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Abstract

Mobile Ad Hoc Networks has more challenging vulnerabilities compared with wired networks. Mobile ad hoc networking (MANET) has become an important technology in current years

because of the rapid proliferation of wireless devices. They are highly vulnerable to attacks due to the open medium, dynamically changing network topology and lack of centralized monitoring point. It is important to search new architecture and mechanisms to protect these networks. Intrusion detection system (IDS) tools are suitable for securing such networks. The main task of IDS is to discover the intrusion from collected data. Some of the features of collected data may be redundant or contribute little to the detection process. So it is essential to select the important features to increase the detection rate. Most of the existing intrusion detection systems detect the intrusion by using large number of data features collected from network. In this work, we propose anomaly based intrusion detection system to detect the malicious activities by collecting statistics from network. Also we use SVM machine learning technique and Rough Set Theory which are used to detect the attacks in an efficient way. Rough set theory preprocesses the feature data to reduce the computational complexity. The support vector machine is trained by using feature set from the Rough set theory for detecting abnormal behavior.

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Computer Science

Index Terms

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