

{tag} International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

[Volume 148](#)

-
[Number 7](#)

Year of Publication: 2016

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10.5120/ijca2016911213

{bibtex}2016911213.bib{/bibtex}

Abstract

Wireless mesh networks are the emerging wireless networks which are self organizing, maintaining, healing and configuring. The main trait of WMN is its dynamic and multi-hop nature. These networks provide the internet services to its users on low costs and with high bandwidth. These are made up of mesh routers and mesh clients. They can be easily deployed and are highly scalable. But the security of WMNs is the area of concern due to their vulnerable features they are open to many attacks of which wormhole attack is the worst. A wormhole attack is the one in which two or more conspired nodes forms a tunnel between them via which they sends the network traffic to one another and replays it. In our paper, we study the wormhole attack and then find its impact on distance error and connectivity of nodes. The distance error is found by knowing the ratio of trusted links and that of connectivity is found by knowing the unaffected, disconnected and partially affected nodes.

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Index Terms

Computer Science

Networks

Keywords

WMN (Wireless mesh networks), wormhole attack, impact on distance error, impact on connectivity.