

## **ABSTRACT**

*As the advancement in information technology and telecommunications, the need to network will be progressively increased. Internet is expected to accommodate applications with high data speeds. The quality of connection in the network must be maintained, so that connections are not interrupted due to rising bandwidth requirements and traffic load.*

*At the core stateless scheduling, CSFQ can reduce the complexity of router performance, network domains are divided into edge routers and core routers. Edge routers manage traffic per flow and information labels on packages to further transmitted into the core router. While the core router, just update the label. Labels can be a function of packet arrival time, bandwidth requirements, timestamp and packet length. A deterministic traffic model with a reference timestamp parameter is proposed to evaluate the performance of stateless core network.*

*On the research was obtained, adding a reference timestamp on deterministic traffic model for core stateless scheduling can reduce delay and packet loss. Hypothesis test for paired data provide H1 accepted, meaning there is an influence to delay using deterministic traffic models with a reference timestamp at 95% confidence intervals.*

**Keywords:** *Core Stateless Scheduling, Deterministic Traffic Model, Timestamp, Core Stateless Fair Queuing (CSFQ).*