



**Suruhanjaya Komunikasi dan Multimedia Malaysia**  
Malaysian Communications and Multimedia Commission

**REPORT ON A PUBLIC INQUIRY ON THE  
COMMISSION DETERMINATION ON THE MANDATORY STANDARDS FOR  
QUALITY OF SERVICE (WIRELESS BROADBAND ACCESS SERVICE)**

**January 2016**

This Public Inquiry Report is prepared in fulfilment of Section 65 of the  
Communications and Multimedia Act 1998.

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## **SECTION 1: SUMMARY OF THE PUBLIC INQUIRY**

### **INTRODUCTION**

1. Broadband usage in Malaysia is growing at a very fast pace. In steering the industry to accommodate the Malaysian public and moving Malaysia to be a smart nation by year 2020, the Mandatory Standards for Quality of Service (MSQoS) on Wireless Broadband Access Service is proposed.
2. This MSQoS covers the standards for Quality of Service for delivery of data, video or voice over the internet protocol for wireless systems.
3. The proposed mandatory standards are based on international best practices where possible and address current issues in relation to wireless broadband service in Malaysia. This mandatory standards proposal also seeks to strengthen and streamline the QoS framework for current and future technologies. In order to meet the year 2020 target, this MSQoS spells out a progressive phase of standards i.e:

Phase 1: Effective 1 February 2016 - 31 December 2017; and

Phase 2: Effective 1 January 2018 – 1 January 2020.

### **PUBLIC INQUIRY**

4. The Commission embarked on a public inquiry on 18 September 2015 and released a Public Inquiry Paper on the new MSQoS for Wireless Broadband Access Service. The Public Inquiry paper contained a preface and the proposed quality of service mandatory standards for Wireless Broadband Access Service.

5. The deadline for submissions was 12:00 noon, 5 November 2015 and the PI period was subsequently extended to 31 December 2015. At the close of inquiry, the Commission had received **eleven (11)** submissions from the following respondents:
  - a) Altel Communications Sdn. Bhd. (Altel);
  - b) Celcom Axiata Berhad (Celcom);
  - c) Digi Telecommunications Sdn. Bhd. (Digi);
  - d) Malaysian Consumer and Family Economics Association (MACFEA);
  - e) Maxis Berhad (Maxis);
  - f) Neutral Transmission Malaysia Sdn. Bhd. (Neu Trans);
  - g) REDtone International Bhd (Redtone);
  - h) Telekom Malaysia Berhad (TM);
  - i) Packet One Networks Sdn Bhd (P1);
  - j) U Mobile Sdn. Bhd. (U Mobile); and
  - k) YTL Communications Sdn. Bhd. (YTL).
6. The Commission considered these eleven submissions. A summary of comments/suggestions are outlined in Section 4 of this Report.
7. The Commission proposes to issue a Commission Determination that will reflect the Commission's final views expressed in this PI Report in respect of the MSQoS for Wireless Broadband Access Service.

## **STRUCTURE OF THE PI REPORT**

8. The remainder of this PI Report is structured broadly to follow the PI Paper to provide context for the Commission's questions for comments, as follows:-
  - 8.1 Section 2 provides a summary of Commission's final views on the proposed changes;

8.2 Section 3 describes the Commission’s final views on the framework;

8.3 Section 4 provides a summary of inputs received and the Commission’s responses thereto; and

8.4 Section 5 highlights the way forward.

## **SECTION 2: SUMMARY OF COMMISSION’S FINAL VIEWS**

9. Based on the submissions received, the Commission proposes the following changes (from the standard previously proposed in the PI Paper) to be made on the MSQoS on Wireless Broadband Access Service:

(a) Requirement for Report Submission

- Half yearly reporting (previously proposed on quarterly reporting).

(b) Network Performance Quality of Service

- The standard on Advance Notice for Scheduled Downtime

<b>Previously proposed</b>	<b>Revised formula</b>
Every session of scheduled downtime due to occur in a quarterly reporting period must be notified to customers not less than 24 hours in advance; and  Every session of scheduled downtime due to occur in a quarterly reporting period must be notified to the Commission in writing not less than 72 hours in advance.	Every session of scheduled downtime due to occur which affects customers must be notified to customer not less than 24 hours in advance.

- The standard on Service Disruption is as follows:

Previously proposed	Revised formula
<p>Any RNC, eNodeB or ASN must not be out of service for 30 minutes or longer.</p> <p>Service provider must notify the Commission within 60 minutes of any single service disruption incident that involves a RNC, eNodeB or ASN being out of service for 30 minutes or longer and affecting customers.</p>	<p>Any single Service Disruption incident that involves a SGSN, MME or ASN GW being out of service:</p> <ul style="list-style-type: none"> <li>(a) between 5AM to 12 midnight, must be rectified within 60 minutes from the occurrence of the Service Disruption; and</li> <li>(b) between 12 midnight to 5AM, must be rectified no later than 6 AM.</li> </ul> <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>

(c) Customer Service Quality of Service

- The standard on Promptness in Resolving Customer Complaints, per quarter is as follows:
  - i. Not less than 60.0% must be resolved within 3 business days, (previously proposed at 30.0%);
  - ii. Not less than 90.0% must be resolved within 5 business days (previously proposed at 95.0%); and
  - iii. Not less than 95.0% must be resolved within 15 business days (previously proposed at 99.0%).

