PERFORMANCE EVALUATION ON GSM HANDOVER TRAFFIC IN A GSM NETWORK by USING ROMES

This thesis is presented in partial fulfillment for the award of the Bachelor of Electrical Engineering (Hons.)

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ABSTRACT

The aim of this project is to evaluate the performance of Global System for Mobile Communications (GSM) handover traffic in GSM network. The handover data is obtained by doing drive test using ROMES software, and the result from the test is analyzed.

The handover procedure is probably the most important procedure to ensure the mobility of the Mobile Station (MS) during calls. The purpose of the procedure is to preserve ongoing calls, when moving from one cell to another. The presence of an ongoing call gives rise to time criticality of the processing. The decision whether to perform the handover, is made by the serving Base Station Controller (BSC), which has no direct knowledge of the radio quality. In order to decide whether to initiate a handover, the BSC receives information about radio link quality from the Base Transceiver Station (BTS) and the MS. During a call, the MS periodically sends measurement results to the BTS. The measurement results contain measurements of the radio signal quality of the downlink (from the BTS to the MS) and uplink (from the MS to the BTS). [1] From the information in the measurement reports, the BSC is able to decide whether a handover to another cell is needed.

The data on GSM handover traffic ia a GSM network on mobile radio in UiTM Shah Alam area are collected and being evaluated using a computer package called ROMES.

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