Optimised Link State Routing Protocol Testbed and Performance Evaluation

1 Arisyah Azizan, 2 Megat F. Zuhairi, 3 Hilmi M. Salleh, 4 Mohd Nazri Ismail

Abstract

Summary This paper discusses the implementation of OLSR routing protocol on TL-MR3040 routers for MANET experiment. To date, many devices are equipped with wireless module; however most system is set to be in the form of structured communication. Indeed the current wireless devices such as WiFi router and access point has the ability to communicate in ad hoc fashion. However, a compatible protocol is required to enable such devices to operate effectively. Nevertheless, the heterogeneity of the wireless communication frequently poses a challenge for the device to route packet in the network. The OLSR is a proactive MANET routing protocol which may create mesh topology and operate effectively to assist wireless devices to self-configure routing path when topology changes. To see the feasibility of OLSR routing protocol on real-world environment, the paper presents the implementation and experiment conducted on TLMR3040 routers equipped with the OLSR routing protocol. Results from experiment show that the OLSR communication between the routers is viable. In addition, the performances of the routers are evaluated in terms of bandwidth, ETX, and the selfhealing mechanism ability.

Key words: OLSR, MANET, TL-MR3040, Mesh Network, Wireless