

ABSTRACT

Third-generation wireless telecommunication technologies (3G) is an evolution of GSM technology. 3G system exists to provide global mobility with a variety of services including telephone, messaging, Internet and broadband data. 3G systems are called International Mobile Telecommunications 2000 (IMT-2000) is defined and standardized by the International Telecommunication Union (ITU). A 3G network consists of three parts: User Equipment (UE), UMTS Terrestrial Radio Access Network (UTRAN) and Core Network (CN). The main function of CN is to provide switching functions, routing, roaming, security, authentication, user traffic transit network, database and network management function.

Mobile Switching Centre (MSC) which is part of the CN one of its functions is the mobility management such as Location Area Code (LAC). LAC is a few cells grouped together in order to optimize signaling. The more the number of cells in a LAC will affect the number of call attempt per second that could ultimately affect the parameters of the network performance at Call Setup Success Rate (CSSR). CSSR is a measure of the success rate of the development process telephone calls. Research in this final observation on the RNC (Radio Network Controller) via the MSC to see the influence of the capacity of LAC in attempt to accommodate the number of call attempt per hour on the parameter value CSSR.

The results of the final form of observation of the condition of existing of RNC Medan-01 (RNMDN01) through MSC Medan-01 (MSMDN01) to see the effect of LAC in the capacity to accommodate the number of call attempt to CSSR parameters. Observations carried out to see the capacity of LAC which makes the CSSR is always under the threshold at rush hour. The results obtained will be repairs to the CSSR is always below 100% during peak hours. Repairs carried out by performing the LAC re-splitting in order to reduce the burden of call attempt per hour in LAC 5210 at peak hours of 16.671.407 call attempt per hour to 2.295.474 call attempt per hour.

Keywords: LAC, Call attempt, RNC, MSC, CSSR.