

Support Vector Machine Based Intrusion Detection System in MANET

The Mobile Ad Hoc Networks (MANETs) have been used in recent years, in many applications. Although they are more vulnerable to malicious attack, it is very difficult to accomplish the complete security in the mobile ad hoc network. Since prevention techniques are never enough, Intrusion Detection (ID) systems, which monitor system activities and detect intrusions, are generally used to complement other security mechanisms. A Denial of Service (DoS) attack is an important type of attack that aims to make computer/network resources unavailable to the intended users.

Intrusion detection is a type of security management system that serves as an alarm mechanism for any computer network such as MANET. It detects the security threats happened to a network and then issues an alarm message to an entity, so that the entity can take some actions against the intrusion. An ID system gathers and analyzes information from various areas within a computer or a network to identify possible security breaches, which include both intrusions (attacks from outside the organization) and misuse (attacks from within the organization).

In the literature various intrusion detection techniques have been applied such as statistical approaches and artificial intelligence techniques like data mining and neural networks. The aim of this research is to study ID techniques and design a mechanism of ID on the basis of Support Vector Machines (SVM) to detect Denial of Service (DoS) attacks.