ABSTRACT

Internet progress also generates more convenient data and the need for the Internet also increases. Cable networks (wired networks) that have evolved so far have begun to switch to wireless networks because of the disadvantages of cables that are generally handled with wireless technology.

There are some problems appearing when sending packets from the sender to the recipient. The receiver's XCP routing protocol receives feedback about congestion package. Whereas when the TCP routing protocol sends the packet to the receiver, the recipient sends feedback to the sender that there are some missing packets. The usability of the DSR routing itself waits for requests from the XCP routing protocol and TCP routing protocols to connect one node with the other nodes and define a good path to go through.

In this study will be tested for the XCP routing protocol and TCP routing protocol with DSR to determine the communication path on the wireless network using NS-2.35 (Network Simulator). The scenario in this test is divided into three parts i.e. testing for changes in acceleration, testing for major package changes, and testing for congestion window (CWND). The parameters used for comparison are Packet Delivery Ratio (PDR), Throughput, and End-to-end delay.

The results obtained from this research are XCP is better than TCP. From a speed change scenario, XCP has an average PDR of 82.98%, TCP of 73,968%. For the average throughput of XCP 342,346 Kbps, TCP amounted to 344,322 Kbps. For end-to-end delay average of XCP 177.1768 MS, TCP is 285.7162 Ms. From the large scenario of the package, XCP has an average of PDR 96.69%, TCP of 96.15333%. For the average throughput of XCP 359.85 kbps, TCP 426.27 Kbps. For end-to-end delay averages XCP 248.75 ms, TCP 210.9633 Ms. And for CWND the XCP has a more stable performance in maintaining utilities and slightly wasting packets than TCP.

Keywords: *wireless network, XCP, TCP, congestion window*