

ABSTRACT

In the use of the internet, the communication model that prevails today is based on connections between hosts (from source to destination) using IP addresses. In its current development, the targeted tendency is no longer the goal, but the content of information wherever it is. So experts developed a purpose-based communication model of content names that came to be known as Named Data Network (NDN). One of the factors that affect its performance is the success rate of content available to the nearest cache which is affected by the caching algorithm. In this case, it is focused on the Least Frequently Used (LFU) algorithm where hypothetically, it is still possible for this algorithm to improve its performance by modifying the algorithm.

In this Final Project, a modification to the LFU algorithm is proposed where previously in determining which content priority to replace when the content store is full, the content with the lowest frequency of requests is chosen. In this modification proposal is to add a recent accessed factor (recently) based on the consideration that currently users tend to access the latest content. In proving its performance improvement, a comparison of LFU with LFU modification was carried out through simulations using NDNsim with measurements of performance parameters: hit ratio, delay, hop count, and packet drop with four change scenarios, namely: content size, number of users, request rate, and Zipf-Mandelbrot coefficient factor

From the test results showed that the modified results were able to increase the hit ratio by 8.344%, reduce the delay by 8.279%, reduce the number of hops by 8.343%, and no packet drops were found.

Keywords: *NDN, Cache, LFU, Abilene, Modification.*