Abstract

With the rapid development in mobile network effective network planning tool is needed to satisfy the need of customers. However, deciding upon the optimum placement for the base stations (BS) to achieve best services while reducing the cost is a complex task requiring vast computational resource. This paper addresses antenna placement problem or the cell planning problem, involves locating and configuring infrastructure for mobile networks. The Cluster Partitioning Around Medoids (PAM) original algorithm has been modified and a new algorithm M-PAM (Modified-Partitioning Around Medoids) has been proposed by the authors in a recent work. In the present paper, the M-PAM algorithm is modified and a new algorithm CWN-PAM (Clustering with Weighted Node-Partitioning Around Medoids) has been proposed to satisfy the requirements and constraints. Implementation of this algorithm to a real case study is presented. Results demonstrate the effectiveness and flexibility of the modifying algorithm in tackling the important problem of mobile network planning.

References

- Theodore S. Rappaport, "Wireless Communications: Principles and
Enhancing Clustering Algorithm to Plan Efficient Mobile Network

- Jean F. Hou, Clustering with obstacle entities, a thesis submitted in partial fulfillment of the requirements for the degree of master, Simon Fraser University November 1999.
- El Harby, M., Ibrahim, L. F., Employing of Clustering Algorithm CWN-PAM in
Mobile Network Planning, "Systems and Networks Communications, 2008. ICSNC
- Margaret H. Dunham, "Data Mining Introductory and Advanced Topics", by pearson Education, Inc 2003.

Index Terms

Computer Science

Algorithms

Keywords

Clustering techniques, network planning, cell planning and mobile network