(d) Effective Date

- The Commission has decided that the new MSQoS will take effect from:
  - 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.

### **SECTION 3: THE COMMISSION'S FINAL VIEWS ON THE FRAMEWORK**

#### **INTERPRETATION PART OF THE STANDARDS**

10. The following interpretations shall be used in this Mandatory Standards for Quality of Service (Wireless Broadband Access Service):

"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 a guidelines issued by the Commission pursuant to the Commission Determination on the Mandatory Standards for Quality of Service (Wireless Broadband Access Service);

“MME” means Mobility Management Entity;



“MyIX” means Malaysia Internet Exchange, a non-profit Internet Exchange where local Internet Service Providers and content providers connect to in order to exchange internet traffic;

“NSP” means Network Service Provider;

“per quarter” means the calendar quarters ending 31 March, 30 June, 30 September and 31 December;

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

“resolved” means that the complaint was addressed and the problem was rectified;

“service provider” means an Applications Service Provider or a Network Service Provider who provides 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.

## **REQUIREMENT FOR REPORT SUBMISSION**

11. Considering this is a new MSQoS imposed to wireless broadband service provider, the Commission agrees for the reporting period to be half yearly instead of quarterly reporting.

12. The Commission has decided for the Quality of Service performance reports to be submitted no later than 30 days from the end of the reporting period. The timelines for reporting are as follows:

**Table 1: Reporting Timelines**

No.	Reporting Period	QoS Report Submission Date
1.	1st January to 30th June	By 30th July of the same year
2.	1st July to 31st December	By 30th January of the next year

**QUALITY OF SERVICE INDICATORS, MEASUREMENTS, STANDARDS, NOTIFICATION, AND REPORTS**

13. The MSQoS shall be segregated into two (2) parts, namely Network Performance Quality of Service and Customer Service Quality of Service. The applicable indicators, measurements, and standards are listed in Tables 2 & 3 of this document.
14. Standards for Network Performance Quality of Service are outlined in Table 2 below:

**Table 2: Network Performance Quality of Service**

	Quality of Service Indicator	Description / Definition / Formula / Measurement / Reporting Requirement	Quality of Service Standard
i.	Network Latency (ping time)	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.	Network Latency must be not more than 250 ms, 70 % of the time based on test samples.

		<p>Formula:</p> $\frac{\text{Number of test samples} \leq 250\text{ms}}{\text{Total number of test samples}} \times 100\%$	
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> $\frac{\text{Number of test samples} \geq \text{QoS Throughput Standard}}{\text{Total number of test samples}} \times 100\%$	<p>Throughput must be:</p> <p>(a) Not less than 650kbps at 65% of the time for FDD and at 80% of the time for TDD effective 1 Feb 2016; and</p> <p>(b) Not less than 1Mbps at 80% of the time for both FDD and TDD 1 Jan 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> $\frac{\text{Total Number of Packet Loss}}{\text{Total Number of Packet Sent}} \times 100\%$	<p>Packet Loss must be not more than 3.0%, calculated based on the average of the test sample.</p>
iv.	Advanced Notice of Scheduled	<p>Service provider is required to inform customers in advance in respect of any network service</p>	<p>Every session of scheduled downtime due to occur which affects</p>

	Downtime	downtime planned and scheduled by the service provider to take place for the purpose of maintenance and upgrading of the network.	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</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 6 AM.</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</p>

	<p>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>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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15. Standards for Customer Service Quality of Service as Table 3 below:

**Table 3: Customer Service Quality of Service**

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

		<p>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</p>	<p>Non-billing related complaints must be not more than 6 complaints per 1,000 customers per quarter.</p>

		<p>or contractors and other complaints related to customer service.</p> <p>Formula:</p> $\frac{\text{Total number of non – billing related complaints received per quarter}}{\text{Total number of active customers at the end of the quarter}} \times 1000$	
iii.	Promptness in Resolving Customer Complaints	<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</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> <p>(a) Not less than 60.0% must be resolved within 3 business days;</p> <p>(b) Not less than 90.0% must be resolved within 5 business days; and</p> <p>(c) Not less than 95.0% must be resolved</p>

	<p>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> <p>(a) Damage to network facility due to force majeure or third parties;</p> <p>(b) Faulty Customer Premise Equipment, customer infrastructure or internal wiring; and</p> <p>(c) Customer premises inaccessible.</p> <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>within 15 business days.</p>
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iv.	<p>Promptness in Answering Calls to Customer Hotline</p>	<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>(a) At least 80.0% of calls to Customer Hotline that opted for human operator per quarter must be answered within 20 seconds;</p> <p>(b) 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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**APPLICABLE GUIDELINES**

16. The Commission has developed a set of guidelines that sets out the testing procedures, examples of computations, reporting templates, explanatory notes, and list of areas to the standards proposed in this document. The said guidelines will be issued as the Guidelines to the Commission Determination on the MSQoS (Wireless Broadband Access Service).

