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SDSR: Secure Dynamic Source Routing Protocol

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Abstract - It has been observed from literature that an AD hoc network is a group of wireless mobile computers (or nodes) in which individual nodes cooperate by forwarding packets for each other to allow nodes to communicate beyond direct wireless transmission range. Although a number of secure routing protocols have been proposed so far, all of them have certain advantages and disadvantages. Hence, security in AD hoc networks is still a contentious area. In this paper we first explore the security problems in existing routing protocols and then we present the design and analysis of a new secure on-demand routing protocol, called SDSR which confiscates the problems mentioned in the existing protocols. Moreover, unlike Ariadne, SDSR uses a very efficient broadcast authentication mechanism which does not require any clock synchronization and facilities instant authentication.