Abstract

Transmission control protocol (TCP) was initially designed for static networks to provide the consistent data delivery. The enhancement of TCP performance was also achieved with different types of networks with the introduction of new TCP deviations. However, there are still many factors that affect the performance of TCP. Mobility is one of the primary performance-affecting drivers in heterogeneous network. The research of state in this paper is to determine the best TCP variant from the mobility point of view. We simulate some TCP variants such as TCP-Tahoe, TCP-Reno, TCP-New Reno, TCP- Vegas, TCP-SACK and TCP-Westwood from the mobility point of view. The scenarios presented in this paper are supported by on-demand link weight (ODLW) routing protocol that helps find the efficient route with Quality of Service (QoS) provisioning. The scenarios are designed for the walking persons to vehicles, and particularly suited for rocky and deserted areas. To demonstrate the strength of these TCP variants, the scenarios are simulated and evaluated the QoS parameters such as round trip time (RTT) fairness, end-to-end delay, and the number of broken links. Finally, based on the outcomes, we identify the best TCP variant that could be used for several applications in the future over heterogeneous wireless networks.
References


Index Terms

Computer Science Wireless

Keywords
TCP variants heterogeneous network RTT throughput broken links end-to-end delay