**SECTION 4: A SUMMARY OF INPUTS RECEIVED AND THE COMMISSION'S RESPONSE**

17. The following section summarizes the feedback received from the public against the questions raised in the Public Inquiry Paper and the Commission's response to the same together with the Commission's final views on the proposed standards.

**QUESTION 1**

The Commission seeks views on the proposed interpretations and the proposed MSQoS highlighted in Parts A, B and D above, including comments on the proposed Guidelines stated in Part E, which will be used for the purpose of the Determination.

**18. Part A: Interpretation Part of the Standards**

NO.	SUMMARY OF THE COMMENTS	THE COMMISSION'S RESPONSE
1.0	4 respondents provided feedback for the proposed interpretation with comments. The comments are indicated below.	Considering this is a new MSQoS imposed to wireless broadband service provider, the Commission agrees for the reporting period to be half yearly instead of quarterly reporting.
2.0	3 respondents proposed "reporting period" from quarterly to half yearly.	
3.0	1 respondent suggested that the definition of "complaint" should state that multiple complaints made by one	The Commission is of the view that each complaint is unique and may deal with different issues (although the complaints were reported by the

	customer be considered as one complaint.	same customer), and therefore each complaint should be treated separately. However, multiple complaints made by the same customer on the same issue may be considered by the Commission as one complaint.
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**19. Part B: Requirement for Report Submission**

<b>NO.</b>	<b>SUMMARY OF THE COMMENTS</b>	<b>THE COMMISSION'S RESPONSE</b>
1.0	3 respondents recommended that the Commission undertake the assessment for the reports on a half yearly basis.	Considering this is a new MSQoS imposed to wireless broadband service provider, the Commission agrees for the reporting period to be half yearly instead of quarterly reporting.
2.0	6 respondents disagree to publish the results on their websites. 3 respondents suggest that MCMC should publish the results instead.	The Commission will publish its reports on the website after prior verifications are made, hence, SPs shall not dispute or challenge these results.
3.0	1 respondent did not agree with the proposed report submission dates and does not agree to mandate NSPs and ASPs to publish report on their official websites.	

20. **Part C: Quality of Service Indicators, Measurements, Standards, Notification and Reports**

**(a) Network Performance Quality of Service**

NO.	SUMMARY OF THE COMMENTS	THE COMMISSION'S RESPONSE
1.0	<u>Network Latency</u>	
1.1	In general, most of the respondents agreed with the standard.	
1.2	5 respondents suggested minor amendment to have the measurement based on the average of the test samples.	The Commission is of the view that by averaging the latency results, it will not be accurate in terms of end user experience as one extreme fluctuated result could affect the overall calculation. Hence each number of samples is treated individually and is considered as one
1.3	1 respondent proposed the test must exclude the samples with 3rd party faulty infra, fiber cuts and other incidents that are beyond the service provider's control.	time only, of the end user when connected to the network. This is to ensure that good customer experience is achieved on most if not at all times and also to improve customer confidence levels towards service delivery.
1.4	1 respondent proposed to specify the exact location of the test server to be used as latency would depend on physical distance between a customer and MyIX.	The Commission acknowledges that if the samples are distorted because of reasons beyond the service provider's control, the said samples may be reconsidered again.
		The methodology of the assessment is included in the guidelines. Currently the assessment will be

		conducted based on the test server located at MyIX in Menara AIMS Kuala Lumpur.
2.0	<u>Throughput (Broadband Speed)</u>	
2.1	Most of the respondents agreed to the throughput not less than 650kbps for 80% of the time for TDD services (Wimax) and 65% of the time for FDD services for the period of 2 years but disagree when the changes to be made thereafter; speed to be not less than 1Mbps for 80% of the time for both TDD and FDD after 31 December 2017.	The Commission acknowledges that quality of BB performance and capabilities is pinned on technologies. Wimax was designed purposely for Mobile BB while Cellular was designed for voice. In catering for the merging of LTE systems in the different technologies, the standards are set the same for both TDD and FDD systems by 1 January 2018.
2.2	4 respondents proposed the throughput to be standardized not to be less than 650Kbps, 65.0 % of the time for both TDD and FDD effective from 1 January 2016.	The Commission is also aware that mobile BB is provisioned according to volume and that if there is ample volume made available, there will not be a problem to meet higher throughput than what is mandated.
2.3	Most of the respondents agreed to increase the throughput to be more than 1Mbps, but maintain at 65% of the time, effective 1 January 2018. The respondents justified that it is due to the dynamic nature and technical limitations of wireless broadband.	However, the Commission also notes on the challenges in provisioning wireless services due to site access using the limited resources.

