

A Review on Ad Hoc Network and Security Issues

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Abstract: The term 'ad hoc' refers to self-configuring wireless networks made of mobile devices or nodes that form temporary connections dynamically without the need for any pre-existing infrastructure or centralized control. Because of their potential applications in a variety of fields, such as military operations, disaster response, and sensor networks, these networks have received so much attention. Ad hoc networks' decentralized nature and dynamic topology alternatively, present significant security challenges which is analyzed in this survey paper.

With numerous sponsored studies and trials of "packet radio" systems in the 1970s, the idea of an ad hoc network emerged. In 1972, the Packet Radio Network was established, followed by the Survivable Radio Network (SURAN) and Low-cost Packet Radio (LPR) efforts in the 1980s. Ad hoc networks emerged in the commercial sector in the 1990s due to the entry of inexpensive radiofrequency wireless interfaces into the commodity computing market.[1]

In contrast to a wired network, an ad hoc network is typically thought of as having nodes that are more mobile. As a result, unlike the Internet, which is a wired network, the network architecture is far more dynamic and the changes are frequently unpredictable.[2] An ad hoc network is a group of nodes that may maintain connectivity without relying on a predetermined infrastructure. The utilization of open-source technologies that are common in the civilian world is a current trend in military ad hoc networking.[11]

This abstract provides an overview of ad hoc networks and the security systems designed to address their unique security requirements. This paper highlights the key security challenges faced in ad hoc networks and presents an overview of the existing security mechanism, including secure routing protocols, authentication schemes and intrusion detecting systems. In this article, the current issues and security vulnerabilities of Ad Hoc networks are surveyed.

Keywords: Ad hoc Network

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