

ABSTRACT

Wireless Local Area Network (WLAN) is solution for human's need for fast and flexible data communication. There are many WLAN standards around the world which IEEE 802.11e is one among them. This standard supports Quality of Service (QoS) warranty which makes real time services work well, but this standard can not stand alone. It need other IEEE which is IEEE 802.11g that paired as physical layer.

This Final Project use Transmission Opportunity (TXOP) metastable analysis which focus to HCF Coordinated Channel Access (HCCA) protocol for real time services. HCCA gives same treatments to all kind of traffic which suitable to manage real time services. All processes that occur in HCCA protocol always involves superframe which generally consists of beacon, Contention Free Period (CFP) dan Contention Period (CP). CFP and CP also formed from PCF Inter Frame Space (PIFS), Short Inter-Frame Space (SIFS), and TXOP. CFP is the only part that analyzed in this study, while TXOP is the only part that modeled which it's duration affected by bitrate.

TXOP modeling generated metastable composition for one superframe which could manage real time services well. That proved from waiting time that needed by every user to accomplish real time service requirement if this composition used with user connected to Access Point (AP) which always 100. In other side, lengths of TXOP from different user compositions were founded.

Keywords: WLAN, IEEE 802.11e/g, real time, HCCA, Superframe, CFP, TXOP, DPH