<p>2.4</p> <p>2.5</p>	<p>1 respondent claimed that the requirement of 80% or 65% of the time is not sufficient to measure the quality of service as the network may be congested for the balance of the time.</p> <p>3 respondents disagreed with the technology separation of TDD and FDD services. The respondents proposed that the standards should be general to satisfy the broadband service itself.</p>	
<p>3.0</p> <p>3.1</p> <p>3.2</p>	<p><u>Packet Loss</u></p> <p>All of the respondents agreed to the packet loss requirement of not more than 3%.</p> <p>1 respondent suggested maximum packet loss should also be specified.</p>	<p>The Commission has taken into account the various RF environment effect on the packet loss therefore 3.0 % is considered acceptable for wireless broadband operation. There is no need to specify the maximum packet loss as it will be considered non-compliance when the packet loss is more than 3%.</p> <p>The mandatory standards are intended to be a preemptive measure for the Service Providers to take necessary corrective actions to maintain optimum network conditions.</p>

4.0	<u>Advance Notice of Scheduled Downtime</u>	
4.1	1 respondent proposed that the notification only be provided for scheduled downtime that affects 50% or more customers for more than 30 minutes.	The Commission notes the challenges faced by Service Providers in this regard. However, advanced notice to the customer is required to ensure that the customer is informed about any interruption to services.
4.2	1 respondent suggested that the notification should be given to the Commission and Customer Service Department only and not the customers as the scheduled maintenance is usually conducted within a particular timeframe (12am till 6am).	The notice required is not dependent on the period of the scheduled downtime and will include any maintenance or upgrading of the network.  The Commission also agrees that the notification to the customer be made
4.3	1 respondent suggested that the notification should be given to the Commission only	via electronic platforms i.e. website, SMS.
4.4	4 respondents proposed the item to be considered as a guideline, not mandatory standard.	All ASPs providing wireless broadband services shall be subjected to these Mandatory Standards. Therefore the relevant provisions in the Mandatory
4.5	1 respondent proposed as a guide to inform the Commission up to 3 days in advance and our customers up to 24 hours in advance on any planned major service affecting maintenance/ upgrading works.	Standards (where applicable) will also be applied to the MVN service providers.

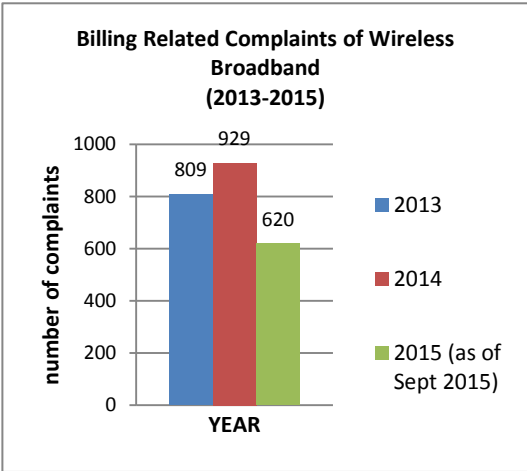
<p>4.6</p> <p>4.7</p> <p>4.8</p>	<p>1 respondent agreed for normal scheduled downtime but disagreed for emergency scheduled downtime.</p> <p>1 respondent proposed to notify the Commission on monthly basis instead of making it a standard parameter and to submit in writing to Commission on scheduled downtime that have high impact (eg. nationwide) monthly every 15<sup>th</sup> of the month for next month planned works.</p> <p>1 respondent proposed to create awareness to the Consumer on their rights to redress.</p>	
<p>5.0</p> <p>5.1</p> <p>5.2</p>	<p><u>Service Disruption</u></p> <p>1 respondent proposed that the notification only be provided for scheduled downtime that affects 50% or more customers for more than 30 minutes.</p> <p>2 respondents proposed the item to be considered as a guideline, not mandatory standard.</p>	<p>The Commission recognizes the challenge for service providers to report on incidences within 60 minutes, which is why the Commission only requires a notification to the customers on the service disruption. A detail report is only required within 7 business days after the incident.</p>



5.3	1 respondent proposed for reporting only for any MME failure that causes total data outage for more than 30 minutes from 06:00 – 24:00 hrs and full report sent to Commission within 7 days of the incidence	The Commission acknowledges service disruption especially on access nodes such as eNB/NodeB or whatever nodes when refer to data management may happen due to external factors beyond service provider's control. Therefore with a
5.4	1 respondent suggested that the cases to be highlighted to Commission are those critical or widespread in nature affecting nationwide broadband customers.	number of suggestions that the disruption should be reported on the core layers of the network, the Commission decides:
5.5	1 respondent requested the Commission to take into consideration recovery time that can be more than 30minutes for some cases, which SPs are unable to resolve the problems remotely and have to rectify the issue at affected site that caused by force majeure or third parties.	When nodes performing mobility management functionality such as (but not limited to) Serving GPRS Support Node (SGSN) for traditional 2G/3G network, Mobility Management Entity (MME) for LTE network and Access Service Network Gateway (ASN GW) for WiMAX network is out of service for the specified duration and affecting customers, the Service Provider must notify the customer within 60 minutes.
5.6	1 respondent stated that the number of affected customers and the duration of service disruption are unrealistic and impossible to achieve	The standards defined here is for notifying and reporting requirements as and when the service disruption occurs. This standard will keep customer informed on network availability and service expectations.

