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A Study on the Application of Mobile Adhoc Networks (MANETS) in Disaster Management

Nishi
Department of electronics and communication engineering

Abstract:- A Mobile Ad Hoc Network (MANET) is a self determining system containing a collection of two or more nodes connected through some kind of wireless communications and networking capability which enables them to communicate with each other. It doesn't require any centralized server. This enables the wireless nodes to form a network dynamically to exchange information. It doesn't requireany preexisting fixed network infrastructure. In the autonomous system hosts are free either to behave as nodes or act like routers at a time. In this paper, we study these advantages of MANET for disaster management. Disaster is a sudden accident or a natural catastrophe that causes great damage to life and it causes damaged networks in that particular area. As MANET is wireless networking system which is on demand technology, can used in such places as a rescue for the damaged networks and can be of great use in disaster management.

Keywords:- *Autonomous, multi hop, dynamic, MANET.*

I. INTRODUCTION

A MANET is a infrastructure less networking technology. It doesn't require any infrastructure to communicate. The traffic types in ad hoc networks are quite different from those in an infrastructure wireless network. Mobile ad hoc network perform peer-to-peer as well as remote-to-remote communication. In peer-to-peer communication is carried out between two nodes which are within one hop where as in remote-to-remote communication between two nodes beyond a single hop but which maintains a stable route between them is performed. The traffic in MANET is dynamic because nodes are dynamic and moving around. Routes must be reconstructed. MANET has some main features which include Autonomous terminal, distributed operation, multi hop routing etc.

II. APPLICATION IN DISASTER MANAGEMENT

Manet plays a great role in disaster management. This importance of MANET in disaster management is due to its dynamic network topology.

Since the nodes are mobile, the network topology may change rapidly and the connectivity among the terminals may vary with time. Since when any disaster comes to happen all networks get damaged. In this situation a technology that works without any infrastructure becomes a great rescue. The main advantages of MANET arethat it provides full access to information at every geographic position. These networks can be set up at any place at any time and this is due to its flexibility. For this purpose some routing protocols like DSDV, DSR, AODV etc can be used for better efficiency. Selection of protocols depends on the situation during disaster.

III. CONCLUSION

This paper is a study of features of MANET and its routers for applicability in disaster management. To get better efficiency a combination of more than one protocols can be performed which will be the result of combined throughput of protocols. Many efficient protocols, securities, simulators have been developed to face and manage disasters and with technologies disaster management will become automated with minimum loss of effort, time and resource.

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