Abstract

A major objective of the 3GPP LTE standard is the provision of high-speed data services. These services must be guaranteed under varying radio propagation conditions, to stochastically distributed mobile users. A necessity for determining and regulating the traffic load of eNodeBs naturally ensues. Load balancing is a self-optimization operation of self-organizing networks (SON). It aims at ensuring an equitable distribution of users in the network. This translates into better user satisfaction and a more efficient use of network resources. Several methods for load balancing have been proposed. Most of the algorithms are based on hard (traditional) computing which does not utilize the tolerance for precision of load balancing. This paper proposes the use of soft computing, precisely adaptive Neuro-fuzzy inference system (ANFIS) model for dynamic QoS aware load balancing in 3GPP LTE. The use of ANFIS offers learning capability of neural network and knowledge representation of fuzzy logic for a load balancing solution that is cost effective and closer to human intuition.

References


Index Terms

Computer Science

Artificial Intelligence

Keywords

Anfis  Soft Computing  3gpp Lte  Load Balancing