

ABSTRACT

Named data Networking (NDN) is a content-centric architecture that involves many things in the use of the name of the content, one of which is routing. Although NDN has a routing protocol, the problem encountered today is high overhead. This is because the routing used by NDN is currently decentralized where each process of synchronizing and updating paths uses broadcast packet delivery. Thus a controller is made that has a separate path (signalling) to reduce broadcasts and reduce overhead.

The system solution used to overcome this problem uses the CroS-NDN concept because the paradigm used is the same as SDN, namely using the separation of the control plane and the data plane. So get network topology information and content localization. The control plane functions to regulate and control network data flow while the data plane functions to move data from one end-point to another.

The test results from measuring RTT, Throughput and overhead on centralized are superior to decentralized. This is due to the existence of a controller to send a data packet from the sender and receiver and then return to affect the response time. So that the throughput results are inversely proportional to the RTT value which shows the RTT value decreases, the throughput value will increase. Then the overhead is centralized because it uses a controller that has a separate line (signaling) from the data line so that it can reduce broadcast packets. The test results on adaptive routing scenarios on centralized systems are superior to decentralized ones. This proves that the existence of a controller in a system becomes more adaptive.

Keywords : Named Data Networking (NDN), Routing, Centralized, Decentralized.