

## ABSTRACT

Virtual Local Area Network (VLAN) is a method, often used to perform segmentation in a network. But later, even though it has been used for quite a while by some network providers, VLAN started feared its ability to accommodate the increasingly large number of network users. This is the condition that trigger the developed of a new method called QinQ or 802.1Q-in-802.1Q.

This research aims to look at the comparison of the performance from Selective QinQ and VLAN while they're working to provide a service that requires user segmentation. On this research will be carried out an observations on the simulation of Triple Play services (voice, data, and video) over VLAN and Selective QinQ network, by using GNS3 applications.

The result shown if the Selective QinQ network gave a better performance than VLAN network in term of speed, but it's worse if we're looking at the integrity of the package. Over Selective QinQ network, Triple Play services took average time of 159.154 ms when presenting the data, voice and video communication. While VLAN configuration took 160.488 ms at the average.

**Keywords** : triple play, VLAN, Selective QinQ