		All reports submitted will enable the Commission to monitor the frequency of disruptions and how responsive the service provider deals with the issue. The report can be used to determine future changes to the standards.
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**(b) Customer Service Quality of Service**

NO.	SUMMARY OF THE COMMENTS	THE COMMISSION'S RESPONSE								
6.0	<u>Percentage of billing related complaints</u>									
6.1	1 respondent requested that the revised percentage of billing related complaints to be not more than 1.5% per quarterly reporting period.	Based on the Consumer Complaint Bureau (CCB) report, the top key consumer issues are billing issues and service disruption.								
6.2	1 respondent proposed the existing standard for the wired broadband access service to be adopted in which the complaints on bills issued should not more than 2%	 <p><b>Billing Related Complaints of Wireless Broadband (2013-2015)</b></p> <table border="1"> <thead> <tr> <th>Year</th> <th>Number of Complaints</th> </tr> </thead> <tbody> <tr> <td>2013</td> <td>809</td> </tr> <tr> <td>2014</td> <td>929</td> </tr> <tr> <td>2015 (as of Sept 2015)</td> <td>620</td> </tr> </tbody> </table>	Year	Number of Complaints	2013	809	2014	929	2015 (as of Sept 2015)	620
Year	Number of Complaints									
2013	809									
2014	929									
2015 (as of Sept 2015)	620									
6.3	1 respondent recommended that the MSQoS on percentage of billing related complaints to be retained as per existing standards	A more stringent standard (i.e. 1%)								
6.4	1 respondent proposed to follow the									

	<p>current Wired Broadband Access standards with reporting period on half yearly basis</p>	<p>is meant to ensure that service providers treat these issues with a significant degree of importance and address the gap between the level of compliance by the service providers and number of complaints received by the Commission on billing and charging dispute. The Commission seeks to encourage the service provider to improve both their internal processes in dealing with complaints and their billing system to achieve the standard.</p> <p>The Commission is of the view that a more stringent standard will spur the service providers to deal more efficiently with customer complaints. MCMC is of the view that service provider is currently evaluating its complaints and reports on frequent basis for improvement action. Hence, this will not require major additional cost and resources to service provider.</p>
<p>7.0</p>	<p><u>Non-billing related complaints per 1,000 customers</u></p>	
<p>7.1</p>	<p>1 respondent agreed but to exclude all complaints not related to the respondent's network and services</p>	<p>In order to promote high level of customer confidence in service delivery from the industry and the</p>

<p>7.2</p> <p>7.3</p> <p>7.4</p>	<p>1 respondent proposed to adopt the existing standard for wired broadband access service at not more than 50 complaints per 1,000 customers per yearly reporting period</p> <p>1 respondent proposed that the non-billing related complaints per 1000 customer to be removed from the mandatory standard and reported only for monitoring purposes</p> <p>1 respondent proposed to follow the current Wired Broadband Access standards with reporting period on half yearly basis</p>	<p>need to manage customers' expectation, the Commission is of the view that a more stringent standard will spur the service providers to deal more efficiently with customer complaints. So, this forms the basis on which the new standard is being set.</p> <p>The Commission also finds that there is a gap between compliance to the existing standard and number of complaints that the Commission receives from customers. As such, the Commission has decided that the proposal will be maintained.</p> <div data-bbox="873 1094 1398 1457" data-label="Figure"> <table border="1"> <caption>Non-Billing Related Complaints of Wireless Broadband (2013-2015)</caption> <thead> <tr> <th>Year</th> <th>Number of Complaints</th> </tr> </thead> <tbody> <tr> <td>2013</td> <td>2880</td> </tr> <tr> <td>2014</td> <td>2502</td> </tr> <tr> <td>2015 (as of Sept 2015)</td> <td>1372</td> </tr> </tbody> </table> </div>	Year	Number of Complaints	2013	2880	2014	2502	2015 (as of Sept 2015)	1372
Year	Number of Complaints									
2013	2880									
2014	2502									
2015 (as of Sept 2015)	1372									
<p>8.0</p> <p>8.1</p>	<p><u>Promptness in resolving customer complaints</u></p> <p>1 respondent would like the Commission to consider the following:</p>	<p>The Commission takes note of all alternatives proposed by the respondents. After due deliberation based on industry average</p>								

- Not less than 30.0% must be resolved within 3 business days;
- Not less than 60.0% must be resolved within 5 business days; and
- Not less than 95.0% must be resolved within 15 business days.

8.2 1 respondent suggested that the two tiers standards as per the existing wired broadband Mandatory Standards is more practical and it is in line with the existing monitoring standards set which provide better monitoring mechanism.

