

Threshold Secret Sharing Authentication Scheme in Noisy Mobile Ad Hoc Networks

Shakir M. Hussain¹, Hussein Al-Bahadili², Ghassan Issa¹, and Khalid Al-Zayyat³

¹ Faculty of Information Technology, Petra University, Jordan

²The Arab Academy for Banking & Financial Sciences, Jordan

³ Depaul University, Jordan

Abstract - *This paper presents a description and performance evaluation of a threshold secret sharing (TSS) authentication scheme for self-securing mobile ad hoc networks (MANETs) suffering from high packet-loss and node mobility. In order to evaluate the performance of the TSS scheme in a noisy MANET, a number of simulations were carried-out. We concluded that presence of noise inflicts significant reduction in the authentication success ratio (S_R) and consequently degrades the performance of the network, while node mobility inflicts no or insignificant effects. The outcomes of these simulations are so important to facilitate efficient network management.*

Keywords: node authentication; certification authority; MANET; threshold secret sharing.

WORLDCOMP-09 USA 2009