ANALYSIS OF HANDOVER DATA IN A 3G WIRELESS NETWORK DURING DAY AND NIGHT IN KLANG VALLEY

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Abstract

In telecommunications system, handover is one of the important parameter that needs to be analyzed in terms of their success rate. It is important because, handover will keep the user on call even when they are moving. This project is about the analysis of handover data in 3G network during day and night around Klang valley. The drive test has been done to collect the raw data in Damansara area of same routes with two different times (day and night). After drive test process, it was analyzed by using NEMO analyzer and MATLAB software. There were four parameters focused in this analysis, which is RSCP, Ec/No, Handover event and handover delay. The results were displayed using MATLAB Graphical User Interface (GUI).

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF STUDY

In 1987, Guglielmo Macroni was demonstrated the ability of radio to provide continuous contact with ships sailing the English Channel. Since the year until today, radio communication growing fast. After the evolution from first generation to the third generation, many subscribers were used cellular phone. By the increasing the number of users, many providers tried to give good services as they can. Therefore, all the providers try to minimum the no of drop call, to increase the signal strength, to increase the grade of service and to make handover successful and so on. All those things were called quality of service. . When talking about the quality of service, why do we need quality of service and what do they do to overcome the problems? Let we try to imaging, when we are talking about something important and the phone get cut while we are talking, it is undesirable thing to happen because we were paid high monthly bill a month. Therefore, we don't want a low of quality of service. The providers should be noted that customers paid more to get the better service.

To overcome the problem, the telecommunication technology systems are growing so fast. One of the network systems is the Universal Mobile Telecommunication Systems (UMTS) which is widely used now or known as 3G network. In UMTS, the system architecture is divided into three main subsystems which is user equipment (UE), UMTS Terrestrial Radio Access Network (UTRAN) and Core Network.