

## **Abstract**

Congestion still becomes the serious problem nowadays, this problem makes many missing packet and extravagance of bandwidth in network. So that a mechanism which can control congestion is needed, one of them is end-to-end congestion control which is implemented on transport protocol. Transmission Control Protocol (TCP) and Stream Control Transmission Protocol (SCTP) are protocols of transport layer that is reliable and have congestion control mechanism which is running at Internet Protocol (IP) which is unreliable. On this last assignment, analysis of congestion control influence on throughput, delay, index fairness, loss rate and link utilization performances in TCP and SCTP using ns2 simulator is conducted. We get to the conclusion that delay and loss rate on SCTP are worse than on TCP, but SCTP makes throughput and link utilization which is better than TCP and both of index fairness fair enough on shared link utilization and both of them have good robustness on network changing load condition but SCTP's robustness is better than TCP in network which has many changing routing path.

**Keywords:** SCTP, TCP, congestion, congestion control, reliable, throughput, delay, index fairness, loss rate, link utilization