## عنوان مقاله:

Cell Breathing Techniques for Load Balancing in Wireless LANs

## محل انتشار:

دومین کنفرانس بین المللی مهندسی دانش بنیان و نوآوری (سال: 1394)

تعداد صفحات اصل مقاله: 4

## نویسندگان:

Ehsan Sargolzaei - *Computer Engineering Department, Faculty of Engineering Zabol University Zabol, Iran*

Mohammad Reza Pourmir - *Computer Engineering Department, Faculty of Engineering Zabol University Zabol, Iran*

## خلاصه مقاله:

Network overload is one of the key challenges in wireless LANs (WLANs). This goal is typically achieved when the load of access points (APs) is balanced. Recent studies onoperational WLANs, shown that AP load is often uneven distribution. To rectify such overload, several load balancingschemes have been proposed. These methods are commonlyrequire proprietary software or hardware at the user side for controlling the user-AP association. In this paper we present anew load balancing method by controlling the size of WLAN cells (i.e., AP's coverage range), which is conceptually similar to cellbreathing in cellular networks. This method does not require any modification to the users neither the IEEE 802.11 standard. Itonly requires the ability of dynamically changing the transmission power of the AP beacon messages. We develop a set of polynomial time algorithms that find the optimal beaconpower settings which minimize the load of the most congested AP. We also consider the problem of network-wide min-max loadbalancing. Simulation results show that the performance of the proposed method is comparable with or superior .to the bestexisting association-based method

## کلمات کلیدی:

wireless LANs; Load Balancing; Access points;Cell Breathing