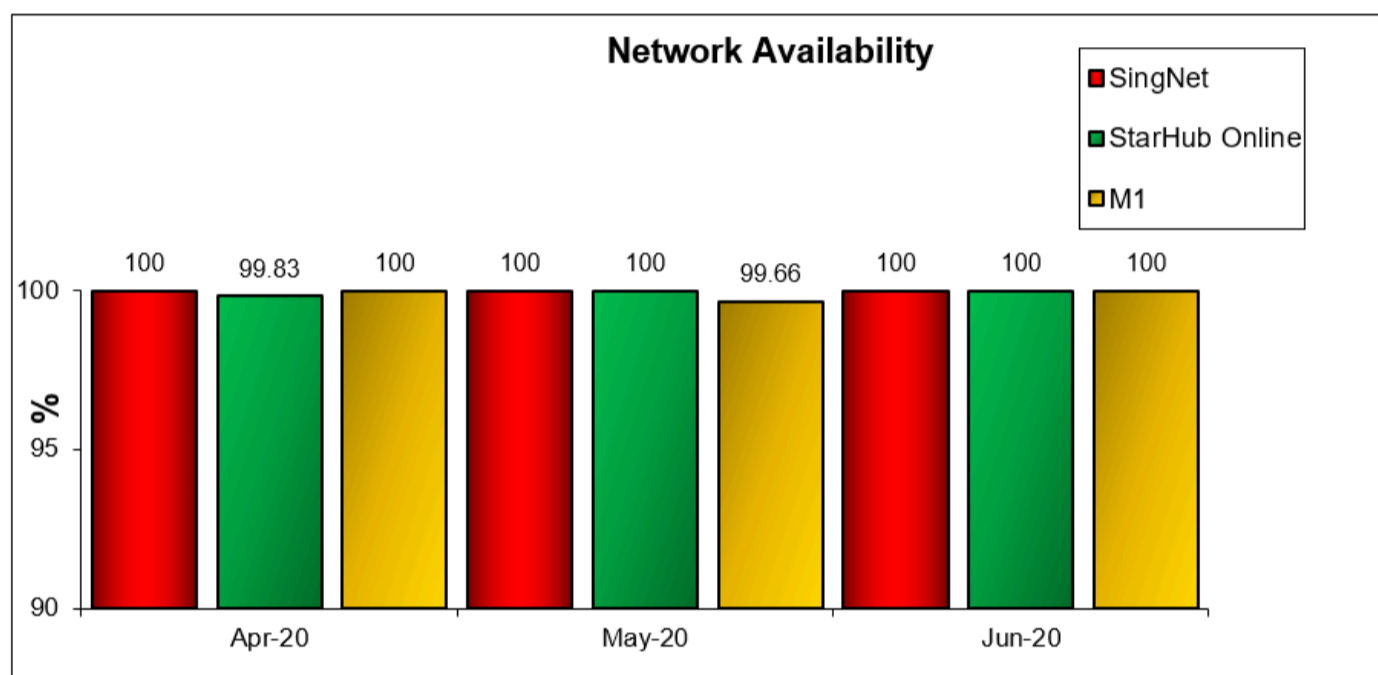# Fibre Broadband QoS Performance for Q2 2020

Quality of Service (QoS) Standards for Fibre Broadband Services for Apr to June 20 Quarter

1. Network Availability

Network Availability is the measure of the degree to which the network is operable and not in a state of failure or outage at any point of time. It measures the total downtime of the network, including the Optical Line Termination (OLT), multiplexers, routers, email facilities (if provided) and connection to Internet Exchanges and/or Internet backbone over a month. All scheduled downtime for the purposes of maintenance and upgrading of the network system will be excluded from the calculation. However, all access network operators must keep their users informed of such maintenance times.

