



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 (WIRELESS BROADBAND ACCESS SERVICE)**

DETERMINATION NO. 1 OF 2016

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], 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 (Wireless Broadband Access Service), Determination No. 1 of 2016**.
2. This Determination shall come into operation on:
 - (i) 1 February 2016 for Standards for Network Performance Quality of Service; and
 - (ii) 1 July 2016 for Standards for Customer Service Quality of Service.

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 regulations 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:

"ASN GW" means Access Service Network Gateway;

"ASP" means Applications Service Provider;

"business day" means a day in which commercial banks in the respective states in Malaysia are normally open for business, and excludes gazetted public holidays;

"complaint" means any verbal or written expression of dissatisfaction by customer to service provider regarding the service provider's service and product, which requires action by the service provider to address the issues raised. A request by customer for information or advice or an inquiry seeking clarification will not be classified as a complaint. However, if no or inadequate action is taken by the service provider on a request for information or advice or inquiry seeking clarification, the subsequent follow up to the service provider would be classified as a complaint;

"CPE" means customer premises equipment;

"customer" means a person who, for consideration, acquires or subscribes to the wireless broadband access service;

"end user" means a person who receives, requires, acquires, uses or subscribes to the wireless broadband access service and may include a customer;

"FDD" means Frequency Division Duplex;

"guidelines" means guidelines issued by the Commission pursuant to this Determination;

"LTE" means Long Term Evolution;

"MME" means Mobility Management Entity;

"MyIX" means Malaysia Internet Exchange;

"NSP" means Network Service Provider;

"per quarter" means the calendar quarters ending 31 March, 30 June, 30 September and 31 December of each year;

"reporting period" means the half-yearly calendar ending 30 June and 31 December;

"resolved" means that a complaint was addressed and the problem was rectified;

"service provider" means an Applications Service Provider or a Network Service Provider which provide wireless broadband access service;

"SGSN" means Serving GPRS Support Node;

"TDD" means Time Division Duplex; and

"wireless broadband access service" means a wireless connectivity of communication bandwidth service that has a minimum downstream capacity of 650Kbps.

Licensees subject to these mandatory standards

4. All NSPs and ASPs providing wireless broadband access service are subject to these 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 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 this Mandatory Standards.

Quality of Service Performance Report Submission

6. Quality of Service performance reports shall be submitted to the Commission no later than 30 days from the end of every reporting period. These reports shall be 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 an officer 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 test 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 sets (but not limited to) the testing procedures, examples of computations, reporting templates, explanatory notes and list of designated routes and areas in respect of any provision in this Determination.

Network Performance Quality of Service

	Quality of Service Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality of Service Standard
i.	Network Latency (ping time)	<p>This indicator measures the round-trip time taken by a standard packet of 64 bytes to travel across the network from the end user to MyIX and back to the end user.</p> <p>Formula:</p> $\frac{\text{Number of test samples} \leq 250\text{ms}}{\text{Total number of test samples}} \times 100\%$	Network Latency must be not more than 250 ms, 70.0% of the time based on test samples.
ii.	Throughput (Broadband Speed)	<p>This indicator measures the speed of downloading data measured in units of megabits per second (Mbps) between the end user and MyIX.</p> <p>Formula:</p> $\frac{\text{Number of test samples} \geq \text{QoS Throughput Standard}}{\text{Total number of test samples}} \times 100\%$	<p>Throughput must be:</p> <p>(a) not less than 650Kbps, 80.0% of the time for TDD and 65.0% of the time for FDD effective from 1 February 2016; and</p> <p>(b) not less than 1Mbps, 80.0% of the time for both TDD and FDD effective from 1 January 2018.</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 calculated based on the average of sample measurements between the end user and MyIX.</p> <p>Formula:</p> $\frac{\text{Total Number of Packet Loss}}{\text{Total Number of Sent Packet}} \times 100\%$	Packet Loss must be not more than 3.0%, calculated based on the average of the test sample.
iv.	Advanced Notice of Scheduled downtime	Service provider is required to inform customers and the Commission in advance in respect of any network service downtime planned and scheduled by the service provider to take place for the purpose of maintenance and upgrading of the network.	Every session of scheduled downtime due to occur which affects customers must be notified to customer not less than 24 hours in advance.

