



RESEARCH ARTICLE

Implementation of SAODV and TAODV Adhoc Secure Routing Protocols

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Abstract— Mobile Ad-hoc Networks (MANETs) allow wireless nodes to form a network without requiring a fixed infrastructure. Early routing protocols for MANETs failed to take security issues into account. Subsequent proposals used strong cryptographic methods to secure the routing information. In the process, however, these protocols created new avenues for denial of service (DoS). Consequently, the trade-off between security strength and DoS vulnerability has emerged as an area requiring further investigation. It is believed that different trust methods can be used to develop protocols at various levels in this trade-off. To gain a handle on this exchange, real world testing that evaluates the cost of existing proposals is necessary. Without this, future protocol design is mere speculation. In this paper, we give the first comparison of SAODV and TAODV, two MANET routing protocols, which address routing security through cryptographic and trust-based means respectively. We provide performance comparisons on actual resource-limited hardware. Finally, we discuss design decisions for future routing protocols.

Key Terms: - mobile; ad-hoc; security; routing; cryptography; trust-based; performance

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