ABSTRACT

Named Data Networking (NDN) is a network architecture with the method of giving a name to data and has in-network content caching abilities. With this ability, users can get their requested data faster. Video streaming is a technology that enables users to view live video or pre-recorded video without having to download them. The development of video streaming service and access to video streaming services continues to increase every year. To overcome this problem, we need a better video streaming method so that the user experience access to video streaming services continues to increase.

This final project implements and analyzes video streaming over NDN performance. Using Quality of Service (QoS) parameter such as Round Trip Time (RTT), and throughput to measure video streaming quality on the network side. While Quality of Experience (QoE) such as Video Startup Delay, number of re-buffering, and video quality is used to measure the quality of streaming video on the client side.

The result of this final project is able to provide a better video streaming quality to the second access with an RTT value of fewer than 4.5 s, a throughput value over 0.8 MBps, a video startup delay time of fewer than 9 s, and CPU usage less than 55% on the server. When compared to IP-based systems, the NDN architecture still needs improvement although it can provide quality improvements to the second access.

Keywords *: Named Data Networking (NDN), Video Streaming, Quality of Service (QoS), Quality of Experience (QoE)*