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PERFORMANCE CHARACTERIZATION OF IEEE 802.11g IN A SMALL OFFICE HOME OFFICE (SOHO) FOR CONDOMINIUM ENVIRONEMENT

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ABSTRACT

Performance Characterization of IEEE 802.11g in a Small Office Home Office (SOHO) for Condominium Environment

Keyword: Wireless LAN, IEEE 802.11g, Network Performance, Throughput

With the growing popularity of the wireless local area networks (WLAN) based on 802.11 a/b/g standards, it provides an alternative solution where communication is no longer restricted by wires and can be operate at any location. Despite the convenience of this mobility, the performance of a WLAN must be addressed carefully before it can be implemented and deployed. In this paper, we address the performance of IEEE 802.11g by changing the various key parameters on the actual performance of IEEE 802.11g. The focus is on observing the measured throughput when the network is flooded with a continuous stream of data. A series of controlled experiments are carried to assess the performance of 802.11g to find the maximum throughput under realistic conditions with the presence of interference. The impact of co-channel to throughput performance was discussed. In addition changing the adjacent channel and transmitted power level to throughput performance was exposed. Overall, the effective application level throughput was conducted under three sets of experiments. The analysis result and measurement campaign provides insights into the required provisioning for 802.11g WLAN to ensure it provides the needed coverage and capacity to intended users

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