Abstract

A Mobile Ad hoc Network is a network of mobile nodes operating in an infrastructure-less network. These nodes not have the defense rendered by firewalls in infrastructure-based networks. Trust oriented system aids to improvise this situation. So, the incorporation of trust in routing decisions yields a more secure and reliable framework for such type of networks. As if any suggested model does not achieve as projected, it is reduced quality of service. The validation before deployment of any model leads to a more stable model. A good way to confirm a model is to use formal specification and verification techniques. In the present study, with the aim to include trust component in conventional OLSR protocol of ad hoc network and also to rule out invalid actions, formal specifications of the various procedures of trusted OLSR Protocol are given using “Z” specification language. Z is a state-oriented formal specification language based on set theory and predicate logic. Z/EVES, a proof tool based on EVES and ZF set theory that supports the Z notation is used for the formal specifications.
Formal Specifications of Trusted OLSR Protocol of Ad hoc Network in Z


Index Terms

Computer Science
Wireless
Keywords
Ad hoc Network; Formal Specification; OLSR; Z Specification Language; Z Eves