v.	Service Disruption	<p>Service Disruption means the unplanned interruption of the services that a customer subscribes to but does not include disruption of service from scheduled downtime.</p> <p>A service provider is considered to have breached the Service Disruption standard when a network with mobility functionality such as (but not limited to) SGSN for traditional 2G/3G network, MME for LTE network and ASN GW for WiMAX network is out of service. A SGSN, MME or ASN GW is out of service when it is unable to perform the functions for which it is intended.</p> <p>A service provider is considered to have breached the Service Disruption standard where the service provider fails to rectify a single Service Disruption incident.</p> <p>If more than one Service Disruption incident occurring in a reporting period breach this standard, each and every one of such incidents are regarded as separate breaches of this standard.</p> <p>Service provider shall notify end customers within 60 minutes in respect of any Service Disruption incident.</p> <p>The service provider must submit a comprehensive report to the Commission within 7 business days of the incident.</p>	<p>Any single Service Disruption incident that involves a SGSN, MME or ASN GW being out of service:</p> <p>(a) between 5AM to 12 midnight, must be rectified within 60 minutes from the occurrence of the Service Disruption; and</p> <p>(b) between 12 midnight to 5AM, must be rectified no later than 6AM.</p> <p>Service provider must notify customers within 60 minutes from the occurrence of the Service Disruption, of any single Service Disruption incident that involves a SGSN, MME or ASN GW being out of service.</p> <p>Service provider must submit a comprehensive report to the Commission within 7 business days of the occurrence of any single Service Disruption incident that involves a SGSN, MME or ASN GW being out of service for the specified duration and affecting customers.</p>
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Customer Service Quality of Service

	Quality of Service Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality of Service Standard
i.	Percentage of Billing Related Complaints	This indicator measures the Percentage of Billing Related Complaints to the number of customers per quarter.	Percentage of Billing Related Complaints must be not more than 1.0% per quarter.

		<p>Billing related complaint is any complaint related to the service provider's billing made or charges imposed on customers including, but is not limited to, complaints regarding payments made and wrongly credited or not credited, non-refund of deposits, late billing, non-receipt of bills, fraud, wrongly addressed bills and other billing errors. Bills issued by service provider may include, but are not limited to, bills sent by postal service, email or accessible online by customer. Billings of pre-paid and post-paid services are included for this indicator.</p> <p>Formula:</p> $\frac{\text{Total number of billing related complaints received per quarter}}{\text{Total number of active customers at the end of the quarter}} \times 100\%$	
ii.	<p>Non-billing Related Complaints per 1,000 Customers</p>	<p>This indicator measures the Percentage of Non-billing Related Complaints per 1,000 customers per quarter.</p> <p>Non-billing related complaint means any complaint other than billing related complaint. It includes, but is not limited to, complaints received on service matters including late or no service activation after a report has been made, unprofessional staff or contractors and other complaints related to customer service.</p> <p>Formula:</p> $\frac{\text{Total number of non - billing related complaints received per quarter}}{\text{Total number of active customers at the end of the quarter}} \times 1000$	<p>Non-billing related complaints must be not more than 6 complaints per 1,000 customers per quarter.</p>

iii.	<p>Promptness in Resolving Customer Complaints</p>	<p>This indicator measures the percentage of customer complaints resolved by the service provider within specified timeframes, measured from the day the complaint was received to the time the complaint was resolved.</p> <p>Formula:</p> $\frac{\text{Total number of complaints resolved within the specific timeframe}}{\text{Total number of complaints received within the quarter}} \times 100\%$ <p>This Quality of Service indicator is to be separately measured and reported for billing related complaints and non-billing related complaints, where the same Quality of Service standard is applicable for both categories of complaints.</p> <p>Unresolved complaints due to the following are excluded from the computation:</p> <ul style="list-style-type: none"> (a) Damage to network facility due to force majeure or third parties; (b) Faulty Customer Premise Equipment (CPE), customer infrastructure or internal wiring; and (c) Customer premises inaccessible. <p>The Commission shall determine whether the service provider has taken steps to address the complaint and whether it is reasonable to conclude that such steps have addressed the dissatisfaction of the complainant.</p> <p>Service provider is required to inform customers of their right to refer any unresolved complaint to the Consumer Forum of Malaysia (CFM).</p>	<p>The standard on Promptness in Resolving Customer Complaints, separately measured for billing related complaints and non-billing related complaints, for every quarter is:</p> <ul style="list-style-type: none"> (a) Not less than 60.0% must be resolved within 3 business days; (b) Not less than 90.0% must be resolved within 5 business days; and (c) Not less than 95.0% must be resolved within 15 business days.
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iv.	Promptness in Answering Calls to Customer Hotline	<p>This indicator measures the service provider's promptness in answering customer phone calls to the Customer Hotline, from the time when the customer presses the button opting for a human operator to the time it is answered by a human operator. The duration when the call is attended to by the interactive voice response system (IVRS) before being transferred to a human operator's phone is excluded.</p> <p>Formula:</p> $\frac{\text{Number of calls answered by human operator within the specific timeframe}}{\text{Total number of calls to Customer Hotline opting for human operator assistance in the quarter}} \times 100\%$	<p>At least 80.0% of calls to Customer Hotline that opted for human operator per quarter must be answered within 20 seconds.</p> <p>At least 90.0% of calls to Customer Hotline that opted for human operator per quarter must be answered within 40 seconds.</p>
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Made on 27 January 2016



DATO' SRI DR HALIM SHAFIE
Chairman

Malaysian Communications and Multimedia Commission