

ABSTRACT

The increasing number of 3G network users has an impact on the low performance of the network. In West Java, precisely in Sub-district Cicalengka, the decrease of network performance often occurs in voice and data services. The factors of affect the decrease network performance are high and low altitude, obstacle blocking signal, overshooting is distance between UE to Node B causing bad signals, pilot polution where UE is served by 3 or more cells causing the decrease in network quality in Sub-district Cicalengka.

Based on the number of factors causing the derivative of network performance, in this study conducted SEAT Cluster Analysis (Service Experience Assurance Test) on 3G Network in Sub-district Cicalengka. SEAT is a data retrieval method of a cluster in 3 ways: a drive test of a radio parameter data collection with TEMS software, KPI data is a site performance data contained in clusters, and POI data which is a static QoS data collection before and after optimization. The purpose of SEAT analysis is to ensure good service quality and improve network performance from one cluster.

The results of KPI operator 3 obtained CSSR CS 99.4% and PS 99.3%, DCR CS 0.7% and PS 0.18%, average HSDPA and HSUPA users were 33.6 and 23.9 users and throughput HSDPA and HSUPA are 300kbps and 34.4kbps. The SQI value obtained 75.77% of CSSR, CCSR, and SHO values 100% after optimization is 100%. The average downlink value and uplink throughput of POI after optimization is 3826kbps, and uplink 2587kbps. The initial RSCP drive test score was 97.06%, after optimization increased to 98.09%. The initial Ec/No value is below the 70% oprator standard, after the optimization of Ec/No value reach 75.03%. The initial system mode value was 82%, after optimization increased to 90%. Increased RSCP, Ec/No and System Mode parameters above operator standard make SEAT optimization in this research work well.

Keywords : WCDMA, KPI, RSCP, Ec/No, *Mode System*, *Throughput*.