Abstract

Due to large numbers of increasing amount of customers, the congestion in cellular networks during summit hour and at hot spot areas is a very serious problem which is faced by almost every cellular company and their customers mainly in large metropolitans now a days. Solution of this congestion is very easy and straightforward as it can be resolve by enhancing and upgrading the infrastructure. However, this is not an economical solution as large amount of investment is involved in it. Many service providers tempt to avoid it. However, even after resolving such issue, the traffic requests are increasing enormously and the problem of congestion remains forever. This is very serious problem in view of customers and the service providers and it is need to be address immediately. This Proposed program tries to address the previously mentioned problem of congestion in cellular networks by introducing a new idea of call duration control coupled with dynamic tariff and Hold-The-Call principle. In addition, it proposed to introduce a new concept called Guard Channel Scheme and Priority Queue Scheme along with clustering techniques such as K-bisecting algorithm to increase the efficiency. Proposed algorithm is being utilize to restrict the duration of calls depending upon
current traffic conditions. In dense traffic conditions, the network restricts the duration of ongoing call up to the particular time limit beyond which the customer has to pay higher tariff to continue the call. At the same time the principle of the Hold-The-Call can also be apply so that if a recently generated call does not get a traffic channel then it should not be blocked but may put on hold in a queue (Priority queue) to get a traffic channel at earliest. This program will help to reduce the level of congestion significantly without compromising with system performance. At the same time, it will marginally increase the revenue per unit time.

References

10. Topic Detection by Clustering Keywords Christian Wartena and Rogier Brussee Telematica Institute.

Index Terms

Computer Science Networks
Keywords

Congestion control, Dynamic tariff, Guard channel scheme, Priority queue scheme, and K-bisecting algorithm