Network Availability = [(Total Operational minutes - Total minutes of service downtime) / Total operational minutes] x 100%
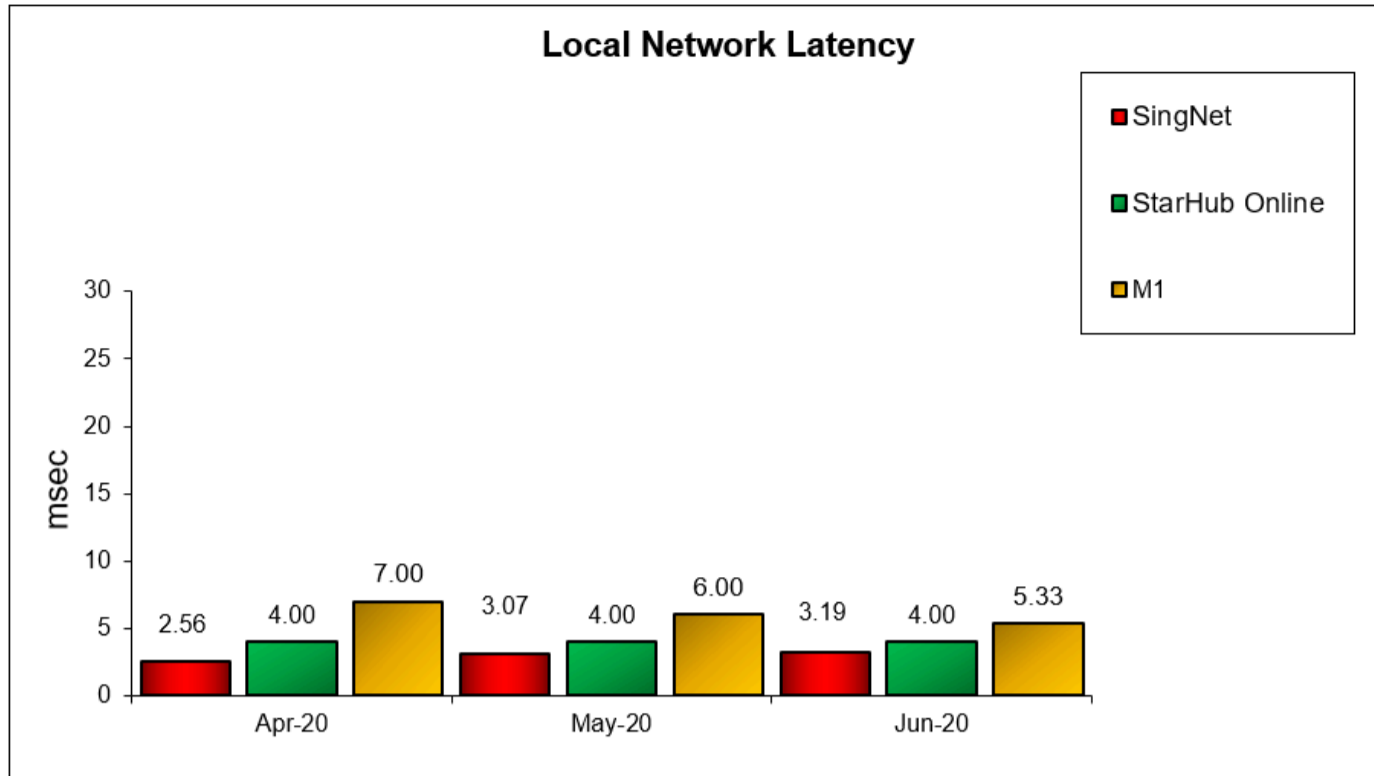
Results are rounded off to two decimal places. Therefore, a result of "100%" does not necessarily reflect that there was no service downtime in that month.

StarHub Online's QoS performance of 99.83% in April 2020 is below IMDA's QoS standard of 99.9%, due to the service difficulty incident on 15 April 2020.

M1's QoS performance of 99.66% in May 2020 is below IMDA's QoS standard of 99.9%, due to the service difficulty incidents on 12 and 13 May 2020.

