

## ABSTRACT

In the management of movement (mobility management) is a measure called the cost of shipping the length change all information for many users to do the movement on the wireless network. Management movement has two main tasks, namely the registration process is the process whereby the telephone brought in by the user informs the system, the location of the plane, and the process menentukan location (location tracking) is the process whereby the system to find the existence of such telephone. Signaling cost is the calculation of the phone location tracking, resource usage, and duration of delivery and change of information during the user moves within the wireless network. Signaling cost is affected by the frequent movement of users across the RA (Register Area) between the two phone calls, it is assumed that the call came a Poisson process and will change when increasing the number of users and frequency of movement, length of time the user's occupation at the site of RA using an exponential distribution, the threshold chain guide ( $K$ ) that have been defined, and using parameter call to mobility ratio (CMR), which is a parameter that greatly affects the performance of location management scheme which is the relative frequency of movement and the search for the phone when the user / object is moving. CMR is obtained by doing a comparison between the number of calls to the frequent movement of the user.

IS-41 is a basic scheme in the management of the locations used in the signaling process, using a two-tier hierarchical system of databases HLR and Visitor Location Register (VLR). If many cell phone users away

from the HLR, then the signaling burden in dealing with network traffic will increase. Therefore, the algorithm developed several schemes to reduce the cost of signaling in the basic algorithm scheme IS-41. In this thesis, simulation and analysis of location management algorithms, namely: Two levels of Pointer Forwarding (TLPF), and Pointer Forwarding Base Anchoring (POFLA).

This thesis produces optimization signaling costs during the registration process and dispatch calls, and compare with other algorithms schemes that could reduce the cost of signaling for tracking the location of a wireless network based on IS-41.

Keywords: location management, Anchoring Base Pointer Forwarding, and Two-level Pointer Forwarding Algorithm.