ABSTRAK

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ANALISIS *QUALITY OF SERVICE* (QOS) LAYANAN 5G TELKOMSEL DI WILAYAH RESIDENSIAL KOTA TANGERANG SELATAN

Tangerang Selatan merupakan kota dalam lingkup aglomerasi Jabodetabek sehingga diperlukan kualitas internet yang baik. Layanan seluler 5G dari operator Telkomsel telah tersedia di kota ini sehingga perlu dilakukan pengukuran *Quality Of Service* (QoS) jaringan internet untuk mengetahui nilai parameter *bandwidth*, *packet loss*, *throughput*, *delay* dan *jitter*. Penelitian dilakukan pada wilayah residensial yaitu Bumi Serpong Damai dan Alam Sutera. Pengujian dilakukan di enam titik area berbeda di setiap residensial dan tiga waktu yang berbeda menggunakan *software Wireshark* dan *Axence NetTools*. Hasil pengujian diperoleh nilai QoS tertinggi yaitu di residensial Alam Sutera dengan nilai *delay* 3,429 ms, *jitter* 3,639 ms, *throughput* 2.715.350 Bps, *packet loss* 0,002% dengan nilai *bandwidth* 45.631.610 Bps, sedangkan nilai QoS terendah dimiliki oleh residensial Bumi Serpong Damai dengan nilai *delay* 3,446 ms, *jitter* 3,298 ms, *throughput* 2.587.249 Bps, *packet loss* 0,001 % dengan nilai *bandwidth* 45.048.067 Bps. Secara keseluruhan dalam kondisi bagus menurut standar TIPHON.

Kata Kunci: Layanan 5G, QoS, Tangerang Selatan, *Wireshark*, *Axence NetTools*

ABSTRACT

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QUALITY OF SERVICE (QOS) ANALYSIS OF TELKOMSEL'S 5G SERVICES IN THE RESIDENTIAL AREA OF SOUTH TANGERANG CITY

South Tangerang is a city within the Jabodetabek agglomeration, so good internet quality is needed. 5G cellular service from Telkomsel operator is available in this city so it is necessary to measure the Quality of Service (QoS) of the internet network to determine the parameter values of bandwidth, packet loss, throughput, delay and jitter. The research was conducted in residential areas, namely Bumi Serpong Damai and Alam Sutera in South Tangerang City. Tests were carried out at six different points in each residential area and at three different times using Wireshark and Axence NetTools software. The test results obtained that the highest QoS value is at Alam Sutera residential with a delay value of 3,429 ms, jitter 3,639 ms, throughput 2,715,350 Bps, packet loss 0.002% with a bandwidth value of 45,631,610 Bps, while the lowest QoS value is at by Bumi Serpong Damai with delay value is 3,446 ms, jitter is 3,298 ms, throughput is 2,587,249 Bps, packet loss is 0,001 % with bandwidth value is 45,048.067 Bps. Overall in not bad condition by TIPHON standards.

Keywords: 5G Service, QoS, South Tangerang, Wireshark, Axence NetTools