Abstract

Wireless network has been developing very fast these days, it showed in the huge volume of usage. Furthermore, wireless network is a best alternative in building new network. Currently places like cafés, offices, and other public areas have been implementing the wireless network. But in fact, the implementation of this wireless network is still using wired/cable network as access point to connect to the internet. This physical cable sometimes becomes a major problem for the place with complex topography. The solution for this problem is using the Wireless Distribution System (WDS) in access point (AP) device. WDS is a system to enhance the wireless network without using the cable as access point but utilize wireless path as a backbone.

For this final project will be describing the implementation and analyzing WDS performance using three access points to know the impact of its implementation against network quality. There will be 3 scenarios in this test, that are, wireless distribution system point to point, wireless distribution point to multipoint, and wireless distribution repeater. In this test will be using parameters for final calculation that are jitter, throughput, delay, and packet lost.

For the test result shows that using Wireless Distribution System (WDS) mode: the number of connected client and the value of SNR in access point effecting the Quality of Service parameter value. This can be showed in video streaming service that using Wireless Distribution Service (WDS) in Bridge mode gives the better Quality of Service, with 6.14 ms jitter, 26.21 ms delay, 0.322Mbps throughput, and 0.013% packet lost compared to Wireless Distribution System in Repeater mode.

Keywords: Access point, wireless distribution system (WDS), performance