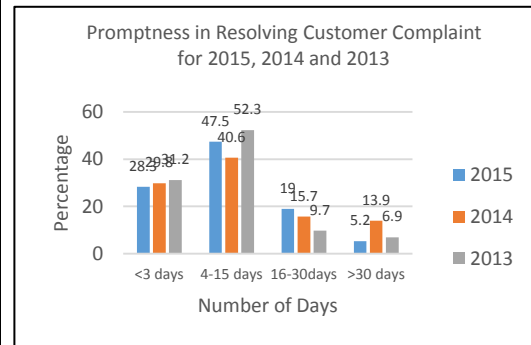
8.3 2 respondents requested that the standard on promptness in resolving customer complaints, separately measured for billing related complaints and non-billing related complaints, for every half yearly reporting period.

- Billing related complaints

Duration (Business Day)	Resolution (%)
15	≥ 70%
30	≥ 90%

performance and the industry response on MSQoS for PCS performance for Q1 2015, the Commission has decided that the following will be the standard:

- Not less than 60.0% must be resolved within 3 business days;
- Not less than 90.0% must be resolved within 5 business days; and
- Not less than 95.0% must be resolved within 15 business days



- Non-billing complaints

Duration (Business Day)	Resolution (%)
15	≥ 60%
30	≥ 90%

8.4 1 respondent proposed the following changes to the requirement:

- 60.0% must be resolved within 5 business days
- 90.0% must be resolved within 15 business days
- 95.0% must be resolved within 30 business days

8.5 1 respondent requested for coverage issues and third-party influences are omitted from this requirement together with those already listed in the Public Inquiry document

8.6 1 respondent proposed for the current MSQoS on promptness in resolving customer complaints to be maintained and urges Commission to consider setting the standards based upon recommendations of the ITU-T standard.

8.7 1 respondent proposed to follow the

8.8	<p>current Wired Broadband Access standards but separately measured and reported for billing related complaint and non-billing related complaint.</p> <p>1 respondent proposed the standard with the following</p> <ul style="list-style-type: none"> <li>• 90% of the complaints resolved within 15 days</li> <li>• 95% of the complaints be resolved within 30 business days</li> </ul>	
9.0	<p><u>Promptness in answering calls to Customer Hotline</u></p> <p>9.1 1 respondent currently provides FREE calls to Customer Service resulting in high volume calls received averaged to 16,000 daily and the current practice is to achieve</p> <ul style="list-style-type: none"> <li>• 75% of calls answered within 40 seconds for Postpaid</li> <li>• 75% of calls answered within 60 seconds for Prepaid</li> </ul> <p>9.2 1 respondent proposed for the standard to be set at</p> <ul style="list-style-type: none"> <li>• 75% calls must be answered</li> </ul>	<p>The Commission is of the view that this standard should be put in place for better customer protection as currently there are service providers that charge the customer for use of the hotline number.</p>

	<p>within 30 seconds</p> <ul style="list-style-type: none"> <li>• 90% calls must be answered within 40 seconds</li> </ul>	
9.3	<p>1 respondent recommended that the Commission to conduct a study on the existing KPIs set by each service provider on the promptness in answering calls and benchmark the KPI set by the service providers against the standards recommended by ITU.</p>	
9.4	<p>1 respondent highlighted if to comply with the new set of performance, they will need to have:</p> <ul style="list-style-type: none"> <li>• more resources to manage, attend and resolve the complaints in accordance to the new standards set</li> <li>• higher direct cost to manage call volume and meeting the target</li> </ul>	
9.5	<p>1 respondent supported the first standard and not the second standard.</p>	
9.6	<p>1 respondent suggested the Commission to recognize that call trends are unpredictable and there</p>	



	<p>are few random cases that their front liners are unable to meet with the second standards and look forward the consideration from the Commission for this flexibility.</p>	
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21. **Part E: Guidelines**

<b>NO</b>	<b>SUMMARY OF THE COMMENTS</b>	<b>THE COMMISSION'S RESPONSE</b>
1.0	<p><u>Part C: Network Performance Quality of Service</u></p>	
1.1	<p>2 respondents proposed to remove “3 bars” in location identifier criteria as the indicator is User Equipment dependent.</p>	<p>The Commission takes note of all the feedback given. In order to ensure that the service providers adhere to the network performance standards set in the Mandatory Standard, the Commission, at its sole discretion, will decide on how and when the tests should be conducted.</p>
1.2	<p>3 respondents proposed to remove the format for quarterly QoS Performance Report from the guidelines with justification that the Commission will conduct the testing to assess the compliance status of the wireless broadband service provider in network performance QoS. The quarterly testing/report by the wireless broadband service provider is seemed to be redundant and will not value add to MCMC’s assessment on the network performance QoS as the results will not be taken into consideration for the computation of compliance measurements.</p>	<p>The Commission will notify the service providers if there are any changes to the methodology of network performance QoS measurements, and subject to the performance of the current network environment.</p>
	<p>1 respondent suggested in order to avoid duplication of work and consistency of data, it</p>	

