Abstract

Recent years have shown an unprecedented growth in the use of wireless LANs. However, unlike the relative simplicity of wired Ethernet deployments, IEEE 802.11-based wireless LANs use radio-frequency (RF) data which is vulnerable to various attacks. This paper analyzes the IEEE 802.11b wireless LANs to determine variations in throughput so as to compare it for different standards. In addition the throughput is compared with a new hypothetical standard which is based on IEEE 802.11b. This paper also explores the vulnerability of these standards by simulating a popular attack on IEEE 802.11b wireless LAN. The simulations are carried in NS2 which are used to compare the total time utilized for various simulated standards. To have an enhanced insight of vulnerability of wireless LAN average time per symbol is calculated for various standards and has also been compared. Finally, we have implemented these results to derive dependency of vulnerability on key size length by obtaining a graphical and mathematical relation among them.

Index Terms
Keywords
TKIP  WEP  WLAN  Wireless LAN