commonly known as a Mobile ad-hoc network (MANET). It has no fixed routers and all nodes are able for move and can be connected dynamically in a proper way. Example are:-

Ad-hoc networks are generally used in emergency conditions and string operations, meetings in which persons share their data, information.

II. CLASSIFICATION

Mobile AD – HOC Networks (MANET's) are of following types: -

1. Vehicular Ad – hoc networks: - It is used in vehicles communications and roadside equipment's. It is also called VANET's.

2. Internet based mobile ad - hoc networks:- These networks usually link mobile nodes and fixed internet – gateway nodes. In such types of networks we don't apply ad - hoc routing algorithms directly. It is also called MANET's.

3. Intelligent vehicular ad – hoc networks:- These networks are artificial networks which are generally used in vehicles.

Ex:- Vehicle accidents, drunken driving, etc..

III. CHARACTERISTICS

Mobile AD – Hoc Networks (MANET's) are following characteristics:-

1.   No building network – Flat network
2.   Radio communication – shared medium
3.   Limited energy and computing resources

4. Mobility – dynamic topology
5. Nodes are in general autonomous nature.

IV. ISSUES IN MOBILE AD – HOC NETWORKS

There are several problems within ad – hoc networks that make them very difficult to understand. The problems are: -

1. Routing: - Routing……..Well Routing is one of the difficult problems to solve as ad – hoc networks have a seamless connectivity to other devices in its neighborhood. Every node acts as a router and forwards each other's packets to enable data, information or anything between mobile nodes.

2. Security:- Clearly a wireless link is much more unsafe than a wired link. The user can insert false information into routing packets and cause routing loops, long time – outs and fake advertisements. It has many unsolved issues that are very much important to solve to make the ad – hoc network into not a good condition but in the best condition so that no one can misuse it or insert fake information.

3. Quality of Service:- Quality of Service is a difficult task for the developers because the arrangement of an ad – hoc network will constantly changes. It will never remains same. Reserving the resources and sustaining a certain a good quality of service while the network condition constantly changes and it is very challenging also…. It is also known as QoS.

V. CHALLENGES IN MOBILE AD – HOC NETWORKS:

1. Changing the network arrangement all over the time.
2. Potentially frequently network partitions.
3. Every node can be mobile.
4. Limited power capacity.
5. Limited wireless bandwidth.
6. Presence of varying channel quality.
7. No centralized entry – Distributed.
8. How do we support routing?
9. How do we support channel access?
10. How do we deal with mobility?
11. How do we conserve power?
12. How do we use bandwidth efficiently?

VI. CONCLUSION AND FUTURE SCOPE

This paper has discussed above about the Mobile AD – Hoc Networks (MANET's), their classification, their characteristics, and the issues and their challenges which are so difficult that are posed by Mobile AD – Hoc Networks (MANET's).

Now, the future scope of this research paper has to be improve the standard of Mobile Ad – Hoc Networks (MANET's) so as to overcome the issues and challenges which are posed by them.

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