



Suruhanjaya Komunikasi dan Multimedia Malaysia
Malaysian Communications and Multimedia Commission

COMMUNICATIONS AND MULTIMEDIA ACT 1998

COMMISSION DETERMINATION ON THE MANDATORY STANDARDS FOR QUALITY OF SERVICE (WIRED BROADBAND ACCESS SERVICE)

DETERMINATION NO. 1 OF 2021

Pursuant to the Ministerial Direction on Quality of Service, Direction No. 3 of 2003, and in exercise of the powers conferred by sections 55, 56 and 104(2) and 106 of the Communications and Multimedia Act 1998 [Act 588] ("**Act**"), the Commission hereby determines as follows:

Citation and commencement

1. This Determination may be cited as the **Commission Determination on the Mandatory Standards for Quality of Service (Wired Broadband Access Service), Determination No. 1 of 2021**.
2. This Determination shall come into operation on 1 August 2021.

Interpretation

3. For the purpose of this Determination, unless the context otherwise requires,
 - (i) any terms used in this Determination shall have the same meaning as in the Act or the subsidiary legislations made under it;
 - (ii) words in the singular include plural and vice versa; and
 - (iii) the following terms used in this Determination shall have the stated meaning:

"ASP" means Applications Service Provider;

"Digital Subscriber Line" or "DSL" means a technology for bringing high bandwidth information over copper telephone lines;

“DSLAM” means Digital Subscriber Line Access Multiplexer;

“end user” means a person who receives, requires, acquires, uses or subscribes to the wired broadband service and may include a customer;

“fibre” means optical fibre cable used for broadband which is connected directly to customer premises equipment from access node;

“guidelines” means guidelines issued by the Commission pursuant to paragraph 8 of this Determination;

“Metro-E” means Metropolitan Ethernet;

“MSAN” means Multi-service Access Node;

“NSP” means Network Service Provider;

“OLT” means Optical Line Terminal;

“service provider” means an ASP or a NSP which provides wired broadband access service; and

“wired broadband access service” means a wired connectivity of communication bandwidth service that is faster than primary rate interface of Integrated Service Digital Network (ISDN) of 2.0 Mbps.

Licensees subject to these mandatory standards

4. All NSPs and ASPs providing wired broadband access service are subject to the mandatory standards as specified in this Determination (“**Mandatory Standards**”). NSPs and ASPs should ensure that other providers who can affect the quality of service provided by the NSPs and ASPs are bound by a service level agreement which enables the NSPs and ASPs to meet these Mandatory Standards.

Obligation to maintain quality of service records

5. The relevant NSPs and ASPs shall maintain complete and accurate performance records of all quality of service indicators stated in these Mandatory Standards.

Quality of service performance report submission

6. Quality of service performance reports shall be submitted to the Commission in the form and format as may be prescribed by the Commission from time to time. Each report shall be accompanied by a declaration signed by the Chief Executive Officer (or any other person that holds an equivalent designation) of the service provider duly authorised by the board of directors, stating that each report is true and accurate.

Audit and verification

7. The Commission may, from time to time, conduct audits on the reports submitted, perform broadband measurements or make service observations to verify NSPs and ASPs' compliance with these Mandatory Standards.

Applicable guidelines

8. The Commission may at any time issue guidelines that set (but not limited to) the testing procedures, examples of computations, explanatory notes and list of designated areas in respect of any provision in these Mandatory Standards.

Network performance quality of service

	Quality of Service Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality of Service Standard
i.	Network Latency	<p>This indicator measures the round-trip time taken by a standard packet to travel across the network between the end user and the test server.</p> <p>Formula:</p> $\frac{\text{Number of test samples} \leq \text{QoS latency standards}}{\text{Total number of test samples}} \times 100\%$	<p>Network latency shall be at or not more than:</p> <p>(a) 50 ms, 95% of time for fibre based on test sample; and</p> <p>(b) 85 ms, 95% of time for DSL based on test sample.</p>

	Quality of Service Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality of Service Standard
ii.	Throughput (Broadband Speed)	<p>This indicator measures the speed of uploading and downloading data measured in units of megabits per second (Mbps) between the end user and test server. This is to be measured and reported separately for uploading and downloading.</p> <p>Formula:</p> $\frac{\text{Number of test samples} \geq \text{QoS throughput standards}}{\text{Total number of test samples}} \times 100\%$	<p>Throughput shall be at or not less than:</p> <p>(a) 70.0% of the subscribed level of broadband speed(s), for 90.0% of the time for DSL, based on test sample; and</p> <p>(b) 90.0% of the subscribed level for 90.0% of the time for fibre, based on test sample.</p>
iii.	Packet Loss	<p>This indicator measures the percentage of data packets transmitted from the source that fails to arrive at their destinations. It is computed based on the average of sample measurements between the end user and test server.</p> <p>Formula:</p> $\frac{\text{Total number of packet loss}}{\text{Total number of packet sent}} \times 100\%$	<p>Packet loss shall be not more than:</p> <p>(a) 0.5% for fibre based on the average of the test sample; and</p> <p>(b) 1.0% for DSL based on the average of the test sample.</p>
iv.	Network Utilization	<p>This indicator measures the total traffic for access node (including but not limited to DSLAM, MSAN, OLT, etc.) and aggregation node e.g. Metro-E.</p>	<p>Monthly average percentages of traffic utilization for access and aggregated layer for 3 months, shall not be more than 70% of bandwidth capacity and shall be rectified within 7 days.</p>

Revocation and transitional

9. The Commission Determination on the Mandatory Standards for Quality of Service (Wired Broadband Access Service), Determination No. 2 of 2016 shall be revoked, with effect from 1 August 2021. For avoidance of doubt, all actions under investigation initiated, actions taken and/or decisions made, under the revoked Determination, shall continue to be valid and effective in relation to whom they apply, until discontinued or revoked, as the case may be.

Made on 16 July 2021



DR. FADHLULLAH SUHAIMI ABDUL MALEK
Chairman
Malaysian Communications and Multimedia Commission