Abstract

Wireless network broadcast the information with active node variance. Data delivery over wireless network is one of the key issues to be addressed. Many efficient data delivery methods are widely used in different network environments as they reduce the overhead traffic and delay. Hence they improve the network lifetime. However, they lack effective data delivery on different network environment and security. In this paper, to perform effective data delivery on different network environments, Routing Function Independent Data Delivery (RFIDD) scheme is introduced. The RFIDD scheme develops Observant Reasoning algorithms to identify concession nodes (i.e.,) packet dropping nodes. The Observant Reasoning (OR) algorithm provides suitable solution to ensure data delivery with average running formula in wireless network. OR-algorithm finds an optimal result in the sense that it recognizes every packet dropping nodes without introducing false negative rate. RFIDD Scheme also combines the Adapted Key Management Routing (AKMR) protocol to improve the security level while performing data delivery on wireless network. AKMR performs the encryption, authentication and decryption processes to attain higher security ratio in RFIDD Scheme. The integration of
data delivery scheme with security measure is performed with three orders of magnitude which dynamically adjusts security level depending on the network state. In this paper, RFIDD scheme is analyzed to assess the data delivery ratio and packet dropping probability rate and compared to the state-of-the-art methods. RFIDD was also implemented NS2 and compared against Distributed Cache Invalidation Method and Redundancy Management of Multipath Routing to assess its performance experimentally. The security and average response time are reported versus several variables, where RFIDD showed to be superior when compared to the other methods.

References


Index Terms

Computer Science
Wireless

Keywords

Function Independent, Data Delivery, Observant Reasoning, Concession nodes, Key Management.