Abstract

Location management is essential task in current cellular system. Mobility prediction is widely used to assist handoff management, resource reservation and service pre-configuration. Location management methods are to find out mobile unit current location. Location update and paging have to maintain efficiently to minimize location management cost in cellular network. This paper introduce new timer based algorithm using cache memory for reducing paging cost. This algorithm is based on user's daily predefined moving geographical activities pattern, according to time. Paging decision for user is based on this predicted location for any instance of time interval. This predicated value again sort by higher probability of user finding in any cell for that time duration. This prediction information is saved by mobile unit in its personal cache memory for every fixed time interval. If more prediction value searched for paging, so it increases average paging cost. Therefore here is threshold value used for maintain page hit ratio. But if threshold value is to less hit ratio comes down rapidly for smaller threshold values. Thus threshold value helps to maintain hit page, hit to page miss ratio. The results confirm the effectiveness of this method compare to existing method for real time in mobile services and proposed method is 6% more efficient in average hit ratio.
References

- Vimal Bhatt and Digvijay Singh Khatri., "Timer Based Dynamic Location Management", IEEE, 2004
- Y. Fang, Chlamtac and H. Fei, “Analytical results for optimal choice of location update interval for mobility database failure restoration in PCS networks,” IEEE Transactions on Parallel
- Chien-Sheng Chen; Szu-Lin Su; Chyuan-Der Lu, "Geometrical positioning approached for mobile location estimation", IEEE 2010 , Page(s): 268 – 272.

Index Terms

Computer Science Networks

Keywords

Location Management Location Update Paging Cellular network Time-slot Mobile switching center (MSC)