Please review the Codes of Practice to understand the specifics of IMDA's regulations enforcement for the telecommunication sector in Singapore.
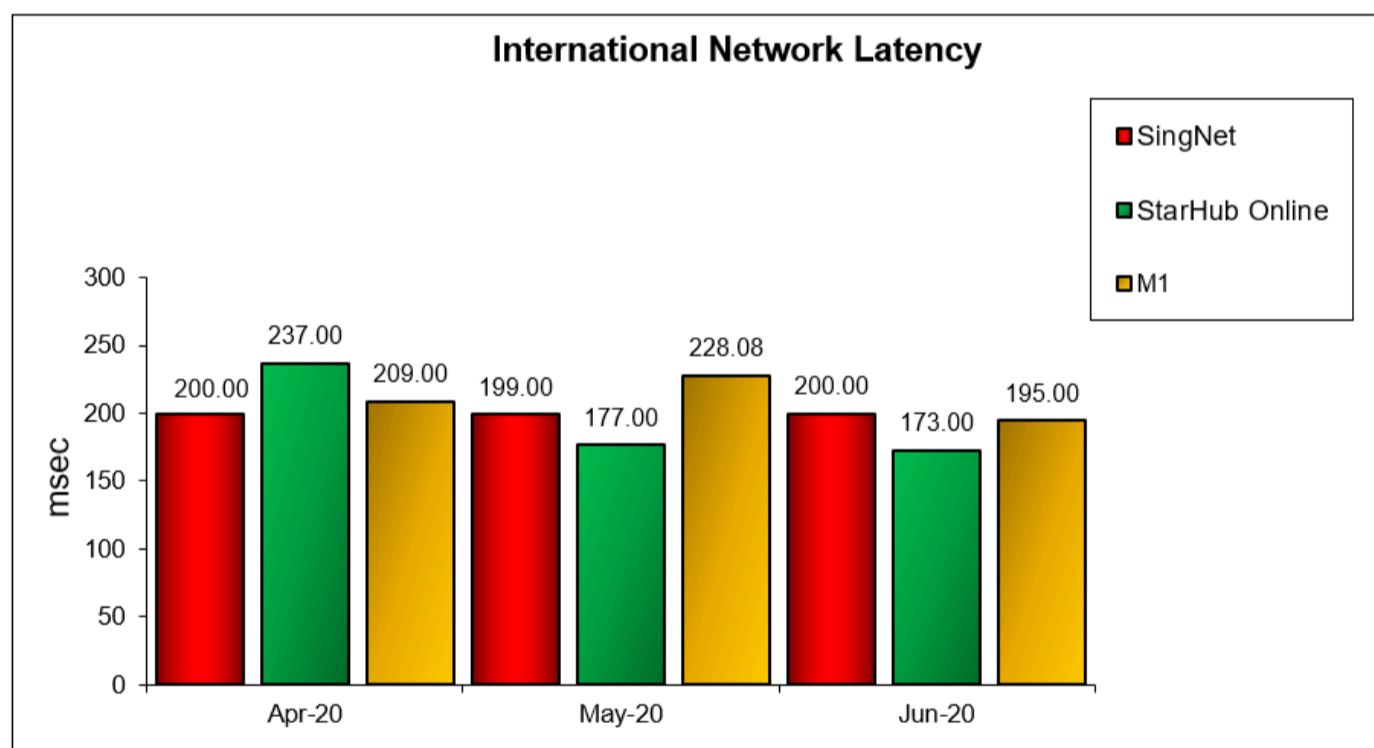
2. Local Network Latency

Local Network Latency

Local latency measures the round-trip time for PING packets to travel between the test clients in Singapore and the Broadband Access Service Provider's ("BASP's") test node(s) in its local Point-of-Presence ("PoP").

Results are rounded off to two decimal places.