1.3	<p>was proposed to remove the quarterly QoS performance report and to use the available result from Commission instead, unless if any re-verification required.</p>	<p>Therefore the proposed types of tests and all other parameters in the Guidelines will be maintained.</p>
2.0	<p><u>Quality of Service performance report</u></p> <p>2.1 3 respondents proposed to use the available result from Commission, unless if any re-verification required in order to avoid duplication of work and consistency of data.</p> <p>2.2 1 respondent proposed to remove paragraphs 21 and 22 from the Guideline.</p> <p>2.3 1 respondent supported to submit the performance report however it should carry merit when the Commission conduct the test and the results of self-assessment should be at least carry 40% merit</p>	<p>Considering this is a new MSQoS imposed to wireless broadband service provider, the Commission agrees for the reporting period to be half yearly instead of quarterly reporting.</p> <p>Any non-compliance to provisions under the MSQoS is an offence. Hence, the merit mentioned here is not applicable.</p> <p>Once the MSQoS come into force, the service provider has to submit a report on the testing conducted (currently conducted through self-assessment) as per the requirement under the MSQoS.</p> <p>To promote industry self-regulation, a service</p>

		<p>provider may publish the result in its respective website for public's consumption on the respective service provider performance.</p> <p>There will be no redundancy since comparison will be made between the result obtained from the Commission and service provider.</p>
3.0	<u>Advance Notice on Scheduled Downtime</u>	
3.1	1 respondent proposed to remove paragraphs 23 and 24 from the Guideline	The Commission notes the challenges faced by Service Providers in this regard. However, advanced notice to the customer is required to ensure that the customer is informed about any interruption to services.
4.0	<u>Service Disruption</u>	
4.1	1 respondent proposed to remove paragraphs 25 – 28 from the Guideline.	This standard will provide the customers with information on Service Disruption and to also

		<p>enable the Commission to ensure that the service providers have taken the necessary steps to address the service disruption expeditiously.</p>																					
<p>5.0</p> <p>5.1</p>	<p><u>Percentage of billing related complaints</u></p> <p>1 respondent proposed table below;</p> <table border="1" data-bbox="298 1178 977 1900"> <thead> <tr> <th data-bbox="298 1178 380 1358"><b>No</b></th> <th data-bbox="380 1178 712 1358"><b>Types of Billing related complaints</b></th> <th data-bbox="712 1178 977 1358"><b>Number of complaints received in an reporting period</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="298 1358 380 1432">1</td> <td data-bbox="380 1358 712 1432">Payment wrongly credited</td> <td data-bbox="712 1358 977 1432"></td> </tr> <tr> <td data-bbox="298 1432 380 1505">2</td> <td data-bbox="380 1432 712 1505">Payment not credited</td> <td data-bbox="712 1432 977 1505"></td> </tr> <tr> <td data-bbox="298 1505 380 1537">3</td> <td data-bbox="380 1505 712 1537">Overcharged data</td> <td data-bbox="712 1505 977 1537"></td> </tr> <tr> <td data-bbox="298 1537 380 1648">4</td> <td data-bbox="380 1537 712 1648">Overcharged one time charge blackberry</td> <td data-bbox="712 1537 977 1648"></td> </tr> <tr> <td data-bbox="298 1648 380 1793">5</td> <td data-bbox="380 1648 712 1793">Overcharged one time charge mobile internet – daily / weekly / monthly</td> <td data-bbox="712 1648 977 1793"></td> </tr> <tr> <td data-bbox="298 1793 380 1900">6</td> <td data-bbox="380 1793 712 1900">Overcharged one time charge volume purchase / max up</td> <td data-bbox="712 1793 977 1900"></td> </tr> </tbody> </table>	<b>No</b>	<b>Types of Billing related complaints</b>	<b>Number of complaints received in an reporting period</b>	1	Payment wrongly credited		2	Payment not credited		3	Overcharged data		4	Overcharged one time charge blackberry		5	Overcharged one time charge mobile internet – daily / weekly / monthly		6	Overcharged one time charge volume purchase / max up		<p>The list is not exhaustive and service provider should include other billing related complaints which are not specified in the guidelines</p> <p>The list should not be centric to one particular service provider, but should represent the industry as a whole.</p>
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7.0	<p><u>Promptness in resolving customer complaints (billing and non-billing related)</u></p>																					
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	business days		60.0%		
	Resolved within 30 business days		Not less than 90.0%	Yes / No	

**QUESTION 2**

The Commission also welcomes comments on related matters that stakeholders or respondents believe are relevant to improve the Mandatory Standards for Quality of Service (Wireless Broadband Access Service).

**QUESTION 3**

The Commission also seeks views on other possible approaches that may be employed to improve quality of service for the wireless broadband services in Malaysia.

