



Press Release

NPR 2018: MOST SERVICE PROVIDERS COMPLIED TO MSQoS

CYBERJAYA, 29 January 2019 --- The Network Performance Report (NPR) is a yearly document published by the Malaysian Communications and Multimedia Commission (MCMC) that looks at network performance of Malaysia's mobile broadband, wired broadband and voice services.

This report provides consumers with useful information on the performance of the services with the aim of improving quality of service, as it is an integral component in the government's effort to enhance the consumer experience.

This audited report is on the network performance of services in the year 2018. Results are benchmarked against standards that have been set by MCMC via MSQoS in the respective categories.

Overall, the NPR 2018 report revealed that, most service providers managed to adhere and comply with the standards set by the Commission under the MSQoS.

Several key metrics or parameters were used to measure the performance of the services offered by the respective service providers. This includes Throughput, Network Latency, Packet Loss, Call Setup Success Rate (CSSR) and Dropped Call Rate (DCR).

Throughput refers to an amount of data that can be transferred per unit of time across a network from one location to another, experienced by end user as Internet speed. This means the higher throughput, the better the Internet speeds are. As for Network Latency, it refers to the Return Trip Time (RTT) of data transfers on a network and how long it takes the data to travel to its destination. In other words, the lower the latency the better. Meanwhile, Packet Loss is an amount data sent which are unable to reach its intended destination. In this context, low packet loss indicates the network's ability to transfer data from the user end to

the destination host with high reliability. Call Setup Success Rate (CSSR) refers to voice calls made by user and successfully established, allowing communication. High CSSR indicates good network accessibility. While, Dropped Call Rate or DCR refers to voice calls made by user and successfully established but was cut-off before the speaking parties able to complete the intended call or before any one of them hang up. In short, low DCR indicates good network retainability.

A series of tests were conducted to ensure the services offered met the requirements. For example, for wireless broadband services, tests were carried out 'static' (stationary) using LTE capable smartphones that supports carrier aggregation, at locations identified to at least have LTE-A (LTE-Advanced) broadband service coverage. The requirements needed is to have at least 1Mbps (megabit per second) throughput for at least 80% of the time, network latency mustn't be more than 250ms packet round trip time (RTT) at least 70% for the time and packet loss not more than 3%.

The ability of the wireless service providers to comply were due to its aggressive pursuit in rolling out LTE and LTE-A networks besides taking advantage of the frequency re-farming exercise conducted back in 2017.

While for the wired broadband, tests were carried out in locations that have wired broadband coverage. In this respect, some of the requirements to follow includes fibre download and upload throughput must be $\geq 90\%$ of subscribed speed for at least 90% of the time, digital subscriber line (DSL) download and throughput must be $\geq 70\%$ of subscribed speed for at least 90% of the time and finally, DSL and Fibre ping RTT must be ≤ 85 ms for at least 95% of the time and packet loss of $\leq 1\%$.

As for public cellular services, the tests were carried out along routes or locations that have been ascertained to have cellular coverage. Cellular coverage is ascertained either through confirmation from the public cellular service providers, through the coverage information advertised or through the network indicator display on test phones.

MCMC will continue to conduct mandatory tests to protect the consumers' interest. As such, action can be taken against service providers under the Communications and Multimedia Act 1998 if they are found to have breached or violated the MSQoS.

A total of 21,650 call samples, 518 wireless broadband locations for each of the six operators and 200 fixed broadband locations for three operators nationwide were measured. Network data audited was collected by MCMC on a nationwide scale from January to December 2018.

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