3. International Network Latency
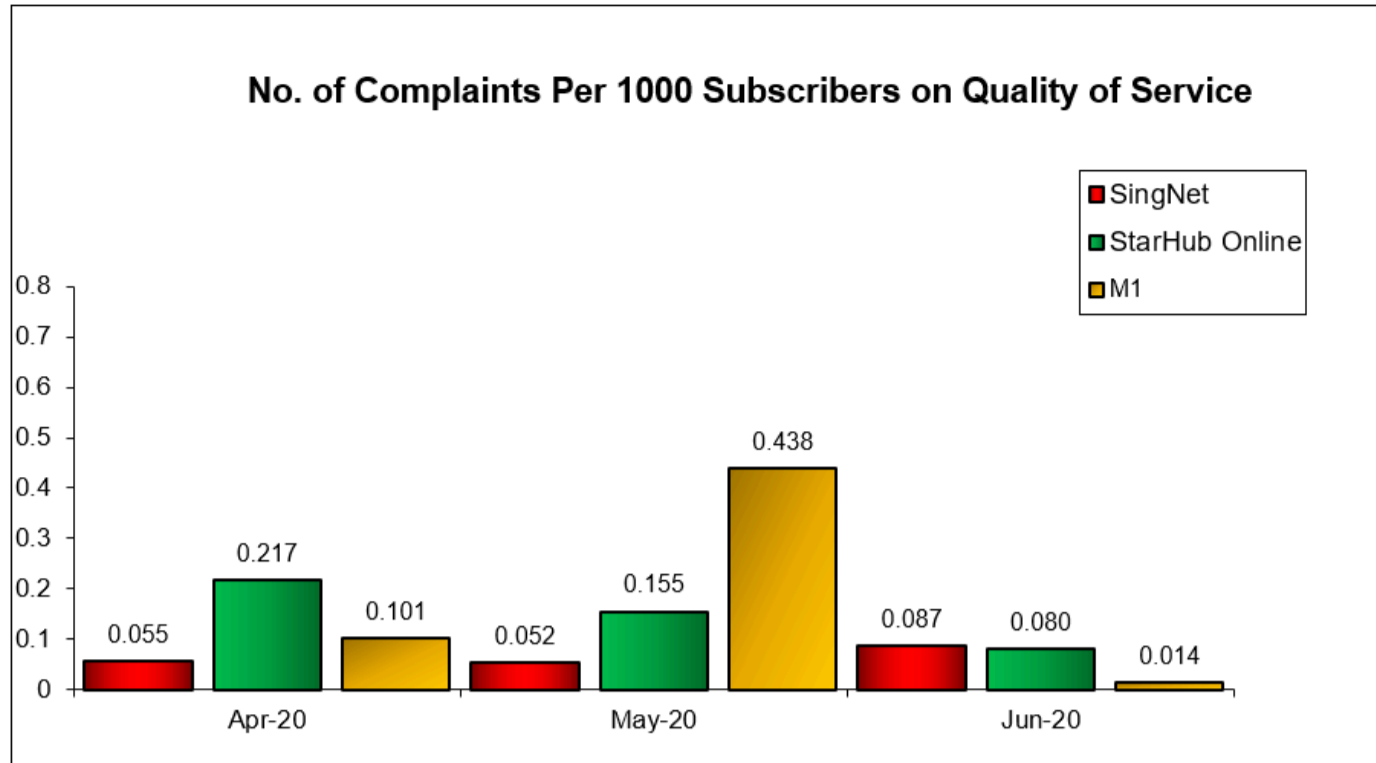
International Network Latency

International latency measures the round-trip time for PING packets to travel between the test clients in Singapore and the BASP's test node(s) in its first US PoP.

Results are rounded off to two decimal places.

4. Number of Complaints Per 1000 Subscribers

No. of Complaints Per 1000 Subscribers on Quality of Service

Legend:
- SingNet
- StarHub Online
- M1

Month	SingNet	StarHub Online	M1
Apr-20	0.055	0.217	0.101
May-20	0.052	0.155	0.438
Jun-20	0.087	0.080	0.014

The term "complaints" is defined as any expression of dissatisfaction with the service providers' service, product, advertisement or policy via oral or written communication that requires some action by the service provider beyond the initial contact.

Results are rounded off to three decimal places. Therefore, a result of "0" does not necessarily reflect that there were no complaints on fibre broadband services in that month.