

Analyzing the Impact of DCF and PCF on WLAN Network Standards 802.11a, 802.11b, and 802.11g

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Abstract : Networking solutions, particularly wireless local area networks have revolutionized the technological advancement. Wireless Local Area Networks (WLANs) have gained a lot of popularity as they provide location-independent network access between computing devices. There are a number of access methods used in Wireless Networks among which DCF and PCF are the fundamental access methods. This paper emphasizes on the impact of DCF and PCF access mechanisms on the performance of the IEEE 802.11a, 802.11b and 802.11g standards. On the basis of various parameters viz. throughput, delay, load etc performance is evaluated between these three standards using above mentioned access mechanisms. Analysis revealed a superior throughput performance with low delays for 802.11g standard as compared to 802.11 a/b standard using both DCF and PCF access methods.

Keywords : DCF, IEEE, PCF, WLAN

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