

## ABSTRACT

Satellite with GSM network interconnection is a type of interconnection to meet the needs of existing communication, due to the increasing needs of customer service. The high demand for communication and mobility users on terrestrial networks, especially mobile communications requires continuity of services. Premature termination of calls will be felt more disturbing, than not be able to make a new call, which caused a lack of available resources on the network. To maintain the continuity of ongoing call is more important than to make new calls to get into a network.

The movement of users result in dynamic changes to quality systems. To overcome these problems it is necessary to design a mechanism that can improve the handover performance of satellite networks to the Global System for Mobile Communication (GSM). Handover is the process of transfer of user traffic channels when the user is active in the absence of termination. One type of handover is Intersystem handovers (ISHO). This final task is made to simulate and analyze the parameter of handover in GSM is based on the movement of satellites to the user, with the simulation input parameters are the minimum Rx level for satellite, minimum Rx level for GSM, user speed, and mileage user. Output in the simulation is the comparison between the combination of different handover parameters on the handover probability value includes the effect of a minimum Rx level of satellite, minimum Rx level of GSM, and the probability of handovers. Also, it can be seen that speed affects changing the probability of handover.

From the simulation results in this final task can be seen that the minimum Rx level of GSM is set as a threshold to produce the maximum probability of handover when the user moves is -110 dBm is the minimum specification of the handover. The simulation results when the user speeds vary randomly in mind that at a speed of 70 km / hour has a maximum value of the probability of handover. In these conditions, handovers taking place at the speed of the user 13 km / hour. So it can be concluded at the user's current speed GSM Rx level reach its minimum point handover is required.

Keywords : minimum Rx level of satellite, minimum Rx level of GSM, Handover, the movement of the user.