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Abstract

Due to the advancement in the communication technologies, people can communicate with each other anywhere on the move. The concept of ad hoc networks comes into existence in such scenarios. These networks require secure routing protocols; as such networks are vulnerable to various attacks, because of their open and dynamic infrastructure. In this paper we analyze ad hoc on-demand distance vector routing protocol (AODV) using formal verification technique. The verification has been carried out with the help of an automated tool, AVISPA. The result reveals poor authentication between the nodes of the routing protocol. To overcome the weak authentication problem found, we incorporate a secure authentication technique in AODV specification and prove it to be secure by formally verifying the results.

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Index Terms

Computer Science

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Keywords

AVISPA HLPSL AODV