

ABSTRACT

Indosat Ooredoo Hutchison is one of the major operators in Indonesia. Many people use the Indosat network, especially during the COVID-19 period, which requires a stronger network connection so that highloads and congestion often occur. Due to high network usage, there are several sites experiencing network downs, one of which is site 02TGR119 Kunciran Indah

In this study, the authors examine and analyze highload and congestion on BTS (Base Transceiver Station) within the scope of RAN (Radio Access Network) and Microwave Transport on the 4G network in Kunciran Indah area. The author collects some data such as PRB (Parameter Resource Block), Microwave Transport Utilization, as well as the band and frequency used in the 4G site technology. The author uses the Speed Test by Ookla method.

In determining the congestion state, it is necessary to collect data to analyze the site that is the source of congestion. By utilizing the device used, the connection used, the method implemented, and the number of host sites.

Based on the results of data collection conducted on March 21 to May 2, the data was used as research analysis. The research shows the results of the upgrade using speedtest by Ookla that in sector 1 gets a download of 51.9 Mbps, uploads 15.8 Mbps with a latency of 20 ms, in sector 2 gets a download of 45.7 Mbps, uploads 24.9 Mbps with a latency of 18 ms, and in sector 3 gets 45.2 Mbps download, 35.8 Mbps upload with 28 ms latency. Then all sectors of the hardware upgrade results in accordance with the specified target value.

Keywords: Indosat Ooredoo Hutchison, Highload, Congestion, Speed Test by Ookla, PRB (Parameter Resource Block), RAN (Radio Access Network), Microwave Transport.