Abstract

Wireless LAN is one of the cost effective way to establish local networking as compared to wired network. Although the last decade has seen various sophisticated WLAN routers and devices, but few of them are actually found to be highly resilient against potential attacks on WLAN. Literatures also share evidence that such issues are yet unsolved and call for a serious modeling of issues and testing the security efficiencies. The prime reason behind this is the incapability of the existing security protocols to ensure reliable authentication system. Hence, this study presents a technique that uses the most recent versions of cryptographic hash functions to ensure the bidirectional authentication between the nodes and WLAN router. Finally, the paper discusses about mathematical modeling of the presented security protocol as well as accomplished results are compared with the existing system.

References

SAKGP: Secure Authentication Key Generation Protocol in WLAN

- F. Haddadi, M. A. Sarram, &quot;Wireless Intrusion Detection System Using a Lightweight Agent,&quot; Computer and Network Technology (ICCNT), 2010 Second International Conference, pp. 84-87, 2010
- A. Bittau, M. Handley, J. Lackey, &quot;The final nail in WEP&apos;s coffin,&quot; Security and Privacy, 2006 IEEE Symposium, pp. 15-400, 2006
- Y. Liu, Z. Jin, Y. Wang, &quot;Survey on Security Scheme and Attacking Methods of WPA/WPA2,&quot; Wireless Communications Networking and Mobile Computing (WiCOM), 6th International Conference, pp. 1-4, 2010
- N. Phil, A. P. Horrocks. &quot;Vulnerability of IEEE802. 11 WLANs to MAC layer DoS attacks. &quot; pp. 14-14, 2004
- Y. Omar, M. Youssef, E. H. Gamal, &quot;ARQ secrecy: From theory to practice,&quot; Information Theory Workshop, ITW. IEEE, pp. 6-10, 2009
SAKGP: Secure Authentication Key Generation Protocol in WLAN

- http://keccak noekeon.org/
- X. Zheng, C. Chen, C-T Huang, A Dual Authentication Protocol for IEEE 802.11 Wireless LANs, pp. 565-569, IEEE, 2005
- B. A. Kumar, K. Kavuri, "Novel approach for preventing hackers in data communication"; International Journal of Computer Science and Advanced Computing, Vol. 1, Iss. 1, April. 2013

Index Terms

Computer Science Wireless

Keywords

Wireless LAN Cryptographic Hash Security Authentication IEEE 802.11