## **ABSTRACT**

Network performance is a measurable level of achievement about how well a network is and an attempt to define the characteristics and properties of a service. Network performance can be considered good if it meets the standards and wants of the users, can improve the achievement of network usage goals, such as teaching and learning activities or use of web server services at the office, good network is closely related to network problems such as delay, jitter, throughput, loss, and etc. The problem causes network traffic to be slowed. So it need to be optimized. The network optimization software that can be used is OpenNOP. OpenNOP is an Open Source network based accelerator software designed to optimize the network, especially in point to point networks. OpenNOP performs the optimization process by optimizing the segment TCP section by using the LZ (Lempel-Ziv) compression algorithm.

In the simulation experiments of OpenNOP implementation, it is found that the infrastructure using OpenNOP has lower long download time value than regular infrastructure is 0.01 until 2.67%, Delay has lower 0.01 until 0.14 per second, speed download has higher 0.01 until 0.03% per second. The throughput tested using iperf in OpenERP within the time range from 00.00 to 00.00.10 better than not using OpenNOP 0.001% untul 0.73%.

Keywords: OpenNOP, Open Source Network Accelerator, Open Source TCP Acceleration, WAN Optimization