22. **General comments**

No.	SUMMARY OF THE COMMENTS	THE COMMISSION'S RESPONSE
1.0	<b><u>GENERAL COMMENTS</u></b>	
1.1	To include exclusion clauses to exempt the service provider from being responsible for failure that is beyond its control and to exclude those test results from the compliance rate measurement.	The Commission notes on the exclusion clauses suggested by the respondent, and will at its best effort to verify the network performance QoS measurement results are not being distorted by failure beyond the

1.2	<p>Wireless broadband performance was constrained by many variables and the quality of service is affected by those variables. The consumer should be educated on the nature of wireless broadband network. (1 respondent)</p>	<p>service provider's control.</p> <p>The Commission notes on the dynamic nature of wireless broadband and will enhance its advocacy programs and initiate more awareness and education programs to educate the consumers on variables that may affect wireless broadband performance. The service providers should also do their part in educating their customers and are also welcomed to collaborate with the Commission in carrying out this initiative.</p>
1.3		
1.4	<p>Introduction of the new Mandatory Standard would incur additional CAPEX and will subsequently affect OPEX. The concern was that the cost will be borne by the customers. The Commission should look into managing the consequences from this regulatory measures introduction. (1 respondent)</p> <p>Service provider should be allowed to offer plans with different quality of service stipulations as some customer are willing to trade-off quality for affordability. (1 respondent)</p>	<p>The introduction of this Mandatory Standard aims to enhance customer protection and also to manage customers' perception towards service delivery in Malaysia. As such the service providers are expected to continuously invest in their infrastructure and improve their services whilst offering products and services at reasonable price.</p>



1.5	The flexibility to modify service packages is better left to market forces and competition and not regulated via mandatory standards as service providers are already able to continuously design and offer innovative plans to customers.	
1.6	The current measures of network audits by the Commission and self-assessment by licensees must continue instead of the implementation of MS. This will translate into workable and sustainable partnership between the government, the firms and the consumer.	

### 23. Policy and Legislation Related Issues

No.	SUMMARY OF THE COMMENTS	THE COMMISSION'S RESPONSE
2.0	<b><u>POLICY AND LEGISLATION RELATED ISSUES</u></b>	
2.1	The Commission should start an initiative to review relevant Acts to enforce or grant public utility status for cellular/mobile telecommunication services. (3	The Commission has engaged with various stakeholders and is striving to find the best approach to address these issues. These issues are also being looked into and have been

	<p>respondents).</p> <p>2.2 State Governments should facilitate service providers in extending and improving public cellular services and encourage competition amongst players and curb anti-competitive behavior by the State Government and Network Facilities Provider licensees. The Commission should also facilitate in resolving the site acquisition issues. (3 respondents)</p> <p>2.3 Review relevant provisions in CMA and Spectrum Regulation. Strong enforcement action against vandalism on network infrastructure. (1 respondent)</p>	<p>taken into consideration as part of the review of the CMA and Spectrum Regulations.</p>
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#### 24. Technical issues

No.	SUMMARY OF THE COMMENTS	THE COMMISSION'S RESPONSE
3.0	<b><u>TECHNICAL ISSUES</u></b>	
3.1	Broadband testing should be ascertained at area where cellular coverage is sufficient such as common access area - high density commercial and residential areas.	The Commission will identify the location of testing as stipulated in the location identification criteria as in the guidelines. The service providers should be

3.2	<p>The measurement shall be based on test sampling on business day. (1 respondent)</p> <p>To promote transparency, the Commission might consider sharing with service providers the schedule of the broadband testing. Service providers can take proactive measures such as temporary halt/freeze activities in all relevant sites, if required, to ensure the testing be carried out as fruitful as possible.</p>	<p>guided by the testing methodology employed by the Commission.</p> <p>The Commission will notify and share the test schedule with the relevant service providers before any measurement on network performance to be conducted.</p>
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## **SECTION 5: THE WAY FORWARD**

25. The Commission is of the view that the proposed revision of the MSQoS for Wireless Broadband Access Service would ensure improvements to existing levels of quality of service by the service providers.
26. The mandated standard reflects the Commission's view in achieving national policy objectives in the CMA, which can only be met if there is sensitivity to an ethos of quality consciousness at a high level. The focus on the quality of service is one of key strategic thrust in the 11th Malaysia Plan that aims to improve the well-being of the rakyat in terms of standard of living and quality of life.
27. The Commission is satisfied that the MSQoS are objective measures that reflect the intrinsic measures of quality and, as far as possible, global best practices and standards.
28. In selecting a particular benchmark for the quality of service, the Commission has endeavoured to make certain that the benchmark is meaningful to the customer and enables the customer to assess and make informed decisions on the levels of quality they are experiencing. The benchmark will be equally useful for the Commission to gauge the performance of the service providers in fulfilling its role to monitor the industry.
29. The new MSQoS for Wireless Broadband Access Service will come into force on:
  - (a) 1 February 2016 for Standards for Network Performance Quality of Service; and
  - (b) 1 July 2016 for Standards for Customer Service Quality of Service.