Ph: 9585554590, 9585554599
Email: support@salemsmartreach.com
URL: www.salemsmartreach.com

Confederation Based RRM with Proportional Fairness for Soft Frequency Reuse LTE Networks

Abstract:

A new radio resource management (RRM) technique for improving the downlink performance in soft-frequency-reuse based long term evolution (LTE) networks is presented. In this RRM the resource is dynamically allocated in distributed and centralized manners such that spectral efficiency is maximized across the whole network. To achieve this a unique interference mapping strategy is implemented to assist in deciding whether a distributed or centralized mode is applicable per basestation. When a distributed approach is granted to a basestation it can use the entire spectrum while when a centralized approach is imposed on a basestation it will only be allocated a subset of the spectrum. The proposed then utilizes the confederation concept in the sense that once the allocation approach is determined the individual basestations can take control of their allocated resource. When combined with proportional fairness scheduling, this RRM can also benefit from multiuser diversity. It will be shown through mathematical analysis and computer simulations that this technique offers significant improvements in terms of sum rate and quality of service by increasing the guaranteed data rate per user.