

COMPARATIVE STUDY OF COLLABORATIVE ATTACKS & SECURITY MECHANISMS IN MANET

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ABSTRACT

Mobile Ad-hoc network is a infrastructure less network where communication takes place between collections of mobile hosts. There are several threats to ad-hoc network termed popularly as active and passive attacks. Collaborative attack is a new generation threat for ad-hoc networks. In collaboration attacks, multiple attackers synchronize their actions against some network to disturb the genuine communication. There are various vulnerabilities in the protocol suite due to which these attacks cause more danger to these networks. Unique characteristics of MANET topology such as open peer-to-peer architecture, dynamic network topology, shared wireless medium, mobility, self configuration and limited resources (battery, memory and computation power) pose a number of non-trivial challenges to security design. Security is a major concern for protected communication between mobile nodes in a hostile environment. Routing plays the key role in communication in these networks and thus also in the security of the network. In general, routing security in wireless MANETs appears to be a problem that is not trivial to solve. In this paper, we review some of the interactions among various Collaborative attacks like Blackhole attack, Sybil, Warmhole attack, DOM etc. We also study the work on securing the MANETs with different approaches like Cryptographic methods, Trust Based systems etc.

KEYWORDS: MANET, Collaborative Attack, Cryptography, Trust Based Systems, Hash Based Proof