

Characterization of spectrum mobility and channel availability in CRMANETs

Abstract:

Cognitive radio (CR) is the most enterprise solution to spectrum scarcity. The time and space varying nature of spectrum bands necessitates the spectrum handoff in which the secondary user (SU) must vacate the frequency band when the primary users (PUs) reuse the spectrum band. The variation in spectrum band is called spectrum mobility. Hence, characterization of spectrum mobility and channel availability, which is the most influential factor in CR networks, is essential. In this paper, we investigate an analytical model to show the effect of different events on channel availability and spectrum mobility in mobile cognitive radio Ad hoc networks (CR-MANETs). We also integrate the effect of different events on the channel availability, which is essential for performing integrated mobility and handoff management.